

Integrative Medicine Research
Volume 4, Supplement 1, May 2015 Special issue - Congress Abstract Publication, ICCMR 2015
ICCMR 2015 Oral Presentation Abstracts: DOI: 10.1016/j.imr.2015.04.283
ICCMR 2015 Poster Presentation Abstracts: DOI: 10.1016/j.imr.2015.04.008



**The 10th International Congress on Complementary
Medicine Research in 2015 (ICCMR 2015)**

**“Inspiring Future Healthcare : The innovative role and sustainable
development of traditional and integrative medicine”**

International Convention Center Jeju (ICC Jeju), Jeju, Republic of Korea
May 13–15, 2015

*Convened by Korea Institute of Oriental Medicine (KIOM)
in Association with
The International Society for Complementary Medicine Research
(ISCMR)*



ELSEVIER

Available online at www.sciencedirect.com

Integrative Medicine Research

journal homepage: www.imr-journal.org

ICGMR 2015 Oral Presentation Abstracts

Oral Presentation Session 01: Basic Science – Herbal Medicines

OS01.01

Neuroprotective effects and autophagy of Wonji-Gobon Mixture (WGM) in a Parkinson's disease mouse model


Taek-Won Ahn

Department of Sasang Constitutional Medicine,
College of Korean Medicine, Daejeon University

Purpose: Purpose: To evaluate the autophagy and neuroprotective effects of WGM, a Chinese traditional medicinal prescription in a Parkinson's disease mouse model.

Methods: Methods: Cell viability was measured using a LHD-release assay and MTT assay. To find out the autophagy-related mRNA gene expression in BV2 microglia cell line, LC3, LC3a, LC3b, Beclin-1, ATG5 were examined by RT-PCR. To find out the autophagy-related protein expression of signal events in BV2 microglia cell line, LC3b-1, LC3b-II, Beclin1 were examined by western blotting. To find out the autophagy detection in BV2 microglia cell line. Cells were assayed for autophagy positive cells by FACS analysis. To measure the amount of dopamine in mice brain, ST-SNpc were examined by Bradford. Immunohistochemistry was examined in the MPTP-induced Parkinson's disease mice to evaluate the neuroprotective effects of WGM on ST and SNpc. Ischemic mice brain stained with TTC in the MPTP-induced Parkinson's disease to find out ischemia in mouse. In order to investigate the effect of WGM on recovery of memory, we examined the memory by using Morris water maze test. Immunohistochemistry was examined in the MPTP-induced Parkinson's disease mice to evaluate the neuroprotective effects of WGM on hippocampal lesion. In order to investigate the effect of WGM on recovery of behavioral deficits, we examined the motor function by using and FST. The convenient, simple, and accurate HPLC method was established for simultaneous determination of Neurotransmitters in MPTP-WGM group.

Results: Results and Conclusion: WGM can enhance the induction of autophagy through key regulator beclin1 and LC3b-II. WGM inhalation in MPTP mice led to the restoration of behavioral impairment and rescued dopamine, TH-IR cell,

hippocampus, serotonin. Furthermore, WGM essential oil may serve as a potential preventive or therapeutic agent regarding Parkinson's disease.

Conclusion: Acknowledgement: This research was supported by Basic Science Research Program through the NRF funded by the Ministry of Education, Science and Technology(201401850001)

Contact: Taek-Won Ahn, twahn@dju.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.283>

OS01.02

In vitro study for exploring anti-obesity agent using the extracts from Centella spp. of Australia


JunLae Cho¹, Ali Alqahtani², George Qian Li²

¹ Faculty of Pharmacy, University of Sydney / Sydney Institute of Traditional Chinese Medicine

² Faculty of Pharmacy, University of Sydney

Purpose: The genus Centella comprises several varieties and species, and has important medicinal benefits. In previous study, we reported the genus Centella from Australia reveal obvious different varieties in terms of phytochemical compositions and antioxidant efficacies, and even the genetics. Obesity is the well-known risk factor to induce diabetes mellitus and its complications, including cardiovascular disease. The aim of this study is to investigate the pharmac-therapeutic efficacy of Australian populations of Centella species as an anti-obesity agent and to evaluate the effect of their adaptation in vitro.

Methods: Adipocytes were prepared using 25 mM of high glucose culturing medium. Lipid droplet deposition in the adipocyte was evaluated using Oil-Red-O staining. Quantitative polymerase chain reaction (qRT-PCR) was performed in order to assess post-transcriptional activation or inhibition of adiponectin, Glut-4, Tribble family proteins (Trib), and C1q/TNF-related proteins (CTRP). Immunoblotting also adopted to identify the post-translational activation of Glut-4, Trib3 and CTRP6. Ant-Advanced glycation endproducts (AGEs) function was evaluated using AGE-BSA binding assay.

Results: The treatment of *Centella* spp. revealed significant reduction of lipid droplet deposition and decrease of the size of lipid droplet in the adipocyte. Molecular biological experiment suggested that the treatment of *Centella* spp. significantly inhibited the expression of Trib 3: more than 100% of Trib3 was decreased compared to the control. On the contrary, the expression of adiponectin, CTRP 6 and Glut 4 were considerably increased by the treatment of these herbal extracts.

Conclusion: These results suggest that the adaptation of these herbal extracts have significant potential to inhibit fatal etiological triggering of cardiovascular disease causing by the obesity. Hence, these herbal extract might be a therapeutic target to fight against obesity and its associated diseases in modern industrial countries.

Contact: JunLae Cho, junlae.cho@sydney.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.284>

OS01.03

Experimental Study on Protective and Anti-obesity Effects of Inulin from Chicory (*Cichorium intybus* L.) on Quail Model



Zhijian LIN, Bing ZHANG*, Liyu LI,
Hongpo WANG, Chunsheng ZHU

School of Chinese Pharmacy, Beijing University of Chinese Medicine

Purpose: Inulin from *Cichorium intybus* L., a kind of Chinese Materia Medica, is potential therapeutics that act alone or supplement on serum metabolic parameters in the prevention and treatment of obesity. The present investigation was undertaken to study the protective and anti-obesity effects of inulin from *Cichorium intybus* L. on serum lipid concentration and abdominal fat pad mass in quail model induced by protein and purine rich diet.

Methods: Quails were divided randomly into 5 groups according to body weight: normal group, model group, positive control group and chicory inulin high and low dosage groups. The normal group was fed with the common feedstuff, and the other groups were fed with protein and purine rich diet. Positive control group was given Fenofibrate 100 mg/ (kg•d). Chicory inulin groups were given inulin 10, 5 g/(kg•d) respectively. All quails were given distilled water. Serum triglyceride (TG), abdominal fat pad mass and acetyl-Coa carboxylase (ACC), fatty acid synthase (FAS) activity were determined.

Results: Compared with normal group serum TG level of model group was significantly higher on 21d and 28d and abdominal fat pad mass increased on 28d. Compared with model, fenofibrate decreased serum TG level on 21d and 28d. Chicory inulin decreased TG significantly and abdominal fat pad mass on 28d. ACC protein expression and fatty acid synthase (FAS) activities were decreased in chicory inulin groups significantly. However, serum cholesterol (TC), low-density lipoprotein (LDL) and high-density lipoprotein (HDL) level were not significantly altered by treatment.

Conclusion: Inulin of *Cichorium intybus* L. significantly improved lipid metabolism of diet induced abdominal obesity in quails. The possible mechanism of anti-obesity activity

appears to be either decreasing ACC protein expression and FAS activity, or decreasing serum TG level property.

Contact: Zhijian LIN, linzhijian83@126.com

Corresponding author: Bing ZHANG (School of Chinese Pharmacy, Beijing University of Chinese Medicine), zhangbing6@263.net

<http://dx.doi.org/10.1016/j.imr.2015.04.285>

OS01.04

Aqueous extract of *Solanum nigrum* activated programmed cell death and enhanced cisplatin/doxorubicin induced cytotoxicity on human hepatocellular carcinoma cells



Chien-Kai Wang, Cheng-Jeng Tai, Chen-Jei Tai

Taipei Medical University Hospital

Purpose: In traditional Chinese medicine, the aqueous extract of *Solanum nigrum* (AESN) is a key ingredient presented in various formulas for dealing with cancer patients. Recent studies suggested AESN is capable of activating programmed cell death in many human cancer types both in vitro and in vivo. This study is to examine the antitumor potential of AESN in integration with standard chemotherapeutic drugs, cisplatin and doxorubicin, on human hepatocellular carcinoma cells.

Methods: Human hepatocellular carcinoma cells, Hep3B and HepJ5, were treated by 0 to 10 mg/ml AESN for 48 hr to determine the cytotoxicity. Hep3B and HepJ5 cells were treated with 0, 0.5 or 1.0 mg/ml AESN with 0 to 20 μM cisplatin or 0 to 10 μM doxorubicin respectively for 48 hr to evaluate the combined cytotoxic effects. The activation of programmed cell death markers, caspase-3 and caspase-7 for apoptosis and LC3 A/B for autophagy were also determined by western blotting assay on AESN-treated cells.

Results: The half-maximum inhibitory concentrations (IC50s) of AESN on Hep3B and HepJ5 cells were 0.96 and 0.97 mg/ml respectively. The co-treatment of AESN (0.5 mg/ml) reduced the IC50s of cisplatin from 6.75 to 2.75 μM on Hep3B cells and 8.71 to 2.84 μM on HepJ5 cells, whereas the IC50s of doxorubicin were reduced from 4.65 to 1.31 μM on Hep3B cells, and 6.39 to 1.42 μM on HepJ5 cells. AESN induced the accumulation of LC3 A/B II and the cleavage of caspase-7 but not caspase-3 on Hep3B and HepJ5 cells suggested the induction of autophagic and apoptotic cell death by AESN.

Conclusion: This study indicated that AESN activated programmed cell death including caspase-7 related apoptosis and autophagy to enhance cytotoxicity induced by cisplatin and doxorubicin in human hepatocellular carcinoma cells. These experimental evidences suggested AESN is a potential ingredient to develop the novel integrated chemotherapy with cisplatin or doxorubicin on treating hepatocellular carcinoma.

Contact: Chien-Kai Wang, wchienkai@tmu.edu.tw

<http://dx.doi.org/10.1016/j.imr.2015.04.286>

OS01.05

Effect of Chinese herbal compound Tengmei decoction on IL-17/NF- κ B signal pathway in synovium tissue of rat arthritis models induced by type II collage

Yanan Wang¹, Fengxian Meng¹,
Jisheng Zhang¹, Hui Liu¹, Weiguo Ma¹,
Kang Wang¹, Yan Lu¹, Yi Chen²,
Zhiming Shen¹, Jie Wang¹

¹ Beijing University of Traditional Chinese
Medicine Subsidiary Dongfang Hospital

² No. 3 Affiliated Hospital of Beijing University of
Chinese Medicine

Purpose: To investigate the biological effect of IL-17/NF- κ B immune inflammatory pathway on pathological damage in synovium tissue of Rheumatoid arthritis (RA) and study in regulation mechanism of Chinese herbal compound Tengmei decoction for IL-17/NF- κ B signal pathway.

Methods: To establish collagen II-induced rats arthritis(CIA)models. The successful models of SD rats were randomly divided into model group, positive group, and high-, medium- groups of Chinese medicine, 6 rats in each group. The normal control and model groups were given distilled water (10ml kg-1 d) by gavage. The positive drug group was given leflunomide (1.87g kg-1 d) by gavage. The high and medium dose Chinese medicine groups were given crude medicine of 31.8 g kg-1 d and 15.9 g kg-1 d by gavage. After twelve weeks of treatment intervention, all SD rats were executed, the blood and synovium tissue samples were kept for detecting IL-17, NF- κ B P65 mRNA transcription and protein expression by RT-PCR, WESTERN BLOT and ELISA Analysis, and detecting inflammatory infiltration in synovium tissue by Histopathological analysis.

Results: (1) Compared to the normal control group, levels of mRNA transcription and protein expression of IL-17 and NF- κ B P65 were significantly up-regulated ($P < 0.01$) in the model group. Compared to the model group, levels of mRNA transcription and protein expression of IL-17 and NF- κ B P65 were significantly down-regulated in the positive and Chinese medicine groups ($P < 0.01$). (2) Histopathological analysis displayed that mild hyperplasia of epithelial cells covering the articular cartilage synovium, joint cavity narrowing, and mild inflammatory lymphocytes infiltration in model group, with joint lesions improved in treatment groups.

Conclusion: The molecular mechanisms of Chinese herbal Tengmei decoction in inhibiting immune inflammatory pathological damage in synovium of CIA rats models related to its effects on IL-17/NF- κ B pathway.

Contact: Yanan Wang, xingmiao2008@live.cn

<http://dx.doi.org/10.1016/j.imr.2015.04.287>

OS01.06

Chemoprotective activity of KIOM-CRC#50, an ethanol extract of a medicinal plant, in cisplatin-induced cachectic mouse model

Jinhee Kim, Jong-Shik Park, Jun Lee,
You Jin Lee, Eun-Sang Cho, Ok-Sun Bang

Korea Institute of Oriental Medicine

Purpose: Cachexia is one of the dose-limiting side effects of chemotherapy that seriously threatens the survival and quality of life of cancer patients. More than 80% of cancer patients of later stages suffers from cachexia, commonly defined as an involuntary weight loss over 5% of normal body weight. In this study, we investigated KIOM-CRC#50, the ethanol extract of a medicinal plant traditionally used in many countries, as a potential chemoprotective agent against chemotherapy-induced cachexia as well as other side effects including nephrotoxicity and hematotoxicity.

Methods: Dried plant materials were finely pulverized and immersed in 70% (v/v) ethanol (100 g/L). Anti-cancer potential and anti-cancer cachectic activity of KIOM-CRC#50 were determined in an orthotopic lung xenograft model using Balb/c nude mice. Male C57BL6 mice at the age of 6~8 weeks were utilized to evaluate the chemoprotective activity of KIOM-CRC#50 in cisplatin-induced cachexia model. Body weight change, blood cell count, and biochemical analysis of sera were measured and analyzed for determining its effectiveness.

Results: Mice with orthotopic lung tumors experienced progressive weight loss as tumor progress. Oral administration of KIOM-CRC#50 effectively ameliorated cancer progression-related weight loss in these mice. Daily administration of KIOM-CRC#50 also alleviated both nadir and maximum weight loss induced by high dose cisplatin treatment in C57BL6 mice. Cisplatin treatment resulted in elevated blood levels of BUN (blood urea nitrogen) and AST (aspartate aminotransferase) levels, however, oral administration of KIOM-CRC#50 in these mice reduced the levels of BUN and AST elevated by cisplatin treatment. Additionally, KIOM-CRC#50 treatment also markedly increase the number of WBC in cisplatin-treated mice.

Conclusion: In summary, our data demonstrated the effectiveness of KIOM-CRC#50 in alleviating chemotherapy-induced cachexia and other side effects, as well as cancer-progression induced weight loss, suggesting that it could be an important source for the development of novel chemoprotective agent.

Contact: Jinhee Kim, jinheekim@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.288>

Oral Presentation Session 02: Basic Science - Acupuncture

OS02.03

Electro-acupuncture treatment improves learning-memory ability and brain glucose metabolism in a mouse model of Alzheimer's disease: from MWM and m-PET

Jing Jiang, Zhigang Li, Gao Kai, Zhou Yuan,
Han Xiangbo, Piao Zhanxun

Beijing University of Chinese Medicine

Purpose: Alzheimer's disease (AD) causes progressive hippocampus dysfunctions leading to the impairment of learning and memory ability and low level of uptake rate of glucose in hippocampus. What's more, there is no effective treatment for AD. In this study, we evaluated the beneficial and protective effects of electro-acupuncture in senescence-accelerated mouse prone 8 (SAMP8).

Methods: We used the Morris water maze (Mwm) and micro-PET tests to evaluate the effect of electro-acupuncture on animal model of AD. In the electro-acupuncture paradigm, electro-acupuncture treatment was performed once a day for 15 days on 7.5-month-old SAMP8 male mice. The prescription of acupuncture points included DU20 Baihui, DU 26 Shuigou and EX-HN3 Yintang (the significant extra point). The locations of these points referred to the National Acupuncture Society for Experimental Research developed the "laboratory animal acupuncture atlas". In the normal control paradigm and AD control group, 7.5-month-old SAMR1 male mice and SAMP8 male mice were grabbed and bandaged while electro-acupuncture group therapy, in order to ensure the same treatment conditions, once a day, 15 days.

Results: From the Morris water maze (MWM) test, we found the treatment of electro-acupuncture can improve the spatial learning and memory ability of SAMP8 mouse; and from the micro-PET test, we proved that after the electro-acupuncture treatment the level of uptake rate of glucose in hippocampus was higher than normal control group.

Conclusion: These results suggest that the treatment of electro-acupuncture may provide a viable treatment option for AD.

Contact: Jing Jiang, yingxi7847@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.292>

OS02.04

Effect of acupuncture in the treatment of seasonal allergic rhinitis: results from a randomised controlled trial

Charlie Xue, Tony Zhang, Claire Zhang,
Cliff Da Costa, David Story, Frank Thien

RMIT University

Purpose: Seasonal allergic rhinitis (SAR) is a common condition with relatively high prevalence in Australia. The efficacy and safety of acupuncture for the management of allergic rhinitis has been investigated by a number of clinical studies but the efficacy is uncertain based on the latest findings of a

meta-analysis. Due to the fact that the airborne grass pollen is the predominant cause of SAR in Melbourne region. SAR sufferers' symptoms would spontaneously resolve after the two months pollen season during late spring and early summer of each year. Thus it is necessary to conduct a clinical trial with a short period of treatment to reflect the real effect of acupuncture on SAR in Melbourne region.

Methods: This is a randomised, subject and assessor-blinded, sham controlled trial, with 12 sessions of acupuncture treatment over four weeks. Patients diagnosed as SAR and confirmed allergic to rye grass pollen were randomly allocated to receive real acupuncture (RA) or sham acupuncture (SA) treatments. SAR symptoms' severity was the primary outcome measure.

Results: A total of 175 participants were randomised into either RA (n=88) or SA group (n=87) after the two-week run-in period. During the four-week treatment period, 18 participants in RA group and 6 in SA group discontinued due to time restriction; during the follow-up period, three participants in SA group lost contact. As a result, 151 participants completed the treatment and 148 participants completed follow-up assessment. After 4 weeks' treatment, RA was found significantly better than SA for reducing SAR symptom severity particularly sneezing and itchiness of ears and palate at the end of treatment, and improving participants' Quality of life at the end of both treatment and follow-up phases.

Conclusion: Four weeks' acupuncture treatment is a safe and effective option as clinical management of SAR, in terms of patients' symptom relief and QoL improvement.

Contact: Charlie Xue, charlie.xue@rmit.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.293>

OS02.05

Compare the different electro-acupuncture on inflammatory response signals in cerebral ischemiareperfusion rats

WANG YU¹, Sun Linlin², Guo Zhuo¹,
Zhang Xuhui¹, Song Chengzhi¹

¹ Department of Acupuncture and Massage,
Beijing University of Chinese Medicine, Beijing,
China

² Peking University Shougang Hospital, Beijing,
China

Purpose: To observe the dynamic change of stress-damage-repair signal chain in the damaged brain tissue of affected side after acupuncture intervention on cerebral ischemia and reperfusion model rats, compare the influence of acupuncture treatment to inflammatory response signals in the brain tissue.

Methods: The rats were randomly divided into the control group (10 animals) and model group, model rats were divided into 3 groups according to the random number table, include model control group, acupuncture treatment group 1 (DU20, EX-HN3 and DU26) and acupuncture treatment group 2 (DU20, affected side ST36), in each group, they were divided into 6 schedules (12 h, 24 h, 48 h, 72 h, 96 h and 144 h) and 10 animals of each schedule. Take brain tissue, frozen sections, used

the immunohistochemical staining technology to detect the expression of IL-6, TNF- α , MCP-1, TGF- β in the brain tissue of affected side.

Results: Electro-acupuncture treatment on DU20, affected side ST36, contrast the points DU20, EX-HN3 and DU26, could significantly lower the inflammatory response signals' expression levels in the brain tissue of affected side in the rat model, including IL-6, TNF- α , MCP-1, TGF- β , could show the second peak of IL-6, TGF- β in advance.

Conclusion: Electro-acupuncture treatment on DU20, affected side ST36, contrast the points DU20, EX-HN3 and DU26, had better influences in regulating the body's inflammatory stress response to injury, reducing the inflammatory response and inflammatory, activating repair function, combined use of points on the head and body may be better in reducing inflammatory injury than using the head acupuncture points only.

Contact: WANG YU, wy8166@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.294>

OS02.06

Electroacupuncture modulates brain connectivity to alleviate osteoarthritis-associated pain in a rat model



Ruixin Zhang¹, David Seminowicz², Ke Ren², Xinyun Yuan², Ming Li³, Lixing Lao⁴, Brian Berman²

¹ Center for Integrative Medicine, University of Maryland

² University of Maryland

³ Shanghai University of Traditional Chinese Medicine

⁴ The University of Hong Kong

Purpose: Osteoarthritis (OA) of the knee is a major cause of pain. Treatment of such pain remain serious challenges. The aim of this study was to investigate effects and mechanisms of electroacupuncture (EA) on OA-caused pain in an OA rodent model produced by monosodium iodoacetate (MIA).

Methods: MIA (3 mg/50 μ l /rat) was injected into the knee joint cavity in both male and female rats. EA, 10Hz, 2 mA, and 0.4 ms pulse width for 30 min, was applied bilaterally at the equivalent of the human acupoint GB30 once a day on days 2-9 post-MIA injection. Pain was assessed with a battery of tests including body weight bearing (BWB) differences, conditioned place preference (CPP), thermally and mechanically evoked withdrawal responses, and locomotion. Functional magnetic resonance imaging (fMRI) was used to study the effect of EA on brain network connectivity during the resting state after multiple EA treatments.

Results: Behavioral data shows 1) that EA treatment obviously decreased BWB differences on days 3-5 and 8-30 in male rats and on days 7-15 in female rats compared to control rats, suggesting a sex-dependent difference of EA effect on OA-induced pain, 2) that EA-treated rats showed CPP to the EA-paired chamber while the sham control group spent equal amounts of time in both chambers, 3) that EA inhibited mechanically and thermally evoked pain, and 4)

that EA improved rat motion distance and speed. Using the nucleus accumbens, whose activities are associated with patients' spontaneous pain, as a seed region, fMRI data shows an increased anterior cingulate cortex (ACC)/motor/sensory (M1/S1) connectivity in MIA-injected rats but not in naive or EA-treated rats. This suggests that MIA-induced pain affects connectivity between the nucleus accumbens and ACC/motor/sensory cortex and that EA treatment modulates OA-induced brain activity during the resting state.

Conclusion: EA may modulate specific brain connectivity to alleviate pain.

Contact: Ruixin Zhang, Rzhang@som.umaryland.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.295>

StartOral Presentation Session 03: Basic Science – Diagnosis and Others

OS03.01

A preliminary study on pulsographic parameters change caused by pain in patients with primary dysmenorrhea



Wanhong Chen¹, Yan Zhao¹, Changchun Zeng², Daoning Zhang¹, Yanping Wang¹, Ling Tang³, Xiaomei Zhang¹, Tianfang Wang¹

¹ Beijing University of Chinese Medicine

² Guilin Medical University

³ Dongzhimen Hospital of Beijing University of Chinese Medicine

Purpose: To investigate the changes in pulsographic parameters caused by pain in patients with primary dysmenorrhea (PD).

Methods: A total of 30 PD patients whose pain reaching at least 5 cm of Visual Analogue Scale (VAS) were surveyed. Acupuncture was used in their period to relieve pain. Pulsograph and pain level were detected using electro-pulsography and VAS respectively at four time points, 7-10 days before period(T0), patients with obvious pain(VAS pain scores \geq 5) in period(T1), immediately after acupuncture(T2) and 30mins after acupuncture(T3). Time parameters (t) and amplitude parameters (h) corresponding to the dominant wave, pro-dicrotic wave and dicrotic wave of pulsograph to different pain level were analyzed. Moreover, normalized time parameters (normalized at heart rate of 75 times/ min) (t') were analyzed.

Results: Immediately after acupuncture treatment VAS pain scores had a reduction from 6.40 \pm 1.13 at T1 to 0.70 \pm 0.75 at T2 (P<0.001), and then slowly to 0.11 \pm 0.32 at T3 (P<0.001). As to changes in the original parameters and normalized-based time parameters (normalized at 75 times/min heart rate), compared with those at T0, w1 and h3 and h4 at T1 demonstrated significant increases (P<0.01), and t2 and t2' and t3' and h(d) showed significant reductions (P<0.01, 0.001, 0.05, 0.001). At T2, compared with those at T1, t1 and w1 and w2 and h2 and h3 and t1' and t4' significantly decreased (P<0.05, 0.01, 0.01, 0.001, 0.01, 0.001, 0.05), and h(d) significantly increased (P<0.001). There was no difference between T2 and T3.

Conclusion: There are changes in pulsographic parameters, basically in opposite trends, in patients with PD when their pain occurs and when it is relieved. Pulsographic parameters may serve as an objective indicator for pain. (supported by the 973 Program of 2011CB505105 and Natural Science Foundation of China, No.81473598.)

Contact: Tianfang Wang, tianfangwang2000@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.296>

OS03.02

A Diachronic Study on the Concepts of Jeokchwi(瘕)-related Disease



Ui Min Jerng^{1,2}

¹ Kyung Hee University Graduate School

² Korea Institute of Oriental Medicine

Purpose: To examine the process of change on the concepts of the 'Jeokchwi' and to investigate the process of change on categorization and classification system of these diseases.

Methods: Eighteen comprehensive medical books published between the third century and the eighteenth century were included. Lesion location, pathophysiology, and symptoms of the 'Jeokchwi' and its subordinate diseases were extracted from each book.

Results: The 'Jeokchwi' has been recognized since the third century. There has been little change on the concept of the 'Jeokchwi' until the Jin-Yuan Dynasties(金•元代). After Zhuzhenheng(朱震亨) reestablished the theory for etiology of the 'Jeokchwi', two pathophysiologic concept of this disease have coexisted since the Ming Dynasty(明代). Four criteria(lesion location, lesion mobility, mobility of painful areas, and existence of an obvious lesion border) which classified the 'Jeokchwi' into the 'Jeok'(瘕) and the 'Chwi'(疝) in the 『Nanjing』(《难经》) have been used until the Ming-Qing Dynasties(明清代). As Zhuzhenheng's theory for etiology of the 'Jeokchwi' also applied to the theory for etiology of the 'Jeok' and the 'Chwi', pathophysiologic concepts of these diseases reestablished. The 'Jeok of five viscera'(五臟之瘕), which is a principal subordinated disease of the 'Jeok', is the collective disease for five diseases('Bigi'(肥氣), 'Bokryang'(伏氣), 'Bigi'(疝氣), 'Sikbun'(疝氣), and 'Bundon'(疝氣)). Three criteria(lesion location, size or pattern of local lesion, mutated symptoms) in the 『Nanjing』, and two criteria in the 『Maijing』(《脉经》) for classifying the five diseases have been passed down until the Ming-Qing Dynasties. The concept of the 'Chwi' and the 'Six Chwi'(六疝) has been developed in detail than that of the 'Jeok' and the 'Jeok of five viscera'.

Conclusion: The pathophysiology and symptom of the 'Jeokchwi' were mostly recognized before the third century, and most of them have been passed down until the Ming-Qing Dynasty. Some concepts about this disease term changed through the process of creation, extinction, integration, or separation.

Contact: Ui Min Jerng, breeze@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.297>

OS03.04

Development of cost-effectiveness management tool for Korean Medicine hospitals in Korea



Byungmook Lim¹, MINYANG RHO², YOONJUNG YANG²

¹ Pusan National University School of Korean Medicine

² Classification System Planning Division, Health Insurance Review & Assessment

Purpose: From the point of view that high medical cost does not guarantee high quality of medical care, we need measures to manage cost-effectiveness. In Korean Medicine hospitals, the elderly population is more than 70% of the patient composition and medical cost is increasing by 15% every year. However there is no measure developed to manage cost-effectiveness. We developed a Korean Diagnosis Related Group-Korean Medicine (KDRG-KM) in the area of Korean Medicine (hospitalization) to use as a tool to manage quality of medical care and to compare case-mix adjusted inter-hospital cost-effectiveness. The aim of this study is to assess clinical similarity and the homogeneity of resource use in the groups of KDRG-K M.

Methods: We used claims of 2012 data from Korean Medicine hospital that were submitted to HIRA (Health Insurance Review & Assessment Service). We performed T-test and F-test on occurrence frequency and average medical cost of disease, procedures, age and severity. The results were used as reference in the classification determination process, under the guidance of clinical specialist panel(including 8 specialist academic association).

Results: Based on KCD (Korean standard Classification of Diseases), diseases were categorized into 27 groups and procedures were divided into 11 groups with the standard of type of consultation(Korean Medicine hospitalization or other medical institution hospitalization) and type of procedures (acupuncture, moxibustion and cupping). In consideration of the fact that elderly patients are the majority, age is splitted up at 65-years-old, 80-years-old. Therefore, the final number of total groups is 234. KDRG-KM has 66.5% of R-squared (R) value.

Conclusion: The KDRG-KM could be used as inter-hospital comparison tool for improving the quality of medical care. It also makes it possible to use medical cost more efficiently by securing homogeneity of resource use. In particular, the introduction of age splits makes it more efficient to manage the medical cost and improve quality of medical care for the elderly.

Contact: Byungmook Lim, limb@pusan.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.299>

OS03.05

Influence of anger on pulse parameters in healthy college students: a pilot study

Daoning Zhang¹, Yan Zhao¹,
Changchun Zeng², Wanhong Chen¹

¹ Beijing University of Traditional Chinese
Medicine

² Guilin Medical University

Purpose: To explore the influence of anger on pulse parameters in healthy participants.

Methods: Thirty healthy college students from Beijing University of Traditional Chinese Medicine were selected and were exposed to an anger-inducing video clip. Then their scores of emotions were evaluated by the participants' self-report at three time points: 10 min before watching the video (T1), the moment when the video ends (T2) and 15 min after the video has ended (T3). Meanwhile, pulse parameters were recorded by electropulsograph at the above three time points.

Results: After watching the video, anger was successfully elicited in 29 participants (97%), with a score increased from 1.00 ± 0.00 to 5.56 ± 0.78 ($P < 0.001$). Meanwhile, participants were accompanied by mild sadness and fear emotions, with scores from 1.00 ± 0.00 and 1.00 ± 0.00 to 2.55 ± 1.53 ($P < 0.001$) and 1.17 ± 0.47 ($P < 0.05$), respectively. Their pulse tense varied from 75.83 ± 3.19 to 93.83 ± 10.86 ($P < 0.001$), pulse force from 1416.59 ± 115.32 to 1919.97 ± 135.62 ($P < 0.001$), pulse fluency from 47.38 ± 19.49 to 57.14 ± 19.13 ($P < 0.001$) and pulse from 69.05 ± 3.89 to 76.69 ± 3.92 ($P < 0.001$). The change in pulse rhythm showed no statistical significance ($P > 0.05$).

Conclusion: This provides an evidence for the understanding of the relationship between anger emotion and pulse condition in Traditional Chinese Medicine (TCM).

This work was supported by NNSF(81473598) and 973 programme (2011CB505105)

Contact: Tianfang Wang, tianfangwang2000@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.300>

Oral Presentation Session 05: Basic Science – Acupuncture

OS05.02

Acupuncture could be a complement alternative treatment for curing Alzheimer's disease

Jing Jiang, Zhigang Li, Yuan Zhou,
Xiangbo Han, Xin Wang, Suhua Shi,
Anping Xu, Qianfeng Shao, Menghan Lu

Beijing University of Chinese Medicine

Purpose: Alzheimer's disease (AD) is a late-onset, age-dependant neurodegenerative disease, characterized by the progressive decline of memory and cognitive functions, and has no effective treatment for this disease. We intended to explore that acupuncture could to a complement alternative treatment for AD.

Methods: Morris water maze and micro-PET were used to evaluate the effects of acupuncture, medicine (donepezil) and medicine combined with acupuncture treatments on senescence accelerated mouse-P8 (SAMP8), an animal model of Alzheimer's disease. Further, we also used hematoxylin-eosin staining (HE) and immunohistochemistry (IHC) to explore the effects of acupuncture treatment on neuron in hippocampus of SAMP8 mouse.

Results: From the Morris water maze (MWM) test and from the micro-PET test, we found the treatment of acupuncture can improve the spatial learning and memory ability of SAMP8 mouse and acupuncture combined with medicine group performed best; from the HE and IHC test, we proved that after the acupuncture combined with medicine treatment the level of uptake rate of glucose in hippocampus was higher than medicine group.

Conclusion: These results suggested that acupuncture could be an alternative treatment for AD, and acupuncture combined medicine may be an optional choice for curing AD clinically.

Contact: Jing Jiang, yingxi7847@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.302>

OS05.03

An ultrasonic moxa: its construction and feasibility test

Gwansuk Kang, Min Joo Choi

Jeju National University

Purpose: An ultrasonic moxa was constructed in this study.

Methods: The diameter was 10 mm as a typical commercial indirect moxa. A PZT8 series piezo-ceramic circular plate was used to generate ultrasound, resonated at 3 MHz. The beauty of the ultrasonic moxa is that it can control the temporal history of temperature produced in the subdermal target tissue. A thermal sensor located on the central surface of the ultrasonic moxa was used as the parameter to control the electrical power to the ultrasonic transducer.

Results: The control system enables the moxa to reproduce the temperature-time curve at depth in the target tissue which was chosen by users. The ultrasonic moxa allows the thermal dose to be accurately quantified and monitored which can be recorded as database for an individual patient treatment history.

Conclusion: In conclusion, the constructed ultrasonic moxa was proved to have advantages over traditional moxas causing burning risks, smoking, unwanted smell, uncertain thermal dose, and being subject to air flow. The ultrasonic moxa is expected to be taken as a breakthrough technology to radically enhance clinical utility of moxa.

Contact: Gwansuk Kang, cybersys@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.303>

OS05.05

Correlation between acupuncture points and plasma leakage points are observed in the colon pain model induced by mustard oil

Osang KWON, Seong Jin Cho, Sun Hee Yeon,
Kwang-Ho Choi, Suk Yun Kang, Yeon hee Ryu

Korea Institute of Oriental Medicine

Purpose: The meridian system is originated from concept of invisible line which connects between internal organ and specific point in the body surface. And specific points are discovered by observing reaction of patients after pushing patient's skin with doctor's hand. And it is so called Ashi-points which means points make patient scream "Ah!". In this study, we suppose that the ashi-points have relation with referred pain, and thus observed an aspect of revelation of referred pain area visualized by evans blue dye.

Methods: SD-rats (250 g) were injected evans blue dye through caudal vein while anesthetized with mixture of Zoletil and Rom pun. 10 minutes later, silicone guide and Q-tip absorbing mustard oil was inserted to the large intestine in depth of 3, 5, 7 cm from the anus. Evans blue sign was observed after 30 minutes after insert of the Q-tip. The location, size and shape of evans blue sign was recorded in the chart developed to record the sign and charts were merged by using the Adobe Photoshop program.

Results: More than 90% of evans blue sign were located in the hind paw. Specially, many signs were located in the lateral side of the foot (border between the red and white flesh). Most of signs have shape of long ellipse, and headed same direction. The sign mainly located in rows around navicular tubercle. The signs had tendency of distinguished by the depth but there were no significant border for distinguish the signs.

Conclusion: In this study, we have visualized referred pain area by using evans blue dye, and confirmed that the signs has tendency of forming lines, and many acupuncture points are located in the same anatomical area. In spite of the results of this study, we have confirmed only one-way communication and to confirm two-way communication, we plan to observe treatment effects of the sign area.

Contact: Osang KWON, logos319@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.305>

OS05.06

The differences in expression levels of depression-related proteins in hippocampal of CUMS rats by treating of electro acupuncture

Miao Yu¹, Danmei Zhang², Ya Tu¹, Yu Guo¹,
Mingmin Xu¹

¹ Beijing University of Chinese Medicine

² Luoyang Centerhospital Affiliated to Zhengzhou University

Purpose: Antibody microarray is applied to detect hippocampal tissue of chronic unpredictable mild stress (CUMS)

rats, and the proteins which are significant different in expression are selected, in order to provide the experimental basis for discovering potential depression-related biomarker and clinical application of EA treatment of depression.

Methods: 1. A total of 40 SD rats were equally randomized into normal, model, control, EA and Prozac groups. The depression model was established by CUMS. "Bai-Hui" (DU20) and "Yin-Tang" (DU29) points were used with EA. Prozac were used as positive control drug. 2. Open field test, sugar intake, and body weight were used to evaluate the CUMS model. 3. Collect hippocampal tissues of normal, model, control, EA and Prozac groups to compare and analysis different proteins expression of four groups by Ray biotech Rat L-series cytokine antibody chips.

Results: After 28 days of CUMS, compared with control group, rats' behaviors, body weight and sugar intake of EA and Prozac groups all had significant differences ($P < 0.01$), however, there were no significant differences between EA group and Prozac group ($P > 0.05$). The proteins EGFR and VEGF are both down-regulated in EA and Prozac groups compared with control group. EGFR which involves in AKT signal pathway contributes to cell proliferation and differentiation. VEGF which involves in MAPK signal pathway could promote nerve growth and angiogenesis and regulate the brain microenvironment.

Conclusion: EA can effectively reduce or prevent the occurrence of depressive behaviors of CUMS rats. The effect of EA was similar to Prozac. The mechanism of EA and Prozac to treat depression was related to regulate multiple protein expressions of hippocampal tissue, which happens in several signal pathways. VEGF which is different in expression level was closely related to nerve regeneration and angiogenesis, indicating that EA and Prozac might treat the depression through regulating the brain microenvironment.

Contact: Miao Yu, ymandlch@outlook.com

<http://dx.doi.org/10.1016/j.imr.2015.04.306>

OS05.07

Influence of electro-acupuncture on TGF- β 3, FSL-1 and IL-1 β expression in chronic unpredictable mild stress rats

Xuhui Zhang¹, Danmei Zhang², Cheng Hu³,
Rongxing Shi⁴, Ya Tu¹

¹ School of Acu-moxibustion and Tuina, Beijing University of Chinese Medicine

² Luoyang Central Hospital affiliated to Zhengzhou University

³ West China School of Medicine/ West China Hospital, Sichun University

⁴ China-Japan Friendship Hospital

Purpose: To observe the effect of electroacupuncture (EA) on transforming growth factor- β 3(TGF- β 3), follistatin-like protein-1(FSL-1) and interleukin-1 β (IL-1 β) of hippocampus in chronic unpredictable mild stress (CUMS)-induced depression rats.

Methods: Male adult Sprague-Dawley rats were randomly divided into four groups: control group, model

group, model+EA group, and model+fluoxetine group. Use biotin-labeled protein chip technology to detect the protein expression of TGF- β 3, FS L-1 and IL-1 β of hippocampus.

Results: Compared to the control group, the protein expression of TGF- β 3 in the model group were down-regulated (fold change= 0.48), FSL-1 and IL-1 β were up-regulated (fold change=1.27; 1.57). Compared to the model group, the protein expression of TGF- β 3 were up-regulating in the model+EA group (fold change=1.61) and the model+fluoxetine group (fold change=1.60), while the protein expression of FSL-1 and IL-1 β were both down-regulating in the model+EA group (fold change=0.75; 0.60) and the model+fluoxetine group (fold change=0.67; 0.54).

Conclusion: The results showed that EA improved significantly dysfunction of hippocampus by facilitating hippocampal neuron differentiation and preventing them apoptosis and inflammation, which was as effective as fluoxetine. Consequently, EA is a useful antidepressant treatment for depression model rats.

Contact: Xuhui Zhang, rabbit_zxh@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.307>

Oral Presentation Session 06: Research Methodology

OS06.01

Which Chinese herbal medicine formula performs best when used with salmeterol for chronic obstructive pulmonary disease? Network meta-analysis



Vincent Chung¹, Xinyin Wu³, Robin Ho², Polly Ma², Samuel Wong¹, Justin Wu³

¹ Hong Kong Institute of Integrative Medicine

² JC School of Public Health & Primary Care (CUHK)

³ Hong Kong Institute of Integrative Medicine (CUHK)

Purpose: Chinese herbal medicine (CHM) is often prescribed as an adjunct to guideline recommended bronchodilators in the management of chronic obstructive pulmonary disease (COPD). We performed a systematic review and network meta-analysis (NMA) to evaluate the comparative effectiveness of CHM plus bronchodilators, versus bronchodilators alone.

Methods: Fifteen randomized controlled trials with moderate risk of bias were included.

Results: Results from meta-analyses indicated favorable, clinically relevant benefit of CHM plus salmeterol on changes in FEV1 (7 studies, pooled weighted mean differences (WMD) = 0.20 L, 95% confidence interval (CI): 0.06 to 0.34 L), changes in the St George's Respiratory Questionnaire scoring (SGRQ) (5 studies, pooled WMD = -4.99, 95% CI: -7.73 to -2.24). Improvement on the 6-Minute Walk Test (3 studies, pooled WMD = 32.8 meters, 95% CI: 18.3 to 47.4 meters) was also observed but the magnitude of effect was clinically insignificant.

Conclusion: Results from NMA showed no differences on the comparative effectiveness among CHM formulations for improving FEV1. For SGRQ, NMA suggested that

Runfeijianpibushen Formula and Renshenbufei performed best. Astragalus membranaceus, Rehmanniae radix preparata, Radix codonopsis and root bark of Paeonia suffruticosa Andr are the most commonly used herbs. Well conducted, adequately powered trials are needed to confirm their effectiveness in the future.

Contact: Vincent Chung, vchung@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.308>

OS06.02

Clinical trials on herbal remedies in children: a systematic review



Karin Kraft

Chair of Complementary Medicine/University of Rostock

Purpose: Herbal remedies are very popular for self-medication in minor diseases, also in children. However, in Germany, the use of most herbal remedies not authorized for this group, due to missing data on safety and efficacy. A systematic overview on clinical trials with herbal remedies children does not exist so far.

Methods: A systematic search in medicinal databases on herbal remedies in clinical trials with children was performed, and a database structured in 5 main categories (countries, study design, age of the participants, indications, medicinal herbal drugs) was established.

Results: Altogether 133 clinical trials with herbal remedies in children were identified; 63% were conducted in only 5 countries (China (n=37), Germany (n=19), USA (n=12), Russia (n=12) and Great Britain (n=4)). 67.7% of the trials were randomized, 32.2% double-blind. They were performed most often in the age cohort 6-12 years (39.0%). Main indications were: respiratory (n=26), gastro-intestinal (n=18) or neuropsychiatric diseases (n=18) and skin problems (n=11). A large variety of herbal drugs was tested, only with Hedera helix, Pelargonium sidoides, and Vaccinium macrocarpon more than 3 trials had been conducted.

Conclusion: In children until now efficacy and safety could be demonstrated only for a few herbal remedies. The results of the review however confirm longstanding empirical knowledge. As herbal remedies are often used because of their assumed high potential of safety compared to synthetic drugs, their efficacy should be proven in clinical trials in order to allow their broader application in this sensitive age-group.

Contact: Karin Kraft, karin.kraft@med.uni-rostock.de

<http://dx.doi.org/10.1016/j.imr.2015.04.309>

OS06.03

Evaluating practitioner-blinding in Chinese herbal medicine research: Findings from a randomised feasibility study in the United Kingdom

Lily Lai¹, Andrew Flower¹, Philip Prescott², Michael Moore¹, George Lewith¹

¹ Primary Care and Population Sciences, University of Southampton

² Mathematical Sciences, University of Southampton

Purpose: Practitioner-blinding is often carried out in randomised controlled trials (RCTs) of Chinese herbal medicines (CHMs) yet evaluation of blinding is infrequently conducted. We aimed to evaluate the feasibility of practitioner-blinding within a UK study and identify reasons for practitioner guesses.

Methods: We conducted a practitioner and patient-blind feasibility study exploring CHM for polycystic ovary syndrome, randomising 40 women to standardised CHM or individualised CHM for 24 weeks. We evaluated practitioner-blinding at Week 4, 12 and End of Study (EoS). This questionnaire invited a treatment allocation guess (Standardised/Individualised) and certainty rating (Not at all sure, just guessed/Fairly sure/Entirely sure). This was used to calculate a Bang Blinding Index (BBI). The final item asked for reasons for their answer, analysed using content analysis.

Results: Completion rates of blinding-questionnaire was excellent (mean=86%). Practitioner-guessing and BBI at Week 4 was standardised random/individualised unblinded (standardised -0.11,95%CI -0.35 to 0.14; individualised 0.47,95%CI 0.23 to 0.71), at Week 12 standardised random/individualised unblinded (standardised -0.24,95%CI -0.54 to 0.07; individualised 0.50,95%CI 0.12 to 0.88); EoS standardised opposite/individualised unblinded (standardised -0.56,95%CI -0.91 to -0.20; individualised 0.61,95%CI 0.30 to 0.92). 'Presence of effects' was the highest ranking reason for treatment guess (52% of responses) and consistently led to a guess of 'individualised treatment'/'not at all sure', and 'absence of effect' consistently led to a guess of 'standardised treatment'/'not at all sure'. This can be interpreted as 'wishful thinking' scenario whereby the practitioner consistently believed treatment response was due to individualised treatment, suggesting that blinding was likely secure.

Conclusion: We have demonstrated that practitioner-blinding is feasible and likely secure in this feasibility study. To our knowledge, this is the first time practitioner-blinding has been rigorously evaluated in a CHM study in the UK. Qualitative data has provided further insight into practitioner reasons for treatment guess which will be used to maximise practitioner-blinding in future studies.

Contact: Lily Lai, l.y.w.lai@southampton.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.310>



OS06.04

Acupuncture for stroke: an overview of systematic reviews

Zhaolan Liu, Yunjiao Zhang, Xiaoyi Yan, Jianping Liu

Centre for Evidence Based Chinese Medicine, Beijing University of Chinese Medicine



Purpose: To overview the clinical research evidence, reflected by systematic reviews, of acupuncture related interventions for stroke and stroke related conditions.

Methods: This study was an overview of systematic reviews of acupuncture for stroke. We searched for all acupuncture systematic reviews on stroke in PubMed, the Cochrane Library, Chinese National Knowledge Infrastructure Databases, Chinese Biomedical Literature, Chongqing VIP Chinese Science and Technology Periodical Database and Wanfang Data from their inceptions to September 2014. Two authors extracted data independently. We performed descriptive data analysis using SPSS 17.0.

Results: 43 systematic reviews and meta-analyses were identified published between 2001 and 2014, included 4 (9.3%) published in English and 39 (90.7%) in Chinese. The number of trials included in reviews varied from 3 to 98(16.0±1 4.8) and the number of participants was from 143 to 6144 per review (1428.8±1137.5). The objects of the studies included post-stroke depression(6/43, 14.0%), dysphagia after stroke(5/43, 11.6%), aphasia after stroke(4/43, 9.4%), hiccups after stroke(3/43, 7.0%), movement disorders after stroke(3/43, 7.0%), acute stroke(3/43, 7.0%) and so on. 7(16.3%) studies talked about acupuncture manipulations which included acupuncture method of inducing resuscitation(3/43, 7.0%), CT-aided enclosures needling(1/43, 2.3%), scalp acupuncture(1/43,2.3%) and midnight-noon ebb-flow acupuncture(1/43, 2.3%). 1(2.3%) study discussed about 17 kinds of acupuncture manipulations. Poor quality trials existed in every systematic review. Referring to the effectiveness, 23 (53.5%) reviews reported positive results, which meant effect of acupuncture better than non-acupuncture. 20 (46.5%) reviews reported both positive and negative results, which meant the overall evidence did not support the effectiveness of acupuncture for stroke. 41 (95.3%) reviews suggested further evidence needed.

Conclusion: Substantial numbers of systematic reviews of acupuncture for stroke have been published during the past decade, only half of reviews gave the positive assessment and the remaining half of them were uncertain about the effect of acupuncture for stroke while the high-quality trials are needed to test its effectiveness.

Contact: Zhaolan Liu, LZL1019@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.311>

OS06.05

Clinical Evidence of Chinese Herbal Medicine for Treatment of Idiopathic Sudden Sensorineural Hearing Loss from Chinese Literature



Chun-Xiang Su¹, Zhong Sun², Shu-Jin Yue², Yu-Fang Hao², Jian-Ping Liu^{1,*}

¹ Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100029, China

² School of Nursing, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100102, China

Purpose: To provide a comprehensive summary of all clinical evidence on Chinese herbal medicine (CHM) for idiopathic sudden sensorineural hearing loss (ISSHL) published in Chinese literature.

Methods: We systematically searched randomized clinical trials (RCTs), clinical controlled trials (CCTs), case series (CSs) and case reports (CRs) which reported CHM for ISSHL through four main Chinese electronic databases from their inception to March 2014. We bibliometrically analyzed the studies and assessed the methodological quality of RCTs using the Cochrane risk of bias tool.

Results: A total of 299 clinical studies with involving 22,237 participants were identified including 150 RCTs, 42 CCTs, 80 CSs and 27 CRs. The number of publications increased obviously per year from 1995, with the peak in 2011. Among 145 different herbal formulae tested, the most popular prescribed herbal formulae were Longdan Xiegan decoction and Tongqiao Huoxue decoction, and the top three frequently used Chinese herbs were Rhizoma Chuanxiong, Radix Bupleuri and Radix Puerariae Lobatae. The most frequently reported outcome was improvement of hearing in 286 (95.7%), followed by improvement of tinnitus (139, 46.5%), improvement of dizziness (99, 33.1%). Among the 150 RCTs, randomization methods were described in only 12 trials (8.0%). No trial reported allocation concealment and only four mentioned blinding. Among 146 RCTs (97.3%) and 37 CCTs (88.1%) reporting improvement of hearing as the outcome measurement, all showed significant difference favoring CHM. Of 16 trials reporting adverse events, only five trials reported mild adverse events related to CHM and the remaining stated that none had occurred.

Conclusion: The quantity of clinical research on CHM for ISSHL is substantial, but methodological quality of RCTs is generally suboptimal. Future clinical studies would need to report structurally and based on the CONSORT and TREND Statements. Quality of life, adverse events, depression and anxiety should be addressed as outcome measures.

Contact: Chun-Xiang Su, susu18182004@126.com

Corresponding Author: Jian-Ping Liu (Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100029, China), jianping.l@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.312>

OS06.06

Empirical evidence for outcome reporting bias in randomized clinical trials of acupuncture: comparison of registered records and subsequent publications



Chun-Xiang Su¹, Mei Han¹, Jun Ren¹, Wen-Yuan Li¹, Shu-Jin Yue², Yu-Fang Hao², Jian-Ping Liu^{1,*}

¹ Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100029, China

² School of Nursing, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100102, China

Purpose: To evaluate the consistency between the registered records and subsequent publications regarding outcomes and other data, and to determine whether outcome reporting bias favored significant primary outcomes.

Methods: We systematically searched 15 registries from their inception to January 2014 to identify randomized clinical trials (RCTs) on acupuncture that the status was listed as 'completed'. The subsequent publications were retrieved by searching PubMed and three Chinese databases. Basic characteristics and the registration information were extracted from registered records and publications. We performed comparisons regarding primary outcomes and other data between the registered records and publications to assess the consistency and selective outcome reporting.

Results: Eighty-eight trials on acupuncture with 96 publications were identified. Only 19.3% (17/88) were registered before the start of the trial. The trial registered number was not reported in 36 publications (25.9%). A comparison of registered and published primary outcomes could be conducted in 71 publications (74.0%), and the inconsistency of the primary outcomes was identified in 44.4% (32 of 71), mainly involving in registered primary outcome omitted in the publications (22/32, 68.75%), followed by registered primary outcome reported as secondary outcome in the publications (15/32, 46.9%). 71.4% (15 of 21) had a discrepancy that favored statistically significant primary outcomes while 28.6% (6 of 21) favored nonsignificant primary outcomes. Furthermore, the other inconsistencies between the registry records and publications involved in inclusion criteria (54.7%), exclusion criteria (47.9%), and control (22.9%).

Conclusion: We find that the proportion of retrospective registration for RCTs on acupuncture is high, selective outcome reporting is prevalent, and the change of primary outcomes intends to favor results with statistical significance. These discrepancies in outcome reporting may lead to biased and misleading results of RCTs on acupuncture. To ensure publication of reliable and unbiased results, further promotion and implementation of trial registration is still needed.

Contact: Chun-Xiang Su, susu18182004@126.com

Corresponding Author: Jian-Ping Liu (Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100029, China), jianping_l@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.313>

OS06.07

Key elements of defining integrative medicine - a potential checklist for reporting*



Xiao-Yang Hu¹, Ava Lorenc¹, Kathi Kemper², Jian-Ping Liu³, Jon Adams⁴, Nicola Robinson¹

¹ London South Bank University

² Ohio State University Medical Center

³ Beijing University of Chinese Medicine

⁴ University of Technology, Sydney

* The abstract was admitted to and published in European Journal of Integrative Medicine 2015; 7(1); 76-84.

Purpose: Drawing from the experience of experts in different geographical areas, including USA, UK, Australia, and China, this review identified the key elements which could be used to define IM and to explore developing a checklist for reporting IM in clinical trials.

Methods: A total of 54 sources were searched (including websites of governments, key authorities, representative clinical sites, academic journals, relevant textbooks) to identify definitions of IM from the four countries from 1990 - 2014. Key elements characterizing IM were extracted and categorized in a thematic approach in order to identify items to consider when reporting IM in research studies.

Results: Seventeen definitions were identified and extracted from 17 sources. The remaining thirty seven sources did not provide a definition of IM. The most common key elements which defined IM were: practitioner-patient relationship; using aspects of both CAM and conventional medicine; goals of health and healing; holistic approach; and optimum treatment. Integration was also defined at three levels: theoretical, diagnostic and therapeutic. A potential check list of items is proposed for reporting IM in clinical studies.

Conclusion: This paper identifies the key elements which define IM and provides a potential reporting guide for developing IM clinical trials which could be used in narrative/systematic reviews. Further debate, discussion and input is now needed from the research and clinical IM communities to further advance this agenda. Integrative medicine (IM, also called integrative healthcare) is a frequently used term, but there is no standard definition. Drawing from the experience of authors in four different countries (US, UK, Australia and China), this review aims to identify key elements to define IM; and begin to develop a potential checklist for reporting IM which could be developed for research purposes.

Contact: Xiao-Yang Hu, hux2@lsbu.ac.uk / Nicola Robinson, nicky.robinson@lsbu.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.314>

Oral Presentation Session 07: Clinical Research - Acupuncture

OS07.01

A change of perspective: treatment for period pain using acupuncture alters how women view their menstrual cycle



Mike Armour, Hannah Dahlen, Caroline Smith

University of Western Sydney

Purpose: Primary dysmenorrhea affects at least half of all women at some stage during their reproductive life (Latthe 2006). Due to its prevalence many women feel that period pain is a normal part of the menstrual cycle, this is often reinforced by views from friends, family and other medical professionals. In this study we sought to investigate if participating in a clinical trial using traditional Chinese medicine (TCM) acupuncture to treat primary dysmenorrhea changed women's attitudes in regards to their menstrual cycle and the normality of pain and other symptoms.

Methods: A purposive sample of 12 women from New Zealand who participated in a recent clinical trial investigating the effectiveness of three months of TCM acupuncture on the symptoms of primary dysmenorrhea. Women were invited to participate in one on one semi structured interviews. Transcripts were analyzed using thematic analysis.

Results: The overarching theme that emerged from the data analysis was "a change of perspective" which captured how participants felt participation in the study changed their perspective on their health, both in general and in relation to their menstrual cycle. Three major related themes were found; "Period Pain, a normal part of being a woman", "Treating more than just cramps" and "Making sense of my menstrual cycle". The themes include how women felt that the acupuncture wasn't only treating their period pain but affected a range of their menstrual symptoms. Women also felt that the explanations given by their acupuncturists about their period was different from what they had been told previously and this changed their perceptions on what a normal period was and how pain wasn't inevitable.

Conclusion: Based on this small sample, women who received TCM acupuncture found the TCM framework provided them with another way to view their body. This changed their perspective on their menstrual cycle and period pain.

Contact: Mike Armour, m.armour@uws.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.315>

OS07.03

Moxibustion treatment for knee osteoarthritis: a multi-centre, non-blinded, randomised controlled trial



Tae-Hun Kim^{1,4}, Kun Hyung Kim², Jung Won Kang³, MinHee Lee⁴, Kyung-Won Kang⁴, Jung Eun Kim⁴, Joo-Hee Kim⁴, Seunghoon Lee⁴, Mi-Suk Shin⁴, So-Young Jung⁴, Ae-Ran Kim⁴, Hyo-Ju Park⁴, Hee-Jung Jung⁴, Ho Sueb Song⁵, Hyeong Jun Kim⁶, Jin-Bong Choi⁷, Kwon Eui Hong⁸, Sun-Mi Choi⁴

¹ Kyung Hee University Korean Medicine Hospital Korean Medicine Clinical Trial Center (K-CTC)

² Korea Institute of Oriental Medicine, Department of Acupuncture & Moxibustion

³ Department of Acupuncture & Moxibustion, College of Korean Medicine, Kyung-Hee University

⁴ Korea Institute of Oriental Medicine

⁵ Kyungwon University Incheon Gill Oriental Medical Hospital

⁶ Semyung University Jecheon Oriental Medical Hospital

⁷ Dongshin University Gwangju Oriental Hospital

⁸ Department of Acupuncture and Moxibustion, Daejeon University

Purpose: This study tested the effectiveness of moxibustion on pain and function in chronic knee osteoarthritis (KOA), and evaluated safety.

Methods: A multi-centre, non-blinded, parallel-group, randomised controlled trial compared moxibustion with usual care (UC) in KOA. 212 South Korean patients aged 40-70 were recruited from 2011-12, stratified by mild (Kellgren/Lawrence scale grades 0/1) and moderate-severe KOA (grades 2/3/4), and randomly allocated to moxibustion or UC for four weeks. Moxibustion involved burning mugwort devices over acupuncture and Ashi points in affected knee(s). UC was allowed. Korean Western Ontario and McMaster Universities Questionnaire (K-WOMAC), Short Form 36 Health Survey (SF-36 v2), Beck Depression Inventory (BDI), physical performance test, pain numeric rating scale (NRS) and adverse events were evaluated at 5 and 13 weeks. K-WOMAC global score at 5 weeks was the primary outcome.

Results: 102 patients (73 mild, 29 moderate-severe) were allocated to moxibustion, 110 (77 mild, 33 moderate-severe) to UC. K-WOMAC global score (moxibustion 25.42 +/-SD 19.26, UC 33.60 +/-17.91, $p < 0.01$, effect size = 0.0477), NRS (moxibustion 44.77 +/-22.73, UC 56.23 +/-17.71, $p < 0.01$, effect size = 0.0073) and timed-stand test (moxibustion 24.79 +/-9.7 6, UC 25.24 +/-8.84, $p = 0.0486$, effect size = 0.0021) were improved by moxibustion at 5 weeks. The primary outcome improved for mild but not moderate-severe KOA. At 13 weeks, moxibustion significantly improved the K-WOMAC global score and NRS. Moxibustion improved SF-36 physical component summary ($p = 0.0299$), bodily pain ($p = 0.0003$), physical functioning ($p = 0.0025$) and social functioning ($p = 0.0418$) at 5 weeks, with

no difference in mental component summary at 5 and 13 weeks. BDI showed no difference ($p = 0.34$) at 5 weeks. After 1158 moxibustion treatments, 121 adverse events included first ($n = 6$) and second degree ($n = 113$) burns, pruritus and fatigue ($n = 2$).

Conclusion: Conclusions: Moxibustion may improve pain, function and quality of life in KOA patients, but adverse events are common. Limitations included no sham control or blinding.

Contact: Tae-Hun Kim, rockandmineral@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.317>

OS07.05

Individual patient data meta-analysis of older adults suffering from chronic pain



Claudia Witt¹, Rainer Luedtke², Klaus Linde³, Friederike Martins⁴, Andrew Vickers⁵, Emily Vertosick⁵

¹ Institute for Complementary and Integrative Medicine, University Hospital Zurich and University Zurich

² Stifterverband der Deutschen Wissenschaft

³ Technical University Munich

⁴ Charite - Universitätsmedizin Berlin

⁵ Memorial Sloan-Kettering Cancer Center

Purpose: We aimed to investigate whether effects of acupuncture vary with age in chronic pain patients ≥ 60 years.

Methods: We included individual patient level data from the database of the Acupuncture Trialists Collaboration (patients aged ≥ 60 years, intervention period \geq two months). A multivariate regression model predicting standardized pain outcome measures after the intervention (two or three months) and after six months were fitted to the data, analyzing acupuncture vs. no acupuncture and vs. sham acupuncture.

Results: We included 5438 patients (2415 acupuncture, 2141 no acupuncture, 882 sham acupuncture) from 25 trials. Pain after treatment was similar in patients undergoing acupuncture, irrespective of age (regression coefficient $b = 0.03$ standard deviations of pain per 10 years of age, $P = 0.5$). Findings were similar for patients in no acupuncture control groups ($b = 0.02$, $P = 0.6$). Patients receiving sham acupuncture reported more pain with increasing age ($b = 0.23$, $P < 0.01$; P -values for the differences in increase: acupuncture vs. no acupuncture, $P = 0.9$; acupuncture vs. sham, $P = 0.01$). Results were similar at six months, but did not reach statistical significance.

Conclusion: The results indicate that in patients ≥ 60 years of age there is a treatment-age-interaction with the effect of sham acupuncture decreasing and the difference between true and sham acupuncture increasing with age.

Contact: Claudia Witt, claudia.witt@uzh.ch

<http://dx.doi.org/10.1016/j.imr.2015.04.320>

OS07.06

Cupping therapy for fibromyalgia: interim results from a partially randomized patient preference study

Huijuan Cao, Jianping Liu, Tianjiao Li,
Li Zhou, Hui Hu

Beijing University of Chinese Medicine

Purpose: To evaluate the effectiveness of acupuncture and cupping for fibromyalgia while incorporating patients' preference into study design.

Methods: The trial was registered in clinicaltrials.gov (NCT01869712). One hundred participants with fibromyalgia were to be included in this study. Diagnosis of fibromyalgia was based on the American College of Rheumatology criteria. Before treatment, participants were interviewed for their preference toward acupuncture or cupping. Fifty participants with no preference were randomly assigned to one of the two groups and another 50 participants with strong preference to either acupuncture or cupping received what they choose. For acupuncture and cupping, the main acupoints used were tender points (Ashi). The treatment session was three times a week for 5 consecutive weeks with a follow-up period of 12 weeks. Outcome measures included patient expectation, satisfaction, pain intensity, quality of life, and depression assessment. Intention to treat analysis was employed.

Results: Results of intention-to-treat analysis from current 56 participants (29 in cupping group and 27 in acupuncture group, whose baseline data were comparable) showed no difference of pain intensity (Visual Analogue Scale 4.16 mm, 95%confidence interval -5.40 mm to 13.72 mm), quality of life (SF36 5.93, 95%confidence interval -7.89 to 19.75), and depression assessment (HAMD 0.42, 95%confidence interval -4.09 to 4.93) between groups after treatment. Similar results were got on patients expectation before treatment between groups ($p>0.05$), and no statistically difference was showed on satisfactory after treatment between groups ($p=0.17$, 59.6% in acupuncture group and 58.3% in cupping group reported satisfied with the treatment).

Conclusion: The present results showed no difference of effectiveness between acupuncture and cupping therapy for treatment of fibromyalgia on relieving pain, reducing depression and improving quality of life. Hence, patients accepted acupuncture had a similar satisfactory as them who received cupping.

Contact: Huijuan Cao, huijuancao327@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.321>

Oral Presentation Session 08: Clinical Research – Herbal Medicines

OS08.01

Sailuotong (SLT), a standardised Chinese herbal medicine formula, enhances working memory in healthy adults: a pilot study

Dennis Chang¹, Genevieve Steiner²,
Alan Yeung³, Frances De Blasio²,
Andrew Pipingas⁴, Andrew Scholey⁴,
Con Stough⁴

¹ National Institute of Complementary Medicine

² University of Wollongong

³ University of Western Sydney

⁴ Swinburne University of Technology

Purpose: Sailuotong (SLT) is a standardised Chinese herbal medicine formula consisting of Panax ginseng, Ginkgo biloba, and Crocus sativus. Substantive preclinical work has shown that this formula has neuroprotective, antioxidant, and anti-hypertensive properties. A recent human trial demonstrated that SLT significantly improved Alzheimer's Disease Assessment Scale cognitive subscale (ADAS-cog) scores and increased cerebral blood flow (relative to placebo) in participants with probable or possible vascular dementia. The current pilot study tested whether SLT could improve cognition in a healthy population.

Methods: Sixteen healthy adults (49.2 ± 14.3 years) participated in this randomised, placebo-controlled, double-blind crossover design pilot study. The participants were randomised to receive either SLT or placebo for 1 week, and then switched to the other treatment after a 7 day washout period. Before and after each treatment, participants completed a computerised neurocognitive test battery (Compass), and had their electroencephalograph (EEG activity) recorded whilst completing auditory and visual oddball tasks.

Results: Among the Compass tasks, 1 week treatment with SLT, compared to placebo, resulted in improvements in visuospatial short-term memory (Corsi Block Span task) and working memory (N-Back task) that approached statistical significance ($p<.10$). In the auditory oddball task, the N1 event-related potential (ERP) component showed a significant reduction after treatment with SLT that was larger for targets than nontargets ($p<.05$). There was also a small effect ($p<.10$) on auditory P3a, where a target enhancement was larger following SLT than placebo.

Conclusion: Though the effects were small, SLT enhanced visuospatial short-term memory and working memory. Electrophysiological findings indicate that treatment with SLT resulted in more efficient attentional processing of auditory information, and increased activation of working memory processes. Findings are consistent with preclinical and recent clinical work, and suggest that SLT could potentially improve memory function in healthy volunteers, however, a larger sample size is needed to demonstrate this.

Contact: Dennis Chang, d.chang@uws.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.322>

OS08.02

A traditional herbal formula, Yukmijhwang-tang, ameliorate oral moisture in the elderly complaining with xerostomia



Gajin Han, Seok-Jae Ko, Juyeon Kim, Jae-Woo Park, Jinsung Kim

Kyung Hee University

Purpose: Xerostomia is common symptoms in the elderly and this has been impaired quality of life continuously. Many conventional treatments for xerostomia have limitations for their side effects. Hence, interest in treatment using the traditional Korean medicine (TKM) has been rising. In TKM theory, the main pathology of xerostomia in the elderly is considered as Yin-Deficiency (YD) and Yukmijhwang-tang (YJT) has been used for treatment of YD. This study aimed to investigate the efficacy and safety of YJT for xerostomia in the elderly and evaluate the correlation the xerostomia and YD.

Methods: The current study was randomized, placebo-controlled, double-blinded, two center trial conducted in Kyung Hee University Korean Medicine Hospital and Kyung Hee University Hospital at Gangdong. Ninety-six subjects aged 60-80 years with xerostomia for over 3 months were randomly allocated to YJT and placebo group. These subjects also presented with score >40 on VAS for xerostomia and unstimulated salivary flow rate under 0.3 mL/min. The subjects and all researchers were blinded to the group assignment. YJT or placebo was administered to each group for 8 weeks. The primary outcome was change in the scores of the VAS for xerostomia from 0 to 8 weeks.

Results: Both YJT and placebo group had xerostomia-relieving effect after 8 week administration by decreasing VAS for xerostomia and other xerostomia-related variables. In addition, 8 week-administration of YJT increased the level of oral moisture. The participants with BMI lower than 29.37 kg/m² showed improvement of VAS after 8 week treatment in YJT group only. There were not any significant adverse events related to YJT including SAE. In addition, xerostomia-related variables had causal relationship with YDQ and Ig A.

Conclusion: YJT could increase oral moisture status and improve subjective symptom of dry mouth in the elderly with lower BMI and more YD tendency. Besides, the correlation between xerostomia and YD was reconfirmed.

Contact: Gajin Han, kmdhgj@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.323>

OS08.03

Chinese herbal medicine for oligomenorrhoea and amenorrhoea in polycystic ovary syndrome: A randomised feasibility study in the United Kingdom



Lily Lai¹, Andrew Flower¹, Philip Prescott², Michael Moore¹, George Lewith¹

¹Primary Care and Population Sciences, University of Southampton

²Mathematical Sciences, University of Southampton

Purpose: Polycystic ovary syndrome (PCOS) affects 6-18% of women of reproductive-age and oligomenorrhoea and amenorrhoea are cardinal symptoms. Conventional management is associated with side-effects and anecdotal evidence suggests Chinese herbal medicine (CHM) can help. Individualised CHM is regarded as more effective than standardised, but requires investigation in randomised controlled trials (RCTs). This study explores the feasibility of conducting an RCT comparing standardised and individualised CHM for regulating menses in PCOS.

Methods: This pragmatic, practitioner-blinded feasibility study randomised 40 PCOS participants with oligo- or amenorrhoea into 2 parallel groups - standardised or individualised CHM - prescribed at 16 g granules/day as a tea for 6 months. Our primary aim was to evaluate feasibility of offering standardised and individualised CHM within an RCT and collect menstrual data for sample size calculation. Secondary data included body mass index, weight, hirsutism and safety data on liver/kidney function and adverse events.

Results: 40 women were recruited within our planned 7-month recruitment-period. 29 participants (72.5%) completed the study, 3 were lost-to-follow-up (7.5%) and 8 withdrew (20%). Analysis of covariance (ANCOVA) of menstrual rate per month showed statistically significant improvements in standardised CHM (MD 0.18±SE0.06, 95%CI 0.06 to 0.29) and in individualised CHM (MD 0.27±SE0.07, 95%CI 0.15 to 0.39). This did not reach between-group statistical significance (MD 0.10±SE0.08, 95%CI -0.07 to 0.26, p=0.26). ANCOVA of secondary measures suggest no important changes in body mass index or weight. Liver/kidney function at Week 4 was normal (n=35), abnormal ALT (n=1); at final visit was normal (n=30), abnormal (n=0). The case of abnormal ALT was later confirmed an acute response to alcohol.

Conclusion: We have demonstrated that a CHM RCT for PCOS is feasible and preliminary data suggests promising menstrual response in both groups. This data will be used to inform sample-size calculation and design of a main study that will incorporate an active or placebo-control.

Contact: Lily Lai, l.y.w.lai@southampton.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.324>

OS08.04

Efficacy of cabbage leaf wraps in treating symptomatic osteoarthritis of the knee – A randomized controlled trial

Romy Lauche, Nadine Romeikat,
Holger Cramer, Jallal Al-Abtah, Felix Saha,
Gustav Dobos

Department of Internal and Integrative Medicine,
Kliniken Essen-Mitte, University of
Duisburg-Essen

Purpose: Osteoarthritis of the knee is one of the most common chronic diseases among older adults. This study aimed to test the efficacy of cabbage leaf wraps for treating symptomatic osteoarthritis.

Methods: Patients with osteoarthritis of the knee stages II-III (Kellgren-Lawrence) were randomly assigned to 4 weeks of cabbage leaf wraps (CLW), topical pain gel (TPG) or usual care (UC). Interventions were to be administered daily. The primary outcome measure was pain intensity (VAS). Secondary outcome included functional disability (WOMAC), quality of life (SF-36), self-efficacy (ASES-D), physical function (30 sec CST), pressure pain sensitivity (PPT), satisfaction and safety.

Results: Eighty one patients were included in this study (42 females, 65.9±10.3years). Overall compliance was very good. After four weeks patients in CLW reported significant less pain compared to UC (difference -12.1; 95%CI: -23.1;- 1.0, p =0.033) but not to TPG (difference -8.6; 95%CI: -21.5;4.4, p=0.190). Significant effects were also found for WOMAC, SF-36, 30 sec CST and PPT in CLW compared to UC. Compared to TPG effects in CLW were found for WOMAC after 4 and for quality of life after 12 weeks. Patients were satisfied with both active interventions, and except for two adverse events in both groups the applications were well accepted and tolerated.

Conclusion: Cabbage leaf wraps are more effective for knee osteoarthritis than usual care, but not compared to diclofenac gel. Therefore it can be recommended as a complement to conventional therapy; or even an alternative when drug therapy is contraindicated. Further research into topical herbal medicines for osteoarthritis is warranted.

Contact: Romy Lauche, r.lauche@kliniken-essen-mitte.de

<http://dx.doi.org/10.1016/j.imr.2015.04.325>

OS08.05

A comparative study on the effects of herbal medicine and the combination of herbal medicine and meditation on the relief of dementia symptoms

JOOHONG PARK

Kyunghee Seoul Oriental Hospital, Kyunghee
University, Seoul National University

Purpose: Mind relaxation programs and medicinal treatments are increasingly being proposed as a way to reduce symptoms of dementia. This research is aimed at analyzing

the synergic effects of medicinal and non- medicinal treatments to find effective treatments of dementia.

Methods: This study employed dementia-related herbal medicine from DongUiBoGam as a medicinal treatment, meditation tool (from Harvard Medical School) as a non-medicinal treatment, and classified them into two groups (medicine and medicine & meditation group). Both herbal medicine and meditation treatment showed positive effects after a certain period, so we analyzed the changes of dementia-related attributes after 1, 2, and 3 months of experimentation. The total number of subjects was 60 (30/30 in each group). It used 4 measurement instruments (BioMed, KDSQ, AMNESIA, VaD) to test the effects on dementia-related attributes. Additionally, a paired sample t- test and ANCOVA were utilized as analysis methods.

Results: After 1 month of experimentation, there was minimal change in dementia-related attributes in the medicine group but a statistically significant improvement in the medicine & meditation group. After 2 months, there was a significant improvement in both groups but the improvement of the medicine & meditation group was higher. After 3 months, there was a rapid improvement in the medicine group. There was a significant difference in the improvement between the two groups after 1 and 2 months but no significant difference after 3 months.

Conclusion: The results shed light onto: (1) the level of improvement when using a combined treatment on the dementia- related attributes in early stages. (2) the slower effects of herbal medicine compared to the meditation treatment. (3) the importance of continual meditation treatment to reduce dementia-related attributes. These findings bolster that a combination of both treatments is much more effective than a single treatment of only herbal medicine.

Contact: JOOHONG PARK, joohongpark4@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.326>

OS08.06

Double-dummy double-blind RCT for safety and efficacy of a combination of nasturtium herb and horseradish root in patients with uncomplicated urinary

Rainer Stange¹, Berthold Schneider²,
Uwe Albrecht³, Valentina Mueller³,
Joerg Schnitker⁴, Andreas Michalsen¹

¹ Charité - University Medicine Berlin

² Medical University Hannover

³ Medicinomics

⁴ Institute for Applied Statistics

Purpose: A combination of nasturtium herb and horseradish root has been licensed and marketed in Germany for many years as anti-infectious agent, e.g. for uncomplicated infections of the urinary tract. It was to be tested as an experimental therapy in comparison to co-trimoxazole as standard therapy.

Methods: Therapies: 4x5 film-coated tablets, each with 200 mg extract from nasturtium herb and 80 mg horseradish root, over 7d (experimental), resp. twice daily 960 mg co-

trimoxazole over 3d and 4d co-trimoxazole placebo as conventional therapy. Corresponding dummy placebos in both groups. Patients of both sexes 18–75y in ambulatory multi-center setting. Primary outcome: responder rates, expressed by reduction for concentrations of bacteria from >105CFU/mL to <103C FU/mL. Secondary outcome: change in specific complaints and change in specific symptom score, duration to freedom from symptoms, safety. Statistical hypothesis of non-inferiority.

Results: 96 patients (90.6% women, median age 38.5y) were randomized (intent-to-treat, ITT), 45(46.9%) to experimental, res p. 51 (53.1%) to conventional therapy. Analysis of full set of data (per protocol, pp) was possible for 22(48.9%), resp. 29(56.9%) patients. Responder rate was 10/22(45.5%) for experimental, resp. 15/29(51.7%) for conventional therapy with a difference of –6.3% (C.I. –33.90% - 21.37%). Median time to freedom from symptoms was 7d(95% C.I.6 – 8d), resp. 4d(95%C.I.4 – 5d). There were 5(11.1%) adverse events in the experimental and 7(13.7%) in the standard group. Causal relation was assumed in 3(6.7%), resp. 5(9.8%) of these, none serious.

Conclusion: There was only a slight difference of responder rates as primary outcome, similar for secondary outcome. Due to frequent violations of the protocol in both groups, pp patients made only slightly more than one half of randomized patients. Correspondingly, the confidence interval of the difference turned out to be rather high and did not meet the biometrical hypothesis of non-inferiority. Safety was slightly better for experimental therapy. In similar future trials, better compliance has to be assured.

Contact: Rainer Stange, r.stange@immanuel.de

<http://dx.doi.org/10.1016/j.imr.2015.04.327>

Oral Presentation Session 09: Health Service Research

OS09.01

Patient Perceived Expression of Empathy from Chinese Medicine Clinicians in Hong Kong: Does Practice Modality Make a Difference?



Vincent Chung¹, Benjamin Yip², Ellen Yu², Siya Liu², Regina Sit¹, Albert Leung³, Justin Wu⁴, Samuel Wong¹

¹ Hong Kong Institute of Integrative Medicine

² JC School of Public Health & Primary Care (CUHK)

³ School of Chinese Medicine, The Chinese University of Hong Kong (CUHK)

⁴ Hong Kong Institute of Integrative Medicine, The Chinese University of Hong Kong (CUHK)

Purpose: The aim of this study was to examine the level of empathy perceived by patients receiving care from three types of Chinese Medicine (CM) practitioners: herbalists, acupuncturists, and massage therapists; and to investigate the factors that influence levels of perceived empathy.

Methods: In this cross-sectional study, 514 patients sampled from charity and semi-public CM clinics in Hong Kong were invited to assess levels of empathy perceived during consultations, using the Chinese Consultation and Relational

Empathy Measure (Chinese CARE). Multiple linear regressions were conducted to evaluate the associations between perceived levels of empathy and (i) type of CM practitioner consulted, and (ii) patients' demographic and health characteristics.

Results: The average Chinese CARE total score rated by patients consulting CM practitioners was 34.3, out of a maximum of 50. Multivariate linear regression results suggested that, after adjusting for patients' health and demographic background, acupuncturists received the highest ratings while massage therapists scored the lowest among the three modalities. Patients receiving social benefits, those with longer waiting time and those with shorter consultation duration rated significantly lower in Chinese CARE.

Conclusion: The level of empathy perceived by patients using CM is similar to results found in conventional care, in contrast to observations from international literature, where a high level of perceived empathy is a major motivator for patients to choose complementary medicine. Better ratings among acupuncturists could be attributed to their higher attention to communication prior to needle insertion, whereas such practice is not often emphasized among CM massage therapists. Education in communication skills could be included as part of continual professional development requirements for CM practitioners.

Contact: Vincent Chung, vchung@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.328>

OS09.02

An IM decision matrix to guide the integration of traditional and complementary medicines when there is insufficient scientific evidence



Jennifer Hunter, Alan Bensoussan

National Institute of Complementary Medicine, University of Western Sydney

Purpose: The ongoing use of traditional and complementary medicine (T&CM), coupled with a paucity of scientific evidence, poses ongoing challenges for health policy makers, health services seeking to provide integrative medicine (IM) and those developing IM clinical guidelines. Often the only recommendations are to discuss T&CM use with patients or to undertake more research. Given that many T&CM are already in use, clearer more specific recommendations are needed even when there is insufficient scientific evidence to make a strong recommendation.

Methods: National and international guidelines on the development and evaluation of healthcare guidelines were identified and appraised. The aim was to build on these to develop a framework that would enable a comprehensive, systematic assessment of a T&CM intervention and determine whether and under what circumstances it may be integrated into pre-existing health services.

Results: The level and quality of evidence about safety, efficacy, effectiveness and economic value are not the only types of information needed to determine whether a T&CM intervention should be integrated with conventional healthcare.

Other factors such as burden of disease, magnitude of effect, current use, demand, equity and ease of integration must also be considered. Although less information was available about how to make explicit recommendations when there is insufficient evidence, the existing guidelines were adequate to develop a decision matrix for use in the IM setting.

Conclusion: The proposed IM decision matrix facilitates the direct comparison of otherwise diverse therapies, often using different research methods of variable quality to support their use. It offers pragmatic solutions for making specific recommendations about how best to integrate a T&CM intervention even when there is insufficient scientific evidence.

Contact: Jennifer Hunter, jennifer.hunter@uws.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.329>

OS09.03

An integrative medicine approach to the treatment of osteoporosis



David Sibbritt

University of Technology Sydney

Purpose: To examine the use of self-prescribed CAM, consultations with CAM practitioners, and consultation with conventional health care practitioner by a nationally-representative sample of Australian women who have been diagnosed with osteoporosis.

Methods: This research was conducted as part of the Australian Longitudinal Survey of Women's Health (ALSWH) which was designed to investigate multiple factors affecting the health and wellbeing of women over a 20-year period. Women were randomly selected from the national Medicare database. The baseline survey of 14099 women aged 45-50 years was conducted in 1996. Analyses for this research are restricted to the most recent survey, conducted in 2013, when the women were aged 62-67 years. The SF-36 quality of life instrument was used to measure physical and mental health.

Results: There were 841 (9.3%) women who had been diagnosed or treated for osteoporosis. Women with osteoporosis were more likely to consult with a general practitioner, specialist, physiotherapist, counsellor, and/or nurse. In addition, they were also more likely to consult with a naturopath and/or an osteopath, as well as regularly consume vitamins/minerals ($p < 0.005$). However, there was no statistically significant association between having osteoporosis and consulting with a dietitian, massage therapist, chiropractor, and/or acupuncturist, or using yoga/meditation, herbal medicines, Chinese medicine, and/or aromatherapy oils. Women with osteoporosis who consulted with a conventional healthcare practitioner had significantly worse physical and mental health ($p < 0.005$). Women with osteoporosis who used CAM showed no difference in physical and mental health to those who did not use CAM.

Conclusion: Women with osteoporosis utilise both conventional and CAM treatments, but appear to be discerning in their choice of modalities utilised. Further research is required to better understand the reasons why women with osteoporosis are consulting a range of conventional and CAM health care providers.

Contact: David Sibbritt, david.sibbritt@uts.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.330>

OS09.04

Challenges associated with developing research capacity amongst complementary medicine (CM) practitioners: a case study from a CM higher education ins



Amie Steel¹, Helene Diezel¹, Jon Adams², David Sibbritt²

¹ Endeavour College of Natural Health

² ARCCIM, University of Technology Sydney

Purpose: Background: Contemporary higher education institutions are required to show a commitment to scholarship and the advancement of new knowledge through research within their faculty. In fields where training has historically been underpinned by a focus on technical skills, such as complementary medicine, meeting these requirements requires developing research capacity within a faculty which is highly skilled as practitioners and educators but may have limited skills in research.

Methods: Methods: Secondary analysis of an internal organisational climate survey involving the faculty ($n=389$) of a leading complementary medicine higher education provider in Australia which examined attitudes towards research and experience with a range of research activities.

Results: Results: The majority of participants ($n=202$, response rate 51.9%) identified research as being important to their profession (89.5%) and to their personal goals (86.0%), and that it was important to have clinically-trained researchers (83.1%). However, only 16.5% had published in a peer-reviewed journal despite 70% reporting having designed, conducted and completed some original research. Nearly 1 in 5 participants identified having no interest in undertaking a research higher degree. Participants were more likely to be interested in pursuing a higher degree by research if they had experience with journal publications or research projects.

Conclusion: Conclusion: The advancement of new knowledge and the sustainability of the professions of complementary medicine will rely on faculty in academic departments of higher education institutions to undertake meaningful and relevant research. For this to be achieved some challenges towards developing research capacity will need to be addressed. A number of solutions to overcome the difference between interest and capacity will be proposed.

Contact: Amie Steel, amie.steel@endeavour.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.331>

OS09.05

Regulating the unregistered: an analysis of negative licensing regulatory arrangements for unregistered complementary practitioners in Australia



Jon Wardle¹, Michael Weir²

¹ Australian Research Center in Complementary & Integrative Medicine, University of Technology Sydney

² Faculty of Law, Bond University

Purpose: An increasingly large part of healthcare delivery in Australia is provided by unregistered health practitioners, who have not been historically subject to formal regulatory arrangements. This is partly due to the promotion of multi-disciplinary health teams, but is also driven by the increasing presence of complementary and alternative health providers, for whom many governments are hesitant to extend formal regulatory arrangements. The Australian state of New South Wales has implemented a statutory Code of Conduct for unregistered practitioners, known as a negative licensing model, to extend protection to the public with respect to unregistered health practitioners.

Methods: All complaints (n=22440) to the New South Wales Health Commissioner between 2008 and 2013. All 20 public prohibition orders issued under the negative licensing legislation were reviewed and analysed thematically.

Results: Treatment issues formed 40.3% of complaints against registered practitioners, but only 19.7% of complaints in unregistered practitioners (p<0.001) whilst professional conduct issues formed only 15.7% of complaints against registered practitioners but 44.7% of complaints against unregistered practitioners (p<0.001). The majority of the acts resulting in prohibition orders would have been preventable had appropriate probity measures and barriers to entry to practice (such as criminal history checks and minimum levels of education) been in place.

Conclusion: These results are consistent with the hypothesis that negative licensing offers no proactive public protection, but is a reactive mechanism. Negative licensing does offer a great safety net protections than previous models in instances where statutory registration is not practical, it should not be viewed as a replacement for extension of statutory registration to new health disciplines, but rather as a complementary measure to existing and new statutory registration arrangements. Governments should continue to focus on statutory regulatory mechanisms for all health professions with significant presence in the community to ensure public safety.

Contact: Jon Wardle, jon.wardle@uts.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.332>

OS10.02

Impact of acupuncturist expertise on clinical effectiveness for chemotherapy induced nausea and vomiting: a randomized controlled trial



Qianyun Chai¹, Yutong Fei¹, Zhongning Guo², Congcong Wang¹, Zhijun Liu³, Jianping Liu¹

¹ Centre for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine

² Department of Oncology, Xiyuan Hospital, China Academy of Chinese Medical Sciences

³ Beijing Kawin Technology Share-holding CO., Ltd

Purpose: While expertise and experience of acupuncturists are considered important in clinical practice of acupuncture, little research examined the impact of acupuncture experience on outcomes. Objectives: to evaluate the impact of acupuncturist's expertise on clinical effectiveness of for chemotherapy induced nausea and vomiting (CINV) in patients with cancer.

Methods : A randomized controlled trial of acupuncture was conducted at an urban traditional Chinese Medicine hospital in Beijing China among cancer patients undertaking cisplatin-based chemotherapy. In addition to receiving 5-HT₃ receptor or antagonists as antiemetic drug during chemotherapy, patients were randomly assigned to four groups: group-A: manual acupuncture delivered by senior acupuncturists (clinical experience > 10 years) once daily, no limitation on points, manipulations and time per session; group-B: same with group-A only by junior acupuncturists (<5 years); group-C: manual acupuncture delivered by junior acupuncturists once daily (P6 bilateral, even needling methods); group-D: no acupuncture. Acupuncture treatments began from the first day for cisplatin, and continued to the second day after the last day for cisplatin (3-5 days). Outcome assessors were blinded. Primary outcome: National Cancer Institute (NCI) nausea and vomiting scale for chemotherapy. Secondary outcomes: Rhodes Scale, global assessment on effectiveness by patients, patients' confidence towards acupuncture treatment.

Results: 102 patients were randomized. Mean age 58, 52% women, 57% lung cancer. Patients in group A (with experienced acupuncturists) had significantly better NCI nausea score than group B (GEE model, predicted value -1.1076, p=0.0096), and group D (-1.2117, p=0.0066), while had no significant difference with group C (-0.7622, p=0.06). Group B and C had no significant difference with group D. Patient confidence in acupuncture treatment did not differ among groups.

Conclusion: Acupuncturists with greater expertise/experience produced better outcomes for patients with CINV. More research is needed to understand what may drive better clinical outcomes to enhance therapeutic benefit of acupuncture for people with cancer.

Contact: Qianyun Chai, wlncqy@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.333>

OS10.03

The effect of acupuncture treatment on functional dyspepsia: pilot study

Seok-Jae Ko, Seul-Ki Kim, Min-ji Kim,
Gajin Han, Jinsung Kim, Jae-Woo Park

College of Korean Medicine, Kyung Hee University

Purpose: Acupuncture has been traditionally applied to functional dyspepsia (FD). The aim of present study was to evaluate the effect of acupuncture treatment on FD using proportion of responder (PR), questionnaires and plasma ghrelin hormone.

Methods: Total 76 eligible patients were randomly assigned to 2 groups: acupuncture treatment group and waitlist control group. A treatment period was 4 weeks and acupuncture was administered twice weekly, 15 minutes for each session. The outcomes were the (i) PR, (ii) Nepean dyspepsia index – Korean version (NDI-K), (iii) Functional dyspepsia related quality of life (FD-QOL), (iv) Beck's depression inventory (BDI), (v) State-trait anxiety inventory (STAI) and (vi) Plasma level of ghrelin hormone.

Results: Acupuncture treatment group showed significantly higher PR than waitlist control group after 4 weeks of therapeutic period. The treatment group also had a significant improvement in NDI-K compared with waitlist control group. FD-QOL, BDI and STAI showed significant improvement after treatment in only acupuncture group. The plasma level of ghrelin showed no significant difference between 2 groups.

Conclusion: Acupuncture treatment might have effect on FD in comparison with waitlist control group. However, it is still unclear to the association of ghrelin level with clinical effect of acupuncture.

Contact: Seok-Jae Ko, kokokoko119@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.334>

OS10.04

Efficacy of cupping therapy in patients with the fibromyalgia syndrome – a randomized sham-controlled controlled trial

Romy Lauche¹, Barbara Schwahn¹,
Julia Spitzer¹, Holger Cramer¹,
Thomas Ostermann², Kathrin Bernardy³,
Gustav Dobos¹, Jost Langhorst¹

¹ Department of Internal and Integrative Medicine,
Kliniken Essen-Mitte, University of
Duisburg-Essen

² Institute of Integrative Medicine, Department of
Health, University of Witten/Herdecke

³ Department of Anesthesiology,
Berufsgenossenschaftliche Universitätsklinik
Bergmannsheil

Purpose: The fibromyalgia syndrome (FMS) is a chronic disorder characterized by chronic widespread pain, fatigue, depression, cognitive disturbances and sleep disturbances

among other symptoms. While preliminary data suggest that cupping therapy might be beneficial for patients with FMS, no sham-controlled trial has yet been conducted. This study aimed to test the efficacy of cupping therapy for treating FMS.

Methods: Patients with confirmed diagnosis of FMS were randomly assigned to one of three groups: cupping therapy, sham cupping therapy and usual care. Cupping therapy was administered twice weekly for five times. Sham cupping was conducted using cupping glasses with a small hole in the cupping glass, causing evacuation of negative pressure. Patients were blinded to the fact that one of the groups received placebo and to whether they received real or sham cupping. Instead, patients were explained that they would receive either traditional or modified “soft” cupping”. Primary outcome measure was pain intensity on the visual analogue scale. Data were analyzed using ANCOVA models.

Results: One hundred and forty one patients were included in this study (139 females, 55.8±9.1years). Despite blinding the majority of patients were able to correctly identify which therapy they had received (Odds ratio 3.9, 95% CI 2.0 to 7.8, p<0.0001). After the intervention patients in the cupping group had significantly less pain than usual care (difference -14.9, 95% CI -22.4 to -7.5, p<0.001), but not compared to sham (difference -4.0; 95% CI -12.4 to 4.3, p=0.335).

Conclusion: Cupping therapy is more effective for patients with the fibromyalgia syndrome than usual care, but not compared to sham cupping indicating that the effects of cupping therapy might be confounded by unspecific effects.

Contact: Romy Lauche, r.lauche@kliniken-essen-mitte.de

<http://dx.doi.org/10.1016/j.imr.2015.04.335>

OS10.05

Effectiveness of Electro-acupuncture/Hand-acupuncture Combined with Paroxetine Hydrochloride on Depression: A Pragmatic Randomized Controlled Trial

Xuehong Ma¹, Huishu Zhang¹, Lei Jin²,
Xiuyan Yang³, Wenyue Zhang³,
Xinjing Yang³, Bingcong Zhao³,
Sihan Wang³, Ye Zhang¹, Fengxian Meng¹,
Ya Tu³

¹ Dongfang Hospital, the second clinical medical
college of Beijing University of Chinese Medicine

² Dongzhimen Hospital, the first clinical medical
college of Beijing University of Chinese Medicine

³ Beijing University of Traditional Chinese
Medicine

Purpose: To observe the effectiveness of Electro-acupuncture and Hand-acupuncture on depression patients based on Patient Reporting Outcome (PRO).

Methods: Eighty-eight patients with mild or moderate depression were randomly divided into three groups: paroxetine group (n=35), electroacupuncture+paroxetine group (EA) (n=28) and hand acupuncture +paroxetine group (HA) (n=25). All 88 patients were given antidepressants paroxetine orally every morning for 6 weeks (the first two days:10 mg/d, from

the third day:20 mg/d). Both EA and HA group were added with acupuncture on Baihui(GV20), Yingtang(GV29), Fengchi(GB20), Sanyinjiao(SP6), Neiguan(PC6) and some other acupoints according to patients' different conditions for 30 min every other day, totally for 6 weeks. The EA group used electrical acupuncture acupoint stimulator (2/15 Hz alternating, LH-202H) at Baihui(GV20), Fengchi(GB20) and Yingtang(GV29). Acupuncture practitioners manipulated needles every 15 min and last for 5-10s for each patients in HA group. Hamilton Rating Scale for Depression (HAMD) and Measure Yourself Medical Outcome Profile (MYMOP) were used to evaluate the effectiveness before and after treatment.

Results: There was no significant difference among three groups on the baseline. After six weeks, statistical results showed that HAMD Ratio of points of HA and EA are 92.00% and 89.28% respectively, which were higher than paroxetine group (84.71%) ($p < 0.05$), and there was no significant difference between HA and EA group. Both the HAMD and MYMOP scores were significantly different among the three groups ($p < 0.05$). There was no significant difference among three groups in recovery rate ($p > 0.05$). The scores in each domain of MYMOP in EA group and HA group were obviously lower than that of paroxetine group after treatment ($p < 0.05$).

Conclusion: Acupuncture significantly reduced the HAMD and MYMOP scores of depression patients. In addition, acupuncture was shown to enhance the effectiveness of conventional drug treatments and also alleviate the main symptoms of depression, thus improving the overall quality of life and make depression patients felt better themselves.

Contact: Xuehong Ma, maxh9713@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.336>

OS10.06

Acupuncture differential effect on chronic and acute low back pain using fMRI



Meena M. Makary¹, Jeungchan Lee³,
Jun-Hwan Lee², Eunyoung Lee²,
Jae-Young Shin², Vitaly Napadow³,
Geonho Jahng⁴, Kyungmo Park¹

¹ Department of Biomedical Engineering, Kyung Hee University

² Korea Institute of Oriental Medicine

³ Massachusetts General Hospital

⁴ Kyung Hee University Hospital at Gangdong

Purpose: Although acupuncture treatment, which is consisting of many complex components, has proved effective pain reduction for low back pain (LBP) patients, its exact effect on acute and chronic LBP is not clearly understood. Moreover chronic pain is known to be related to hypersensitivity and maladaptation. In this work we aimed to study the brain correlates to acupuncture on acute and chronic pain.

Methods: Twenty three LBP patients (27.53±11.97 years old) were divided into (ACUTE, n=12) and (CHRONIC, n=11) groups. A 3 T functional MRI (TR=2 sec) was used. In acupuncture session, both groups got acupuncture at left ST36, left SP11 and bilateral SP13 points (five times stimulation per each point in a pseudo-random order with inter-stimulus interval of 17.

8±1.7 seconds) at around 2 Hz for two seconds per stimulation. General linear model analysis as well as unpaired student t-test were done for the event-related design of the acupuncture session.

Results: Both groups experienced needling credibility, visual stimulation and somatosensory needling stimulation. Common activation in somatosensory area (SI, SII, anterior cingulate cortex) and in the salience network (anterior insula) were observed in both ACUTE and CHRONIC groups. Greater signal activation in the pain processing area (nucleus accumbens) was found in ACUTE group over CHRONIC group. In ACUTE group there were deactivation in the cognitive function area (dorsolateral prefrontal cortex) and activation in the pain evaluation area (inferior frontal gyrus). Clearer default mode network (DMN) deactivation in ACUTE group over CHRONIC group was strongly observed.

Conclusion: While both groups produced activation in somatosensory area because of needling/sensory afference, ACUTE group has more pain processing, less cognitive processing and more separation in DMN alternation probably because the chronic pain has multi-facets compared to acute pain.

Contact: Meena M. Makary, mmakary@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.337>

Oral Presentation Session 11: Clinical Research – Herbal Medicines

OS11.01

Quercetin for Acute Glucose Tolerance in Type 2 Diabetes



Marisa Pellegrini¹, Sara Parent²,
Lela Altman¹, Ryan Bradley³

¹ Bastyr University

² University of Washington

³ National College of Natural Medicine

Purpose: To test the effects of the dietary polyphenolic compound quercetin on acute glucose tolerance, insulin release and endothelial function following a disaccharide challenge test in people with type 2 diabetes.

Methods: Nineteen participants with sub-optimally controlled type 2 diabetes were randomly assigned to take either: quercetin (2 grams), the alpha-glucosidase inhibitor drug Acarbose (100 mg) or placebo in a cross-over fashion on three occasions 5-minutes before consuming a 100 g oral maltose tolerance test (OMTT). Serum glucose and insulin were measured while fasting, and again 30-, 60- and 120-minutes after the OMTT. Endothelial function was also measured while fasting and 90-minutes after the OMTT as the reactive hyperemia index (RHI) using peripheral tonometry. Changes in serum glucose and insulin between fasting and 120-minutes after the OMTT were compared between groups by ANOVA. Changes in RHI post-OMTT were also compared between groups by ANOVA. Exploratory analyses evaluated for within group changes.

Results: There were no significant differences in age, gender distribution, fasting glucose, fasting insulin or RHI

between treatment groups at baseline. Changes in glucose between fasting and 120 minutes post-OMTT did not vary between groups (ANOVA $p=0.81$). Neither acute insulin response at 30-minutes post-OMTT or changes in insulin between fasting and 120-minutes changed significantly (ANOVA $p=0.48$ and $p=0.62$ respectively). Similarly RHI did not change significantly between groups (ANOVA $p=0.65$). Changes within treatment groups also demonstrated no effects.

Conclusion: The polyphenolic compound quercetin at a dose of 2 grams does not acutely affect glucose tolerance, insulin release or endothelial function following a 100-gram maltose challenge in people with sub-optimally controlled type 2 diabetes.

Contact: Ryan Bradley, rbradley@ncnm.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.338>

OS11.02

Development of potential signal to detect herbal medicine-induced ADR: using the EMR-based ADR reporting system in a Korean medicine hospital



Mikyung Kim¹, Chang-ho Han²

¹ Research Institute of Oriental Medicine, Dongguk University

² College of Korean Medicine, Dongguk University

Purpose: Dongguk University Ilsan Hospital (DUIH) is the only participants including Korean medicine among the hospitals to take part in the Korean regional pharmacovigilance program. It has spontaneous adverse drug reactions (ADR) reporting system in its electronic medical record (EMR) system. We tried to develop potential indicators to detect signals for ADR induced by herbal medicine and evaluate its validity using the data from DUIH.

Methods: Every patient have ever been prescribed herbal medicine in DUIH for 5 years since its opening was the subject of the study. The aspartate aminotransferase (AST) and alanine aminotransferase (ALT) values from the first blood test after the prescription date were secured. We set up five indexes including abnormal (abn) ALT, abn AST and ALT (abn LFT), more than the double of reference value in ALT (double ALT), double LFT, and the others. Only the patients meeting the former four criteria were included and we reviewed the EMR of the selected cases to find out whether the prescribed herbal medicine really induced moderate or severe level of ADR (the event). Finally, we evaluated the validity of the four indexes to predict the predefined event.

Results: A total of 28,067 people had ever had been prescribed herbal medicine in DUIH during the period and 5,522 had the liver function test results. Among them, 537 were classified to abn ALT, 290 to abn LFT, 131 to double ALT, and 62 to double LFT. The negative predictive value (NPV) of abn LFT for the event prediction was 0.998 and the result was the same when only the ALT value was considered (abn ALT). The same result was reached with the NPV of double LFT and double ALT (0.997).

Conclusion: We suggest that ALT is a potential signal for detection of moderate or severe level of ADR induced by herbal medicine.

Contact: Mikyung Kim, 01mkkim@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.339>

OS11.03

Effect of Cardiotonic Pills on Erythrocyte Deformability and Cerebrovascular CO₂ Reactivity in Normal Subjects



Hangyul Lee

Department of Cardiovascular and Neurologic Diseases, College of Korean Medicine, Kyung Hee University

Purpose: Cardiotonic pills (CP) is a well-known traditional herbal medicine that is widely used to treat cardiovascular diseases. This study was conducted to prove the acute effects of CP on erythrocyte deformability and cerebrovascular CO₂ reactivity (CVR) in healthy male subjects.

Methods: This study was designed as a cross-over trial in which the healthy male subjects took part for different 2 days with more than 7 days of interval. Erythrocyte deformability in a CP group ($n=10$) and a control group ($n=10$) will be examined and at present (Jan 2015), 4 subjects have ended both groups. Hyperventilation-induced CVR of the middle cerebral artery using a transcranial Doppler Sonography will be measured also in a CP group ($n=10$) and a control group ($n=10$) and at present (Jan 2015), 4 subjects have ended CP group. All measurements have been performed prior to and 1, 2, and 3 hours after CP administration in CP group, and water administration in control group.

Results: Although there was no statistical significant result, compared to baseline, the erythrocyte deformability increased consistently when control group showed no coherent result. Also CP improved erythrocyte deformability after administration compared to the control group especially at 3 hour, but there's no significant result yet ($P=0.144$). The CVR of the middle cerebral artery increased significantly at 3 hours after CP administration compared to baseline. The mean blood pressure and heart rate did not vary from baseline values in all groups.

Conclusion: These data suggest that CP administration may improve erythrocyte deformability and cerebral blood flow immediately. Further study is recommended.

Contact: Hangyul Lee, gyulee0614@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.340>

OS11.04

Clinical Trial for Anti-hepatofibrotic Effect of a Traditional Korean Formula (CGX) in Patients with Chronic Liver Disease



Chang Gue Son¹, Jung Hyo Cho¹,
Dong Soo Lee², Hyeong Geug Kim¹,
Jin Seok Lee¹

¹ Liver & Immunology Research Center, Daejeon
Oriental Hospital of Daejeon University

² Department of Internal Medicine, Daejeon St.
Mary's Hospital of the Catholic University

Purpose: CGX is a modification of a traditional Korean herbal medicine, which is under clinical trial phase III for hepatofibrosis therapeutic effect. The objective is to present the status for CGX development regarding its clinical backgrounds, pharmacological studies in animal models, and current process of randomized clinical trial.

Methods: CGX has been used for patients suffering various liver diseases, including chronic viral hepatitis and alcoholic liver disorders. The safety of CGX was evaluated in animal-based repeated toxicological studies using rats and beagle dogs. The pharmacological actions against hepatic fibrosis were evidenced in various chronic liver injury animal models using chemicals (CCl₄, DMN, or TAA), chronic alcohol consumption, choline-deficient (MCD) diet, and bile duct ligation (BDL) respectively. It is now under a randomized controlled multicenter trial phase III for hepatofibrosis.

Results: The total number of participants is 174 in 2 Hospitals, who are suffering from chronic HBV, HCV or Alcoholic liver disease. The inclusion criteria is patients with LSM 5.5 kPa to 16 kPa, aged between 18~75 year. The exclusion criteria is the conditions of too severe status as follows; ascites, esophageal varix, TB > 3 mg/dl, AST, ALT > ULN > 5 folds, INR > 2.0 or platelet < 80,000/mm³ and BMI > 30. The drug treatment period is 6 months for 3 groups (placebo, 1gram or 2 gram of CGX daily). The primary measurement is the changed value of LSM (liver stiffness measurement) during 6 months, and the secondary measurements are the changed value of hyaluronic acid (HA), serum TGF-β₁, PDGF, AST to platelet ratio index (APRI) and QOL (SF-36) respectively.

Conclusion: It is expected that multi-sites clinical trial evidences the fibro-therapeutic effects of CGX in patients with chronic viral or alcoholic liver diseases.

Contact: Chang Gue Son, ckson@dju.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.341>

OS11.05

Chinese herbal medicine modified Yu ping feng San Formula for treatment of Allergic Rhinitis in Children: a systematic review



Huimin Zhang¹, Hui Luo², Nini Chen³

¹ Basic Medical College, Beijing University of
Chinese Medicine

² Institute for Traditional Tibetan Medicine, China
Tibetology Research Center

³ Center for Evidence-Based Chinese Medicine,
Beijing University of Chinese

Purpose: Modified Yu ping feng san Formula is widely applied for allergic rhinitis in children in China. Many clinical trials are reported. This study assessed the efficacy and safety of modified Yu ping feng san Formula for the treatment of allergic rhinitis in children.

Methods: PubMed, Cochrane CENTRAL, and four Chinese databases were searched through July 2014. We included randomised controlled trials (RCTs) that tested modified Yu ping feng san Formula for allergic rhinitis in children, compared with no intervention, placebo, pharmaceutical medication. Authors extracted data and assessed the quality independently. We applied RevMan 5.2.0 software to analyse data of included randomised trials.

Results: A total of 13 RCTs involving 1177 participants were identified. The methodological quality of the included trials was generally poor. Meta-analyses of two trials demonstrated that modified Yu ping feng san Formula were more effective than pharmaceutical medication alone in improving nasal symptoms and clinical signs (RR 0.67, 95% CI 0.46 to 0.97). Meta-analyses of two trials demonstrated that modified Yu ping feng san Formula plus pharmaceutical medication were more effective than pharmaceutical medication alone in improving nasal symptoms and clinical signs (RR 0.78, 95% CI 0.62 to 0.97). Meta-analyses of three trials demonstrated that modified Yu ping feng san Formula plus pharmaceutical medication were more effective than pharmaceutical medication alone in controlling recurrence of allergic rhinitis in one year after drug withdrawal (RR 0.62, 95% CI 0.52 to 0.75). No serious adverse events were reported.

Conclusion: The modified Yu ping feng san Formula appears to have additional benefit based on pharmaceutical medication treatment in improving nasal symptoms and clinical signs and recurrence of allergic rhinitis. However, due to high risk of bias of the trials, we could not draw confirmative conclusions on its benefit. Future clinical trials should be well-designed and avoid the issues that are identified in this study.

Contact: Huimin Zhang, zhanghm@bucm.edu.cn

<http://dx.doi.org/10.1016/j.imr.2015.04.342>

Oral Presentation Session 12: Clinical Research – CAM

OS12.01

A randomized controlled trial comparing yoga, physical, therapy, and education for chronic low back pain in predominantly low income minorities



Robert Saper¹, Janice Weinburg², Anthony Delitto³, Chelsey Lemaster², Patricia Herman⁴, Karen Sherman⁵

¹ Boston Medical Center

² Boston University

³ University of Pittsburgh

⁴ RAND Corporation

⁵ Group Health

Purpose: Chronic low back pain (CLBP) causes substantial morbidity and cost to society while disproportionately impacting low income and minorities. RCTs show yoga is effective for CLBP. However, the comparative effectiveness of yoga to physical therapy (PT), a common mainstream CLBP treatment, is unknown.

Methods: From June 2012–October 2014 we conducted a one year RCT (n=320) comparing yoga, PT, and education for CLBP in predominantly low-income minority adults recruited from diverse Boston, USA neighborhoods. Inclusion criteria were adult s 18-64 with non-specific CLBP lasting >12 weeks and self-reported average pain >4 on a 0-10 scale. Participants were randomized in a 2:2:1 ratio into (1) a standardized weekly hatha yoga class supplemented with a DVD for home practice; (2) a standardized PT protocol adapted from the Treatment Based Classification method, individually delivered by a physical therapist and supplemented by home practice; and (3) education delivered through a self-care book. Co-primary outcome measures were 12 week pain intensity measured on an 11 point numerical rating scale and back-specific function measured using the modified Roland Morris Disability Questionnaire (RMDQ). We used multiple regression and intent-to-treat to test non-inferiority of yoga to PT at 12 weeks. Non-inferiority margins for pain were established a priori as -1 and -1.5 for pain and RMDQ, respectively.

Results: Participant mean age was 47 years; 64% were female; 77% were non-white; 41% had high school education or less; and 53% had an annual income ≤\$20,000. Baseline pain intensity and RMDQ were 7.1 (1.4) and 14.8 (5.3), respectively. At 12 weeks, LBP intensity decreased -1.7 compared to -2.3 for PT. RMDQ improved -3.9 and -3.6 for yoga and PT, respectively.

Conclusion: For chronic LBP, yoga was non-inferior to physical therapy for reduction in pain and improvement in function at 12 weeks.

Contact: Robert Saper, Robert.Saper@bmc.org

<http://dx.doi.org/10.1016/j.imr.2015.04.343>

OS12.02

Multifaceted effects of Animal-Assisted Therapy in a lethargic patient with colon cancer and comorbidities: a case report



Naoko Aiba¹, Yuki Bando², Hiroaki Yamamoto², Shuji Nakamoto², Tokumi Sasaki², Kazuko Okada², Mizuho Iki², Naoko Kajigaya², Keita Kuwabara², Akira Ebisawa², Moeko Negishi², Hideaki Nakano², Maki Kobayashi², Keigo Nakai², Takao Mukai³, Akihiro Matsuura³, Tadatoshi Ogura³, Takashi Masuda¹

¹ Kitasato University Graduate School of Medical Sciences

² Kitasato University Medical Center

³ Kitasato University School of Veterinary Medicine

Purpose: It is realized that an Animal-Assisted Therapy (AAT) is a complementary medicine lacking empirical evidence on its efficacy and methodology in clinical settings. We conducted a pilot AAT program for a patient with a number of critical medical issues and severe communication difficulties to evaluate the multifaceted effects of AAT.

Methods: A 79-year-old Japanese man was hospitalized because of colon cancer (undergoing treatment), lumbar abscess, diabetes mellitus and stroke history (onset in April 2011), and required full tubal feeding. He had experienced a dog ownership. Before the beginning of an AAT program, he had less alertness and concentration. Although patient's facial expression, verbal communication, eye contact and responses to questions were nearly absent, he could nod and had limited vocabulary ("No", "Ouch"). An AAT program consisted of 4 sessions, 15 minute-visit by the dog/handler in each session, and was held on weeks 1, 3, 5, and 6. The dog was encouraged to interact with the patient.

Results: On the day following Session 1, the patient said "Dog". During Session 2, the patient spoke two more words, smiled and moved his right arm to touch the dog. During Sessions 3 and 4, the patient communicated verbally in sentences with the handler, smiled and moved his upper limbs to beckon to the dog. During AAT sessions, the patient was significantly more alert and showed stronger concentration, and did not complain during the wheelchair transfer for AAT.

Conclusion: AAT, particularly with dogs, may be useful for patients with communication difficulties who have owned dogs. AAT could provide motivation for rehabilitation of physical and speech disorder, and may reduce patient's pain when changing positions during transfer. Improved communication skills with dog/handler could be applied to communication with clinical staff. AAT is considered to be a possible treatment that elicits multifaceted effects in clinical settings.

Contact: Naoko Aiba, aiba.ta@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.344>

OS12.03

Are early interventions beneficial for depressive status? A pragmatic randomized controlled trial



Tianwei Guo¹, Tu Ya¹, Zhuo Guo¹,
Wenyue Zhang¹, Xinjing Yang¹,
Wenhao Ma¹, A. Yingge², Xiaotian He³

¹ Beijing University of Chinese Medicine

² Inner Mongolia Medical University

³ Sanlitun Community Health Service Center

Purpose: To evaluate therapeutic effects of early interventions and compare advantages of Electro-acupuncture (EA), Cognitive Behavior Therapy (CBT) and their combination therapy in ameliorating depressive symptoms.

Methods: 33 subjects in depressive status, included via Hamilton Depression Rating Scale-17 (HDRS-17) and Mini International Neuropsychiatric Interview (MINI), were assigned into 4 groups depending on their intentions, EA group (6 cases), CBT group (10 cases), combination of EA and CBT group (6 cases) and observation group (11 cases). Intention To Treat (ITT) analysis and Per Protocol (PP) analysis were employed to evaluate primary outcome measures (clinical response rate based on rate of HDRS-17 score changes, clinical remission defined as an endpoint HDRS-17 score < 7 and HDRS-17 scores after interventions). Meanwhile, HDRS-17 factor scores were compared with via Analysis of Variances (ANOVA).

Results: ITT and PP analysis demonstrated that primary outcome measures in EA group, CBT group and combination group were superior to those in observation group, no statistically significant differences were found among EA, CBT and combination group. Comparisons of HDRS-17 factor scores showed that anxiety/somatization, insomnia, retardation and cognition scores reduced remarkably in EA group, CBT group and combination group ($P < 0.01$). Anxiety/somatization score in combination group was lower than those in EA group and CBT group ($P < 0.01$); insomnia score in EA group was significantly lower than those in combination group and CBT group ($P < 0.01$); retardation score was lower in CBT and combination group compared with those in EA group ($P < 0.01$). No significant differences were found in cognition score among EA, CBT and combination group ($P > 0.05$).

Conclusion: Early interventions could alleviate depressive symptoms. EA improve somatic symptoms and insomnia while CBT favors mitigating cognition and mood dysfunction. The combination therapy targeting both physical and psychological symptoms might be an ideal strategy for depressive status intervention.

Contact: Tianwei Guo, guotianwei.tcm@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.345>

OS12.04

The future of maternity healthcare; midwives and complementary medicine



Helen Hall, Lisa McKenna, Debra Griffiths

Monash University

Purpose: The use of complementary medicine during pregnancy is becoming increasingly popular in many industrialised countries. This presentation highlights findings from a qualitative study that explored midwives' attitudes and behaviour when considering the integration of complementary medicine as part of the woman's care.

Methods: Grounded theory methodology was employed to examine the area of interest. Twenty five midwives who worked in four hospitals and associated community clinics in Victoria, Australia, participated. Data were collected from 25 semi-structured interviews and non-participant observation of a subgroup of nine midwives, as they interacted with women during 39 antenatal appointments and nine hours of childbirth classes.

Results: Participants aimed to individualise pregnancy care and minimise the risks associated with childbearing. Many asserted that the use of complementary medicine is congruent with their professional ideology. Furthermore, the therapies enable holistic care and provide useful options to reduce the medicalisation of childbearing. However midwives often struggled to reconcile their occupational discourse with the day to day realities of working an environment dominated by the biomedical paradigm. Furthermore, a number of participants lacked the appropriate knowledge and professional engagement with CM practitioners, to enable them to facilitate women's informed choices.

Conclusion: The sustainable development of integrative medicine within the mainstream maternity context, will require all healthcare providers to receive basic education regarding the safe use of complementary medicine. Furthermore, referral frameworks and flexible clinical guidelines regarding use of the therapies during pregnancy should be investigated.

Contact: Helen Hall, Helen.hall@monash.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.346>

OS12.05

Homeopathy for thirteen chronic Depression patients



Ronko Itamura

Obitsu Sankei Seminary Clinic

Purpose: Recently the increase in the number of depression patients has become a social problem in Japan. Whether suffering from chronic, long-term or other variations of depression, there is a limit to the support from conventional treatment centered on administration of medication. Homeopathy is a patient-centered medicine that treats the "individual patient" rather than the disease. This process provokes the patients to be real cured with the natural healing.

Here I present thirteen patients who had significant process of cure from chronic depression through homeopathy during 2 years.

Methods: Homeopathic medical procedure is similar to that in conventional practices. In addition patients are asked about their own physiological and psychological condition before deciding on a homeopathic medicine. All patients were diagnosed as having Major Depressive Disorders with the DSM-IV and treated already several antidepressants. They were given homeopathy using various strategies over 3 months, in addition to antidepressants. Three steps were used to model indications of recovery from depression with homeopathy. The first step was to reduce difficulties in everyday life. The second step was to reduce and stop antidepressants. The last step was to reduce and stop the remedies. Cases considered recovered case were those in which antidepressants had been stopped six months and three months had passed since the stopping of homeopathic medicines.

Results: During two years' homeopathic process, all patients have recovered of depression. Two cases are focused on in detail in this presentation defined as three steps, and that model is used to report progress.

Conclusion: Our cases may suggest homeopathic treatment can be a very useful strategy in addition to/or instead of conventional treatment for depression including the use of a three step strategy for reducing all dependence on clinical treatment.

Contact: Ronko Itamura, ronkoita@yk.rim.or.jp

<http://dx.doi.org/10.1016/j.imr.2015.04.347>

OS12.06

Influence of Multicomponent Healthcare Program of Diet, Art and Biofield Therapy on Quality of Life of People in Japan



Kiyoshi Suzuki, Tomoaki Kimura,
Seiya Uchida, Hiroshi Katamura

MOA Health Science Foundation

Purpose: Combination of healthcare programs has reported to improve people's quality of life (QOL); however, it remains uncertain to what extent each component improves QOL independently. The purpose of this study was to investigate whether healthcare programs improve QOL in combination more than a single program, and to analyze whether one has more impact on QOL than the others. We employed the Okada Health and Wellness Program (OHWP), which involved diet, art and biofield-therapy components.

Methods: A total of 5,111 individuals participated; all Japanese nationals, aged 16 or older, who agreed to adopt OHWP in their daily lives. Participants kept records for three consecutive months of how frequently they practiced each program. They also completed the original QOL questionnaire (MQL-10) at the beginning and end of the study. The Outcome measures were as follows: (1) Adjusted odds ratio of the variables associated with the baseline and term-end MQL-10 scores. (2) Relationship between the change of MQL-10 scores and the type(s) and frequency of OHWP component (s) participants practiced.

Results: Three variables - previous practice of several OHWP components, older age and absence of illness - were independent positive factors for a better baseline score as well as independent negative factors for the improvement of the scores, considered to be due to a ceiling effect. Frequent practice of all components was a positive factor for the improvement of the scores. The baseline scores showed a discrepancy between those who had regularly received biofield therapy and those who mainly practiced the art or diet component previously ($p < 0.001$). However, the term- end scores significantly increased regardless of the type(s) of component(s) they practiced during the study period ($p < 0.001$).

Conclusion: The healthcare programs contributed to better QOL more when practiced in combination than by a single program. The term-end QOL significantly improved regardless of the type(s) of program(s) employed.

Contact: Kiyoshi Suzuki, k.suzuki@mhs.or.jp

<http://dx.doi.org/10.1016/j.imr.2015.04.348>

Oral Presentation Session 13: Clinical Research – Acupuncture OS13.01

Acupuncture in postmenopausal women with prehypertension or stage 1 hypertension: Protocol for an interventional cohort study



Kyung-Won Kang, Jung-Eun Kim,
Bok-Nam Seo, Ji-Eun Park, Sun-Mi Choi

Korea Institute of Oriental Medicine

Purpose: Background: Hypertension in women is often undiagnosed or inadequately treated, especially after menopause when the cardiovascular disease risk increases. Antihypertensive carries adverse effects and may have poorer compliance than that observed for complementary and alternative therapy including acupuncture. The present study will evaluate the effect of acupuncture on blood pressure (BP), hypertension incidence, and hypertension risk factors in postmenopausal women with prehypertension or stage 1 hypertension postmenopausal women with prehypertension or stage 1 hypertension.

Methods: This long-term interventional study will be performed from 2014 to 2016. A total 200 subjects with prehypertension or stage 1 hypertension, as defined by the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High BP (JNC-7), will be recruited. The study cohort will be divided into three groups: (1) treatment group A (140 participants not receiving antihypertensive), (2) treatment group B (30 receiving antihypertensive), and (3) waiting list group (30 not receiving antihypertensive). The inclusion criteria will be as follows: (1) postmenopausal women who stopped menstruation within 1-year of enrollment and are aged <65 years; (2) prehypertension or stage 1 hypertension; and (3) volunteers who provide written consent to participate. The participants in treatment groups A and B will receive acupuncture 2–3 times per week for 4 weeks (total 10 times) twice each year until 2016. The participants in the waiting list group will maintain their current

lifestyle, diet, and exercise regimen. The measured outcomes will be a change in BP, hypertension incidence, and factors related to hypertension such as demographic characteristics, lifestyle, health data, SF-36v2, Beck Depression Inventory, Pittsburgh Sleep Quality Index, Fatigue Severity Scale, brain MRI, blood test, and urine test

Results: NA

Conclusion: Discussion: The results of this study will help establish the optimal acupuncture treatment for BP control in postmenopausal women with prehypertension or stage 1 hypertension.

Contact: Kyung-Won Kang, kwkang@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.349>

OS13.02

Acupuncture for symptomatic lumbar spinal stenosis: a pilot randomized trial



Kun Hyung Kim¹, Dae-Hun Kim²,
Yu Ri Kim², Seung Kug Baik³,
Sang Weon Lee⁴, Gi Young Yang⁵

¹ School of Korean Medicine, Pusan National University

² Department of Acupuncture and Moxibustion, Korean Medicine Hospital, Pusan National University

³ Department of Radiology, School of Medicine, Pusan National University

⁴ Department of Neurosurgery, School of Medicine, Pusan National University

⁵ Department of Acupuncture and Moxibustion, School of Korean Medicine, Pusan National University

Purpose: This study aimed to assess the overall effectiveness, safety and feasibility of acupuncture for participants with symptomatic lumbar spinal stenosis (LSS).

Methods: Fifty participants with low back or leg pain for over 3 months all of whom had been radiologically confirmed as having LSS, were randomly allocated to an acupuncture combined with usual care group or a usual care alone group. The usual care group was provided with simple physical therapy (i.e., heat pad and interferential current therapy) as required, and maintained their usual self-management. Participants in the acupuncture group were offered twelve to 16 sessions of manual acupuncture with optional electrical stimulation over six weeks and maintained usual self-management. The primary outcome was changes in back-specific functional status, as measured by the Oswestry Disability Index at 3-month follow-up. Secondary outcomes included pain and bothersomeness of low back and leg, quality of life, self-reported pain-free walking distance, participant-perceived improvement and satisfaction, use of other healthcare resources and adverse events at post-treatment and at the 3-month follow-up. We had intended to blind outcome assessors, although this was not done in actual study process.

Results: Thirty-nine participants (78%) completed the trial with 524 treatment visits. There was no between-group difference in primary outcome (mean difference 2.0; 95% CI -4.5,

8.6). Secondary outcomes showed no significant differences, although trends favoring the acupuncture group were found in some of symptom-related outcomes. The total number of adverse events was 61. All but one were minor and transient. One patient was hospitalized with unknown reason after the completion of 12 acupuncture sessions.

Conclusion: Acupuncture combined with usual care did not provide significant benefit compared with usual care alone. Observed favorable trends in symptom reduction may justify further randomized trials with adequate sample size and outcome assessor blinding. Full results will be available at the congress. Trial registration: NCT01987622

Contact: Kun Hyung Kim, pdchrist@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.350>

OS13.03

Acupuncture Produces Brain Structural Plasticity Associated with Improved Clinical Outcomes for Carpal Tunnel Syndrome



Hyungjun Kim^{1,2}, Yumi Maeda²,
Norman Kettner³, Jameson Holden⁴,
Jeungchan Lee², Jieun Kim^{1,2}, Stephen Cina²,
Cristina Malatesta⁵, Jessica Gerber²,
Claire McManus⁵, Jaehyun Im²,
Alexandra Libby², Pia Mezzacappa²,
Leslie Morse⁶, Kyungmo Park⁷,
Joseph Audette⁸, Mark Tommerdahl⁴,
Vitaly Napadow^{2,3}

¹ Korea Institute of Oriental Medicine

² Athinoula A. Martinos Centre for Biomedical Imaging, Department of Radiology, MGH

³ Department of Radiology, Logan University

⁴ Department of Biomedical Engineering, University of North Carolina at Chapel Hill

⁵ Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Hospital

⁶ Department of Physical Medicine and Rehabilitation, Harvard Medical School

⁷ Department of Biomedical Engineering, Kyung Hee University

⁸ Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrium Health

Purpose: We have previously demonstrated structural and functional neuroplasticity in primary sensorimotor cortices for carpal tunnel syndrome (CTS). While acupuncture may improve both subjective (symptoms) and objective (median nerve conduction velocity, NCV) outcomes for CTS patients, the mechanisms are unknown. We investigated gray matter volume (GMV) changes following acupuncture in primary somatosensory and motor areas consistent with the cortical representations of median nerve innervated digits.

Methods: We enrolled 61 CTS patients and 40 healthy controls. After baseline clinical and MRI evaluation, CTS patients were randomized to either local (n=21), distal (n=19), or sham (n=21) acupuncture (2 months). T1-weighted images were used to quantify GMV for ROIs defined by fMRI evaluation of brain response to vibrotactile stimulation for median nerve

innervated digits. ROIs were defined from contralesional S1 activation and ipsilesional S1 and M1 deactivation clusters. GMV was estimated using VBM (DARTEL,SPM8). Clinical evaluation included NCV for digits 2 and 3 and symptom/functional scales from the Boston CTS Questionnaire.

Results: All acupuncture interventions significantly improved subjective outcomes. No differences were noted between local and distal acupuncture, which were then combined into a single “verum” group. Verum acupuncture improved nerve conduction velocity more significantly than sham ($P=0.04$). At baseline, ipsilesional M1 GMV was greater in CTS compared to HC ($P=0.03$), while trending GMV reduction was noted in contralesional S1 ($p<0.07$), consistent with our previous studies. Verum acupuncture reduced ipsilesional M1 volume compared to sham ($P=0.03$). Moreover, after verum and not sham acupuncture, the change in ipsilesional M1 volume was correlated with change in nerve conduction velocity ($r=-0.39, P=0.02$). No significant differences were noted for ipsilesional S1, while no correlations were noted with subjective outcomes.

Conclusion: Verum acupuncture improves both symptoms and peripheral nerve conduction in CTS. Acupuncture also improves structural brain plasticity, and improvements in GMV are more closely associated with objective measures of median nerve function.

Contact: Vitaly Napadow, vitaly@nmr.mgh.harvard.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.351>

OS13.04

Effects of Electroacupuncture on Endothelial Function and Circulating Endothelial Progenitor Cells in Patients with Cerebral Infarction

Seung Min Lee, Sanghoon Lee, Weon Kim, Hyun Hee Jang, Jong Shin Woo, Hyun Soo Kim, Kyung Hye Lee, You-Jung Kwon, Ungin Lee, Jin Bae Kim, Woo Shik Kim, Kwon Sam Kim, Jimin Park

Kyung Hee University

Purpose: The purpose of this study was to evaluate the acute effects of EA on endothelial function and EPCs and the relationship between these variables in patients with chronic ischemic stroke.

Methods: In a randomized, placebo-controlled, crossover study, 20 patients with cerebral infarction were randomized into two treatment groups: EA or placebo. Pulse amplitude tonometry (PAT) for endothelial function and the number of EPCs from peripheral blood were determined before and after each intervention. Circulating EPCs were quantified by flow cytometry as CD45lowCD34+KDR2+ cells. Plasma vascular endothelial growth factor (VEGF) and interleukin (IL)-10 levels were measured. Seven days later, crossover was performed on each group, with each group receiving the other treatment with the same protocol.

Results: The PAT hyperemia ratio ranged from 1.57 ± 0.41 to 2.04 ± 0.51 after EA, representing a significant improvement ($p=0.002$), however, there was no improvement in the placebo

group ($p=0.48$). Circulating EPCs as measured by flow cytometry increased to $110.6 \pm 74.3/100\text{ul}$ in the EA group ($p=0.001$), but did not differ in the placebo group ($45.9 \pm 35.3/100\text{ul}$, $p=0.08$). The increases in the number of EPCs and the PAT ratio after treatment were correlated ($r=0.78, p<0.001$). Plasma VEGF levels increased with EA compared to baseline (261.2 ± 34.0 vs. 334.9 ± 80.5 pg/mL, $p=0.003$). The number of circulating EPCs positively correlated with plasma levels of VEGF ($r=0.50, p=0.02$).

Conclusion: In conclusion, EA induces improvement of EPC levels and PAT ratio in patients with cerebral infarction. This study was supported by the Traditional Korean Medicine R&D program funded by the Ministry of Health and Welfare through the Korean Health Industry Development Institute (KHIDI) (No.HI13C0580)

Contact: Seung Min Lee, swarmy77@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.352>

OS13.05

Male hypogonadism: exploring the role of heavy metal toxicity using mRNA analysis pre and post Cupping Therapy treatment

Kaleem Ullah Rajput, Mustafa Ozturk

Medipol University Hospital

Purpose: Male hypogonadism is a prevalent condition that can have huge consequences on quality of life. Traditionally male hypogonadism is defined by a deficiency in testosterone levels which can lead to infertility, muscle wasting, and absence of secondary sexual characteristics. Heavy metals are known to have detrimental effects on the body. Heavy metals such as cadmium, chromium, arsenic, and lead have also been associated with male infertility. Cupping Therapy is a traditional medical treatment recommended in Korean, Chinese and Middle-eastern medical practices in the treatment of male infertility. To date there are no studies that have investigated the effects of Cupping Therapy on serum testosterone levels and heavy metal concentrations in patients with male infertility.

Methods: Eleven men attending infertility clinic and participated in a case-control study. The current study assessed the associations between serum testosterone levels, heavy metal concentrations and response to cupping therapy. Three sessions of cupping therapy were administered to all patients, two weeks apart. Control group received conventional testosterone replacement therapy. Measurements were taken at baseline (pre-intervention) and after the third session. Hormonal parameters and the concentration of frequent heavy metals (lead, cadmium, mercury, copper, zinc and magnesium) from cupped blood and venous blood samples were taken.

Results: There were no significant differences between cases and controls in the concentrations of hormone levels or heavy metals concentration at baseline. Analysis revealed a moderate association between serum hormone levels and heavy metal concentrations. However there was a significant correlation between testosterone levels and cupping therapy intervention.



Conclusion: The effect of heavy metals on testosterone levels in male patients with infertility remains unclear. There is however suggestive evidence that cupping therapy can have a positive impact on testosterone levels in male infertility. Further trials with larger population sample sizes utilising a randomisation methodology is recommended.

Contact: Kaleem Ullah Rajput,
kaleem.rajput@medipol.com.tr

<http://dx.doi.org/10.1016/j.imr.2015.04.353>

Oral Presentation Session 14: Clinical Research – Diagnosis and Others

OS14.02

Comparison between Infrared Thermographic Scrotal Temperature Index and Semen Quality among Men attending an Infertility Clinic

Junyoung Jo¹, Myung-Ja Kang², Jinmoo Lee³, Hyunho Kim⁴

¹ Department of Korean Gynecology, Graduate School of Korean Medicine, Kyung Hee University/Conmaul Hospital

² Conmaul Hospital

³ Department of Korean Gynecology, Graduate School of Korean Medicine, Kyung Hee University

⁴ Department of Biofunctional Medicine & Diagnostics, College of Korean Medicine, Kyung Hee University

Purpose: It has been suggested that scrotal temperature and semen quality are closely associated. The purpose of this study is to explore the associations of the scrotal temperature measured by the infrared thermography and semen quality among infertility clinic outpatients.

Methods: We performed a retrospective chart review of outpatients who visited at Conmaul Hospital, Seoul, Republic of Korea from March 2013 to February 2015. In this study, 48 outpatients who had taken scrotal thermography and semen analysis with a difference of less than a month were included. Semen analysis was done according to 2010 World Health Organization (WHO) guidelines. Abnormal semen parameter was defined as oligozoospermia (O), asthenozoospermia (A) and teratozoospermia (T) according to 2010 WHO guidelines. Scrotal temperature index (STI) was defined as mean left and right skin temperature difference (ΔT) between the thigh and testicle. We divided patients into two groups as High STI group (n=26) and Low STI group (n=22) by mean STI (1.17) of 48 outpatients. Chi-square test was used to analyze the incidence of at least two abnormal semen parameters between two groups.

Results: There were 10 patients (OT=1, AT=7, OAT=2) and 2 patients (AT=1, OT=1) with at least two abnormal semen parameters in High STI group (n=26) and Low STI group (n=22), respectively. High STI group was associated with increased incidences for at least two abnormal semen parameters than Low STI group (OR= 6.25; 95% CI 1.195-32.687, p=0.019).

Conclusion: In the hypothesis testing using chi-square method, there was a significant difference of incidence of

at least two abnormal semen parameters according to STI. We suggest that the infrared thermography may provide the semen quality information. Further studies with large samples are needed.

Contact: Junyoung Jo, studd@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.354>

OS14.03

Trends in Tongue Color of Subtype patterns on Deficiency Syndrome



Changjin Jung, Keunho Kim, Boncho Ku, Jihye Kim

Korea Institute of Oriental Medicine

Purpose: Traditional East Asian Medicine posits that the tongue color (TC) in patients with the deficiency syndrome (DS) differ according to its subtype patterns. The DS is categorized into four subtype patterns (FSPs) based on the qi, blood, yin and yang; and it provides helpful information for treatment of DS in clinic. However, a clinical evidence of TC difference according to the FSP has not appeared in paper. In this study, we measured the TC with an objective method and analyzed its differences according to the FSPs on DS.

Methods: One-hundred and twenty-three subjects with DS were participated in the experiment and classified into qi deficiency (n=32), blood deficiency (n=31), yin deficiency (n=30) and yang deficiency (n=30) groups based on the agreements of diagnostic results between two Korean oriental medicine doctors. Tongue images were acquired by using a TAS-4000 instrument, and a color correction was performed based on 12 color samples of the color checker. Median values (MV) of the tongue region in Commission Internationale de l'Eclairage (CIE) L*a*b* color space, which represents the color of a tongue body, were computed for the tongue color features. Red blood cell count (RBCC) was measured from the blood sample. Different trends of TCs according to the FSP were analyzed using multiway ANOVA with factors age and sex.

Results: MV of CIE L* showed difference according to the FSPs (p<0.01). MVs of CIE L* of blood deficiency group were significantly higher than those of other three groups. Pearson's partial correlation coefficient between RBCCs and MV of CIE b* with age and sex was -0.303.

Conclusion: The TC in the blood deficiency was tended to be brighter than those in other FSPs on DS. The TC seems to be related with RBCC, but the trend of color difference in the blood deficiency differs from that according to RBCC.

Contact: Changjin Jung, traviswas@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.356>



OS14.04

A Study of the Diagnostic Methods for Chronic Fatigue in Korean Medicine (KM)

Jihye Kim, Keun Ho Kim, Boncho Ku

Korea Institute of Oriental Medicine

Purpose: Unexplained chronic fatigue (CF) is common symptom in worldwide. According to the theory of Korean Medicine (KM), CF is considered to be the imbalance of inter-organ functions or the four essential components of the human body, including qi, blood, yin and yang. Thus CF appears to have individual differences, it can be subdivided into different pattern identification (PI) for a personalized diagnosis in KM. However, there are no diagnostic tools, such as questionnaires or medical devices. The purpose of this study was to develop PI questionnaires and to complete a clinical trial to determine the correlation between CF and Qi Blood Yin Yang Deficiency Questionnaires (QBY- DQs).

Methods: A total of 151 participants, including 121 CF patients and 30 healthy subjects, were asked to complete the QBY- Qs. Two Korean medical doctors independently assessed participants' qi, blood, yin and yang deficiency patterns (DPs) by the PI guidelines. We selected reliable questionnaire items for symptoms corresponding to each DP based on the results of a preliminary study. These items were used to estimate internal consistency and construct validity. A multinomial logistic regression analysis (MLRA) was performed by each DP score.

Results: The qi (9 items), blood (8 items), yin (9 items) and yang (6 items) DQs showed sufficient internal consistency (0.816, 0.826, 0.807 and 0.717, respectively). Two subscales from each DQ were extracted by an explanatory factor analysis. The variances for each qi, blood, yin, and yang DQ were 52.8%, 58.0%, 52.2%, and 63.5%, respectively. Odds ratios from the MLRA demonstrated that each deficiency score was positively associated with each corresponding DP (adjusted odds ratio: qi score=0.041, blood score=5.877, yin score=12.57, yang score=13.56, reference category: qi deficiency).

Conclusion: These results suggest that the QBY-Q is a reliable and valid instrument for estimating the influence of qi, blood, yin and yang deficiencies on CF.

Contact: Jihye Kim, wisdom00311@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.357>

OS14.05

Exploring the etiology relationships between YangMing internal heat and Wind-warm Lung-heat disease by prospective cohort study methodology

Jiaju Ma, He Yu, Fei Dong, Quan yue Xiao, Tiegang Liu, Jianhua Zhen, Xiaofei Li, Xiaohong Gu

Beijing University of Chinese Medicine

Purpose: To explore the etiology relationships between YangMing internal heat and Wind-warm Lung-heat disease by prospective cohort study methodology.

Methods: Prospective cohort study. Cases were collected, children of 1 to 18 years of ages who suffered from respiratory tract infection more than 3 times a year and cured, between April to June of 2013. we divided the patients with Exposed factor (YangMing internal heat) as Exposed group, and the ones with Non- exposed factor as Non-exposed group. We followed up each patient for six months. Details were documented regarding information about Wind-warm Lung-heat disease onset during this period of time.

Results: 1. 320 cases of them were followed up. In which 227 cases were in Exposed group (70.9%), 93 cases were in Non-exposed group (29.1%). During six months of this study, the onset frequency of Exposed group was 2.9339 ± 1.70113 , but Non-exposed group was 2.2473 ± 1.76719 . 2. The onset frequency of exposed cohort group in six months was 95.15%, and that of Non-exposed group was 84.95%, ($P < 0.05$), $RR > 1$. 3. Statistically analysis showed that the positive correlation between YangMing internal heat and onset frequency of Wind-warm Lung-heat disease had statistically significance ($P < 0.01$) difference. The higher the YangMing internal heat, so is the onset frequency of Wind-warm Lung-heat disease, it was basically a linear tendency.

Conclusion: 1. YangMing internal heat is the high risk factor causing onset of Wind-warm Lung-heat disease. The severity of YangMing internal heat induced he high onset frequency of Wind-warm Lung-heat disease. 2. YangMing internal heat is the high risk factor causing onset of respiratory tract infection. 3. Improper diet structure is a high risk factor of causing Yang-Ming internal heat. The improper diet structure is positive correlated with the severer YangMing internal heat increase.

Contact: Jiaju Ma, pds:majaju@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.358>

OS14.06

A Prospective Nationwide Observational Study of Herbal Drug Safety in Korea

Chang-Gue Son¹, Jung-Hyo Cho¹,
Sang-Hoon Hong³, Heung Ko²,
Sang-Eun Park³, Nam-Hun Lee¹,
Seong-Mo Kim⁹, Young-Chul Kim⁵,
Chang-Woo Han⁶, Kang-San Kim⁷,
Chang-Won Choi⁸, Hong-Sik Choi⁹,
Dal-Seok Oh⁴

¹ Liver & Immunology Research Center, Daejeon
Oriental Hospital of Daejeon University

² Department of Korean Internal Medicine,
Senmyung University

³ Department of Korean Internal Medicine,
Dong-Eui University

⁴ Department of Integrative Medicine, Korea
Institute of Oriental Medicine

⁵ Department of Korean Internal Medicine,
Kyunghee University

⁶ Department of Korean Internal Medicine, Busan
University

⁷ Department of Korean Internal Medicine,
Wonkwang University

⁸ Department of Korean Internal Medicine,
Dongsin University

⁹ Department of Korean Internal Medicine, Daegu
Haany University

Purpose: Herbal medicines have been used traditionally for thousands years and they have now been adopted worldwide. As the use of herbal medicine has grown, the issue for their safety has arisen. Several studies for the safety of herbal medicine were mainly retrospective to date, and their results were controversial. We aimed to evaluate the risk for adverse reaction focusing on herbal drug-induced liver injury (DILI) in South Korea.

Methods: This study is a multicenter-based prospective observation of serum biomarkers for both hepatic (bilirubin, AST, ALT, GGT, and ALP et al.) and renal function (BUN, creatinine). Inclusion criteria are 1) who are hospitalized patients with expectation of taking herbal drugs for over 14 days, and 2) no serum abnormality on initial day, and then any patient who use conventional drugs (antibiotics, steroids, anti-inflammatory agent et al.) is excluded. The changes of serum biomarkers were chased in every 7 day until discharge.

Results: Ten hospitals of Oriental Medicine College have participated. 949 patients (male 354 and female 595) were enrolled and 815 subjects (male 297 and female 518) have done the complete procedure by February 2015. Two subjects (only female 2) has shown the case of DILI by RUCAM score. The hepatic injuries were hepatocellular type as mild severity. The following check showed the normalization of ALT and ALT.

Conclusion: This is the first prospective clinical study for evaluation of incidence of herbal DILI. This study will be observed over 1,000 patients by May 2015. The current data could estimate the incidence of herbal drug-induced liver injury as < 0.3%.

Contact: Chang-Gue Son, ckson@dju.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.359>

OS14.07

Characteristics of sleep parameters and nocturnal heart rate dynamics in depressive insomnia patients with different syndrome

Yang Xiu-yan¹, Duan Dong-mei²,
Ma Xue-hong³, Yang Jun⁴, Yang Xin-jing⁵,
Zhang Wen-yue¹, Yu Dan-yang⁶,
Zhai Li-hong⁷, Zhu Jin-wu⁸, Zhu Wen-hua⁹,
Tu Ya¹

¹ Beijing University of Chinese Medicine

² General Hospital of the Chinese People's
Liberation Army

³ Dongfang Hospital, Beijing University of Chinese
Medicine

⁴ Institute of Aviation Medicine

⁵ Beijing Rehabilitation Hospital of Capital Medical
University

⁶ 201 Hospital of the Chinese People's Liberation
Army

⁷ Air Force General Hospital of the Chinese People's
Liberation Army

⁸ Aviation General Hospital, China Medical
University

⁹ 309 Hospital of the Chinese People's Liberation
Army

Purpose: To investigate the variation tendency of depressive insomnia patients' physiological features during sleep.

Methods: 50 subjects were divided into three groups: 35 depressive insomnia patients were included and classified according to different syndromes as excessive syndrome group and deficiency syndrome group, meanwhile 15 volunteers were taken as normal controls. All the subjects were undergone a nocturnal sleep examination using the micro-movement sensitive mattress sleep monitoring system. The sleep indices, arousal index and nocturnal heart rate dynamics were compared between the patients and the controls, and between the two different syndromes in patients group respectively.

Results: As compared with the normal control, the percentage of deep sleep in both excessive group and deficiency group were lower, the percentage of shallow sleep and time of awakening and arousals were higher. Sleep latency showed longer in deficiency group. The Heart Rate (HR) variation coefficients of sleep stages and Non Rapid Eye Movement (NREM) stage were larger in both groups. The value of mean HR in the first sleep period / mean HR in all sleep stages was higher, and HR variation coefficient in the first sleep period was also higher ($P < 0.05$). The comparison of the two groups of patients showed that arousal index, HR variation coefficient of sleep stages and NREM of the excessive group were higher ($P < 0.05$).

Conclusion: There exist abnormalities in sleep parameters and nocturnal HR dynamics, so that these changes can be taken for the objective sign of sleep quality going to bad. Arousal index and HR variation coefficient during sleep or

NREM sleep may be significant for deficiency and excess syndrome differentiation in depressive insomnia diagnosis.

Contact: Yang Xiu-yan, yangxiuyan5979@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.360>

OS14.08

Exploring patients' expectations of seeking integrative medical treatment for musculoskeletal disorder: a qualitative study



Xiao-Yang Hu¹, Ava Lorenc¹, John Hughes², Peter Fisher², Nicola Robinson¹

¹ London South Bank University

² Royal London Hospital for Integrated Medicine

Purpose: To explore musculoskeletal disorder (MSD) patients' expectations of receiving treatment at the Royal London Hospital for Integrated Medicine.

Methods: Semi-structured face to face interviews were conducted with 30 newly referred musculoskeletal disorders patients, immediately prior to their initial appointment. The interviews were digitally recorded and transcribed verbatim and analysed using framework analysis (NVivo10). To ensure transparency and rigour, inter-rater reliability coding was carried out independently by three researchers.

Results: Five codes with fourteen themes emerged related to the MSD patients' expectations of receiving complementary/ integrative treatment. MSD patients reported their concerns regarding their forthcoming treatment. Although MSD patients reported that their expectations were pragmatic and realistic, their expectations may tend to change over time. They had great hope from the treatment, which included symptom relief/functional ability/better quality of life, getting the right and suitable treatment, natural and non-invasive treatment, receiving an integrative and holistic approach, potentially longterm and regular treatment, and complementary treatment as an 'in between' conventional treatment. Despite this, they also had great hopes about the practitioners – they wished to have skillful professional expertise, more interaction with practitioners, updates from practitioners, provision of understanding and mental support from practitioners. Patients also reported what kind of treatment they wished to have and identified their preferred sessions.

Conclusion: Patients' expectation is an important but changeable component that is based on previous treatment experiences. Their hopes regarding further develop on complementary/integrative treatment should be considered. Demonstrating patient expectations may help to improve future clinical practice and policy, to better meet MSD patients' expectation.

Contact: Xiao-Yang Hu, hux2@lsbu.ac.uk / Nicola Robinson, nicky.robinson@lsbu.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.361>

Oral Presentation Session 15: Clinical Research – CAM

OS15.01

A traditional Korean mind-body practice regulates stress hormones and oxidative stress profiles



Hwi Jin Im, Yoon Jung Kim, Hyeong Geug Kim, Hyo Sun Kim, Chang Gue Son

Liver & Immunology Research Center, Daejeon Oriental Hospital of Daejeon University

Purpose: A traditional Korean mind-body practice (KMB) has been practiced for thousands of years. Mind-body practice has beneficial effects on numerous mental and physical problems; on the other hand, psychological stress and oxidative stress are associated with the development and progression of various diseases. Herein, we investigated the effects of KMB on stress hormones and oxidative stress profiles to explain the mechanism responsible for health benefits of KMB.

Methods: Fifty-seven KMB trainees (34 males and 23 females) were participated in a single-arm observational study. Blood samples were drawn 30 min before and after KMB practice (25 min for warm-up, 45 min for breathing meditation, and 20 min for cool-down). We investigated changes in stress hormones (cortisol, epinephrine, norepinephrine, and dopamine), and oxidative stress profiles including reactive oxygen species (ROS), total oxidation stress (TOS), nitric oxide (NO), malondialdehyde (MDA). Electrocardiogram (ECG) was also measured for heart rate variability (HRV) 30 min before and after the practice.

Results: KMB significantly reduced serum levels of cortisol ($p < 0.001$), norepinephrine ($p < 0.001$), and dopamine ($p < 0.05$) but increased serum epinephrine concentrations ($p < 0.05$). KMB also significantly decreased serum levels of oxidant markers, including ROS ($p < 0.01$), NO ($p < 0.01$), and MDA ($p < 0.05$). KMB induced significantly increased HRV and reduced heart rate ($p < 0.001$).

Conclusion: The traditional Korean mind-body practice (KMB) can give beneficial effects on health by modulating levels of stress hormones, oxidative stress, and autonomic balance. This study produced reference data for mechanistic studies on mind-body practices.

Contact: Hwi Jin Im, lastdohee@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.362>

OS15.03

Transcendental Meditation for the improvement of health and wellbeing in community-dwelling dementia caregivers [TRANSCENDENT]



Matthew Leach¹, Andrew Francis², Tahereh Ziaian¹

¹ University of South Australia

² RMIT University

Purpose: Dementia is a prevalent neurodegenerative disorder affecting an estimated 24.3 million people across the globe. The burden on those caring for people with dementia is substantial, with widespread implications for the carer, the care recipient and the community. Relaxation techniques, such as Transcendental Meditation® (TM), have been shown to reduce stress and anxiety in healthy workers; similar benefits are anticipated in dementia caregivers. The objective of this research is to ascertain whether TM can improve psychological stress, quality of life, affect and cognitive performance in dementia caregivers.

Methods: The study was conducted as a pilot prospective, multi-centre, community-based, randomised wait-list controlled trial. Community-dwelling carers of persons with diagnosed dementia were randomly assigned to a twelve-week (fourteen-hour) TM training program or wait-list control. Participants were assessed for quality of life, stress, affect, cognitive performance and adverse effects. The feasibility of the study was also evaluated.

Results: Seventeen caregivers were recruited and randomised. Improvements in WebNeuro response speed scores over time were significantly greater in the TM group relative to control. Changes between groups in all other primary and secondary outcome measures did not reach statistical significance. However, there was a trend toward greater improvement in WebNeuro stress, depression and negativity bias scores in the TM group. Adverse events were reported amongst 63% of TM-treated subjects.

Conclusion: Dementia caregivers demonstrated improvements in some measures of cognitive function following exposure to TM. However, as the pilot study was underpowered, no firm conclusions can be made about the effectiveness of TM on carer quality of life and cognitive function. Findings from full-scale trials are now warranted.

Contact: Matthew Leach, matthew.leach@unisa.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.363>

OS15.04

Brain Correlates to Facial Motor Imagery as a Component of Qigong Practice in Bell's Palsy



Ramy Sayed¹, Seulgi Eun¹, Abdalla Z. Mohamed¹, Jeungchan Lee², Eunyoung Lee³, Seung Min Lee⁴, Hwa-Jin Lee⁴, Sanghoon Lee⁴, Wooseok Choi⁵, Kyungmo Park¹

¹ Department of Biomedical Engineering, Kyung Hee University

² Massachusetts General Hospital

³ Korea Institute of Oriental Medicine, Daejeon

⁴ Department of Acupuncture and Moxibustion, School of Oriental Medicine, Kyung Hee University, Seoul

⁵ Department of Radiology, Kyung Hee University, Seoul

Purpose: Qigong has been known to help in Bell's palsy (BP) rehabilitation and also it contains a technique very similar to motor imagery for enhanced body awareness. According to previous studies, facial movement may lead to increased activity in attention and sensory-motor areas in order to improve the facial motor performance in BP. So we tested the effect of motor imagery for BP rehabilitation and investigated brain areas that correlates to facial motor imagery.

Methods: fMRI was applied to two groups (34 normal, and 14 BP subjects). The paradigm consisted of mouth and forehead motor imagery with 2 seconds animation movie and inter-stimulus interval of 9.81 ± 1.6 seconds. General linear model and unpaired T-test were done and for the BP group we flipped the individual maps for those who had right side BP, so that the right hemisphere represents paretic side. Also correlation analysis was used to correlate brain activity with a facial motor imagery index.

Results: Interestingly, mouth motor imagery in both normal and BP subjects showed activation in MI, SI, superior temporal sulcus, superior temporal gyrus, and supplementary motor area which are main sensory-motor areas shown in motor tasks. Additionally, mouth motor imagery in BP induced greater activity in contralateral sensory-motor areas (MI, SI, premotor cortex, and SII) compared to normal subjects. Also facial motor imagery index was positively correlated with contralateral posterior insula in BP.

Conclusion: Facial motor imagery shares similar activation in sensory-motor areas with facial motor tasks, and BP facial motor imagery has greater activity in contralateral sensory-motor areas than normal subjects. Additionally, higher facial motor imagery performance induces more activation in interoceptive sensory processing areas. So it could be speculated that facial motor imagery could be helpful in BP rehabilitation in same way with motor task.

Contact: Kyungmo Park, saenim@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.365>

OS15.07

A randomized, controlled clinical trial: The effects of mindfulness-based cognitive therapy on chronic insomnia among Chinese patients in the community



Yeung Shan Samuel WONG¹,
Yuet Man Candy LING², Chi-Kwan Carole LI³

¹JC School of Public Health and Primary Care, The Chinese University of Hong Kong, HKSAR

²Psychiatric Rehabilitation Association

³Hospital Authority

Purpose: Chronic insomnia is a prevalent health problem in primary care associated with morbidity and health service utilization. Mindfulness Based Cognitive Therapy (MBCT) is a therapeutic approach developed over the last few decades although only few large randomized control trials have been conducted in those with primary insomnia. This study aimed to evaluate the effectiveness of MBCT in treating primary chronic insomnia in primary care by comparing with a psycho-education control (PEC) group in the community.

Methods: This was a single-blinded, randomised, controlled clinical trial. Eligible participants were Chinese adults (18 years of age or above) with diagnosed chronic insomnia at baseline assessment. Subjects were randomly assigned into MBCT group (intervention) and PEC group (control), were followed up for six months. Primary outcome was changes in the score of a validated Chinese version of 7-item Insomnia Severity Index (ISI). Paired t-test was used to examine between-group differences. Analysis was performed by intention-to-treat.

Results: We recruited 216 subjects with an average age of 56.05 (SD 9.39), where 77.0% [116/216] were female. At baseline, there was no significant differences between MBCT group [N=110] and PEC group [N=106] in terms of age ($p=0.450$), gender ($p=0.250$), ISI scores (17.67, SD 3.70 for PEC; 17.94, SD 3.70 for MBCT; $p=0.623$). At eight-week (follow-up rate 93.6% [88/94] for MBCT group, 93.5% [87/93] for PEC group), there was a significant decrease in ISI scores in MBCT group (-4.26, SD 3.87) when compared to that of PEC group (-2.81, SD 4.08) ($p=0.041$).

Conclusion: Results demonstrated that MBCT programme may significantly reduce the insomnia severity among Chinese subjects with chronic insomnia when compared to PEC group in the primary care group. The study suggested that MBCT programme may be an evidence-based treatment options for subjects with chronic insomnia in primary care although longer follow-up is needed to evaluate the sustainability of the effects.

Contact: Yeung Shan, Samuel WONG,
yeungshanwong@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.366>

Oral Presentation Session 16: Education

OS16.01

Sensorimotor learning for acupuncture manipulation through visual feedback



Wonmo Jung, Younbyoung Chae

Acupuncture and Meridian Science Research Center, Kyung Hee University

Purpose: Humans learn a variety of motor skills from the sensory feedback information about the discrepancy between the intended movement and the actual movement. Acupuncture manipulation, one of sophisticated hand movements, has been considered a fundamental skill for acupuncture practice. The current study investigated whether or not untrained students could improve motor performance for acupuncture manipulations with visual feedback.

Methods: Twenty-one untrained medical students were included and randomly divided into two groups: concurrent ($n=10$) or post-trial ($n=11$) visual feedback (VF) group. Both groups were trained with simple lift/thrusting techniques in the session 1 and complicated lift/thrusting techniques in the session 2 for 8 training trials. We compared the motion pattern and magnitude error during acupuncture manipulations between pre-training test and post-training test.

Results: In the motion pattern analysis, both concurrent and post-trial VF groups revealed greater improvement of motion patterns in the complicated lifting/thrusting session. In the magnitude error analysis, both concurrent and post-trial visual feedback groups revealed greater improvement of magnitude error in the simple lifting/thrusting session. During the training period, concurrent VF group exhibited persistent less magnitude error across whole training trials while post-trial VF group showed greater magnitude errors in the initial trials and gradually reduced magnitude errors in the late trials.

Conclusion: Our findings suggest that novice can improve sophisticated hand movement for acupuncture manipulation with sensorimotor learning with visual feedback. Two different kinds of visual feedback trainings can be beneficial for untrained student to learn how to manipulate acupuncture needle through two different processes, such as automatic and cognitive processes.

Contact: Wonmo Jung, croquies@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.369>

OS16.02

Opinions and experiences of complementary and alternative medicine: A survey of London Dietitians



Anne Majumdar¹, Flora Wilcox²

¹London Metropolitan University

²NHS Hommerton

Purpose: Dietitians are statutory regulated health professionals who give dietary advice to patients for a range of conditions within the National Health Service, in accordance to clinical guidelines and the current evidence base. There is

currently no clinical guidance on advising patients regarding complementary and alternative medicine (CAM). This study aims to explore UK dietitians experience and views on CAM treatments and on patient inquiries on CAM.

Methods: A questionnaire was specifically designed to survey the opinions and experiences of dietitians relating to CAM. Questions related to three main themes: Professional characteristics of sample population; Opinions and experiences of CAM; and Opinions and experiences of evidence-based dietetic practice. Dietitians at all dietetic departments within London NHS trusts, plus those registered freelance were invited to participate in an online survey, The data were analysed using descriptive and inferential statistics

Results: Responses totaled n=187. While 38.6% of dietitians had personal experience of one or more CAM therapies, most dietitians (81.9%) had inquired on at least one CAM therapy, including unconventional diets (68%), Homeopathy (27%), Acupuncture (24%). Of those 47.2% gave advice, although 72% indicated that they did not feel confident in doing so. Despite many expressing concerns about inadequate regulation (79.5%) and insufficient evidence base (56.6%) for CAM, most respondents (72.1%) felt that at least one CAM therapy should be more widely used in mainstream healthcare.

Conclusion: Dietitians are often faced with patient inquiries regarding CAM. Most respondents reported feeling confident in the effectiveness of one or more CAM therapies in managing adverse health conditions, and favored wider use of CAM in main stream healthcare. As nearly half of dietitians surveyed gave advice regarding CAM, it is important that dietitians are led by the evidence base and not by personal opinion. Therefore further training or guidelines on dealing with inquiries is warranted.

Contact: Anne Majumdar, a.majumdar@londonmet.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.370>

OS16.03

Attitudes/beliefs towards CAM among Croatian healthcare professionals



Aleksandar Racz, Debi Zivcic, Dario Naletilic

University of Applied Health Studies, Zagreb

Purpose: Croatian healthcare system has seen an ever increasing number of patients seeking opinion and advice on complementary and alternative treatment options. For years only some of the traditional treatments had been practiced in local communities though, but on the verge of law and mostly in rural areas. Post-socialist settings and transition processes have facilitated and strengthened the pluralism of the healthcare system. However, despite recommendations of the European Commission (EC, 1997) and WHO, Croatia has insofar failed to regulate CAM by law. This study brings the results of the attitudes and beliefs of healthcare professionals: physicians, nurses/paramedics and physiotherapists towards CAM.

Methods: The study was carried out on a sample of 325 healthcare professionals affiliated with either private or public healthcare facilities divided into three groups based on their professional and educational background, gender, the number

of years in service and their responses to IMAQ (Integrative Medicine Attitude Questionnaire) items.

Results: Our study proved the existence of differences in CAM-related attitudes expressed by physicians as opposed to nurses and physiotherapists ($F=7.853921$; $p=0.000$); however, differences in attitudes expressed by nurses and physiotherapists failed to be found ($\delta=1.531$; $p=1.000$). This study failed to reveal any gender-based ($T=-1.411$; $p=0.159$), educational background-based ($F=2.372303$; $p=0.095$) and years-in-service-based ($F=0.833$; $p=0.436$) differences in CAM-related attitudes expressed by healthcare providers under study. The most striking differences in attitudes were found to arise on the grounds of various professional backgrounds of healthcare providers comprised by the study. Significant differences in CAM-related attitudes were proven to exist between physicians and nurses/physiotherapists ($F=7.853921$, $p=0.000$), but not between nurses and physiotherapists ($\delta=1.531$, $p=1.000$).

Conclusion: Physicians are far less prone to support alternative and spiritual treatment practices than nurses/paramedics and physiotherapists. The reason should probably be sought in the traditional formal education and curricula of academic institutions educating Croatian healthcare professionals with the lack of formal CAM education.

Contact: Aleksandar Racz, dekan@zvz.hr

<http://dx.doi.org/10.1016/j.imr.2015.04.371>

OS16.04

Curriculum Development of a Research Laboratory Methodology Course for Complementary and Integrative Medicine Students



Morgan Schafer, Heather Zwickey,
Nicole Vasilevsky, Deanne Tibbitts,
Kirsten Wright

National College of Natural Medicine

Purpose: Training in fundamental laboratory methodologies is valuable to medical students because it enables them to understand the published literature, critically evaluate clinical studies, and make informed decisions regarding patient care. Towards this end, the National College of Natural Medicine's (NCNM) Master of Science in Integrative Medicine Research (MSiMR) program developed a mandatory Introduction to Laboratory Methods course. The objective is to train students in basic laboratory skills, to analyze and manage data, and judiciously assess biomedical studies. This presentation will describe the course development, implementation and an analysis of course outcomes as it applies to complementary and integrative medicine students.

Methods: Students were surveyed at the beginning and end of the course to assess their understanding and confidence in performing laboratory-based experiments and determine if this course augmented it. Additionally, an analysis of their performance over 7 course offerings was performed.

Results: Analysis of the survey results were compiled from 18 students over 3 terms. The survey results revealed that students had an increased understanding of basic laboratory methodology ($p=0.001$) and significantly increased

familiarity with lab techniques that were taught in the course (ELISA, $p=0.00004$, Flow cytometry, $p=0.00005$) and terminology ($p=0.0001$) after completion of the course. Analysis of the average of final grades across all students ($n=38$) is 3.7 (on a 4.0 scale), suggesting most students mastered the course.

Conclusion: Overall, this course did appear to augment the student's familiarity and understanding of basic lab skills, and ability to assess biomedical literature. With the development of any new course, there are always challenges and successes, which included mainly time constraints, and addressing skill levels of varied student backgrounds. Students who pursue more in-depth laboratory research projects undergo further one-on-one lab trainings and individual mentorship within the MSiMR program.

Contact: Morgan Schafer, mschafer@ncnm.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.372>

OS16.05

Process of establishment of clinical knowledge of Korean medicine: obstacles and solutions -Project on a 3-year overview



MIJU SON, Ohmin Kwon

Korea Institute of Oriental Medicine

Purpose: This review discusses the obstacles faced while establishing clinical knowledge of Korean medicine (KM) and the steps taken to overcome these obstacles during clinical documentation of KM over the past 3 years.

Methods: To establish a clinical KM documentation process, the advisory committee held two meetings and one symposium in 2012. Two surveys were conducted to seek the clinicians' opinions. Based on the results, clinical KM documentation was continued for 2 years, and solutions to overcome obstacles were identified.

Results: Based on the results of the meetings, symposium, and surveys, algorithms based on clinical treatment processes and the generation of knowledge of western and KM are required. An initial evaluation of the developed algorithm was conducted via a peer review process, and data was generated. To maintain documentation consistency, peer reviews were conducted for revision. Although unresolvable problems, such as terminology discrepancy between western and traditional medicine and limited evidence, persist, continuous KM knowledge updating is critical to adapt to medical situations in Korea, which are based on traditional medicine and a lack of sound foundation.

Conclusion: Although several unresolved obstacles persist, continuous updates and peer reviews of clinical KM documentation are required to resolve issues via user participation web services.

Contact: MIJU SON, mj714@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.373>

OS16.06

Benefits of a Health Qigong program for elementary school students: A pilot study



Chunyun Wang¹, Dong Chul Seo²,
Hongtao Li³

¹ Francis Marion University

² Indiana University

³ University of North Carolina at Chapel Hill

Purpose: The purpose of this study is to investigate the feasibility and potential benefits of participating in a Health Qigong program to reduce stress and improve classroom behaviors among children in elementary schools.

Methods: A Health Qigong program was led by a school teacher for two months in a classroom setting. A focus group of 30 fourth graders were interviewed and observed to investigate the potential benefits of this Qigong program. Post-effects were evaluated during a writing workshop.

Results: More than 85% of the students reported that they felt relaxed, quiet, happy, and good about themselves after participating in the Health Qigong program. The school teacher found students to be calmer and more focused on their writing, too.

Conclusion: This pilot study indicates that a Health Qigong program helps invigorate and relax the children in a classroom setting. It can also rejuvenate students in-between the daily, state-mandated, 90-minute writing session. A brief Health Qigong practice may serve as an effective stress reduction technique for children.

Contact: Chunyun Wang, cwang@fmarion.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.374>

Oral Presentation Session 17: Health Service Research

OS17.01

The Use of Complementary and Alternative Medicine amongst Postmenopausal Women Experiencing Vasomotor Symptoms



Wenbo Peng, David Sibbritt, Jon Adams

University of Technology Sydney

Purpose: Vasomotor symptoms (VMS), including hot flushes and night sweats, are the most closely associated symptoms of postmenopause. This study is to examine the complementary and alternative medicine (CAM) consultations and use of CAM practices by postmenopausal women experiencing hot flushes or night sweats.

Methods: This study was conducted as part of the Australian Longitudinal Study on Women's Health (ALSWH), which consists of three cohorts of women ("young" 18-23, "mid-age" 45-50 and "older" 70-75 years) who were randomly selected from the national Medicare database in 1996. Data for this study were focused on the most recent survey of mid-age cohort women conducted in 2010, involving 6,610 natural postmenopausal women, 2,260 postmenopausal women

with hysterectomy, and 1,141 postmenopausal women with oophorectomy aged 59-64 years.

Results: Overall, the prevalence rates of women with oophorectomy, hysterectomy and natural postmenopause who experienced hot flushes were 40%, 40%, and 32%, respectively, while the rates of those who experienced night sweats were 31%, 31%, and 24%, respectively. Postmenopausal women with hysterectomy experiencing hot flushes were less likely to consult an acupuncturist and/or use aromatherapy oils. Postmenopausal women with hysterectomy experiencing night sweats were more likely to consult an acupuncturist. Natural postmenopausal women experiencing night sweats were more likely to use aromatherapy oils. In addition, hot flushes or night sweats were not predictive of individual CAM consultation and use of CAM practice amongst postmenopausal women with oophorectomy.

Conclusion: The prevalence rates of VMS in this age period of postmenopause are higher in comparison with previous estimates. Postmenopausal women who experienced night sweats favour the CAM consultation as well as CAM practice use. Further research is needed to better understand the decision-making process when postmenopausal women at different menopausal status choose CAM options for the treatment of VMS.

Contact: Wenbo Peng, Wenbo.Peng@student.uts.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.375>

OS17.02

The Exceptional Patient in Cancer Care



Moshe Frenkel

Institute of Oncology Meir Medical Center

Purpose: The topic of the exceptional patient with cancer has been a puzzling mystery and the phenomenon has not been formally investigated. The rare and spectacular occurrence of remarkable recovery, against all odds, that is totally inexplicable but real, is something that most physicians have seen within their practice. From time to time patients turn up with advanced cancer, beyond the possibility of cure, and without clear explanation they become free of disease or have survival that cannot be explained with the nature of their disease or treatment. Exceptional disease course and at times spontaneous regression of cancer is exceptional but a well-documented biological event. Further understanding of this phenomenon and of the possible mechanisms involved may have significant preventative and therapeutic implications. To date, the research that has examined these success stories is limited and there is no clear explanation for the phenomenon. Multiple speculations as to the mechanism of exceptional disease course have focused on physiological factors including immunological, elimination of carcinogen or antigen, anti-angiogenesis and tumor necrosis, apoptosis, and genetic and epigenetic mechanisms and possibly psychological mechanisms. Others note that a certain percentage of patients have undergone some kind of spiritual awakening before the remission took place, suggesting that the patients themselves had an important role in the healing process. Much of the literature is based on individual case reports. In this presentation we will

discuss obstacles related to researching this phenomenon and how to overcome them, and current findings and additional research being implemented on this topic.

Methods: Qualitative Research

Results: In process of finalizing results of current research will be available May 2015

Conclusion: In process of finalizing results of current research will be available May 2015

Contact: Moshe Frenkel, frenkelm@netvision.net.il

<http://dx.doi.org/10.1016/j.imr.2015.04.376>

OS17.03

Obtaining personal health data from life-log for traditional medicine



Hyunchul Jang, Jinsoo Seo, Sanghyun Kim

Korea Institute of Oriental Medicine

Purpose: At doctor's office, a patient is asked a lot of question. Some questions are questioned face-to-face with the doctor, some are questioned by a nurse or a coordinator, and some are requested to fill out a list of questions. Some are clear to answer but others are hard question to answer definitely. Doctors as well as patients need accurate answers and it would be good if it is done in smarter ways.

Methods: We surveyed a number of questionnaires and check lists and examined some personal health devices and activity trackers. We analyzed the data from devices and trackers and classified personal health data.

Results: Well-known data like gender, birthdate, age, weight, height, pulse, temperature, blood pressure and sugar level are obtained with software on the current health platform but some data need to be calculated or some decisions need to be made by human.

Conclusion: Many questions are in regard to daily conditions like sleep, urine, defecation and sweat. These kind of questions are dependent on daily self-monitoring. An effective method to record daily self-monitored and recognized condition is necessary. And personal data are already stored at many applications and servers. This will help doctors check patient's exact condition and record their medical information.

Contact: Hyunchul Jang, hcjang@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.377>

OS17.04

A Comparative Study on Statutory Regulation of Traditional Oriental Medicine Practitioners



Ui Min Jerng

Korea Institute of Oriental Medicine

Purpose: To identify the characteristics of regulation system for traditional oriental medicine practitioners (TOMP) among its leading countries.

Methods: We searched statutes of twelve countries on regulation of TOMP, and compared their characteristics. Twelve countries were South Korea, China, Japan, Taiwan, Singapore, Malaysia, Australia, New Zealand, United King-

dom, Switzerland, United States (US), and Canada. In case of countries with independent provincial statute, two representative provincial statutes of each country were analyzed.

Results: There were seven countries which legally regulated TOMP as separated profession with medical practitioners. The China legally regulated TOMP as same profession with medical practitioners. There were no statute in four countries (Japan, New Zealand, United Kingdom, and Switzerland) until December 2014, but three countries of them had a plan to make statutes for regulating TOMP. Four countries (Singapore, Malaysia, Australia, Canada) operated registration system and three countries (South Korea, Taiwan, US) operated licensing system. All countries with registration system granted TOMP who fulfill requirements set by delegating authority to issue their certificate. South Korea and Taiwan issued TOMP to pass the national examination with their license. The US issued license to TOMP who fulfill requirements set by each state board. Most countries which legally managed TOMP had renewal system for license or certificate, but the Singapore and New York State in US made no preparations for renewal system. The legal right of TOMP was lower than that of medical practitioners in most countries. TOMP in three countries (South Korea, China, Taiwan) had right to issue medical certificate. Exclusive right to practice acupuncture was recognized in three countries (South Korea, Taiwan, and Malaysia).

Conclusion: The regulation for TOMP had been enacted in some countries, and legislative process had been made internationally. There are some differences in management method among countries. The legal right of TOMP was lower than that of medical practitioners.

Contact: Ui Min Jerng, breeze@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.378>

OS17.05

Identification of determinants of the utilization of acupuncture treatment using Andersen's behavioral model

Yeseul Lee, Younbyoung Chae

AMSRC, Kyung Hee University

Purpose: The utilization of healthcare services is the result of a complex decision-making process with different determinants. This research aims to identify the determinants of the utilization of acupuncture treatment using Andersen's behavioral model and quality of life.

Methods: In this research, we reviewed Korean Health Panel data, a nationally representative set of data, and analyzed the utilization of outpatient acupuncture services during 2011. A two-part model, which included predisposing, enabling, and need factors of Andersen's behavioral model in model 1 and the additional factor of health-related quality of life (HRQOL, EQ-5D Korean index) in model 2, was analyzed by logistic analysis to identify determinants of acupuncture service usage among subjects who visited traditional Korean medical clinics.

Results: The frequency of acupuncture service usage among patients who visited traditional Korean medical clinics

increased if the subjects were female, older, had a greater number of chronic diseases, did not have physical disabilities, and had a lower quality of life.

Conclusion: We demonstrated that the important determinants of the frequency of acupuncture treatment utilization were gender, age, number of chronic diseases, and the presence of physical disabilities. Our findings contribute to understanding of the characteristics of patients who use acupuncture treatment and may be used as a basic resource for further health service research.

Contact: Yeseul Lee, jparadise.lys@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.379>

OS17.06

Perspective on policy implications for the future development of integrative medicine: the insights from a qualitative study



Weijun Zhang, Ka-Kit Hui

UCLA Center for East-West Medicine

Purpose: There are two major systems for practicing integrative medicine (IM) in the world. In a biomedicine dominated system, practice of integrative medicine usually adopts team-oriented care, in which dual-trained physicians may serve as better leaders. As an integrative healthcare system recognized by WHO, IM practitioners in China are all dual-trained with original background in either Chinese medicine (CM) or western medicine (WM). However, the group of IM practitioners trained in WM originally has been decreasing. This led to China's integrative healthcare system become CM-dominated system. This qualitative study aimed to identify key domains and develop a conceptual model in shaping policy of IM development more suitable for the emergent health system in the world.

Methods: This study used snowball sampling to develop three groups of subjects, including 33 IM pioneers in China, 40 current leaders in China, and 25 international observers to IM development in China. We conducted semi-structured, in-depth interviews with experts and then identified core statements that describe experts' perspectives regarding and observations of current development of integrative medicine as well as the future development in China. Core statements were free pile sorted to ascertain key domains of IM development.

Results: From the perspective of individual, organizational, and systemic levels, five key domains of IM development were identified: educational background, practice type, working environments, funding strategy, and licensing. Working environment and funding strategy emerged as important factors for experts in China in determining the components of better development of IM. International observers from a biomedicine-dominated system advocated a similar approach in the western countries and include new area of development, such as public health, nutrition, body-mind practice, etc.

Conclusion: As IM assumes an increasing role in the transforming healthcare system, appropriate policy in the development of IM to meet societal needs become imperative.



Contact: Weijun Zhang, wzhang@mednet.ucla.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.380>

Oral Presentation Session 18: Research Methodology

OS18.01

Effectiveness of Acupuncture for Primary Ovarian Insufficiency: A Systematic Review and Meta-analysis



Junyoung Jo¹, Yoon Jae Lee², Jinmoo Lee¹, Hyangsook Lee³

¹ Department of Korean Gynecology, Graduate School of Korean Medicine, Kyung Hee University

² Department of Korean Gynecology, CHA Bundang Medical Center, CHA University, Seongnam

³ Acupuncture and Meridian Science Research Center, College of Korean Medicine, Kyung Hee University

Purpose: This systematic review aimed to assess current evidence from available randomized controlled trials (RCTs) on the effects of acupuncture for patients with primary ovarian insufficiency (POI).

Methods: We searched twelve databases to identify relevant studies published before July 2014. The primary outcomes were serum follicle-stimulating hormone (FSH) levels and resumption of menstruation. Secondary outcomes were serum estradiol (E2), luteinizing hormone (LH) levels and relief of menopausal symptoms. Two reviewers independently assessed the risk of bias using the Cochrane's tool, extracted the results, and evaluated the overall level of the evidence using Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria.

Results: Total 1426 records screened, finally 8 RCTs were selected. The pooled results showed that acupuncture decreased significantly serum FSH levels (mean differences (MD) -9.26, 95% CI: -13.11 - -5.41, I²=0%, p<0.00001), and made more women resume menstruation (risk ratios (RR) 1.25, 95% CI: 1.12 - 1.39, I²=47%, p<0.0001). The change of E2 was significant but with considerable heterogeneity (MD 28.33, 95% CI: 4.24 - 52.41, I²=97%, p=0.02). The acupuncture treatment showed a tendency for decrease in the levels of LH, but did not reach a statistical significance (MD -5.34, 95% CI: -13.02 - 2.34, I²=48%, p=0.17). However, the results should be interpreted with caution because there was small number of participants, risk of bias of blinding, and clinical diversity in included studies. The level of evidence of FSH, LH and resumption of menstruation was assessed as "low" using GRADE. The level of evidence of E2 was "very low" due to serious risk of bias and inconsistency.

Conclusion: This systematic and meta-analysis supports that acupuncture may reduce serum FSH levels and restore the menstruation in patients with POI. Further rigorously designed studies are needed to confirm the effectiveness and safety of acupuncture in patients with POI.

Contact: Junyoung Jo, studd@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.381>

OS18.02

The use of systematic reviews in the design of randomized controlled trials of acupuncture: a systematic review



Kun Hyung Kim¹, Seung Hoon Lee²

¹ Pusan National University

² Kyung Hee University

Purpose: One of the major purposes of systematic review is to guide future randomized studies to resolve current conflicts or address uncertainty in clinical practice. Concerns have been raised regarding waste in research due to inadequate use of existing evidence for designing future research. We aimed to investigate how systematic reviews have been used in the design of randomized trials of acupuncture.

Methods: Protocols for randomized trials of acupuncture with trial registration number published from January 2008 to April 2013 were searched through four English databases (EMBASE, MEDLINE, CENTRAL and AMED). Full-list of reference titles in included study protocols was screened to identify cited systematic reviews.

Results: Thirty-eight protocols that referenced a total of 108 systematic reviews were eligible. Thirty-seven protocols (97%) cited at least one review (median value of 3). Reviews were predominantly used for identifying current evidence levels of diseases/conditions or available treatments in 36 of 37 review-cited protocols (95%). Other areas of use included justification of study interventions and comparisons (n=13; 34%), estimation of the difference to detect or margin of equivalence (n=2; 5%), formulation of acupuncture details (n=2; 5%), estimation of the control group event rate (n=2; 5%), selection or definition of outcome (n=6; 16%), collection and analyses of adverse events (n=3; 8%), duration of follow-up (n=0; 0%) and other areas that were not directly related to the design of the respective protocol (n=7; 18%). Eighteen of 37 protocols (49%) cited systematic reviews to inform at least one aspect of the design of the trial.

Conclusion: Most protocols used systematic reviews for the purpose of background description and only about a half of them cited systematic reviews to inform the design. Adequate use of systematic reviews is needed to design future acupuncture trials in context of the existing evidence and to avoid unnecessary redundancy of research.

Contact: Kun Hyung Kim, pdchrist@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.382>

OS18.04

What information on sham acupuncture is given to trial participants and how does it affect blinding and outcomes?



HYANGSOOK LEE¹, SOYEON CHEON²,
HYEJUNG LEE³

¹ Acupuncture & Meridian Science Research
Centre, College of Korean Medicine, Kyung Hee
University

² Kyung Hee University

³ Korea Institute of Oriental Medicine

Purpose: This study aimed to identify how and what information is given to participants of randomised sham-controlled trials (RCTs) of acupuncture, and how it may affect blinding and outcomes.

Methods: We invited authors of the RCTs published in PubMed from 1985 to November 2013 to send us participant information leaflets (PILs) used in their trials. Based on the degree of information disclosure, collected PILs were categorised by structured content analysis. Chi-square test, Mann-Whitney U test, or independent t-test were used to test differences in blinding and outcomes among different information disclosure categories. We used blinding index (BI) of acupuncture and sham groups for each trial and standardised mean difference (SMD) of primary outcomes in a random effects model.

Results: From content analysis of the collected 65 PILs, three categories were identified according to how much information is given about sham acupuncture; Full Disclosure (FD), Deceptive Disclosure (DD), and Missing Information (MI). Studies of non-Asian countries were more likely to provide detailed information on sham acupuncture in PILs than those from Asian countries ($p = 0.011$). Though not statistically significant, blinding analysis showed that sham acupuncture groups in the studies from DD & MI categories had a lower BI value reflecting more wishful thinking than those from FD category (BI -0.21 vs. -0.16). Outcome analysis revealed that studies in DD & MI categories significantly favoured acupuncture than those in FD category (SMD -0.43 vs. -0.12; $p = 0.03$), probably due to enhanced expectations.

Conclusion: Further research on adequate information disclosure and its potential impact on blinding and outcomes are urgently needed. Further in-depth studies utilising both qualitative and quantitative methods are warranted to better understand complicatedly intertwined factors in acupuncture trials.

Contact: HYANGSOOK LEE, erc633@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.384>

OS18.06

Exploring the scientific new model for Chinese medicine etiology research by using Cohort Study combined with Grounded Theory in sequence



He Yu, Jiaju Ma, Wang Zhang, Fei Dong,
Tiegang Liu, Jianhua Zhen, Xiaofei Li,
Xiaohong Gu

Beijing University of Chinese medicine

Purpose: Chinese medicine etiology theories are predominantly initiated by experts opinions and/or their clinical experiences, which are not be evaluated by scientific clinical trials, and it is a truly key issue to develop evidence-based Chinese medicine etiology research to achieve better outcomes by using Chinese medicine for patients. Based on our previous methodology researches in Chinese medicine and the observation on Chinese medicine curative effect evaluation according to “pathogeny from syndrome differentiation and treatment from pathogeny” principle.

Methods: This study proposes scientific hypotheses that the design of Cohort Study combined in sequence with Grounded Theory would help to establish a new methodology model for Chinese medicine etiology research. And Prospective Cohort Study will be used in this study to explore the interaction between Gastrointestinal Heat Retention Syndrome and Wind-warm Lung-heat Disease to identify their cause-effect relationship as a pioneering try in Chinese medicine to supplement the traditional etiology knowledge that deficiency of ZhengQi is an instinct factor to drive Wind-warm Lung-heat Disease. Then the qualitative method of Grounded Theory will be used to induce and generalize a theory by concerning and processing raw data from the perspectives of Chinese medicine practitioners’ understandings and experiences towards the interaction between Gastrointestinal Heat Retention Syndrome and Wind-warm Lung-heat Disease to theorize the results of Cohort Study.

Results: All these will help to appraise the stability and the effect of this etiology research model which is deemed to be scientific and specific for Chinese medicine to embody the principles of CM and characteristics of differentiation of syndromes with broadly feasibility.

Conclusion: The scientific new model for Chinese medicine etiology research can be built by using Cohort Study combined with Grounded Theory in sequence

Contact: He Yu, yuhe221@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.386>

OS18.07

Estimating the effect of Traditional Chinese Medicine (TCM) in Comparative Effectiveness Researches (CERs) through propensity score analysis

Ying Zhang, Jianping Liu

*Center for Evidence-Based Chinese Medicine,
Beijing University of Chinese Medicine, Beijing,
China*

Purpose: Propensity score analysis was widely used in several designs of CERs, such as cohort study, case control study, cross-sectional study or imperfect randomization designs. We did this bibliometrics to learn the application status and latent problems of propensity score in TCM study.

Methods: A bibliometrics of three computerized databases was conducted from their date of inception onwards. Research

papers which presented evidences on associations between TCM and treatment effects in CERs were included this review.

Results: Totally, 156 articles were identified. After reading titles and abstracts, 18 articles were kept and others were excluded because they were duplicates, reviews, or their objectives different from this review. Only 3 (17%) of studies used propensity score to balance the covariates between groups, 15 (83%) of them applied univariate analysis and 8 (44%) gave additional results of multivariate analysis.

Conclusion: There were notable evidences that propensity score could provide more robust results than traditional analyzing methods. In some cases, the results might be contradictory. It was advised that researchers should pay attention to the statistical method when analyzing data from CERs and avoid misleading explanations of study results.

Contact: Ying Zhang, novelzhang@sina.com

<http://dx.doi.org/10.1016/j.imr.2015.04.387>



ELSEVIER

Available online at www.sciencedirect.com

Integrative Medicine Research

journal homepage: www.imr-journal.org

ICGMR 2015 Poster Presentation Abstracts

BASIC SCIENCE

P1.001

Diabetes Drug Action Target Predicted from Astragalus and Euonymus alatus



HUIHUI ZHAO¹, Jianxin Chen¹,
Yonghua Wang¹, Zhiyong Li²,
Wenting Zhang¹, Wei Wang¹

¹ Beijing University of Chinese Medicine² Minzu University of China

Purpose: Astragalus and Euonymus alatus herb couple is the main herb couple in many classical prescriptions for diabetes mellitus, which has been used to treat diabetes mellitus for thousands of years in China. In this study we provide experimental evidence of the two herbs for treatment diabetes at the level of in vivo and gene expression. And made ingredients prediction of diabetes treatment from Astragalus and Euonymus alatus.

Methods: ADME/T expert system and feature selection data mining methods with real-time PCR were used.

Results: 10 and 13 ingredients were found from Astragalus and Euonymus alatus respect which bioavailabilities exceed 50%. Add other ingredients according reports, we get action target pot of the two herb. The ingredients in Euonymus alatus relative targets are ABL1, ACE, CYP2C8, DAPK1, ESR1, GSK3, GSTM1, HMGCR, IL2, PPARG, RBP4, REN, SHBG, SOD2. Thorough Sensitivity and redundancy analysis, we found SHBG, REN, ABL1, ACE, HMGCR are the key protein in the network. The ingredients in Astragalus relative targets are ABL1, ACE, CYP2C8, DAPK1, ESR1, GSK3, GSTM1, HMGCR, IL2, PPARG, RBP4, REN, SHBG, SOD2, IGF1, PPARA, RBP4. Thorough Sensitivity and redundancy analysis, REN, SHBG, ESR1, RBP4, HMGCR, IL2 were found very key in the network. From the view of the entire network, ESR1, RBP4, HMGCR, PPARG, REN were the most key targets. The expression of ESR1 and Ren gene in the kidney of diabetic model of kk-A(y) mice increased with the study of real-time PCR.

Conclusion: ESR1, RBP4, HMGCR, PPARG, REN may be the key targets of diabetes drug action. And the Astragalus

and Euonymus alatus are full of research and development value.

Contact: HUIHUI ZHAO, hh686@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.008>

P1.002

Palmiwon attenuates hepatic lipid accumulation and hyperlipidemia in a menopausal rat model



Byoung Seob Ko, Hiroa Ko, Jin Ah Ryuk,
Hye Won Lee

Korea Institute of Oriental Medicine

Purpose: We examined the phytoestrogenic effects of Palmiwon on breast carcinoma, lipid accumulation in methyl- β -cyclodextrin-induced HepG2 cells, and lipid-related disease in a rat model of menopausal hyperlipidemia.

Methods: An E-screen assay was used to screen for phytoestrogens, especially for those with anti-estrogenic activity, in MCF-7 cells. Numerous experiments were conducted in HepG2 cells to examine the estrogenic effects of Palmiwon on lipid accumulation. Oil Red O staining and intracellular cholesterol analyses were used to quantify cellular cholesterol levels. A 3-hydroxy-3-methyl glutaryl coenzyme A reductase assay was used to measure enzyme activity. The levels of phosphorylated AMP-activated protein kinases and products of genes involved in cholesterol synthesis were measured by Western blotting. For in vivo analyses, we used a rat model of menopausal hyperlipidemia. A number of targets associated with lipid-related diseases, such as retroperitoneal and perirenal fat accumulation, serum lipids, the atherogenic index, cardiac risk factors, lumen diameter, media thickness, and nonalcoholic steatohepatitis scores were examined to confirm the estrogenic effects of Palmiwon.

Results: Palmiwon showed anti-estrogenic activity in MCF-7 cells. Palmiwon treatment significantly decreased lipid accumulation, total cholesterol levels, and low-density/very-low-density lipoprotein levels in HepG2 cells. Moreover, Palmiwon reversed the effects of methyl- β -cyclodextrin on sterol regulatory element binding protein-2 and low-density

lipoprotein receptor and inhibited the accumulation and activity of 3-hydroxy-3-methyl glutaryl coenzyme A reductase. Phosphorylation of AMP-activated protein kinase was stimulated by Palmiwon. In menopausal hyperlipidemic rats, Palmiwon reduced retroperitoneal and peri-renal fat accumulation, serum lipids, the atherogenic index, cardiac risk factors, intima-media thickness, and nonalcoholic steatohepatitis scores relative to menopausal hyperlipidemic control rats.

Conclusion: These results indicated that Palmiwon inhibits lipid accumulation without estrogenic activity in the breast. Therefore, Palmiwon may have potential as both a preventive and therapeutic agent for the treatment of hyperlipidemia in menopausal females.

Contact: Byoung Seob Ko, bsko@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.009>

P1.003

Influence of the geometry of moxa cone on temperature profiles



Dong hyun Kim, Min joo Choi

Jeju National University

Purpose: This study was to investigate the influence of moxa cone shapes on combustion characteristics.

Methods: For a standard moxa cone which has a bottom diameter of 12 mm, a height of 16 mm, a volume of 603 mm³, and a weight of 100 mg, various cone shapes were tested, altering the bottom diameter in the range of 12±4 mm increased by every 2 mm (5 shapes), while the volume and weight remained unchanged. Temperatures at (the centre of) the bottom of each moxa on contact to skin phantom were measured with time from ignition till cooling to surrounding temperatures.

Results: The results showed that the maximum temperatures increased when increasing the moxa bottom diameters (decreasing the heights). In contrast, the maximum temperature rising rates decreased for the same conditions.

Conclusion: This finding is expected to be practically useful in optimizing the construction of moxa.

Contact: Dong hyun Kim, eastblack1@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.010>

P1.004

Inhalation of Dang qui aroma controls lipid metabolism and fat accumulation in high fat diet-induced obese mice[☆]



Seo Young Jeon¹, Hae-Jin Park²,
Ji Young Park², Sung Ok Kim²,
Sae Kwon Bang², Hee Young Kim²,
Mi Ryeo Kim³

¹ Pharmacological Research Division National
Institute of Food and Drug Safety Evaluation

² Daegu Haany University

³ Daegu Haany University / Korean Medicine
Industry Support Center

[☆] supported by NRF grant funded by the Korea government (MSIP, No.2013-067053).

Purpose: This study was conducted to investigate the inhalational effects of essential oil from Dang qui on peripheral antiobesity markers in diet-induced mice.

Methods: Essential oil of *Angelicacae Gigantis Radix* (EODA) was finally extracted from hexane through several steps. ICR mice were divided into three groups; normal diet (ND) group, high-fat diet (HFD) group, high-fat diet and Dang qui-inhaled (EODA) group (9hr/day) for the latter 3 weeks during experimental 7 weeks. The body weights, food intakes and weights of adipose tissues were measured, respectively. Blood serum was analyzed by automatic chemistry analyzer. And muscular protein and mRNA uncoupling protein (UCP) of brown adipose tissue (BAT) expressions were examined by western blot and RT-PCR, respectively. In addition, histological analysis and morphometry in hepatic and adipose tissue were observed in these mice.

Results: As a result, inhalation of EODA significantly reduced body weights, food intakes, adipose tissue weights compared to those of HFD group. Serum levels of LDL- and HDL- cholesterol were higher in HFD than in EODA group. Expressions of muscular pACC, pAMPK and RNA levels of UCP1 in EODA-inhaled were increased compared to those of HFD group. PPAR γ and C/EBP α expressions significantly decreased in EODA-inhaled than in HFD group. Also, adipocyte hypertrophy, steatohepatitis, the decreases of pancreatic zymogen granules were inhibited by inhalation of EODA as compared with HFD, respectively.

Conclusion: In previous study, we reported that EODA inhibited elevated NPY and LR expressions in hypothalamic PVN and ARC by HFD, respectively. And then, phosphorylated signaling transducer and activator of transcription 3 (STAT3) was decreased compared to that of HFD group. In conclusion, these results suggest that EODA can be developed as an effective inhalation agent for antiobesity via STAT3 signaling pathway with down regulation of NPY and LR in hypothalamus.

Contact: Seo Young Jeon, mrkim63@nate.com

<http://dx.doi.org/10.1016/j.imr.2015.04.011>

P1.005

Brain activation patterns to enhanced body schema triggered by acupuncture stimulation

Younbyoung Chae, Won-Mo Jung

Acupuncture and Meridian Science Research Center, College of Korean Medicine, Kyung Hee University

Purpose: From the perspective of neuroscience, acupuncture-induced sensation is not only coming from the bottom-up modulation of 'simple needling' in the somatosensory receptor, but also from the reciprocal interaction with the top-down modulation of the brain. Enhanced body schema triggered by acupuncture stimulation can influence the homeostatic control system through a modulated salience network of the brain. We investigated commonalities and differences in brain responses to enhanced bodily attention around the acupuncture points with or without actual stimulation.

Methods: Fourteen participants received acupuncture needles at both PC6 (median nerve) and HT7 (ulnar nerve) acupoints in the left hand. To enhance bodily attention to acupoints, participants were required to respond to the locations of stimulations at PC6 or HT7 in a two alternative-forced choice task. Two fMRI scans were taken in a block design: session 1 labeled with manual stimulation (actual stimulation with randomized acupoint stimulation) and session 2 labeled with electro-acupuncture (no physical stimulation; pseudo-stimulation). To compare cortical activation patterns, data were analyzed using the freesurfer software.

Results: In the conjunction analysis, both actual and pseudo-stimulation produced brain activations in the insula, anterior cingulate cortex, secondary somatosensory cortex, superior parietal cortex, and brain deactivations in the medial prefrontal cortex, posterior cingulate cortex, inferior parietal cortex, and the parahippocampus. In the contrast analysis, actual stimulation exhibited greater brain activations in posterior insula, posterior operculum and the caudal part of anterior cingulate cortex, compared to pseudo-stimulation.

Conclusion: We demonstrated that enhanced bodily attention triggered by acupuncture stimulation is able to activate the salience network and deactivate the default mode network - regardless of actual stimulation. Our findings suggest that the component of enhanced attention to a certain part of the body plays an important role in the brain responses to acupuncture stimulation.

Contact: Younbyoung Chae, ybchae@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.012>

P1.006

Tai Chi and its anti-inflammatory effect on the peripheral blood leukocytesHongtao Li¹, Claudia Wang², Susan Gaylord¹, Roy Geib³¹ University of North Carolina at Chapel Hill² Francis Marion University³ Indiana University School of Medicine-Terre Haute

Purpose: To quantify the immunological changes associated with a one-hour session of Tai Chi in long-term Tai Chi players.

Methods: Two independent experiments were conducted as pilot feasibility studies at a Midwestern location. Using a pre- and post-one-hour of Tai Chi (TC) practice design, 8 TC players' peripheral blood were drawn to study the physiological changes at the cellular level. At the cellular level, PBMCs were isolated and assessed for surface marker expression of CD 14, CD16, TLR2, TLR4, and HLA.DR using five-color flow cytometry analysis. At the protein level, blood pro-inflammatory cytokines in plasma were evaluated from 7 TC players using a 40-cytokine protein array.

Results: At the cellular level, compared to before TC practice, the frequency of pro-inflammatory CD14+CD16+ monocytes was significantly decreased immediately after TC practice ($p < 0.01$). The changes of TLR2, and HLA.DR expressions on CD14+CD16+ and CD14+CD16- populations were also decreased significantly in both mean fluorescent intensity and frequency measurements. At the protein level, one-hour after acute TC practice, significant changes in some of the pro- and anti-inflammatory cytokines associated with pain occurred in some players. With the anti-inflammatory interleukin-13, 5 of 7 players had significant increases in serum levels. With the pro-inflammatory interleukins 1, 6, and 12, 2 of 7 players had significant decreases in serum level. Some players also had significant changes in serum levels of monocyte chemo-attractant protein 2 (MCP-2) and platelet-derived growth factor BB (PDGF-BB).

Conclusion: TC may immediately initiate an anti-inflammatory effect at both the cellular and protein level as evidenced by changes observed following a 1-hour TC experience by long-term TC players. Given the cost of traditional treatment for pain, additional studies that are properly powered are needed to confirm and extend the observations of this pilot study.

Contact: Hongtao Li, hongtao_li@med.unc.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.013>

P1.007

The antidepressant effects of electro-acupuncture on the associated protein of hippocampal neurons filtered by biotin label-based antibody array



Yu Guo¹, Cheng Hu², Ya Tu¹, Miao Yu¹, Mingmin Xu¹

¹ Beijing University of Chinese Medicine

² West China School of Medicine/West China Hospital, Sichuan University

Purpose: This study aim on the associated protein of hippocampal neurons in rats with depression, filtering out the possible target of acupuncture by biotin label-based antibody array.

Methods: 1. Established model: 30 SD rats were randomly divided into 3 groups: control group, model group, EA group. In addition to the control group, the remaining two groups were modeling 28 days by chronic unpredictable mild stress combined with solitary raising methods to establish rat depression model. 2. Interventions: EA was given at points Baihui (Du 20), Yintang (Extra) for twenty minutes (intermittent wave, 30 min) 1 hour before the modeling. 3. Behavioral detection: Behavioral tests were given to evaluate if the model is successful. 4. Index detection: Using biotin label-based antibody array to detect the protein expression of hippocampal neurons in rats with depression.

Results: 1. Effects on rat behavior: After 28 days, compared with the control group, behaviors were all significantly reduced. Compared with the model group, weight of EA group was significantly increased, sugar intake were significantly higher, crossing number of grid were significantly increased, standing times were also. 2. Expression of proteins in neurons: compare to the control group, the protein expression of RAGE and Activin A in the model group are upregulation (fold change = 1.356,1.240). Compared to the model group, RAGE and Activin A expression are downregulation in EA group (fold change=0.617, 0.624). Expression of proteins in astrocytes: the protein expression of CNTF Ra and EGFR in model group are upregulation to the control one (fold change=1.503,1.373). But they are downregulation in EA group to the model group (fold change=0.728,0.505).

Conclusion: 1. EA may can improve behavioral abnormalities in rats with depression. 2. Expression of RAGE, ActivinA, CNTFRa, EGFR in model group have the increasing trend, and EA may can reduce this trend. 3. This study filtered out some possible targets of acupuncture.

Contact: Yu Guo, gy046@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.014>

P1.008

Hippocampal memory enhancing activity of pine needle in scopolamine-induced mouse model



Jin-Seok Lee, Hyeong-Geug Kim, Jong-Min Han

Liver and Immunology Research Center, Oriental Medical Collage of Daejeon University

Purpose: We evaluated the neuropharmacological effects of 30% ethanolic pine needle extract (PNE) on memory impairment caused by scopolamine injection in mice hippocampus.

Methods: C57BL/6N male mice (12 weeks old) were orally pretreated with PNE (25, 50, or 100 mg/kg) or tacrine (10 mg/kg) for 7 days, and scopolamine (2 mg/kg) was injected intraperitoneally. In order to evaluate memory function, the Morris water maze task was performed for 5 days consecutively. Oxidant-antioxidant balance, acetylcholinesterase (AChE) activity, neurogenesis and their connecting pathway were determined in hippocampal tissues and/or sera.

Results: Scopolamine appropriately increased the escape latency and cumulative path-length but decreases the time spent in target quadrant, which were ameliorated by pretreatment with PNE. Pretreatment with PNE attenuated the increased level of reactive oxygen species, malondialdehyde and AChE activity induced by scopolamine injection. Depletion of antioxidant capacities in hippocampus were also recovered by pretreatment with PNE. Consistent with above results, 4HNE (4-Hydroxynonenal)-positive stained cells were ameliorated in mice hippocampus pretreated with PNE. Pretreatment with PNE moderately increased the number of proliferating cells and immature neurons against sup pression of neurogenesis by scopolamine in subgranular zone, which was confirmed by ki67- and DCX-positive stained cells. The brain-derived neurotrophic factor (BDNF) and phosphorylated cAMP response element-binding protein (pCREB) were facilitated for improving memory function by PNE pretreatment, which was confirmed by protein and gene expression results.

Conclusion: These findings suggest that PNE could be a potent neuropharmacological drug against amnesia, and its possible mechanism might be modulating cholinergic activity via CREB-BDNF pathway.

Contact: Jin-Seok Lee, neptune26ljs@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.015>

P1.009

Anti-adipogenic and Antioxidant Effects of The Traditional Korean Herbal Formula KE-06: An in vitro Study



Sae-Rom Yoo, Chang-Seob Seo, Ohn-Soon Kim, Hyeun-Kyoo Shin, Soo-Jin Jeong

Korea Institute of Oriental Medicine

Purpose: KE-06 has traditionally been used to treat chronic gastritis, gastric ulcers, gastroptosis, indigestion, diarrhea,

and emesis. In the present study, we investigated the anti-obesity effects and antioxidant activity of KE-06.

Methods: 3T3-L1 preadipocytes were differentiated into adipocytes with or without KE-06. After differentiation, we measured Oil Red O staining, glycerol-3-phosphate dehydrogenase (GPDH) activity and leptin production in 3T3-L1 adipocytes. In addition, we analyzed its effect on scavenging activities of 2,2'-azino-bis-(3-ethylbenzothiazoline-6-sulfonic acid) (A BTS) and 2,2'-diphenyl-1-picrylhydrazyl (DPPH) radicals in *in vitro* systems. Its effect on low-density lipoprotein (LDL) oxidation was assessed by measuring production of malondialdehyde (MDA).

Results: KE-06 significantly inhibited lipid accumulation and triglyceride production, and mediated GPDH, a major enzyme in the process of adipogenesis. Consistent with this, KE-06 stimulation significantly decreased the amount of leptin in 3T3-L1 adipose cells. Furthermore, KE-06 enhanced the scavenging activities on ABTS and DPPH radicals. The generation of MDA during LDL oxidation was significantly reduced by KE-06 treatment.

Conclusion: Overall, our findings suggest that KE-06 has the potential for anti-adipogenic activity and antioxidant properties.

Contact: Sae-Rom Yoo, k2aori@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.016>

P1.010

Development of Anti-hepatofibrotic Herbal Drug (CGX)



Chang-Gue Son, Hyeong-Geug Kim,
Jong-Min Han, Jin-Seok Lee

Liver & Immunology Research Center, Daejeon
Oriental Hospital of Daejeon University

Purpose: Liver fibrosis is the key pathological change which is arisen by most of chronic hepatic injuries. The progress of hepatic fibrosis determines the clinical outcome of patients, but no therapeutics for the disease exists yet. The objective of the present study is to present the overall status for CGX development regarding its clinical backgrounds, pharmacological studies in animal models, and current process of randomized clinical trial.

Methods: CGX has been used for patients suffering various liver diseases, including chronic viral hepatitis and alcoholic liver disorders. The safety study for CGX using rats and beagle dogs, and pharmacological actions in animal models using chemicals (CCl₄, DMN, or TAA), chronic alcohol consumption, choline-deficient (MCD) diet, and bile duct ligation (BDL) were presented respectively. The objective of the present study is to present the overall status for CGX development regarding its clinical backgrounds, pharmacological studies in animal models, and current process of randomized clinical trial.

Results: CGX is a modification of a traditional Korean herbal medicine, which is under clinical trial phase III for hepatofibrosis therapeutic effect. The main mechanisms of CGX related to anti-hepatofibrotic effects involve the inhibition of hepatic stellate cells producing extracellular

matrix (ECM), down-regulation of pro-fibrogenic cytokines (TGF- β , PDGF, CTGF), and modulation of oxidative stressors and enhancements of antioxidant components. In addition, microarray experiment revealed the regulative action of CGX on VEGF gene expression.

Conclusion: Various animal data strongly expected that multi-sites clinical trial evidences the fibro-therapeutic effects in patients with chronic viral or alcoholic liver diseases.

Contact: Chang-Gue Son, ckson@dju.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.017>

P1.011

Anti-tumor activity of *Gleditsia sinensis* thorns targeting angiogenesis



Jin-Mu Yi, Jun Lee, Jinhee Kim,
Jong-Shik Park, You Jin Lee, Se-Mi Oh,
Haejin Kim, Dal-Seok Oh, Ok-Sun Bang,
No Soo Kim

Korea Institute of Oriental Medicine

Purpose: *Gleditsia sinensis* thorns have been used in Korean medicine to treat diverse diseases including thrombosis and relieve symptoms similar to cancer. The present study aims to (1) determine the anti-angiogenic effects of the ethanol extract of *Gleditsia sinensis* thorns (EEGS) *in vitro* and *in vivo*, (2) evaluate anti-tumor potential *in vivo*, (3) identify the active constituent of EEGS, and (4) understand its underlying mechanism.

Methods: EEGS was prepared by maceration of dried powder of *Gleditsia sinensis* thorns in 80% EtOH. Anti-angiogenic effects of EEGS were determined *in vitro* by quantifying HUVEC-mediated cell migration and tube formation, and *in vivo* by measuring new blood vessel formation into the pro-angiogenic factors-imbbeded matrigel. Anti-tumor potential of EEGS was evaluated using a tumor-xenografted mouse model. Isolation and identification of active constituent from EEGS were carried out by activity-guided fractionation and NMR-Mass spectroscopy, respectively. Alteration of gene expression following drug treatment was determined by conventional molecular biological methods.

Results: EEGS inhibited proliferation of HUVEC without affecting cell viability. Angiogenic properties of HUVEC, such as cell migration and tube formation, were significantly inhibited by EEGS. Formation of new blood vessels induced by pro-angiogenic factors and growth of xenografted tumors were suppressed by EEGS as determined by *in vivo* animal models. HPLC-NMR-Mass spectroscopic analyses revealed that cytochalasin H is an active anti-angiogenic constituent of EEGS. Anti-angiogenic potential of EEGS and cytochalasin H was related with the reduced expression of pro-angiogenic factors, such as EDN1 and MMP2.

Conclusion: Taken together, our findings suggest that EEGS can inhibit angiogenesis as well as tumor growth by down-regulating expression of pro-angiogenic factors. Therefore, EEGS can be considered as a good starting material to develop a novel anti-cancer drug targeting angiogenesis. This study

reinforces the importance of medicinal plants of ethnopharmacological uses in a pharmaceutical business.

Contact: Jin-Mu Yi, jmyi@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.018>

P1.014

Reduction of metastatic and angiogenic potency of malignant cancer by *Eupatorium fortunei* via suppression of MMP-9 activity and VEGF production



Aeyung Kim, Minju Im, Nam-Hui Yim, Jin Yeul Ma

Korea Institute of Oriental Medicine (KIOM)

Purpose: *Eupatorium fortunei* has long been used to treat nausea and poor appetite, and has been prescribed as a diuretic and detoxifying drug in Chinese medicine. Recent studies have demonstrated that *E. fortunei* possesses anti-bacterial, anti-oxidant, and anti-diabetic activities, as well as cytotoxicity to human leukemia cells. However, at non-toxic concentrations, the effects of an aqueous extract of *E. fortunei* (WEF) on the metastatic and angiogenic potential of malignant tumor cells have not been reported.

Methods: The inhibitory effect of WEF on the metastatic and angiogenic properties of malignant tumor cells in vitro and in vivo was examined. Furthermore, detailed underlying mechanism of the anti-metastatic and angiogenic activity of WEF was elucidated.

Results: We found that WEF suppressed the metastatic properties, including anchorage-independent colony formation, migration, and invasion, by downregulating the proteolytic activity of MMP-9. NF- κ B activation and the phosphorylation of p38 and JNK were reduced significantly by WEF. Additionally, WEF inhibited tumor-induced angiogenesis markedly, affecting HUVEC migration, tube formation by HUVECs, and microvessel sprouting from rat aortic rings via a reduction in VEGF in tumors. In a pulmonary metastasis model, daily administration of WEF at 50 mg/kg markedly decreased metastatic colonies of intravenously injected B16F10 cells on the lung surface in C57BL/6J mice. Further, none of the WEF-administered mice exhibited systemic toxicity.

Conclusion: Taken together, our results indicate that WEF is a potential therapeutic herbal product that may be useful for controlling malignant metastatic cancer.

Contact: Aeyung Kim, aykim71@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.021>

P1.016

Comparison of the morphological characteristics of the threadlike structure observed in rat and swine



Sunhee Yeon¹, Jaekwan Lim², O. Sang Kwon¹, Seong Jin Cho¹, Kwang-Ho Choi¹, Suk Yun Kang¹, Sun Mi Choi¹, Yeon Hee Ryu¹

¹ Korea Institute Of Oriental Medicine

² Korea University Medical Center

Purpose: A threadlike structure has been identified in a range of animal species including rats, rabbits, canines, and swine. Although various studies have been carried out to characterize this structure, tentatively named as the 'primo structure', its morphological criteria are still obscure. In this study, we tried to classify the threadlike structure of swine based on the morphological findings obtained from the observation of various threadlike structures, and to provide basic data that will be helpful in the analysis of a similar threadlike structure in swine.

Methods: The threadlike structure observed in rats is characterized by the absence of cavities, including epithelial cells; the presence of bright cells among epithelial cells, which were not stained by Eosin during H&E staining; and dense nuclear distribution.

Results: Of the 65 tested samples of this threadlike structure in rats, 26% exhibited all three features. When these characteristic criteria were applied to the swine, only 1% of 100 samples showed all three characteristics: 41% contained cavities; 37% contained bright cells; and 8% exhibited dense nuclear distribution.

Conclusion: Though a number of swine tissues exhibited characteristics similar to those of the threadlike structure of rats, the proportion of tissues meeting the exact criteria was lower than in the case of rats. This might be attributable to several factors including the uniqueness of the swine system, the specific characteristics of the threadlike structure of swine, and the experimental setting of the swine model. Therefore, additional studies of species-specific criteria are required in order to differentiate these threadlike structures, and to reveal the functional characteristics of each structure.

Contact: Sunhee Yeon, shyeon@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.023>

P1.017

The Emotional Pictures Application to Subthreshold Depression by Evaluating REP Changes



Xi Tan, Xi Liu, Yang Li, Li Li, Yan Liu, Junhui Kong

Beijing university of Chinese medicine

Purpose: This research uses Event Related Potential (ERP) technology to analyze characteristics of different valence

emotional picture stimuli on cognitive processing effects of subthreshold depression group in the behavioral and ERP, and the differences from healthy people.

Methods: The design plan adopted with the Oddball paradigm and divided into three blocks. In each block, the emotional picture as the target stimulus (probability 20%), were positive, neutral, negative, in a standard table for deviant stimuli (probability 80%). The mixture design, 2 (Subthreshold Depression group, control group)*3(positive, neutral, negative pictures), was used the 64 conductive polar cap with 10-20 electrode lead positioning standard made by International Society of EEG to record data, and make overlaying classification of right response EEG to get three types of ERP of positive, neutral, negative pictures. Then it automatically measure the amplitude and peak latency to analyze components of responding, N2 and P3.

Results: At the RT, the main effect and the main effect of stimulus type were both significant. The amplitude and latency of N2 and P3 both showed that main effect of group was insignificant, while main effect of stimulus type was significant.

Conclusion: The result shows subthreshold depression individuals give too much focus on negative emotion stimulus and deeper cognitive processing to form negative cognitive bias when they are faced with different valence emotional picture stimuli. As a result, this hypothesis is invalid, which means there is no difference between subthreshold depression population and healthy people in the aspect of emotional stimuli on cognitive processing, which is not similar with the cognitive processing of subthreshold depression population in reports.

Contact: Xi Tan, tanxi34@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.024>

P1.018

Akebia quinata extract exerts anti-obesity and hypolipidemic effects in high-fat diet-fed mice and 3T3-L1 adipocytes

Yoon-Young Sung, Dong-Seon Kim,
Ho Kyoung Kim

Korea Institute of Oriental Medicine

Purpose: The dry ripe fruit of the *Akebia quinata* (*A. quinata*) plant is used as an analgesic, an antiphlogistic, and a diuretic in traditional medicine. *A. quinata* has also been used in Korea as a crude drug for treating obesity. The aim of the study was to determine the anti-obesity and hypolipidemic effects of *Akebia quinata* extract (AQE) in mice consuming a high-fat diet and in 3T3-L1 adipocytes.

Methods: We measured obesity-related physiological parameters, gene expression, and protein phosphorylation in mice consuming a high-fat diet supplemented with AQE (400 mg/kg/day) for 6.5 weeks.

Results: AQE reduced gain in body weight, adipose tissue weight, and serum lipid levels in mice consuming a high-fat diet. AQE supplementation reduced expression of genes related to adipogenesis and increased expression of PPAR α , acetyl-CoA oxidase, and adiponectin in the epididymal adi-

pose tissue. Furthermore, AQE increased phosphorylation of adenosine monophosphate-activated protein kinase (AMPK) and acetyl-CoA carboxylase, both of which are related to fatty acid oxidation, in vivo. HPLC analysis revealed that AQE contained chlorogenic acid, isochlorogenic acid A, and isochlorogenic acid C. AQE and all of these constituents inhibited differentiation of 3T3-L1 cells and enhanced AMPK phosphorylation.

Conclusion: These results suggest the AQE exerted anti-obesity and hypolipidemic effects in mice consuming a high-fat diet by regulating adipogenesis and fatty acid oxidation via AMPK activation.

Contact: Yoon-Young Sung, yysung@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.025>

P1.019

Synergistic analgesic effects of electroacupuncture and milnacipran on neuropathic pain induced by L5 spinal nerve ligation

Chengjin Li, Byeonguk Ji, Jieun Lee,
Sungtae Koo

Pusan National University, School of Korean
Medicine

Purpose: The present study aimed to evaluate the potential synergism of EA and a subeffective dosage of milnacipran (selective norepinephrine reuptake inhibitor; SNRI) in the rat model of neuropathic pain.

Methods: Mechanical and thermal hypersensitivity were assessed by measuring paw withdrawal threshold and latency in response to mechanical and thermal stimuli, respectively, 1 day prior to the neuropathic surgery, as well as 5 days postoperatively. 10 Hz EA was given at "ST36" and "GB34" acupoints for 30 min.

Results: Milnacipran (5, 20 μ g, intrathecally) exerted dose-dependent effect on thermal hyperalgesia, but exhibited similar efficacy on mechanical allodynia. EA itself detectably attenuated thermal hyperalgesia at 4 hours after the application, and similar tendency was found in mechanical allodynia, but there was no statistically significant difference. Co-treatment with EA and milnacipran produced more potent antiallodynia and antihyperalgesia compared to that obtained from each component alone at 4, 6 hours after the treatment, which showed synergistic inhibitory effects. (4) The analgesia of the combination of EA and milnacipran, was reduced by i.t. pretreatment of yohimbine (α 2-adrenoceptor antagonist, 30 μ g), and the catecholamine neurotoxin 6-hydroxydopamine hydrobromide (6-OHDA, 25 μ g), which depleted spinal noradrenaline (NA).

Conclusion: The findings indicate that combination treatment of EA and a SNRI(milnacipran) synergistically inhibits allodynia and hyperalgesia via the deactivation of spinal noradrenergic systems coupled with spinal α 2-adrenoceptors. It is meaningful that the combination of EA and milnacipran, which might be a promising treatment, is clinically applied in cases in which EA per se has proven inefficient.



Contact: Chengjin Li, sommer@korea.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.026>

P1.020

Suppression of airway inflammation by *Illicium verum* and trans-anethole

Seung-Hyung Kim¹, Kim Dong-Seon²,
Sung Yoon-Young², Kim Ho Kyoung²

¹ Institute of Traditional Medicine and Bioscience
in Daejeon University

² Herbal Resources Group, Korea Institute of
Oriental Medicine



Purpose: To develop antiasthmatic agent, *Illicium verum* and its major components were evaluated on their suppression effect in the airway inflammation. Furthermore we have studied the molecular mechanism of trans-anethole compound concerning Treg cell mediated suppression.

Methods: Asthma was induced in BALB/c mice by systemic sensitization to ovalbumin (OVA) followed by intratracheal, intraperitoneal, and aerosol allergen challenges. *Illicium verum* and its major components were orally administered for 4 weeks. We investigated their effects on airway hyper-responsiveness, pulmonary eosinophilic infiltration, various immune cell phenotypes, cytokine & cytospin measurements in Bronchoalveolar lavage (BAL), Th2 cytokine production, OVA-specific IgE production, Th1/Th2 cytokine production, lung histology in this mouse model of asthma.

Results: *Illicium verum* and trans-anethole significantly ($p < 0.05$) inhibited OVA-induced increases in total cell counts, eosinophil counts, and IL-4, IL-5, IL-13, and eotaxin levels recovered in bronchoalveolar lavage fluid in OVA-sensitized mice. Trans-anethole further substantially ($p < 0.05$) reduced the total IgE, eotaxin 2 levels, and CCR3 expression of BAL fluid. Trans-anethole also substantially ($p < 0.05$) increased the IL-10, IFN- level, and IL-10 or TGF-1 mRNA expression of BAL fluid. Histological studies showed that TRANS-ANETHOLE dramatically inhibited eosinophilia, and infiltration of lymphocytes in lung tissues

Conclusion: These result suggest that the anti-inflammatory and anti-asthmatic effects of *Illicium verum* and trans-anethole may be exerted through upregulation of regulatory T cells.

Contact: Seung-Hyung Kim, sksh518@dju.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.027>

P1.021

Ethanol extract of *Taiwanofungus camphorates* enhanced cisplatin/doxorubicin induced cytotoxicity on human hepatocellular carcinoma cells



Chien-Kai Wang¹, Cheng-Jeng Tai¹,
Chen-Yen Choong², Ching-hua Su²,
Chen-Jei Tai¹

¹ Taipei Medical University Hospital

² Taipei Medical University

Purpose: *Taiwanofungus camphorates* (TC, syn antrodia camphorate) is a widely used local remedy in Taiwan and demonstrated several pharmacological features such as anti-inflammatory, liver protection, anti-hypertensive and antioxidative activities. The ethanol extract of TC (TCEE) which contains diterpenoids, triterpenoids, lactone, benzenoids, and polysaccharides also exhibits anti-tumor effects in various human cancer cell lines. The aim of this study is to clarify the combination effects of TCEE with standard chemotherapeutic drugs, cisplatin and doxorubicin on human hepatocellular carcinoma (HCC) cells.

Methods: The TCEE was prepared from the pulverized crude extract of solid-state cultivated TC. HCC cells, HepG2, Hep3B and HepJ5 were treated by 0 to 1 mg/ml TCEE for 48 hr and the cell proliferation was determined by MTT assay. Cell cycle assay and western blotting assay were used to clarify the possible cell cycle arrest and activation of apoptosis markers, caspase-3 and caspase-7 induced by TCEE. HCC cells were further treated by TCEE with 0 to 20 μ M cisplatin or 0 to 10 μ M doxorubicin to identify the combination effects of TCEE with cisplatin/doxorubicin.

Results: The half-maximal inhibitory concentrations (IC50s) of TCEE on Hep3B and HepJ5 cells were 0.119 and 0.127 mg/ml respectively. TCEE treatment resulted in G0/G1 arrest in HepJ5 cells, and G2/M arrest in HepG2 cells. Furthermore, TCEE induced cleavage of caspase-3 in Hep3B cells but not HepJ5 and HepG2 cells. The combined treatment of TCEE enhanced the cisplatin and doxorubicin induced cytotoxicity on HepG2, Hep3B and HepJ5 cells by significantly reducing the IC50s from 20 to 11 μ M on cisplatin average and 12.2 to 3.9 μ M on doxorubicin in average.

Conclusion: This study indicated that TCEE treatment induced tumor cell suppression and further enhanced the cisplatin and doxorubicin induced cytotoxicity in HCC cells suggested TCEE a potential ingredient to develop integrated chemotherapy for human hepatocellular cancer.

Contact: Chien-Kai Wang, wchienkai@tmu.edu.tw

<http://dx.doi.org/10.1016/j.imr.2015.04.028>

P1.022

Anti-hyperlipidemia Effects of a Water extract of *Artemisiaiwayomogi* Kitamura and *Curcuma longa* Linne. (ACE) in mouse model induced poloxamer 407

Hyo seon Kim, Hyeong-Geug Kim

Liver & Immunology Research Center, Daejeon Oriental Hospital of Daejeon University

Purpose: To investigate anti-hyperlipidemic effects of ACE against poloxamer 407(P-407)-induced hyperlipidemia of C57/BL 6 mice model. Serum and hepatic tissue lipid profiles, hyperlipidemia related - gene expressions and protein levels of the hepatic tissue were measured.

Methods: C57BL/6 mice were orally administrated with distilled water, *Artemisia iwayomogi* Kitamura(AR)50 mg/kg or *Curcuma longa* Linne(CU) 50 mg/kg, ACE(25 or 50 or 100 mg/kg) or Lipitor(50 mg/kg) for 13 weeks (n=10 or 11 per group). Mice were injected P-407(500 mg/kg) two times in every weeks. After 13 weeks, we measured serum lipid parameters such as total cholesterol (TC), triglycerides (TG), and hyperlipidemic gene and protein expressions were evaluated in the hepatic tissues.

Results: P-407 (500 mg/kg) injection caused considerable increases of serum TC, TG and free fatty acid (FFA). The serum levels of total reactive oxygen species and hepatic tissue levels of lipidperoxidation were also increased by P-407. Treatment with ACE, however significantly normalized the above alterations. The fat accumulations were occurred and accumulated in the hepatic tissue, whereas those alterations were improved by treatment with ACE by measuring histopathological inspection. Additionally, gene expression levels including SREBP-1c, FAS, SCD-1, PPAR- α and TNF- α in hepatic tissue were altered by P-407 injected, while ACE group also significantly normalized them.

Conclusion: Finally, it was concluded clearly that ACE showed antihyperlipidaemic effects in P-407-induced hyperlipidaemic mice. ACE is worked in the prevention of experimental hyperlipidemia.

Contact: Hyo seon Kim, khs910707@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.029>

P1.024

The Characteristics of Action Potentials in Primo-vessels and the Effects of Acetylcholine InjectionSeong Jin Cho¹, Jaekwan Lim², Sun Hee Yeon¹, O. Sang Kwon¹, Kwang-Ho Choi¹, Sun Mi Choi¹, Yeonhee Ryu¹¹ Korea Institute of Oriental Medicine² Korea University

Purpose: In this study, we analyzed the action potentials from Primo-vessels and observed the effects of acetylcholine on the pulse component.

Methods: Male 7-week-old SD rats were used for tissue preparation. The large intestine surface Primo-vessels were removed from the rats and placed on a Sylgard. An electrode was placed in the tissue. The tissue was perfused with Krebs's solution. This solution was at pH 7.4 and 36°C. Acetylcholine was diluted 1000 times and injected into the solution.

Results: The pulses had rapid depolarizing and repolarizing phases. The amplitude was slightly but not significantly increased after injection. The FWHM for the pulses were around 30ms for both sections. However, there was a significant variation in the period. After injection, the period decreased by half.

Conclusion: Primo-vessels' function was considered transferring electrical signals rather than carrying material due to the very short FWHM. Primo vascular system can be controlled by acetylcholine.

Contact: Seong Jin Cho, ipcng@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.031>

P1.025

Does musical electro-acupuncture better than electro-acupuncture in curing Alzheimer's disease: seeing from Morris water maze and micro-PET

Jing Jiang, Zhigang Li, Jin Cao, Qianfeng Shao, Menghan Lu, Suhua Shi, Xin Wang

Beijing University of Chinese Medicine

Purpose: Alzheimer's disease (AD) is a chronic, debilitating neurodegenerative disease with no effective therapies existing. Some research suggested that electro-acupuncture treatment may be an alternative therapy for AD; however, it also had its own limited. We intended to introduce a new treatment—musical electro-acupuncture and evaluate its effect on AD.

Methods: Morris water maze and micro-PET were used to evaluate the effects of musical electro-acupuncture and electro-acupuncture treatments on senescence accelerated mouse-P8 (SAMP8), an animal model of Alzheimer's disease.

Results: From the Morris water maze (MWM) test, we found the treatment of electro-acupuncture and musical electro-acupuncture can both improve the spatial learning and memory ability of SAMP8 mouse; and from the micro-PET test, we proved that after the musical electro-acupuncture treatment the level of uptake rate of glucose in hippocampus was higher than electro-acupuncture group.

Conclusion: These results suggest that the treatment of electro-acupuncture and musical electro-acupuncture may both provide a viable treatment option for AD, and the musical electro-acupuncture is better than electro-acupuncture.

Contact: Jing Jiang, yingxi7847@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.032>

P1.026

Camellia Petal Extracts and Genotypic Variations in Antioxidant Activity

Geung-Joo Lee¹, Bashistha Kumar Kanth¹,
Ka Youn Lee¹, Dong-Seon Kim²,
Seung-Hyung Kim³

¹ Chungnam Nat'l University

² Korea Institute of Oriental Medicine

³ Daejeon University

Purpose: The current research reports antioxidant and free radical-scavenging activities of petal extracts from differently colored *Camellia* ecotypes.

Methods: Five *Camellia japonica* ecotypes were chosen for petal extract. Total phenolic and flavonoid compounds were determined. For radical scavenging activities, DPPH and UWLIC analysis were conducted.

Results: For total phenolic compounds, five ecotypes showed the ranges of 4.8 mg of GAE (gallic acid equivalent) per g dry weight (DW) to 19.6 mg of GAE for white and pinkish petals, respectively. The DPPH radical scavenging activity of the petal extracts (represented in IC₅₀) was highest (3.8 μg·mL⁻¹) for the pinkish ecotype and lowest (43.1 μg·mL⁻¹) for the white ecotype when compared to the IC₅₀ value for ascorbic acid (13.6 μg·mL⁻¹) as a positive control. The results demonstrate that the efficient DPPH radical scavenging activity of the pinkish ecotype was partly attributed to higher phenolic compounds. Activities of two antioxidant enzymes, catalase and peroxidase, were different among the ecotypes, indicating the presence of ecotype-specific detoxifying processes.

Conclusion: The study demonstrates the potential use of the *Camellia* petals as an antioxidant resource, but there was a genotypic difference in total amount and antioxidant activities, indicating that more broad screening of the genotypes is necessary.

Contact: Geung-Joo Lee, gjlee@cnu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.033>

P1.027

Evaluation of effect of acupuncture needle corrosion on body tissue during electrical stimulation

Kwang-ho Choi, Sun Hee Yeon, Sanghun Lee,
O. Sang Kwon, Seong Jin Cho, Suk-Yun Kang,
Sun-Mi Choi, Yeonhee Ryu

Korea Institute of Oriental Medicine

Purpose: we studied the effects of electric acupuncture on tissue necrosis, and the cytotoxic effect of by-products generated by corrosion

Methods: Pulsed electric stimulation was applied to the body surfaces of an anesthetized mouse, on the spots corresponding to acupoints, at 50 V and 120 Hz for 60 minutes, with the duration of each pulse set at 0.05ms, via a 40mm-long needle with a range of diameters (0.18 mm, 0.20 mm, 0.25 mm, and 0.30 mm), and with or without coating. Cell necrosis was

confirmed by TUNEL assay, and the extent of needle corrosion was confirmed by observation under an electron microscope. The MTT assay was used to examine the cytotoxic effect of electric stimulation by a needle with a diameter of 0.25 mm under the same conditions, and the extent of needle corrosion was confirmed by observation under an electron microscope.

Results: Tissue necrosis was observed only in cases where non-coated needles with a diameter of 0.25 mm and 0.30 mm were used, and by-products resulting from corrosion were observed only in tissues into which coated needles were inserted. No association between cytotoxicity and needle corrosion was observed.

Conclusion: Our findings suggest that there is little correlation between the by-products generated by needle corrosion and cytotoxicity or cell necrosis. It is speculated that there may be some other condition, other than needle corrosion, that induces cell necrosis. Additional study is required to determine its cause.

Contact: Kwang-ho Choi, ddoongho@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.034>

P1.028

5,3'-Dihydroxy-6,7,4'-Trimethoxyflavone exerts its Anticancer and Antiangiogenesis effects through regulation of the Akt/mTOR Signaling Pathway

Ki Mo Kim, Deok Rim Heo, Jun Lee,
Jong-Shik Park, Jin-Mu Yi

Korea Institute of Oriental Medicine

Purpose: 5,3'-dihydroxy-6,7,4'-trimethoxyflavone (DHTMF) is one of the constituents of *Vitex rotundifolia*, a medicinal herb that is used for the treatment of various disorders in China and Korea. In this study we evaluated the antitumor and anti-angiogenic activities of DHTMF.

Methods: Cell viability was assessed by MTS assay. Apoptotic cell deaths were measured by flow cytometric, and western blot analysis. Including phosphorylation of Akt, mammalian target of rapamycin (mTOR), hypoxia-inducible factor (HIF-1α) and vascular endothelial growth factor (VEGF), which are key angiogenic molecules were determined by western blot analysis. In addition to expression of CD34, tube formation and migration assay performed by human umbilical vein endothelial cells (HUVECs), as well as neovascularization in vivo assay performed by mouse Matrigel plug assay.

Results: DHTMF significantly suppressed growth and induced apoptosis in lung carcinoma cells in a dose-dependent manner, as indicated by a decrease in Bcl-2 levels and increases in Bax and cleaved caspase-3 levels. In addition, DHTMF treatment significantly reduced the phosphorylation of Akt and mammalian target of rapamycin (mTOR), accompanied by reductions in the protein level of hypoxia-inducible factor (HIF-1α) and vascular endothelial growth factor (VEGF), which are key angiogenic molecules in lung cancer cells (H522). Furthermore DHTMF inhibited VEGF-induced angiogenesis, as indicated by reduced expression of CD34, tube formation and migration in human umbilical vein endothelial cells (HUVECs), as well as reduced neovascularization in

an *in vivo* mouse Matrigel plug assay. DHTMF also inhibited phosphorylation of Akt, mTOR, and p70S6K in HUVECs and lung cancer cells.

Conclusion: Our results suggest that DHTMF inhibits angiogenesis as well as induces apoptosis via the Akt/mTOR pathway and might elicit pharmacological effects that are useful for treatment of lung cancer.

Contact: Ki Mo Kim, vsrc@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.035>

P1.029

Panax ginseng C.A Meyer Ameliorates Radiation Induced Liver Injury



Hyeong-Geug Kim, Jong-Min Han,
Jin-Seok Lee, Hyo-Seon Kim, Hwi-Jin Im,
Chang-Gue Son

Daejeon University

Purpose: To investigate the hepatoprotective effects of Panax ginseng C.A Meyer extract (PGE) and its corresponding mechanisms using radiation-induced liver disease.

Methods: C57/BL6 mice were orally administered with PG (0, 25, 50 or 100 mg/kg) or intraperitoneally injected melatonin (20 mg/kg) for 4 consecutive days before 15 Gy X-ray radiation exposure 1 hr after the last administration of PGE. Hepatic triglyceride (TG), histopathology, oxidative stress parameters, antioxidant components, inflammatory cytokines, and apoptosis signals were examined at 10 days after radiation.

Results: The irradiation markedly altered the steatotic alteration by histological examination and measuring hepatic TG in the tissue. Those alterations, however, were significantly attenuated by PGE. Immunohistochemistry examination showed the 4-hydroxynonenal signals were enhanced by radiation, while pre-treatment with PGE remarkably reduced them. Pre-treatment with PGE not only markedly exerted to reduce both total reactive oxygen species and lipid peroxidation in hepatic tissue level. Radiation caused remarked depletion of total glutathione (GSH) contents and decreases of antioxidant enzyme activities including superoxide dismutase, catalase, and GSH-reductase in hepatic protein levels, whereas pre-treatment with PGE significantly exerted to normalize them. Inflammatory cytokines including TNF- α , IL-1 β and IL-6 were notably increased in hepatic tissues due to radiation, and then these were efficiently attenuated by pre-treatment with PGE. Moreover, pre-treatment with PGE significantly blocked the apoptotic signals by measuring TUNEL assay, western blot, and gene expression levels in hepatic tissue.

Conclusion: Collectively, above findings evidenced that PGE beneficially prevent from RILI, and its corresponding mechanisms involved the inhibition of fat accumulation, oxidative stress, inflammatory cytokines, and apoptosis signals.

Contact: Hyeong-Geug Kim, winakim@dju.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.036>

P1.030

Development of Basic Technologies for the Domestic Cultivation of Herbal Medicine Resources at KIOM (Korea Institute of Oriental Medicine)



Young Min Kang, Byeong Cheol Moon,
Wook Jin Kim, Kyeong Suk Han, Ka Youn Lee

Korea Institute of Oriental Medicine

Purpose: Several species of medicines have been cultivated national widely in Korea. However, there were many problems if environmental factors could not be fixed in cultivation and analyzing useful compounds (alkaloids, terpenoids, phenolic compounds or others) from wild collecting plant materials. Development of basic technologies for the domestic cultivation of herbal medicine resources would be needed for propagation of important Korean herbal medicines, continually.

Methods: First of all, Authentication of medicinal plant species using DNA barcode techniques would be necessary and only proper plant species would be propagated quickly. Second, propagation technology would be either *in vitro* tissue cultures (callus, adventitious root, multiple shoot, and somatic embryo) or seed germination improvement (temperature, moisture, nutrients, etc) for optimized generation. Third, biotechnological approaches (abiotic/biotic elicitors, bioreactor, and single cell cloning) have been manipulated for enhanced metabolite productions and rapid propagation in Korean medicinal plants.

Results: Pinellia ternate, Polygonum multiflorum, Fritillaria verticillata, Asarum sieboldii, Trichosanthes kirilowii, Paeonia japonica, and Cimicifuga dahurica were described by the Korean Pharmacopoeia Tenth Edition (2012) about the origins of herbal medicines in Korea. They could provide for functional foods, treatment for specific diseases, and promoting human health. For *in vitro* tissue cultures, various plant media (MS, B5, CHU, LS, DJ, QL, NM, WPM, White, and AR) were tested and various temperatures were tested between 15 and 30 °C. To optimize propagation of important herbal medicinal plants were performed either *in vitro* tissue cultures and seed germination improvement, properly.

Conclusion: Therefore Korean medicinal plants were used to introduce and to emphasize about production of useful compounds and application of propagation of Korean medicinal plants in this report.

Contact: Young Min Kang, ymkang@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.037>

P1.031

Korean Constitutional Acupuncture: History, TheoryChang-hyun Han¹, Bong-Hyo Lee²¹ Korea Institute of Oriental Medicine² Department of Acupoint, College of Oriental Medicine, Daegu Haany University**Purpose:** The aim of this project is to arrange acupuncture treatments using the constitution theories.**Methods:** We collected articles on the constitution. We figured out the treatment method, the theoretical system, based on principle about the Korean Constitutional Acupuncture. The historical basis of these components were studied, along with the diagnostic and therapeutic skills necessary to begin applying this methodology**Results:** ○ Arrangement of the acupuncture treatments using the constitution theories - Eight constitution acupuncture - Taeguk acupuncture - 24 Meridian constitution acupuncture - 64 Constitution 640 meridian acupuncture - Oh-sang constitution acupuncture - Sa-am acupuncture based on Sa-sang constitution - Du-sol Sa-sang acupuncture**Conclusion:** Contribution to the standardization and systemization of the Five Elements acupuncture treatment. Problems and future research of Sa-sang constitution acupuncture**Contact:** Chang-hyun Han, chhan@kiom.re.kr<http://dx.doi.org/10.1016/j.imr.2015.04.038>

P1.032

Protective activity of Illicium verum against atherogenesis in ApoE^{-/-} mice

Sun Haeng Park, Yoon-Young Sung, Byunghee Choi, Ho Kyoung Kim

Korea Institute of Oriental Medicine

Purpose: *Illicium verum* Hook. fil. Illiciaceae (*Illicium v.*) has been traditionally used in herbal medicine for treating many inflammatory diseases, including skin inflammation and rheumatism. We investigated its use as a preventive agent against inflammatory and vascular diseases in a murine model of atherosclerosis using ApoE^{-/-} mice fed on a high-fat diet (HFD).**Methods:** We investigated the effect of *Illicium v.* on cytotoxicity, NF-κB activity, and adhesion molecule expression in TNF-α stimulated HASMCs. ApoE^{-/-} mice, fed a HFD and treated daily for 12 weeks by oral administration of either *Illicium v.* (100 or 200 mg/kg) or atorvastatin (10 mg/kg), were evaluated for atherosclerotic lesions and inflammatory responses by performing Oil red O and iNOS staining, respectively. Expression of inflammatory cytokines (i.e., NF-κB, TNF-α, IL-1β, COX, IκB-α, Iκk-α/β) and adhesion molecules in the aorta were measured by western blot analysis.**Results:** In TNF-α-stimulated HASMCs, *Illicium v.* treatment decreased NF-κB transcriptional activity, and NF-κB protein levels were reduced in a dose-dependent manner overa range of 10-100 μg/mL *Illicium v.* Also, *Illicium v.* attenuated the expression of adhesion molecules that are responsible for inflammation in these cells. In animal experiments, treatment with *Illicium v.* or atorvastatin counteracted the characteristic changes in body weight, blood pressure, and lipid levels seen in HFD-fed ApoE^{-/-} mice. In addition, *Illicium v.* treatment reduced aortic atherosclerotic plaque lesions and the immunoreactivity of iNOS activation. The aortic expression of inflammatory adhesion molecules and cytokines, which is characteristic of HFD-fed ApoE^{-/-} mice, was attenuated by 12-week treatment with daily oral administration of *Illicium v.* or atorvastatin, and the most potent effect was seen with the herbal tincture.**Conclusion:** The beneficial effects of *Illicium v.* are consistent with a significant decrease in the iNOS-mediated inflammatory response, resulting in reduction of inflammation-associated gene expression. Treatment with *Illicium v.* may be the basis of a novel therapeutic strategy for hyperlipidemia-atherosclerosis.**Contact:** Sun Haeng Park, sun7710@kiom.re.kr<http://dx.doi.org/10.1016/j.imr.2015.04.039>

P1.033

Acupuncture stimulation at HT7 alleviates maternal separation-induced behavioral changes in rat pupsSeungtae Kim¹, Dongsoo Kim¹, Hyongjun Jeon¹, Hi-Joon Park², Hyejung Lee¹¹ Pusan National University² Kyung Hee University**Purpose:** A possible application of acupuncture in alleviating depression-like behavioral changes and regulating serotonin signaling and neurotrophic factors in the prefrontal cortex (PFC) of maternally-separated rat pups was investigated in this study.**Methods:** On postnatal day 15, rat pups were maternally-separated and received acupuncture stimulation at acupoint HT7 or ST36 once a day for 7 days. On postnatal day 21, the tail suspension test was performed and the PFC was harvested. Tissue levels of serotonin (5-HT) and 5-hydroxyindole-3-acetic acid (5-HIAA) were then measured by high-performance liquid chromatography and expression of serotonin transporter (5-HTT), brain-derived neurotrophic factor (BDNF) and glial-derived neurotrophic factor (GDNF) were assessed by western blotting.**Results:** Levels of 5-HT and 5-HIAA were not significantly changed, but the 5-HIAA/5-HT ratio was significantly increased by maternal separation. The immobility time of maternally-separated rat pups was increased, and increased 5-HTT expression and reduced BDNF and GDNF levels were observed in the PFC. But acupuncture stimulation at HT7 alleviated the behavioral change and regulated the changes of 5-HIAA/5-HT ratio, 5-HTT, BDNF and GDNF.**Conclusion:** Acupuncture stimulation at HT7 can relieve maternal separation-induced changes, and we propose that regulation of the 5-HIAA/5-HT ratio and of 5-HTT expression

by acupuncture stimulation are important acupuncture-induced benefits in this animal model of depression.

Contact: Seungtae Kim, glycy95@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.040>

P1.034

Effects of Electro-acupuncture (EA) on the Behavioral changes and presenilin-1 (PS1) level in hippocampus of SAMP8 mice



Jin Cao¹, Xiangbo Han³, Xin Wang³, Yinshan Tang², Haijiang Yao³, Yuping Mo³, Wula Jia³, Liangyu Song³, Jing Jiang³, Yuan Zhou³, Wei Lv³, Quankai Jing³, Menghan Lu³, Qianfeng Shao³

¹ School of Acupuncture-Moxibustion and Tuina, Beijing University of Chinese Medicine

² The Second Affiliated hospital of Zhejiang University School of Medicine

³ School of Acupuncture-Moxibustion and Tuina, BUCM

Purpose: To observe the effects of EA on the expression of PS1 protein level in hippocampus of SAMP8 mice. Investigating the mechanism of EA in therapeutic intervention of Alzheimer Disease (AD).

Methods: Ten male SAMR1 mice as the Normal control group. Twenty male SAMP8 mice were randomly divided into Model group and EA group (n=10 in each group). EA was stimulated at Baihui (GV20) and Yintang (GV29) for 20 min once a day (2V, 1mA). After 15 days, learning and memorizing abilities of mice were detected through Morris water maze. Observe the morphologic changes of PS1 and related metabolites in hippocampus through immunohistochemistry. Detecting PS1 level in hippocampus through Western blot method.

Results: 1) Each group showed a significant difference in latency time in different days. 2) Compared with normal control group, Model group showed an increasing latency time and a decreasing swimming time to passing through the platform and quadrants ($P < 0.05$, $P < 0.01$), while EA group showed an obvious decreasing latency time ($P < 0.05$, $P < 0.01$) and an increasing swimming time ($P < 0.01$). 3) Immunohistochemical detection showed mice in EA group had a significant reduction in the expression of PS1 level in hippocampus while compared with the Model group. 4) Findings of Western blot revealed that compared with Model group, mice in Normal control group and EA group both had a reduction of PS1 content in hippocampus ($P < 0.05$).

Conclusion: EA could have a certain effect to improve the learning and memorizing abilities of SAMP8 mice and, to some extent, may be able to help prevent AD. However, the regulating effect of EA on PS1 level is much greater, this outcome could be seen as one of the mechanisms of treating AD.

Contact: Jin Cao, jade_cao@yeah.net

<http://dx.doi.org/10.1016/j.imr.2015.04.041>

P1.035

Effect of Electro-Acupuncture on Behavioral Changes, A β and LRP1 level in Cortex of APP/PS1 Transgenic Mice



Xin Wang, Jiawula Abulizi, Yuping Mo, Xiangbo Han, Jin Cao, Haijiang Yao, Liangyu Song, Yuan Zhou, Qianfeng Shao, Wei Lv, Quankai Jing, Menghan Lu

School of Acupuncture-Moxibustion and Tuina, Beijing University of Chinese Medicine

Purpose: To observe whether LRP1 can be improved by electro-acupuncture (EA) to strength the clearance of A β in APP/PS1 transgenic mice, and to explore the mechanism of the EA therapy for Alzheimer's disease.

Methods: Thirty-two 6-month-old APP/PS1 transgenic mice were randomly divided into model group and EA group, with sixteen C57BL/6 wild type mice as the normal control group. The Morris water maze was used to assess learning- memorize ability. Immunohistochemical method was used to observe the LRP1 and A β 1-42 expression in the cortex. A β 1-42 was detected by Enzyme-linked immunosorbent assays (ELISA) method and LRP1 was tested by Western Blotting in the cortex.

Results: The Morris water maze test showed the escape latency of model group increased, the number of platform- site crossover and the swimming distance in platform quadrant of model group were reduced compared with the control group ($P < 0.05$, $P < 0.01$), while the EA group could revise them ($P < 0.05$). The ELISA result showed that the A β 1-42 in the cortex of EA group obviously decreased compared with the model group ($P < 0.01$). The level of LRP1 in the model group were lower than that in the control group ($P < 0.01$), while the EA group could raise its expression ($P < 0.01$).

Conclusion: EA therapy can improve the learning- memorize ability of the APP/PS1 transgenic mice, decrease the level of A β in cortex of them. The mechanism may be related to the up-regulation of A β transport receptor LRP1.

Contact: Xin Wang, xinflare827@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.042>

P1.036

Effect on Electro-acupuncture Intervention on Hippocampus A β Stain and Ultrastructure in APP/PS1 Double Transgenic Rats



Jiawula Abulizi, Xin Wang, Yuping Mo, Xiangbo Han, Haijiang Yao, Jin Cao, Jing Jiang, Yuan Zhou, Liangyu Song, Wei Lv, Menghan Lu, Qianfeng Shao, Quankai Jing

School of Acupuncture-Moxibustion and Tuina, Beijing University of Chinese Medicine

Purpose: To observe the influence of the electro-acupuncture (EA) for APP/PS1 double transgenic rat on spatial learning- memorize behavior, hippocampal A β stain and ultrastructure.

Methods: Use 9-month-old APP/PS1 double transgenic rats according to the random assignment method divided into model group, the EA group and drug(AChE) group within 11 rats in each group, use the same months old rats with brood recessive gene as control group. Treatment was applied to "Baihui"(GV20) and "yongquan"(KI1) for 15mins, once every 2 days for 5weeks; For the drug group, 0.92 ml/g of acetylcholine enzyme was given by gavage, once a day. Morris water maze test the ability of learning-memorize in rats and space exploration ability, take the brain hippocampus to make immunohistochemistry and transmission electric lens and observe.

Results: Morris water maze test result shows that the model group compared with control group and EA group has statistically difference ($P < 0.05$); Space exploration experiment: model group in the region of the original platform quadrant (the third quadrant) activity time significantly lower than the control group and EA group ($P < 0.05$), Immunohistochemistry results shows that in model group and drug group has $A\beta$ stain on hippocampal; On transmission electron microscopy (sem) results showed that on both model group and drug group has senile plaque.

Conclusion: 10-month-old APP/PS1 transgenic rats has senile plaque; EA therapy can improve the APP/PS1 double transgenic rats learning-memorize ability, have good adjustment function to the hippocampus. These performance of EA could be improved AD's one of the mechanism of the behavior of learning and memorize ability.

Contact: Jiawula Abulizi, jack47656@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.043>

P1.037

Effect of Electro-acupuncture Intervention on Learning-memory Ability and Hippocampus Ultrastructure in APP/PS1 Double Transgenic Rats



Menghan lu¹, Jiawula Abulizi², Xin Wang², Yuping Mo², Xiangbo Han², Jin Cao², Haijiang Yao², Liangyu Song², Yuan Zhou², Qianfeng Shao², Wei Lv², Quankai Jing²

¹ Beijing University of Chinese Medicine

² College of Acupuncture and Massage, BUCM

Purpose: To investigate the effects of the electro-acupuncture (EA) for APP/PS1 double transgenic rat on both spatial learning- memorize behavior and hippocampal ultrastructure.

Methods: Divide 36 4-month-old APP/PS1 double transgenic rats into 3 groups, which are the model group, the EA group and the drug(AChE) group, by using the random assignment method. 12 4-month-old rats with brood recessive gene were taken as the control group. For the EA group, "Baihui"(GV20) and "yongquan"(KI1) were given treatment for 15 minutes every other day, lasting for 5 weeks. Gaviging with 0.92 ml/g of acetylcholine enzyme was given to the drug group. Test the learning-memorize ability and space exploration ability of the rats by using the Morris water maze. Observe slices of

the brain hippocampus CA1 area with transmission electron microscope.

Results: According to the results of the Morris water maze test, there is statistical difference between the model group and the control group ($P < 0.05$). Space exploration experiment: the activity time of the model in the region of the original platform quadrant (the third quadrant) is much lower than the control group ($P < 0.05$). The result from transmission electron microscopy shows that the micrangium, synapses and untrastructure of the control group are better than the model group.

Conclusion: EA therapy can be used to improve the learning-memorize ability of APP/PS1 double transgenic rats, and makes positive adjustment to the ultrastructure of hippocampus. These experiment results may be a mechanism of using EA therapy to improve AD rats' learning and memorize ability.

Contact: Menghan lu, lummhh@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.044>

P1.038

Bee venom suppresses the differentiation of preadipocytes and high fat diet-induced obesity through inhibiting adipogenesis



Se-yun Cheon¹, Kyung-Sook Chung¹, Kwang-Ho Lee², Hyo-Jin An¹

¹ Department of Pharmacology, College of Oriental Medicine, Sangji University

² Department of Acupuncture & Moxibustion, College of Oriental Medicine, Sangji University

Purpose: Bee venom (BV) is has been widely used in the treatment of some immune-related diseases. BV has been used traditionally for the relief of pain and the treatment of chronic inflammatory diseases. In addition, recent studies reported that BV inhibited proliferation of carcinoma cells via induction of apoptosis. In spite of large use, there is a shortage of documented evidence to demonstrate its medicinal utility against obesity.

Methods: In this study, we demonstrated the inhibitory effects of BV on adipocytes differentiation in 3T3-L1 cell and high fat diet (HD)-induced mouse model through inhibiting adipogenesis. Male C57BL/6 mice fed a HD for 8 weeks to induced obesity, and BV (0.1 mg/kg or 1 mg/kg) or saline were injection in the last 4 weeks.

Results: BV inhibited lipid accumulation by Oil red O staining without cytotoxicity in 3T3-L1 cell. Compared to saline-injected mice, BV-injected mice showed reduced body weight gain. BV inhibited adipogenesis by down-expression of transcription factors, CCAAT/enhancer-binding proteins (C/EBPs) and peroxisome proliferator-activated receptor gamma (PPAR- γ) using qRT-PCR and western blotting.

Conclusion: These findings showed that BV mediates anti-obesity/differentiation effects by suppressing obesity-related transcription factors. This research was supported by Basic Science Research Program through the National Research

Foundation of Korea (NRF) funded by the Ministry of Science, ICT & Future Planning (NRF-2014R1A1A1004790).

Contact: Se-yun Cheon, chunsay1008@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.045>

P1.039

Chicoric acid inhibits the production of pro-inflammatory cytokines through inhibition of NF- κ B signaling pathway in HMC-1 human mast cells



Na-Young Lee, Kyung-Sook Chung,
Hyo-Jin An

Department of Pharmacology, College of Oriental
Medicine, Sangji University

Purpose: A great number of people are suffering from allergic inflammatory disease such as asthma, atopic dermatitis, and sinusitis. Therefore discovery of drugs for the treatment of these diseases is an important subject in human health. Chicoric acid is a natural phenolic compound that has been reported to inhibit HIV integrase and to exhibit antioxidant activities. Although these biological effects of chicoric acid have been conducted, no anti-allergic inflammatory effect of chicoric acid has been reported in HMC-1 human mast cells.

Methods: HMC-1 human mast cells were incubated with chicoric acid (μ M) and/or phorbol 12-myristate 13-acetate (PMA) plus A23187. Cytokine production and relevant factors expression in activated HMC-1 cells were determined by enzyme-linked immunosorbent assay (ELISA), western blot and quantitative reverse transcription-polymerase chain reaction (qRT-PCR) analysis. Also, the involvement of the mitogen-activated protein kinases (MAPKs) and nuclear factor- κ B (NF- κ B) in activated HMC-1 cells were studied.

Results: Chicoric acid decreased expression of pro-inflammatory cytokines, such as tumor necrosis factor (TNF)- α , interleukin (IL)-6, and IL-1 β . The inhibitory effect of chicoric acid on these pro-inflammatory cytokines was related with c-Jun N-terminal kinases (JNK), and p38 MAPK, NF- κ B. We also found that chicoric acid blocked nuclear translocation of NF- κ B inhibiting the phosphorylation of I κ B α and suppressed NF- κ B transcriptional activity in stimulated HMC-1 cells.

Conclusion: Our results showed that chicoric acid down-regulates mast cell-derived allergic inflammatory reactions by blocking histamine release and expression of pro-inflammatory cytokines. In light of in vitro anti-allergic inflammatory effects, chicoric acid could be a beneficial anti-allergic inflammatory agent. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF-2014R1A1A2008663).

Contact: Na-Young Lee, lny4674@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.046>

P1.040

Water extract of Magnolia officinalis cortex Inhibits Osteoclastogenesis and Bone resorption by Downregulation of Nuclear Factor of Activated T Cells



Ki-Shuk Shim, Taesoo Kim, Hyunil Ha,
Chung-Jo Lee, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Magnolia officinalis cortex has been traditionally used to treat stomach and intestine diseases in Traditional Chinese Medicine. In this study, we investigated the effect of water extract of Magnolia officinalis cortex (WEMC) on osteoclast differentiation and function.

Methods: We examined the effect of water extract of Magnolia officinalis cortex (WEMC) in activator of nuclear factor- κ B ligand (RANKL)-induced osteoclast differentiation and resorption activity. Osteoclast differentiation of bone marrow-derived macrophages was determined by tartrate-resistant acid phosphatase activity assay. RANKL-related transcription factors and signaling factors were analyzed by Western blot and real-time PCR. Bone resorption function of mature osteoclasts was evaluated by pit formation assay. The in vivo effect of WEMC on RANKL-induced bone destruction model was investigated by bone loss model.

Results: WEMC inhibited osteoclast differentiation of osteoclast precursor cells induced by RANKL, a key cytokine for osteoclast differentiation. Gallic acid and honokiol were identified in WEMC as active constituents contributing to the inhibitory effect of WEMC on osteoclast differentiation. WEMC suppressed RANKL-induced activation of p38 and NF- κ B pathways and expression of c-Fos and nuclear factor of activated T cells cytoplasmic 1 (NFATc1), key transcription factors for osteoclast differentiation. Ectopic overexpression of a constitutive active form of NFATc1 rescued the anti-osteoclastogenic effect of WEMC. In addition, WEMC decreased bone resorbing activity of mature osteoclasts. Consistent with the in vitro results, WEMC significantly suppressed RANKL-induced osteoclastic bone resorption and trabecular bone loss in mice.

Conclusion: WEMC might have a therapeutic potential to treat pathological bone diseases by inhibiting osteoclastogenesis and bone resorption.

Contact: Ki-Shuk Shim, angeloshim@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.047>

P1.041

Phytochemical screening of Pure Chemical compounds by Off-line and On-line Methods Assay



Kwang Jin Lee, Min Jung Gu, Bo Hyoung Lee,
Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Generally, OMHs is very effective for anti-cancer, anti-inflammation and anti-virus. It also receives much attention

as drug, functional food and cosmetic material from lots of researchers. In this study, the antioxidant activity of 100 kinds' pure different standard chemical of oriental medicine herbs (OMHs) compounds has been investigated.

Methods: Also, a couple of compounds having noticeable antioxidant activity were screened, identified and quantified by off-line and on-line screening HPLC-ABTS assay.

Results: This work investigates applications of DPPH and ABTS assay for bioactivity screening of 100 different standard chemical, so that the IC50 rates of 17 more practical compounds are determined. The three most practical compounds (Galic acid, Quercetin, Caffeic acid) were screened, identified and quantified, using coupled off-line-ABTS and on-line HPLC-ABTS screening assay.

Conclusion: This result shows that there is a very small different of error between off-line-ABTS method and on-line screening HPLC-ABTS method. The shows that an on-line screening HPLC-ABTS assay can be a powerful technique for the rapid characterization of bioactivity compounds in plant extracts. Moreover, this result can be considered to be applicable to determinations of the basic antioxidant of OMHs and the data base of phytochemical. And use of information of the experiment should facilitate resistance to internal body stress by ROS.

Contact: Kwang Jin Lee, leekj@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.048>

P1.042

Guibitang, a traditional herbal medicine, induces apoptotic death in A431 cells by regulating the activities of mitogen-activated protein kinases

Nam-Hui Yim, Aeyung Kim, Won-Kyung Cho, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Guibi-tang (GBT), a traditional herbal formula, mainly has been shown to possess immune regulation, antioxidant and protective effect of the gastric mucosa. In the present study, we explored the mechanism of chemopreventive/chemotherapeutic efficacy of GBT against human squamous cell carcinoma and proved the efficacy of GBT through performing in vivo xenograft assay.

Methods: For analysis of the constituents of GBT, high performance liquid chromatography (HPLC)-DAD system was performed. To detect the anticancer effect of GBT, cell viability assay, caspase activity assay, cell cycle analysis, DNA fragmentation analysis, and Western blot analysis were performed in A431 cells. Furthermore, the inhibitory effect of tumor growth by GBT was evaluated in athymic nude mice inoculated with A431 cells.

Results: GBT showed cytotoxicity against three different squamous cell carcinoma, especially on A431 cells. GBT induced the apoptosis through activating caspase-8 in A431 cells. Inhibition of A431 cell growth by GBT was caused by G1-phase arrest through regulating proteins associated with cell cycle progression including cyclin D1, p21, and p27. Furthermore, GBT regulated the activation of mitogen-activated

protein kinases (MAPKs) including extracellular signal-regulated kinase (ERK), p38 and c-Jun NH2-terminal kinase (JNK), and activated p53, a tumor suppressor protein. The inhibitors of MAPKs respectively blocked GBT-induced cell viability, indicating that MAPKs signals play critical role in cell death caused by GBT. In vivo xenografts, daily oral administration of 600 mg/kg GBT efficiently suppressed the tumorigenic growth of A431 cells without side effects.

Conclusion: We first elucidate that GBT stimulates the apoptotic signaling pathway and suppresses the proliferation of A431 cells via regulating MAPKs signaling pathway. Furthermore, GBT significantly inhibits tumor growth of A431 cells without causing systemic toxicity. Based on our study, GBT could be useful in the management of skin cancer as chemoprevention and chemotherapy remedy.

Contact: Nam-Hui Yim, nhyim23@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.049>

P1.043

Effect of Simiao Yong'an Decoction on Joint Arthritis of Type II Collagen-induced Arthritis in Rats



Ya-nan Wang, Hui Liu, Ji-sheng Zhang, Wei-guo Ma, Yan Lu, Ya-nan Wang, Feng-xian Meng

Dongfang Hospital, The Second Clinical Medical College of Beijing University of Chinese Medicine

Purpose: To address the efficacy of Simiao Yong'an decoction on the therapy of collagen-induced arthritis (CIA) in rats and identify the mechanism.

Methods: 36 SD rats were randomly divided into 6 groups including control group, model group, positive group, and high-, medium-, low- dose groups of Chinese medicine Simiao Yong'an decoction. The molding method was injecting 0.2 mg collagen on the root of tail each one. Control group and model group were daily gavaged with distilled water (10 ml/kg / d), positive control group was daily gavaged with leflunomide by 1.9 mg/kg. High-, medium-, low-dose group of Chinese medicine was daily gavaged with Simiao Yong'an decoction by 4.2 g/(kg-d), 2.1 g/(kg-d), 1.05 g/(kg-d), ig 12 weeks. The arthritis index(AI) were observed at 0,2,4,6,8,10 and 12 weeks after treatment. The joint pathological changes were observed at the end of treatment. Levels of IL-6,IL-17and TNF- α in serum were examined by ELISA, mRNA transcription levels of IL-6,IL-17and TNF- α in synovial were detected by RT-PCR.

Results: The AI of rats in positive group, and high-, medium-, low- dose groups of Chinese medicine Simiao Yong'an decoction had significantly improvement compared with that in model group($P<0.05$, $P<0.01$). The ankle joint cartilage pathological had an improvement in in positive group, and high-, medium- Chinese medicine groups as compared with model group. mRNA expression of IL-6 and TNF- α were down-regulated in all treatment groups significantly ($P<0.01$) compared with the model group. mRNA expression of IL-17 were down-regulated significantly in positive group, and high-, medium-dose groups of Chinese medicine($P<0.01$).



Protein expression of IL-6 and IL-17 were down-regulated in all treatment groups significantly ($P < 0.01$). Protein expression of TNF- α were down-regulated in positive group and high-dose groups significantly ($P < 0.01$).

Conclusion: Simiao Yong'an decoction shows a certain therapeutic effect on CIA rats, its anti-inflammatory action mechanism may be achieved by reducing expression of IL-6, IL-17 and TNF- α .

Contact: Ya-nan Wang, liuo9@sina.com

<http://dx.doi.org/10.1016/j.imr.2015.04.050>

P1.044

Influence of baicalein on pharmacokinetics of ciprofloxacin after single oral administration in rats



Youn-Hwan Hwang, Dong-gun Kim,
Hye Jin Yang, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Baicalein from Baikal skullcap is a potent antibacterial agent with broad-spectrum activity. The combination of baicalein and ciprofloxacin can be an excellent antibacterial chemotherapy against multi-drug resistance bacteria. We investigated the effect of baicalein on the pharmacokinetics of ciprofloxacin in rats.

Methods: Baicalein and ciprofloxacin were orally co-administered to rats. Pharmacokinetic data were estimated by non-compartmental model.

Results: Baicalein significantly decreased $AUC_{0 \rightarrow \infty}$ of ciprofloxacin after oral administration ($P < 0.05$). The relative bioavailability (Frel) of ciprofloxacin after co-administration of baicalein decreased more than approximately 30% in a dose-dependent manner.

Conclusion: Based on our findings, the co-administration of baicalein may have clinical implications on the dosing of ciprofloxacin or other quinolone antibiotics.

Contact: Youn-Hwan Hwang, hyhhwang@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.051>

P1.045

Hepatoprotective Effect of Herb Formula KIOM2012H Against Nonalcoholic Fatty Liver Disease



Hwayong Park, Youn-Hwan Hwang,
Dong-Gun Kim, Jongwook Jeon, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Nonalcoholic fatty liver disease is hepatic ailment of which incidence is rapidly increasing due to dietary hypernutrition and following obesity. Fatty liver disease can lead to steatohepatitis, fibrosis, cirrhosis, and even cancer, which is associated with various complications. Discovering effective natural materials and herbs can be alternative and complementary medical treatment in addition or instead of current chemical pharmaceuticals.

Methods: To develop effective natural agent for nonalcoholic fatty liver disease, we formulated combination of four herb mixture (KIOM2012H) and observed lipid-lowering efficacy. Inhibitory effect of KIOM2012H on free fatty acid-induced lipid accumulation, triglyceride contents, and gene expressions were analyzed in HepG2 cells. Using high fat diet-fed mice, body weight changes, gross liver appearances, hepatic triglyceride contents, and gene expressions were observed.

Results: KIOM2012H dose-dependently inhibited lipid accumulation and gene expressions involved in lipogenesis and related regulators. Experimental animals also showed decrease of body weight changes and lipid-associated physiological parameters.

Conclusion: Present study shows that KIOM2012H has alleviating effect on fatty acid and lipid accumulation, and therefore can be applied for development of new therapeutic pharmaceuticals for treatment of nonalcoholic fatty liver disease using natural products and herbs.

Contact: Hwayong Park, uofaz@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.052>

P1.046

Epimedium koreanum Nakai displays broad spectrum of antiviral activity in vitro and in vivo by inducing cellular antiviral state



Won-Kyung Cho¹, Jong-Soo Lee²,
Jin Yeul Ma¹

¹ Korea Institute of Oriental Medicine

² College of Veterinary Medicine, Chungnam National University

Purpose: The objective of this study was to determine the broad spectrum of antiviral activity of the total aqueous extract of *Epimedium koreanum Nakai* in vitro and in BALB/c mice.

Methods: Green Fluorescent Protein (GFP)-tagged viruses including Influenza A (A/PuertoRico/8/34(H1N1))(PR8-GFP), NDV (Newcastle Disease Virus)-GFP, VSV (Vesicular Stomatitis Virus)-GFP, Herpes Simplex Virus and Challenge viruses [A/Aquaticbird/Korea/W81/2005(H5N2), A/PR/8/34(H1N1), A/Aquaticbird/Korea/W44/2005(H7N3), and A/Chicken/Korea/116/2004(H9N2)] were used to examine the antiviral efficacy of *Epimedium koreanum Nakai*. Antiviral effects were evaluated in viral replication, cell viability and viral gene expression level. Immune stimulating effects of *Epimedium koreanum Nakai* were determined using ELISA for cytokines such as murine tumor necrosis factor- α (TNF- α), interleukin (IL)-6 and interferon (IFN)- β . In vivo antiviral effect on influenza virus was tested using oral administration of extracts to mice intra-nasally infected with 50% mouse lethal dose (MLD50) of H1N1, H5N2, H7N3 or H9N2.

Results: *Epimedium koreanum Nakai* significantly suppressed the replication of PR8, VSV, HSV and NDV in RAW264.7 and HEK293T cells. *Epimedium koreanum Nakai* induced the production of type I interferon and pro-inflammatory cytokines at both the mRNA and protein levels and the transcriptional levels of various ISGs and antiviral genes. Additionally, the extract induced the phosphorylation of

various molecules present in the type I IFN signaling pathway. The oral administration of Epimedium Koreanum Nakai exhibited both preventive and therapeutic effects on BALB/c mice against lethal doses of highly pathogenic influenza A subtypes containing H1N1, H5N2, H7N3 and H9N2.

Conclusion: Our results clearly indicated that Epimedium Koreanum Nakai contains components that play roles as immunomodulators and may be potential candidates for new antiviral drugs.

Contact: Won-Kyung Cho, wkcho@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.053>

P1.047

The activity of the primary auditory cortex and auditory pathway under acoustic stimulation: a MEMRI Study

Hyungjun Kim^{1,2}, Junghun Cho³,
Young R. Kim⁴, Youngkyu Song¹,
Song-I Chun¹, Ji-Yeon Suh¹, Jeong Kon Kim⁵,
Yeon-Hee Ryu², Sun-Mi Choi²,
Hyungjoon Cho³, Gyungoo Cho¹

¹ Division of MR, Korea Basic Science Institute, Ochang-eup, Chungbuk, South Korea

² Division of Medical Research, Korea Institute of Oriental Medicine, Yuseong-gu, Daejeon, South Korea

³ School of Nano-Bioscience and Chemical Engineering, UNIST (Ulsan National Institute of Science and Technology), Ulsan, South Korea

⁴ Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, United States of America

⁵ Asan Medical Center, School of Medicine, Ulsan University, Seoul, South Korea

Purpose: Structural and functional features of the cerebral cortical layers have been extensively explored in neuroscience research. We used manganese-enhanced MRI, a non-invasive method for examining stimulus-dependent activity in the whole brain, to investigate the activity in the layers of the primary auditory cortex and the associated pathway under acoustic stimulation

Methods: Male Sprague-Dawley rats, either with or without exposure to auditory stimulation, were scanned before and 24–29 hour after systemic MnCl₂ injection. Three-dimensional data set of T1-weighted images was acquired using a modified driven equilibrium Fourier transform (MDEFT) pulse sequence. Cortex linearization and layer-dependent signal extraction were subsequently performed for detecting layer-specific cortical activity.

Results: We found stimulus-dependent activity in the deep layers of the primary auditory cortex and the auditory pathways. The primary sensory and visual cortices also showed the enhanced activity, whereas the olfactory pathways did not. Regions with significantly greater activity in the

stimulated rat are indicated with color maps ranging between red to yellow. These areas included auditory structures such as cochlear nucleus (CN), superior olive (SO), lateral lemniscus (LL), inferior colliculus (IC), medial geniculate body (MGB), and primary auditory cortex (Aud).

Conclusion: These results suggest the possibility that even though the primary auditory, sensory, and visual cortices showed enhanced activity to the auditory stimulation, these cortices had different associations for auditory processing in the brain network.

Contact: Yeon-Hee Ryu, heyjoon73@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.054>

P1.048

Treatment with diluted bee venom reduces both spinal inflammatory responses and central neuropathic pain behaviors after spinal cord injury in rats

Suk-Yun Kang¹, O. Sang Kwon¹,
Sun Hee Yeon¹, Seong Jin Cho¹,
Kwang-Ho Choi¹, Jang-Hern Lee²,
Yeonhee Ryu¹

¹ Korea Institute of Oriental Medicine

² Seoul National University

Purpose: Chemical acupuncture with diluted bee venom (DBV) has been traditionally used in eastern medicine to treat several inflammatory diseases or chronic pain conditions. We have previously shown that DBV had a potent anti-inflammatory and anti-nociceptive efficacy in several rodent pain models. In the present study, we investigated whether the treatment of DBV into Zusanli (ST36) acupoint suppressed intraspinal inflammatory responses as well as allodynic and hyperalgesic behaviors in the spinal cord injury (SCI) model of rats.

Methods: SCI was induced by T13 spinal cord hemisection after laminectomy. SCI surgery produced acute migration of the neutrophils and the dramatic increment of myeloperoxidase (MPO) activity in the spinal cord lesions at 24 hours following hemisection. In addition, the mechanical allodynic and thermal hyperalgesic behaviors were developed in the bilateral hind paws throughout the 28 days of experiment. Subcutaneous injection (0.25 mg/kg) of DBV was applied into Zusanli acupoint twice a day for five days.

Results: DBV treatment significantly suppressed neutrophils infiltration and the MPO activity at 24 hours after hemisection. Moreover, mechanical allodynia and thermal hyperalgesia were relieved throughout the experimental period. DBV injection also showed the facilitated motor function recovery as indicated by the Basso-Beattie-Bresnahan rating score. Finally, spinal glial fibrillary acidic protein (GFAP) expression, a marker for astroglial activation, was also suppressed by DBV injection.

Conclusion: These results demonstrated that the repetitive application of DBV into acupoint not only enhanced functional recovery but also reduced acute-inflammatory response and neuropathic pain behavior after SCI. This study suggests that



DBV acupuncture can be a potential clinical therapy for management of SCI.

Contact: Suk-Yun Kang, sy8974@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.055>

P1.049

Studying the effects of Hoixuanhoan remedy for changes in function of local heating injured rat testes



Doan Minh Thuy¹, Truong Viet Binh¹, Lam Quan Hoang², Hung Vu Manh²

¹ Vietnam University of Traditional Medicine

² Vietnam Military Medical University

Purpose: To study the effect of HXH remedy on serum testosterone level (STL) and sperm quantity and quality in adult male rats

Methods: The 60 male rats (*Ratus norvegicus*) homogen age of 3 months, were injured their testes by hot water 430C for 30 minutes. After all these rats were divided into 03 groups: Control group: 20 rats: was received placebo; the study group I: 20 rats taken one dose of HXH (1.5 g/kg BW); The study group II: 20 rats taken double dose of HXH (3,0 g/kgBW); The rats were kept taking dose for 30 days. On the 35th day and on the 70th day, the rats were killed to test their STL and semen analysis.

Results: On the 35th day: the HXH remedy has increased sperm concentration in the group I was: 52.87 ± 42.37 ($\times 106/\text{ml}$); in the group II was 75.82 ± 48.28 ($\times 106/\text{ml}$) when compared none of the controle ones ($p < 0.01$). STL in the group I was 27.29 ± 6.36 nmol/l, the group II was 21.22 ± 6.89 nmol/l compared to 17.58 ± 4.46 nmol/l of the controle ones ($p < 0.05$). On the 70 thday: the HXH remedy has increased sperm concentration for group I: 72.40 ± 39.75 ($\times 106/\text{ml}$); for group II: 113.33 ± 13.23 ($\times 106/\text{ml}$) compared to 63.89 ± 41.74 ($\times 106/\text{ml}$) of the controle ones ($p > 0.05$). The percentage of sperm progressive at group I was 14.50 ± 10.54 , at group II was $14.56 \pm 7,80$, compared to 10.78 ± 9.62 of the controle ones ($p < 0.05$). STL and sperm abnormal morphology were significantly different compared to the controle ones.

Conclusion: HXH to make STL increase significantly, to increase sperm population in both quantity and quality significantly compared to the controle ones.

Contact: Doan Minh Thuy, doanminhthuyvn@yahoo.com

<http://dx.doi.org/10.1016/j.imr.2015.04.056>

P1.050

Oryeongsan inhibits LPS-induced production of inflammatory mediators via blockade of the NF- κ B and MAPK pathways in macrophage cells



You-Chang Oh, Yun Hee Jeong, Won-Kyung Cho, Jeong-Ho Ha, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Oryeongsan (OR) is an herbal medication used in east-Asian traditional medicine to treat dysuresia, such as urinary frequency, hematuria, and dysuria due to renal disease and chronic nephritis. Recent studies showed that protective effect against acute gastric mucosal injury and an inhibitory effect on the renin-angiotensin-aldosterone pathway of OR. However, its effect on inflammation still remains unknown. In this study, to provide insight into the biological effects of OR, we investigated their effects on lipopolysaccharide (LPS)-mediated inflammation in the RAW 264.7 macrophage cells.

Methods: We investigated the pharmacological and biological effects of OR on the production of pro-inflammatory cytokines, inflammatory mediators, and related products through Enzyme-linked immunosorbent assay (ELISA), reverse transcription-polymerase chain reaction (RT-PCR) and Western blot analysis. Also, we examined the activation and suppression of nuclear factor (NF)-kappaB and mitogen-activated protein kinases (MAPKs) pathways in LPS-stimulated macrophages via Western blot analysis in order to explore inhibitory mechanism of OR.

Results: OR had anti-inflammatory effects by inhibiting the production of nitric oxide (NO), tumor necrosis factor (TNF)-alpha, interleukin (IL)-6, and IL-1beta. In addition, it strongly suppressed cyclooxygenase (COX)-2 and inducible nitric oxide synthase (iNOS), NO synthesizing enzymes. It also induced heme oxygenase (HO)-1 expression and inhibited NF- kappaB signaling pathway activation and phosphorylation of MAPKs.

Conclusion: We further demonstrate the anti-inflammatory effects and inhibitory mechanism of OR in LPS-stimulated macrophages for the first time. OR contains strong anti-inflammatory activity and affects various mechanism pathways including NF-kappaB, MAPKs and HO-1. Our results suggest that OR has potential value to be developed as an inflammatory therapeutic agent from a natural substance.

Contact: You-Chang Oh, ulivuli@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.057>

P1.051

Acupuncture treatment alleviates motor symptoms of MPTP model of Parkinson's disease by decreasing tonic GABA release from reactive astrocytes



Min-Ho Nam¹, Kwang Seok Ahn¹,
C. Junstin Lee²

¹ Kyung Hee University

² KIST

Purpose: Acupuncture has been used as a therapeutic tool in East Asia for over 2000 years. Acupuncture treatment has been shown to be effective for some neurological diseases including Parkinson's disease (PD). Previous acupuncture studies on PD have mostly focused on figuring out how acupuncture protects from toxins such as MPTP. This approach is based on the broadly accepted assumption that neurons in substantia nigra pars compacta (SNpc) are irreversibly degenerated in PD. However, we have recently discovered that astrocytic GABA which inhibits dopaminergic (DA) neurons can induce PD motor symptoms in the absence of neuronal death. Therefore, whether post-acupuncture treatment following MPTP administration can alleviate motor symptoms or not remains to be tested.

Methods: Immunohistochemistry, electrophysiology and vertical grid test were used.

Results: Here we report that acupuncture treatment at GB34 after 48 hours after MPTP administration significantly reduces astrocytic reactivity and increased GABA release. These changes lead to a significant rescue of DA neuronal firing and release of dopamine in striatum. Consequently, acupuncture treatment alleviates the motor symptoms.

Conclusion: Our study provides the first evidence that acupuncture acts through modulation of astrocytic reactivity and gliotransmitter release to alleviate PD motor symptoms.

Contact: Min-Ho Nam, dr.namminho@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.058>

P1.052

In vitro anti-inflammatory effect of Sinbaro3 pharmacopuncture



Eun-Jee Kim, Min-Jeong Kim, Jae-Woong Lee,
Jinho Lee, In-Hee Lee

*Jaseng Spine and Joint Research Institute, Jaseng
Medical Foundation*

Purpose: The anti-inflammatory effect of Harpagophytum procumbens has been well-established in previous studies. The major chemical constituents of Harpagophytum are iridoid glycosides (primarily harpagoside, harpagide, and procumbide). Harpagophytum procumbens is widely used in African indigenous medicine, and use in Korean medicine and phytomedicine is also steadily on the rise for arthritis, neuralgia, poor blood circulation, and rheumatism. "Sinbaro3 pharmacopuncture" is produced with Harpagophytum

procumbens and used to treat degenerative arthritis at Jaseng Hospital of Korean Medicine. This study investigated the in vitro anti-inflammatory effect of Sinbaro3 pharmacopuncture on RAW 264.7 cell line to assess its anti-arthritic effect.

Methods: We investigated nitric oxide (NO) concentration, an indicator of inflammation, to evaluate the anti-inflammatory effect of Sinbaro3 in mouse macrophage RAW 264.7 cell line. RAW 264.7 cell line was cultured in DMEM-10 (growth medium with FBS 10%, antibiotic 1%), and an inflammatory response was induced using lipopolysaccharide (LPS) 1 µg/mL, then treated with Sinbaro3 pharmacopuncture at various concentrations (50, 100, 200, 400, and 800 µg/mL) under the hypothesis that Sinbaro3 would inhibit NO production in a concentration dependent manner. We also assessed cytotoxicity of LPS with Sinbaro3 pharmacopuncture through MTT assay to ensure validity of the experiment.

Results: RAW264.7 cell line displays higher levels of cell differentiation with greater inflammatory response morphologically, and our results presented greater cell differentiation at lower concentrations of Sinbaro3 pharmacopuncture compared to higher concentrations, indicating concentration dependent NO inhibition. MTT assay results showed that Sinbaro3 pharmacopuncture did not affect cell viability, while the LPS-treated control exhibited 66% viability.

Conclusion: Sinbaro3 pharmacopuncture was shown to possess potent anti-inflammatory effects. Further studies will be conducted to determine additional effects and the underlying mechanism of its anti-inflammatory effects using inflammatory cytokines such as IL-6, IL-1β, and prostaglandin-E2.

Contact: Eun-Jee Kim, letmelove57@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.059>

P1.053

Optical monitoring of pain relief after electroacupuncture with different stimulation parameters in neuropathic rats



Bae Hwan Lee¹, Jin-Hun Sohn²,
Myeounghoon Cha¹

¹ Department of Physiology, Yonsei University
College of Medicine

² Department of Psychology, Chungnam Nat'l
University

Purpose: Injury to the peripheral nerve causes physiological changes in the primary afferent neurons. Pain symptoms associated with peripheral nerve injury may reflect changes in the excitability of the nervous system, including the spinothalamic tract. The present study was conducted to monitor the changes in cortical excitability using optical imaging with a voltage-sensitive dye in neuropathic rats after electroacupuncture (EA) stimulation with different parameters.

Methods: Under pentobarbital anesthesia, male Sprague-Dawley rats were subjected to neuropathic surgery with tight ligation and cutting of the tibial and sural nerves of the left hindpaw. Behavioral tests for mechanical and cold allodynia were performed for two weeks after the operation. Then, the rats were re-anesthetized with urethane and the skull was

partially removed for optical imaging. The exposed surface of the cortex was stained with voltage-sensitive dye for 1 hour. After 10 minutes of EA stimulation with low frequency/high intensity or high frequency/low intensity on Zusanli (ST36) and Yinlingquan (SP9), optical signals were recorded from the primary somatosensory (SI) cerebral cortex using optical imaging.

Results: The displayed cortex images showed propagated and amplified neural activities in the SI cortex area after electrical stimulation of the peripheral receptive field of nerve-injured rats. After EA stimulation with either low frequency/high intensity or high frequency/low intensity, optical signals and the area of activation in the SI cortex decreased substantially and were followed by time-dependent recovery.

Conclusion: This study provides solid evidence that EA stimulation with low frequency/high intensity or high frequency/low intensity has similar inhibitory effects on the excited neuronal signaling caused by painful stimuli. This research was supported by the Basic Science Research Program through the National Research Foundation (NRF) funded by the Ministry of Science, ICT & Future Planning (No. 2014R1A2A2A04004407).

Contact: Bae Hwan Lee, bhlee@yuhs.ac

<http://dx.doi.org/10.1016/j.imr.2015.04.060>

P1.054

Neuroprotective effects of Liriope platyphylla extract against H₂O₂-induced cytotoxicity in the human SH-SY5Y neuroblastoma cells



Hee Ra Park, Heeun Lee, Hwayong Park, Jong Wook Jeon, Won-Kyung Cho, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Oxidative stress is involved in neuronal cell death and mitochondrial dysfunction in neurodegenerative diseases. Liriope platyphylla (LP) has been suggested to have anti-inflammation, anti-bacterial, and anti-cancer effects. However, neuroprotective effects of LP on the neuronal cells are still unknown. In this study, we examined whether LP ethanolic extract (LPE) had neuroprotective effect on human SH-SY5Y neuroblastoma cells against hydrogen peroxide (H₂O₂)-induced cell injury.

Methods: To test neuroprotective effects of LPE, we performed cell viability assay and western blot analysis. In addition, mitochondrial membrane potential (MMP) and oxidative stress were performed to evaluate the anti-apoptotic and anti-oxidant effects.

Results: Pretreatment of LPE significantly protected the H₂O₂-induced decrease of SH-SY5Y cell viability. Increased intracellular oxidative stress and mitochondrial dysfunction by H₂O₂ was attenuated by pretreatment of LPE, resulted in prevented SH-SY5Y cell injury. Treatment of 100 μM H₂O₂ significantly induced Poly [ADP-ribose] polymerase (PARP) and caspase-3 cleavage which is blocked by LPE. We found that p38 activation was involved in neuroprotective effects of LPE. These results suggest that LPE has neuroprotective effects against H₂O₂-induced apoptotic cell death by modulation of p38 activation in the SH-SY5Y cells.

Conclusion: Current findings suggest that LPE protects SH-SY5Y cells from H₂O₂-induced cell injury through inhibition of apoptosis, oxidative stress and mitochondrial dysfunction and by modulation of p38 MAP kinase. Therefore, LPE has potential neuroprotective effects which may be neuroprotective in neurodegenerative diseases and aging-related dementia.

Contact: Hee Ra Park, hrpark@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.061>

P1.055

Combined Effects of Manilkara zapota L. with Metformin of Blood Glucose Levels in Rats



Cikra Ikhda, Christiyani Octavia

Institute of Health Science Bhakti Wiyata

Purpose: Research purposes to determine the interaction combination juice of Manilkara zapota L. and metformin.

Methods: Research used the white rat's for the experience ages 2-3 month weight account 100-150 gram for about 18 rat's divide into 6 groups. (I) negative controls (aquadest), (II) juice of Manilkara zapota L. 18,2 g/kgBB, (III) metformin 50 mg/kgBB, (IV) metformin 100 mg/kgBB, (V) combination juice of Manilkara zapota L. and metformin 50 mg/kgBB, and (VI) combination juice of Manilkara zapota L. and metformin 100 mg/kgBB. Data collected after treatment in 4 hours with in interval 1 hours. Data analysis used repeated ANOVA supported with Duncan test.

Results: The result shown that percent reduce of group I, II, III, IV, V and IV are 25,51±4,79; 36,42±17,69; 18,14±9,79; 51,67±20,34; 25,81±2,63; 28,05±14,06, respectively.

Conclusion: In conclusion that the combination juice of Manilkarazapota L. and metformin can decreasing of metformin effect.

Contact: cikra ikhda, cikranursanianto@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.062>

P1.056

Effects of Water extract of Seahorse Hippocampus on testosterone secretion in male mice



Byung Chun Park, Kyung Jun Shim, Ha Young Kim, Do Rim Kim, Mun Seog Chang, Seong Kyu Park

Department of prescriptionology, College of Korean Medicine, Kyung Hee University

Purpose: Testosterone is essential for normal male fertility, controlling both the initiation and maintenance of spermatogenesis. Therefore, testosterone level is important factor in achieving male fertility.

Methods: In this study, to examine effects of Water extract of Seahorse Hippocampus (WSH) on sperm parameter and testosterone level, we examined sperm parameters and measured testosterone level. C57BL/c mice were divided into five groups (the normal group, cyclophosphamide (CP)

only-treated group and several concentrations of WSH and CP (100 mg/kg of CP) treated group for the same period.

Results: WSH has effect on absolute and relative testes weight, sperm count, sperm motility and serum testosterone level in CP treated mice. CP and 100, 500, 1000 mg/kg of WSH treatment groups significantly increased the testosterone levels by 144.38, 142.73, 154.96% compared to the only-treated group in the mouse serum.

Conclusion: Our results suggest that WSH plays an important role in the male reproductive function by improving serum testosterone level.

Contact: Byung Chun Park, kakurakuka@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.063>

P1.057

Effects of *Rosae Laevigatae Fructus* on the cyclic AMP response element modulator (CREM) expression during spermatogenesis



Hojin Lee, Ho Chul Lee, Ha Young Kim,
Do Rim Kim, Bong Jae Choi, Seong Kyu Park,
Mun Seog Chang

*Department of prescriptionology, College of Korean
Medicine, Kyung Hee University*

Purpose: Spermatogenesis is a remarkably complex and specialized process of testis specific genes expression and germ cell metamorphosis. To investigate the effects of *Rosae Laevigatae Fructus* (RLF) on CREM expression, C57BL/c male mice were divided into five groups, the normal group, cyclophosphamide (CP) only-treated group and RLF with CP (100, 500, 1000 mg/kg of RLF and 100 mg/kg of CP, respectively) treated group for five weeks.

Methods: RT-PCR and Western blotting assays were performed in this study.

Results: In our results, CP only treated group was decreased in CREM expression than that of the vehicle treated group (68.0%, $p < 0.05$), while the CP and 1000 mg/kg of RLF treated groups was increased than that in the CP only treated group (84.7%, $p < 0.05$). Also, RLF was increasing sperm motility in a statistical significant manner.

Conclusion: In conclusion, RLF could play an efficient role in improving sperm motility and CREM expression in testes, especially for CP induced infertile mice.

Contact: Hojin Lee, dorim@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.064>

P1.058

Characteristics of the thermal stimuli produced by ultrasonic moxas with plane surfaces



Gwansuk Kang, Min Joo Choi

Jeju National University

Purpose: This study considers simulation on the thermal distribution of the target tissue exposed to an ultrasonic moxa whose surface is flat. The present simulation aimed to test the

fluence of the diameter and frequency of the ultrasonic moxa on the thermal distribution.

Methods: The acoustic field from the ultrasonic moxa and the resulting thermal distributions were calculated using a FEM method with PZFlux (Version 3.0, Weidlinger Associates Inc, USA). The diameters considered were 5, 10, 15, and 20 mm to cover those of traditional indirect moxas and the frequency ranged from 1 to 2, 3, 4, and 5 MHz.

Results: The simulation results showed that, even though the ultrasonic transducer has plane surfaces, the acoustic field produced by the moxa have a natural beam focus whose location was determined by the diameter and frequency, as expected. Accordingly the subdermal thermal distribution was affected by the diameter and frequency, indicating the careful choice of the parameters are of importance to meet the clinical requirements of moxibustion.

Conclusion: The modification of the transducer surface and placing ultrasonic coupling pad were discussed to actively control the location of the thermal stimulus by an ultrasonic moxa.

Contact: Gwansuk Kang, cybersys@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.065>

P1.059

Analgesic Effect of Electroacupuncture on Paclitaxel-induced Neuropathic Pain via Spinal Opioidergic and Adrenergic Mechanisms in Mice



Jung-Wan Choi¹, Suk-Yun Kang²,
Jae-Gyun Choi³, Dong-Wook Kang³,
O Sang Kwon², Sun Hee Yeon²,
Seong Jin Cho², Kwang-Ho Choi²,
Yeonhee Ryu², Hyun-Woo Kim³

¹ *Chungnam National University School of
Medicine / Korea Institute of Oriental Medicine*

² *Korea Institute of Oriental Medicine*

³ *Chungnam National University School of
Medicine*

Purpose: This study was designed to determine the antinociceptive effect and related neuronal mechanism of electroacupuncture (EA) on the paclitaxel (PTX)-induced neuropathic pain in mice.

Methods: PTX (4 mg/kg, i.p.) was administered once a day for 5 consecutive days to induce neuropathic pain. EA stimulation (2 mA, 2 Hz, 30 min) was applied at the ST36 acupoint bilaterally once every 2 days.

Results: Repeated EA stimulation significantly attenuated PTX-induced mechanical allodynia and thermal hyperalgesia. In a separate set of experiment, antinociceptive effect of single EA stimulation at a day 8 after PTX treatment was reduced by intrathecal pretreatment with naloxone (opioid receptor antagonist), idazoxan (alpha2-adrenoceptor antagonist) or propranolol (beta-adrenoceptor antagonist), but not prazosin (alpha1-adrenoceptor antagonist). Moreover, EA remarkably suppressed the PTX-enhanced phosphorylation of NMDA receptor NR2B subunit in spinal dorsal horn and intrathecal

pretreatment of naloxone, idazoxan or propranolol blocked the effect of EA.

Conclusion: In conclusion, EA stimulation at the ST36 acupoint significantly diminished PTX-induced neuropathic pain in mice via the mediation of spinal opioid receptor, alpha2- and beta-adrenoceptors.

Contact: Jung-Wan Choi, cjw214@nate.com

<http://dx.doi.org/10.1016/j.imr.2015.04.066>

P1.060

Epimedii Herba enhances reproductive function through induction of cyclic AMP-responsive element modulator expression in infertile male mice



Kyujin Chung, Jin Hyoungh Cho, Ji Eun Lee, Ha Young Kim, Do Rim Kim, Seong Kyu Park, Mun Seog Chang

Department of Prescriptionology, College of Korean Medicine, Kyung Hee University

Purpose: CREM (cyclic AMP-responsive element modulator) gene is essential for spermatogenesis, as it is necessary in differentiation of spermatids into sperm. In this study, to investigate the effect of Epimedii Herba (EH) on the sperm functions and the CREM transcription factor expressions in cyclophosphamide-treated mouse testes, C57BL/c mice were divided into five groups, the normal group, CP only-treated group and EH with CP (100, 500, 1000 mg/kg of EH and 100 mg/kg of CP) treated group for five weeks.

Methods: We performed semi-quantitative PCR and western blot analysis for the examination of the CREM expression and analyzed sperm parameters using CASA system.

Results: In our results, EH showed protective effect on CP induced reproductive toxicity in male mice by recovering sperm count, motility. CREM expression increased in EH treated groups at 500 mg/kg concentration than that of control group (83.8%; $p < 0.01$ vs. 71.5%; $p < 0.05$, respectively).

Conclusion: Our results suggest that EH plays an important role in male fertility, and it could be applied for clinical use in infertility treatment.

Contact: Kyujin Chung, hykim0927@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.067>

P1.061

Ethanol extracts of *Sanguisorba officinalis* inhibits IgE-mediated degranulation in Bone Marrow Derived-Mast cells and suppresses TNF- α /IFN- γ -induced



Ju-Hye Yang, Won-Kyung Cho, Jae-Myung Yoo, Jin-Yeul Ma

Korea Institute of Oriental Medicine

Purpose: *Sanguisorba officinalis* (*S. officinalis*) is a perennial plant widely distributed in Asia, and it has been used to treat various diseases containing diarrhea, chronic intestinal infections, duodenal ulcers internal hemorrhage and burns.

Here, we investigated the effect of EtOH extract from *S. officinalis* (ESO) against atopic dermatitis using mouse bone marrow mast cells (BMMCs) and human keratinocyte (HaCaT) cells.

Methods: For detecting the effect of ESO on mast cell degranulation, the activity of β -Hexosaminidase (β -Hex) was using spectrophotometric method. We used HaCaT cells stimulated with TNF- α and IFN- γ to induce the production of proinflammatory cytokines and chemokines. The production and activation of cytokines and chemokines were determined by ELISA and western blot analysis. Also, we checked the activation of NF κ B and MAPK pathway related to inflammation via western blot analysis.

Results: ESO dose-dependently inhibited IgE-mediated degranulation in BMMCs. ESO reduced the production of proinflammatory cytokines and chemokines such as interleukin-6 (IL-6), interleukin-8 (IL-8), regulated on activation normal T-cell expressed and secreted (RANTES), macrophage-derived chemokine (MDC) in TNF- α /IFN- γ stimulated HaCaT cells. The treatment of TNF- α /IFN- γ was activated nuclear factor- κ B (NF- κ B) transcription factor and increased phosphorylation of mitogen-activated protein kinases (MAPK) in HaCaT cells. Consistently, ESO suppressed I κ B- α phosphorylation, decreased p65 nuclear translocation and MAPK phosphorylation.

Conclusion: Our results suggest that ESO have a potential for atopic dermatitis treatment.

Contact: Ju-Hye Yang, jjuhye@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.068>

P1.062

The role of peripheral Rho-associated protein kinase in acupuncture analgesia



Ji-Yeun Park¹, Jongbae J Park², Yang-Hwa Kang¹, So-Ra Ahn¹, Jae-Hwan Jang¹, Joon-Sung Nah¹, Songhee Jeon³, Hi-Joon Park¹

¹ Acupuncture & Meridian Science Research Center (AMSRC), Kyung Hee University

² Asian Medicine and Acupuncture Research, Chapel Hill, North Carolina

³ Dongguk University Research Institute of Biotechnology

Purpose: The aim of study was to identify the role of tissue deformation related proteins evoked by acupuncture needle rotation in mediating analgesic effect of acupuncture.

Methods: Acupuncture was performed on the GB34 acupuncture point of mice. Then, the expression levels of ROCK1, ROCK2 and p-ERM in the skin layer were determined 5, 10, 30 and 60 minutes after acupuncture needling. To investigate the correlation between the local molecular signaling, ERK inhibitor U0126 (0.8 μ g/ul) and ROCK inhibitor Y-27632 (0.3 μ g/ul) was injected into GB34 acupuncture point before acupuncture needling, and then the expression levels of ROCK2, p-ERK and p-ERM were determined. To investigate whether local ROCK activation induced by acupuncture needling has critical role in mediating acupuncture analgesia,

we treated Y-27632 before acupuncture needling then assessed the nociceptive behaviors and mechanical threshold in the formalin and CFA induced mouse pain model.

Results: After acupuncture needling, ROCK2 was activated significantly 30 and 60 minutes later, whereas ROCK1 activation was not significant. Phospho-ERM was significantly activated 5 and 10 minutes after acupuncture needling. Acupuncture-induced ROCK2 and p-ERM expression were significantly attenuated by U0126, whereas, p-ERK and p-ERM expression was not attenuated by Y-27632. In the formalin and complete Freund adjuvant induced mouse pain model, acupuncture attenuated the nociceptive behaviors and the mechanical threshold. And these acupuncture analgesia was blocked by Y-27632 administration.

Conclusion: This study indicates that acupuncture-induced ROCK2 expression in the skin layer plays a trigger role in mediating acupuncture analgesia.

Contact: Ji-Yeun Park, serius2000@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.069>

P1.063

Acupuncture induced local molecular signaling and its functional connectivity in the mouse brain



Ji-Yeun Park¹, Soon-Ho Lee¹, Ah-Reum Lee¹, Jae-Hwan Jang¹, So-Ra Ahn¹, Ju-Young Oh¹, Hyangsook Lee², Hyejung Lee³, Hi-Joon Park¹

¹ Acupuncture & Meridian Science Research Center (AMSRC), Kyung Hee University

² Korean Medicine Convergence Research Information Center (KMCRIC), Kyung Hee University

³ Korea Institute of Oriental Medicine

Purpose: To identify the scientific mechanism of acupuncture therapy from peripheral to central, the molecular event at the acupuncture point and the neural activity of the brain regions after acupuncture needling were investigated.

Methods: Acupuncture was performed on GB34 acupuncture point of mice. After acupuncture needling, changes of proteins related to tissue deformation (Rho-kinase, ERM), neurotrophins (NT-3, BDNF, NGF), cell signaling (HSP27) and initiate immune (PRDX1, transketolase) were assessed. Then, the correlation between the molecular signaling was investigated. Next, to investigate the whole brain neural activity after acupuncture needling, c-Fos expression in thirty brain regions was investigated and partial least squares (PLS) analysis and network generation was performed.

Results: After acupuncture needling, Rho-kinase, ERM, NT-3 and HSP27 were up-regulated and BDNF, NGF, PRDX1 and transketolase were down-regulated in skin tissues at acupuncture needling point. Then we found that ERK activation worked as a trigger molecule to produce local molecular signaling. After acupuncture needling, c-Fos positive cells were significantly increased in the brain regions of cingulate cortex area 1 (Cg1), cingulate cortex area 2 (Cg2), primary somatosensory cortex (S1), secondary motor cortex (M2),

insular cortex (Insul), piriform cortex (Pir), nucleus of solitary tract (NTS), dorsomedial periaqueductal gray (DMPAG) and lateral periaqueductal gray (LPAG) and decreased in the paraventricular thalamic nucleus posterior (PV) and the field CA1 of hippocampus (CA1). And these changes were inhibited by U0126 administration. Inter-regional correlations were significantly increased after acupuncture needling, and inhibited by U0126 administration. Among the brain regions, RMg, ST-DM, CA1 and NTS were determined as hub regions.

Conclusion: Acupuncture-induced ERK expression at acupuncture needling point plays a trigger role to acupuncture-induced cell signaling pathway, and also plays an important role in initiating central functional connectivity of acupuncture needling.

Contact: Ji-Yeun Park, serius2000@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.070>

P1.065

Neuroprotective effects of the electroacupuncture at ST36 in trimethyltin-induced dementia animal model



Hyun Soo Shim¹, Hyun-Jung Park², Dae-Hyun Hahm¹, Hyejung Lee¹, Insop Shim¹

¹ Kyung Hee University

² Bringham Young University

Purpose: In order to the neuroprotective effect of electroacupuncture (EA), the present study examined the effects of electroacupuncture in acupoint ST36 on trimethyltin chloride (TMT)-induced cognitive impairments rat using the Morris water maze (MWM) task and immunohistochemistry.

Methods: The rats were randomly divided into the following groups; naïve group (Normal), TMT injection group (Control), TMT injection and EA treated group in acupoint ST36 (ST36) and TMT injection and EA treated group in non-acupoint (Non-AC). Electroacupuncture (2Hz, 2mA, 10 minutes) was applied either to the acupuncture point ST36 the non-acupuncture point in the tail for the last 14 days. In the Morris water maze test, the animals were trained to find a platform in a fixed position during 4days and then received 60 sec probe trial on the 5th day following removal of platform from the pool.

Results: Rats with TMT injection showed impaired learning and memory of the tasks and treatment with EA in acupoint ST36 ($P < 0.05$) produced a significant improvement in escape latency to find the platform after 2nd day and retention trial in the MWM test. Consistent with behavioral data, treatment with EA in acupoint ST36 also significantly increased expression of choline acetyltransferase (ChAT) and acetylcholinesterase (AChE) immunoreactive neurons in the hippocampus compared to the Control group.

Conclusion: These results demonstrated that EA in acupoint ST36 has a protective effect against TMT-induced neuronal and cognitive impairments. The present study suggests that EA in acupoint ST36 might be useful in the treatment of TMT-induced learning and memory deficit.

Contact: Hyun Soo Shim, alfm38@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.072>

P1.066

Acupuncture suppresses stress-induced neuroinflammation in the rat hypothalamus



Mijung Yeom, Jinhee Park, Bombi Lee,
Dae-Hyun Hahm

Kyung Hee University

Purpose: Acupuncture has been used to relieve stress. Although recent studies have shown that acupuncture can reduce stress, its mechanism remains unclear. The present study investigated the effect of acupuncture on immobilization stress-induced neuroinflammation in the rat hypothalamus.

Methods: Rats were immobilized for 60 min. Manual acupuncture was performed at HT7 during the immobilization period. Gene expression of several pro-inflammatory factors and serum level of stress hormone and PGE2 were evaluated using real-time PCR and ELISA, respectively.

Results: The stress-alleviating effect of acupuncture was confirmed by inhibiting hypothalamic CRF mRNA expressions as well as serum corticosterone levels in response to immobilization stress. The mRNA expression of pro-inflammatory mediators including TNF- α and IL-1 β in the hypothalamus increased significantly after immobilization stress. Acupuncture treatment at HT7 during the immobilization significantly suppressed the immobilization stress-induced increase of pro-inflammatory mediators in the hypothalamus. Also, acupuncture inhibited significant increases in hypothalamic COX-2 mRNA as well as serum PGE2 levels in response to immobilization stress.

Conclusion: These data clearly suggest a stress-relieving effect of acupuncture and the inhibition of neuroinflammation as a possible action mechanism for its anti-stress effect.

Contact: Mijung Yeom, myeom@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.073>

P1.067

Effect of acupuncture stimulation on scopolamine-induced impairment of spatial working memory via activation of cholinergic system and regulation of BDNF and CREB expressions in rats



BOMBI LEE¹, BONGJUN SUR¹, INSOP SHIM^{1,2},
HYEJUNG LEE^{1,2}, DAE-HYUN HAHM^{1,2}

¹ Acupuncture and Meridian Science Research Center, College of Korean Medicine, Kyung Hee University

² BK21 PLUS Korean Medicine Science Center, College of Korean Medicine, Kyung Hee University

Purpose: Acupuncture is an alternative therapy that is widely used to treat various neurodegenerative diseases and

effectively improve cognitive and memory impairment. The aim of this study was to examine whether acupuncture stimulation at the Baihui (GV20) acupoint improves memory defects caused by scopolamine (SCO) administration in rats. We also investigated the effects of acupuncture stimulation at GV20 on the cholinergic system as well as the expression of brain-derived neurotrophic factor (BDNF) and cAMP-response element-binding protein (CREB) in the hippocampus.

Methods: SCO (2 mg/kg, i.p.) was administered to male rats once daily for 14 days. Acupuncture stimulation at GV20 was performed for 5 min before SCO injection. After inducing cognitive impairment via SCO administration, we conducted a passive avoidance test (PAT) and the Morris water maze (MWM) test to assess behavior.

Results: Acupuncture stimulation at GV20 improved memory impairment as measured by the PAT and reduced the escape latency for finding the platform in the MWM test. Acupuncture stimulation at GV20 significantly alleviated memory-associated decreases in the levels of choline acetyltransferase (ChAT), BDNF and CREB proteins in the hippocampus. Additionally, acupuncture stimulation at GV20 significantly restored the expression of choline transporter 1 (CHT1), vesicular acetylcholine transporter (VACHT), BDNF and CREB mRNA in the hippocampus. These results demonstrate that acupuncture stimulation at GV20 exerts significant neuroprotective effects against SCO-induced neuronal impairment and memory dysfunction in rats.

Conclusion: These findings suggest that acupuncture stimulation at GV20 might be useful in various neurodegenerative diseases to improve cognitive functioning via stimulating cholinergic enzyme activities and regulating BDNF and CREB expression in the brain.

Contact: BOMBI LEE, bombi@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.074>

P1.068

Do acupuncture needle size and needling depth matter? A laser Doppler imaging study



Xiuyu Zhang, Hi-Joon Park, Hyangsook Lee

Department of Korean Medical Science, Graduate School, KyungHee University

Purpose: Acupuncture needle size and needling depth are considered important factors which may influence the specific treatment effects of acupuncture, but few studies have investigated related physiological changes. We investigated the impact of acupuncture needle size and needling depth on microperfusion.

Methods: A randomized, crossover experiment was performed on 44 healthy volunteers after ethics committee approval in KyungHee University, Seoul, Korea. They were randomly allocated to 4 acupuncture interventions: Deep needling with Thick needle (DT, 0.40X40 mm, 1.5 cm depth), Deep needling with Piliform needle (DP, 0.12X40 mm, 1.5 cm depth), Superficial needling with Piliform needle (SP, 0.12X40 mm, 2 mm depth), and Superficial needling with Thick needle (ST, 0.40X40 mm, 2 mm depth). Each participant received all 4 interventions, with each acupuncture

intervention followed by 3 to 7 days of washout period. Acupuncture in all groups was implemented at left LI10 with manipulation after insertion, 5 min, 10 min after insertion followed by needle removal. Microcirculation by laser Doppler perfusion imaging (LDPI) was measured 5 minutes before acupuncture till 10 minutes after removal of acupuncture. A repeated measures ANOVA was used for statistical analysis.

Results: In each group, microperfusion increased by needle insertion was maintained till after needle removal, and different needle size induced different blood perfusion changes, with the increase in ST group significantly higher than SP, DT and DP groups (repeated measures ANOVA, $P < 0.0001$), but there was no significant difference by needling depth.

Conclusion: ST intervention induced the greatest blood perfusion changes compared with other interventions, but the impact of different needling depths was not clear with blood perfusion changes. Studies investigating other physiological changes than blood perfusion by different acupuncture needle sizes and needling depths are needed.

Contact: Xiuyu Zhang, zhangxiuyu6@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.075>

P1.069

Indirubin-3'-monoxime inhibits platelet activation through suppression of glycoprotein VI-mediated signal transduction and a possible role for ERK



Jung-Jin Lee, Hyeeyun Kwon, Jin Yeul Ma

Korea Institute of Oriental Medicine

Purpose: Indirubin-3'-monoxime (I3O), an active ingredient of Danggui Longhui Wan, exhibit antithrombotic activity through antiplatelet activity. Hence, we investigated the antiplatelet activity of I3O and the underlying mechanisms, focusing on the possible involvement of phospholipase C γ 2 (PLC γ 2) and extracellular signal-regulated kinase (ERK) 1/2.

Methods: To identify the antithrombotic activity of I3O, we investigated using FeCl $_3$ -induced thrombus formation model, and platelet aggregation and coagulation *ex vivo*. In addition, the mechanism by which I3O is mediated the antithrombotic activity was assessed by determining platelet aggregation, immunoblotting, adenylyl cyclase activity, arachidonic acid (AA) liberation, and AA-metabolites conversion.

Results: In a rat carotid artery injury model, oral administration (20 mg/kg/day) of I3O for 3 days significantly prolonged occlusion time, and ADP- and collagen-induced platelet aggregation, comparable with aspirin. In washed platelets *in vitro*, I3O potently inhibited collagen-induced platelet aggregation by suppression of PLC γ 2 phosphorylation, consistent with the blockade of diacylglycerol (DAG) and AA formation, P-selectin secretion and the production of thromboxane B $_2$ (TXB $_2$). As expected, platelet aggregation induced by phorbol-12-myristate 13-acetate (PMA), a protein kinase C (PKC) activator, was inhibited by I3O. Both I3O and U0126 markedly reduced collagen-induced phosphorylation of ERK1/2 and p47. Besides, I3O generally suppressed phosphorylation of JNK, p38, GSK-3 β , and AKT. Hence, we investigated to identify the effect of

I3O in collagen receptor level; as a result, I3O concentration-dependently showed the inhibition pattern in immunofluorescence assay of glycoprotein VI (GPVI), as a collagen receptor. Moreover, I3O not only inhibited the phosphorylation of the tyrosine kinase Syk of GPVI but also suppressed the phosphorylation of PLC γ 2 and ERK1/2 stimulated by convulxin, as a specific stimulator.

Conclusion: Our results indicate that an antiplatelet effect of I3O is due to the suppression of GPVI-mediated signal transduction. In collagen-stimulated platelet activation, ERK1/2 phosphorylation is an adenylyl cyclase-dependent pathway through modulation of PKC-p47 signaling and COX-1-mediated AA metabolic pathways.

Contact: Jung-Jin Lee, mhjj3998@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.076>

P1.071

Inhibitory effects of berberine on osteoclast differentiation



SANG-YONG HAN, Ji-Hoon Kim,
Yun-Kyung Kim

Wonkwang University

Purpose: Osteoporosis is a bone disease that results from imbalance between new bone formation and bone resorption leading to bone loss and is especially troublesome for postmenopausal females who suffer from estrogen deficiency. Thus, the purpose of this study was to investigate new treatment for osteoporosis.

Methods: We evaluate the effects of berberine on receptor activator of nuclear factor- κ B ligand (RANKL)-induced osteoclast differentiation from bone marrow-derived macrophages (BMMs) and performed cytotoxicity assay and western blot analysis. The mRNA expression levels of the indicated genes were analyzed by real-time PCR.

Results: We found that Berberine inhibits RANKL-induced osteoclast differentiation in a dose-dependent manner without affecting cytotoxicity. The mRNA expression of c-Fos, nuclear factor of activated T cells cytoplasmic 1 (NFATc1), tartrate-resistant acid phosphatase (TRAP), and osteoclast-associated receptor (OSCAR) was considerably inhibited by berberine treatment. berberine inhibited RANKL-mediated c-Fos and NFATc1 expression in a dose-dependent manner.

Conclusion: In this study, we identified that berberine was the efficient inhibitor of RANKL-induced osteoclast differentiation. Our results suggest that berberine may be useful in the prevention of osteoporosis.

Contact: SANG-YONG HAN, 030745@daum.net

<http://dx.doi.org/10.1016/j.imr.2015.04.078>

P1.072

Combination effects of Gumiganghwal-tang water extract and montelukast on airway inflammation in human bronchial epithelial cells



Woo-Young Jeon, Hye-Sun Lim,
Seong Eun Jin, Ohn Soon Kim,
Mee-Young Lee

Korea Institute of Oriental Medicine

Purpose: Gumiganghwal-tang (known as Kumi-Kyokatsuto in Japanese) is well known traditional herbal prescription, which consists of 12 different herbs; *Osterici Radix*, *Saposhnikovia Radix*, *Cnidii Rhizoma*, *Angelicae Dahuricae Radix*, *Atractylodis Rhizoma*, *Scutellariae Radix*, *Rehmanniae Radix*, *Asari Radix et Rhizoma*, *Glycyrrhizae Radix et Rhizoma*, *Zingiberis Rhizoma Recens*, *Zizyphi Fructus*, and *Allii Fistulosi Bulbus*. Gumiganghwal-tang has been commonly used in various disease including common cold, pain, and inflammatory diseases in Korea. Montelukast has been used as an effective therapeutic agent for prevention and treatment of allergic rhinitis or asthma. The objective of this study is to find out the combination effect on interaction of Gumiganghwal-tang water extract (GGTW) and montelukast using human bronchial epithelial, BEAS-2B cells.

Methods: Anti-inflammation effects were selected to study the effects on IL-4/TNF- α -induced inflammatory response in BEAS-2B cells. Cell supernatants and mRNA were collected for cellular inflammatory mediators determined via enzyme-linked immunosorbent assay, gelatin zymography, and polymerase chain reaction.

Results: After treatment of IL-4/TNF- α , the production of eotaxin, regulated on activation of normal T-cell-expressed and -secreted (RANTES), matrix metalloproteinases-9 (MMP-9), and vascular cell adhesion molecule (VCAM)-1 expression were increased. However, each of GGTW and montelukast was significantly inhibit the production of eotaxin, RANTES, MMP-9, and VCAM-1 expression. Moreover, drug combinations (co-treatment of GGTW with montelukast) were more effective than each treatment, although the difference was not significant.

Conclusion: Taken together, these findings suggest that GGTW combined with montelukast may be useful to reduce airway inflammation, which may explain its beneficial effect for the regulation of inflammatory disease.

Contact: Woo-Young Jeon, ssamgun85@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.079>

P1.074

Alteration of Locomotor Function and NT-3 and Trk C Expression in the 14th day post-Spinal Cord Injury Rat and Effect of Different Electro-acupuncture



Yuping Mo¹, Wei Lv², Hai-jiang Yao²,
Liang-yu Song², Hong-tao Song³,
Xiao-chen Yuan⁴, Jiawula Abulizi²,
Quan-kai Jing², Su-hua Shi⁵, Zhi-gang Li²

¹ School of Acupuncture, Moxibustion and Tuina,
Beijing University of Chinese Medicine

² Beijing University of Chinese Medicine

³ Inner Mongolia People's Hospital

⁴ Institute of Microcirculation, Chinese Academy of
Medical Sciences (CAMS) & Peking Union Medical
College

⁵ The Third Affiliated Hospital of Beijing University
of Chinese Medicine

Purpose: To investigate the influence on the expression of Neurotrophin 3(NT-3) and Tyrosine Kinase Receptor C(Trk C) in the 14th day post-Spinal Cord Injury(SCI) rats which had had different electro-acupuncture(EA) treatment, to elucidate the possible role of NT-3 and Trk C in the development of experimental SCI and the effect of different EA for them.

Methods: Adult male Sprague-Dawley(SD) rats were randomly divided into normal control group(n=12), sham operation group (no operation, without SCI nor treatment, n=12), SCI model group (SCI-induction without treatment, n=12), pulsed EA group(SCI-induction with pulse-EA treatment, n=12), and music EA group(SCI-induction with music-EA treatment, n=12). SCI model was established by using the modified Allen's method. Basso-Beattie- Bresnahan(BBB) scale was performed to assess the locomotor function of rats. The expression of NT-3 and TrkC was detected by using Western blot.

Results: The BBB score of SCI model group are significantly lower than normal control group and sham operation group, while pulsed-EA group and music-EA group could reverse it in the 14th day post-SCI(P<0.01), while there was no statistical differences between the two treatment group(P>0.05). The expression of NT-3 and TrkC in SCI model group decreased significantly in the 14th day post-SCI(P<0.01), the two kinds of treatment could improve this pathological change, but there was no statistical differences between the two treatment group(P>0.05).

Conclusion: The levels of NT-3 and TrkC in SCI rats were lower than normal. The pulse- and music- EA treatments may effectively induce the levels of NT-3 and TrkC in spinal cord, then promote the recovery of hindlimb function of SCI rats; and the effectiveness of music-EA offered a good trend in recovery than that of pulse-EA treatment, but there was no statistical differences between the two treatment group in locomotor function and the expression of NT-3 and TrkC in the 14th day post-SCI.

Contact: Yuping Mo, 87428803@qq.com

<http://dx.doi.org/10.1016/j.imr.2015.04.081>

P1.077

Sasang types differ in thermoregulatory responses to graded exercise



DUONG DUC PHAM¹, Jong Yeol Kim²,
BonCho Ku², Jeong Hoon Lee¹,
Eun Seok Park¹, Ji Eun Kim¹,
Young Boum Lee¹, Ga Yul Kim¹,
Ji Yeon Song¹, Chae Hun Leem¹

¹ University of Ulsan, College of Medicine, Faculty of Physiology

² Korea Institute of Oriental Medicine

Purpose: We compared sweating response to graded exercise and its potentially related variables such as workload (We), metabolic heat production (Hprod), and temperature increment load (Tinc) according to Sasang typology.

Methods: This cross-sectional investigation included 304 apparently healthy participants at their age between 20 and 49 with their Sasang types determined. Local sweating rate measured on the chest (LSRchest) and on the back (LSRback) were measured by a perspiration meter using ventilated capsule method during a maximal treadmill exercise test. Meanwhile, oxygen uptake was measured constantly using a breath-by-breath mode indirect calorimeter. Body composition was examined by the direct segmental multi-frequency bio-impedance analysis technique.

Results: The TaeEum (TE) type was characterized by unfavorable anthropometric feature for heat loss including a larger body size, a higher fatness, and a lower body area surface area to body mass in compared with other Sasang types, particularly the SoEum type. The TE type tended to have a shorter exercise time to exhaustion and lower maximal oxygen uptake (ml.kg⁻¹.min⁻¹) than other types. The TE type had a stronger elevation of LSRchest in men and LSRchest in women at the middle stage of the exercise even when sweat rate was normalized for We, Hprod, Tinc, and body surface area.

Conclusion: The findings suggested that Sasang types may differ in thermoregulatory response to graded exercise in which the TE type was the most susceptible type to heat stress. (This work is supported by NRF, No. 2012-0009829).

Contact: DUONG DUC PHAM, phduongyhct@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.084>

P1.079

Optimization of ultrasonic-assisted extraction of glycyrrhizic acid from licorice using response surface methodology



Seol Jang, A. Yeong Lee, Ah Reum Lee,
Goya Choi, Ho Kyoung Kim

Korea Institute of Oriental Medicine

Purpose: The present study optimized the ultrasonic-assisted extraction conditions to maximize the glycyrrhizic acid of extracts from licorice.

Methods: Optimal conditions with regard to extraction temperature (X1), extraction time (X2) and methanol

concentration (X3) were identified using response surface methodology (RSM). A central composite design (CCD) was used for experimental design and analysis of the results to obtain the optimal processing parameters.

Results: The statistical analysis indicated that three variables and the quadratic of X1, X2 and X3 had significant effects on the yields, and followed by the significant interaction effects between the variables of X2 and X3 ($p < 0.01$). The 3D response surface plot and the contour plots derived from the mathematical models were applied to determine the optimal conditions. The optimum ultrasonic-assisted extraction conditions were as follows: extraction temperature 69°C, extraction time 34 min and methanol concentration 57%. Under these conditions, the experimental yield of glycyrrhizic acid was 3.414%, which was agreed closely with the predicted value (3.406%).

Conclusion: The experimental values agreed with those predicted by RSM models, thus indicating suitability of the model employed and the success of RSM in optimizing the extraction conditions.

Contact: Seol Jang, swellseol@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.086>

P1.080

Topical Herbal Application in the Management of Atopic Dermatitis: A Review of Animal Studies



Younghee Yun¹, Inhwa Choi²,
Seong-Gyu Ko², Kyuseok Kim²

¹ Department of Ophthalmol, Otolaryngol & Dermatol, College of Korean Medicine, Kyung Hee University

² College of Korean Medicine, Kyung Hee University

Purpose: Herbs are widely used in the treatment of atopic dermatitis (AD) in Eastern Asian countries, and certain herbs regarded have anti-inflammatory properties that can help with AD. With the goal of developing a topical herbal agent for AD, we conducted a systematic review of in vivo studies of AD-like skin models for screening potential herbs.

Methods: Literature searches were performed using PubMed and EMBASE databases. Search terms contained three components: (A) intervention/exposure, (B) disease of interest, and (C) animal species, with adjustments made for the different databases. Two authors independently conducted the database searches. Duplicate articles were removed. Disagreements were resolved by discussions with the corresponding author.

Results: In the present study, out of 166 potential studies, we identified 22 studies that met all the selection criteria. For all studies, we judged most domains to be at unclear risk of bias. Herbs of the genus Chrysanthemum were used in two studies, and seven studies investigated herbs of the clear heat drug group. Among the AD-like animal models, NC/Nga and BALB/c mice treated with chemical haptens, DNFB, DNFB, or TNFB were used in most of the studies. Clinical symptoms, serum IgE levels, and Th1- and/or Th2-related cytokines and/or chemokines were assessed as outcome measurements.

Among the 22 included studies, 21 herbs were reported to reduce AD-like skin lesions in mouse models by suppressing Th2 cell responses.

Conclusion: By summarizing the results from the published literature, we hope that this study might aid in finding a potential herbal therapeutic agent for the treatment of AD. The limitation of this study was that a meta-analysis was not conducted because of the variety of investigated herbs included in the studies. Nevertheless, this review may assist in identifying directions for further researches endeavors.

Contact: Younghee Yun, allergycosmetic@khnmc.or.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.087>

P1.081

Effects of Twelve Korean Combined Herbal Prescriptions with *Platycodon Grandiflorum* on Induction of Autophagy and Inhibition of Cell Proliferation



Su-Hyun Hong¹, Moon-Hee Lee²,
Hong-Jae Kim³, Cheol Park⁴,
Sang-Hoon Hong⁵, Yung-Hyun Choi¹

¹ Department of Biochemistry, Dong-Eui University
College of Korean Medicine

² Anti-Aging Research Center & Blue-Bio Industry
RIC, Dong-Eui University

³ Department of Pharmacy, Busan University

⁴ Department of Molecular Biology, College of
Natural Science and Human Ecology

⁵ Department of Internal Medicine, Dong-Eui
University College of Korean Medicine

Purpose: In this research, we tested whether 12 Korean traditional combined herbal prescriptions including *Platycodon Grandiflorum* (PG) in Dong-Eui-Bo-Gam at the part of Ong-Jeo (abscesses and carbuncles) have anticancer properties through induction of autophagy.

Methods: Human lung adenocarcinoma A549 cells were treated with respective prescriptions and the anti-proliferative potentials were measured using an MTT assay. The morphological changes were determined and the expressions of autophagy-related proteins (ATG) were investigated using an immunoblotting assay with specific antibodies.

Results: Our findings indicated that all of 12 prescriptions with PG showed formation of autophagic vacuoles. The expression of microtubule-associated protein 1 light chain 3 and Beclin-1, and ATG7 were significantly increased. In addition, 12 prescriptions treatments resulted in a dose-dependent inhibition to cell proliferation. Among them, Mok-Dan-Pi-Tang showed the highest activity than others.

Conclusion: Treatments of 12 Korean traditional combined herbal prescriptions with PG triggered autophagy and decreased cell growth of A549 lung cancer cells. Moreover, Mok-Dan-Pi-Tang which was used to treat Pyo-Ong (lung abscesses) could be the best anticancer candidate in lung cancer therapy [NRF (No. 2013R1A1A2065537)].

Contact: Su-Hyun Hong, hongsh@deu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.088>

P1.082

Monitoring of Hippocampal NFκB activity using Lentiviral-based reporter system



Song Her, Young Han Kim

Korea Basic Science Institute

Purpose: The creation of molecular tools able to unravel in vivo spatiotemporal activation of cell signalling is of significant importance for the systemic study of complementary therapies in medicine. Particularly, NFκB signalling have been known to play a therapeutic role in many natural products including antioxidants for mental health, but its in vivo mechanism remains incompletely understood.

Methods: Here using bioluminescence imaging (BLI) technique, we describe the generation, validation and applications of a lentiviral-based luciferase reporter system for the in vivo NFκB signalling, named NFκB biosensor.

Results: The biosensor shows sensitive and selective detection as demonstrated by that TNF-α activated NFκB pathway activity in a dose-dependent manner, which was blocked by pyrrolidine dithiocarbamate (a specific NFκB inhibitor) in hippocampal neuronal cultures. Lithium as an alternative medicine for bipolar disorder also activated NFκB signalling via NFκB nucleus translocation, providing an initial evidence that therapeutic action of lithium is involved in the modulation of NFκB signalling. We finally show that the sensor allows for monitoring of increased NFκB activity by lithium treatment in the hippocampal DG region of living mice.

Conclusion: By virtue of the unique functional characteristics of BLI, the biosensor provides an enormous potential high-throughput screening of therapeutic drugs and complementary therapies targeted to NFκB signalling.

Contact: Song Her, swher@kbsi.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.089>

P1.084

Antioxidant effects of acupuncture in morphine plus acetaminophen injured rat liver



BONG HYO LEE¹, Young Joon Lee¹,
Rong Jie Zhao², Young Woo Kim¹,
Su Jin Kang¹, Eun Kyung Lee¹,
Nam Jun Kim¹, Suchan Chang¹,
Jin Mook Kim¹, Sang Chan Kim¹, Il Jae Cho¹,
Sung Hui Byun¹, Seong Hun Choi¹,
Su Jin Park¹, Chang Hyun Song¹,
Chae Ha Yang¹, Hee Young Kim¹,
Young Seob Gwak¹, Sung Chul Lim¹,
Jae Su Kim¹, Yun Kyu Lee¹, Hyun Jong Lee¹,
Sae Kwang Ku¹

¹ Dageu Haany University

² Medical School of Mudanjiang University

Purpose: Morphine (MP) and acetaminophen (APAP), a world widely-used pain reliever and antipyretic, are known to induce hepatotoxicity. Acupuncture has been used for diverse effects including detoxification in Asia. In this study, the possi-

bilities whether acupuncture exerts hepatoprotective function were investigated using MP+APAP-induced hepatic damage model.

Methods: Rats received chronic morphine and withdrawal. Acetaminophen was given and 12h after, blood and liver were taken. Acupuncture was performed once a day across all experiment. Aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels were observed, and percentages of abnormally decreased hepatocyte regions, mean liver cell counts, and mean inflammatory cell numbers infiltrated on hepatic parenchyma were examined. In addition, antioxidant effects were evaluated based on liver lipid peroxidation malondialdehyde (MDA) and glutathione (GSH) contents, superoxide dismutase (SOD) and catalase (CAT) activities with the number of immunopositive hepatocytes against nitrotyrosine (NT) as marker of inducible nitric oxide synthase (iNOS) related-oxidative stresses and 4-hydroxynonenal (4HNE) as marker of lipid peroxidation).

Results: Significant elevations of AST and ALT were noticed by MP or APAP, and they also showed increases of MDA contents as well as decreases in GSH levels and activities of SOD and CAT. Also, centrolobular decreases of hepatocytes along with degenerative changes of hepatocytes were observed at histopathological analysis, and increases of NT and 4HNE immunoreactive hepatocytes were shown. These hepatocellular damages resulted more severely from the treatment of MP+APAP. However, these MP+APAP-induced hepatic damages were significantly inhibited by acupunctures at SI5, ST36, and HT7, but not at LI5.

Conclusion: Results suggest that acupunctures on the specific acupoints have hepatoprotective effects on the MP+APAP-induced hepatic damages through elevations of hepatic antioxidant defense systems.

Contact: BONG HYO LEE, dlqhdgy@dhu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.091>

P1.085

Acupuncture Suppresses Morphine Craving in Progressive Ratio through GABA system



BONG HYO LEE¹, Rong Jie Zhao²,
Byung Gwon Lee¹, Nam Jun Kim¹,
Chae Ha Yang¹, Hee Young Kim¹,
Young Seob Gwak¹, Sung Chul Lim¹,
Jae Su Kim¹, Yun Kyu Lee¹, Hyun Jong Lee¹,
Sang Nam Lee¹

¹ Dageu Haany University

² Medical School of Mudanjiang University

Purpose: Previous studies revealed that acupuncture suppresses morphine self-administration as well as morphine-seeking behavior after abstinence. Based on these results, this study examined whether acupuncture attenuates morphine-craving under a progressive ratio (PR) schedule, and investigated the possible neuronal mechanism.

Methods: Male Sprague-Dawley rats were trained to self-administer morphine (0.5 mg/kg) under a fixed ratio for 9 days, and rats who achieved stable infusion were switched to PR. When animals had taken no more morphine for 1h,

the number of infusions was defined as break point (BP). After PR training, animals that established stable BP received acupuncture the next day. Acupuncture was applied for 1 min immediately before the test session. Bicuculline (1.0 mg/kg) and SCH 50911 (2.0 mg/kg) were given 30 min prior to acupuncture. The c-Fos was examined in the ventral tegmental area (VTA) and nucleus accumbens (NAc).

Results: Acupuncture at SI5, reduced the BP significantly. In addition, the effects of acupuncture were blocked by either bicuculline or SCH 50911. Immunofluorescence revealed that acupuncture at SI5 decreased c-Fos expression in the VTA and NAc.

Conclusion: Results of this study demonstrate that acupuncture at SI5 is effective for the treatment of morphine-craving, and that this effect is mediated via GABA pathway.

Contact: BONG HYO LEE, dlqhdgy@dhu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.092>

P1.086

A possible mechanism of action for the placebo response: human biofield activation via therapeutic ritual



Marie Grace Brook¹, Randy Fauver²

¹ Sofia University

² JFK University

Purpose: The purpose of the paper is to explore the relationship between placebo response, therapeutic ritual as investigated by the scientific community, and the biofield theory, with intention of elucidating important aspects of natural healing mechanisms.

Methods: Method of investigation is cross-fertilization of recently published studies in these three diverse fields of study, for example placebo research from the Harvard Medical School's Program in Placebo Studies, biofield research from the Samueli Institute, and diverse empirical research studies of traditional medicine. Lenses of inquiry are used to explore placebo response as indicative of an undiscovered healing mechanism. The theoretical hypothesis of the biofield is considered both from the approach of a possible role in healing, as well as a structural model for investigating mechanisms of interpersonal and interpersonal communication pathways here-to-for unexplained in current research. Evidence of therapeutic benefits from ritual healing is examined, along with recent research and theorizing of mechanisms of action across cultures and procedures.

Results: Results show indications that the perspectives of placebo research, therapeutic ritual healing studies, and boiled theory bring the diverse angles of inquiry into increased understanding of natural healing mechanisms.

Conclusion: The conclusion is that the natural healing mechanisms can be explored more completely through comparing different lenses within medical, biophysics, psychological, anthropological and psych-spiritual scientific inquiry. The biofield theory yields a fertile area of future research to explore the evidence being developed in examining healing mechanisms uncovered through closer attention to the placebo response and wider investigation of tra-

ditional healing and therapeutic ritual, both Western and non-Western.

Contact: Marie Grace Brook, m.brook@sofia.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.093>

P1.088

Natural ingredient of Ignatius beans inhibits mTOR activity



Boohyeong Byun¹, Cheol O Joe²

¹ Daegu Haany University

² Korea Advanced Institute of Science and Technology

Purpose: This study screened a collection of >2,800 naturally occurring products and identified Ignatius beans extract capable of inhibiting mTORC1 activity. HeLa cells were treated with aqueous extract from Ignatius beans to assess the activity of mTORC1. Treatment of HeLa cells with Ignatius bean extract inhibits the enzymatic activity of mTORC1 as assessed by the phosphorylation of p70 S6K (S6K) at Thr 308 in HeLa cells. This plant seed extract also exerts inhibitory effects on the activation phosphorylation of Akt. In addition, flow cytometry analysis revealed that Ignatius bean extract causes HeLa cells to accumulate in G2/M phase of cell cycle. Trypan blue dye exclusion assay was carried out to determine the cytotoxicity of Ignatius Beans

Methods: This plant seed extract also exerts inhibitory effects on the activation phosphorylation of Akt. In addition, flow cytometry analysis revealed that Ignatius bean extract causes HeLa cells to accumulate in G2/M phase of cell cycle. Trypan blue dye exclusion assay was carried out to determine the cytotoxicity of Ignatius Beans.

Results: This study has found that an aqueous extract from Ignatius beans inhibits mTORC1 activity as well as PI3K/Akt pathway resulting the accumulation of cell cycle at G2 to M phase in cultured human HeLa cells. This result suggests that the natural ingredient of Ignatius beans may directly inhibit mTORC1 activity or indirectly influence mTORC1 activity through the inhibition of Akt signaling. The inhibition of Akt phosphorylation at Thr308 strongly denies the involvement of negative feedback effect by PI3K/Akt pathway in cells treated with Ignatius bean extract.

Conclusion: These data suggest that Ignatius bean extract could be used as a potent inhibitor of cell growth and cell proliferation.

Contact: Boohyeong Byun, bhbyun@dhu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.095>

P1.089

Safety control of manual vacuum pump for plastic cupping



Sanghun Lee, Eun Kyung Bae

Korea Institute of Oriental Medicine

Purpose: In Korea, disposable cupping unit is applied to the patient for safe treatment. But, even though disposable cup-

ping unit is used, there are still infection event exit yet. This study aims to find out the cause of infection occurs in the traditional medical clinic associated with cupping treatment.

Methods: Used manual vacuum pump was collected from 5 private hospitals and 8 university hospitals in airtight condition to prevent the additional contamination. Bacterial smear was made by blot of the inside surface of the connecting part between cupping unit and vacuum pump. Bacterial culture and identification is performed by the company specializing in microbiological analysis (ChunLab Inc., Seoul, Korea), using next generation sequencing and EzTaxon Database of ChunLab.

Results: Pathogenic microbes were found in 3 of 8 university hospitals' and 1 of 5 private hospitals' vacuum pumps. Bacterial family was found in the order methylobacteriaceae (29.95%), alcaligenaceae (14.92%), spingomonadaceae(14.23%) etc.

Conclusion: Vacuum pump is modernized cupping method to control the negative pressure exquisitely. But, compare to the disposable cupping unit, the vacuum pump is used several times until broken down. Because of the multi-use vacuum pumps are easily contaminated and air exchange between cupping unit with vacuum pump can occur the contamination of the wound at blood-letting cupping treatment. To prevent the infection at blood-letting cupping treatment, not only the disinfection of wound but also the sterilization of whole cupping device including vacuum pump should be regarded.

Contact: Sanghun Lee, ezhani@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.096>

P1.090

Oryeongsan improves hypertonic stress-induced water channel expression and apoptosis in renal collecting duct cells



So Min Lee¹, Sun-Ku Chung¹,
Seongwon Cha¹, Seo-young Lee¹,
Ah Yeon Park¹, Dae Gill Kang², Ho Sub Lee²

¹ Korea Institute of Oriental Medicine

² Hanbang Body Fluid Research Center, Wonkwang University

Purpose: Oryeongsan (ORS, Wulingsan) has been reported to possess renal protective effects from renal diseases such as diabetes-induced renal damage, and nephrocalcinosis. This study was conducted to evaluate the inhibitory effect of ORS on hypertonic stress-induced AQP2 expression and apoptosis in murine inner medullary collecting duct cell line (mIMCD-3).

Methods: mIMCD-3 were pretreated with ORS (50-120 ug/ml) for 1 h, and stimulated with 175 mM NaCl for 1 h. The supernatant, conditioned medium was collected for measurement of electrolyte levels and osmolality. The protein expression used western blot, and the mRNA expression used RT-PCR.

Results: Hypertonic stress (175 mM NaCl) increased in the levels of AQP2 expression by hypertonic stress in mIMCD-3. ORS attenuated the hypertonic stress-induced increase in protein levels of AQP2 in a concentration-dependent manner. Pretreatment with ORS presented the similar effect of

PKA inhibitor which decreased hypertonic stress-induced AQP2 expression. On the other hand, pretreatment with ORS attenuated hypertonic stress-induced cell death. Hypertonic stress-induced Bax or caspase-3 expression was decreased by ORS, resulting in anti-apoptotic effect.

Conclusion: Taken together, the present data suggest that the beneficial effect of ORS in water balance and apoptosis against in vitro hypertonic stress of renal collecting ducts.

Contact: So Min Lee, dasonya@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.097>

P1.091

The Effects of Chinese Herbal ShenQi Decoction on Hepatic Lipid Accumulation and AKT mRNA Expression in Diabetic KK-Ay Mice



YUMIN CHO¹, ChunGuang Xie²

¹ School of Clinical Medicine, Chengdu University of Traditional Chinese Medicine

² Affiliated Hospital of Chengdu University of TCM

Purpose: The purpose of this pilot study was to determine the effects of ShenQi Decoction (SQD), a Chinese herbal medicine, on hepatic lipid accumulation and AKT mRNA expression in genetically diabetic KK-Ay mice.

Methods: Male mice were divided into two groups to receive normal diet (ND) or high fat diet (HFD) for 14 weeks with free access to diet. At the 9th to 14th week, the HFD group was then divided into two groups with (HFD+SQD) or without of SQD for 6 weeks. The body weight and fasting glucose level were determined. Moreover, the accumulation of hepatic lipid droplets was determined via hematoxylin and eosin (HE) stain. The hepatic mRNA expression of AKT, which was involved in the metabolic regulation in the liver, was exam by real-time polymerase chain reaction (RT-PCR).

Results: As the results, the fasting blood glucose level and body weight were increased after high fat diet. Compared to the ND, the hepatic AKT mRNA expression and the accumulation of lipid droplets were significantly increased in HFD at the end of the 8th week. After six week-SQD administration, the fasting blood glucose of HFD+SQD was lower than that in HFD. Moreover, SQD significantly decreased the HFD-induced the accumulation of lipid droplets and suppressed the HFD-induced AKT mRNA expression in the liver.

Conclusion: The genetic factors are important for the onset of diabetes. However, the proper macronutrient composition of daily diet may facilitate improved blood glucose control. HFD increased blood glucose and hepatic lipid accumulation, which may led to the progression of diabetes onset in KK-Ay mice. SQD administration decreased the hepatic lipid accumulation may partially due to the hepatic AKT mRNA regulation. We hope that the concepts acquired from the present study will provide a new consideration for treating diabetes via Chinese herbal medicine.

Contact: YUMIN CHO, choyumin@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.098>

P1.092

Molecular identification of Pinelliae Tuber, Arisaematis Rhizoma, and its common adulterants based on the DNA barcode sequences



Byeong Cheol Moon, Wook Jin Kim, Young Min Kang, Goya Choi, Kyeog Suk Han, Ka Youn Lee

Korea Institute of Oriental Medicine

Purpose: Official Pinelliae Tuber and Arisaematis Rhizoma have been required to authenticate because of frequent reciprocal substitution between two herbal medicines as well as several closely related inauthentic plant materials. Due to the morphological similarity of dried tubers, however, the correct discrimination of authentic herbal medicines are very difficult to distinguish using conventional methods. Therefore, we introduced the analysis of DNA barcode sequences to distinguish each herbal medicines including its common adulterants in species levels.

Methods: We corrected 4 authentic (Pinellia ternata for Pinelliae Tuber and Arisaema amurense, A. erubescens, and A. heterophyllum for Arisaematis Rhizoma) and 6 inauthentic plant species (see the material methods) for the extraction of genomic DNAs. The individual matK and rbcL genes were amplified using universal primer and analyzed to identify of species-specific sequences and investigate phylogenetic relationship among the species using entire rbcL and matK sequences, respectively.

Results: In comparison of two barcode sequences, we elucidated the phylogenetic tree showing distinct 9 groups depending on the species and obtained 45 species-specific nucleotides enough to identify each species excluding A. erubescens from matK and also obtained 28 marker nucleotides for each species excluding P. pedatisecta from rbcL genes, respectively. The sequence differences of combined two DNA barcodes at the corresponding positions were available genetic marker nucleotides to identify the correct species among analyzed medicinal plants.

Conclusion: The marker nucleotides enough to distinguish authentic Pinelliae Tuber and Arisaematis Rhizoma were obtained from matK and barcode sequences. These differences could be used to authenticate official Pinelliae Tuber and Arisaematis Rhizoma from its adulterants as well as discriminating each species. These results indicated that comparative analysis of plant DNA barcode sequences was useful genetic markers to identify authentic Pinelliae Tuber and Arisaematis Rhizoma.

Contact: Byeong Cheol Moon, bcmoon@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.099>

P1.093

Rhei rhizoma and Glycyrrhiza uralensis mixture extracts protect esophageal mucosal damage in reflux esophagitis through the regulation of Nrf2 and NF-



Joo Young Lee¹, Yu Ock Shin¹,
Chan Hum Park¹, Min Yeong Kim¹,
Sung Ho Shin¹, Ah Reum Lee¹,
Jeong Sook Noh², Seong-Soo Roh¹

¹ College of Korean Medicine, Daegu Haany University

² Department of Food Science and Nutrition, Tongmyong University

Purpose: The present study was designed to evaluate the anti-inflammatory, anti-oxidative stress activities, and differential regulation of Nrf2-mediated genes by Rhei rhizoma and Glycyrrhiza uralensis mixture extracts (RGE) and to determine the usefulness of antioxidants in the treatment of reflux esophagitis.

Methods: Reflux esophagitis was induced by ligation with a 2-0 silk thread both the pylorus and the transitional junction between the forestomach and the corpus, in Sprague-Dawley rats.

Results: Our results show that RGE administration markedly ameliorated mucosal damage upon histological evaluation. In serum, RGE significantly suppressed the oxidative stress biomarkers, such as reactive oxygen species (ROS), peroxynitrite (ONOO-), and thiobarbituric acid reactive substances (TBARS). The rats with reflux-induced esophagitis exhibited down-regulation of antioxidant-related proteins such as nuclear factor-erythroid 2-related factor 2 (Nrf2) and heme oxygenase-1 (HO-1) expression levels in the esophagus; however, the levels with treatment of RGE were significantly higher than those in vehicle-administrated and reflux-induced esophagitis rats. RGE treatment caused significant reductions in activation of NF- κ B transcription factor, especially the p65 subunit, in accordance with the significantly higher levels of inhibitory protein of NF- κ B expression. Thus, RGE significantly exhibited potent anti-inflammatory activities by suppressing the protein expression levels of pro-inflammatory proteins, COX-2 and iNOS, in the esophagus tissue.

Conclusion: Reflux esophagitis caused considerable levels of oxidative stress in the esophageal mucosa and the administration of RGE reduced the esophageal mucosa damage through the regulation of a potential cross-talks between Nrf2 and NF- κ B pathways. Our findings should be considered as supplementary therapy in the prevention or treatment of reflux esophagitis.

Contact: Joo Young Lee, jyhappy0130@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.100>

P1.094

The Banhabaekchulcheonma-tang, a traditional herbal formula, suppressed adipogenesis by PPAR-r pathway regulation



Hoyoung Lee, Eun Hyoung Shim Shim,
Soo Seoung You, Myeong Soo Lee

Korea Institute of Oriental Medicine

Purpose: To confirm the anti-obesity effects of Banhabaekchulcheonma-tang (BCT), we used the differentiated 3T3-L1 adipocytes.

Methods: The efficacy of anti-obesity on BCT was evaluated by differentiated 3T3-L1 cell line. After differentiation for 7 days, we detected the level of TG and klotho in supernatant by elisa. To confirm gene expression, we were performed by microarray.

Results: TG and klotho contents were reduced by approximately 73% and 72%, respectively, especially when the MDI-induced 3T3-L1 cell were suppressed using 100 μ g/mL BCT. We detected 250 differentially expressed genes in the experimental group. In 250 detected genes, we selected the 154 genes which recovery to control group. The gene expression related with lipid metabolism detected PPAR-r signaling pathway and validated genes; PPAR-r, ap2 and CEBP- α .

Conclusion: The results suggest that BCT has an efficacy that strongly limits adipogenesis through the inhibition of the PPAR-r signaling pathway.

Contact: Hoyoung Lee, lhoyoung@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.101>

P1.095

Genetic association of coding region polymorphism in PON1 with Dampness-phlegm pattern among Korean stroke patients



Min-Ho Cha, Mi Mi Ko

Korea Institute of Oriental Medicine

Purpose: In this study, we elucidated association of polymorphisms, located at PON1 promoter and coding region, with dampness-phlegm pattern (DP) among Korean stroke subjects.

Methods: Pattern identification (PI) of subjects was diagnosed by two KOM special doctors and genotypes were performed by Snapshot method.

Results: Relation of PON1 polymorphisms on DP among small scale subjects, fifty eight in DP group and one hundred forty in non-DP group, showed that frequency of M allele in DP group was significant higher than non-DP group [OR=4.032 (95% CI, 1.595-10.204), p=0.0032], and subjects with M allele was also larger in DP group than non-DP group [OR=3.023 (95% CI, 1.512-10.701), p=0.0032]. To confirm the association of L55 M polymorphism with DP, we replicated the genetic association among large scale stroke subjects, three hundred nineteen in DP group and five hundred thirty five in non-DP group. The frequency of subjects with M allele was also higher in DP group than non-DP group [OR=1.704 (95% CI, 1.059-2.742), p=0.028].

Conclusion: These results showed that PON1 polymorphisms may be related to dampness-phlegm pattern of Korean standard PI types in stroke patients.

Contact: Min-Ho Cha, mhchamin@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.102>

P1.096

The Effect of Do-Hong-Sa-Mul-Tang on 3T3-L1 Adipocyte Differentiation



EUN HYOUNG SHIM, Myeong Soo Lee, Hoyoung Lee, Sooseong You

Korea Institute of Oriental Medicine

Purpose: The aim of this study is to determine the anti-adipogenesis effect of Do-Hong-Sa-Mul-Tang (DHSMT) in vitro

Methods: We adopted Oil red O staining that observed the formation of fat droplets to determine the anti-adipogenesis effects of DHSMT. And triglyceride (TG) production, leptin level and the protein expressions of peroxisome proliferator-activated receptor gamma (PPAR γ), CCAAT/enhancer binding proteins alpha (C/EBP α) in 3T3-L1 adipocytes.

Results: We adopted Oil red O staining that observed the formation of fat droplets to determine the anti-adipogenesis effects of DHSMT. The TG level was suppressed about 3 fold as compare to differentiation group. Leptin was inhibited the production in supernatant about 2-10 fold as compare to differentiation group. We confirmed that protein expressions inhibited peroxisome proliferator-activated receptor gamma (PPAR- γ), CCAAT/enhancer binding proteins alpha (C/EBP- α) as dose dependent significantly.

Conclusion: Our results showed that DHSMT suppressed lipogenesis effectively. Therefore we suggested that DHSMT will be treatment of disease related on lipid as like obesity, arteriosclerosis, hyperlipidemia and stroke.

Contact: EUN HYOUNG SHIM, tladmsgud@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.103>

P1.097

Persicarin isolated from the *Oenanthe javanica* attenuates diabetes-induced liver injury through the hyperglycemia-upregulated NADPH oxidase activation



Joo Young Lee¹, Min Yeong Kim¹, Sung Ho Shin¹, Yu Ock Shin¹, Ah Reum Lee¹, Chan Hum Park¹, Young-Bae Seo², Tae Hoon Kim³, Takako Yokozawa⁴, Seong-Soo Roh¹

¹ College of Korean Medicine, Daegu Haany University

² Department of Herbology, College of Oriental Medicine, Daejeon University

³ Department of Food Science & Bio Technology, Daegu University

⁴ Graduate School of Science and Engineering for Research, University of Toyama

Purpose: This study was conducted to examine whether persicarin isolated from the *Oenanthe javanica* has a protective effect on hyperglycemia-induced alterations, such as oxidative stress and inflammation in the liver of streptozotocin-induced type 1 diabetic mice.

Methods: Persicarin (2.5 or 5 mg/kg body weight/day) was administered orally to diabetic groups of mice for 10 days, and its effect was compared with the vehicle-treated diabetic and non-diabetic mice

Results: The administration of persicarin (both 2.5 and 5 mg/kg body weight/day) caused a significantly increase in the body weight gain and liver weight. The increased glucose, hepatic functional parameter levels in serum, and glucose and glucose transporter type 4 (GLUT4) protein expression levels in the liver of diabetic mice were significantly decreased by persicarin. Moreover, the liver of diabetic mice exhibited the higher values of oxidative stress parameter (reactive oxygen species, peroxynitrite, and thiobarbituric acid-reactive substance); however, persicarin administration acts as a regulator in oxidative stress caused by overexpression of nicotinamide adenine dinucleotide phosphate (NADPH) oxidase subunit, such as Nox-4 and P47phox. In addition, persicarin altered the abnormal expressions of pro-inflammatory transcription factors and inflammatory protein expressions. Taken together, these results suggest that that persicarin suppress diabetes-induced pro-inflammatory factors by reducing oxidative stress through down-regulation of hyperglycemia-upregulated NADPH oxidase activation.

Conclusion: The present study demonstrated that the administration of persicarin isolated from the *Oenanthe javanica* had a hepatoprotective effect against inflammatory response under type 1 diabetes through regulations of hyperglycemia-upregulated NADPH oxidase activation.

Contact: Joo Young Lee, jyhappy0130@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.104>

P1.098

Anti-obesity effect of young persimmon fruit extract in obese mice

Min Yeong Kim¹, Sung Ho Shin¹,
Joo Young Lee¹, Ah Reum Lee¹,
Yu Ock Shin¹, Chan Hum Park¹,
Se Jong Kim², O Jun Kwon³, Seong-Soo Roh¹

¹ Daegu Haany University

² Gyongsangbuk-Do Agricultural Research & Extension Services

³ Daegu Institute for Regional Program Evaluation

Purpose: Young persimmon fruit (YPF) has recently been reported to have an inhibitory effect on the lipid metabolism. So, this study examined whether YPF has an anti-obesity effect on the lipid metabolism and adipocyte differentiation through the AMP-activated protein kinase (AMPK) pathways in obese mice.

Methods: YPF (100 or 200 mg/kg body weight/day, p.o.) was administered every day for 3 weeks to male 12-weeks-old obese (db/db) mice, and its effect was compared with non-obese (m/m) and vehicle-treated obese (db/db) mice.

Results: The administration of YPF caused a significant in the body weight and adipose tissue weight in the obese (db/db) mice. The decreased expression of AMPK protein in the adipose tissue of obese (db/db) mice was significantly increased by YPF treatment. Moreover, obese (db/db) mice exhibited a dysregulation of the protein expression related to lipid metabolism and adipocyte differentiation in adipose tissue, but YPF administration significantly reduced the expression of the lipid metabolism and adipocyte differentiation-related proteins through the AMPK pathway. In addition, the size of adipocyte was expand in vehicle-treated obese (db/db) mice, compared with non-obese (m/m) mice, but YPF-treated obese mice clearly showed decreased adipocyte size.

Conclusion: This study provides scientific evidence that YPF improve the obesity through the reduction of lipid metabolism and adipocyte differentiation via AMPK activation in the adipose tissue of obese mice.

Contact: Min Yeong Kim, lksmhyk69@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.105>

P1.099

Sasang type is an independent factor for heat capacity

Chae Hun Leem, Duong Duc Pham,
Jeong Hoon Lee, Eun Seok Park,
Young Boum Lee, Ji Eun Kim, Ga Yul Kim,
Ji Yeon Song

University of Ulsan, College of Medicine, Faculty of Physiology

Purpose: We examined the difference in body components and its influence in specific heat capacity (SpHC), total heat capacity (HC), and resting temperature increment load (Tinc) across Sasang types during the resting state.

Methods: Body composition was measured on 521 volunteers (204 men and 317 women) aged between 20 and 68 years by multi-frequency bioelectrical impedance analysis. Resting energy expenditure (REE) was measured by an indirect calorimetry with canopy mode. Sasang types were determined based on integrative data from body measurement, face image, vocal recording, and questionnaire. SpHC, HC, and resting Tinc were calculated.

Results: The TE type had a lower SpHC and a higher HC than those in the SE and the SY type in both genders ($p < 0.001$). The SpHC was slightly higher in the SE than that in the SY type (0.754 ± 0.014 vs 0.747 ± 0.015 , $p = 0.02$ in male; 0.726 ± 0.015 vs 0.721 ± 0.014 , $p = 0.06$ in women), whereas the SY had a higher HC than that in the SE type (53.5 ± 4.9 vs 47.8 ± 4.6 , $p < 0.001$ in men; 39.7 ± 3.6 vs 37.5 ± 3.2 , $p < 0.001$ in women). Adjustment for age, gender, body weight, BSA, and BMI attenuated the difference but did not dismiss completely. Resting Tinc was calculated as REE divided by HC. The TE type had a lower resting Tinc than that in the SE and SY types, independently to age and gender ($p < 0.001$).

Conclusion: The findings suggested that the temperature regulation in each Sasang constitution may be quantitatively different because of HC differences. This work is supported by NRF, No. 2012-0009829

Contact: Chae Hun Leem, leemch@amc.seoul.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.106>

P1.100

Vitisin B stimulates osteoblastogenesis via estrogen receptor-mediated pathway

Wen-Fei Chiou, Yen-Wenn Liu

National Research Institute of Chinese Medicine,
Ministry of Health and Welfare

Purpose: Vitisin B is a major component existed in *Vitis thunbergii*, a herbal medicine used in Taiwan for treatment of inflammatory bone diseases. We recently reported that vitisin B stimulated differentiation in primary cultured osteoblasts and treatment with vitisin B-enriched preparation obviously ameliorated ovariectomy-induced bone loss in mice. This study further delineated the action mechanism(s) that how vitisin B stimulates osteoblastogenesis by using MC3T3-E1 osteoblasts.

Methods: Cell differentiation and mineralization were identified by alkaline phosphatase (ALP) activity and Alizarin red S staining, respectively. RT-PCR and western blot were used to analyze the expression of osteoblast-associated genes and signal molecules. The transcriptional activity of estrogen receptor (ER) was also assessed.

Results: Vitisin B significantly increased ALP activity, bone mineralization, mRNA expression of osteoids (type 1 collagen, bone sialoprotein and osteocalcin) and bone-characteristic transcription factors (runt-related transcription factor-2 and osterix) through ER since such responsiveness were obviously repressed by ER antagonist ICI182,780. Unlike 17β -estradiol (E2), vitisin B failed to stimulate either ER α - or ER β -mediated transcriptional activity. Nevertheless, vitisin B rapidly induced ER α and Src phosphorylations within 5 min and evoked late

phosphorylations of p38 and ERK after 15-30 min stimulation through ER. Furthermore, SB203580 and PD98059 significantly inhibited vitisin B induced differentiation. By using Src inhibitor PP2, results further supported that Src is a cross molecule required for vitisin B-induced activation of MAPK and final mineralization.

Conclusion: Vitisin B might act through ER-mediated activation of Src and downstream MAPK to stimulate osteoblastogenesis which contributed to its beneficial effect in prevent bone loss.

Contact: Wen-Fei Chiou, wfchiou@nricm.edu.tw

<http://dx.doi.org/10.1016/j.imr.2015.04.107>

P1.101

Metabolomic-based evidence for acupoint specificity in treating migraine

Zishan Gao¹, Fanrong Liang², Xuguang Liu², Xianzhong Yan³

¹Nanjing University of Chinese Medicine

²Chengdu University of TCM

³National Center of Biomedical Analysis

Purpose: The aim of the current study was to investigate the metabolomic evidence for acupoints specificity in treating migraine by using 1H nuclear magnetic resonance (NMR)-based metabolomic technology.

Methods: We recruited 60 migraine patients and 10 health adults. First, 1H-NMR experiment and multivariate analysis were conducted to characterize metabolic profiling of migraine. Second, migraine patients were randomly assigned to special acupoints group and non-acupoints group. Acupuncture treatment were accordingly practiced on these group lasted for two sessions. 1H-NMR experiment was conducted, multivariate analysis and bioinformatics technique were used to investigate the metabolomic evidence for acupoints specificity in treating migraine

Results: We found that 14 of metabolites in the plasma and 6 of metabolic pathways were significantly related to migraine (P<0.05). Importantly, the enhancement of glucose metabolism including increases of citrate, acetate, pyruvate (P<0.05) and related metabolic pathways such as citrate cycle pathway, pentosephosphate pathway (P<0.01) in the plasma of migraine patient were revealed to be the metabolic basis of triggering migraine attack. Intriguingly, metabolic profiling of special acupoints became similar to health adults as acupuncture treatment session increases. 5 metabolites and 4 metabolite pathway, including citrate, acetone, pyruvate, glutamine, creatine and Citrate cycle pathway, were significant reversed after 2 session of acupuncture treatment. In contrast, metabolic profiling of non-acupoints group was clearly separated from health adults as treatment session increases. Interestingly, glutamine, a classic metabolite triggering migraine, was found decreases in both acupoint group and non-acupoint group after acupuncture treatment.

Conclusion: Our data suggest acupuncture might exhibit non-specific effect on both acupoints and non-acupoints by decreasing plasma glutamine therefore relieving migraine

attack. Whereas, acupuncture at acupoints were firstly revealed to have special effect on reversing glucose metabolism and Citrate cycle pathway in the plasma of migraine patients thereby treating migraine.

Contact: Zishan Gao, zishang30@sina.cn

<http://dx.doi.org/10.1016/j.imr.2015.04.108>

P1.102

Licorice and its flavonoids inhibit oxidative damage in the liver



Young Woo Kim¹, Sang Mi Park², Hye Lym Seo², Mi Hee Jang², Ji Yun Jung², Ju-Hee Lee², Eun Jeong Jang², Il Je Cho², Sung Hui Byun², Sang Chan Kim²

¹Medical Research Center, Daegu Haany University, College of Korean Medicine

²Daegu Haany University

Purpose: Glycyrrhizae Radix (G. radix) is an important herb used in traditional oriental medicine for the replenishment and invigoration of deficient Qi and blood, and is also widely recommended for its life-enhancing properties as well as detoxification.

Methods: In this study, we determined the therapeutic effects of the extract of G. radix and its flavonoids on the liver injury in animals and cells.

Results: Toxicants injections in rats exerted severe liver damage assessed by increased plasma levels of alanine aminotransferase and aspartate aminotransferase in addition to hepatic degeneration and necrosis. These pathological changes were markedly protected by pretreatment with the flavonoids and licorice extract. Moreover, the flavonoids and the extracts pretreatment reversed the decrease in hepatic antioxidant capacity as well as suppressed expression of anti-inflammatory genes in the liver as well as in cells.

Conclusion: These results suggest that the licorice has a protective effect through induction of antioxidant and anti-inflammatory activities. This work was supported by the National Research Foundation of Korea (NRF) Grant funded by the Korea government (MSIP) (No. 2014R1A2A2A01007375), and by the NRF Grant funded by the Korea government (MSIP) (No. 2012R1A5A2A42671316).

Contact: Young Woo Kim, ywkim@dhu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.109>

CLINICAL RESEARCH

P2.001

Effect of Guided Meditation and Massage Therapy for Breast Cancer Patients Undergoing Autologous Tissue Reconstruction - A Pilot Study



Liza Dion, Deborah Engen, Valerie Lemaine, Donna Lawson, Charise Brock, Stephen Cha, Amit Sood, Brent Bauer, Dietlind Wahner-Roedler

Mayo Clinic, Rochester MN, USA

Purpose: Massage therapy has been shown to be efficacious in the postoperative setting and is routinely offered in our institution. The purpose of this study was to explore whether massage therapy combined with meditation would be more effective than massage therapy alone in women recovering from autologous tissue reconstruction after mastectomy for breast cancer.

Methods: Forty women who had undergone mastectomies for breast cancer and were scheduled to undergo reconstruction using autologous tissue were randomized to either massage therapy for 20 minutes on postoperative days 1-3 (Group1) or massage therapy (20 minutes) combined with meditation (an additional 15 minutes) on postoperative days 1-3 (Group 2). Type of meditation used included paced breathing with a DVD for 15 minutes prior to massage and positive imagery during massage. Outcome measures: Visual Analog Scales for stress, anxiety, relaxation, insomnia, alertness, fatigue, tension, pain, mood, and energy level (scores 0-10) prior to and after intervention on postoperative days 1-3 and at 3 weeks follow-up.

Results: Of 40 accrued patients, 19 in each group finished the study. The mean age for all patients was 47.7+8.4 years with a range from 30 to 63. Preintervention and postintervention mean total VAS scores assessed during days 1-3 improved significantly in both groups ($p < 0.001$). However there was no significant difference in improvement between the 2 groups at day 1-3 post op and at 3 weeks follow-up. Satisfaction with the intervention measured on postoperative day 3 was high (very satisfied + satisfied 84% Group1; 89% in Group2) but not significantly different between the 2 groups ($p = 0.63$).

Conclusion: In this pilot study the addition of meditation to already available massage therapy for the postoperative care of breast cancer patients undergoing autologous tissue reconstruction after mastectomy did not appear to add any measurable benefit.

Contact: Dietlind Wahner-Roedler, wahnerruedler.dietlind@mayo.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.110>

P2.003

Development of Clinical Decision Support System of Japanese Kampo Medicine



Tetsuhiro Yoshino¹, Kotoe Katayama², Yuko Horiba¹, Rui Yamaguchi², Seiya Imoto², Satoru Miyano², Kenji Watanabe¹

¹ Center for Kampo Medicine, Keio University School of Medicine

² Human Genome Center, The Institute of Medical Science, The University of Tokyo

Purpose: Around 90% of physicians, who had studied Western medicine, used Japanese traditional Kampo medicine in daily practice. However, it is difficult for physicians who do not specialize Kampo medicine to choose proper drug from 148 Kampo products which are listed on national health insurance system. Many Japanese physicians who do not specialize Kampo medicine hope to get decision support systems to prescribe proper Kampo formulas, but the way how to predict a Kampo formula with statistical analysis have not been reported. Here we report our decision support system for Kampo formulas made from our database of clinical information.

Methods: Patients who made their first visit to the Kampo Clinic at Keio University Hospital between May 2008 and March 2013 were included from this study. We used data from 393 patients, 337 of them were women. We adopted random forests algorithm using age, sex, subjective symptoms, abdominal findings, and traditional pattern diagnoses as variables in order predict top 3 frequently used Kampo formulas chosen by Kampo specialist. After that, we changed traditional pattern diagnoses into the calculated values from the prediction models for traditional pattern diagnoses.

Results: We can get over 80% discriminant ratio when we use traditional pattern diagnoses as variables for our random forests model. It worked well even though when we used predicted pattern diagnoses. When we saw the important variables, we can see age, abdominal findings and pattern diagnoses had higher value.

Conclusion: We showed the frequently used Kampo formulas can be predicted by clinical decision support system. Such decision support system using clinical data may be useful for physicians who do not specialize traditional Asian medicine.

Contact: Tetsuhiro Yoshino, tetta213@a5.keio.jp

<http://dx.doi.org/10.1016/j.imr.2015.04.112>

P2.004

Use of Kampo Medicine in University Hospital



Tetsuhiro Yoshino, Yuko Horiba, Kenji Watanabe

Center for Kampo Medicine, Keio University School of Medicine

Purpose: Kampo medicine, Japanese traditional medicine, is widely used in daily practice in Japan. We have already

reported the prescription of Kampo drugs under the Japanese health care insurance program. Here, we report the current usage of Kampo drugs by physicians in one of the largest university hospital in Japan.

Methods: We sampled the 3 months prescription data in Keio University Hospital, Tokyo, from May to July in 2014. It included only internal prescription because most of the prescription of Keio University Hospital was internal. Our data also included internal prescription for inpatients. We counted each Kampo formula as 1 even if two or more Kampo formulas were in the same prescription. In this analysis, the dose nor duration were not taken into account. In this survey, we excluded prescriptions by experts from the center for Kampo medicine.

Results: The number of prescriptions in the department of obstetrics and gynecology was the most, and that of gastroenterology and surgery were second. Although almost of all the clinical departments used some Kampo formula, the ratio of the prescriptions in which Kampo drugs were included, was most in the department of obstetrics and gynecology (8.6%; 811 of 9405), followed by the oncology department (8.0%; 69 of 866). Obstetricians and gynecologists, gastroenterologists and surgeons used mainly daikenchuto. Oncologists used mainly daikenchuto and goshajinkigan.

Conclusion: We reported the current usage of Kampo medicine in our university hospital. Our results suggest that although Kampo medicine is integrated with Western medicine, very limited Kampo drugs are used. This leads to our development clinical decision support system will be helpful for physicians who do not specialize Kampo medicine and also beneficial for the patients.

Contact: Tetsuhiro Yoshino, tetta213@a5.keio.jp

<http://dx.doi.org/10.1016/j.imr.2015.04.113>

P2.005

A case report of hemophagocytic lymphohistiocytosis treated with Soshiho-Tang



Chang Kil Yoo, Yun Ju Lee

Yoochangkil Korean Medicine Clinic

Purpose: Hemophagocytic lymphohistiocytosis(HLH) is a rare but an aggressive and life-threatening syndrome of excessive immune activation. It most frequently affects infants from birth to 18 months of age. This case is to report reduction of clinical symptoms in HLH patient treated with Soshiho-Tang.

Methods: A 14 month-old girl with HLH had been suffered from fever and rash for 4 months. Her body temperature was up to 39~40 °C and down to 36~37 °C and this condition was repeated several times every day. Her Ferritin(7726ng/mL), E SR(120 mm/hr), CRP(12.31 mg/dL), WBC(24.53×10^3 / μ l)was high and Hb(8.5 g/dL), Hct(26.5%) was low. She had splenic hyperplasia. She had been treated with antibiotics, steroids and some fever reducers in western medicine hospital for 3 months but her symptoms were not controlled effectively. So her parents refused western medicine treatment and visited our clinic. We have focused on symptom of her fever

and decided to administer Soshiho-Tang. Soshiho-Tang is one of the famous traditional herbal prescription in Sang Han Lun(Treatise on Cold Damage) for the alternate chills and fever. She had been administered Soshiho-Tang three times a day for 5 months.

Results: During the 1st month of herbal medication, fever and rash were vanished. And through the whole herbal treatment, Ferritin, ESR, CRP, WBC, Hb and Hct levels were back to the normal range. After this treatment the patient's height and weight has been increased and maintains good condition.

Conclusion: Soshiho-Tang could be an alternative medication to treat clinical symptoms caused by HLH. For more accurate studies, further studies with larger number of subjects would be needed with more cases.

Contact: Chang Kil Yoo, ra7575@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.114>

P2.007

Hirudotherapy and inflammatory processes: chronic sinusitis



Konstantin Sukhov

World Hirudotherapy Organization

Purpose: Chronic sinusitis is one of the most common chronic inflammatory diseases in the world. For the period 2012-2014 was observed by the treatment of 24 patients (9 men, 15 women, ages 3.5 to 54 years) with chronic sinusitis different localization. Duration of illness ranged from 3 to 23 years, during which patients received standard medical treatment for 3 to 23 years.

Methods: To standard therapy we were added sessions hirudotherapy – application of medicinal leeches (*Hirudo medicinalis orientalis*). The treatment sessions were conducted according to the developed scheme, individually selected for each patient. The total number of sessions 3-16, per session at a time was accompanied 2-5 leeches.

Results: Efficacy of treatment was detected in all patients: 20 - fully restored and have no symptoms of disease, 4 - significant improvement in the state, but are under observation.

Conclusion: Hirudotherapy can be effectively used in integrated treatment of chronic sinusitis

Contact: Konstantin Sukhov, konstantinvs@yandex.ru

<http://dx.doi.org/10.1016/j.imr.2015.04.116>

P2.008

Prevalence of “Heat Syndrome” classified by traditional medicine syndrome differentiation in GERD patients

Jungtae Leem¹, Gajin Han², Nara Lee²,
Jinsung Kim², Jae-Woo Park², Jun-hee Lee²,
Kwanil Kim², Seung Won Shin²

¹ Korean Medicine Clinical Trial Center, College of
Korean Medicine, Kyung Hee University

² College of Korean Medicine, Kyung Hee University

Purpose: We can treat symptoms of GERD effectively by traditional medicine. And empirically we know there are many “heat syndrome” patients in GERD. But we don’t have standard syndrome differentiation questionnaire and don’t know prevalence of each syndrome.

Methods: We searched ‘GERD’ and ‘syndrome differentiation’ in CNKI and PubMed for last 10 years article. Then, we selected only clinical trials that categorized patients by ‘syndrome differentiation’ and reported the number of the patients according to each syndrome. Next, we classified them by syndrome differentiation and counted the number of patients according to each syndrome. Next, to survey cause of the disease, we re-classified them by cause of the disease. For instance, if there were letter ‘heat’ or ‘fire’ in the name of each syndrome differentiation, we classified the syndrome into “heat syndrome”. Finally we counted the total number of the “heat syndrome” patients.

Results: We could extract data of 1157 patients from 10 years clinical trial that had classified the patients according to syndrome differentiation. There were 22 syndrome patterns in GERD patients. The syndrome appeared most was ‘liver and stomach heat stagnation’ (398pts). And the total percentage of the patients who were classified into heat syndrome was 51.17%.

Conclusion: We found that more than half of the GERD patients classified into “heat syndrome” by traditional medicine. Now we are trying to make standard questionnaire of GERD. We could get cut-off score of “heat syndrome” through the work. The prevalence data of “heat syndrome” will be very helpful because we can predict post-test probability with prevalence and cut-off score of “heat syndrome”. Final goal of our research team is conducting a clinical trial to treat GERD by traditional medicine. This study was supported by the Traditional Korean Medicine R&D program funded by the Ministry of Health and Welfare through the Korean Health Industry Development Institute (KHIDI) (No. HI13C0700)

Contact: Jungtae Leem, julcho@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.117>

P2.009

Recovery from Chemotherapy Induced Neutropenia treated with Samultanggagambang

Hwi-Joong Kang, So-Jung Park,
Chong-Kwan Cho, Yeon-Weol Lee,
Hwa-Seung Yoo

East West Cancer Center, Dun-San Korean
Medical Hospital of Daejeon University

Purpose: The purpose of this study is to report a case series of two patients with chemotherapy induced neutropenia who prescribed herbal medicine during their period of hospitalization.

Methods: Samultanggagambang was prescribed three times a day to two patients with chemotherapy induced neutropenia. Complete blood cell count is measured before and after administration of samultanggagambang.

Results: ANC (Absolute Neutrophil Count) was gradually increased during the administration of samultanggagambang. Case 1 was a 51-year-old female patient. The initial diagnosis was made in December, 2013 with right breast cancer, IIB (pT 2N1M0). Neoadjuvant chemotherapy was administered from December, 2013 to February, 2014. Partial mastectomy was performed on March, 2014. Adjuvant chemotherapy was administered from April, 2014 every three weeks with Docetaxel. The patient was hospitalized on 19, May after second chemotherapy on 12, May. The patient was isolated in single room on 20, May with ANC 340. Filgrastim was administered once and Samultanggagambang was prescribed three times a day. ANC was recovered as 2083 on 26, May. Case 2 was a 46-year-old female patient. The initial diagnosis was made in April, 2014 with advanced gastric cancer, IIIB (pT3N2M0). A total gastrectomy was performed on two weeks later. Adjuvant chemotherapy was administered from May, 2014 every three weeks with Xeloda and Oxaliplatin. The patient was hospitalized on 19, May after first chemotherapy on 15, May. The patient was isolated in multi-bed room on 20, May with ANC 974. Samultanggagambang was prescribed three times a day. Even though, Capecitabine 2,300 mg was administered until 28, May ANC was recovered as 3,419 on 2, June.

Conclusion: Samultanggagambang has shown benefit in improving chemotherapy induced neutropenia. It is expected to be a promising treatment for improving chemotherapy induced neutropenia and more clinical research will be required for evidence based medicine.

Contact: Hwi-Joong Kang, thsgvg@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.118>

P2.010

A systematic review and meta-analysis on the safety of yoga



Holger Cramer¹, Lesley Ward²,
Robert Saper³, Daniel Fishbein⁴,
Gustav Dobos¹, Romy Lauche¹

¹ Department of Internal and Integrative Medicine,
University of Duisburg-Essen, Essen, Germany

² Dunedin School of Medicine, University of Otago,
Dunedin, New Zealand

³ Boston University School of Medicine, Boston,
MA, USA

⁴ Myanmar Research International, Santa Barbara,
CA, USA

Purpose: To systematically assess and meta-analyze the frequency of adverse events in randomized controlled trials of yoga.

Methods: Medline/Pubmed, Scopus, Cochrane Library, IndMED and tables of content of yoga specialty journals not listed in medical databases were screened from their inception until February 2014. Randomized controlled trials comparing yoga to other interventions, and reporting non-serious adverse events, serious adverse events, intervention-related adverse events, and/or drop-outs due to adverse events were included. Study characteristics and risk of bias (Cochrane risk of bias tool) were assessed by 2 reviewers independently. Risk differences (RD), odds ratios (OR), and their respective 95% confidence intervals (CI) were calculated and meta-analyzed using a random effects model.

Results: Out of 2,520 initially identified records, 301 were randomized controlled trials of yoga, of which 94 (total of 8,430 participants) reported on adverse events. No differences in the frequency of non-serious, serious, or intervention-related adverse events and of drop-outs due to adverse events were found when comparing yoga to usual care or exercise. Compared to psychological or educational interventions, more non-serious adverse events (RD=0.11; 95% CI=0.02, 0.19; p=0.01; OR=7.29; 95% CI=1.91, 27.89; p<0.01) and more intervention-related adverse events (RD=0.05; 95% CI=-0.02, 0.12; p=0.10; OR=4.72; 95% CI=1.01, 21.99; p=0.05) occurred in the yoga group; serious adverse events and drop-outs due to adverse events were comparable between groups.

Conclusion: Only 31% of the identified randomized trials of yoga reported on adverse events. While non-serious adverse events are more frequent with yoga than with psychological interventions, yoga appears as a generally safe intervention, comparable to exercise and usual care. Despite the limitations of the available evidence, recommending yoga to healthy people and those with underlying illnesses should not be discouraged based on safety and can be considered if sufficient evidence of effectiveness is available.

Contact: Holger Cramer, h.cramer@kliniken-essen-mitte.de

<http://dx.doi.org/10.1016/j.imr.2015.04.119>

P2.011

Characteristics of Patients with Cancer Treated with Japanese Kampo Medicine



Hiroshi Koike, Tetsuhiro Yoshino,
Yuko Horiba, Kenji Watanabe

Center for Kampo Medicine, Keio University School
of Medicine

Purpose: In Japan, cancer patients demand Kampo treatment, in order to augment the immune system or ameliorate the side effects from anti cancer therapy such as chemotherapy or irradiation. Here we report the characteristics of cancer-bearing patients in Kampo clinic.

Methods: Patients who made their first visit to the center for Kampo medicine at Keio University Hospital between May 2008 and March 2013 were included in this study. We counted and examined the patients who suffered from cancer in 4,057 patients (2,928 women, 72%).

Results: We treated 211 cancer patients (132 women, 63%. average age 59±14) in Kampo clinic. The patients consulted for the purpose of enhancement of immunity for cancer, improvement of cancer-related symptoms, or reduction of side effects of anti-cancer therapy. The patients with cancer were 5% of all patients. Among male patients, largest population was in the 60's and in the 50's among female patients. In male patients, 14% of patients suffered from colon cancer, also 14% from lung cancer, 11% from prostate cancer, 10% from stomach cancer and 9% from pancreas cancer. Among female patients, 39% suffered from breast cancer, 18% from uterus cancer, 9% from colon cancer, 8% from lung cancer and also 8% from stomach cancer.

Conclusion: We showed that our patients suffered from cancers of various types. In the Japanese national surveillance, largest population of cancer patients is in the 70's in both men and women. The average age of the cancer patients treated with Kampo medicine was younger than the Japanese national surveillance. There were more patients with cancer of prostate, breast or uterine, compared with the Japanese national surveillance. Japanese doctors can use both Western and Kampo medicines in one medical institute with public health insurance. Cancer patients can use combination therapies with Western and Kampo medicines easily in Japan.

Contact: Hiroshi Koike, koike-h@umin.org

<http://dx.doi.org/10.1016/j.imr.2015.04.120>

P2.012

Based on the principle of WRS to compare the clinical effect differences between acupuncture and Western medicine in anti-depression



Mingmin Xu, Sihan Wang, Ya Tu, Yu Guo, Miao Yu

Beijing University of Chinese Medicine

Purpose: we will prove the clinical effect of acupunctural treatment to anti-depression.

Methods: According to the principle of informed consent and the wishes of patients, the participants were divided into two groups, 35 for acupuncture group (acupuncture treatment), 25 for western medicine group (SSRI). Hamilton scales have been evaluated at the 0,1,2,4,6,8,12 weeks period.

Results: 1. The significant difference of the effects between the two groups was detected ($P < 0.05$), the clinical control rate, markedly effective rate, non-effective rate of acupuncture group were significantly better than the western medicine group. The total effective rate of acupuncture group is higher than the western medicine group, but there was no statistically significant difference between the two groups ($P > 0.05$). 2. There was significant difference of the cure rate between two groups ($P < 0.05$), acupuncture group was significantly better than the western medicine group. 3. On HAMD scores of the two groups after treatment in 4,6,8 weeks, significant differences were presented ($P < 0.05$). From the beginning of the fourth week, the HAMD score of acupuncture group was significantly better than the western medicine group. In both of the two groups, there were statistically significant differences between baseline score of HAMD and the score in every treatment period ($P < 0.05$). 4. Significant difference was shown between the two groups in HAMD score of the follow-up period. Acupuncture group were better than the western medicine group score. Therefore, persistent effect of acupuncture was better than western medicine group.

Conclusion: In the real clinical conditions, the effect of acupuncture treatment for depression is better than that of western medicine.

Contact: Mingmin Xu, xumin_614@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.121>

P2.013

Kampo treatment for low back pain in elderly patients



Takuya Hamaguchi, Tetsuhiro Yoshino, Yuko Horiba, Kenji Watanabe

Center for Kampo Medicine, Keio University School of Medicine

Purpose: In Japan, the top cause of disability-adjusted life years in 2010 was low back pain (LBP). LBP is a chronic disorder even though various Western treatments are provided, and according to Cochrane Review, LBP has associated a large amount of medical costs. In Japan, the national medical

expenditure has been increasing with an aging society, and the national medical expenditure per person over 65 years old is approximately 4 times larger than that under 65 years old in 2012. Not only Western treatment but also Kampo treatment, Japanese traditional medicine, is available in a medical service under health insurance, and Kampo treatment may reduce medical expenditure. Here, we report the results of our analysis of Kampo treatment for LBP in elderly patients at Center for Kampo medicine in Keio University Hospital.

Methods: We picked up the data of patients over 65 years old who visited Center for Kampo medicine in Keio University Hospital between May 2008 and March 2013. We analyzed the data of 960 elderly patients and clarified the usage of Kampo treatment for LBP.

Results: Among 960 patients, 51 patients (5.3%) had been treated for LBP. Sixteen of them were men (78.6 ± 5.9 years old) and 35 were women (75.4 ± 5.3 years old). The formulas to use frequently were goshajinkigan (30%), hochuekkito (9%), hachimijiogan (8%), and tokishigyakugoshuyushokyo (8%). We plan to present typical cases of reducing LBP with Kampo treatment.

Conclusion: Goshajinkigan is a related formula with hachimijiogan, two ingredients achyranthes root and plantago seed are added. One of the common ingredients is processed aconite root, which is well known to reduce pain. It is reported that the mechanism of reducing pain is different between processed aconite root and nonsteroidal anti-inflammatory drug, so we often use the combination of Western and Kampo treatment.

Contact: Takuya Hamaguchi, takuya.hamaguchi@zb4.sonet.ne.jp

<http://dx.doi.org/10.1016/j.imr.2015.04.122>

P2.014

Mental Symptoms Can Be Treated With Japanese Kampo Formula, Yokukansan and Its Variables



Ryutaro Arita, Tetsuhiro Yoshino, Yuko Horiba, Kenji Watanabe

Center for Kampo Medicine Keio University School of Medicine

Purpose: Mental illness is one of the most serious health-care problems. World health organization has reported that mental illness is the leading cause of disability-adjusted life years worldwide. Yokukansan and its related drug, yokukansankachinpihange is used for treatment of mental illness such as insomnia and behavioral and psychological symptoms of dementia in Japanese Kampo medicine. However, it has not been well described which kind of subjective symptoms, including mental and physical symptoms are improved by these drugs. We analyzed our clinical data in order to clarify the effectiveness of yokukansan for mental health.

Methods: Patients who made their first visits to the Kampo Clinic at Keio University Hospital between May 2008 and March 2013 were analyzed in this study. Subjective symptoms of patients were collected on the browser-based questionnaire

system by visual analogue scale (VAS) in 0 to 100. We analyzed the VAS scores of 106 subjective symptoms in patients who received yokukansan or yokukansankachinpihange at the first and last visit within 12 weeks.

Results: Sixty patients were included (21 men and 39 women, mean +/- SD age = 45.8 +/- 17.9 years) in this study. The most common diseases to use yokukansan and yokukansankachinpihange were insomnia (35%). There were significant decreases of VAS scores in early-morning awakening (22 patients, mean +/- SD rate of change in VAS score = 23.1 +/- 46.8%), depressed mood (36 patients, 13.6 +/- 30.7%), irritating (32 patients, 30.2 +/- 43.2%), vertigo (24 patients, 44.3 +/- 44.4%), and cold sensation of legs (24 patients, 14.4 +/- 30.4%), respectively ($p < 0.05$). Multiple VAS scores of mental symptoms were decreased in 11 patients.

Conclusion: The result suggests that yokukansan could improve multiple mental symptoms at the same time.

Contact: Ryutaro Arita, tarikun@a6.keio.jp

<http://dx.doi.org/10.1016/j.imr.2015.04.123>

P2.015

Analysis of medicinal herbs used for chronic hepatitis C: a survey of randomized clinical trials



Kang Zhang, Nini Chen, Ning Liang,
Wenyuan Li, Mei Wang, Guoyan Yang,
Jianping Liu

Center for Evidence-Based Chinese Medicine,
Beijing University of Chinese Medicine

Purpose: To analyze the characteristics of medicinal herbs tested in randomized clinical trials (RCTs) for chronic hepatitis C, in relation to the outcomes reporting.

Methods: RCTs of medicinal herbs for chronic hepatitis C were searched in four Chinese (CNKI, VIP, Wanfang, CBM) and four English databases (MEDLINE, EMBASE, BIOSIS, and Cochrane Library) from their inception to June 2014. We analyzed the frequency and properties of medicinal herbs and outcomes reported in these RCTs.

Results: Totally 65 RCTs involving 4314 participants were included, testing 44 different herbal formulae with 112 herbs at frequency of 621 times. The number of herbs tested in each formula ranged from 5 to 20 herbs, with an average of 14. Major comparisons involved medicinal herbs versus no intervention (3%), placebo (13.4%), antiviral drugs (IFN/ribavirin) (20.9%), and medicinal herbs plus antiviral drugs versus antiviral drugs (56.7%). Among 44 formulae, the top five frequent therapeutic principles and methods were fortifying spleen (54.5%), clearing heat and resolving toxins (5 2.3%), invigorating blood and dissolving stasis (43.2%), soothing the liver (54.5%) and supplementing qi (40.9%). In addition, the top five frequently used individual herbs from 44 formulae were Radix Bupleuri (77.3%), Poria (75%), Radix et Rhizoma Glycyrrhizae (65.9%), Rhizoma Atractylodis Macrocephalae (61.4%), and Radix Astragali (61.4%), with the function of soothing liver, fortifying spleen, and supplementing qi. The commonly reported outcomes were viral response (74.6%), liver function (68.7%), symptom-related composite outcomes (43.1%), symptoms

(29.9%), and adverse events (34.3%). Most of the outcome measured showed positive findings.

Conclusion: According to the therapeutic principle under Chinese medicine theory, most frequently used herbs tested in RCTs for chronic hepatitis C may work as the function of antiviral, liver protection, and symptom improvement. Further research should focus on commonly used herbal formulae for long-term outcome and quality of life.

Contact: Kang Zhang, astreae@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.124>

P2.016

Does mind-body skills training help medical students to more effectively tolerate distressing emotions?



Kristen Kraemer¹, Christina Luberto¹,
Rachel Wasson², Sian Cotton²

¹ University of Cincinnati, Department of
Psychology

² University of Cincinnati, College of Medicine

Purpose: Distress tolerance, that is, the ability to withstand aversive emotions, is a psychological risk factor for mental health disorders that may be improved through mind-body skills training. Teaching mind-body skills, including mindfulness and relaxation, has been associated with improved anxiety, depression, stress biomarkers, empathy, and spirituality in medical students – though no studies have examined effects of such training on distress tolerance. The purpose of this study was to examine the effects of a mind-body group on distress tolerance in medical students using a mixed-methods approach.

Methods: The mind-body group was an 11-week, 90-minute group co-facilitated by 2 faculty members that provided training in mind-body skills. Students in the intervention group ($n=11$; 63.6% female; Mage=24.27 years) and no-intervention control group ($n=11$; 72.7% female; Mage=23.64 years) completed self-report measures pre and post the 11-weeks. Intervention group students answered open-ended questions post-intervention for quotes on their group experiences.

Results: Mixed-ANOVA results indicated a significant main effect of time ($F(1,16) = 12.15, p < .01$). The group by time interaction showed a trend toward significance, ($F(1,16)=3.54, p = .078$). Only the mind-body group significantly improved in distress tolerance over time ($M_{pre}=3.46$ vs. $M_{post}=4.30, p=.01$). Findings are supported by qualitative quotes (e.g., “This course has helped me become more aware of when I am stressed or upset, and equipped me with tools to handle these stressors”).

Conclusion: Distress tolerance increased over 11 weeks in medical students, particularly for those students learning mind-body skills. As this is an ongoing study, we anticipate having adequate power to detect an interaction before May 2015 (estimated $N=66$). Overall, mind-body groups may improve students' ability to withstand difficult emotions, which is likely to be associated with other improved health outcomes. Preliminary results suggest that incorporating

mind-body groups into medical school education may be useful to consider.

Contact: Kristen Kraemer, kraemeke@mail.uc.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.125>

P2.017

An Expert Interview to Develop a Clinical Protocol for Hemiplegic Shoulder Pain through Integrative Medical Treatment in NRH



Kuem Ju Lee¹, Chi Hyoung Son²,
Go Eun Lee², Sook-Hyun Lee¹,
Sung Min Lim¹, Hyun Choi¹, Jung Sup Lee²

¹ Korea National Rehabilitation Research Institute

² National Rehabilitation Hospital

Purpose: The purpose of this study was performed an expert interview as evidences to develop a clinical protocol for hemiplegic shoulder pain in administering a systematic cooperative treatment with western and Korean traditional medicine because there has been appealed shoulder pain about 70% of stroke inpatients at the National Rehabilitation Hospital (NRH).

Methods: There were created a questionnaire in a half-structured format and was comprised of demographic characteristics, diagnosis, prescriptions, and patient management with hemiplegic shoulder pain. The questionnaire an expert interview was performed with 6 western rehabilitation medicine (WRM) doctors and 6 Korean traditional medicine(KTM) doctors, who had worked minimum three years at an cooperative medical hospital with western-Korean traditional medicine. The data was collected by recording, and analyzed transcripts later. The analysis of data was classified into WRM and KTM to develop a clinical protocol on hemiplegic shoulder pain.

Results: As the results of a WRM aspect, there have been shown to various treatment methods which were diagnosis, screening, physical examination, principles for diagnosis and causes of pain, and accompany with structural/functional malfunctions, and prescription for exercise, and other general methods. Whereas the results of KTM aspect were reached a few pattern identification methods and treated with acupuncture, pharmacopuncture, electrical acupuncture, cupping and moxibustion. Furthermore, there were three cases to request in KTM for cooperative treatments for hemiplegic shoulder pain. First, patients have limited range of motion due to muscle stiffness. Second, there is no effect short-term treatment of thermoelectric stimulation. Third, injection is effective but a problem repeatedly.

Conclusion: These results should be used as evidences to establish a clinical protocol for hemiplegic shoulder pain according to the current condition of the Western and Oriental integrated treatment at NRH through perform a further Delphi study.

Contact: Kuem Ju Lee, kjlee74@korea.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.126>

P2.018

The Influence of Bach Rescue Remedy on the Autonomic Response to Mental Challenge in Healthy Taiwanese Women



Shih Wei Yang¹, Malcolm Koo²,
Yuh-Hai Wang³

¹ Department of Counseling, National Chiayi University, Chiayi, Taiwan

² Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation

³ Nanhua University

Purpose: The Bach Rescue Remedy is generally considered as a stress relief formula by practitioners of Bach flower remedies. The influences of Bach Rescue Remedy on the autonomic response to mental challenge have not been clarified. Therefore, this study aimed to evaluate the effect of Bach Rescue Remedy on the autonomic response to mental challenge using heart rate variability in healthy women.

Methods: A two-stage crossover study design was used to compare the effects of Bach Rescue remedy and placebo on autonomic response to a mental challenge in 30 women (mean age 30 years, SD 6 years). The Bach Rescue Remedy consisted of four drops of five flower essences (cherry plum, clematis, impatiens, rock rose and Star of Bethlehem) dissolved in brandy and 250 mL of distilled water. The placebo consisted of four drops of brandy in 250 mL of distilled water. The mental challenge was a 5-minute mental arithmetic task administered through Calcul 5.2 Win32 computer software. Percentage changes in heart rate variability were calculated between baseline and after the mental challenge in both groups.

Results: The mean percentage changes of normalized low frequency power (nLF) ($p=0.046$) and natural logarithm-transformed low frequency power to high frequency power ratio [$\ln(LF/HF)$] ($p=0.041$) were significantly lower in the Bach Rescue Remedy group compared with the placebo.

Conclusion: The decrease in the LF/HF ratio in the Bach Rescue Remedy group indicated a change of the sympathovagal balance towards a parasympathetic predominance. This finding suggested that the stress relieving effect of Bach Rescue Remedy may operate through a modulation of the sympathetic and parasympathetic nerve activities.

Contact: Shih Wei Yang, carol057834180@yahoo.com.tw

<http://dx.doi.org/10.1016/j.imr.2015.04.127>

P2.020

Short term effect of laser acupuncture on low back pain: A randomized, placebo-controlled, double-blind trial

Jae-Young Shin¹, Boncho Ku¹, Jaeuk U. Kim¹,
Yu Jung Lee¹, Jae Hui Kang², Hyun Heo³,
Hyo-Joon Choi³, Jun-Hwan Lee¹

¹ Korea Institute of Oriental Medicine

² Daejeon University

³ Solco Biomedical Co., Ltd.

Purpose: This trial was performed to investigate the efficacy of laser acupuncture on pain alleviation in patients with low back pain.

Methods: This was a randomized, sham laser acupuncture-controlled, double-blind trial. Fifty-six patients were randomly assigned to either the laser acupuncture group (n=28) or the placebo laser acupuncture group (n=28). Participants in both group received three sessions of treatment within a week. 11 acupuncture points were selected in total: GV3, GV4, GV5 and bilateral BL23, BL24, BL25, GB30. Visual Analogue Scale for pain (VAS for pain), Pressure pain threshold (PPT), Patient Global Impression of Change (PGIC) and Euro-quality-of-life 5 dimension (EQ-5D, Korean version of EQ-5D) were used to evaluate the effect of laser acupuncture treatment on low back pain in this trial.

Results: None of the outcomes revealed significant differences between groups. However, within the group changes, each laser acupuncture group and sham laser acupuncture group have shown with significant improvement between the baseline measurement and each point of assessment.

Conclusion: Although there was no significant difference between both groups, laser acupuncture can provide effective pain treatment and can be considered as an alternative option for low back pain treatment. Long term intervention, large scale and rigorous methodology are required in further studies to determine the effect of laser acupuncture on pain alleviation in patients with low back pain.

Contact: Jae-Young Shin, meelbbi@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.128>

P2.022

Groups TCM Psychological Intervention Research on Subthreshold Depression Population

Xi Tan¹, Xi Liu¹, Yan Liu¹, Jian Du²,
Junhui Kong¹

¹ Beijing University of Chinese Medicine

² China Academy of Chinese Medicine Sciences

Purpose: As a sign of physiological sub-health, subthreshold depression has not been classified into mental disorder diseases like "paralepsy". The medicine treatment is not only a blank area, but also it has risks of leading major depressive disorder resulting from exacerbations. Based on TCM theory "supporting yang to inhibit yin", this study conducts

Groups TCM Psychological Intervention Research on Subthreshold Depression Population through pretest-posttest design to study the curative effect of groups TCM Psychological intervention on subthreshold depression Population

Methods: Based on pretest-posttest design, cluster random sampling, 600 cases of samples was tested by Centre for Epidemiological Studies Depression Scale (CES-D) and Hamilton Rating Scale for Depression (HAMD-17). After the screening, 189 cases of samples were included into the study, and then randomly chosen 36 cases of the intervention group and 36 cases of the control group. Groups TCM Psychological Intervention was carried out in intervention group, while nothing was conducted in control group. After the intervention (8 weeks later), CES-D was used to test cases in the intervention group and the control group. All the data were analyzed statistically.

Results: After 8 weeks of intervention, there were significant statistical differences between the total scores of the intervention group before and after the intervention, and between the total scores of the intervention group and the control group after the intervention.

Conclusion: Symptoms of subthreshold depression can be differentiated as a syndrome based on TCM theory. Subthreshold depression is a syndrome of excessive yin due to yang deficiency from the perspective of yin and yang differentiation, so as to put forward the treatment thought of supporting yang to inhibit yin. The study shows that Group TCM psychological intervention which is based on supporting Yang to inhibit Yin, has desirable effects on alleviating the negative mood of patients with SD.

Contact: Xi Tan, tanxi34@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.130>

P2.023

Conservative Korean medicinal treatment for adjacent segment syndrome after fusion surgery of lumbar spinal stenosis: a retrospective audit

Kiok Kim¹, Yongjae Jeong¹, Yousuk Youn¹,
Jeongcheol Choi¹, SangHo Lee¹,
Tae-Hun Kim², Jaehong Kim¹

¹ Mokhuri Oriental Medical hospital

² Kyung Hee University

Purpose: Adjacent segment syndrome, which presents successive degeneration of spine at upper or lower level after fusion surgery, is one of the bothering conditions which are observed comparatively frequently among patients of lumbar spinal stenosis. We report cases of patients with adjacent segmental degeneration whose symptom was improved after conservative Korean medicinal treatment.

Methods: This is a retrospective audit study. At Mokhuri Neck and Back Hospital, Republic of Korea during January, 2012 to September, 2014, we reviewed all the medical records of patients with adjacent segmental degeneration, who presented continuous low back pain or sciatica and showed degenerative spinal stenosis at upper or lower level after spinal fusion surgery. All the patients took body acupuncture

ture, pharmaco-acupuncture, Chuna and oral administration of herbal medicines (Gangchuk tang) everyday during about one month of admission treatment. Zero to ten pain numerating rating scale (NRS) of low back pain and sciatica, walking duration without claudication symptom before and after treatment.

Results: A total of 7 patients' (average 67 years old, [53 to 78]) medical records were included into the analysis. Segmental degenerative change at lower and upper level of the spine was observed at average 7.64 (4.51) years after the fusion surgery. Average zero to ten NRS of low back pain was improved from 6.57 (SD 2.23) to 2.71 (2.06). Walking duration without pain increased from 118.57m (171.02) to 771.43m (1029.25). There was no adverse event related to the treatment.

Conclusion: Conservative Korean medicinal treatment may be effective for the symptom management of adjacent segment syndrome after spinal fusion surgery. Future long-term randomized trials with active control intervention, enough sample size and validated outcomes will be necessary for concrete clinical evidence of this treatment program.

Contact: Kiok Kim, hanbanglove@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.131>

P2.024

Non-surgical treatment for patients with spondylolisthesis: a retrospective case series

Kiok Kim¹, Yongjae Jeong¹, Yousuk Youn¹, Jeongcheol Choi¹, Jaehong Kim¹, SangHo Lee¹, Han-Sol Park¹, Tae-Hun Kim²

¹ Mokhuri Oriental Medical hospital

² Kyung Hee University

Purpose: To assess effectiveness of non-surgical combination treatments on the symptoms related to spondylolisthesis.

Methods: This is a retrospective audit study. Mokhuri spine center is a department of Mokhuri oriental medical hospital, located in Seoul, South Korea. We reviewed all the patients' medical records, diagnosed as spondylolisthesis and participated in the admission treatment program from January, 2013 to March, 2014. All the patients took conservative integrative treatments. Body acupuncture, pharmacopuncture, Chuna and oral administration of herbal medicines were offered to every patient each day. Zero to ten pain numerating rating scale (NRS) of low back pain, walking distance without pain were assessed before and after treatment. If available, functional assessment with Oswestry disability index (ODI) and quality of life with EQ-5D were evaluated. Statistical analysis between the variables of before and after treatment was conducted with t-test or Wilcoxon signed rank test using SAS 9.2 package software. Spearman correlation was analyzed to assess the statistical dependence between baseline characteristics and main outcome variables.

Results: A total 44 spondylolisthesis patients' medical records were reviewed. Disease durations were average 23.1 month (SD 52.8). After average 24.0 days (SD 6.5) of treatments, pain NRS improved from 7.1 (SD 2.0) to 3.1 (SD 1.9) significantly (t-test, $p < 0.0001$). Walking distance showed significant improvement after treatment (193m (SD 234) at the beginning

and 568m (SD 514) after treatment, Wilcoxon test, $p < 0.0001$). ODI improved from 44.7 (SD 17.7) to 31.0 (SD 16.5) ($n = 13$, t-test, $P = 0.00017$). EQ-5D also improved significantly ($n = 12$, Wilcoxon test, $p = 0.00195$). From the correlation test, we found that when disease duration increases, the improvement of lumbar function and quality of life decrease respectively. There was no reported adverse event related to the treatments.

Conclusion: We found that conservative integrative treatments might be effective in the patients with spondylolisthesis.

Contact: Kiok Kim, hanbanglove@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.132>

P2.025

A case report of a clinically diagnosed stage III lung cancer patient who had been treated with Gunchilgyebok-Wan showing improvement in tumor size



So jung Park, Hwi joong Kang,
Chong-kwan Cho, Yeon-weol Lee,
Hwa-seung Yoo

East West Cancer Center, Dunsan Korean
Medicine Hospital of Daejeon University

Purpose: This case report presents the effects of Korean medicine therapy of Gunchilgyebok-Wan to a patient who was clinically diagnosed as both stage III lung cancer and benign hamartoma.

Methods: A 74-year-old male patient was clinically diagnosed as both stage III lung cancer and benign hamartoma by chest computed tomography (CT), positron emission tomography (PET) CT. Because of old age and general body weakness, he had refused to receive standard cancer treatment regimen, percutaneous needle aspiration (PCNA) and biopsy. The 11.32 mm and 23.03 mm × 35.34 mm sized masses were on the right upper lobe of lung and in the mediastinum respectively. The patient's chief complaints were fatigue, itching, anorexia, cough and sputum. Gunchilgyebok-Wan commonly used for anti-tumor and anti-inflammatory effect is composed of *Lacca sinica* extract and *Guì zhī fú líng wán* extract which has *Cinnamomi Ramulus*, *Hoelen* etc. We prescribed Gunchilgyebok-wan 1 g a dosage three times a day for 50 days. Then we identified the decrease in tumor sizes by chest CT.

Results: Decrease in tumor size on the chest CT and improvement of symptoms were observed after the administration of Gun chilgyebok-Wan. The Right lung upper lobe mass size was decreased from 11.32 mm to 10.69 mm and mediastinum mass size was decreased from 23.03 mm × 35.34 mm to 22.71 mm × 34.21 mm in 3 months. Numerical rating scale (NRS) showed improvement in Fatigue, weakness, itching and anorexia symptoms from point 7-8 to point 3-4. Sputum and cough were slightly improved. Kidney function test and complete blood cell count were in normal range. Liver function test showed slight increase than normal range at hospitalization day but gradually decreased during treatment. Tumor markers were slightly elevated from hospitalization day, but further tests should have been carried out.



Conclusion: This study suggests Gunchilgyebok-Wan may have effects of anti-tumor and immunopotentiating activity without any related adverse effects.

Contact: So jung Park, vivies51@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.133>

P2.029

Short-term Effect of Acupuncture on Functional Brain Connectivity of Bell's Palsy



Abdalla Z. Mohamed¹, Seulgi Eun¹, Jeungchan Lee², Yuanyuan Wu³, Jun Yang³, Yifang Zhu³, Chuanfu Li³, Kyungmo Park¹

¹ Department of Biomedical Engineering, Kyung Hee University, Yongin

² Massachusetts General Hospital

³ Lab of Digital Medical Imaging, First Affiliated Hospital of AnHui University of Chinese Medicine

Purpose: Bell's palsy (BP), a peripheral idiopathic disease affecting facial nerve (CN VII), has been cured with acupuncture for long time. This study investigates acupuncture short-term effects on sensorimotor network (SMN) and default-mode network (DMN) during resting states for BP patients.

Methods: Two resting state functional MRI (pre- and post-acupuncture) were performed over 35 healthy and 58 BP patients (Some participated multiple times). Patients' scans were assigned to three different groups based on disease duration (D) and House-Brackmann score (HBS) as early (HB>I, D<14days), late (HB>I, D>14days), recovered (HB=I, D>14days) groups. Patients were treated using acupuncture (three times/week). Dual regression-ICA approach for brain functional connectivity analysis was performed. All individual maps of right-sided BP patients were flipped around y-axis.

Results: In early group, SMN connectivity to bilateral SI, MI and SII; ipsilateral (left) insula; and contralateral (right) cuneus and lingual gyrus were decreased in post-acup, while it was increased with contralateral SI, MI, Insula and SII in late group. For DMN, early group had increased connectivity in bilateral dorsolateral prefrontal cortex, cerebellum, and anterior cingulate cortex; ipsilateral insula and ventro-lateral prefrontal cortex; and contralateral DMN area (dorso-medial pre frontal cortex, angular gyrus and para-hippocampus) in post-acup. Recovered group had increased connectivity in motor area (bilateral cerebellum, ipsilateral MI, premotor) and facial processing area (superior temporal gyrus).

Conclusion: Acupuncture decreased SMN connectivity to bilateral sensori-motor regions in early stage and increased it to contralateral side in late stage to compensate the brain connectivity changes that we found in other study of BP. Also, DMN connectivity was increased with DMN area itself, motor, emotional and cognitive areas maybe to improve motor function. In addition, DMN connectivity to motor and facial processing areas was increased in recovered stage because there is still negative neuroplasticity effect to be treated by acupuncture.

Contact: Abdalla Z. Mohamed, bio.abdallah2012@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.135>

P2.030

Acupuncture induces long-term changes for Sensorimotor Network of Bell's palsy in resting state



Abdalla Z. Mohamed¹, Seulgi Eun¹, Jeungchan Lee², Yuanyuan Wu³, Chuanfu Li³, Yifang Zhu³, Jun Yang³, Kyungmo Park¹

¹ Department of Biomedical Engineering, Kyung Hee University, Yongin

² Massachusetts General Hospital

³ Lab of Digital Medical Imaging, First Affiliated Hospital of AnHui University of Chinese Medicine

Purpose: Bell's palsy (BP) is a peripheral idiopathic disease affecting facial nerve (CN VII), and is treated with acupuncture for long time. Acupuncture underlying mechanism and efficacy are still unknown. This study investigates acupuncture long-term effect on sensorimotor network (SMN) during resting state of BP patients.

Methods: 10 Minutes resting state fMRI (TR=3sec) was performed after acupuncture session for 35 healthy participants and 58 BP patients (Some participated multiple times). Patients' scans were assigned to three different groups based on their disease duration (D) and House-Brackmann score (HBS) at scan day as early (HB>I, D<14), late (HB>I, D>14), recovered (HB=I, D>14) groups. Patients were treated using acupuncture (three times/week). Dual regression-ICA approach for brain functional connectivity analysis was performed and all individual maps of right side BP patients were flipped around y-axis.

Results: For SMN, early group had increased connectivity over healthy group in contralateral to paretic side (right) pre-cuneus, superior occipital cortex (SOC), angular gyrus, and superior temporal gyrus (STG); and decrease in ipsilateral (left) middle temporal gyrus (MTG), dorsolateral prefrontal cortex (DLPFC), and STG. Late group had an increase in contralateral DLPFC, middle cingulate cortex (MCC); and ipsilateral primary sensory cortex (SI), primary motor cortex (MI); and decrease in contralateral DLPFC. While recovered group had increased in contralateral angular gyrus and STG and ipsilateral MI; and decrease in contralateral MI and SI, and ipsilateral premotor.

Conclusion: There was long-term response to acupuncture SMN brain connectivity changes over different stages of BP. SMN connectivity to contralateral side was increased with sensory, motor and cognitive regions in late group while in recovered stage; SMN connectivity was decreased to these regions. These changes might be to compensate the changes due to BP according to our other study.

Contact: Abdalla Z. Mohamed, bio.abdallah2012@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.136>

P2.031

Dissociation of somatosensory needling and needling credibility of the acupuncture effect on low back pain: fMRI study

Meena M. Makary¹, Jeungchan Lee³,
Jun-Hwan Lee², Eunyong Lee²,
Jae-Young Shin², Vitaly Napadow³,
Geonho Jahng⁴, Kyungmo Park¹

¹ Department of Biomedical Engineering, Kyung Hee University, Yongin

² Korea Institute of Oriental Medicine

³ Massachusetts General Hospital

⁴ Department of Radiology, Kyung Hee University Hospital at Gangdong

Purpose: Although sham acupuncture as well as real acupuncture are known to reduce low back pain (LBP), the brain correlates of placebo effect in acupuncture is not clearly understood. So we dissociated the brain correlates of somatosensory needling from needling credibility effect induced by a novel form of sham acupuncture “phantom acupuncture”.

Methods: Forty three LBP patients were randomized into the real (REAL, n=23) and phantom (PHNT, n=20) groups. In acupuncture session, the REAL got real acupuncture at left ST36, left SP11 and bilateral SP13 points (five times stimulation per each point in a random order with inter-stimulus interval of 17.8 ± 1.7 seconds) at around 2 Hz for two seconds per stimulation, while the PHNT saw only a videoclip (recorded needling manipulation in REAL session) to create needling credibility. LBP intensity (VAS) was measured before and after acupuncture session.

Results: PHNT experienced needling credibility with visual stimulation while REAL experienced both needling credibility and somatosensory stimulation. In PHNT we found activation in somatosensory processing areas including SI, SII and anterior cingulate cortex but not in posterior insula and thalamus where activated in REAL. In unpaired t-test, REAL shows greater activation in sensory motor areas. Also activation in rewarding and pain processing areas (periaqueductal gray, nucleus accumbens and putamen) were observed in both REAL and PHNT. Activation in pain evaluation area (inferior frontal gyrus) is observed in PHNT while signal deactivation in cognitive processing area (dorsolateral prefrontal cortex) in REAL. Greater signal deactivation in default mode network (DMN) was observed in REAL. In difference map, differences in activation intensity in ACC, posterior insula were strongly observed.

Conclusion: Somatosensory afference/needling induces greater deactivation in DMN area as well as sensory motor area, while needling credibility, a contributing factor for placebo effect, activated pain and rewarding processing areas and interestingly somatosensory areas which probably due to the visually induced sensory expectation.

Contact: Meena M. Makary, mmakary@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.137>

P2.032

Facial motor-respiratory coordination in Qigong activates brain default-mode network regions

Seulgi Eun¹, Abdalla Z. Mohamed²,
Ramy Sayed¹, Jeungchan Lee³,
Eunyong Lee⁴, Sanghoon Lee²,
Hwa-Jin Lee², Seung Min Lee²,
Wooseok Choi², Kyungmo Park²

¹ Department of Biomedical Engineering, Kyung Hee University, Yongin

² Kyung Hee University

³ Massachusetts General Hospital

⁴ Korea Institute of Oriental Medicine

Purpose: Qigong is a self-treatment technique with motor-respiratory coordination and known to cure motor mal-function like Bell's palsy. We investigated the brain correlates to facial motor task with motor-respiratory coordination (MRC) technique in Bell's palsy using fMRI.

Methods: 15 Bell's palsy patients (37.1 ± 10.6 years old, 7 male) participated in two event-related facial motor task sessions (one with MRC technique and another without MRC technique) two times with time interval of three. fMRI data were acquired during the two task sessions with a MR compatible pneumatic belt. MRC index was calculated to estimate coordination between motor execution and respiration and used for correlation analysis with brain response to facial motor task.

Results: Both facial motor tasks increased activation in sensorimotor area (primary motor cortex, primary sensory cortex, premotor area, supplementary motor area and middle cingulate cortex), insula, amygdala, midbrain and superior temporal gyrus. Between two tasks, there was no significant difference in brain response. Interestingly, we found default-mode network (DMN) regions (precuneus, posterior cingulate cortex, angular gyrus, inferior parietal lobule and medial prefrontal cortex) were positively correlated with MRC index.

Conclusion: Although both facial motor tasks with and without MRC technique activate sensorimotor, emotional and facial cognitive regions, higher MRC index, better coordination of motor task and respiration, induced higher activation in DMN regions. Interestingly, DMN is known to suppress negative emotion, assess self-relevance of emotional events and motor imagery functions and supposed to be active in resting state and it is active in motor-respiratory coordinated motor task session. Thus, it could be speculated that motor-respiratory coordination can help Bell's palsy patients to be recovered by diminishing their negative emotion from the disease and encouraging themselves to move facial muscles with motor imagery.

Contact: Seulgi Eun, eunseulgi@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.138>

P2.033

Pattern Identifications for Stroke Patients admitted to National Rehabilitation Center using Korean Standard Pattern Identification for Stroke-III



Chihyoung Son¹, Jung Sup Lee², Go Eun Lee¹

¹ Department of Korean Traditional Rehabilitation Medicine, National Rehabilitation Hospital

² Department of Korean Traditional Internal Medicine, National Rehabilitation Hospital

Purpose: This study aims to report the distribution of pattern identifications for stroke patients admitted National Rehabilitation Center (NRC) by using Korean Standard Pattern Identification for Stroke-III.

Methods: Using Korean Standard Pattern Identification for Stroke-III, two Korean traditional medicine doctors conducted independent tests on total 50 patients admitted to NRC from June 2013 through November 2013, who were 20 years and older. The descriptive statistics were conducted to describe the distribution of pattern identification for subjects. ANOVA was used to analyze the difference in ages and K-MBI means according to the pattern identification, while Pearson's chi-square test and Fisher's exact test were used to analyze difference in sex, type of stroke, and disease period within pattern groups, and to analyze the difference of pattern distribution between those who were 65 or older and those who were 64 or younger.

Results: Average age for the 50 subjects is 56.7±11.0 years, with 33 men and 17 women. There were 37 patients of cerebral infarction, 13 more than patients of cerebral hemorrhage, while the largest group with 24 patients developed stroke minimum 3 months and maximum 6 months before. K-MBI mean was 55.7±18.6. 22 patients were qi deficiency type and 15 were dampness-phlegm type, while 8 were yin deficiency type and 5 were fire-heat type. The means of the age and K-MBI within 4 groups were not significantly different. Also there was no significant difference in sex, type of stroke and disease period according to the pattern identification. A comparison of pattern distribution between those who were 65 or older and those who were 64 or younger showed no significant difference.

Conclusion: To ensure effective rehabilitation therapy, the fact that many of the rehabilitation patients are qi deficiency type needs to be considered.

Contact: Chihyoung Son, cecilson@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.139>

P2.034

Patients' experiences of Craniosacral Therapy in the treatment of chronic neck pain: a qualitative analysis of health outcomes



Heidemarie Haller¹, Holger Cramer¹, Romy Lauche¹, Gustav Dobos¹, Bettina Berger²

¹ Department of Internal and Integrative Medicine, Kliniken Essen-Mitte, University of Duisburg-Essen

² Institute for Integrative Medicine, Department of Health, Witten/Herdecke University

Purpose: Current research within the field of Craniosacral Therapy (CST) is limited, especially in terms of appropriate health outcomes for body based complementary and alternative therapies. Therefore this study aimed to investigate how patients experience the treatment of CST and to infer suitable outcome measures for further clinical trials.

Methods: A subsample of chronic non-specific neck pain patients was selected from a randomized controlled trial examining the efficacy of CST in comparison to sham (NCT01526447). At baseline 19 patients (mean age 42.5 ± 10.4; 13 female) of the CST group were asked to complete drawings of their perceived body shape and pain areas. Drawings were repeated after 8 weekly treatments and were followed by a semi-structured interview. Data were analyzed using qualitative content analysis.

Results: Changes due to CST were reported at various levels of human experiencing. Most patients described positive changes in more than one of the following domains: physical (less intensity of pain, headache and dizziness, improved sleep and range of motion), perceptual (more upright and symmetrical posture, sustained deep relaxation), emotional (pain is less threatening, increased calm, confidence and hope), cognitive (increased body awareness and self-efficacy, extinction of pain memory, increased concentration and less mind cinema), spiritual (sense of basic trust and peace), behavioral (moving in action alternatives, actively avoid stress, sport is again possible), social (more social contacts and activities) and economic domain (less pain medication, improved work efficiency). Several patients reported initial aggravation of symptoms, but no persisting or serious adverse events.

Conclusion: Study results indicate that measuring health outcomes in CST research should not only be limited to a physical symptom level, but should also include tools for quantifying salutogenic variables and economic reliefs as well as adverse events.

Contact: Heidmarie Haller, h.haller@kliniken-essen-mitte.de

<http://dx.doi.org/10.1016/j.imr.2015.04.140>

P2.035

Manipulation Differences and stability of acupuncturists

Congcong Wang¹, Qianyun Chai¹,
Lijuan Zhang², Zhongning Guo²,
Yutong Fei¹, Xia Tian¹, Jianping Liu¹

¹ Center for Evidence-Based Medicine, Beijing
University of Chinese Medicine

² Xiyuan Hospital affiliated to Chinese Academy of
traditional Chinese Medicine

Purpose: To find out whether there is difference of acupuncture manipulation between two acupuncturists when they were stimulating the same acupoint in a same person with the same needling guidance, and analysis stability of acupuncture manipulation of them.

Methods: We used a cross-over design to measure manipulation of acupuncturists and collect data. Two acupuncturists with different acupuncture experience (senior-A, junior-B) would give acupuncture treatment to cancer patients who receiving chemotherapy to control nausea and vomiting. Every patient were treated by A (or B) first and B (or A) second. Their orders were determined randomly. RN12 (Zhong Wan) was selected and acupuncturists used even manipulating methods (ping bu ping xie) under the same guidance (depth, insertion angle, treatment duration). Eligible data of eight patients with 2-5 times treatment of every session were selected from this clinical trial data collection. Acusensor, a non-invasive optical sensor was used to collect data during the acupuncture treatments. Data of displacement frequency (DF), displacement amplitude (DA), rotation frequency (RF) and rotation amplitude (RA) was collected and compared.

Results: 1. We used Paired samples test to find the difference. Mean was calculated to be compared. There were significant differences for DA (senior 6.93 ± 3.25 mm, junior 1.62 ± 0.53 mm, $P < 0.005$) and RF (senior 0.43 ± 0.07 Hz, junior 0.60 ± 0.16 Hz, $P = 0.008$). There were no significant differences for DF AND RA. 2. We used one-way ANOVA to measure the stability that grouped by acupoints and treatment days. Acupuncturists were analyzed respectively. The result showed that there was no significant differences for DF, DA, RF and RA.

Conclusion: Different acupuncturists do have manual manipulation differences. From data we can see that senior needling deeper and slower than junior. As for stability, we considered that both senior and junior had a stable acupuncture manipulation.

Contact: Congcong Wang, wangcongcong08@sina.cn

<http://dx.doi.org/10.1016/j.imr.2015.04.141>

P2.036

Massage Therapy vs. Music Therapy vs. Usual Care in an Inpatient Setting: A Pilot Study

Robert Saper¹, Eric Roseen¹,
Oscar Cornelio-Flores¹, Chelsey Lemaster¹,
Bryan Rodriguez¹, Maria Hernandez²,
Suzanne Hanser²

¹ Boston Medical Center

² Berkeley College of Music

Purpose: Research suggests massage and music therapy may improve anxiety, pain, quality of life, and mood. This study examines the feasibility and effectiveness of conducting an RCT comparing massage therapy, music therapy, and usual care in medical inpatients hospitalized in an urban safety-net hospital.

Methods: Ninety inpatients are currently being recruited for enrollment in this single-center three-arm pilot RCT. Participants must be patients of the family medicine inpatient service and eighteen years of age or older. Exclusion criteria include: anticipated discharge <24 hours, non-English speaker, inability to provide informed consent, contagious skin disease or infection, hemophilia, thrombocytopenia, encephalopathy, altered mental status, necessity of a personal sitter, or provider non-consent. Participant socio-demographic and health information will be summarized using descriptive statistics. Primary outcomes include self-reported pain levels (0-10 scale) extracted from electronic medical record; patient satisfaction measured with Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey administered over the telephone within one week of being discharged; and cost associated with pain and sedative medication use, length of stay, and readmission rate.

Results: Of 737 inpatients admitted July-October, 2014, 151 (20%) were eligible. Of the eligible patients, 59 (39%) were enrolled and randomized to music therapy (19), massage therapy (20), or usual care (20). Enrolled patients were more likely to be female (73%) and black (46%) than white (31%) or Hispanic (24%). Reasons for ineligibility include discharged <24 hours (26%), non-English speaking (21%), contact isolation (17%), non-family medicine patient (11%), altered mental status (11%) and pneumonia (5%).

Conclusion: Preliminary findings suggest that conducting an RCT providing music and massage therapy in a safety-net hospital inpatient setting is feasible. Preliminary outcomes will be presented.

Contact: Robert Saper, Robert.Saper@bmc.org

<http://dx.doi.org/10.1016/j.imr.2015.04.142>

P2.037

Impact of Wheel Balance Cancer Therapy on Refractory Non-Small Cell Lung Cancer: A Korean Single-Center Experience



Hwaseung Yoo, Jongmin Kim

East West Cancer Center, Dunsan Korean
Medicine Hospital of Daejeon University

Purpose: To investigate the clinical feasibility of the Wheel Balance Cancer Therapy (WBCT) for refractory non-small cell lung cancer (rNSCLC) analyzed patients' overall survival outcome.

Methods: From October 4th 2004 to October 3rd 2013, the refractory NSCLC patients who first visited East West Cancer Center were reviewed. Following the study eligibility, overall survival and median survival of the 33 refractory NSCLC patients who treated with WBCT were statistically analyzed with Kaplan-Meier and Wilcoxon's signed rank test.

Results: Of total 33 patients, overall 1 year, 2years and the median survival were 78.8%, 42.4% and 20.3 months (95%CI:15.5- 25.0). The median overall survival of WBT over 14days and under 28days, and over 28 days were 16.5 months (95%CI:12.8-20.2) and 25.4 months (95%CI:16.8-34.0) ($p=0.280$). The median overall survival of prior conventional treatment and non-conventional treatment were 22.8 months (95%CI:16.2-29.4) and 4.6 months (95%CI:1.9-7.4) ($p=0.000$). The median overall survival of under 65 years and over 65 years were 35.6 months (95%CI:16.5-54.7) and 16.5 months (95%CI:10.8-22.2) ($p=0.012$). The median overall survival of Eastern Cooperative Oncology Group (ECOG) score <3 and ECOG score ≥ 3 were 8.2 months (95%CI:3.5-13.0) and 2.5 months (95%CI:1.6-3.3) ($p=0.004$).

Conclusion: Patients with prior conventional treatment, under 65 years and ECOG score <3 are more efficient to refractory NSCLC patients treated with WBCT. And this study also supports the safety of WBCT.

Contact: Hwaseung Yoo, altyhs@dju.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.143>

P2.038

A novel taping therapy for depression: a report on three cases treated successfully with taping



Chang Hyun Han¹, Young Joon Lee²,
Hwa Soo Hwang³, Bong Hyo Lee²

¹ Korea Institute of Oriental Medicine

² College of Korean Medicine, Daegu Haany
University

³ Saeng-Vit Oriental Medicine Clinic

Purpose: Despite depression must be solved for health, it is not easily treated. That is the reason why alternative therapies have been attempted. However, successful treatment of depression using taping therapy is difficult to be found. Here, we report for the first time severe depression cases treated completely by taping therapy.

Methods: First case was a 21-year-old male who had taken psychiatric medications from ten-year-old and had been admitted often to the mental hospital. He showed leaning head, flexible legs, and nearly closed-eyes. Second was a 49-year-old female with heart palpitation and depression induced after hysterectomy. She spoke rapidly in anxiety-like mode and had taken additional medications for insomnia and indigestion. Third was a 40-year-old female who was fed up with the adverse effects of anti-depressant drugs. She verbally abused and had thoughts of suicide frequently. The medical tape was attached at acupoints, trigger points, and pressure pain points traced down by finger pressing examination in the chest, both sides, and upper back.

Results: First showed weeping immediately after the first treatment. He discontinued psychiatric drugs and recovered normality after two months. Second felt at ease immediately after the first treatment with decreased-palpitation. After one week, she quit the medication, and heart beating, headache, and fatigue disappeared completely. Third felt calming following the first treatment. After three days, sleep became satisfactory, and the anger rarely occurred. After two weeks, she recovered normality.

Conclusion: Results of these cases suggest the following advances: first, finger pressure examination focusing on the acupoints and trigger points of chest, side, and upper back is useful for tracing neurological symptoms of depression; second, control of pain responses to the finger pressure examination is important for the treatment of depression; third, depression can be treated successfully by regulating patient's bioelectric current with taping therapy.

Contact: Chang Hyun Han, chhan@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.144>

P2.039

Effect of Body Mass Index on Mind-Body Relaxation Therapy for Reducing High Blood Pressure in Postmenopausal Women: A Randomized Controlled Trial



Suprawita Saensak¹, Sirirat Mutaporn²,
Kochaporn Singhala³

¹ Faculty of Medicine, Mahasarakham University

² Mahasarakham Hospital

³ Faculty of Nurse, Mahasarakham University

Purpose: To examine whether the BMI effect on Mind-Body Relaxation intervention for reducing high blood pressure in postmenopausal women.

Methods: This was 16-weeks randomized, parallel, open-label, controlled trial of 432 mild hypertensive menopausal women who visited to the Menopausal Clinic in Mahasarakham Hospital, Thailand. Participants were randomly allocated to either the intervention or control group. The intervention group received the Modified Mind-Body Relaxation (MMBR) program comprising 60-minute session training with an encouragement of 15-20 minute daily practice. The control group received lifestyle education routinely provided in the clinic.

Results: Participants 215 and 217 were randomly allocated to the MMBR and control groups, respectively. Of those, 167 participants in the MR group and 175 participants in the control group completed the study. BMI level and DBP at baseline were difference between groups significantly. The BMI level was affected to MMBR intervention for reducing systolic and diastolic blood pressure (SBP and DBP) significantly. These effects were decrease SBP at week 4, 8, and 16 follow-up and decrease DBP at week 4, 8, 12, and 16 follow-up. BMI level were showed small effected size to decreased blood pressure.

Conclusion: The BMI may be effect to MMBR intervention for reducing high blood pressure in Thai postmenopausal women. It would be consider BMI as an effect modification in statistical analysis model. Further clinical research would be confirmed.

Contact: Suprawita Saensak, psaensak@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.145>

P2.040

The Efficacy and Safety of Ginger Extract in Nanostructure Lipid Carrier (NLC) for Treatment of Knee Osteoarthritis (OA)



Punyanut Amorndoljai¹,
Surasak Taneepanichskul¹,
Sunyarn Niempoog², Ubonthip Nimmannit³,
Chaisak Chasrinnyom³

¹ College of Public Health Sciences, Chulalongkorn University

² Division of Orthopaedics, Faculty of Medicine, Thammasat University

³ National Science and Technology Development Agency

Purpose: To evaluate the efficacy and safety of Ginger (*Zingiber officinale* Roscoe) extract in Nanostructure Lipid Carrier (NLC) for treatment of osteoarthritis of the knee.

Methods: Sixty patients at the age range of 50-75 years old who were diagnosed with OA knee based on the American College of Rheumatology (ACR) diagnosis criteria were included in this study. Participants received ginger extract in NLC rubbed three times a day for 12 weeks. Efficacy was assessed by Knee Injury and Osteoarthritis Outcome Score (KOOS), Index of Severity for Osteoarthritis Index (ISOA), and patient's global assessment (PGA). A series of biochemical tests in serum and hematological parameters established the safety of ginger extract in NLC. The student pair t-test was used to compare the score before and after treatment

Results: Ginger extract in NLC could statistically significant improvement patient's global assessment, knee joint pain, symptoms, daily activities, sports activities and quality of life measured by KOOS, ISOA and PGA, following 12 weeks of treatment in paired t-test ($p < 0.05$). There were no safety issues concerning adverse events or laboratory values.

Conclusion: Ginger extract in NLC relieves joint pain and improves problematic symptoms and improves the

quality of life in osteoarthritis knees during a 12 week treatment.

Contact: Punyanut Amorndoljai, krucut09@yahoo.co.th

<http://dx.doi.org/10.1016/j.imr.2015.04.146>

P2.041

A Study on the Prevalence and Risk Factors of the Metabolic Syndrome according to Sasang Constitution



Hye-Won Oh, Byung-Hee Koh, Il-Byung Song,
Eui-Ju Lee, Jun-Hee Lee

Kyung Hee University Korean Medicine Hospital

Purpose: The purpose of this study was to find the prevalences and risk factors of the metabolic syndrome according to Sasang Constitution.

Methods: The medical records of 364 subjects who had taken health examinations and diagnosis of Sasang Constitution from January to June of 2003 at a health examination center of a hospital in Seoul were reviewed. The prevalences and the risk factors of the metabolic syndrome according to Sasang Constitution were compared and analyzed.

Results: The prevalence of high WC, high TG, low HDL-C, high BP and high FBS of Taeumin were significantly higher than those of the other constitution. The prevalence of metabolic syndrome of Taeumin, Soyangin and Soeumin were 46.3%, 16.8%, and 9.1% respectively. The rates were significantly different according to Sasang Constitution.

Conclusion: There were significant differences in the prevalence of metabolic syndrome according to Sasang Constitution. Sasang Constitution was identified as an independent risk factor of metabolic syndrome.

Contact: Hye-Won Oh, ohw0321@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.147>

P2.042

Methodological Study and Establishment of the Diagnostic Scale for Gastrointestinal Heat Retention Syndrome in Pediatrics



Guokai Lv, He Yu, Fei Dong, Quanyue Xiao,
Fei Teng, Xueyan Ma, Xiaofei Li, Tiegang Liu,
Jianhua Zhen, Xiaohong Gu

Beijing University of Chinese Medicine

Purpose: To clarify the concept of the Gastrointestinal Heat Retention Syndrome, and contribute to the development of clinical diagnosis and treatment for gastrointestinal heat retention syndrome-related diseases.

Methods: We have checked the researches about Gastrointestinal Heat Retention Syndrome in CNKI, VIP and Wan Fang digital database, and referenced about relevance theory of Yang Ming Heat Syndrome in Treatise on Febrile Diseases, the research is collected and classified to five aspects on implication, etiology and pathogenesis, clinical manifestation, differential diagnosis and Related diseases.

Results: The implication of Gastrointestinal Heat Retention Syndrome is because of the invisible heat evil or tangible hot junction due to gastrointestinal excess heat state; It's etiology and pathogenesis is Tai Yang disease and Shao Yang disease mistreatment or gastrointestinal tract intrinsic heat result from improper diet and emotional maladjustment, congenital gastrointestinal excess heat, suffer exogenous evil directly; It's main clinical manifestation includes aversion to heat, easy to sweat, halitosis, thirsty to drink cold, constipation, urine yellow, red tongue, yellow thick tongue coating and Slippery rapid pulse; It has no both objective and unitive diagnosis standard so far. It has a significant relationship with the occurrence of digestive system, respiratory system, circulatory system, endocrine system and neurological system diseases.

Conclusion: Gastrointestinal Heat Retention Syndrome has become common clinical syndromes of many kind of disease so far, but previous studies of it is lacking. Physicians ages have generally common opinion on the implication, etiology and pathogenesis, clinical manifestation, but they have different views on the diagnosis standard. Therefore, further research on the Gastrointestinal Heat Retention Syndrome, especially on it's diagnosis standard is meaningful to the development of clinical diagnosis and treatment for gastrointestinal heat retention syndrome-related diseases.

Contact: Guokai Lv, yuhe221@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.148>

P2.044

Managing psychological stress in the MS medical visit: A qualitative analysis of patient perspectives and unmet needs



Angela Senders^{1,2}, Kelsi Sando²,
Helané Wahbeh¹, Amie Peterson^{1,3},
Lynne Shinto¹

¹ Department of Neurology, Oregon Health & Science University

² Helfgott Research Institute, National College of Natural Medicine

³ Department of Neurology, Portland Veterans Affairs Medical Center

Purpose: Psychological stress can negatively impact multiple sclerosis (MS) and is associated with worsening neurological symptoms and brain lesions on MRI, yet it is unclear whether people with MS actively discuss stress with their medical providers. The objective of this study was to further understand how stress is addressed in the MS medical visit from the patient perspective.

Methods: Thirty-four people with confirmed MS who reported moderate to severe stress (≥ 15 on the Perceived Stress Scale) participated in focus groups (n=5). Focus groups were audio recorded and transcribed verbatim. Transcripts were independently coded in duplicate and analyzed by inductive thematic analysis.

Results: Three major themes were identified: 1) aspects of medical care that facilitate conversations about stress with clinicians, 2) aspects of care that deter communication about stress, and 3) patient preferences for managing stress in the

medical visit. The majority of participants did not actively discuss stress with their provider, citing barriers to communication such as lack of time during the visit, poor coordination between specialties, clinicians who display a lack of interest in stress or are too quick to offer a pharmaceutical prescription, and patient lack of self-advocacy. Participants recommended several actions to better manage psychological wellbeing in the clinical setting.

Conclusion: The majority of participants reported discontent with how stress is addressed in the medical visit. A more biopsychosocial and interdisciplinary team approach to care may improve patient satisfaction and enhance detection of stress and related mood disorders. Future research should examine provider perceptions to gain a more thorough understanding of how stress is managed in the medical context.

Contact: Angela Senders, asenders@ncnm.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.150>

P2.045

The Effect of Aroma Hand Massage Therapy for Dementia Patients



Kazuyo Yoshiyama¹, Hideko Arita²,
Jinichi Suzuki³

¹ Clinique L'esprit Naturel

² Tenri Health Care University, Nara

³ Public Health & Medical Center of Sagami-hara City, Kanagawa

Purpose: Clinical aromatherapy is the one of the complementary medicines. It may be very helpful for elderly dementia care. It is reported that aromatherapy may reduce BPSD and improve the quality of care and thus the patient's QOL. For this study the aroma hand massage for the elderly commenced in medical institutions in Japan. We researched the efficacy of clinical aromatherapy in Integrative Medicine for dementia patients and measured the effectiveness and safety of clinical aromatherapy as routine care in a clinical care setting.

Methods: This study was performed as randomized cross-over trials. The participants were 14 mild to moderate dementia patients who were over 65 and living in a nursing home in Nara, Japan. Participants formed in 2 groups were offered, alternately, control therapy and clinical aromatherapy three times per week in the total 4 weeks of the trial period. The effect on BPSD and ADL was evaluated quantitatively, before and after trials, and 4 weeks after the study as follow-up. Observation records were also collected as supporting qualitative data.

Results: In the quantitative data, the symptoms related to depression in clinical aromatherapy demonstrated improvement but not significant improvement in before versus after trials (CSDD; $p=0.0625$). Other BPSD and ADL results were also not significantly improved by either therapy. In the qualitative data, positive experiences of mood, behavior and communication were often presented during both therapies. No harmful reactions and no changes of medication occurred during either therapy.

Conclusion: This study demonstrates clinical aromatherapy is clinically safe but not statistically significant in effectiveness when measuring improvements in the BPSD and ADL of dementia patients. To develop high quality care with clinical aromatherapy for the elderly with dementia in Japan's ageing society further research into therapeutic effects is required to fully establish evidence for practicing effectively and safely in medical institutions.

Contact: Kazuyo Yoshiyama, lespritnaturel@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.151>

P2.046

Qualitative study characterizing patient and provider experiences with MTHFR polymorphisms and methylfolate



Ryan Bradley¹, Erica Oberg², Chris Givant³

¹ National College of Natural Medicine

² Pacific Health in Practice, LLC

³ La Vita Compounding Pharmacy

Purpose: To learn patient and health care provider experiences testing for, discussing and treating mutations in the methylenetetrahydrofolate reductase (MTHFR) enzyme.

Methods: A qualitative study was designed to investigate doctors' and patients' experiences with the diagnosis MTHFR polymorphisms, treatment with methylfolate, and therapeutic responses. A structured interview guide was prepared focused on domains of: diagnostic indications, response to results, therapeutic approaches, treatment responses, and safety. Following IRB approval, focus groups were conducted with patients and doctors with relevant experience. Audio recordings were transcribed and uploaded into Dedoose software to aid coding and theme aggregation. Using an inductive/deductive analytic construct, data were first analyzed using a priori coding. Data were then aggregated into themes and domains. Pertinent, illustrative quotes were selected to convey authentic experiences.

Results: Thirty patients and eight doctors participated in the focus groups. Patient themes included the emotional experience of receiving diagnosis, classification of signs and symptoms, and challenges with treatment protocols. They expressed confusion over their diagnosis, and frustration with the state of knowledge their providers had regarding MTHFR. The most common presenting symptoms were: fatigue (21%), hormone imbalances (13%), neurological symptoms (13%), and brain fog (8%). Providers relied on trial and error to determine effective doses, treatment frequency and protocols. Patients reported improvements in physical energy (31%), other physical symptoms (27%), mood (25%), behaviors (6%) and other mental symptoms (6%). Side effects occurred in a minority of participants but ranged in severity and were reported in almost every body system.

Conclusion: Testing, discussing and treating MTHFR polymorphisms is currently a variable clinical process. Patients suggest treatment can improve mental, emotional, and physical well-being. Diverse side effects pose a challenge in anticipating adverse responses for clinicians. Clinicians and

patients would benefit from therapeutic algorithms that were based on rigorous research.

Contact: Ryan Bradley, rbradley@ncnm.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.152>

P2.047

Development of a reporting form for adverse events associated with Korean folk medicine



Jeong Hwan Park¹, Sujeong Moon¹,
Bokyung Yim², Sun-mi Choi¹,
Seung-min Baek³, Sanghun Lee¹

¹ Korea Institute of Oriental Medicine (KIOM)

² National Institute of Health

³ Kyung Hee University

Purpose: Korean folk medicine is widely used by people living in all areas of the country. Despite a long tradition of use, ingestion or application of plants and other substances used in Korean folk medicine can lead to serious adverse events. Use of folk medicine without consulting an expert may increase the risks of complications. We aimed to develop a reporting form for adverse events associated with the use of Korean folk medicine.

Methods: We developed an adverse event reporting form for Korean folk medicine. The first version of the form was developed and tested for spontaneous reporting of adverse events in the clinical setting. First and second revisions to the reporting form were made based on data collected and input from experts.

Results: We identified information that should be considered for inclusion in reports of adverse events associated with the use of folk medicine. New reporting items were added, including patient height, assessment of causality, and folk medicine properties such as classification, scientific name, vernacular name, part used, harvesting time, storage conditions, product licensing, and cautions or contraindications.

Conclusion: We developed a reporting form for adverse events that incorporates important characteristics of Korean folk medicine. Further development of the reporting form requires feedback and consensus by healthcare experts. In the future, we hope to create an adverse event reporting form for traditional medicine and a reporting system for each country.

Contact: Jeong Hwan Park, siegfriedg@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.153>

P2.048

Improvements of Scrotal Thermoregulation in Patients with Varicocele Treated by Traditional Korean Medicine: Two Case Reports



Junyoung Jo¹, Myung-Ja Kang², Jinmoo Lee³

¹ Department of Korean Gynecology, Graduate School of Korean Medicine, Kyung Hee University/Conmaul Hospital

² Conmaul Hospital

³ Department of Korean Gynecology, Graduate School of Korean Medicine, Kyung Hee University

Purpose: Varicocele is a dilatation of the pampiniform venous plexus within the spermatic cord. The incidence of varicoceles is 15% in men, and it occurs in more than 40% of men in infertile couples. Surgery or embolisation for varicoceles can improve a couple's likelihood of conceiving. However, the quality of this evidence is low. Traditional Korean medicine (TKM) has been used to treat male infertility in Korea. We present two cases of men with varicoceles diagnosed via physical examination and scrotal thermography.

Methods: We treated these men using TKM techniques, including acupuncture, pharmacopuncture, and herbal medicine, for two months. We used scrotal thermography to evaluate the varicoceles before and after TKM treatment.

Results: After TKM treatment, the scrotal thermoregulation of both patients was improved. In Patient 1, the temperature difference between the left and right pampiniform plexus (ΔTP) was 2.8 °C before treatment, and it decreased to 1.3 °C. In addition, the temperature difference between the testicles (ΔTT) was 1.5 °C before treatment, and it decreased to 0.2 °C. In Patient 2, the ΔTP was 1.5 °C before treatment, and it decreased to 0.2 °C.

Conclusion: This report is the first to show that TKM might be an option among patients with varicoceles, as determined by scrotal thermography evaluation.

Contact: Junyoung Jo, studd@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.154>

P2.049

Development of affective touch



Isac Sehlstedt¹, Hanna Ignell¹, Helena Backlund Wasling², Rochelle Ackerley², Hakan Olausson³, Ilona Croy⁴

¹ Institute of Neuroscience & Physiology, Sahlgrenska University Hospital

² Institute of Neuroscience & Physiology, University of Gothenburg

³ Department of Clinical and Experimental Medicine, Linköping University

⁴ Clinic for Psychosomatic Medicine, Technical University of Dresden

Purpose: Affective touch has been shown to give various health benefits including stress and depression relief. A dichotomy between mechanoreceptive afferents that predominantly signal either discriminative (myelinated A β), or affective (unmyelinated C-tactile) aspects of touch has previously been suggested and is well studied in adults. However, a thorough investigation of how the subjective affective aspects of touch develop early in life is unprecedented.

Methods: The current study is investigating the relationship between age and psychophysical ratings in response to affective touch. 42 participants (22 boys, 20 girls) aged from 5-12 years have been recruited. They were presented with C-tactile optimal and sub-optimal brushing velocities and rated pleasantness by use of smiley scales.

Results: Preliminary results suggest that both age-groups find the C-tactile optimal velocities more pleasant compared to sub-optimal velocities ($p=0.001$). However, no sex or group differences have currently been found.

Conclusion: We conclude that the ability to subjectively report affective aspects of touch evolve early in life. This is discussed in relation to cognitive development.

Contact: Isac Sehlstedt, isac.sehlstedt@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.155>

P2.050

Total Nasal Resistance among Sasang Constitutional Types: A Population-Based Study in Korea



Dae Wui Yoon¹, Seung Ku Lee¹, Chol Shin¹, Jong Yeol Kim², Kyung Suk Kim¹, Hyun Joo Ryu¹, Hyun Suk Bae¹, Hye Min Park¹

¹ Institute of Human Genomic Study

² Korea Institute of Oriental Medicine

Purpose: There have been many attempts to find an objective phenotype by Sasang constitutional types (SCTs) on an anatomical, physiological, and psychological basis, but there has been no research on total nasal resistance (TNR) among SCTs.

Methods: We assessed the value of the TNR in the SCTs classified by an integrated diagnostic model. Included in the study were 1,346 individuals (701 males, 645 females) who participated in the Korean Genome and Epidemiology Study (KoGES). The TNR was measured by active anterior rhinomanometry (AAR) at transnasal pressures of 100 and 150 Pascal (Pa).

Results: The average TNR was 0.186 ± 0.004 Pa/cm³/second at 100 Pa in the Tae-eum (TE), 0.193 ± 0.007 in the So-eum (SE), and 0.208 ± 0.005 in the So-yang (SY) types. Under condition of 150 Pa the TE types had a TNR value of 0.217 ± 0.004 , the SE type was 0.230 ± 0.008 , and the SY type was 0.243 ± 0.005 . Higher values of TNR were more likely to be reported in the SY type at 100 Pa and 150 Pa. In the stratified analysis by sex, the SY type in males and females tended to have higher TNR value than the TE and SE types at transnasal pressure of both 100 Pa and 150 Pa.

Conclusion: These results provide new approaches to understand the functional characteristics among the SCTs in terms of nasal physiology. Further studies are required to clarify contributing factors for such a difference.

Contact: Dae Wui Yoon, 9286392a@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.156>

P2.051

Cupping for Treating Painful Diabetic Neuropathy: A single group before-and-after, preliminary study



Kyungmin Shin, Jung-Eun Kim, Sung-Phil Kim, Ae-Ran Kim, So-Young Jung, Hyo-Ju Park, Bok-Nam Seo, Joo Hee Kim, Sun-Mi Choi

Korea Institute of Oriental Medicine

Purpose: Painful diabetic neuropathy (PDN), one of the most common chronic complications affecting approximately 16% of patients with diabetes. PDN, in particular, is reported in 50% of patients with long-term type 1 and 2 diabetes. The primary purpose of this study is to measure the effectiveness of cupping therapy on PDN. The secondary purpose is to compare the characteristics of subjects with improvement rate $\geq 30\%$ and $< 30\%$ from baseline.

Methods: This study is a single group before-and-after, preliminary study of cupping therapy in patients with painful diabetic peripheral neuropathy. A total of 16 sessions of cupping therapy will be given twice a week for 8 weeks. After attaching a disposable cupping cup (SUNGHO TONGSANG; spec: No. 2, 3.7 cm) to the disinfected area, negative pressure shall be created to -414.09 ± 4.48 mmHg using an electric cupping device (BC008; SEOUL MEDICAL CO., LTD., Korea) and maintained for 5 minutes. Selection of acupuncture points to be treated should be based on the painful areas and tender points. Cups will be applied to a total of 10 areas of both calves; posterior median, 4; interior, 3; and lateral, 3. 11-point pain intensity numerical rating scale (PI-NRS) score will be the primary outcome measurement used in this study. Sleep disturbance score, SF-MPQ, EQ-5D, nerve conduction study (sural nerve) and Patient Global Impression of Change (PGIC) will

be used as secondary outcome measurement. Safety will be assessed at every visit.

Results: This trial is currently recruiting participants. (Clinical Research information Service. Unique identifier: KCT0001316.)

Conclusion: The results of this study will help to establish the optimal approach for the care of adults with Painful Diabetic Neuropathy.

Contact: Kyungmin Shin, kyungmin7221@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.157>

P2.052

Assessment of Pulmonary Function Among Sasang Constitutional Types: A population-based study in Korea



Seung Ku Lee¹, Daw Wui Yoon¹, Kyung Suk Kim¹, Hyun Joo Ryu¹, Hyun Suk Bae¹, Jong Yeol Kim², Chol Shin¹

¹ Institute of Human Genomic Study

² Korea Institute of Oriental Medicine

Purpose: Many studies have addressed the hypothesis proposed by the visceral theory in Sasang constitutional medicine that specific types of Sasang constitution have a different functional activity of the internal organs, and have tried to confirm the theory using modern scientific methods. Since few studies have evaluated the activity of the lung, we investigated whether there is a difference in the lung function according to the Sasang constitutional types (SCTs) by means of the pulmonary function test (PFT).

Methods: A total of 1,320 individuals who participated in the Korean Genome and Epidemiology Study and completed the PFT were included. SCTs were classified by an integrated diagnostic model. We determined the values of the forced vital capacity (FVC), forced expiratory volume in one second (FEV1), and FEV1/FVC (%) in the SCTs. Participants who had pulmonary disease were excluded from the analysis based on the chest X-ray examination.

Results: The Tae-eum (TE) type had significantly lower FVC than the So-eum and So-yang types ($P = .0272$) after adjusting for confounding factors including age, sex, weight, height, and smoking status. FEV1 did not differ among the SCTs ($P = .619$). In the analysis stratified by gender, males of the TE type had the highest FEV1/FVC ($P = .0401$), whereas FVC was the lowest in females of the TE type among the SCTs ($P = .0079$).

Conclusion: These results support the hypothesis that TE type has hypoactive lungs, in terms of the lung volume.

Contact: Seung Ku Lee, leeseungku@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.158>

P2.053

So-Eum Type as an Independent Risk Factor for Irritable Bowel Syndrome: A Population-Based Study in Korea



Seung Ku Lee¹, Dae Wui Yoon¹,
Kyung Suk Kim¹, Hyun Joo Ryu¹,
Hyun Suk Bae¹, Hye Min Park¹,
Jong Yeol Kim², Chol Shin¹

¹ Institute of Human Genomic Study, Korea
University Ansan Hospital

² Korea Institute of Oriental Medicine

Purpose: So-Eum Type as an Independent Risk Factor for Irritable Bowel Syndrome: A Population-Based Study in Korea

Methods: 1,362 individuals (705 males, 657 females) who participated in the Korean Genome and Epidemiology Study. The participants were classified as each SCT by the integrated diagnostic model and queried for symptoms related to IBS using the Rome II criteria.

Results: There was a significant difference in the prevalence of IBS among the SCTs, with 33 (18.3%) of the So-eum (SE) type, 74 (9.9%) of the Tae-eum (TE) type and 57 (13.2%) of the So-yang (SY) type having IBS. Even after adjustment for possible confounders, the SE type of both genders continued to show 1.82-fold (95% CI, 1.05-3.16) excess odds of having IBS. Men in the SE type had a 2.97 times (95% CI, 1.34-6.58) and a 2.50 times (95% CI, 1.15-5.47) significantly higher odds of having IBS than the TE and SY type, respectively. In analysis for the joint effect of SCT and psychological stress, the multivariate odds ratio of IBS was 3.21 (95% CI, 1.33-7.75) for the SE type and Psychological Well-being Index-Short Form (PWI-SF) score (<27), and 5.83 (95% CI, 1.80-18.88) for the SE type and PWI-SF (≥27) compared with the TE type and PWI-SF score (<27).

Conclusion: SE type of SCT is an independent risk factor for IBS. The findings support the hypothesis that the SE type is vulnerable to gastrointestinal diseases.

Contact: Seung Ku Lee, leeseungku@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.159>

P2.054

The effects of Hoixuanhoan remedy on sperm number and sperm morphology in male with oligospermia



Doan Minh Thuy, Truong Viet Binh,
Thinh Nguyen The

Vietnam University of Traditional Medicine

Purpose: To study the effect of Hoixuanhoan (HXH) remedy on sperm concentration and normal sperm morphology in males with oligospermia.

Methods: 51 males' infertilities due to oligospermia, from 18 to 56 years old. Patients had taken HXH remedy for 60 days. Semen analysis before medication and retested after 3 months were analysis.

Results: Oral administration the HXH at the level of the doses 0,3g/kg BW, for 60 days the result follows: sperm con-

centration increased from 14.06×10⁶/ml to 24.01×10⁶/ml, the increase of sperm concentration calculated according to the percentage was 98310.68% (p<0,01); normal sperm morphology increased from 23.24% to 31.24% (p <0.01).

Conclusion: HXH has effect of increasing sperm concentration and percentage of normal sperm morphology in male with oligospermia (p <0.01).

Contact: Doan Minh Thuy, doanminhthuyvn@yahoo.com

<http://dx.doi.org/10.1016/j.imr.2015.04.160>

P2.056

Effect of integrative Korean medicine treatment for lumbar disc herniation inpatients



Jinho Lee, Joon-Shik Shin, In-Hyuk Ha,
Me-riong Kim, Ki Byung Park

Jaseng Spine and Joint Research Institute, Jaseng
Medical Foundation

Purpose: Many lumbar disc herniation (LDH) patients require hospitalization due to severe pain and disability, and clinical guidelines recommend sufficient conservative treatment before considering surgery. As integrative Korean medicine treatment including herbal medicine, Chuna manipulation, bee venom acupuncture, and acupuncture is widely used for LDH in Korea, we investigated the short-term effects of an integrative Korean medicine treatment in inpatients hospitalized for LDH.

Methods: We selected 1,377 inpatients admitted to a Korean medicine hospital for LDH (disc prolapse ~ extrusion) confirmed by MRI since June 2012. Demographic characteristics, numeric rating scale (NRS) for low back and leg pain, Oswestry disability index (ODI), and patient satisfaction rates were assessed upon admission and discharge. Patients received herbal medicine 3 times/day, bee venom acupuncture, acupuncture, and Korean medicine physical therapy 1-2 times/day and, Chuna spinal manipulation 2-3 times/wk.

Results: The study population was an average 44.2±14.4 years, and comprised of 651 men (47%) and 726 women (53%). The onset of low back or leg pain was 277.9±738.2 days, with 32% acute (<4 wks), 24% sub-acute (4-12 wks), and 45% chronic patients (≥12 wks). Average hospital stay was 23.1±12.7 days, and BMI was 23.5±3.5 kg/m². Level of disc herniation as classified by MRI showed 35% had protrusion, 26% extrusion, and 22% protrusion with extrusion. The NRS of low back and leg pain, and ODI was 6.1±2.3, 5.2±3.2, and 48.3±20.4 at baseline, and 2.9±1.9, 2.6±2.1, and 30.1±16.2 at discharge, respectively, all indicating statistically significant decrease from baseline (P<0.0001). The results for patient satisfaction at discharge was very satisfied in 34%, satisfied 51%, fairly satisfied 12%, unsatisfied 2% and very unsatisfied 0%, showing that most recipients (86%) were satisfied with treatment.

Conclusion: LDH patients reported high levels of satisfaction and improvement through non-invasive integrative inpatient treatment for low back and leg pain in the short term.

Contact: Jinho Lee, jasengjsr@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.162>

P2.057

Changes of Radial Pressure Pulse in Cold-Stressed Humans; A Clinical Study

Jang Han Bae¹, Jaek U. Kim¹, Boncho Ku¹,
Young Ju Jeon¹, Jong Yeol Kim¹,
Hyunho Kim²

¹ Korea Institute of Oriental Medicine

² Kyung Hee University

Purpose: Human body under cold stress (CS) causes physiological responses through autonomic nerve reaction (ANR); it accompanies cardiovascular changes and thus will be reflected on radial pressure pulse (RPP). This study aims to explore the effects of CS on RPP and investigate some indices which can reflect ANR.

Methods: Sixty subjects participated in the study at normothermic conditions by immersing their legs into 15°C water for 5 minutes. RPP and respiration signals were recorded before the CS and immediately after the CS. Finally, we analyzed the pulse power, pulse depth, pulse rate (P), respiration rate (R), pulse rate per respiration (P/R ratio), heart rate variability (HRV), power spectral density (PSD) within 0~13 Hz (PSD0-13 Hz) and 13~30 Hz (PSD13-30 Hz).

Results: Immersing legs into cold water caused pulse to be more powerful and shallower which implies the study was designed for a proper CS for humans. P/R ratio showed a consistently decreasing tendency ($p < 0.01$) through the CS stimulation process, while heart rate generally used as a primary diagnostic indicator showed no significant difference. Other parameters behaved more complex and in subject-specific ways. It implies that, among candidate parameters, the P/R ratio is a simple ANR indicator. In addition, PSD ratio (PSD0-13 Hz/PSD13-30 Hz) ($p < 0.01$) was shown to be another potential ANR indicator.

Conclusion: We studied the RPP responses through a CS clinical study and showed that the P/R ratio and PSD ratio are potentially good indicators for ANR under a CS environment. Especially, the P/R ratio was shown to be more appropriately associated with the ANR than heart rate or respiration rate alone. Further studies including clinical study for heat-stressed humans will help confirm our results.

Contact: Jang Han Bae, fcbest11@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.163>

P2.058

Effect of Intraoral Balancing Appliance Therapy on Tic disorder Non-Randomized, Observational Clinical Study

Tae Min Eom¹, Young Jun Lee²,
Jeong Min Oh¹, Hyun Jeong Park³,
Jong Sun Park⁴, Ho Ryong Yoo¹

¹ Dunsan Korean Medicine Hospital of Daejeon University

² Department of FCST, Graduate School of Integrated Medicine, CHA University

³ Korea Institute of Oriental Medicine

⁴ Department of Pharmacology, Research Institute for Medical Sciences, Chungnam National University

Purpose: The purpose of this study was to evaluate the effectiveness of Intraoral Balancing Appliance Therapy on Tic disorders. At present, there is no treatment available that can improve tics without considerable side effects. Although there has been a debate about the exact role of intraoral appliances (OA) in management of TMDs and derencephalus diseases, OA has been one of the main modalities of holistic TMJ therapy with a perspective of balance in the nervous system and whole-body structure. This study is aimed to investigate the effect of OA on Tic disorders.

Methods: 26 patients who were diagnosed with Tic disorders were included. All patients received intraoral balancing appliance therapy using OA everyday as much as possible as an outpatient for two months. The Yale Global Tic Severity Scale (YGTSS) was used to evaluate symptomatic outcome.

Results: Out of the 26 participants, 23 completed the study. Among 23 patients, 20 were males which were 6.67 times bigger the number of females. The average age of all patients was 13.54±5.70 (mean±SD). The 23 patients include 4 of Transient Tic Disorder (TTD), 6 of Chronic Tic Disorder (CTD), and 13 of Tourette Syndrome (TS) by DSM-IV diagnostic criteria. The average age of initially occurred Tic disorder was 7.87±2.72. At the first medical examination, the average score on the YGTSS was 57.96 and improved to 36.17 (38.76%) after two months. The average of daily OA worn time of all patients was 10.42±4.64 (hour). This result showed significant ($p < 0.001$) improvement.

Conclusion: The results of this study point toward a possibly effective and safe Intraoral Balancing Appliance Therapy approach for Tic disorders. More clinical trials are needed to support these findings.

Contact: Tae Min Eom, tathto@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.164>

P2.059

Survival Analysis of Cancer Patients Treated with Traditional Korean Medicine Recent 10 years



Jun-young Kim¹, Ji-young Kang¹,
Hyeong-geug Kim¹, Wee-chang Kang²,
Chang-gue Son¹, Jung-hyo Cho¹

¹ Department of Internal Medicine, Daejeon Oriental Hospital, Daejeon University

² Department of Business Information Statistics, College of Business Administration, Daejeon University

Purpose: We aimed to analyze survival rates and duration of cancer patients who treated with Traditional Korean Medicine (TKM).

Methods: We analyzed the medical records of 971 patients who were treated more than 1 month of out-patient or 20 days of hospitalization at the Daejeon Oriental Hospital from Oct. 2004 to Sep. 2014. The survival rates and median survival duration (MSD) were estimated by the Kaplan-Meier method and Log-rank test. Seven different kinds of cancers patients who were suffered from liver, thyroid, colon & rectum, stomach, breast, pancreas, or lung cancer were analyzed by gender, age, and cancer stage-specific. We also estimated survival rates and MSD of 203 terminally ill cancer patients.

Results: The 5-year survival rates and MSD of 971 patients was 38.6% (95%CI 34.8 – 42.3), 3.28-year (95%CI 2.87 - 3.65) respectively. The 5-year survival rates of liver, colon & rectum, stomach, breast, pancreas and lung cancer patients were 30.0% (95% CI 19.5 – 40.5), 25.0%(95% CI 16.0 – 34.0), 24.4%(95% CI 16.2 – 32.6), 79.3%(95% CI 70.4 – 88.1), 3.4% (95% CI 0.0 – 9.3), 22.2%(95% CI 12.6 – 31.8), respectively. The MSD for liver, colon & rectum, stomach, breast, pancreas and lung cancer patients was 2.27-year (95%CI 1.21 - 3.50), 3.11-years (95%CI 2.67 - 3.58), 1.96-year (95%CI 1.71 - 2.52), 8.04-year (95%CI 7.01 - 10.69), 1.01-year (95% CI 0.80 - 1.21), 2.07-years (95%CI 1.47 - 2.53), respectively. Moreover, the MSD of terminally ill cancer patients was 0.39-years (about 20 weeks, 95%CI 0.33 - 0.44) and 0.5-year survival rates for them were 40.7% (95%CI 33.6 - 47.7), respectively.

Conclusion: All cancer types were not obviously extended the survival duration by treatment with TKM, the survival rate, especially for the liver, breast, pancreas and lung cancer patients are relatively higher than other treatment. Well-designed and prospective clinical trials should be recommended to provide more reliable evidence.

Contact: Jun-young Kim, jy-057@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.165>

P2.060

Short Term Efficacy of Radiofrequency Stimulation on Acupuncture Points for Low Back Pain: A Randomized, Double Blinded, Placebo-Controlled Trial



Boncho Ku¹, Jaeuk U. Kim¹, Jun-Hwan Lee¹,
Jungmin Lee², Yu-Jung Lee¹

¹ Korea Institute of Oriental Medicine

² Chonan Oriental Hospital of Daejeon University

Purpose: The objective of this study is to assess the pain-relief efficacy of percutaneous radiofrequency (RF) stimulation on acupuncture points (APs) in the treatment of patients suffering from low back pain (LBP) as a preliminary study.

Methods: A total of 56 LBP patients whose minimum pain intensity on visual analogue scale (VAS, 0-100 mm) was more than 30 mm were randomly allocated to either control or treatment group. The treatment group (n=28) received RF stimulation on four bilateral and three unilateral APs for three times a week. The placebo-controlled group (n=28) received false stimulation on the identical APs with the treatment group. All patients after randomization were required to report the case report form at baseline, all of three times of treatment periods and the follow-up period within 7 days after all treatments. The primary outcome was the change of VAS scores from baseline to the end of the follow-up period.

Results: The patient's reported change of VAS scores between baseline and the follow-up period (average: 9.8 days) were significantly decreased by 8.0 ± 13.0 mm (90% confidence interval: -12.2 to -3.9, $p < 0.01$) in the treatment group, and 13.4 ± 14.3 mm (90% confidence interval: -18.0 to -8.8, $p < 0.001$) in the placebo-controlled group. The difference between the treatment group and the placebo-controlled group was 5.4 mm (90% confidence interval: -11.4 to 0.7, $p = 0.145$).

Conclusion: Our preliminary results indicate that there was significant change in VAS scores for low pack pain between the baseline and the follow-up period within both groups, whereas there was no significant difference between the groups. A future clinical trial shall be designed with the long term period and active control to verify the efficacy of acupoints stimulation with RF.

Contact: Boncho Ku, secondmoon@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.166>

P2.061

Indication of Herbal Medicine 'Bojungikgi-tang': A Systematic Review of Randomized Controlled Trials



Somi Oh¹, Seong-Gyu Ko¹,
Yong-Cheol Shin¹, Bo-Hyoung Jang¹,
Sunju Park², Chunhoo Cheon¹, Soobin Jang¹,
Ching-Wen Huang¹, Yui Sasaki¹

¹ Kyung Hee University

² Daejeon University

Purpose: This study is to conduct systematic review of randomized controlled trial using herbal medicine 'Bojungikgi-tang' and classify the indication of Bojungikgi-tang by ICD-10.

Methods: We searched RCTs reporting effect of Bojungikgi-tang. Literatures were searched from the electronic databases including PubMed, EMBASE, Cochrane CENTRAL, CNKI, CiNii, CINAHL, 5 Korean medical databases and 2 databases specialized in Korean medicine. There was no limitation of language and publication year. The risk of bias was evaluated by the 'Risk of Bias' tool of Cochrane group. Literatures were descriptively analyzed. The indications of Bojungikgi-tang in RCT were classified by ICD-10.

Results: From the 1,883 of relevant literatures, 31 were included. 2,440 participants were involved in RCT using Bojungikgi-tang. The average administration period of Bojungikgi-tang was 56±48.45 days. In clinical trials, Bojungikgi-tang is mainly used as three indications; a tumor-related disease, loss of appetite and fatigue, and immune-related diseases. Especially, Bojungikgi-tang is mostly used in cancer related disease (24%).

Conclusion: This study classified various indications of Bojungikgi-tang in clinical trials and identified multi target effect of Bojungikgi-tang. This review would contribute to provide useful information in the clinical use of Bojungikgi-tang.

Contact: Somi Oh, veroni5ca@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.167>

P2.062

Acupuncture for Functional Constipation: an Ongoing Randomized, Patient-Assessor Blinded, Controlled Pilot Clinical Trial Protocol



Joo-Hee Kim, Sung Phil Kim, Jeong Eun Kim,
Kyung Min Shin, Hyo-Ju Park, Ae-Ran Kim,
So-Young Jung, Sunmi Choi

KIOM

Purpose: Constipation is one of the most common gastrointestinal conditions, with prevalence rates reported to be 9.2% in South Korea. While constipation is potentially caused by endocrine, metabolic, or neurological disorders or several other organic diseases such as intestinal tumor occlusion or inflammation, most cases are thought to be idiopathic. Although the condition can be intermittent or

mild in many cases, a complete cure is difficult because of its chronic nature. The aim of this study is to evaluate feasibility for massive clinical research and make basic analysis of efficacy and safety of acupuncture on functional constipation.

Methods: We will include patients aged 19 to 65 years old satisfying Rome III criteria for functional constipation. 30 participants will be recruited, and randomly allocated into two groups. The real and sham acupuncture group participants will receive real and sham acupuncture treatments respectively, three times weekly for a total of 12 sessions over four weeks. After 4 weeks' treatment, acupuncture and sham acupuncture groups were followed up at 2 and 4 weeks. The primary outcome is defecation frequencies in a week, and the secondary outcomes are spontaneous complete bowel movement, Bristol stool scale, Constipation Assessment Scale, and Adverse events. Safety will be assessed at every visit.

Results: This protocol was registered at CRIS registry (KCT0000926). Currently, 20 participants were enrolled in the study and the remaining participants' recruiting is in progress. Data will be analyzed before (baseline) and after treatment, and at 2-week/4-week of f/u after the end of treatment according to the method described in the protocol.

Conclusion: The results of the trial will provide basis for the efficacy and safety of acupuncture for functional constipation.

Contact: Joo-Hee Kim, jhkim714@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.168>

P2.063

The association of lower abdominal coldness with infertility factors by assessing digital infrared thermal imaging pattern in infertile women



Jeong-Eun Yoo, Sae-Byul Jang, Eun-Hye Jung

Dunsan Korean Medicine Hospital of Daejeon
university

Purpose: In Korean traditional medicine, lower abdominal coldness is known to induce women infertility both in literature and clinical practice. Digital infrared thermography has been in use in medical diagnostics, and it is an effective and objective tool for evaluating the subjective sense of coldness. The purpose of this study is to investigate the association of lower abdominal coldness with infertility factors by assessing digital infrared thermal imaging (DITI) pattern to elucidate related pathologies.

Methods: The study involved 38 female patients of age 20-38 years that had diagnosed of infertility. All the subjects in this population were screened for upper and lower body using DITI. Based on the image patterns, two different practitioners independently classified the subjects into two groups, lower abdominal coldness and normal. All those showing lower abdominal coldness have been analyzed with variables of infertility factors, ovulation, uterine, tubal or peritoneal, and unknown. Statistical analysis was performed by adopting descriptive and inferential tests.

Results: With regard to infertility factors of subjects, seventeen had unknown factor, eleven had tubal or peritoneal factor, eight had uterine factor, and six had ovulation factor. Thirty subjects showed thermograms of lower abdominal coldness in accordance of two practitioners. Subjects with tubal or peritoneal factor of infertility shown lower abdominal coldness with most high frequency of 90.9% ($p=0.237$).

Conclusion: In cross analysis process, correlation of lower abdominal coldness and tubal or peritoneal factor of infertility was not statistically significant, however, this would suggest clinically significant clue for the treatment. Thermography turns out to be a useful tool for identification of lower abdominal coldness in infertile woman. Further study is supposed to investigate the physiopathological mechanism of lower abdominal coldness in infertile women with large sample size.

Contact: Jeong-Eun Yoo, korea.dr.yoo@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.169>

P2.065

The analgesic effects and local response to microcirculation of acupuncture



Seorim Min¹, Hyangsook Lee², Song-Yi Kim², Ji-Yeun Park², Younbyoung Chae², Hyejung Lee², Hi-Joon Park²

¹ Acupuncture and Meridian Science Research Center

² Korea Institute of Oriental Medicine

Purpose: Although the local response induced by acupuncture manipulation has been considered to be among the important factors that induce the effects of acupuncture, this connection has not yet been properly studied with standardized tools. The aims of this study are to examine the local changes in microcirculation that occur at different manipulation intensities and explore any associations of these changes with the analgesic effects of acupuncture.

Methods: Twelve healthy volunteers received three acupuncture interventions, only an insertion, a single manipulation, and repeated manipulations, at the right LI4 (Hegu or Hapgok) in a random order. Skin blood perfusion was measured within a 100 mm² area ellipse centered on LI4 using laser Doppler perfusion imaging (LDPI). Pressure pain thresholds were measured at ipsilateral areas, including acupoints ST25 (abdomen), LI5 (hand), LI10 (arm) and SP9 (leg). Heart rate variability as a biomarker for autonomic nervous system (ANS) were measured using an electrocardiogram amplifier.

Results: We found that repeated acupuncture manipulations enhanced microcirculatory perfusion compared to insertion only ($p<0.01$) and single manipulation ($p<0.05$) conditions. The analgesic effects of acupuncture manipulations at ST25 exhibited a pattern of changes that was similar to the pattern of changes in perfusion ($p<0.05$ vs. insertion) and were mildly correlated with the changes in perfusion ($r=0.393$, $p=0.018$). There was no correlation between the change in microcirculation and activity of ANS.

Conclusion: These results indicate that acupuncture induced local microcirculatory changes that were detected by LDPI, which may represent an index of proper acupuncture stimulation.

Contact: Seorim Min, gracenotes21@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.170>

P2.066

Food As Medicine Everyday - Research (FAME-R): Evaluating physiological changes associated with a shift toward a whole-foods diet



Kimberly Tippens, Andrew Erlandsen, Robert Graybill

National College of Natural Medicine

Purpose: Prediabetes, or impaired glucose tolerance without a formal diagnosis of diabetes, is increasingly prevalent in the United States. Without adequate prevention, individuals with prediabetes are likely to develop type II diabetes within 10 years. Diabetes is inextricably linked with heart disease, and a healthful diet is a key behavioral target for these serious public health problems. Numerous public and private agencies have adopted health promotion and nutrition education programs to foster healthy eating behaviors. Individuals at high risk for these behaviorally-mediated chronic diseases may benefit from structured education programs that are community-based. The purpose of this study is to assess the impact of a 12-week, community-based nutrition education course for adults with prediabetes and cardiovascular risk factors.

Methods: A naturopathic physician-led, 12-week nutrition education course has been offered at community-based locations in Portland, Oregon, for the past three years. The Food as Medicine Everyday (FAME) course curriculum emphasizes whole-grains and a predominately plant-based whole-foods diet. Fifty adults with or at risk for prediabetes will participate in the 12-week nutrition education program. Using a pretest-posttest design, we will assess changes in key markers of diabetes and CVD risk, including hemoglobin A1c, insulin, lipids, and c-reactive protein. Sustained impact will be evaluated through repeated measurement at three-month and nine-month follow-up visits.

Results: Data collection began in January 2015. Preliminary results will be presented, describing 12-week pre-post comparisons of biomarkers of diabetes and CVD risk.

Conclusion: The FAME curriculum includes a unique emphasis on whole-foods. The interactive design of the course, which includes family-style meal preparation and consumption, may promote learning and sustained adoption of healthy eating behaviors, including increased diversity of whole grains and vegetables. Community-based nutrition courses may improve access to education that will directly benefit individuals at high risk for behaviorally-mediated diseases such as diabetes and CVD.

Contact: Kimberly Tippens, ktippens@ncnm.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.171>

P2.067

A Report of Hypertension Patients Treatment in a Traditional Korean Medical Clinic

Young Eun Kim, Ick Tae Kim,
Chang Sop Yang, Song Mi Young

Korea Institute of Oriental Medicine

Purpose: The purpose of this study is to report the effect of traditional Korean medical treatment on hypertension.

Methods: In this study, we reviewed the medical records of 22 hypertension patients who visited a traditional Korean medical clinic at least twice a week for a week from 21st May 2012 to 14th July 2012. We investigated the changes of blood pressure in every week and the quality of life in 4 weeks.

Results: All patients got acupuncture, herbal treatment, moxibustion. We divided 22 subjects into two groups to analyze; one group was the patients who started treatment during the study (A, n=13), and the other group was the patients who enrolled this study on the course of treatment (B, n=9). In A group, we found the decrease trend of systolic blood pressure. It decreased in 11 out of 13 patients in the first observation week, 8 out of 10 in the second week, 3 out of 6 in the third week. 3 patients of B group maintained normal blood pressure (Systolic/Diastolic blood pressure < 140/90 mmHg) during observation period without anti-hypertensive drugs. Patients who finished to check the quality of life (EQ-5D) were 10. Quality of life was improved in 5 out of 10 patients.

Conclusion: The effect of traditional Korean medical treatment on hypertension was unclear because the subjects were small in number. However we could observe some blood pressure improved cases. Further clinical study like well-designed randomized controlled trial should be conducted to determine the effect of the treatment.

Contact: Young Eun Kim, jade2010@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.172>

P2.068

A Case of Metastatic Bladder Cancer in Both Lungs Treated with Korean Medicine Therapy Alone

Dong-Hyun Lee¹, Sung-su Kim¹, Sin Seong¹,
Chang-Ryool Woo¹, Hyejin Yu²,
Wonjun Cho²

¹ Soram Korea Hospital

² Soram Bio-Medicine Research Institute

Purpose: This case report is aimed to investigate the effects of Korean medicine therapy (KMT) including oral herbal medicine and herb nebulizer therapy in treating metastatic bladder cancer in the lungs.

Methods: A 74-year-old man was diagnosed with metastatic bladder cancer in both lungs in August 2013. He refused any chemotherapy and was admitted to our hospital in a much progressed state on January 11, 2014. Since then, he was treated with KMT until May 17, 2014. In this case, we treated the KMT main therapy; pharmacopuncture, oral

herbal medicine and nebulizer therapy. Pharmacopuncture is the injection of liquid herbal extracts to acupuncture points. The main oral herbal medicines were Hyunamdan (HND) made of heat-processed ginseng, Hangamdan S (HAD S) made of Cordyceps militaris, Panax ginseng radix, Commiphora myrrha, calculus bovis, margarita, Boswellia carteri, Panax notoginseng radix and Cremastra appendiculata tuber, and nebulizer therapy with Soram nebulizer solution made of wild ginseng and Cordyceps sinensis distillat

Results: Their effect was evaluated considering the change of the main symptoms and using serial chest X-ray. The overall therapeutic effect was markedly decreased in the size and number of multiple metastatic nodules in both lungs and the symptoms had disappeared. It is inferred the Rg3 and Rh2 component were detected in the examination of ginsenoside contents of HMD and Rg3 and Rh2 were the most potent for the antiproliferative effect on human cancer cell.

Conclusion: These results suggest that KMT can be an effective method to treat metastatic bladder cancer in the lungs. The results obtained here supports that HND and HAD S is an evidence for more activity in the treatment of metastatic bladder cancer and other types of cancer as well.

Contact: Dong-Hyun Lee, hanvithunter@soram.kr, Wonjun Cho, williamcho86@soram.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.173>

P2.069

HPV SUBTYPE 18 POSITIVE UTERINE CERVICAL DYSPLASIA (CIN grade II) TREATED WITH KOREAN MEDICINE; A CASE REPORT

Hara Lim¹, Jung AH Yoon¹, Sung-su Kim¹,
Sin Sung¹, Hyejin Yu², Wonjun Cho²

¹ Soram Korea Hospital

² Soram Bio-Medicine Research Institute

Purpose: Human papillomavirus (HPV) is the main causative agent of cervical neoplasm. The most cervical cancers are caused by specific type of HPV with high-risk HPV subtypes (16, 18, 31, 33 and 35) accounting for more than 95% of cervical intraepithelial neoplasia (CIN) and invasive cancer. The current study attempts to conduct new approach of cervical dysplasia use of Korean medicine therapy as pseudo immunologic approaches.

Methods: A 34 year old female diagnosed with CIN grade II because HPV18 is positive (June 16th 2014) was scheduled for LEEP (loop electrosurgical excision procedure) in August 2014. Generally, HPV 16 or HPV18 is positive, the patients are at relatively high risk for concurrent CIN grade II. But she planned to pregnant sooner, so she decided refuse the LEEP. After she had cancel the LEEP schedule, the patient was admitted to our hospital to be treated with Korean medicine (Aug 28th 2014) The patient was treated by several Korean medicine therapy, including moxibustion, oral herbal medicines (containing *Euonymus sieboldianus*), hyperthermia and vaginal irrigation.

Results: The clinical diagnosis of cervical neoplasm was verified by gynecological examination and obstetrician diagnosed. It was achieved that the cervical dysplasia and HPV

18 had shown clearance with one month. Using the Seeplex HPV4A Ace screening kit, it has come out the positive result for PCR.

Conclusion: Based on these results, this case report suggests that Korean medicine treatment may be a solution for HPV infection and cervical dysplasia.

Contact: Hyejin Yu, heileyyu@soram.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.174>

P2.070

A case of Salivary Gland Cancer Treated with Korean Medicine Therapy and Cisplatin and Docetaxel Therapy



In Cheol Yang¹, Sung-su Kim¹, Sin Sung¹, Hyejin Yu², Wonjun Cho²

¹ Soram Korea Hospital

² Soram Bio-Medicine Research Institute

Purpose: Salivary gland cancer (SGC) has a relatively low incidence as compared to other stomach and lung cancers. In Korea, SGC are relatively rare accounting for 1.2% of the occurrence rate of cancer.

Methods: The current study attempts to determine the effects of simultaneous treatment, a combination of the chemotherapy of cisplatin and docetaxel, and Korean medicine therapy (KMT) including oral herbal medicine and pharmacopuncture. The patient was administered the following medication: wild ginseng pharmacopuncture(WGP), Hyunamdan(HND) and acupuncture therapy. HND was made by steaming Panax ginseng at 120 °C for 4 hours using autoclave and drying at 45 °C for 1 night a day. It was ground, mixed with honey at a ratio of 1:1, and divided into 4-gram pills.

Results: A 48-year-old man was diagnosed as SGC in August, 2013 and diagnosed with metastatic stomach and lymph cancer. Since then, he was treated by the combination of oral cisplatin and docetaxel anticancer and KMT. The tumor of metastatic systemic lymph nodes was disappeared.

Conclusion: We have reported that KMT in combination with cisplatin and docetaxel have a remarkable effect on decreasing the tumor cell sizes and moderating the serious side effects. From these results, this case report suggested that KMT with cisplatin and docetaxel chemotherapy may be a useful method to salivary gland cancer.

Contact: In Cheol Yang, heileyyu@soram.kr, Wonjun Cho, williamcho86@soram.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.175>

P2.071

The costs and consequences of acupuncture for chronic low back pain in Korean patients: an observational study



Song-Yi Kim¹, Hyejung Lee², Hyangsook Lee³, Ji-Yeun Park³, Sang Kyun Park⁴, Hi-Joon Park³

¹ Acupuncture and Meridian Science Research Center, Kyung-Hee University

² Korea Institute of Oriental Medicine

³ Kyung-Hee University

⁴ Sang Ji University

Purpose: To study the consequences and costs of acupuncture in general medical practice for patients with chronic low back pain (CLBP) in Korea.

Methods: A multicentre observational study was carried out. Outpatients with CLBP who received at least one acupuncture session in a Korean Medicine clinic during the study period were included and followed up for 3 months. All patients received regular acupuncture treatments in accordance with the doctors' discretion. The consequences in terms of effects included condition-specific outcomes and preference-based outcome. For cost analysis, the cumulative resource use for direct medical costs at each research clinic during the study period and direct patient data using the self-reported healthcare utilization questionnaires were used.

Results: A total of 157 patients were eligible to participate and 105 were finally included. Significant improvements in condition-specific and preference-based measures were observed after acupuncture treatment. An average of approximately 155,459 KRW (\$146) per patient was reported for direct medical costs in each clinic for 1 month and 246,117 KRW (\$231) for 3 months.

Conclusion: The use of acupuncture to manage CLBP in general clinical practice in Korea inexpensively improved pain, functional disability and quality of life. The study results are meaningful and consistent with the results of previous trials performed in other European countries but the power of the study is not strong, having major design weaknesses. A large-scale cohort or registry based on practice may be helpful to strengthen the evidence of the cost-effectiveness of acupuncture.

Contact: Song-Yi Kim, cl2300@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.176>

P2.072

Massage for knee osteoarthritis

Kristin Jerger¹, Michael Juberg¹,
Kelli D. Allen², Natalia O. Dmitrieva³,
Teresa Keever¹, Adam I. Perlman¹

¹ Duke Integrative Medicine, Duke University
Medical Center

² University of North Carolina at Chapel Hill;
Durham Veterans Affairs Medical Center

³ Dept of Psychiatry and Behavioral Sciences, Duke
University Medical Center

Purpose: Core objectives of this pilot study were 1) to assess the feasibility and acceptability of Swedish massage among Department of Veterans Affairs (VA) healthcare users with knee osteoarthritis (OA), and 2) to collect preliminary data on efficacy of Swedish massage in this patient group.

Methods: A pre/post massage therapy intervention pilot study of twenty-five U.S. Veterans with symptomatic knee OA was conducted at Duke Integrative Medicine clinic facilities in Durham, NC. Participants received eight weekly one-hour sessions of full-body Swedish massage. Primary Outcome Measures: Western Ontario and McMaster University Osteoarthritis Index (WOMAC) and global pain (visual analog scale: VAS). Secondary Outcome Measures: NIH's Patient Reported Outcomes Measurement Information System-Pain Interference Questionnaire 6b (PROMIS-PI 6b), 12-Item Short-Form Health Survey (SF-12® v1) and the EuroQol health status index (EQ-5D-5L), knee range of motion (ROM), and time to walk fifty feet.

Results: Study feasibility was established by a 92% retention rate with 99% of massage visits and 100% of research visits completed. Results showed significant improvements in self-reported OA-related pain, stiffness and function (30% improvement in Global WOMAC scores, $p = 0.001$) and knee pain over the past seven days (36% improvement in VAS, $p < 0.001$). There were also significant improvements in PROMIS-PI, EQ-5D-5L, and physical composite score of the SF-12® (all $p < .01$), while the mental composite score of the SF-12® and knee ROM showed trends toward significant improvement. Time to walk fifty feet did not significantly improve.

Conclusion: In addition to offering support for the feasibility and acceptability of Swedish massage among VA healthcare users, these results provide preliminary data suggesting its efficacy for improving overall health and quality of life for massage recipients, in addition to pain relief. If results are confirmed in a larger randomized trial, massage could be an important component of regular care for these patients.

Contact: Kristin Jerger, kristin.jerger@duke.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.177>

P2.073

Four cases of vitiligo patients treated by Oriental medical treatment who have experienced Excimer Laser treatment

Jin Hyuk Lee, Se-Yoon Kim

WOBO Korean Medicine Clinic

Purpose: This study aims to prove effects of an oriental medical complex therapy on vitiligo patients who have experienced the Eximer laser therapy

Methods: The study conducted its investigation targeting these four patients who have not been observed with any satisfactory reaction to the Eximer laser therapy. The study analyzed the findings through the comparison on the pictures before and after the therapy

Results: After comparing the pictures, the study confirmed positive changes in the conditions of the patients. The oriental medical complex therapy turned out to be effective enough to treat the patients who have gone through the Eximer laser therapy before

Conclusion: Such result leads the study to a conclusion that the oriental medical complex therapy can be an effective way to treat these patients who do not have a satisfactory reaction to the Eximer laser therapy. In addition, the author of the study suggests that more clinical trials should be conducted

Contact: Jin Hyuk Lee, gnpark@i-woobo.com

<http://dx.doi.org/10.1016/j.imr.2015.04.178>

P2.074

Qi li qiang xin capsule combined with conventional therapy in treating chronic heart failure: a meta-analysis and systematic review

Dezhao Kong

The First Affiliated Hospital of Liaoning University
of Traditional Chinese Medicine

Purpose: To evaluate the efficacy of Qi li qiang xin capsule in combination with conventional therapies in treating chronic heart failure.

Methods: Chinese online databases such as Chinese Journal full-text database, China National Knowledge Infrastructure, Wanfang Database were screened associated with English databases Pubmed, ScienceDirect, Embase, and the Cochrane Library. "Cochrane risk of bias tool" was taken to assess the quality of included randomized controlled trials. The Revman 5.3 software was used to analyze the collected data. Ejection fraction, end-diastolic diameter, end-systolic diameter of Echocardiography, NT-ProBNP, BNP, six-minute walk test, readmission rate and mortality were picked as evaluation. Sensitivity analysis and funnel plot were performed to analyze results stability and potential publication bias.

Results: 57 studies including 4351 cases were enrolled. Meta-analysis showed the efficacy of Qi li qiang xin capsule combined with conventional therapy in improving cardiac ejection fraction (SMD=0.48, 95%CI [0.40, 0.56]), reducing left

ventricular end-diastolic (SMD=-0.40, 95%CI [-0.51, -0.28]), and end-systolic diameter (SMD=-0.90, 95%CI [-1.15, -0.65]), lessening BNP levels (SMD=-0.77, 95%CI [-0.91, -0.63]) and NT-ProBNP (SMD=-0.38, 95% CI [-0.57, -0.19]) was significantly superior to the control group, with no significant heterogeneity among the studies ($P > 0.05$, $I^2 < 50\%$). For 6-minute walk test, readmission rates and mortality, only descriptive statistical analysis was conducted for significant heterogeneity ($P > 0.05$, $I^2 < 50\%$) and insufficient enrolled studies ($N \leq 2$). Funnel graphic suggesting the absence of publication bias. The sensitivity analysis showed the results were stable.

Conclusion: Qi li qiang xin capsule combined with conventional therapy in treating chronic heart failure shows superiority in echocardiography ejection fraction, end-diastolic and end-systolic diameter, plasma BNP and NT-ProBNP levels. However, the conclusions should be treated with care and need more high-quality RCTs to validate.

Contact: Dezhaok Kong, dezhaok2007@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.179>

P2.075

Effect of Thread Embedding Acupuncture for Facial Wrinkles and Laxity: A single arm, prospective, open label study



Youngee Yun, Inhwa Choi

Department of Ophthalmol, Otolaryngol & Dermatol, College of Korean Medicine, Kyung Hee University

Purpose: There is a growing trend for patients to seek the least invasive treatments possible with less risk of complications and downtime for facial rejuvenation. Thread embedding acupuncture has become popular as a minimally invasive treatment for facial wrinkles and laxity. However, there is little clinical evidence in the literature on its effects. This study is to investigate the effect of thread embedding acupuncture for facial wrinkles and laxity.

Methods: This single-arm, prospective, open-label study was implemented at Kyung Hee University Hospital at Gangdong from October through November 2014. Participants were women aged 35 to 60 years with a Glogau photo-aging scale III to IV. 14 participants received one time thread embedding acupuncture by one Traditional Korean Medicine doctor. Participants were measured at before, and after one week from the treatment. The primary outcome was a jowl to subnasale vertical distance. The secondary outcome was facial wrinkle distances, Global Aesthetic Improvement Scale, Alexiades-Armenakas Laxity Scale and Numeric Rating System for Patient's Self Satisfaction.

Results: 14 participants underwent thread embedding acupuncture alone, and 12 participants revisited for follow-up outcome measures. For the first outcome measure, the both jowls elevated in vertical height by 1.87 mm (left), 1.43 mm (right) at 1 week. However, there is no statistically significance. Both melolabial folds and nasolabial folds distances showed significant improvement after treatment. In Alexiades-Armenakas laxity scale, 4 participants showed improvement in laxity scale. In global aesthetic improvement

scale, improvement were graded 1 and 2 in 9 and 5 cases respectively. The most common adverse events were mild bruising, edema and pain at the needle site. However, adverse events occurred though mostly minor, self-limited, and of short duration.

Conclusion: In this study, thread embedding acupuncture showed clinical potential for facial wrinkles and laxity. However, further large-scale trials with a controlled design and objective measurements are needed.

Contact: Youngee Yun, allergycosmetic@khnmc.or.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.180>

P2.076

Usage and Safety of Korean Medicine during pregnancy in Korea Literature: A review



Junyoung Jo¹, Sun Haeng Lee², Jin-Moo Lee³, Seung Jun Kwack⁴, Dong-Il Kim⁵

¹ Department of Korean Gynecology, Graduate School of Korean Medicine, Kyung Hee University/ Connaul Hospital

² Department of Korean Pediatrics, Graduate School, Kyung Hee University

³ Department of Korean Gynecology, Graduate School, Kyung Hee University

⁴ Department of Bio Health Science, College of Natural Sciences, Changwon National University

⁵ Department of Obstetrics and Gynecology, College of Korean Medicine, Dong Guk University

Purpose: Korean medicine (KM) is popularly used as a medicinal therapy during pregnancy in Korea. However, its usage and safety during pregnancy were not systematically reviewed. The purpose of this review is to identify usage and adverse effects (AEs) associated with KM during pregnancy in Korean literature.

Methods: We searched Korean databases to identify relevant studies published before January 2015. Studies were included regardless of their design if they reported original data and involved KM for any conditions in pregnant women. We excluded studies if there was no information provided about KM prescriptions or the number of patients treated with KM. For safety issue, we also excluded studies if there was no information about pregnancy and neonatal outcome.

Results: Total 51 studies were included in this study. The analysis showed case reports were the major type of study, followed case series, while there were no randomized controlled trials (RCTs). The most reported disease during pregnancy was for hyperemesis gravidarum (26.44%). Anjeonicheon-tang and Atractylodis Rhizoma White were the most commonly used KM prescription and single herb during pregnancy. Some studies of KM reported only minor AEs like nausea, headache, distention and diarrhea during pregnancy and no teratogenic effects were reported.

Conclusion: Hyperemesis gravidarum and maintaining pregnancy accounted for more than two-thirds of clinical indication of KM during pregnancy in Korean literature. Several herbs showed preliminary positive safety, but due to lack of large prospective RCTs, we could not draw a conclusion of the

efficacy and safety of KM during pregnancy. More clinical trials with a larger sample size are needed to confirm its safety during pregnancy.

Contact: Junyoung Jo, studd@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.181>

P2.077

Exploratory research on therapeutic ritual healing: Applying scientific protocol to conduct experimental study of spiritual hands-on-healing



Marie Grace Brook

Sofia University

Purpose: The purpose of the first phase of this exploratory study was to examine the phenomenological experience and beneficial results that participants with a variety of religious orientations reported from hands-on healing sessions they received. The purpose of the second phase was to discover whether a non-religious healing protocol could be taught.

Methods: The first part of the study was a qualitative study using thematic content analysis to describe the phenomenological experience of 11 participants who received spiritual hands-on healing. The second phase of the study was a quasi-quantitative study to analyze reports from 31 recipients of hands-on healing, including 20 given by individuals being trained in the protocol. Benefits reported by recipients on a 1-10 scale for improvement in chronic conditions after the sessions and follow-up longitudinal reports six weeks later were analyzed.

Results: Common themes of phenomenological experience while receiving spiritual hands-on healing were, in order of prevalence, awareness of deeper level, improvement/change, feeling/sensing, listening/communicating, movement/energy, spiritual/heart, and pleasant/peaceful. Modes of perception commonly reported were physical, subtle energetic, mental, emotional, altered state, and spiritual. Of 31 total recipients, 28 reported improvements in chronic symptoms in categories of physical, emotional, spiritual, subtle energetic and behavioral conditions, with more than 50% reporting improvement in physical symptoms and in more than one category. Six-week follow-up showed no statistical difference than the reports immediately after the sessions.

Conclusion: Conclusions are that specific phenomenological experiences may be common across a variety of spiritual hands-on healing sessions, regardless of religious orientation and experience/skill levels of givers and recipients. Evidence shows that benefits of spiritual hands-on healing can be documented, and may be prevalent and significant for chronic physical, mental, emotional, behavioral, and perceptual conditions. The study also suggests that an effective non-religious spiritual hands-on healing protocol may be taught.

Contact: Marie Grace Brook, m.brook@sofia.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.182>

P2.078

Acupuncture Antiarrhythmic Effects on Drug Refractory Persistent Atrial Fibrillation: Study Protocol for a Randomized, Controlled Trial



Jimin Park, Hyun Soo Kim, SeungMin Lee, Kanghyun Yoon, Woo-shik Kim, Jong Shin Woo, Sanghoon Lee, Jin-Bae Kim, Weon Kim

Kyung Hee University

Purpose: Atrial fibrillation (AF) is the most common form of arrhythmia. Several trials have suggested that acupuncture may prevent AF. However, the efficacy of acupuncture for AF prevention has not been well investigated. Therefore, we designed a prospective, two-parallel-armed, participant and assessor blinded, randomized, sham-controlled clinical trial to investigate acupuncture in persistent AF (ACU-AF).

Methods: A total of 80 participants will be randomly assigned to active acupuncture or sham acupuncture groups in a 1:1 ratio. Both groups will take the same antiarrhythmic medication during the study period. Patients will receive 10 sessions of acupuncture treatment once a week for 10 weeks. The primary endpoint is AF recurrence rate. Secondary endpoints are left atrium (LA) and left atrial appendage (LAA) changes in function and volume, and inflammatory biomarker changes.

Results: This is a protocol study. Thus there is no results section.

Conclusion: This ACU-AF trial asks if addition of acupuncture to AAD reduces AF recurrence after sinus rhythm conversion by EC in persistent AF patients. This study was supported by the Traditional Korean Medicine R&D program funded by the Ministry of Health and Welfare through the Korean Health Industry Development Institute (KHIDI) (No.HI13C0580)

Contact: Jimin Park, swarmy77@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.183>

P2.079

A Case Report of Pregnancy of Infertility Patient with Thin Endometrium



Ji-myung Kwon, Eun-Seop Kim, Dong-Youl Yoo

U and Green Korean Medical Clinic

Purpose: To report the effect of Korean medicine on 39-year-old infertile patient with thin endometrium.

Methods: The patient who had thin endometrium was treated with herbal medication, acupuncture, moxibustion and steam bath for 4 months.

Results: After the Korean medical treatment, the thickness of endometrium increased from 5.00 mm to 7.5 mm and the patient could give a natural birth to a healthy baby.

Conclusion: The case report suggests that Korean medicine, especially herbal medicine and acupuncture is effective on thin endometrium.

Contact: Ji-myung Kwon, coolnsweet27@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.184>

P2.080

Effect of Korean Medical Treatment on Infertile Female (aged>35years)



Ji-myung Kwon, Eun-Seop Kim,
Dong-Youl Yoo

U and Green Korean Medical Clinic

Purpose: Infertility has become a significant issue in socio-economic as well as health policy. Increasing infertile female is caused due to aging of childbearing population. The purpose of the study was to report the effect of Korean Medicine on elderly infertile female (aged>35years).

Methods: We reviewed the medical records of 225 infertile females (aged>35years). They were treated with acupuncture, moxibustion and steam bath and prescription of Korean Medicine based on individual's conditions and pathology of the disease.

Results: After the Korean medical treatment, the clinical pregnancy rate and the live birth rate were 35% and 29% in aged 35- 39 years and 19% and 18% in aged 40-44 years. Most of them (90%) were spontaneously conceived pregnancy.

Conclusion: This observation suggests that Korean medicine, especially herbal medicine and acupuncture is effective on spontaneous pregnancy in elderly infertile female (aged>35years). Further clinical studies are needed to investigating the effects of Korean medical treatment.

Contact: Ji-myung Kwon, coolnsweet27@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.185>

P2.081

Association Rule Mining in Korean Herbal Prescriptions of the Early 20th Century



Sunmoon Hwang¹, Dongwook Kwak¹,
Hyunho Kim², Young-Bae Park²,
Wung-Seok Cha³

¹ Dong Shin University/ College of Korean Medicine

² Kyung Hee University/ Department of Biofunctional Medicine & Diagnostics, College of Korean Medicine

³ Kyung Hee University/Department of Medical History, College of Korean Medicine

Purpose: It is worth analyzing mass text data and discovering meaningful information. Young-hoon Kim, who is an important figure in modern-contemporary traditional Korean medicine (TKM) left his medical records, including the names of diseases, etiological factors and herbs in prescriptions for 60 years. Treating the same diseases differently by various sub-factors, including etiological factors, is a characteristic of TKM, and he emphasized the importance of this. Thus, this study

aims to analyze his medical records and examine the patterns of selecting herbs for major diseases by etiological factors.

Methods: The subjects were 48,807 cases preprocessed to be analyzed, after extracting and connecting the names of diseases, etiological factors and prescribed herbs in the database of records between 1915 and 1938. Diseases selected after correcting the names of similar herbs, names of diseases and etiological factors were common cold, diarrhea, cough, low back pain, abdominal pain and exhaustion syndrome. An association rule analysis between the etiological factors of each disease and the herbs was conducted using IBM SPSS Modeler 14.2.

Results: As a result of the analysis, representative herbs used specifically for each etiological factor in each disease included: common cold (*Angelicae Gigantis Radix*, *Puerariae Radix*, *Peucedani Radix*, etc.); diarrhea (*Elsholtziae Herba*, *Dolichoris Semen*, *Poria Sclerotium*, etc.); cough (*Rehmanniae Radix*, *Lycii Radicis Cortex*, *Rehmanniae Radix Preparata*, etc.); low back pain (*Sappan Lignum*, *Aucklandiae Radix*, *Magnoliae Cortex*, etc.); abdominal pain (*Meliae Cortex*, *Carthami Flos*, *Zingiberis Rhizoma*, etc.); and exhaustion syndrome (*Eucommiae Cortex*, *Alismatis Rhizoma*, *Polygalae Radix*, etc.).

Conclusion: It was found that Kim tended to use different herbs for the same diseases by etiological factors, through analyzing his medical records, and that the combinations of the drawn etiological factors and herbs were roughly consistent with efficacy of the herbs known to the present age.

Contact: Sunmoon Hwang, smoonhwang@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.186>

P2.082

Effect on Acupuncture combined with rehabilitation on depression in patients with motor aphasia after stroke



Huimin Zhang¹, Rong Xing Shi²

¹ Beijing United Family Rehabilitation Hospital

² China-Japan Friendship Hospital

Purpose: Objective: the method of acupuncture combined with rehabilitation on depression in patients with motor aphasia after stroke.

Methods: Methods: 70 patients were randomly divided into needle group and control group, pin group using the method of scalp acupuncture on cluster-needling combined with rehabilitation training for treatment and the control group only speech training, were observed after treatment in patients with depression and level of aphasia.

Results: Results: after 4 weeks of treatment, pin group aphasia due to not only the degree of improvement than the control group ($P < 0.05$) and depression were significantly lower than in the control group ($P < 0.01$), pin group post stroke aphasic depression rating scale (SADQ) score is also more pronounced ($P < 0.01$).

Conclusion: Conclusion: the method of acupuncture combined with rehabilitation can be good to improve the treatment of depression in stroke patients with motor aphasia.

Contact: Huimin Zhang, hannah.zhang@ufh.com.cn

<http://dx.doi.org/10.1016/j.imr.2015.04.187>

P2.083

Randomized, crossover clinical trial for evaluating validity of various acupuncture device types



Jungtae Leem¹, Jimin Park², Gajin Han⁴,
Seulgi Eun³, Meena Makary³,
Seung Won Shin⁴, Kwanil Kim⁴,
Kyungmo Park³, Sanghoon Lee², Junhee Lee⁴

¹ Kyunghee Univ Korean Medicine Hospital Korean
Medicine Clinical Trial Center

² Department of Acupuncture and Moxibustion,
College of Korean Medicine, Kyung Hee University

³ Department of Biomedical Engineering, Kyung
Hee University

⁴ Korean Medicine Clinical Trial Center, Kyung Hee
University Korean Medicine Hospital

Purpose: Although various placebo acupuncture devices have been developed and used in acupuncture research, there is controversy concerning whether these devices really serve as appropriate placebos for control groups. Now we are planning clinical research evaluating validity of various placebo acupuncture device types. So now we are submit abstract of the protocol.

Methods: The proposed study is a single-center prospective randomized crossover participant- and assessor-blinded trial with two parallel arms. A total of 76 participants will be randomly assigned to Group 1 or Group 2 in a 1:1 ratio. Participants will have a total of three sessions in a day with a 30-minute washout period between each session. The primary endpoint is blinding test questionnaire 1. Secondary endpoints are the Bang's blinding index the Massachusetts General Hospital Acupuncture Sensation Scale index, and physiological data including heart rate, heart rate variability, and skin conductance response.

Results: We registered at CRIS(Clinical Research Information Service, Korea). Registration Number is KCT0001347. Now we are now recruiting participants.

Conclusion: This trial will evaluate the relevance of using placebo acupuncture devices as controls using a validation test procedure This study was supported by the Traditional Korean Medicine R&D program funded by the Ministry of Health and Welfare through the Korean Health Industry Development Institute (KHIDI) (No. HI13C0700)

Contact: Jungtae Leem, julcho@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.188>

P2.084

Plasma metabolomics combined with personalized diagnosis guided by Chinese medicine reveals subtypes of Chronic heart failure



Juan Wang, Huihui Zhao, Jianxin Chen,
Kuo Gao, Bangze Fu, Shuzhen Guo,
Wei Wang*

Beijing University of Chinese Medicine

Purpose: Chronic heart failure (CHF) was characterized by failure of enough blood supply from heart to meet the body's metabolic demands, and the prevalence of CHF continuously increases globally. The personalized diagnosis of Chinese Medicine (CM) may help to stratify the CHF. CM classifies CHF into several different syndrome types, and integrating Western and Chinese medicine to treat CHF has proved a validated therapeutic approach. Metabolomics is regarded as a potential platform to provide biomarkers for disease-subtypes in recent years. In this research, we designed an explorative study of 38 patients, combining NMR plasma metabolomics with CM diagnosis in order to identify diagnostic biomarkers for two CHF syndrome subtypes.

Methods: After processing the NMR data, orthogonal partial least square discriminant analysis (OPLS-DA) was performed.

Results: The plasma metabolic patterns of group 1 'Yin deficiency VS non-Yin deficiency' and 2 'Yang deficiency VS non-Yang deficiency' were clearly discriminated, respectively. And potential biomarkers of CHF based on the two CM syndrome types indicated the alterative modes of metabolites and metabolic pathways in the disease, e.g. the disturbance in fatty acids, amino acids and glucose, etc.

Conclusion: This study proved that combining metabolomics with CM diagnosis can reveal metabolic signatures for CHF syndrome subtypes. The identified plasma metabolites may be of special clinical relevance for subtypes of CHF, which could lead to further understanding of mechanisms involved and an improvement in personalized interventions for CHF. This work was supported by The National Science Foundation of China (no.81302914).

Contact: Juan Wang, doctorjuanwang@163.com

Corresponding author: Wei Wang (Beijing University of Chinese Medicine), Wangwei26960@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.189>

P2.085

Effects of Wonli Acupuncture Procedure in Patients with LSS: A Clinical, Retrospective Study



Sanghoon Yoon¹, Geon-Mok Lee¹,
Se-rin Kang¹, Kyong ha Cho¹,
Eun-Yong Lee², Jong-Hyun Han³

¹ Korean Medical institute of Acupotomy

² Department of Acupuncture and Moxibustion,
College of Korean Medicine, Semyung University

³ Department of Pharmacology, College of Korean
Medicine, Wonkwang University

Purpose: Lumbar Spinal Stenosis (LSS) is a disease with increasing prevalence due to prolongation of average life span. Despite various treatment methods, many limitations remain unsolved. We are reporting cases of patients who have been treated with Wonli Acupuncture procedure, a method of treating LSS by directly approaching the intervertebral foramen and interlaminar space with acupuncture needles different from those used in original acupuncture.

Methods: A total of 82 patients with LSS were treated with Wonli Acupuncture, and out of those, 47 patients without exclusion criteria were selected for the following research. We compared the pre-treatment VAS and ODI scores based on 1 year follow-up measurements.

Results: The ODI value dropped by 15.3 ± 24.8 on average (from 35.2 ± 19.9 at the baseline to 19.8 ± 20.6 at the reading) ($p < 0.01$) and the average VAS also dropped by 19.2 ± 37.2 (from 60.7 ± 23.1 at baseline to 41.5 ± 31.9 at the reading) ($p < 0.01$).

Conclusion: Wonli Acupuncture was found to have clinical efficacy for lumbar spinal stenosis.

Contact: Sanghoon Yoon, geonmokbo@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.190>

P2.087

Clinical research on intracavity treatment with Cinobufacini injection for malignant effusions and mechanism exploring



CHAO AN, QI ZOU, Minghuan ZOU,
Kaiwen HU

Dongfang Hospital, the second clinical medical
college of Beijing University of Chinese Medicine

Purpose: This study was conducted to evaluate efficacy and safety of intracavity treatment with Cinobufacini injection for malignant hemorrhagic effusions, explored the possible mechanism preliminarily.

Methods: After puncture drainage most of pleural or peritoneal effusions, patients underwent slowly intracavity injection of dilute Cinobufacini through the catheters, 3 times per week (hemorrhagic pleural or peritoneal effusion) or 1 time per day (hematuria) for two weeks.

Results: Efficacy was evaluated by clinical observations, Ultrasound exam, color RBC of effusions, tumour markers, Karnofsky score and Chinese Medical syndrome scale.

Conclusion: When Chinese Medicine was modernization, we need use it properly not only base on modern pharmacology but also rely on the basic theory of Chinese Medicine. Intracavity treatment with Cinobufacini injection is a good option for those patient with local syndrome differentiation of malignant Hemorrhagic pleural or peritoneal effusions and hematuria are damp-heat-toxin according to Chinese Medical syndrome differentiation theory.

Contact: CHAO AN, Annie.bucm@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.192>

P2.088

Overview of traditional Korean medicine intervention for whiplash disorder



Ji Hee Jun, Ju Ah Lee, Jiae Choi,
Tae Young Choi, Myeong Soo Lee

Clinical Research Division, Korea Institute of
Oriental Medicine (KIOM)

Purpose: Whiplash associated disorder (WAD) and chronic neck pain after car accidents are multi-component phenomena associated with injury, physical dysfunction, and maladaptive coping behavior that result in very high costs for the individual and for public health organizations. This study aims to help non-Korean researchers make informed decisions and be valuable in providing clinical research treating WAD.

Methods: The following eight electronic Korean medical databases were searched without restriction of language from their respective inception up to October 2014: the Korean Studies Information Service System (KISS), DBPIA, Korea Institute of Science and Technology Information, Research Information Service System (RISS), Korea Med, Korean Medical Database (KM base) and Oriental Medicine Advanced Searching Integrated System (OASIS). The search terms used were "Whiplash injury Associated Disorders (WAD)" "clinical" and Korean language terms related to disease and clinical trials. In addition, our own files and relevant KM journals up to October 2014 were searched manually.

Results: 62 trials met our inclusion criteria. The interventions reported in these articles include acupuncture (11 articles), phamarcopuncture (12 articles), herbal medicine (5 articles), chuna therapy (9 articles), cupping (2 articles), and multiple interventions (22 articles).

Conclusion: The evidence for the effectiveness of KM treatment is encouraging for used for patients with WAD. Although the quality of clinical trials published in Korean literature was generally poor, this review is useful for researchers to access studies that were originally published in languages that they would otherwise be unable to read and due to the paucity of evidence on this subject.

Contact: Ji Hee Jun, zhixi04@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.193>

P2.089

Exploring the experience of phantom limb syndrome and acceptability of acupuncture intervention to lower limb amputees



Esme Trevelyan, Warren Turner,
Nicola Robinson

London South Bank University

Purpose: Phantom limb syndrome (PLSd) is a frequent chronic complication post amputation and is difficult to manage with conventional medicine. Acupuncture has been shown to be effective in the management of other chronic pain conditions but little is known about the effectiveness of acupuncture for the management of PLSd. The study is nested in a larger study evaluating the feasibility of acupuncture for treating PLSd and aimed to explore the experience of PLSd and establish the acceptability of acupuncture intervention to treat PLSd.

Methods: Study design comprised of a case study approach using multiple cases. One off semi-structured interviews were conducted with a purposive sample of 15 lower limb amputees 1-3 months post-surgery, with past or current experience of PLSd. Interviews explored participants' experience of PLSd and perceived acceptability of acupuncture intervention. Framework analysis was used to analyse data.

Results: 6 key themes were identified during analysis; suffering (prior to amputation), acceptance and coping with the loss of a limb, real and physical phantoms, living with a phantom, being informed about PLSd, acupuncture acceptability. Additionally, outcome measures for the feasibility study were substantiated for ease of completion and relevance. Acupuncture was generally considered an acceptable intervention regardless of positive or negative past experience and few concerns were expressed. Local needling of the residual limb was considered acceptable. PLSd was perceived as a real and physical pain and participants used numerous and often metaphorical descriptions. PLSd frequently disrupted sleep and negatively affected wellbeing and mood.

Conclusion: The study contributes to existing evidence exploring the experience of PLSd and identified that PLSd is a bothersome and annoying condition which affects quality of life. Findings suggest that amputees suffering from PLSd would be willing to try a complementary medicine (acupuncture) approach to help manage this condition.

Contact: Esme Trevelyan, trevelye@lsbu.ac.uk / Nicola Robinson, nicky.robinson@lsbu.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.194>

EDUCATION

P3.001

Establishment of Online education portal: HACMK - Chinese medicine personnel database



Veronica LI, Kam Fung CHUNG,
Rita CHEUNG, Ruth LEUNG, Corey LAM,
Eric ZIEA

Chinese Medicine Department, Hospital Authority

Purpose: In accordance with the Government's direction to further the development of Chinese medicine (CM) in Hong Kong and as one of the accredited Continuing Medical Education (CME) Programme Providers for Chinese Medicine Practitioners (CMPs) to advocate and promote CM training, Hospital Authority is devoted to develop an online education portal - Hospital Authority Chinese Medicine Kinetics (HACMK中醫動) for promulgation of Knowledge, Information and Education in Chinese medicine and Integrative medicine. HACMK serves as an effective channel to complement onsite training which aims to enhance personnel training and professional development of CMPs. Comprehensive training e-Portfolio of CMPs are maintained in manpower database to facilitate personnel identification for future CM service development.

Methods: With the advanced information and communication technologies, HACMK strives to enhance operational efficiency in programme management and e-Portfolio management. To cope with operational and training needs for three years in-service training programme of the 18 Chinese Medicine Centre for Training and Research (CMCTRs) in Hong Kong, HACMK has tailored to develop CMCTR Management module in administrating, evaluating and monitoring the progress and performances of trainees across all types of training activities. Besides, HACMK provides a comprehensive online learning and collaboration platform designed specifically for continuing education. It enables delivery of a more effective learning experience through blended learning online collaboration tools which can increase learner engagement and improve outcomes.

Results: Established an online education portal with interactive multimedia centre, maintained user e-portfolio and customized CMCTR administration module to achieve operational efficiency in programme and user management.

Conclusion: Online education portal - HACMK expands access to Chinese medicine information and education for everyone at everywhere, facilitates nurturing of CMPs, promotes continuous education and pave path for mobile learning. Establishment of the centralized database for CMPs can stimulate Chinese Medicine service development planning and optimizing resource allocations.

Contact: Veronica LI, lk1575@ha.org.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.195>

P3.002

Learning technologies in CAM education: Drilling deeper into the dynamics and changing attitudes of the student body in CAM



Alastair Gray

Endeavour College of Natural health

Purpose: There are emerging trends in learner attitudes, behaviour and values in relation to technology and learning within the CAM field. No longer do colleges have a simple, homogenous student body. Now significant diversities in age, demographic and psychographic are increasingly present. In the last 5 years new features have emerged, with 'wellness sector', forward looking, proactive learners arriving in the classroom. Yet there is no research currently in CAM education in relation to technology usage. This is of incalculable importance to the profession, and to colleges as they make decisions on budgets, resource allocation, content and learning management systems, and learning resources to a new generation of CAM students.

Methods: A survey was undertaken annually over 3 years in which all current students at Endeavour were invited to participate. The Student Technology Survey examined the personal and educational use of technology, confidence and fluency in working with technology, and attitudes and perceptions of technology and other facilities within the college.

Results: Responses to the survey over 3 years varied (Year 1 – n=508; Year 2 – n=572; Year 3 – n=576). Rapid rise in the use of tablets (57%) in learning dominates the results and changing behaviors, and the increasing use of social media channels to facilitate student learning communities and accessing study resources. Increasingly, learners (39%) use the learning management system daily.

Conclusion: Front and centre of this yearly collation of student's attitudes and decisions is the growing use and in fact dependence on technologies, from apps, to learning management systems, on hardware such as smart phones and tablets. The data points to supporting the clear trends in the university sector worldwide, but also key differences, with some resistances to the use of technologies, due to the unique values of those who attends college, and highlights urgent infrastructure priorities for CAM education.

Contact: Alastair Gray, Alastair.Gray@endeavour.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.196>

P3.003

Developing clinical supervision skills in clinical complementary medicine education: a mixed methods program evaluation



Helene Diezel¹, Amie Steel²

¹ *Endeavour College of Natural Health*

² *Endeavour College of Natural Health | ARCCIM - University of Technology Sydney*

Purpose: Clinical education within complementary medicine (CM) training organisations commonly involves qualified CM practitioners providing supervision to student practitioners. These supervisors are primarily selected based on their clinical and academic, but not necessarily mentoring, experience. The quality of clinical supervisors and the resulting calibre of CM graduates needs to be addressed to sustain the CM professions. To date, systematic implementation of programs to support excellence in clinical supervision to meet increasing demands on CM education and professional environments has been largely overlooked.

Methods: This mixed methods study evaluates the outcomes of a pilot program and consequent course of an innovative clinical educator's skills development initiative involving experienced clinical supervisors at a large Australian CM practitioner training college. Focus group and quasi experimental design survey data was collected regarding the innovative course to examine participant's experiences, attitudes and perceptions regarding clinical supervision. Qualitative data was analysed using grounded theory and descriptive statistical analysis were carried out on quantitative data.

Results: Pilot course participant's feedback described convenient course delivery, authoritative content, onerous assessment and highly usable practical learning content. Preliminary analysis of respondent's attitudes and perceptions of Clinical Supervision before the course showed all supervisors agreed students were just as responsible in clinical as in classroom learning, feel confident in explaining how to incorporate reflective practice to students and have the terminology and language to convey their clinical supervisory approach to others. Active listening was a supervisory skill most frequently used (75% more than once a week).

Conclusion: Clinical supervision is vitally important to complementary medicine practitioner training and the supervisory environment in higher education institutions is complex. Innovative education interventions for clinical supervisors can impact their clinical supervisory practice. There is a need to strengthen the capacity of academics beyond lecturing and higher education to include the specific skills required for excellence in clinical supervision.

Contact: Helene Diezel, Helene.Diezel@endeavour.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.197>

P3.005

A pilot study on attitudes toward complementary and alternative medicine among medical and pharmacy faculty and students in Turkey



Yu Lee Park, Eun Sang Jeon, Byung Jin Jo

The Global Center, The Association of Korean Medicine

Purpose: This pilot study aims to evaluate medical and pharmacy faculty and students' attitudes and perceptions toward complementary and alternative medicine (CAM) in Turkey.

Methods: A self-administered questionnaire was developed based on the previous studies carried out in Turkey and other countries. It was administered to 23 medical faculty and students at the Medipol University and 44 pharmacy faculty and students at the Istanbul University who attended the introductory course on Korean Medicine. The attitudes and perceptions on CAM among study population were evaluated and the difference between medical faculty and students and pharmacy faculty and students was compared. T-test and Fisher's exact test were used.

Results: The response rate was 39% at the medical school and 57% at the pharmacy school. Majority of the respondents strongly agreed with the effectiveness of CAM and importance of integrative medicine. They also agreed with the statement that physicians should know about CAM and recommend it to the patients. Other than a few statements including perceptions on the effectiveness and placebo effect of CAM, there was no significant difference between medical and pharmacy students and faculty. The most well-known CAM modalities were acupuncture, herbal medicine, massage, naturopathy and hypnosis. Most of them (99%) have interest in CAM and agreed that CAM should be integrated into curriculum.

Conclusion: The result suggests that majority of the respondents have positive attitude toward CAM and have interest in CAM. They also showed favorable attitude toward integration of CAM in their curriculum. However, due to small sample size and limitation of representativeness of the respondents, the results from this pilot study should be cautiously interpreted.

Contact: Yu Lee Park, kiki2877@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.198>

P3.006

The effect of introducing Complementary medicine course in the curricula of undergraduate medical students on changing the attitudes towards CAM



Abdullah AlBedah, Mohamed Khalil, Meshari AlQaed, Naseem Qureshi, Ahmed ElOlemy, Ibrahim ElSubai, Asim Abelmonem Khalil

NCCAM, MOH, Saudi Arabia

Purpose: Complementary and Alternative Medicine (CAM) is a recognized medical practice that efficiently uses multiple treatment therapies and techniques in the prevention and management of a variety of human disorders. Many medical schools have integrated CAM curriculum in medical education system worldwide. Research in knowledge, attitude and practice (KAP) of diverse health professionals exposed to CAM courses is important from many perspectives including improvement in KAP and teaching skills of faculty, together with capacity building and curriculum development. This pre- and post-design cross-sectional study aimed to assess knowledge, attitude and practice of two batches of medical students of CAM in Majmaah University, Saudi Arabia.

Methods: The second year medical students of the first (year 2012-13) and second (year 2013-2014) batch [n=26 & 39, respectively] were selected for this study. A reliable, 16-item self-administered questionnaire was distributed among all students for answering before and after the 48-hour CAM course. The data was analyzed using appropriate statistical test of significance.

Results: Medical students' knowledge and attitude toward CAM significantly improved across some sub-items of CAM questionnaire with a positive trend in the rest of its items including their views on CAM practices.

Conclusion: CAM course tends to have positive impact on KAP of medical students. The preliminary results of this study call for further research with a larger sample in academic settings across the nation.

Contact: Abdullah AlBedah, aalbedah33@yahoo.com

<http://dx.doi.org/10.1016/j.imr.2015.04.199>

P3.007

Accelerated RBC senescence as a novel pathologic mechanism of blood stasis syndrome in traditional East Asian medicine



Sooseong You, Bongki Park, Myeong Soo Lee

Korea Institute of Oriental Medicine

Purpose: Although blood stasis syndrome (BSS) is an important pathologic condition in traditional East Asian medicine, recent studies have been restricted to the circulatory disorder and could not suggest the pathologic core to explain all of the characteristics of BSS. Here, we propose accelerated red blood cell (RBC) senescence as a novel pathologic mechanism of BSS.

Methods: We review the current research on the senescence of red blood cells, focusing on the correlation between the pathologic properties of senescent RBCs and BSS-specific manifestations.

Results: The accumulation of senescent RBCs and their products induce pathological conditions that affect blood flow resistance and cause thrombosis, vasoconstriction and methemoglobinemia. These pathological alterations are identical to the characteristics of BSS, such as sublingual varicosity, angiotelectasis, slow and choppy pulse, local fixed pain, nyctalgalgia, menstrual cramps, dark-purple tongue or infra-orbital darkness.

Conclusion: A growing body of evidence supports the hypothesis that accelerated RBC aging could be considered as a novel pathologic mechanism of BSS.

Contact: Sooseong You, ethink33@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.200>

P3.008

ACUPUNCTURE TREATMENT FOR THE SPINAL CORD INJURY PATIENTS WITH NEUROPATHIC PAIN: A PROSPECTIVE OBSERVATIONAL CASE SERIES



Chihyoung Son¹, Bum-seok Lee²,
Sook-Hyun Lee⁴, Go-Eun Lee¹,
Jung Sup Lee³, Kuem Ju Lee⁴, Sung Min Lim⁴,
Hyoun Choi⁴

¹ Department of Korean Traditional Rehabilitation Medicine, National Rehabilitation Hospital, Seoul, Korea

² Department of Rehabilitation Medicine, National Rehabilitation Hospital, Seoul, Korea

³ Department of Korean Traditional Internal Medicine, National Rehabilitation Hospital, Seoul, Korea

⁴ Department of Clinical Research for Rehabilitation, National Rehabilitation Research Institute, Seoul, Korea

Purpose: The aim of this study is to report 14 cases using acupuncture treatment for the SCI patients with neuropathic pain.

Methods: The subjects were the SCI inpatients with neuropathic pain classified by the International SCI Basic Pain Data Set (ISCIBPDS). Total 14 subjects treated by acupuncture agreed with this study. Demographic characteristics, level of injury, American Spinal Injury Association (ASIA) grade, Spinal Cord Independence Measure (SCIM) point, ISCIBPDS were reported. They had observed for 6 weeks. Numeric Rating Scale (NRS) was used to check the pain intensity at a baseline and 6 weeks.

Results: The mean age was 52.3 ± 15.1 years and male were 12 (85.7%). Of all subjects, 11 (78.5%) had cervical or thoracic level of injury, 6 were ASIA A type and 8 were ASIS C or D type. The mean of SCIM points was 40.9 ± 23.4. Eight had lower limbs pain, 3 had upper limbs pain, 2 had both upper and lower limbs pain and 1 had abdomen pain. The mean of NRS at baseline and 6 weeks was each 5.9 ± 1.6 and 3.1 ± 1.1. As a result of paired

t-test, a statistically significant reduction of the NRS values was observed. (P < 0.001)

Conclusion: This study suggested that acupuncture can be considered in treatment method for neuropathic pain of SCI patients. Future studies are needed to evaluate the effect of acupuncture on SCI subjects with neuropathic pain.

Contact: Chihyoung Son, cecilson@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.201>

P3.009

Manifestations of motion patterns in acupuncture manipulation in clinic



Ho-Sun Ryu, Won-Mo Jung, Yoon-Jeong Seo,
Younbyoung Chae

Acupuncture and Meridian Science Research
Center, Kyung Hee University

Purpose: Acupuncture manipulation, a kind of sophisticated hand movements, has been considered a fundamental skill for acupuncture practice. To examine motion patterns during acupuncture manipulation, we generated a fitted model of practitioners' motion patterns and evaluated their consistencies in acupuncture manipulation.

Methods: We used a motion sensor and obtained real-time motion data from eight experienced practitioners while they conducted acupuncture manipulation using their own techniques. We calculated the average amplitude and duration of a sampled motion unit for each practitioner and, after normalisation, we generated a true regression curve of motion patterns for each practitioner using a generalised additive mixed modelling (GAMM).

Results: We found significant differences in rotation amplitude and duration in motion samples among practitioners. GAMM showed marked variations in average regression curves of motion patterns among practitioners but there was strong consistency in motion parameters for individual practitioners. The fitted regression model showed that the true regression curve accounted for an average of 50.2% of variance in the motion pattern for each practitioner.

Conclusion: Our findings suggest that there is great inter-individual variability between practitioners, but remarkable intra-individual consistency within each practitioner. In order to establish a standard for acupuncture manipulation, it is necessary to understand completely the manifestations of acupuncture manipulation in the actual clinic.

Contact: Ho-Sun Ryu, uo2323@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.202>

P3.010

Situation of Complementary/Acupuncture/Traditional Medicine Education and Practice in Iran



Mohammad Hossein Ayati

Tehran University of Medical Sciences. School of Traditional Medicine

Purpose: Iran (Used to be called Persia) is an ancient and traditional country with a history and civilization of around 2500 years. Traditional Medicine is a core component of Iranian culture, which has its own concepts and basics, and like other main CAM therapies focus on holism, individuality, prevention and nutrition, beside its herbal prescriptions and unique manipulative and body based therapies. Historical records show that in ancient times; lots of interactions, collaborations and exchanges happened between Iranian Traditional Medicine and Oriental Medicine, and these two mutually influenced each other. Since recent two decades, along with the world movement toward Integrative Medicine, in Iran also lots of efforts is done to promote education and research on CAM therapies, and to integrate safe and effective methods into national health care services. In this paper, first I try to summarize all recent policies, strategies, administrations and actions done separately in government, academic and society levels. Then I describe the current situation, and finally analyze the strengths, weaknesses, opportunities and threats, focusing on the important role of international communications.

Methods: I approached the vice-ministry of Traditional Medicine in MoH, and reviewed all archives. Then carefully studied their past and current 5-years strategic plans. I also interviewed with 3 deans of Traditional Medicine Colleges around the country and several TM/Acupuncture practitioners.

Results: CAM modules are quite popular in Iran, among which TM and Acupuncture are used the most. The government seems to be supportive while lack of many plans, regulations and supervisions is still visible.

Conclusion: As an eastern country, Iran needs to communicate with East Asian countries to establish academic relations on Traditional Medicine. Invaluable experience of Oriental Medicine can help Iran to promote TM/Acupuncture in the country and to integrate them into health care services.

Contact: Mohammad Hossein Ayati, mh-ayati@tums.ac.ir

<http://dx.doi.org/10.1016/j.imr.2015.04.203>

HEALTH SERVICE RESEARCH

P4.001

Use of Traditional and Complementary Medicine as Self-Care Strategies in Community Health Centers: Cross Sectional Study in Urban Pearl River Delta Region of China



Robin Ho¹, Vincent Chung¹, Samuel Wong¹, Harry Wang³, Martin Wong³, Xiaolin Wei³, Jiayi Wang², Siya Liu³, Sian Griffiths³

¹ Hong Kong Institute of Integrative Medicine 2. JC School of Public Health & Primary Care (CUHK)

² School of Public Health, Guangzhou Medical University

³ JC School of Public Health & Primary Care, The Chinese University of Hong Kong (CUHK)

Purpose: In China, Community Health Centers (CHCs) are major providers of primary care services, but their potential in empowering patients' self management capacity has not been assessed. This study aims to describe self medication and self care practice patterns amongst CHCs attendees in urban China.

Methods: In this cross-sectional quantitative study, 3,360 CHCs patients from six cities within the Pearl Delta Region were sampled using multistage cluster sampling.

Results: Thirty-seven percent had self medicated with over-the-counter Chinese herbal medicines (CHM) in the past year and majority of respondents found CHM effective. CHM were more popular amongst those who needed to pay out of pocket for CHCs services. Less than 10% used vitamins and minerals, and those with a lower socioeconomic background have a higher propensity to consume. Although doubts on their usefulness are expressed, their use by the vulnerable population may reflect barriers to access to conventional healthcare, cultural affinity or a defense against negative consequences of illnesses. About 25% performed physical exercise but the prevalence is lower amongst women and elderly. Taiji appears to be an alternative for these populations with promising effectiveness, but overall only 6% of CHCs attendees participated.

Conclusion: These results suggest that CHCs should start initiatives in fostering appropriate use of CHM, vitamins and minerals. Engaging community pharmacists in guiding safe and effective use of CHM amongst the uninsured is essential given their low accessibility to CHCs services. Prescription of Taiji instead of physical exercises to women and elderly could be more culturally appropriate, and the possibility of including this as part of the CHC services worth further exploration.

Contact: Robin Ho, robinho@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.204>

P4.002

Development of Electronic Health Record for Chinese Medicine eHR(CM) Sharing System in Hong Kong



Ruth LEUNG¹, Kam Fung CHUNG¹,
Veronica LI², Rita CHEUNG², Corey LAM²,
Eric ZIEA²

¹ Chinese Medicine Department, Hospital Authority

² Chinese Medicine Department, Hong Kong Hospital Authority

Purpose: Currently in Hong Kong, health-related and medical data are usually created and kept by different healthcare providers (or sometimes by individual patients) at different locations in different formats, e.g. at CMP's clinics and herbalists shops. While some healthcare providers may deploy electronic medical/patient record systems to store and retrieve medical/patient data, such systems are generally not capable of data sharing at any large scale if at all. An eHR Sharing System provides an information infrastructure for healthcare providers in both the public and private healthcare sectors, with informed and express consent of the patient and proper authorisation for access to the System, to share the eHR they keep on the patient with other healthcare providers and to retrieve the eHR of the patient shared by other healthcare providers.

Methods: During the first stage of the project, standardisation of clinical terms mainly focused on four domains including diseases (病名), patterns (證型), acupoints (腧穴) and interventions (治法).

Results: The initial design and architecture of the Chinese Medicine Clinical Terminology Table (CMCTT) has been established. Common terms in relation to diseases, acupoints, patterns and interventions were analysed and incorporated into the CMCTT.

Conclusion: Standardisation of CM information forms the basis for accurate and efficient communication of electronic CM data. It facilitates uniform communications and reduces costs of technical integration. A proper management framework on standard development lifecycle will ensure the concepts are properly created, described and organised which will enhance data accuracy and quality for health information exchange. Both CM Terminology tables and the maintenance process are essential to the development and daily operation of terminology standard to support data sharing to the eHR.

Contact: Ruth LEUNG, lhw417@ha.org.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.205>

P4.003

A Comparative study on Chinese Western Medicine diagnoses and related outcomes for different types of stroke



Rita CHEUNG, Kam Fung CHUNG,
Veronica LI, Ruth LEUNG, Corey LAM,
Eric ZIEA, Dora TSUI

Chinese Medicine Department, Hospital Authority

Purpose: In Hong Kong, stroke ranks third as the most common cause of death. Every year, there are more than 20,000 stroke patients admitted to Hospital Authority (HA) hospitals. Facing this disabling disease, patients are actively looking for concurrent treatments in both Chinese medicine (CM) and Western medicine (WM). In accordance with the vision of the Food and Health Bureau, this study aims to analyse significant inter-professional parameters and to facilitate the development of Integrated Chinese-Western Medicine (ICWM) in Hong Kong. The three main objectives of this study are: 1. To explore the correlation between WM primary / secondary diagnostic parameters and CM diagnosis in stroke; 2. To examine the health seeking behaviors of stroke patients and the association with stroke outcomes; and 3. To determine a combination of CM and WM treatments that are most beneficial to this group of patients.

Methods: Clinical data of patients in the Stroke Registry of a HA hospital will be extracted from the electronic medical records stored in the Clinical Management System (CMS). For those patients who also had Chinese Medicine Consultations at the tripartite CM Centres for Training and Research (CMCTRs), data will be extracted from the Chinese Medicine Information System (CMIS).

Results: Data mining techniques will be applied to explore diagnostic and treatment patterns of CM and WM. The resulting data network can help develop an understanding on the linkage of health variables. A comprehensive analysis can then be performed to compare the outcomes of acute stroke patients with or without seeking CM consultations, which could elucidate any significant favorable effects of treatments.

Conclusion: Through analysing the matched clinical dataset, this study may shed light on the effectiveness of combined treatments of CM and WM on stroke and bring insights into the underlying factors that associate with specific stroke outcomes.

Contact: Rita CHEUNG, cw1978@ha.org.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.206>

P4.004

Challenges and opportunities for the Korean ginseng industry: A plot survey of market expansion among ginseng companies



Jong-Min Woo, Miyoung Ahn, Eun-Ji Park,
Soohyun Kwon, Ki Hoon Koo

Korea Institute of Oriental Medicine

Purpose: Ginseng products have been widely consumed as dietary supplements across the globe. The ginseng industry

is a promising business worldwide, and its globalization is a governmental interest. This study aimed to investigate the current state of the industry, including employment status and manufacturing sources and to assess the factors associated with the development of the ginseng industry and its entry into the international market.

Methods: A company-based survey was conducted by ginseng product manufacturers in South Korea. Eligible companies (N = 186) were randomly selected and were administered questionnaires.

Results: Most of the participants stated they were “production workers”. Among a variety of ginseng species, red ginseng (hongsam) was utilized as the primary species (90.0%), followed by wild ginseng (sansam), fresh ginseng (sansam), and black ginseng (heuksam). Most respondents perceived “public relations” as being a critical factor for the development of this industry. “Low manpower” was the most substantial hurdle for industrial growth. In total, 59.3% of respondents suggested that “seeking business partners” was essential for obtaining market globalization.

Conclusion: The companies that responded showed varying opinions in our survey. These results are useful for designing proper marketing strategies and priorities, based on a professional perspective.

Contact: Jong-Min Woo, jmwoo@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.207>

P4.005

Current R&D challenges for market expansion of traditional Korean medicine: a company-based survey in 2014



Miyoung Ahn, Eun-Ji Park, Dong su Kim,
Jong-Min Woo, Soohyun Kwon, Ki Hoon Koo

Korea Institute of Oriental Medicine

Purpose: The consumption of traditional Korean medicine (TKM), a subset of Complementary and Alternative medicine (CAM) has markedly increased. Accordingly, the TKM industry has also expanded. TKM products are found in various markets, such as food, medicine, medical devices, and cosmetics; however, product items are limited and their market shares remain small. The purpose of this study is to investigate the current R&D status of the TKM industry and predict the most challengeable market in the future.

Methods: A company-based survey was designed to explore the readiness of market expansion and assess promising industry among TKM workers. A validated survey instrument was constructed and distributed to 400 TKM product manufacturing companies in South Korea in 2014 via e-mail or fax. A 71.2% response rate was achieved.

Results: Of the participating companies, 61.1% were equipped with research and development (R&D) facilities. The ratio was highest in the companies that produced TKM cosmetics (95%), and lowest in the companies that produced TKM foods (44.7%). The average number of research workers was 8.3, and the highest number of workers was found in a company that manufactured finished-medicinal products (15.8). In addition, 25.9% of the companies invested less than 5% of

their total budget into R&D. The dietary industry was the most promising field for future TKM market expansion (43.9%). The demand for technical convergence was highest in both medical companies and cosmetics companies (83.3% and 85.0%, respectively).

Conclusion: Regarding manpower and installation, most companies were capable of performing R&D activities. However, modest R&D investment was likely to be a limiting factor. The dietary industry was perceived as being the most promising field for future market expansion. This study explored the current industrial status and future R&D demands in the TKM industry.

Contact: Jong-Min Woo, jmwoo@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.208>

P4.006

UK National Health Service clinical practice guidelines mentioning complementary and alternative medicine (CAM) – awareness of CAM practitioners



Nicola Robinson, Ava Lorenc

London South Bank University

Purpose: To assess UK CAM practitioners’ awareness of National Health Service (NHS) guidelines mentioning CAM, their use and perceptions of their impact.

Methods: Phase 1 searched the UK NHS Evidence website for guidelines mentioning CAM. Phases 2 and 3 were online surveys about awareness and use of guidelines with professional CAM organizations (phase 2) and individual CAM practitioners (Phase 3).

Results: Phase 1: 43 of 279 guidelines reviewed (13%) mentioned CAM; 44% were inconclusive whether to recommend, mainly due to lack of evidence. Phase 2: CAM professional bodies identified 17 further guidelines. They appeared largely unaware of guidelines mentioning their therapy but positive about guidelines’ potential to integrate CAM and keen to facilitate communication regarding evidence for their therapy. Phase 3: Of 865 respondents; 83% were female, half over 50, average 11 years in practice, main CAM practices were massage, reflexology, reiki, aromatherapy, herbal medicine, 3% were NHS-employed, 20% medically trained. 47% felt NHS guidelines were relevant for CAM – mainly to encourage integration and NHS referrals. 79% were unaware of guidelines regarding their therapy. Most commonly cited guidelines were back pain and irritable bowel. Practitioner organisations and NHS websites were information sources accessed. Guidelines were used to inform practice, maintain standards and as evidence. Respondents suggested guidelines were needed for: stress, musculoskeletal conditions, depression/anxiety, IBS, cancer and digestive disorders, and evidence was needed for: pain, stress, cancer, and mental health. Half were willing to engage with future guideline development.

Conclusion: Despite recognising that clinical guidelines can potentially facilitate CAM integration, practitioners and regulatory bodies appeared largely unaware of CAM guidance. Lack of CAM evidence for guideline development, areas

where evidence is needed, and conditions with evidence but no guidelines were highlighted.

Contact: Nicola Robinson, nicky.robinson@lsbu.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.209>

P4.007

Kava reloaded? The tip of a regulatory iceberg



Karin Kraft

Chair of Complementary Medicine/University of Rostock

Purpose: In June 2002 the authorization of medicinal drugs with kava extracts (*Piper methysticum*), which was used for the treatment of stress-related anxiety disorders, was withdrawn by the German Institute of Drugs and Medicinal Products (BfArM) because of an unfavorable risk-benefit ratio. The decision, which initially was based on several case reports on liver toxicity in 1999 and 2000, found a worldwide resonance.

Methods: Literature on efficacy and safety of kava extracts was searched and related to the still ongoing legal dispute.

Results: Between 1990 and 2000 several randomized controlled clinical studies have been published, which were the basis for the authorization of kava products in Germany for stress-related anxiety disorders in the past. However, in the course of time since 2002, the BfArM did not any longer accept these studies as proof of efficacy because of several deficits in the study protocols. In 2002, no study was left. The case reports were re-analyzed by a specialized hepatologist, who found that the risk of hepatotoxicity was "rare" or "very rare" at its best and could not identify a specific pattern. However, the resulting publication was ignored completely by the BfArM. In fact, BfArM now considered kava extracts being a „new entity“, because of their alleged unproven efficacy. That means that based on the most recent ICH-guidelines now the complete spectrum of preclinical studies has to be performed before undertaking a clinical trial. However, the administrative court of Cologne, Germany, underlined in its decision from 10. June 2014, that current rules of the proof of efficacy of a drug should not be applied retrospectively.

Conclusion: The decision is important not only for kava, but for all drugs on the German market, e.g. for benzodiazepines, which were tested in the 1960s for efficacy. By the way, BfArM applied for revision.

Contact: Karin Kraft, karin.kraft@med.uni-rostock.de

<http://dx.doi.org/10.1016/j.imr.2015.04.210>

P4.008

Tai Chi as an Intervention on Health Promotion for Older Adults: A Systematic Review



Claudia Wang¹, Dong-Chul Seo²,
Hongtao Li³

¹ Francis Marion University

² Indiana University Bloomington

³ University of North Carolina at Chapel Hill

Purpose: The purpose of this review is to systematically summarize the physiological, psychological, social, and therapeutic benefits of Tai Chi from scientific literatures used Tai Chi as an intervention for older adults.

Methods: A broad computerized literature search of Alt HealthWatch, ERIC, Medline, CINAHL, and PsycARTILES was conducted. Studies were selected if they met the following five criteria: 1) Tai Chi was used as an intervention, 2) Research design was either RCT or CCT, 3) Health benefits were used as an outcome measure, 4) Age group targeted older adults, and 5) Study was conducted in English speaking countries.

Results: Fifty four articles were selected and reviewed. Among these studies, 11 articles proved that Tai Chi improves balance, strength, flexibility, and preventing of falls. Six articles reported Tai Chi enhances the cardiorespiratory function. 14 articles demonstrated that Tai Chi is associated with life satisfaction, stress reduction, decreasing anxiety and mood disturbance, and improving subjective well-being. 16 articles showed that Tai Chi is beneficial for a variety of chronic conditions, such as hypertension, arthritis, and insomnia. Seven articles mentioned the social benefits of Tai Chi practice supported by the evidence that most Tai Chi practitioners continue to practice in a group after the studies were completed.

Conclusion: Regarding the increasing number of older population with many chronic health issues, Tai Chi may serve as a safe, low-cost, and effective program to improve the overall health and well-being for the elderly. In addition, Tai Chi can be considered as a holistic exercise modality to prevent disability and reduce medical expense through developing an active lifestyle among older people with chronic conditions.

Contact: Claudia Wang, cwang@fmarion.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.211>

P4.009

Routinely assessing pain and stress via a practice-based research model in a university-based integrative care clinic



Monzer Haj-Hamed¹, Harini Pallerla¹,
Kristen Kraemer², Sian Cotton¹

¹ University of Cincinnati, College of Medicine

² University of Cincinnati, Department of Psychology

Purpose: Pain and stress are amongst the most common reasons for patients seeking integrative care (IC) therapies. IC clinics provide a unique opportunity to longitudinally assess

the effects of IC on clinical outcomes using a practice-based research model. The purpose of this ongoing prospective study is to assess levels of pain and stress before and after IC visits to inform clinical practice and guide future research.

Methods: Patients 18 years or older receiving treatment at an IC practice over a four-week period completed self-report measures before and after each visit. Reason for visit and treatment modality were examined. Pain and stress were assessed using a 10-point Likert scale (0 = no pain, 10 = unbearable pain). Paired sample t-tests were used to examine pre and post differences in outcomes. Changes in the pain and stress scores by type of visit were also assessed.

Results: Forty-eight percent of patients completed the self-report measures (n=62; 70% female; Mage=48; 76% Caucasian). Pain (23.5%) and stress (9.8%) were reported as the primary reasons for the IC visit. Integrative physician consults and massage therapy were the most common visit types (34.1% and 30.1%, respectively). Overall, levels of pain (Mpre=3.45 vs. Mpost=2.56; $t = 3.23, p < .01$) and stress (Mpre=5.05 vs. Mpost=2.44; $t = 5.37, p < .01$) significantly decreased after IC visits. When examined by type of visit, pain ($t=4.64, p < .01$) and stress ($t=4.04, p < .01$) significantly decreased for patients receiving massage, reflexology or acupuncture but not physician consults.

Conclusion: Pain and stress significantly decreased following IC visits, particularly for patients receiving massage, reflexology or acupuncture. With a larger sample size over time (estimated N=500 surveys by May 2015), and utilizing more advanced statistical techniques, examining clinical trends in pain and stress may help assess dosing effects of therapies and inform future clinical trials.

Contact: Monzer Haj-Hamed, hajhammr@mail.uc.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.212>

P4.010

A Study on Developing and Validating the Care Coordination Framework between Korean medicine and Western medicine

Byunghee Choi¹, Minjung Park²,
Yunhui Baek¹, Junhyeok Yi¹

¹ Korea Institute of Oriental Medicine

² Seoul National University

Purpose: In Korea, since the medical care law has been revised in 2010, new hospitals where Korean medicine doctors and Western medicine doctors coexist have emerged. The well-coordinated treatment of Korean medicine and Western medicine can lead to increase the effectiveness and quality of health care delivery as well as to reduce the health care expenditure. But, there are not detailed instructions for coordinating system between Korean medicine and Western medicine. Thus, to evaluate the present level of coordinating system and learn a lesson is required.

Methods: In this study, we derived detailed areas and variables that can measure the coordinating system of each hospital through literature review and expert interviews. In addition, we verified the validity and reliability of the survey by

conducting a preliminary survey targeting the hospitals which have stated cooperative treatment formally.

Results: Based on the review of previous research and expert advice, we constructed 4 areas and 16 items to conceptualize the care coordination between Korean medicine and Western medicine. 4 areas are composed of structural linking, standardization, adjustment, organizational support. Structural linking is various formal mechanisms that can be used to coordinate care across participants. Standardization means formalized mechanisms that pre-specify the roles and activities between Korean medicine doctors and Western medicine doctors. Adjustment is mechanisms that facilitate ongoing assessment and adjustment of roles, responsibilities and decisions. Organizational support means resources that influence the ability of the organizations to implement coordinating mechanisms. To evaluate the content validity, we took counsel from the experts. In addition, we conducted pilot survey at 79 hospitals. The Cronbach- α coefficient was 0.92 and correlation to verify a construct validity was 0.82 (<.0001).

Conclusion: We developed the framework of care coordination between Korean medicine and Western medicine to evaluate the coordinating system of hospitals and verified the validity and reliability.

Contact: Byunghee Choi, brian@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.213>

P4.011

Evaluation Indicators for Priorities of Standardization in Traditional Medicine: using Analytic Hierarchy Process(AHP)

Jinseok Moon¹, Juyeon Lee¹, Jeonghee Choi¹,
Changsung Lim¹, Jongran Lee¹, Minho Lee¹,
Sunmi Choi¹, Yangsup Song¹,
Yong-suk KIM²

¹ Korea Institute of Oriental Medicine

² Kyunghee University

Purpose: According to the expansion of world traditional medicine market, traditional medicine is required to standardized for globalization based on quality and safety. The purpose of this study is to create a list of the evaluation criteria for selection priority of standardization in Korean medicine.

Methods: Major variables are included technology evolution, political importance and economic efficiency and with 9 sub-variables for assessment. The survey was conducted to experts; policy, doctor and industry in Korea; using AHP (Analytic Hierarchy Process).

Results: As a result of the AHP, it is derived in the order of political importance, technology evolution and economics efficiency in the major variables. The highest weighted sub-variable is public concern and the lowest indicator is marketability. The result shows that the government should actively support the standardization of traditional medicine to secure public health and safety.

Conclusion: This research was conducted to analyze priorities for standardization of Korean medicine, and the evaluation indicators are available to use as assessment tools for establishing associated standardization policies.



Contact: Jinseok Moon, moonstone2@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.214>

P4.012

Relationship between patient satisfaction with medical doctor and the use of Korean Medicine in Korea



Byungmook Lim¹, Dongsu Kim²

¹ Pusan National University School of Korean Medicine

² Korea Institute of Oriental Medicine

Purpose: This study aimed to address the relationship between outpatients satisfaction with their medical doctor (MD) and the use of Korean Medicine(KM) in Korea.

Methods: We used the data from the 2011 Korea Health Panel; a national, cross-sectional survey on health care utilization for outpatients. Total 9,753 outpatients' responses including 1,946 KM outpatients' were analyzed. Andersen Behavior Model was applied and Multiple logistic regressions were used to evaluate five satisfaction indicators to MD(patient's trust to MD, MD's attentive listening, MD's enough explanation, MD's consultation time, MD's respect to patient) and the overall satisfaction to MD.

Results: Patients' overall dissatisfaction with MD was associated with their use of KM(OR=0.87) and the patients who unsatisfied with MD's consultation time used KM more(OR=0.82). However, all other satisfaction indicators did not affect the KM use. When the need factor is not controlled, patient who satisfied with MD's attentive listening used KM more (OR=1.23)

Conclusion: This study supported previous research result that patients did not use complementary and alternative medicine due to their distrust to the conventional medicine and MD. Patients intended to use KM when they felt the consultation time and the MD's respect to patient were not sufficient.

Contact: Byungmook Lim, limb@pusan.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.215>

P4.013

Exploring cultural clashes to taught material among Nutrition and Dietetic Students in the UK using grounded theory



Anne Majumdar, Emma Lally

London Metropolitan University

Purpose: Concepts of nutrition and diet are influenced by beliefs in underlying medical systems. This results in dietary practices of many individuals within a certain culture reflecting elements of the medical system, for example TCM in Central Asia and Ayurveda in South Asia. Communities from ethnic Minority backgrounds in the UK often follow a diet similar to that of their cultural heritage. This study sought to ascertain the extent that Nutrition and Dietetics students from ethnic minority backgrounds experienced cultural clashes

between taught material and culturally held beliefs on nutrition. Cultural clashes highlighted will inform on integrative nutrition approaches and on appropriate methods of delivering lifestyle advice in diverse communities

Methods: All students in their final year of study of degree programmes in Nutrition and Dietetics in London, UK, were invited to complete an online questionnaire on cultural background and contrasts in nutrition principles. Responses were analysed using descriptive and inferential statistics. Respondents who had indicated that they experienced significant cultural clashes were then invited for interview. Interviews were transcribed immediately after each interview and analysis and modification of the interview schedule were continued in line with grounded theory.

Results: Results from the study provide insight into conflicting information on healthy diet that may be encountered by those from ethnic minority backgrounds, or those receiving treatment from practitioners of integrative medicine. A better understanding of these issues will also inform delivery of lifestyle interventions in ethnically diverse communities.

Conclusion: Results from the study provide insight into conflicting information on healthy diet that may be encountered by those from ethnic minority backgrounds, or those receiving treatment from practitioners of integrative medicine. A better understanding of these issues will also inform delivery of lifestyle interventions in ethnically diverse communities.

Contact: Anne Majumdar, a.majumdar@londonmet.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.216>

P4.014

Overlapping marginalities: statutory regulation of traditional acupuncturists in North America and the English-language controversy



Boon Heather, Nadine Ijaz

University of Toronto

Purpose: To investigate and analyse sociocultural issues underpinning various North American jurisdictions' handling of English language requirements for regulated practitioners of traditional East Asian acupuncture (TEAA).

Methods: A variety of documents (including government regulations and policies, regulatory bodies' meeting minutes, court documents, media reports and social media materials) were inductively analysed to thematic saturation, alongside field notes from court proceedings and transcripts of (20+) key informant interviews.

Results: Across North American jurisdictions where TEAA practitioners are governed under statutory regulation, English language fluency requirements have been handled diversely. Some jurisdictions place no language-related limitations on licensed practitioners, providing multilingual examinations and permitting patient records to be kept in languages other than English. Other jurisdictions require use of English in all registration examinations and patient records. Yet elsewhere, professional usage of East Asian languages and lack

of English fluency are accommodated in more limited or temporary ways, both through the registration process and in clinical practice. Across several jurisdictions, the question of regulatory language requirements has proven contentious, in some cases leading to practitioner protests and court cases. Advocates of 'English-only' policies argue that these are necessary to protect public safety and facilitate TEAA's integration into mainstream health care. Detractors emphasize Chinese languages' paradigmatic significance for TEAA and contest English-only policies as discriminating against highly-trained immigrant practitioners with limited English fluency, while compromising delivery of culturally-appropriate care within East Asian immigrant communities underserved by mainstream medicine.

Conclusion: This regulatory language tension speaks broadly to the multiple challenges faced within North American TEAA practitioner communities, which face overlapping sociocultural marginalities. Practitioners simultaneously seek increased legitimating within dominant health care frameworks while aiming to preserve their practices' cultural and therapeutic integrity: objectives difficult to reconcile within liberal democratic regulatory frameworks.

Contact: Nadine Ijaz, nadine.ijaz@mail.utoronto.ca

<http://dx.doi.org/10.1016/j.imr.2015.04.217>

P4.015

Medical Pluralism in Three East-Asian Countries



Jae-Mahn Shim¹, Eunjung Shin²

¹ University of Seoul

² Science and Technology Policy Institute (STePI)

Purpose: To investigate how different institutional settings shape individuals behaviors in health management under medical pluralism.

Methods: A quantitative analysis of a cross-national survey that is conducted in China, Korea, and Japan

Results: Users of Oriental Medicine (OM) in the three East-Asian countries use OM concurrently with biomedicine, unlike those in some Western countries. In addition, there are cross-national differences between the three countries. People in China and Korea are more likely to use OM concurrently with biomedicine, compared to those in Japan.

Conclusion: The result suggests that the different manners of institutionalizing OM in relation to biomedicine (i.e. unification in China, equalization in Korea, and subjugation in Japan) have impacts on the degrees to which people use OM concurrently with biomedicine.

Contact: Jae-Mahn Shim, jaemahn.shim@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.218>

P4.016

Interprofessional collaboration and decision making for integrative medicine: Insights into the role of the integrative medical specialist



Dal-Seok Oh¹, Gunhyuk Park¹, Songie Choi¹, Hyunjung Park¹, Jae Won Bae²

¹ Korea Institute of Oriental Medicine

² Medisky Integrative Medicine Clinic

Purpose: Complementary and alternative medicine has been incorporated into conventional medicine. This consilience seems to be related with integrative medicine (IM), and the presence of IM was spotlighted due to its potential to change medical paradigms. However, it is not clear whether overall fundamental including decision making have been introduced or not. We hypothesized that a role of key player, integrative medical specialist (IMS) has basic solutions regarding IM fundamental. The purpose of the present review is to propose the roles of IMS: the qualification (Who), the independent environment (Where), the job motive (Why), the job object (What), the appropriate time (When), and the platform (How).

Methods: We classified the domains of IMS's role according to five Ws and one H approach, then, divided the levels as three (theme, key word, pursuing value). And we had series of group interviews of double licensed doctors and filtered out their duplicates. We drafted the version of the theme, the key word, and the pursuing value according to five Ws and one H.

Results: The qualification was that IMS should be an intersection between each professional to perform efficient decision making. Independent environment implied the comprehensive communications to selectively adopt therapies. Why IMS plays was the motivation for convergence medicine. The mission was pursuing dialectic consilience of the merits of each medicine. The appropriate time should be a critical point for IMS to participate in decision making. The platform could be initiated based on protocols which would be developed as collaboration standard.

Conclusion: We firstly proposed the roles of IMS. That situation will provide conventional medical physician to have the more knowledge, the sensitive skill and the positive attitude towards IM. It will also optimize patients' parsimonious participation in IM services. Further validation studies are needed to elucidate the role of IMS.

Contact: Dal-Seok Oh, dsoh@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.219>

P4.017

The Status of Collaborative Medical Services after the Revision of Medical Services Act in South Korea



Min Kyung Hyun¹, Young Ju Yun²,
Hoo-Sun Chang³, Ju Young Kim⁴,
Seok Won Hong⁵

¹ Dongguk University

² School of Korean Medicine, Pusan National University

³ Department of preventive medicine, Yonsei University College of Medicine

⁴ Ministry of Health and Welfare

⁵ National Evidence-based Healthcare Collaborating Agency

Purpose: Medical services act was revised to promote collaboration among doctors of western medicine, traditional Korean medicine and dental medicine in 2010. This study aims to investigate status of Collaborative Medical Services (CMS) from among the three-part medicine and remaining problems despite of the amendment.

Methods: The questionnaires composed of hospital's general status and detailed information about CMS (i.e. operation conditions, self-evaluations, unsolved problems and comments for improvement, etc.) were developed. For e-mail and postal survey, we obtained the list of 76 hospitals which reported that they are collaborating care to the Ministry of Health and Welfare in August 2010, and completed questionnaires from 59 hospitals.

Results: According to the survey, most of the respondent hospitals (92.3%) have less than 300 beds and only 30.5% of them have manuals for CMS. Three major diseases for CMS are musculoskeletal (25.0%), digestive (18.3%) and neurological disorders (12.2%). CMS did not contribute to increase the revenue of the hospital, and the main reasons for CMS are "convenience of the patient" and "improving the treatment effectiveness". However, medical doctors, traditional Korean medical doctors make decision for CMS together in only 11.6% of the hospitals and 28.6% of the oriental hospitals. Many respondents pointed out insufficient medical insurance payment for CMS is the main obstacle to expand CMS.

Conclusion: To promote and expand CMS to the next stage, governmental support including the increase medical insurance pay and development and improvement of manuals are recommended. And additional researches are needed as to whether the current situation of the CMS is much improved.

Contact: Min Kyung Hyun, mk3three@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.220>

P4.018

The Perception of public officials on the Public Health Promotion Program in Tradition Korean Medicine



Kyeong-Han Kim^{1,3}, Ho-yeon Go²,
Soobin Jang³, Bo-Hyoung Jang³,
Yong-Cheol Shin³, Seoung-Gyu Ko³

¹ Korea Health Promotion Foundation, Republic of Korea

² Department of Internal Medicine, Korean Medical Hospital, Se-Myung University, Republic of Korea

³ Department of Preventive Medicine, College of Korean Medicine, Kyung Hee University, Republic of Korea

Purpose: This study was aimed to survey the perception of public official on public health promotion programs in Traditional Korean Medicine(PHPP-TKM).

Methods: Data were collected from 143 public officials who are in charge of PHPP-TKM business in the public health centers using the structured questionnaire on September, 2014. Collected data were analyzed through frequency analysis and T-test using SPSS 13.0 and significant level was 0.05.

Results: Even though stroke prevention programs are implemented most often at present, respondents hope to practice dementia prevention programs in the future. The obstructive factor was measured by 5-point Likert scale, and the most obstructive factor was that there were neither standard manuals nor methodological guidelines for the programs(3.82±0.94). The second most obstructive factor was that TKM-PHPP duplicated other public health programs(3.63±1.01). The plan to activate TKM- PHPP was also measured by 5-point Likert scale. The most suggested plan was to develop competitive programs (4.14±0.79). The second most suggested plan was that of various integration of public health programs(4.13±0.0.87). The degree of health promotion of TKM-PHP measured by 5-point Likert scale was 3.98±0.78. The major benefits of TKM-PHP were promoting health status of local residents(56.91%) and improving awareness of health care methods using Traditional Korean Medicine(43.90%). It is comparative advantages of TKM-PHP than the other public health programs that TKM-PHP are agreeable to the Korean sentiment(34.14%) and Korean Medical Doctor participated in TKM-PHP(30.08%).

Conclusion: The result of survey questionnaire suggests to develop various integrated programs, and to draw up a standard manual to activate the TKM-PHPP in public health centers.

Contact: Kyeong-Han Kim, solip922@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.221>

P4.020

Suggestion of Classification of Herbal Medicinal Preparations Based on Advanced Country Regulations



Ji-Hoon Kim, Sang-Yong Han,
Yun-Kyung Kim

Wonkwang University

Purpose: The aim of this study is to find an advanced solution for classification of herbal medicinal preparations. In Korea pharmaceutical affairs act, regulations of herbal medicinal preparations are too vague to be industrial used. In this procedure, we can provide a reasonable way to classify herbal medicinal preparations for effective industrial use.

Methods: We researched terms of herbal medicinal preparations from regulations of advanced countries which have reasonable ways to classify herbal medicinal preparations for industrial use. And also, we studied submitted materials for approval from advanced countries regulations. Through this procedure, we collected reasonable articles and materials, and finally reflected those to Korean regulation.

Results: In regulations of advanced countries, including US, European union, China and Japan, herbal medicinal preparations were used and approved as medicinal products on the basis of clear regulations. In addition to this, herbal medicinal preparations were approved as new drugs under certain circumstances.

Conclusion: We should utilize regulations from advanced countries, we reflect them into Korean regulation. Though this, we can make Korean herbal medicinal preparations be useful and industrial, as a result we can use herbal medicinal preparations for public health.

Contact: Ji-Hoon Kim, skynme23@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.224>

P4.022

Integrative medicine outcome and patient satisfaction in Saudi Governmental hospitals



Abdullah AlBedah, Mohamed Khalil,
Ahmed ElOlemy, Meshari Alqaed

NCCAM, MOH, Saudi Arabia

Purpose: Although traditional medicine is widely used in Saudi Arabia, yet Integrative medicine is a newly evolving experience in Saudi Arabia. The aim of this study is to evaluate integrative wet cupping clinic established in two secondary care governmental hospital in Saudi Arabia.

Methods: survey study including patient treated in the two integrative medicine clinic using a pre-structured questionnaire. Integrative medicine outcome was measured using the Integrative Medicine Outcome Scale (IMOS), while patient satisfaction was measured using the Integrative Medicine Patient Satisfaction Scale (IMPSS).

Results: 168 patients answered the questionnaire. 47% reported a major improvement and 26% reported a slight to moderate improvement. 39% % were very satisfied and 49% were satisfied. Patients agreed (agreed – strongly agreed) that integrated cupping clinic satisfy patient needs (38% - 57%), it improves health care system (44% - 48%), and helps patient to avoid unqualified practitioners (32% - 59%). But they disagree (strongly disagree - disagree) that; ministry of health should provide only modern medicine (28% -54%) or that cupping can replace modern medicine (19% -53%).

Conclusion: Ministry of health models of integrative medicine clinics is a promising experience which can be replicated to more hospitals not only to respond to patient choice but to provide him with safe, effective integrative health care service.

Contact: Abdullah AlBedah, aalbedah33@yahoo.com

<http://dx.doi.org/10.1016/j.imr.2015.04.225>

P4.023

The Use of Traditional and Complementary Medicine among Patients with Chronic Diseases in Mainland Northern Suburbs of Penang, Malaysia



Eshaifol Azam Omar¹, Auwatif Jazouly²

¹ Advanced Medical and Dental Institute,
Universiti Sains Malaysia

² Universiti Teknologi MARA

Purpose: The prevalence of Traditional and Complementary Medicine (T&CM) use is high in developed countries and is believed to be higher in developing countries, including Malaysia. However, less than 10% of patients disclosed the use of T&CM to their physician. This could impose a great risk to a certain group of patients, especially those suffering from chronic diseases whom usually on multiple drugs therapy. Thus, the primary objective of this study was to identify and describe the prevalence and frequency of various T&CM modalities that are being used among patients with chronic diseases who attended outpatient clinics around mainland northern suburbs of Penang, Malaysia.

Methods: A face-to-face interviewer-administered questionnaire survey was conducted on selected patients with chronic diseases who attended the outpatient clinics of Clinical Trial Center, Advanced Medical and Dental Institute and other health facilities surrounding Kepala Batas region. Complex data analysis was carried out using SPSS 18.0.

Results: The 1 year prevalence of patients with chronic diseases who are taking T&CM accounts for almost 56%. Natural products including marine-based, products of bees and herbal products, were the most commonly used T&CM modalities (79%). 86% of the therapies were oral medication which includes products in the form of raw (19.6%), dried (13.4%) and

tablet or capsule (8.2%). 12% of the T&CM users had experienced at least one (1) side effect presumably related to the T&CM use. Socio-demographic factors such as gender, age, level of education, nature of job and illness, demonstrated significant association with the use of T&CM.

Conclusion: The study showed that there is a high prevalence of T&CM use by the studied population which involved various T&CM modalities. Thus this information will be helpful for future clinical implications in terms of research and development, as well as public education on T&CM use around the region.

Contact: Eshaifol Azam Omar, dreshaifol@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.226>

P4.024

Retrospective clinical record review of a Chinese medicine tertiary teaching clinic in Australia



Tony Zhang, Wan Najbah Nabil,
Iris Wenyu Zhou, Johannah Shergis,
Suzi Mansu, Charlie Xue

RMIT University

Purpose: Approximately one in five adult Australia used Chinese medicine. Respiratory disorders are among the common reasons that people seek Chinese medicine treatment. This study aimed to systematically collect and analyze the characteristics of patients, particularly those with respiratory disorders, presented to a Chinese medicine tertiary teaching clinic in Australia.

Methods: Patients' clinical records from 1 January 2010 to 31 December 2011 at the Chinese medicine teaching clinic of RMIT University, Australia were extracted to a pre-defined template and were analyzed using SPSS version 21.0.

Results: The mean age of patients was 42. Approximately two thirds of the patients were female (65.7%) and Australian-born (66.2%). The most common conditions that patients sought Chinese medicine treatments were musculoskeletal and pain disorders, emotional disorders, obstetrics and gynaecological disorders, respiratory disorders and gastrointestinal disorders. Detailed information on 1677 clinical records presented by 261 patients with respiratory disorders as the primary complaints were further analyzed. The commonly presented respiratory disorders included common cold, cough, allergic rhinitis, sinus problems and asthma. Common acupuncture points and Chinese herbal medicine used to manage respiratory disorders included LI4, SJ5, LU7, GB20 and LU5, and formulations Yin Qiao San and Sang Ju Wan. Acupuncture was given at almost all visits (97.5%) and was combined with herbs most of the time (64.0%). Of the patients presented with respiratory disorders, 15 adverse events were reported. Twelve events were mild; three were moderate; and none were considered severe.

Conclusion: This study provided insights on patients' characteristics and treatment practice in a Chinese medicine tertiary teaching clinic in Australia. Respiratory conditions are commonly presented and treated with a combination of

acupuncture and herbs. Chinese medicine appeared to be safe and well tolerate by patients.

Contact: Tony Zhang, tony.zhang@rmit.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.227>

RESEARCH METHODOLOGY

P5.001

Are meta-analyses of Chinese herbal medicine trials trustworthy and clinically applicable? A cross-sectional study



Robin Ho¹, Vincent Chung¹, Xinyin Wu³,
Huiying Feng², Xin Lai², Justin Wu³,
Samuel Wong¹

¹ Hong Kong Institute of Integrative Medicine. 2
JC School of Public Health & Primary Care (CUHK)

² JC School of Public Health & Primary Care
(CUHK)

³ Hong Kong Institute of Integrative Medicine
(CUHK)

Purpose: Meta-analysis (MA) on Chinese herbal medicine (CHM) trials is increasingly published and indexed in major international databases but their trustworthiness and clinical applicability is uncertain. We aimed to assess the characteristics and methodological quality of MA on CHM.

Methods: Cross-sectional study. MA published during 1993–2013 was sampled from MEDLINE, EMBASE, Cochrane Database of Systematic Reviews and Database of Abstracts of Reviews of Effect. Bibliographical characteristics were abstracted and methodological quality was assessed using the validated AMSTAR tool by two independent reviewers.

Results: Total of 201 MA were included and half were published in or after 2009. Only 7.5% being updates of previous reviews. Majority are published in journals with low or no impact factor, with a median of 1.5. These MA demonstrated methodological strengths in ensuring comprehensive literature search, providing characteristics of the included studies, assessing the scientific quality of included studies and appropriately using the scientific quality of included studies in formulating conclusions. Nevertheless, weaknesses in protocol provision, listing of included and excluded studies, inclusion of grey literature, use of appropriate meta-analytic technique as well as reporting of funding sources were prevalent. CHM and control interventions pooled in majority of MA are found to have substantial clinical heterogeneity in terms of composition, dosage form and route of administration.

Conclusion: There are rooms for improvement in methodological rigor, and in choosing clinically homogenous interventions and control for statistical pooling. These shortcomings limit the trustworthiness and clinical applicability of existing MA on CHM trials. To overcome the limitations of pair-wise meta-analysis in synthesizing trials comparing different CHM and control interven-

tions, the potential of network meta-analysis should be explored.

Contact: Robin Ho, robinho@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.228>

P5.002

Incorporating Traditional Chinese Medicine Syndrome Differentiation in Randomized Trials: Methodological Issues (Cochrane CAM Field Invited Commentary)



Robin Ho¹, Vincent Chung¹, Justin Wu²

¹ Hong Kong Institute of Integrative Medicine 2.

JC School of Public Health & Primary Care (CUHK)

² Hong Kong Institute of Integrative Medicine, The Chinese University of Hong Kong (CUHK)

Purpose: In traditional Chinese medicine (TCM) practice, decision on prescription is based on a process called Bian Zheng Lun Zhi (syndrome differentiation guided treatment decision). The syndrome differentiation process may not be recognized in conventional standards of randomized controlled trial (RCT), limiting the model validity and generalizability of results.

Methods: This article discussed how syndrome differentiation, a classical TCM approach in diagnosis, can be incorporated into RCT design.

Results: Four methodological solutions were proposed: (i) Lesson learnt from the design of patient reported outcome questionnaire can inform how TCM diagnosis instrument could be developed. A proper TCM diagnostic tool with sound psychometric properties can reduce variation in the syndrome differentiation process. (ii) Treatment strategies for a specific TCM diagnosis could be highly diversified. Delphi technique can inform the design of optimal treatment program by facilitating consensus among experts. (iii) Subgroup analysis is often needed in RCT recruiting patient with several TCM diagnosis. It is highlighted that investigators should consider whether the design, analysis and context of the trial are robust enough to support a reliable claim of subgroup effect associated with a particular TCM diagnosis. (iv) Finally, we discussed alternative research and analysis approaches for handling misalignment of Western and TCM diagnoses, including the possibility of unifying TCM syndrome with Western phenotypes using latent class analysis.

Conclusion: Further methodological advances are needed in the better alignment of classical TCM theories and diagnostic instrument development, as well as in reducing bias during the expert consensus processes.

Contact: Robin Ho, robinho@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.230>

P5.004

Chinese herbal medicine as adjuvant treatment to chemotherapy for multidrug-resistant tuberculosis (MDR-TB): a systematic review of randomised clinical trials



Jian-Ping Liu¹, Mei Wang³, Xin Guan², Yuan Chi³, Nicola Robinson⁴

¹ Beijing University of Chinese Medicine

² The second Department of Respiratory Medicine, Shengjing Hospital of China Medical University

³ Liaoning University of Traditional Chinese Medicine

⁴ London South Bank University

Purpose: Chinese herbal medicine (CHM) has been increasingly used as an adjuvant treatment for multi-drug resistant tuberculosis (MDR-TB) in China. To inform clinical practice, we performed a systematic review on the beneficial effect and safety of CHM for MDR-TB.

Methods: We systematically searched the six electronic databases for randomised clinical trials (RCTs) of CHM plus chemotherapy for MDR-TB. RevMan 5.2 software was used for data analyses with effect estimates presented as risk ratio (RR) with 95% confidence interval (CI).

Results: 28 RCTs involving 3085 participants with MDR-TB were included. The methodological quality was generally poor in terms of risk of bias. Meta-analyses favoured CHM plus chemotherapy on sputum bacteriological conversion rate compared with chemotherapy alone after initiation of treatment (6th months: RR 1.29, 95% CI 1.14 to 1.46, n=11; 12th months: RR 1.38, 95% CI 1.19 to 1.59, n=5; 18th months: RR 1.19, 95% CI 1.11 to 1.28, n=7). Compared with chemotherapy alone, meta-analysis showed benefit from CHM plus chemotherapy on lung lesions absorption rate (12th months: RR 1.26, 95% CI 1.09 to 1.46, n=3; 18th months: RR 1.18, 95% CI 1.07 to 1.30, n=6) and pulmonary cavity closure rate by radiological examination (18th months: RR 1.24, 95% CI 1.01 to 1.51; n=4), relapse rate (RR 0.28, 95% CI 0.16 to 0.50, n=4), and abnormal liver function (RR 0.56, 95% CI 0.46 to 0.69, n=14).

Conclusion: CHM as an adjuvant to anti-TB chemotherapy may have beneficial effect for MDR-TB in terms of bacteriological and radiological outcomes, and is safe. However, due to poor methodology of the included trials, a confirmative conclusion needs to be supported through further robust clinical trial.

Contact: Mei Wang, linhan616@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.231>

P5.005

Acupoint injection versus non-acupoint injection for chronic hepatitis B: a systematic review of randomised trials



Li-Qiong Wang, Ning Liang, Guo-Yan Yang,
Jin Sun, Mei Han, Jian-Ping Liu

Centre for Evidence-Based Chinese Medicine,
Beijing University of Chinese Medicine

Purpose: We performed a systematic review to evaluate the beneficial effect and safety of acupoint injection compared with non-acupoint injection with the same medicine for chronic hepatitis B (CHB).

Methods: We searched six English and Chinese electronic databases until October 2014 for randomised controlled trials (RCTs). Two authors independently selected trials and extracted data. Data were analyzed using RevMan 5.2 software.

Results: A total of 8 RCTs involving 1193 participants with CHB were identified. The methodological quality of the trials was poor. Six trials (75%) injected Chinese herbal medicine Ganyanling, Oxymatrine, Polyporusus Bellatus, or Huangqi injection, and the remaining two trials injected antiviral drugs (α -interferon or polyinosinic-polycytidylic acid (poly I:C)). The acupoints included Zusanli (ST36), Ganshu (BL18), Yanglingquan (GB34), Sanyinjiao (SP6), Pishu (BL20), etc. On the basis of routine treatment (diammonium glycyrrhizinate, potassium magnesium aspartate, Potenline, vitamins, etc., intravenously or orally), five trials compared acupoint injection with non-acupoint intramuscular injection (IM), of which one trial showed acupoint injection was superior to IM of poly I:C in improving HBsAg (RR 3.00, 95%CI 1.60 to 5.63) and HBeAg (RR 6.22, 95% CI 2.31 to 16.78) and a meta-analysis showed acupoint injection of oxymatrine had beneficial effect on ALT level (U/L) (MD -20.10, 95% CI -27.99 to -12.21; n=2). Three trials found that acupoint injection was significantly superior to IM in improving HBV-DNA, ALT and AST level. Five trials reported adverse effects, and no severe adverse effects were reported in acupoint injection groups.

Conclusion: Acupoint injection applied alone or in combination with routine treatment appears to be effective and safe compared with IM for viral and biochemical response for CHB. However, owing to poor methodological quality of included trials, potential promising findings must be interpreted cautiously and further rigorous RCTs are warranted in the future.

Contact: Li-Qiong Wang, qiongqiong.624@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.232>

P5.006

The effectiveness of mindfulness training on perinatal mental health; a systematic review



Helen Hall, Jill Beattie, Rosaline Lau,
Christine East, Mary Anne Biro

Monash University

Purpose: Perinatal stress is associated with adverse pregnancy outcomes for both the mother and child. This

presentation highlights the findings from a quantitative systematic review that critically appraise, synthesize and critique the best available evidence on the effective of mindfulness training on perinatal mental health.

Methods: This review was conducted according to the Joanna Briggs Institute's (JBI) systematic review strategies. Studies that included pregnant women of any age and at any time during the antenatal period were considered. The intervention of interest was mindfulness training, as defined by the authors. A range of quantitative research designs were considered for inclusion. The primary outcome of interest was perinatal mental health. Nine electronic databases were searched for studies published in English from 1980 to 2014. Two reviewers independently assessed all the papers for inclusion. Relevant studies were then appraised and data extracted by two reviewers using the standardized critical appraisal instruments and data extraction tools from the JBI Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MASARI).

Results: Seven studies were included in this review from the 698 papers initially retrieved. They included five studies using a single sample pre and post-test design, and two using a randomised controlled trial design. The programs under study varied and included mindfulness-based: yoga, childbirth education, cognitive therapy and practices. Outcomes between studies also varied but stress, anxiety, depression and mindfulness were measured predominantly. A meta-analysis was not performed because of the differences in participant characteristics, interventions and outcomes measured. Non-significant trends towards a decrease in stress, anxiety and depression and an increase in mindfulness were noted. However, all studies examined had small sample sizes.

Conclusion: The evidence for the effectiveness of mindfulness based programs to support perinatal mental health remains inconclusive. Further adequately powered, well designed clinical trials are merited.

Contact: Helen Hall, Helen.hall@monash.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.233>

P5.007

Chinese Herbal Medicine for Acute Pelvic Inflammatory Disease: a Systematic Review of Randomised Clinical Trials



Chun-Xiang Su¹, Ni-Ni Chen¹,
Manfred Maier³, Shu-Jin Yue²,
Yu-Fang Hao², Jian-Ping Liu^{1,*}

¹ Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100029, China

² School of Nursing, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100102, China

³ Center for Public Health, Department of General Practice and Family Medicine, Medical University of Vienna, Vienna, Austria

Purpose: To assess the effectiveness and safety of Chinese herbal medicine (CHM) for the treatment of acute pelvic inflammatory disease (PID).

Methods: We undertook a systematic search for randomised clinical trials of CHM for acute PID through seven electronic databases from their inception to January 2014. Two authors independently extracted data and assessed the methodological quality of the included trials using the Cochrane risk of bias tool. Revman 5.2 software was used for data analysis with effect estimate presented as risk ratio and mean difference with a 95% confidence interval.

Results: Thirty-one trials involving 2860 participants with acute PID were identified. All trials were methodologically weak and at high risk of bias. Twenty-one different herbal medicines were tested in the 31 trials. Pooling of data via meta-analysis was impossible due to the clinical heterogeneity in terms of participants, intervention and control. Fifteen out of 31 trials showed CHM used alone or combined with antibiotics was significantly better than antibiotics on the number of cured participants with PID. Three of four trials demonstrated CHM used alone or combined with antibiotics reduced the time to disappearance of lower abdominal pain and pelvic mass compared to antibiotics. Data from two trials showed CHM plus antibiotics was superior to antibiotics on incidence of chronic pelvic pain after follow up of 3 months and PID relapse after follow up of 1 year. Three of four trials showed CHM plus antibiotics had shorter length of hospital stay than antibiotics. No severe adverse events were reported and only four trials reported mild adverse events.

Conclusion: CHM may be potentially effective in the treatment of acute PID. However, due to poor methodological quality of the included trials, current evidence is insufficient to support clinical use. Further rigorous trials are warranted.

Contact: Chun-Xiang Su, susu18182004@126.com

Corresponding Author: Jian-Ping Liu (Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Chaoyang District, Beijing 100029, China), jianping.l@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.234>

P5.008

Treatment adherence in Chinese herbal medicine: Findings from a randomised feasibility study in the United Kingdom



Lily Lai¹, Andrew Flower¹, Philip Prescott²,
Michael Moore¹, George Lewith¹

¹ Primary Care and Population Sciences, University of Southampton

² Mathematical Sciences, University of Southampton

Purpose: Randomised controlled trials (RCTs) evaluate effectiveness of Chinese herbal medicines (CHMs) in the West, yet little is known regarding CHM adherence amongst these populations. We aimed to evaluate feasibility of collecting adherence data within a UK study and identify strategies for improving adherence.

Methods: We conducted a feasibility study exploring CHM for polycystic ovary syndrome, randomising 40 women to either standardised CHM or individualised CHM. This was prescribed for 24 weeks at 8 g granules/dose, two dosages daily, taken as a tea. Practitioners and participants were blinded. We evaluated adherence using Morisky Medication Adherence Scale (MMAS) at Week 4 and end of study (EoS); weighing prescriptions at Week 12 and EoS, and process data.

Results: Mean completion rates were high for MMAS (87.5%). Weighing data was complete for 15 (37.5%) participants, incomplete for 15 (37.5%) and absent for 10 (25%). MMAS data suggests low adherence to both CHM interventions at Week 4 and EoS. Small improvements within-group were observed for both standardised CHM (MD 0.9, 95% CI -0.3 to 2.0) and individualised CHM (MD 1.0, 95% CI 0.3 to 1.8) but which were statistically significant only for individualised. When explored as a categorical variable, improvement from low to medium or high adherence was found in 4 participants from each of the two groups. We used weighing data to estimate a mean of 65% (SD21.2) of CHMs were administered, suggesting a dose of 10-11 g/day is more feasible. Process data suggests adherence could be improved by changing administration to tablet/capsules and reducing to once daily dosing.

Conclusion: To our knowledge, this is the first rigorous evaluation of CHM treatment adherence carried out in the UK. This study has uncovered important findings regarding CHM adherence in a Western population and will help inform the design of the CHM intervention for a main study.

Contact: Lily Lai, l.y.w.lai@southampton.ac.uk

<http://dx.doi.org/10.1016/j.imr.2015.04.235>

P5.009

A systematic review and meta-analysis of a Chinese herbal remedy, Qili Qiangxin, as an adjuvant therapy to patients with heart failure



Jin Sun¹, Kang Zhang¹, WenJing Xiong¹, Guoyan Yang¹, Yunjiao Zhang¹, Congcong Wang¹, Mei Han¹, George Lewith², Jianping Liu¹

¹ Centre for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Beijing, China

² Southampton University, Southampton, UK

Purpose: To evaluate the beneficial effect and safety of a Chinese herbal formula, Qili Qiangxin, for patients with heart failure.

Methods: We searched six electronic databases until June 2014 for randomized controlled trials (RCTs) of Qili Qiangxin for patients with heart failure. After independent identification of included trials and data extraction, we performed data analysis and quality assessment of the included trials using Review Manager 5.2 and GRADEpro software. We conducted the review based on our registered protocol [PROSPERO registration: CRD42013006106].

Results: A total of 121 RCTs (123 publications) published between 2005 and 2014 were included, involving 10,731 heart failure patients aged from 18 to 98 years old. The methodological quality of majority of included trials was poor. Meta-analysis showed no significant difference between Qili Qiangxin plus conventional treatment and conventional treatment alone for mortality (RR 0.48, 95%CI 0.20 to 1.14; n=483 patients). However, Qili Qiangxin plus conventional treatment reduced the major cardiovascular events (RR 0.47, 95%CI 0.31 to 0.70; n=168 patients) and re-hospitalization due to heart failure (RR 0.51, 95%CI 0.37 to 0.70; n=465 patients) compared with conventional treatment alone. Qili Qiangxin improved NYHA levels (RR 1.40, 95%CI 1.30 to 1.50; n=4147 patients) and quality of life (MD -8.48 scores, 95% CI -9.56 to -7.39; n=792 patients) measured by Minnesota Living with Heart Failure Questionnaire (lower scores better). There were no serious adverse events reported to Qili Qiangxin.

Conclusion: Qili Qiangxin appears to be beneficial in reducing cardiovascular events, re-hospitalization and quality of life in patients with heart failure. It appears to be safe. This finding was based on low quality of clinical trials and must be interpreted with caution. Further large, rigorous trials are warranted to confirm the benefit.

Contact: Jin Sun, sunjin.sunshine@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.236>

P5.010

Assessing the concept of patient-centered medicine through acupuncture conjugated fast-track program in gynecological surgery



Jeong-Eun Yoo¹, Dal-Seok Oh², Gunhyuk Park²

¹ Nat'l Clinical Research Centre for Korean Med. (NCRC), Pusan Nat'l University Korean Med. Hospital

² Korea Institute of Oriental Medicine (KIOM)

Purpose: Complementary and alternative medicine has the original concept of balancing physical, psychological, and spiritual health, and it was incorporated into conventional therapy as part of integrative medicine (IM), so, it can play an important role on the patient-centered medicine as one of health care strategies. Fast-track surgery (FTS) program is a multidisciplinary strategy to enhance recovery after surgery. We aimed to propose that acupuncture enhances recovery programs after gynecological surgery and to evaluate that it improves clinical benefits and patient-reported outcomes.

Methods: To investigate evidence-based IM components for FTS, we reviewed several articles on FTS and organized the main principles of acupuncture related issues. The database of PubMed and EMBASE were retrieved for controlled acupuncture studies on laparoscopy or hysterectomy within one day application. The key words were IM, acupuncture, moxibustion, acupressure, gynecological surgery, hysterectomy, and laparoscopy. Effect differences were extracted and ranked to show the clinical benefits of acupuncture and summarized clinical outcomes dividing into patient-reported outcomes and clinician-reported outcomes.

Results: We summarized the FTS with main elements in pre-operative, intra-operative, and post-operative steps. The IM therapeutic modalities were applied for PONV, pain, sore throat, gastrointestinal motility, urinary retention, and coldness in post-operative steps, two symptoms, gastrointestinal motility and "coldness" achieved the full improvement rate of 50%. With regard to post-operative nausea and vomiting, three cases were greater than 30% and one case was 16%. Sore throat and urinary retention achieved the mild improvement rate of 16% and 12%, respectively. Acupuncture-related patient-reported outcomes were greater patient satisfaction, reduced pain intensity, increased ailment motility, and relieved pain and "coldness" sensation measured by visual analogue scale.

Conclusion: A gynecological acupuncture conjugated FTS model has the potential for centering patient-reported outcomes, thereby pursuing the concept of patient-centered medicine.

Contact: Jeong-Eun Yoo, koreadryoo@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.237>

P5.011

The spectrum-effect relationship—a rational approach for screening effective compounds from Chinese herbal medicine

Chunsheng ZHU, Bing ZHANG, Zhijian LIN,
Xuejie WANG, Hongjuan NIU

School of Chinese Pharmacy, Beijing University of
Chinese Medicine

Purpose: Introduce a rational method for reflecting the Chinese herbal medicine effective compositions and internal quality—the spectrum-effect relationship theory, so as to provide ideas and references about screening the Chinese herbal medicine effective components, distinguish different herbal species and truly reflect the inner quality of Chinese herbal medicine.

Methods: We systematically review the application of the spectrum-effect relationship theory in the research of Chinese herbal medicine, including research mentality, different chromatographic analysis techniques, data processing technologies and structure determination.

Results: It is proved that, with the help of the spectrum-effect relationship, the authentication and identification of the Chinese herbal medicine can be accurately conducted even if the concentration of effective components are not very similar in different samples.

Conclusion: The spectrum-effect relationship is considered as a potential method to determine active ingredients in complex mixtures and reflect the internal quality of Chinese herbal medicine.

Contact: Chunsheng ZHU, zhuchunsheng6@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.238>

P5.012

Systemic Review with meta-analysis on Complementary and Alternative Medicine Treatments in hepatitis

Jost Langhorst¹, Romy Lauche²,
Miriam Rasch², Holger Cramer²,
Petra Klose², Gustav J. Dobos²

¹ *Integrative Gastroenterology, Kliniken*

Essen-Mitte, University of Duisburg-Essen

² *Integrative and Internal Medicine, Kliniken*
Essen-Mitte, University of Duisburg-Essen

Purpose: We performed a systematic review with meta-analysis for Complementary and Alternative Medicine (CAM) as defined by the Cochrane Collaboration in hepatitis B and C.

Methods: A computerized search of databases (Cochrane Library, Medline, PsychINFO, and Scopus) through June 2013 was performed. We screened the reference sections of original studies and systematic reviews in English language for CAM in hepatitis B and C. Randomized controlled trials (RCT) comparing treatment to controls were assessed by the Cochrane risk of bias tool. Where possible, meta-analyses were performed using odds ratios (OR) with 95% confidence intervals (CI).

Results: A total of 59 RCT were found, 12 in hepatitis B, 46 in hepatitis C and one in both. 23 studies could be included in a meta-analysis. The risk of bias was heterogeneous in the included studies. In hepatitis B meta-analysis was performed for cyanidanol vs placebo. No effect on the biochemical markers ($p=0.55$) but a significant effect on viral response (2 studies; $n=310$; $OR = 5.04$; $95\%CI 1.76-14.44$; $p=0.003$) could be shown. In hepatitis C meta-analysis showed a significant effect on biochemical markers in vitamin D vs placebo (2 studies; $n=122$; $OR = 7.94$; $95\%CI 2.86-22.03$; $p<0.0001$) and on biochemical markers (5 studies; $n=347$; $OR=1.87$; $95\%CI 1.20-2.90$; $p=0.0005$) as well as viral response (6 studies; $n=380$; $OR=2.09$; $95\%CI 1.34-3.27$; $p=0.001$) in phlebotomie. No significant effect could be shown for vitamin C and E (2 studies; $n=61$), omega-3-fatty acid (2 studies; $n=62$), silymarin (2 studies, $n=293$), zinc (5 studies, $n=256$) or CH-100 (2 studies; $n=131$).

Conclusion: The average methodological quality of the identified studies was heterogeneous. Best evidence was found for cyanidanol in the treatment hepatitis B and vitamin D and phlebotomie in the treatment of hepatitis C.

Contact: Jost Langhorst, j.langhorst@kliniken-essen-mitte.de

<http://dx.doi.org/10.1016/j.imr.2015.04.239>

P5.013

Chinese herbal medicine for multidrug-resistant tuberculosis (MDR-TB): a systematic review of randomised clinical trials

Mei Wang¹, Jian-Ping Liu¹, Xin Guan²,
Yuan Chi³, Nicola Robinson⁴

¹ *Centre for Evidence-Based Chinese Medicine,*
Beijing University of Chinese Medicine

² *The second Department of Respiratory Medicine,*
Shengjing Hospital of China Medical University

³ *Liaoning University of Traditional Chinese*
Medicine

⁴ *London South Bank University*

Purpose: Chinese herbal medicine (CHM) has been increasingly used as an adjuvant treatment for multi-drug resistant tuberculosis (MDR-TB) in China. To inform clinical practice, we performed a systematic review on the beneficial effect and safety of CHM for MDR-TB.

Methods: We systematically searched the six electronic databases for randomised clinical trials (RCTs) of CHM plus chemotherapy for MDR-TB. RevMan 5.2 software was used for data analyses with effect estimates presented as risk ratio (RR) with 95% confidence interval (CI).

Results: 28 RCTs involving 3085 participants with MDR-TB were included. The methodological quality was generally poor in terms of risk of bias. Meta-analyses favoured CHM plus chemotherapy on sputum bacteriological conversion rate compared with chemotherapy alone after initiation of treatment (6th mos: $RR 1.29$, $95\% CI 1.14$ to 1.46 , $n=11$; 12th mos: $RR 1.38$, $95\% CI 1.19$ to 1.59 , $n=5$; 18th mos: $RR 1.19$, $95\% CI 1.11$ to 1.28 , $n=7$). Compared with chemotherapy alone, meta-analysis showed benefit from CHM plus chemotherapy on lung

lesions absorption rate (12th mos: RR 1.26, 95% CI 1.09 to 1.46, n=3; 18th mos: RR 1.18, 95%CI 1.07 to 1.30, n=6) and pulmonary cavity closure rate by radiological examination (18th mos: RR 1.24, 95%CI 1.01 to 1.51; n=4), relapse rate (RR 0.28, 95%CI 0.16 to 0.50, n=4), and abnormal liver function (RR 0.56, 95% CI 0.46 to 0.69, n=14).

Conclusion: CHM as an adjuvant to anti-TB chemotherapy may have beneficial effect for MDR-TB in terms of bacteriological and radiological outcomes, and is safe. However, due to poor methodology of the included trials, a confirmative conclusion needs to be supported through further robust clinical trial.

Contact: Mei Wang, linhan616@126.com

<http://dx.doi.org/10.1016/j.imr.2015.04.240>

P5.014

Development of the brief version of the Chinese Quality of Life (ChQOL) Instrument



Wendy Wong¹, Kwok Fai Leung², Li Zhao³, Feng Bin Liu⁴, Justin Wu¹

¹ Hong Kong Institute of Integrative Medicine, The Chinese University of Hong Kong

² Department of Occupational Therapy, Queen Elizabeth Hospital

³ The Hong Kong Tuberculosis Association - The University of Hong Kong Clinical Centre (Aberdeen)

⁴ Department of Gastroenterology, Guangzhou University of Chinese Medicine

Purpose: The Chinese Quality of Life Instrument (ChQOL) is the first patients reported outcome (PRO) established basing on the health concept of Traditional Chinese Medicine (TCM) among most instruments based on Western culture. It has been culturally adapted in China, Australia, France and Hong Kong with satisfactory psychometric properties. ChQOL consists of 50 items in 13 facets which are grouped in three domains: (1) physical form, (2) vitality and spirit and (3) emotion. However, the ChQOL was regarded as lengthy, which hinders its application as an outcome measure. Therefore, we aim at developing a brief version ranging from 13-26 items of the ChQOL to ease administration and facilitate wider application.

Methods: Two short forms of ChQOL (26-item or 13-item with 1-2 items per facet) were developed by a secondary analysis (regression analysis and classical test theory), based on empirical data of 1,410 of healthy to a wide range of diseases severity subjects. These two short forms of ChQOL were validated by (1) 20 registered Chinese Medicine practitioners on the content and (2) a sample of 1,056 subjects, covering a range of health status (from healthy to severely ill) in Hong Kong. The brief versions of ChQOL were examined on the structure fitness, construct validity, equivalency when compared with the full version.

Results: Complied with ISOPOR, the psychometric properties of two short forms were investigated and compared with the full version.

Conclusion: The first PRO, based on the health concept of TCM, ChQOL will be shortened to facilitate a wider application.

The item reduction process is essential to advance of quality of life study, like SF-36, WHOQOL. The shortening will also improve completion rate with elderly who have low vision or physical disability or serious illness. With easy interpretation, ChQOL could be more readily incorporated into routine care, or used in larger population studies.

Contact: Wendy Wong, wendy.wong@cuhk.edu.hk

<http://dx.doi.org/10.1016/j.imr.2015.04.241>

P5.015

Selecting herbs for psoriasis based on clinical, experimental and in-silico evidence



Brian May, Shiqiang Deng

RMIT University

Purpose: This project aimed to select promising herbs for treating psoriasis vulgaris based on the results of clinical, experimental and in-silico studies and to explore the possible actions of multiple compounds on multiple targets relevant to this disease.

Methods: Meta-analysis of clinical trials combined with reviews of experimental studies were used to short-list herbs that showed promise of efficacy for psoriasis vulgaris as well as have anti-proliferative and/or anti-inflammatory actions. Databases were used to identify the compounds contained in the herbs, the protein targets of these compounds and the metabolic pathways in which the proteins are involved.

Results: The clinical and experimental studies identified 12 herbs that showed evidence of efficacy in clinical trials and evidence of activity in experimental studies. These herbs contained 60+ compounds which have been reported to act on 350+ proteins. Of these, multiple proteins were involved in apoptosis, inflammation and angiogenesis. Proteins of known relevance to psoriasis included Tumor Necrosis Factor and Cyclooxygenase which were down-regulated by multiple compounds in the herbs. Proteins relevant to apoptosis that were regulated by multiple compounds included Apoptosis regulator Bcl-2, Apoptosis regulator BAX, Caspase-3 and Caspase-9. Multiple compounds were identified as inhibiting angiogenesis via Vascular Endothelial Growth Factor. Within some single herbs, multiple compounds appeared to be acting on multiple proteins within a pathway suggesting that its clinical actions may be based on multi-compound multi-target effects.

Conclusion: This approach links the results of systematic reviews and meta-analyses of clinical studies to the results of experimental research by focusing on how compounds contained in herbs could be acting on multiple proteins to affect the inflammatory and proliferative processes involved in psoriasis. The results indicate that multiple herbs contain compounds that regulate known psoriasis targets as well as other proteins that may be involved in the development and or maintenance of psoriasis lesions.

Contact: Brian May, brian.may@rmit.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.242>

P5.016

An Evidence-Based Review of Hemiplegic Shoulder Pain

Sook-Hyun Lee¹, Go Eun Lee², Jung Sup Lee³,
Kuem Ju Lee¹, Sung Min Lim¹, Hyun Choi¹,
Dong-A Kim⁴, Wan Ho Kim⁴,
Chi Hyoung Son²

¹ Department of Clinical Research for
Rehabilitation, National Rehabilitation Research
Institute

² Department of Korean Traditional Rehabilitation
Medicine, National Rehabilitation Hospital

³ Department of Korean Traditional Internal
Medicine, National Rehabilitation Hospital

⁴ Department of Rehabilitation Medicine, Korean
National Rehabilitation Hospital

Purpose: Shoulder pain is the most frequent complication in patients with hemiplegia. In this light, this study aims to determine the effects of therapeutic interventions for hemiplegic shoulder pain.

Methods: A literature search involving six databases (PUBMED, EMBASE, the Cochrane Library, AMED, and CINAHL) was conducted to identify articles up to May 2013. The quality of each study was assessed using the Physiotherapy Evidence Database Scale (PEDro scale) for randomized controlled trials, and levels of evidence were assigned using a modified version of Sackett's scale.

Results: 21 RCT studies (PEDro scores 6–9), 7 clinical trials, 7 case reports, 9 case series, 3 cohort studies and 3 observational studies met inclusion criteria. 5 studies observed the effect on acupuncture, while 9 studies addressed the use of botulinum toxin type A (BTx-A); 4 studies used corticosteroid injection; 4 studies assessed nerve block; 10 studies examined electrical stimulation; 3 studies evaluated exercise treatment; 2 studies looked at shoulder taping; 13 studies used various interventions. Acupuncture treatment was significantly effective for shoulder pain and shoulder subluxation with level 1 and 4 evidence. Nerve block provides an advantage in pain relief and overall arm function with level 1 and 4 evidence. Intramuscular electrical stimulation caused significantly less pain and subluxation with level 1 and 5 evidence. The use of BTx-A and corticosteroid injection appeared to be related to conflicting results. Whereas, shoulder positioning and taping provided no significant effects for shoulder pain, and use of surface neuro muscular electrical stimulation to the shoulder after acute stroke could not be recommended.

Conclusion: Our results showed that the use of acupuncture, intramuscular electrical stimulation, and nerve block provided higher evidence level and could be very useful in the management of hemiplegic shoulder pain patients.

Contact: Sook-Hyun Lee, sh00god@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.243>

P5.017

Thermal dose t43 measured for commercial moxas

Min Joo Choi, Dong Hyun Kim,
Gwansuk Kang

Jeju National University

Purpose: The parameter t43, an equivalent exposure time at 43 oC, has been used to evaluate the thermal necrosis of tissue in thermotherapy. The study considers t43 as a potential thermal dose for moxibustion and has tested t43 for commercial moxas.

Methods: The parameter t43 was calculated from the time history of temperature measured for a direct moxa (corn type) and the 3 different types of indirect moxas (AL, mini and smokeless moxa). The temperature was measured at the centre of the bottom of the moxa during combustion using a needle type thermocouple.

Results: The t43 was shown to be even more different than the arithmetic difference in the temperature profile. The t43 measured for the direct moxa was 1.29E5 minutes, 100,000 times larger than the maximum of the indirect moxas. In the indirect moxas, t43 was 1,12 minutes for AL-moxa, 2.92E-3 minutes for mini-moxa and 6.40E-4 minutes for smokeless moxa, being more than 1,000 times different one another. The t43 of the direct moxa was 500 fold larger than the level inducing skin burn (240 min), whereas all the indirect moxas had t43 much smaller than the skin burning level.

Conclusion: The t43 was measured for the first time for various moxas and was found to be different about an order of 8 for the different types of moxas. The measured t43 suggests that the direct moxa produced the thermal dose far beyond the skin burning level while all of the indirect moxa were free from skin burn. The study claims that t43 will be a potential thermal dose parameter and, based on this, a future investigation into clinical efficacy and safety of

Contact: Min Joo Choi, mjchoi@jejunu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.244>

P5.018

Acupuncture therapy for treatment of diabetic peripheral neuropathy: a systematic review of randomized controlled trials

Wen-jing Xiong, Wei Chen, Jian-Ping Liu

Centre for Evidence-based Chinese Medicine,
Beijing University of Chinese Medicine

Purpose: Acupuncture therapy has more than 2000 years history, and has been generally used in China to remedy diabetic peripheral neuropathy (DPN). This review aims to conduct a systematic review to assess the potential therapeutic effectiveness and safety of acupuncture therapy for the treatment of DPN.

Methods: We retrieved published randomized controlled trials about acupuncture therapy for DPN from their inception to August, 2014. Acupuncture therapy was defined as the

therapy which treats diseases by puncturing acupoints and meridians with various needling instruments. Data analysis was performed through RevMan 5.3 software and effect estimate was shown as relative risk (RR) or mean difference (MD) with a 95% confidence interval (CI).

Results: We got 60 trials which involved 4254 participants. These included RCTs were of poor methodological quality. Six types of acupuncture therapies were identified, including manual acupuncture, electro-acupuncture, needle knocking acupuncture, warm-needling and moxibustion, scalp acupuncture and mao-acupuncture. Meta-analysis showed that manual acupuncture had better effect on global symptom improvement compared with mecobalamin (RR: 1.30; 95%CI: 1.18 to 1.43), Vitamin B (RR: 1.56; 95%CI: 1.30 to 1.87), and no treatment (RR: 1.97; 95%CI: 1.15 to 3.38). Manual acupuncture combined with mecobalamin had better effect on global symptom improvement than mecobalamin alone (RR: 1.80; 95%CI: 1.32 to 2.47). Electro-acupuncture had better effect on global symptom improvement than mecobalamin (RR: 1.26; 95%CI: 1.15 to 1.40) and Vitamin B (RR: 2.07; 95%CI: 1.40 to 3.05). Needle knocking acupuncture combined with mecobalamin had better effect on global symptom improvement than mecobalamin alone (RR: 1.36; 95%CI: 0.87 to 2.11). Only 9 articles reported the adverse events.

Conclusion: Because of the high risk of bias and the potential publication bias of these trials of acupuncture therapy for DPN, we cannot draw confirmative clinical conclusion. Future researches need rigorously instituted, clearly defined and internationally recognized outcome measures.

Contact: Wen-jing Xiong, hpxwj@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.245>

P5.019

Chinese herbal medicine combined with nucleotide analogues for compensated HBV-related cirrhosis: a systematic review of randomized controlled trials



Tingting Li, Yutong Fei, Xiaolin Xue, Xiuyan Wu, Tianfang Wang

Beijing University of Chinese Medicine

Purpose: This review is to systematically evaluate the effectiveness and safety of Chinese herbal medicine (CHM) plus nucleotide analogues (NAs) for treating compensated HBV-related cirrhosis.

Methods: We mainly searched six databases from their inception to October 9, 2014. The search terms were "cirrhosis", "hepatitis B", "compensat*", "traditional Chinese medicine" and "herbal medicine" in English or Chinese. We included randomized controlled trials (RCTs) and quasi-RCTs. Trials involving HBV-related compensated participants received NAs and NAs plus CHM were included. The liver fibrosis biomarkers (LFsB) were the primary outcomes and the liver function biomarkers (LFcB), liver stiffness (LS), quality of life (QL) and adverse events were the secondary outcomes. According to the Cochrane risk of bias criteria, we assessed the methodological quality of the included trials. According to

the CHM, we did subgroup analyses. We would do sensitivity analyses when outlier results were found.

Results: 45 trials including 3497 participants were included. The quality of most of the trials was moderate and low. Three comparisons were included. The level of HA, LN, PCIII, IV-C, ALT, AST, TBiL could be reduced in all the comparisons. However, for ALB, two comparisons (CHM plus LAM versus LAM and CHM plus ETV versus ETV) showed the combined treatment could improve the level of ALB. The comparison of CHM plus ADV versus ADV suggested no significant difference in improving it (pooled MD-0.32; 95% CI [-1.20, 0.57]; P<0.00001; I²=91%). For the level of LS, the combined treatment was better in decreasing it. No trial evaluated QL and reported severe adverse events.

Conclusion: CHM plus NAs might have potential advantages in improving LFsB, LFcB and LS. However, considering the quality of the trials included, the conclusion should be given with caution and more standardized RCTs were needed. (Supported by the 973 Program of 2011CB505105.).

Contact: Tianfang Wang, tianfangwang2000@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.246>

P5.020

Analysis of the Co-occurrence of Accupoints and Pathologies Documented in the Classical Acupuncture Literature



Junho Oh

Korea Institute of Oriental Medicine (KIOM)

Purpose: This study aims to analyze the co-occurrence of pathological symptoms and corresponding acupoints as documented by the comprehensive acupuncture and moxibustion records in the classical texts of Far East traditional medicine as an aid to a more efficient understanding of the tacit treatment principles of ancient physicians.

Methods: The Classic of Supporting Life with Acupuncture and Moxibustion (Zhenjiu Zisheng Jing; hereinafter ZZJ), which contains the largest amount of treatment cases and left a strong impact on the Far East medical history, was selected as the primary reference book for the analysis. ZZJ was first digitized and co-occurring pathology-acupoint pairs were extracted and preprocessed into an analyzable format. The pathology-acupoint co-occurrence analysis was performed by applying 5 values of set-theoretic measures (weighted Euclidean distance, Canberra distance, Euclidean distance, chi-squared distance, and Jaccard similarity), which measure the distance between the observed and expected co-occurrence counts, and 2 values of probabilistic measures (association strength and Fisher's exact test), which measure the probability of observed co-occurrences. The analysis results were used for a prediction simulation in order to measure and compare the extent to which pathologies can be predicted from acupoints.

Results: The treatment records contained in ZZJ were preprocessed, which yielded 4162 pathology-acupoint sets. Co-occurrence was performed applying 7 different analysis variables, followed by a prediction simulation. The prediction simulation results revealed the weighted Euclidean distance

had the highest prediction rate with 24.31%, followed by Canberra distance (23.14%) and association strength (21.29%).

Conclusion: The weighted Euclidean distance among the set-theoretic measures and the association strength among the probabilistic measures were verified to be the most efficient analysis methods in analyzing the correlation between acupoints and pathologies found in the classical medical texts.

Contact: Junho Oh, junho@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.247>

P5.021

Spatial patterns of indications of acupuncture points: Possible visualization of the meridian system



Wonmo Jung, Younbyoung Chae

Acupuncture and Meridian Science Research Center, Kyung Hee University

Purpose: Indications of acupoints have been considered to be highly associated with the line of the meridian system. Using data mining methods, we aimed to analyze the characteristics of indications of each acupoint and visualize the associations between acupoints and diseases sites from the classical medical text ChimGuGyungHumBang in Korean Medicine.

Methods: Using a term frequency-inverse document frequency (tf-idf) method, we extracted valuable information on indications of each acupoint based on the co-occurrence frequencies data between 11 acupoints and 19 disease sites throughout the book. We also visualized the spatial patterns of indications of each acupoint on the body map based on the tf-idf value.

Results: We found that each acupoint in the different meridian exhibited different patterns of constellations of disease sites. Spatial patterns of indication of each acupoint were highly associated with the route of the corresponding meridian from ancient Diagram of Meridians and Collaterals.

Conclusion: We demonstrated that the information on indications of each acupoint is mainly associated with the corresponding meridian system. Our findings suggest that the route of the meridian have clinical implications for telling us the constellations of indications of acupoints.

Contact: Wonmo Jung, croquies@naver.com

<http://dx.doi.org/10.1016/j.imr.2015.04.249>

P5.023

Exploratory Structural Analysis on Formulation in 『Wenbingtiaobian(溫病條辨)』 by Network Analysis



Jisun Han¹, Young-Bae Park²,
Young-Jae Park², Hyunho Kim²

¹ Kyung Hee University Korean Medicine Hospital

² Kyung Hee University

Purpose: By using network analysis, the purpose of this study is to analyse whether the prescription grouping is well-divided according to three disease process, upper/middle/lower energizer, and warming-heat/dampness-heat which treatment method is differentiated with clearing method and warming method.

Methods: We separated prescriptions in 『Wenbingtiaobian(溫病條辨)』 into upper/middle/lower energizer process and warming-heat/dampness-heat division. Netminer, one of the network analysis program, is utilized to analyze each structure. Glycyrrhiza uralensis is applicated widely for harmonizing other herbs. According to our judgement, Glycyrrhiza uralensis is not main herb that influences the treatment method, so Glycyrrhiza uralensis is ruled out at the analysis.

Results: As a result of analysis following disease process of upper/middle/lower energizer, there is not definite division but somewhat tendency. As a result of analysis following warming-heat/dampness-heat division, there is not definite division in upper energizer, but there is comparatively definite division in middle/lower energizer.

Conclusion: For the consequence of network analysis of prescriptions in 『Wenbingtiaobian(溫病條辨)』, the prescriptions are not made up quite separately for upper/middle/lower energizer process and it means there are some herbs that used in 『Wenbingtiaobian(溫病條辨)』 commonly throughout upper/middle/lower energizer. At warming-heat/dampness-heat division, as well as there is different treatment method clearing method and warming method, prescriptions are made up more separately.

Contact: Jisun Han, skysiere@daum.net

<http://dx.doi.org/10.1016/j.imr.2015.04.250>

P5.024

Monitoring across sites - An example of the TEA IS CHAI (Tennis Elbow Acupuncture-International Study)



Christopher Zaslowski¹, Zhang Shi Ping²,
Marcus Gadau², Christine Berle¹,
Weihong Li¹, Sergio Bengrazi³,
Wang Fuchun⁴

¹ University of Technology Sydney

² Hong Kong Baptist University

³ Istituto Paracelso

⁴ Changchun University of Chinese Medicine

Purpose: Multisite studies are not commonly used for acupuncture research, especially international studies that involve international partners. This presentation looks at a recent example of monitoring multiple international sites in a randomised controlled trial of acupuncture for the treatment of lateral elbow pain.

Methods: The use of technologies allows a unique way to record, upload and evaluate procedures required to be standardised to ensure common protocols and procedures.

Results: A review of this novel approach to trial monitoring showed some effective strategies using cloud and digital technologies but also some problems.

Conclusion: International multisite clinical trials should consider the use of emerging technologies such as digital clouds to monitor compliance with protocols and standardisation of procedures.

Contact: Christopher Zaslowski, Chris.Zaslowski@uts.edu.au

<http://dx.doi.org/10.1016/j.imr.2015.04.251>

P5.025

Delphi study for developing consensus of physical attribute in pressure pulse waveform and preliminary study of its next study



Haebeom Lee¹, Hyunho Kim¹,
Jong Yeol Kim², Young-Jae Park¹,
Young-Bae Park¹

¹ Kyung Hee University

² Korea Institute of Oriental Medicine

Purpose: The physical characteristics of pulse condition are little different from each Classics, yet unknown which is majority opinion. This study is designed to drive consensus about physical attributes of pressure pulse waveform and pulse condition.

Methods: Delphi research is an interactive technique to converge experts' knowledge or opinion toward the correct answer. We apply Delphi research to derive consensus of physical attributes of pressure pulse waveform and pulse condition.

Results: The CVR of question items in period, width, irregularity, and expression about power of pulse waveform on the Classics were over 0.75, other items were below 0.75

The items about depth, length were decided into consensus items. The agreement proportion on physical attribute about 浮脈, 沈脈, 遲脈, 數脈, 促脈, 結脈 was over 83%, but 洪脈, 細脈, 虛脈, 實脈 was not.

Conclusion: To derive and collect consensus about physical attributes of pressure pulse waveform and pulse condition, we apply Delphi method with 8 professors in the Society of Korean Medicine Diagnostics. High CVR items were period, width, irregularity, and power. The physical attributes of 浮脈, 沈脈, 遲脈, 數脈, 促脈, 結脈 were converged into consensus. We decide to study 滑脈, 澀脈, 弦脈, 緊脈, 緩脈 for the further study. Because these could have next simple physical attributes from the rest of 28 pulse conditions.

[Acknowledgment] This research was supported by a grant(code #K15023) from Korea Institute of Oriental Medicine.

Contact: Haebeom Lee, haebeom.lee@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.252>

P5.026

Green tea for prevention of digestive tract cancer: an updated evidence summary of randomized and non-randomized studies



Xun Li¹, Jun Ren¹, Ying Zhang¹,
Guoyan Yang¹, Barbara Wider²,
Jiangping Liu^{1,*}

¹ Centre for Evidence-Based Chinese Medicine,
Beijing University of Chinese Medicine

² Institute of Health Research, University of Exeter
Medical School

Purpose: To systematically summarize the current evidence of green tea's beneficial or harmful effects in preventing digestive tract cancers from clinical studies or population-based observations.

Methods: Based on the systematic reviews from the updated electronic searching (Medline, Cochrane DSR and Cochrane Central, from October 2011 to August 2013) for the Evidence Summary of "Green tea (*Camellia sinensis*)" for the CAM-Cancer Summary (<http://www.cam-cancer.org/>), we collected and identified all the clinical trials and population-based observational studies, including cohort studies and case control studies, related to the impact of green tea consumption in the incidence of digestive tract cancers. Totally 29.4% (5/17) of cohort and 6.7% of (26/39) case control studies reported an inverse association between green tea consumption and cancer incidence. The largest study was a prospective cohort study about green tea consumption and pancreas cancer with sample size of 102137 conducted in Japan between 1992-2003, in which no association was found.

Results: We identified 3 randomized controlled trials, 17 cohort studies and 39 case control studies related to 9 types of cancers published from 1985 to 2012 in 8 countries. Inverse, none and positive association between (high consumption of) green tea and cancer incidence was reported in 34, 21 and 4 studies, respectively. More studies were published after 1995, and most of the prospective cohort studies were conducted between 1995 and 2005. Three randomized controlled trials

reported inverse association between green tea extract with progress of cancer progress compared with placebo.

Conclusion: The association direction of green tea consumption and cancer incidence is diverse with regards to study types, countries and cancer types. There seems to be a decrease in large number of population-based observational studies after the year 2008.

Contact: Xun Li, tina000341@163.com

Corresponding Author: Jiangping Liu (Centre for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine), jianping.l@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.253>

P5.027

Research on Korean medicine doctors' decision-making on diagnosis and selection of acupoints



Hi-Joon Park¹, Sanhwa Hong¹,
Jae-Woo Park², Seok-Jae Ko², Song-Yi Kim¹,
Hyangsook Lee¹, Seul-Gi Kim²,
Ji-Yeun Park¹, Younbyoung Chae¹,
Hyejung Lee³

¹ Acupuncture and Meridian Science Research Center

² Department of Gastroenterology, College of Korean Medicine, Kyung Hee University

³ Korea Institute of Oriental Medicine

Purpose: Clinical research of acupuncture has been criticized for not reflecting the real-world practice in terms of diagnosis and intervention. In this regard, new methods are required for practice-based clinical research. So we tried to collect data on principles of diagnosis and selection of acupoints from Korean medicine doctors (KMDs), and analyzed patterns and priorities in decision-making.

Methods: A functional dyspepsia (FD) patient according to Rome III criteria visited Gangdong Kyung Hee University hospital, and a KMD specialized in gastrointestinal disorders collected the symptoms and clinical information as objective as possible. One hundred KMDs in Seoul and Gyunggi areas were recruited and were asked to diagnose a patient played by trained researchers based on the real patient's clinical information as much similar as they do in their clinics. After diagnostic procedures were completed, the pattern identifications, acupoints selected, and the reasons why they chose them were interviewed. The importance of symptoms for deciding their diagnoses were asked as well.

Results: The information needed are clearly distinguishable from that is routinely asked in western medicine: a fecal status, an abdominal examination, an appetite, a pulse diagnosis, a tongue diagnosis were listed as the most important information. The doctors identified the patient's pattern as 'liver-qi invading the stomach', 'dual deficiency of the heart and spleen', or 'phlegm-fluid retention'. Acupoint CV12, LI4, LR3, ST36 and PC6 were the most frequently selected acupoints.

Conclusion: These results can provide the useful information to design clinical research reflecting real-world practice,

which might be much helpful for the patients, practitioners, and health policy makers.

Contact: Hi-Joon Park, acufind@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.254>

P5.028

Do social networks strengthen or weaken the application of complementary and alternative medicine in communities? A systematic review



Ying Zhang¹, Ning Ji², Jianping Liu¹

¹ Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Beijing, China

² National Center for Chronic and Noncommunicable Disease Control and Prevention, China CDC, Beijing

Purpose: The application of Complementary and Alternative Medicine (CAM) in communities is promising as more and more its efficacies and effectiveness have been confirmed by RCTs (Randomized Controlled Trials). While unexceptionally, CAMs' generalization in communities will meet the same difficulties as other public education interventions. And, their effects could be influenced by various factors, including demographic, social economic status of residents and the characteristics of communities. The type and capacity of social network were found to be highly associated with the above factors in many literatures, our review aimed to find whether social network could influence public health education.

Methods: A systematic literature search of three computerized databases was conducted from their date of inception onwards. Research papers which presented evidences on associations between social network and effects evaluation of health education programs were included this review.

Results: Totally, 606 articles were identified. After reading titles and abstracts, 39 articles were kept and others were excluded because they were duplicates, reviews, or their objectives different from this review. 9 of surveys indicated that the communities which have social network with highly centrality will speed up the process of spread health information in population. 30 literatures found several decentrality characters of social network, such as lack of communication, high mobility and low level of trust were negative influencing factors to effects of health education.

Conclusion: There were notable evidences for the role of social networks in existing studies. Social network can not only be applied in analyzing interpersonal relationships in twitter or facebook website, but also in planning and implementing CAM programs in communities. For Traditional Chinese Medicine (TCM), such as Taichi, Qigong and TCM health preserving; for other CAMs, such as Yoga, meditation and music nursing, could be generalized and popularized in communities to clarify misunderstandings on CAMs in public and promote public health level.

Contact: Ying Zhang, novelzhang@sina.com

<http://dx.doi.org/10.1016/j.imr.2015.04.255>

P5.029

The quality of clinical practice guidelines in traditional medicine in Korea: appraisal using the AGREE II instrument



Jiae Choi, Tae-Young Choi, Ju Ah Lee,
Ji Hee Jun, Myeong Soo Lee

Korea Institute of Oriental Medicine

Purpose: This study aimed to investigate the current Clinical Practice Guidelines (CPGs) in traditional medicine (TM) through evaluating the evidence-based CPGs in TM using the Appraisal of Guidelines for Research and Evaluation (AGREE) II instrument and to identify their quality to further enhance the development and revision of CPGs.

Methods: A search was performed for guidelines in Korean from inception until March 2014 in the major Korean guideline websites [the Korean Medical Guideline Information Centre (KoMGI), the Korean Guideline Clearing House (KGC)], PubMed and seven Korean electronic databases; the Association of Korean Oriental Medicine (AKOM) was also consulted. Five independent assessors rated the quality of each CPG using the AGREE II instrument and calculated the mean score of each AGREE item. The overall agreement amongst reviewers was evaluated using the intra-class correlation coefficient (ICC).

Results: We first examined 17 CPGs for TM in Korean, and only eight CPGs were consistent with the original aim of the CPGs based on an underlying systematic review of the evidence. The mean scores for each AGREE II domain were as follows: 1) scope and purpose, 60.0% (range: 45.56–83.33%); 2) stakeholder involvement, 56.11% (36.67–76.67%); 3) rigour of development, 42.7% (18.33–70.0%); 4) clarity and presentation, 62.50% (44.44–81.11%); 5) applicability, 20.31% (12.5–30.83%); and 6) editorial independence, 44.58% (1.67–93.33%). All of the CPGs were rated as “recommended with provisos or modifications”. The ICC values for CPG appraisal using the AGREE II ranged from 0.230 to 0.993.

Conclusion: The quality of CPGs for TM in Korea has remained suboptimal according to the AGREE II Instrument evaluation. Therefore, guideline developers in Korea should make more of an effort to ensure high quality CPGs.

Contact: Jiae Choi, ksjae@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.256>

P5.030

A systematic review and meta-analysis for the effectiveness and safety of using acupoint Shui Gou (GV26)



Xiao-Yang Hu¹, Esme Trevelyan¹,
Qian-Yun Chai², Cong-Cong Wang²,
Yu-Tong Fei², Jian-Ping Liu²,
Nicola Robinson¹

¹ London South Bank University

² Beijing University of Chinese Medicine

Purpose: This systematic review evaluates the effectiveness and occurrence of adverse effects of using GV26 for a

variety conditions; and to determine the appropriate parameters to inform its use in practice as an emergency and a revival acupoint.

Methods: Twelve databases were searched from inception to Oct 2013. Randomized controlled trials evaluating stimulation of GV26 as a sole or as an adjunct to treatment for any condition were included. Quality of reporting and methodology was assessed using STRICTA and the Cochrane risk of bias tool. Meta-analysis was pooled with RevMan 5.2 software (Protocol ID: CRD42013006528).

Results: Fifteen trials with 1590 patients were included. Conditions investigated included shock, epilepsy, vascular dementia, febrile seizures in children, post general anaesthesia, acute low back strain, functional enuresis, and intractable hiccups. The reporting quality and methodological quality of all included trials was limited. Data from eleven trials were pooled. Significant favourable improvements were shown for GV26 used in addition to other common acupoints as measured by efficacy rate (RR 1.07, 95% CI [1.00, 1.14]; I²=5%); GV26 in addition to usual care increased systolic blood pressure (MD 6.09, 95% CI [3.57, 8.60]; I²=49%); and increased in diastolic blood pressure (MD 8.60, 95% CI [6.10, 11.09]; I²=12%). No study reported any adverse effects.

Conclusion: There appears to be evidence on the use of GV26 on improving efficacy rate in ALBS, functional enuresis and in tractable hiccups, and it appears to be effective in increasing blood pressure, reducing heart rate during revival. However, the findings should be interpreted with caution due to the limited methodological quality of included trials. More rigorous trials with good methodological design and strict reporting of clinical effectiveness and adverse effects of GV26 are warranted.

Contact: Xiao-Yang Hu, hux2@lsbu.ac.uk / Nicola Robinson, nicky.robinson@lsbu.ac.uk

* The abstract was admitted to and published in *Acupuncture and Related Therapies* Volume 3, Issue 1, February 2015, Pages 1–10.

<http://dx.doi.org/10.1016/j.imr.2015.04.257>

OTHER

P6.001

A Qualitative Study of Chinese Medical Psychology in China: Implications for Translation Beyond China



Sonya Pritzker

UCLA Department of Medicine

Purpose: The purpose of this anthropological study was to examine the development of innovative forms of psychological care in Chinese medicine in China, and to assess the “translatability” of such forms to integrative contexts in other parts of the world.

Methods: This anthropological study utilized an ethnographic approach involving participant observation, video-recording of doctor-patient interactions and treatments, and interviews with both doctors and patients in the psychology

department of a large Chinese medical hospital in Beijing, China.

Results: Results demonstrated that Chinese medical psychology is a developing field that draws upon psychotherapy, psychiatry, biomedicine, and Chinese medicine in order to treat various forms of psychological suffering in China. Results also reveal that the experience and treatment of psychological suffering in China is highly contingent upon unique socioeconomic and cultural circumstances, including traditional ideals of the self and their conflict with the demands of contemporary social structures as well as unique practice environments and the freedom of physicians to expand their scope of practice in China.

Conclusion: In order to translate contemporary forms of Chinese medical psychology into integrative contexts outside of China, it is critical to take cultural, legal, and ethical factors into account. For example, licensing requirements in certain countries may preclude the practice of Chinese medical psychology in its full form by acupuncturists and other practitioners outside of China. Likewise, specific techniques used in Chinese medical psychology may not be culturally or ethically appropriate in other settings. These challenges are not unique to translating Chinese medical psychology, and much can be learned from ways in which general Chinese medicine has been translated in other countries. However, because of the particularly sensitive nature of psychological treatment, the translation of Chinese medical psychology warrants special consideration.

Contact: Sonya Pritzker, spritzker@mednet.ucla.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.258>

P6.002

Analysis of Ginseng Research Trend for last decade



Kang Seung Hyun, Lee EunJin

Korea Institute of Oriental Medicine

Purpose: Analysis of research trends for increasing R&D investment efficiency has become more important nowadays, and Network analysis has been used as a new indicator for Science & Technology. At the same time, as ‘Ginseng seeds and seedlings’ were registered on International Standards, importance of ginseng and ginseng research became much higher than ever before. For this reason, this report will analyze the trend of ginseng research and predict further policy and research direction.

Methods: By using Web of Science DB, we have been done descriptive statistical analysis and network analysis for last decade ginseng research.

Results: Korea got the highest paper published share, accounting for 32%, and second highest was china (24%). Kyung Hee University in South Korea performed the ginseng research the most (284), and the most studied areas was Pharmacology & Pharmacy (6.34%). The journal, submitted the most ginseng research, was JOURNAL OF GINSENG RESEARCH (216). By analyzing the country network between authors who involved in the paper, US showed 0.3913, Korea and China showed 0.3478 in the link centrality, suggesting that these

countries are located in the center of the network. And the network analysis of research institutions presented that the network focused on Kyung Hee University and Konkuk University, and the network focused on Jilin University and Tianjin University are formed.

Conclusion: Analysis results demonstrate that ginseng research was mainly conducted as the joint research study within the domestic institutions of each country. Therefore this paper can help to present a desirable policy orientation for the development of traditional medicine; promotion of international cooperative research on ginseng. This will contribute to improving the quality of health of the people through traditional medicine.

Contact: Kang Seung Hyun, elekang@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.259>

P6.003

A Bibliometric Analysis of Journals on Traditional Korean Medicine



Sang-Jun Yea, Chul Kim, Young-Eun Kim, BoSeok Seong

Korea Institute of Oriental Medicine

Purpose: This paper aims to gather and analyze quantitatively information on TKM journals and to compare it with analysis research on TCM journals.

Methods: TKM journals published periodically for the past two years in Korea were confirmed through Korea's journals lists, lists of magazines subscribed to by colleges of TKM, and database services specializing in journals. Thus, the titles of such journals, publishers, ISSN, publication periods, first publication years, languages, and scopes as well as the registration of such journals with domestic and overseas journals databases and availability of full text were surveyed and analyzed quantitatively.

Results: A total of 44 TKM journals were found to meet the journal selection condition of this study, 35 (79.5%) of which were journals published by academic societies and 9 (20.5%) by colleges of TKM and their annexed research centers. For TKM journals' launching periods, 16 (36.4%) were launched in the 1990s, followed by 15 (34.1%) in 2000s. At least 16 (36.4%) journals were published once a year, followed by 13 (29.5%) published 4 times a year. A total of 42 journals were published in Korean, and only 2 were published in English. Regarding the scope of TKM journals, 16 (36.4%) concerned the TKM fundamental theory, followed by 10 (22.7%) dealing with TKM departments and 9 (20.5%) with TKM clinical science.

Conclusion: TKM journals began to be launched in earnest in the 1990s, covering diverse subjects. A number of TKM journals were evaluated as excellent by Korea's journal rating system; to promote them internationally, however, they should be published in English and registered with international index databases. Therefore, TKM academic societies should make efforts toward that end.

Contact: Sang-Jun Yea, tomita@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.260>

P6.004

Study on the Awareness of the Traditional Korean Medicine for the Preparation of Globalization



Yunhui Baek, Sunghwan Son, Byunghee Choi

Korea Institute of Oriental Medicine

Purpose: “Traditional Korean Medicine”(TKM) has been managed in Korea government healthcare system. The excellence and distinctiveness of TKM is recognized by the international community, and listed in the 2009 UNESCO World Heritage Site. In this study, we will see how many foreigners know about TKM by characteristics of the respondents.

Methods: For research, we developed a self administered questionnaire. The survey was conducted to 105 people who participated 2014 The International Research Congress on Integrative Medicine and Health(2014.5). Among these questionnaires, we used only 100, except that has not been filled in. The questionnaires are composed of awareness of TKM, TM holds nations, TM method of treatment and general characteristic of the respondents (gender, nationality, age etc). To measure TKM awareness by general characteristic of the respondents, we used descriptive statistics and chi-square test technique.

Results: 67% of the respondents were female, 55% are American, 12% are Chinese, 8% are Japanese and the rest of them are from Europe or Australia etc. 21% to 25% of respondents age was in twenties and fifties. More than half of the respondents have heard of TKM. Among them male respondents were 60.6% higher than female, and the ratio of Asian is higher than other regions. The older responders are, the higher awareness of TKM they have.

Conclusion: TKM has been managed by national health care system and systematically formulated. More than half of the international community aware of the TKM, especially the country where has similar culture and close in geographical distance. As the excellence and distinctiveness of TKM were recognized by the international community, Korea government and relevant organizations have to do their best to promote TKM internationally.

Contact: Yunhui Baek, yunhui11@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.261>

P6.005

Research trends on the effect of laser acupuncture on Heart Rate Variability



Soojin Lee¹, Jeong Eun Huh²

¹ Sangji University

² Kyunghee University

Purpose: The aim of this study was to analyze the effects of laser acupuncture therapy on heart rate variability (HRV) and autonomic nervous system. Laser acupuncture therapy is a treatment method which integrates acupuncture and herbal medicines, so it can improve clinical efficacy in Korean traditional medicine.

Methods: Literature search related to laser acupuncture and HRV has been conducted using PubMed and 4 Korean databases; RISS, NDSL, KISS and OASIS. The search terms used were [laser acupuncture OR laser acupoint OR laser therapy] AND [heart rate variability OR HRV] and Korean language terms for “laser acupuncture” AND “heart rate variability”. Among 30 studies, after excluding 3 studies not written in English or Korean and 11 studies not related HRV or laser acupuncture, finally 16 studies were selected for this study.

Results: Thirteen studies were focused on the effect of laser treatment on the acupoints, 2 studies investigated the effect of transcutaneous laser irradiation and 1 study was checked the effect of intravenous blood laser irradiation. Fourteen studies conducted clinical trials with healthy volunteers and 4 studies carried out animal studies to investigate the effect of laser treatment. The acupoints used for studies were various; PC6, GV20, HT7, HT8, Liv3, LI4, LI11, BL21, ST36 and so on.

Conclusion: The effects of various acupoints on neurovegetative system were diverse depending on the type of laser, acupoints, subjects and research plans therefore it is not simple to decide the effect of laser treatment on autonomic nervous system. However, the irradiation on PC6 acupoint has showed the increase of vagal activity and the suppression of cardiac sympathetic function in many cases. And HT7 acupoint also exhibited the possibility to regulate the alternation of autonomic nervous system due to mental stress.

Contact: Soojin Lee, jinlee@sangji.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.262>

P6.006

Development of Ultrasound System for Substituting the Heat-Stimulus of Moxibustion



Gwansuk Kang¹, Jeong-hwa Yang²,
Dong Hyun Kim¹, Min Joo Choi¹

¹ Jeju National University

² Cheju Halla University

Purpose: In this paper, ultrasound stimulation system was designed to substitute the heat effect of moxibustion.

Methods: we developed the ultrasound stimulation system for effective heat transfer in phantom. Ultrasound stimulation system consists of probe and ultrasound control part. For the designed stimulus system, we measured the temperature distribution on surface and deep(5, 10, 15, 20 mm) area of phantom during moxibustion. A stimulation was designed by controlling the on/off duty ratio, repeating number, and energy of applied pulse to get the temperature distribution similar with that by moxibustion.

Results: The proposed system showed that it is more effective than moxibustion in transferring heat effect in such a deep part.

Conclusion: Also, it shows the possibility of usefulness of ultrasound stimulation system.

Contact: Gwansuk Kang, cybersys@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.263>

P6.007

Investigation of indole alkaloids in *Bignonia capreolata*Trevor Clark¹, Kaleb Lund²¹ Bastyr University Research Institute² Bastyr University

Purpose: *Bignonia capreolata* is a perennial semi-evergreen vine from the Eastern US that was used as medicine by the Native Americans but has since fallen out of use. The aim of this analysis was to 1) verify the presence of the indole alkaloid reserpine in *B. capreolata*; and 2) if verified, generate an alkaloid rich fraction of *B. capreolata* to more accurately identify and quantify reserpine.

Methods: Initial confirmation of the presence of reserpine was performed using high performance liquid chromatography referenced with an analytical standard of reserpine. The alkaloid rich fraction was then tested via liquid chromatography and mass spectrometry.

Results: The presence of reserpine in *B. capreolata* has been confirmed and found to be 49 µg per gram of leaf.

Conclusion: This is the only known plant outside of the Apocynaceae plant family to contain this indole alkaloid.

Contact: Trevor Clark, tclark@bastyr.edu

<http://dx.doi.org/10.1016/j.imr.2015.04.264>

P6.008

The Analysis of Research Trend on Forest Therapy in the Korean JournalSOOHYUN SUNG¹, Jong-Hyun Park², Young-Joon Lee², Chang-Hyun Han¹¹ Korea Institute of Oriental Medicine² Dae-Gu Haany University

Purpose: The purpose of this study is to understand the research trend of reports on forest therapy so far and analyze the Korean medicine therapy being applied in forest therapy programs.

Methods: We ran a keyword search on domestic databases with the following keyword 'forest therapy, forest healing, forest treatment, recreational forest, forest bath, forest experience'. The search took place in December 2014 and there was no limit to search time. A total of 334 forest therapy articles have been selected.

Results: The number of research on forest therapy continued to rise from 1985, with 334 articles being published from 84 journals. When those 188 articles were sorted by their contents and methods, except 146 articles of survey on simple satisfaction, recognition and visting, 94 were clinical studies, 79 were literature studies, 15 were experimental studies. Of the 94 clinical researches, there were 52 CCTs(Conrolled Clinical Trials), 39 ODs(efficacy studies with either a controlled or an Other than controlled Design) and 3 RCTs(Randomized Clinical Trials). Among the clinical researches, there were a total of 21 studies that used Korean Medicine programs, and meditation was the most popular, being used in 18 studies. Herbal food

and tea therapy and Qigong were used in 3 studies each, and Korean medicine music programs were used in 2 studies.

Conclusion: A systematic and standardized Korean medicine forest therapy program must be developed, and based on the program, more research treating diseases should be conducted.

Contact: SOOHYUN SUNG, koyote10010@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.265>

P6.009

Prescription patterns of individual herbs of traditional herbal medicine in Korea: An analysis of patients' data from a national university EMR recordByung-Cheul Shin¹, Byung-Wook Lee², Hyun-Woo Cho³, Eui-Hyoung Hwang³, Hyeon-Yeop Lee³, Man-Suk Hwang³, In Heo³, Kwang-Ho Heo³¹ School of Korean Medicine, Pusan National University² Donggook University³ Pusan National University

Purpose: To analyzing the tendencies of individual use of herbs for various diseases in real medical circumstances and the results as fundamental data for the standardization of herbal medicine.

Methods: The prescription database of all patients in the PNUKM Hospital was reviewed. The complete prescription data were extracted using the EMR system. The prescription frequencies of individual herbs and of major herbs were analyzed according to gender, age, and the ICD codes.

Results: For the prescription frequency of individual herbs (*Glycyrrhizae radix*, *Zingiberisrhizomacrudus*, *Citripericarpium*, *Poria*, and *Angelicaegigantis radix*) and of major herbs (*Zingiberisrhizomacrudus*, *rehmanniae radix preparat*, *pueraiae radix*, *Angelicaegigantis radix*, and *astragali radix*) were highly ranked based on overall age and gender. The prescription frequency of individual herbs, including *Glycyrrhizae radix*, *Zingiberisrhizomacrudus*, *Poria*, *Citripericarpium*, and *Angelicaegigantis radix*, showed up in the overall ICD codes. The ratio of herbal medicine by gender showed different usage patterns in each gender.

Conclusion: This study reported on the prescription tendencies of individual herbs in accordance with age, gender, and disease conditions in two methods: a simple frequency of individual herbs in prescriptions and the frequencies of herbs used as a major herb.

Contact: Byung-Cheul Shin, drshinbc@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.266>

P6.010

Recent research trends of electrical, magnetic, optical and acoustic stimulations at acupoints; a literature review



Min-Ho Jun, Young-Min Kim, Jaek U. Kim

Korea Institute of Oriental Medicine

Purpose: In parallel with the growing popularity of the clinical practice of acupuncture, research on modern acupuncture-like stimulation devices (ASDs) has been increasing in recent decades. To summarize the research on the four most popular ASDs, which are based on electrical, magnetic, laser and ultrasonic stimulations, with a focus on their effectiveness in human beings.

Methods: We analyzed papers from several medical electronic databases, including Medline, PubMed, the Cochrane Library, and Web of Science. Studies with all types of design and clinical indications that were performed with human subjects and written in English were included. We excluded papers that contained clinical experiments on animals and manual acupuncture techniques, and we also excluded review papers.

Results: A total of 728 studies were found, and 195 studies met our inclusion criteria. The 195 studies were included the 4 types of stimulation methods: 133 studies with electric stimulation (ES), 44 studies with laser stimulation (LS), 16 studies with magnetic stimulation (MS), and 2 studies with ultrasonic stimulation (US). These 4 types of stimulation can be further classified into 13 categories according to their effects. Of these studies, 181 reported therapeutic benefits. A total of 114 studies (58%) used random clinical trials (RCTs), and 109 studies (96%) reported therapeutic benefits among the RCTs.

Conclusion: For the first time, we reviewed the therapeutic effects of the four most popular ASDs which are ES, LS, MS and US. We found that the ES technique was the earliest modern application and the most widely studied among ASDs, and was followed by LS, MS and US. The majority of the studies (32%) focused on the effects of analgesia and pain relief, and brain activity (16%) was an emerging research field. We expect noninvasive or minimally invasive ASDs will become more popular in the acupuncture research due to safety, infection, and convenience.

Contact: Min-Ho Jun, mino@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.267>

P6.011

A Linked Data in Korean Medicine



Sang-Kyun Kim, Anna Kim, Hyunchul Jang

Korea Institute of Oriental Medicine

Purpose: Linked data is a method of publishing and sharing pieces of data, information, and knowledge on the Web using Semantic Web technologies such as URI, RDF, and HTTP. To share Korean medicine knowledge on the Web, first of all, information on Korean medicine is required to be linked with that on other domains. The aim of this study is to construct

a linked data in Korean medicine so that Korean medicine knowledge can be published and shared on the Web.

Methods: Information on medicinal materials in Korean medicine is constructed using ontology. Each medicinal material has scientific names, category names, family names, using parts, meridian entries, natures, flavors, toxicities, effects, treatments, and contraindications. All entities are identified with URIs and linked each other using RDF. In particular, scientific names are linked to taxonomy IDs, provided in NCBI.

Results: An ontology for about 800 medicinal materials is constructed. This ontology is also registered in Datahub, where users can publish and share their datasets. In our ontology, 2,119 scientific names are linked to other datasets with bioportal-ncbitaxon namespace. Our linked data can be queried using SPARQL and also downloaded as RDF/XML files in Datahub.

Conclusion: With the recent rising interest in Semantic Web, many people try to construct and publish information as linked data. To share Korean medicine knowledge with other domains on the Web, interlinking between each domain is required. In the future, we plan to link more information on our ontology to other datasets.

Contact: Sang-Kyun Kim, skkim@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.268>

P6.012

Applications on traditional Chinese prescription and medicine of the “spleen stomach damp-heat syndrome” based on modern literature research



Xiuyan Wu, Lulu Liu, Tianfang Wang

School of Preclinical Medicine, Beijing University of Chinese Medicine

Purpose: Analyze the status and regular pattern on the usage of traditional Chinese prescription and medicine of the “spleen stomach damp-heat syndrome” in the modern literature.

Methods: Taking “spleen stomach damp-heat syndrome” as subject term or title/keyword, the databases of China National Knowledge Infrastructure(CNKI), Wanfang Data Knowledge Service Platform and VIP Information were systematically retrieved for collecting related literature before 2014, the related data was given descriptive and statistical analysis by using Excel software.

Results: 1. The results about application of traditional Chinese prescription of the “spleen stomach damp-heat syndrome”: The classic ancient Chinese medicine prescriptions accounted for 49%, clinical experience prescription of famous old doctor of Traditional Chinese Medicine in the modern, the clinician’s self prescription and hospital preparation accounted for 51%; The most commonly traditional Chinese prescriptions are “Pinellia Heart- Purging Decoction (Banxia Xiexin Tang)”, “Three-Nut Decoction (Sanren Tang)”, “Coptis and Clearing Gallbladder-Heat Decoction (Huanglian Wendan Tang)” and “Calming the Stomach Powder (Pingwei San)”, and so on. 2. The usage of the frequency in the top 14 of traditional Chinese medicine are Huanglian (rhizoma coptidis),

Banxia (rhizoma pinelliae), Houpu (cortex magnoliae officinalis), Gancao (radix glycyrrhizae), Chenpi (pericarpium citri reticulatae), Huangqin (radix scutellariae), Fuling (poria), Pugongying (herba taraxaci), Huoxiang (herba pogostemonis), Cangzhu (rhizoma atractylodis), Yiyiren (semen coicis), Baidoukou (fructus amomi rotundus), Baizhu (rhizoma atractylodis macrocephalae) and Zhiqiao (fructus aurantii). 3. The "spleen stomach damp-heat syndrome" is most common in digestive system diseases, its ratio has reached 75%.

Conclusion: At this stage, the classic ancient Chinese medicine prescription is still the backbone in the treatment of the "spleen stomach damp-heat syndrome", but clinical experience prescription of famous old doctor of Traditional Chinese Medicine in the modern and hospital preparation are showing a rising trend; The clinical disease of spleen stomach damp-heat syndrome is most common in digestive system diseases, but the other system diseases can also not be ignored. This work is supported by 973 pragramme (2011CB505105) and NNSF(No.81302915).

Contact: Xiuyan Wu, wuxiuy@163.com

Corresponding Author: Xiuyan Wu (School of Pre-clinical Medicine, Beijing University of Chinese Medicine), wuxiuy@163.com

<http://dx.doi.org/10.1016/j.imr.2015.04.269>

P6.013

The Effect of Tai Chi for Patients with Type 2 Diabetes - Analysis According to the Styles of Tai Chi Considering the Intensity: Systematic Review



Eui-Hyoung Hwang, Hyeon-Yeop Lee,
Byung-Cheul Shin, Kwang-Ho Heo,
Man-Suk Hwang, In Heo, Byung-Jun Kim

Pusan National University Korean Medicine
Hospital

Purpose: To compare and analyze the effects of various Tai Chi styles as an intervention on type 2 diabetes mellitus(T2DM) considering the intensity, on which different opinions have been given.

Methods: We searched articles from 12 databases in December 2014. We selected randomized controlled clinical trial (RCT) using Tai Chi on adult patients with T2DM. We performed quality assessment using Cochrane risk of bias (RoB) tool. And we conducted a meta-analysis according to the styles of Tai Chi.

Results: We found 13 RCTs within the inclusion criteria. 8 RCTs were studies about Yang style Tai Chi, 4 RCTs were about 'Tai Chi for diabetes' and 1 RCT was about Chen style Tai Chi. Studies about Yang and Chen styles of Tai Chi showed significant effect on T2DM, but studies about 'Tai Chi for diabetes' didn't. The meta-analysis showed positive results of 'Yang style Tai Chi' for fasting blood glucose (FBG) compared to routine treatment, but failed to show the effects on Hemoglobin A1c (HbA1c). The meta-analysis of 'Tai Chi for diabetes' studies showed unfavorable effects on HbA1c compared to routine treatment. And the meta-analysis of 6 studies about all styles

of Tai Chi showed unfavorable effects on HbA1c compared to routine treatment.

Conclusion: It is thought that Tai Chi could be considered as an exercise treatment for patients with T2DM. Tai Chi of high intensity was more effective than that of low intensity in managing patients with T2DM. Therefore, we recommend that Tai Chi of high intensity be trained to T2DM patients with no special conditions and Tai Chi of low intensity be trained to T2DM patients with bad conditions. However, it is difficult to reach a firm conclusion because of low quality of included studies, so further studies are needed.

Contact: Eui-Hyoung Hwang, taichi20@daum.net

<http://dx.doi.org/10.1016/j.imr.2015.04.270>

P6.014

Construction of biological networks for Korean medical herb using the text-mining system



Seok Jong Yu¹, Chul Kim², Yongseong Cho¹,
Junehawk Lee¹, Hyojin Kang¹

¹ Korea Institute of Science and Technology
Information

² Korea Institute of Oriental Medicine

Purpose: For decades, text-mining technology enhanced the accuracy so that biological researchers can search the useful biological information easily. In Traditional Korean Medicine (KTM), the requirement of knowledge based database about signal transduction pathway is growing to establish a new hypothesis of biological mechanism of KTM. To support the knowledge discovery, we construct the biological network database for major medical herbs in Korea.

Methods: The biological interaction information ranging from signal transduction pathway to chemical-protein interaction is extracted with text-mining system after downloading the literature data from Pubmed database. The extracted biological relation data is stored in graph database and visualized with biological network navigation system to represent the relations among genes, proteins and chemicals.

Results: Total 12,455 Pubmed abstracts are downloaded for 488 Korean medical herbs and analyzed with the text-mining tools based on Abner, Oscar4 as biological entity tagger and MKEM as biological interaction extractor. We collect 35,119 chemical information, 35,952 gene or protein information, and 29,479 interaction information. The biological interaction is stored in the graph database (Neo4J) to search and visualize it. Finally, we developed the web service to navigate the biological networks on web canvas.

Conclusion: In this research, we construct knowledge based biological database for visualizing the biological interaction and developed the web service for searching the biological interaction and navigating the results. Users can search the chemical relationship through signal transduction pathways on this web service.

Contact: Seok Jong Yu, codegen@kisti.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.271>

P6.015

Development of a template for classification of documented Traditional Korean Medical Knowledge



Sungha Kim, EunKyung Bae,
Jeong Hwan Park, Boyoung Kim,
Sujeong Moon, Seeun Bae, Min-Kyeong Kim,
Hyunsu Jung, Sanghun Lee

Korea Institute of Oriental Medicine

Purpose: Growing commercial and scientific interest in Traditional Medicine systems has led to calls for Traditional Medicine Knowledge (TMK) to be better recognized, respected, preserved and protected. Documentation is a good tool for protection of Traditional Korean Medical Knowledge (TKMK). However, there is no widely accepted template specialized to the attributes of TMK and the classification of the Attributes of TKMK. We aimed conducted to develop a template for classification of documented TKMK.

Methods: We developed a template for classification of documented TKMK. The first version was developed and applied to documented TKMK data. Revision of the template were made based on the results of applying the first version of the template and input from experts.

Results: We identified attributes of TKMK, and developed a template for classification of documented TKMK for making knowledge easily accessible to academic researcher and providing legal protection for Traditional Knowledge. Attributes of the template includes summary, tool/ingredient, indication/preparation/application, and international standard classification.

Conclusion: We have demonstrated an effective way for classification of documented TKMK by developing a template. The template has 3 significant meaning as follows. First, this template is specialized to medicinal knowledge, summary in the template should involve the main elements of TKMK, which are ingredients, indications, and application. Second, we apply International Patent Classification, Korean Standard Classification of Diseases, and Classification of Korean Traditional Knowledge Resources for providing legal protection of TKMK and facilitating academic research. Lastly, we made primary classification term on preparation, in order to provide TKMK information in a usable form, and boost interoperability. It is suggested that the template for classification of documented TKMK could take important roles in the preservation of TKMK and protection of intellectual property.

Contact: Sungha Kim, bozzol@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.272>

P6.016

Useful Characteristic as Medicinal Resources of Folk Remedy Plants in Gyeongsang-do



Min-Kyeong Kim¹, Sanghun Lee¹,
Hye-Young Kim¹, Boyoung Kim¹,
Jeong Hwan Park¹, Sungha Kim¹,
Eun Kyung Bae¹, Se-Eun Bae¹, JaeHyun Kim²

¹ Korea Institute of Oriental Medicine

² Konkuk University

Purpose: Traditional Remedy is traditional knowledge that have been passed through generation to generation or obtained by personal experience. Recently it is concern about dissolution of TR caused by industrialization, urbanization and the progress of civilization.

Methods: The folk remedies, especially used for treatment were investigated in 11 research sites in Gyeongsangnam-do and 10 research sites in Gyeongbuk-do. The research sites of Gyeongsangnam-do were chosen form 3 areas, Jirisan area, Southern coast area, and Lower class of Nakdonggang river area, which characterize the natural environment and geography of the region. The research sites of Gyeongsangbuk-do were chosen form 3 area, Baekdudaegan Mountain range area, Eastern coast area, and the Upper class of Nakdonggang river area. We interviewed 346 informants who had lived members of the older generation in the study area. Proper data was collected using the participatory rural appraisal (PRA) method, as the informants also became investigators themselves, participating in interviews, informal meetings, open and group discussions, and overt observations with semi-structured questionnaires.

Results: Total 224 case of the interview was carried out discovering 2,758 cases of folk remedies and 10 cases of in- depth interview followed in Gyeongsang-do. In Gyeongsangnam-do, 82 cases of the interview were conducted while 1,731 case of folk remedies were investigated; 142 case of the interview in Gyeongsangbuk-do discovered 1,027 case of folk remedies in the region. About 73%(2,616 case) of the material used in the folk remedies we investigated was plants.

Conclusion: Research of traditional folk remedies from Gyeongsang-do. Focusing on qualitative research methodology for the use of drugs and non-pharmacological therapy about semi-structured interview for the collection as a traditional medical knowledge. The 21 sites in the Gyeongsang-do region (Gyeongsangnam-do, Gyeongsangbuk-do) 58 villages 346 people in the towns with traditional medicinal knowledge holders to secured a total 2,758 folk remedies.

Contact: Min-Kyeong Kim, kyeong0207@khu.ac.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.273>

P6.017

Association between water intake and cardiovascular diseases

Soobin Jang¹, Chunhoo Cheon¹, Somi Oh¹,
Yui Sasaki¹, Chingwen Huang¹,
Kyeong-Han Kim², Sunju Park³,
Bo-Hyoung Jang¹, Yong-Cheol Shin¹,
Seong-Gyu Ko¹

¹ Department of Preventive Medicine College of
Korean Medicine, Kyung Hee University

² Korea Health Promotion Foundation

³ College of Korean Medicine, Daejeon University,
Republic of Korea

Purpose: Water is one of the most important substances in the point of preventive medicine. Nowadays, drinking water The aim of this study is to identify whether drinking adequate water is associated with prevalence of cardiovascular diseases or not.

Methods: We conducted analyses of 2012 Korean National Health And Nutrition Examination Survey (KNHANES). All subjects were divided into Group Above Adequate Intake and group Below Adequate Intake according to water intake. The criteria of dividing two groups were 1.8 L for men and 1.4 L for women based on World Health Organization report. We performed propensity score matching in ratio of 1:1 to correct differences between two groups. After propensity score matching, health behaviors and disease status of two groups were compared. Logistic regression analyses were performed to verify the association between water intake and hypertension, diabetes mellitus, dyslipidemia, myocardial infarction, angina pectoris.

Results: The number of each group was 660 after propensity score matching. Group Above Adequate Intake was a little higher in diabetes mellitus (OR: 1.35, 0.88-2.08) and dyslipidemia than group Below Adequate Intake (OR: 1.21, 0.79-1.86). Group Below Adequate Intake was a little higher in angina pectoris (OR: 0.68, 0.27-1.70) than group Above Adequate Intake.

Conclusion: There was no statistically significant association between water intake and any cardiovascular disease. This study suggests the necessity of further studies related to water intake.

Contact: Soobin Jang, suebin@nate.com

<http://dx.doi.org/10.1016/j.imr.2015.04.274>

P6.018

Developing a Database of Herb-Drug Interaction on Hypertension

Changsop Yang, Youngeun Kim, Icktae Kim,
Chul Kim, Sangjun Yea, Miyoung Song

Korea Institute of Oriental Medicine

Purpose: This study aimed to develop a database of herb-drug interaction for the management of hypertension patients.

Methods: We systematically searched clinical and experimental papers through the PubMed-Medline and 4 local databases (Oasis, CNKI, J-stage, CiNii). Searching queries were made with 493 herbal plants and 72 formulas and 81 antihypertensives. We analyzed the studies and extracted information with structured form.

Results: A total of 161 studies were identified including 51 randomized clinical trials, 18 controlled clinical trials, 11 case series, 11 case reports, 57 in vivo studies and 13 in vitro studies. Interactions between 66 herbal medicines and 29 antihypertensives were identified. Aloe, garlic, danshen, pueraria, ginseng and 19 formulas resulted additional blood pressure lowering. Gingko, Sophora flavescens and 2 formulas inhibited drug efficacy. Severe adverse events were reported in use of licorice and hydrochlorothiazide.

Conclusion: Coadministration of herbal medicines and antihypertension agents could lead to both good and severe clinical outcomes. Our database would provide comprehensive and updated information about herb-drug interaction to medical professionals and hypertension patients.

Contact: Changsop Yang, yangunja@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.275>

P6.019

Intercultural usage of Mori folium: Comparison review from a Korean medical perspective

Eun sang Jeon¹, Suhye Lim², Byung jin Joh¹

¹ Korean Medicine Global Center

² Istanbul University, Faculty of Pharmacy,
Department of Pharmacognosy

Purpose: Mori folium, the leaves of Morus Alba, have been used in Korean medicine for symptoms including common cold, cough, headaches, and ocular disorders due to Wind-Heat. But global literature on Mori folium show a plethora of effects. The authors aimed to discover human usages of Mori folium and compare them with current Korean medical uses.

Methods: An electronic search was conducted on major databases viz. PubMed, Science Direct, and KISS with the terms Morus Alba and 상엽 for studies containing ethnopharmacologic or human research information on effects of Mori folium in humans.

Results: 40 relevant non-Korean studies(31 ethnopharmacologic studies, 9 clinical trials) and 5 Korean studies(2 ethnopharmacologic, 3 clinical) from an initial search result of 3,421 were recognized for analysis according to predetermined criteria. Non-Korean ethnopharmacologic research showed 102 cases of Mori folium related ethnic usages in 33 categories. Respiratory tract disorder treatment(n=15), dermatologic usages(n=13), gastrointestinal uses(n=12), and antidiabetic purposes(n=11) were the most common uses. Pakistan(n=6), Italy(n=5), and Turkey(n=3) were the most researched cultural bases. Korean studies were independently reviewed as a basis for comparison. Typical traditional uses focused on dispelling Wind and Heat, clearing Heat and relieving Lung Dryness, and clearing the Liver and improving vision. Of the 9 relevant non-Korean clinical trials, diabetes(n=4) was the most dominant

topic. Korean clinical trials were done on dyslipidemia (n=2) and diabetes (n=1). Significant adverse effects were null in clinical studies. Methodological quality of the studies were varied. Gastrointestinal, antidiabetic, and dermatologic uses were not mentioned in traditional literature or had very small numbers of citations. These uses are identified as potential areas for reinvestigation and reintroduction to Korean medical practice.

Conclusion: There is potential for different uses of *Mori folium* in Korean medicine in addition to the current clinical landscape. More clinical research from the Korean medical point of view is needed.

Contact: Eun sang Jeon, ihsanjeon@gmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.277>

P6.021

A Study on Acupoint SP3 in Saam Acupuncture Method



Song-Yi Kim¹, Ji-Yeun Park¹, Soon-Ho Lee², Hi-Joon Park¹

¹ Kyung Hee University

² Jinan Health Center

Purpose: Saam acupuncture initiated by Saamdoin is traditional and originative method, which is characterized by applying the five phases theory and mother-child reinforcement-reduction principle to the selection of acupoints and needling manipulation. This study was aimed to summarize and assess the use of acupoint SP3 (Taebaek) in Saam acupuncture treatment and to further understand Saam acupuncture in an aspect of the combination of acupoints.

Methods: We searched the data based on <(Do Hae Kyo Kam) Sa-Ahm's acupuncture method> for SP3 used and acupoint combination including SP3. We carried out frequency analysis, network analysis, and cluster analysis for quantitative aspect. To understand clinical implication of SP3 with another acupoint, qualitative and descriptive methods were also performed.

Results: In our study, SP3 was frequently used for tonification of lung, spleen, heart, and kidney meridian and sedation of kidney, heart, and lung meridian. For this, many acupoints such as LU8, LU9, KI3, HT8, KI7, LU10 and LR1 were used with SP3. The combination of SP3 and other acupoints were used to treat stroke, common cold, and pain conditions including headache, low back pain, respiratory disease as well as gastroenteric troubles including stomachache, indigestion, vomiting, and constipation.

Conclusion: To further understand Saam acupuncture, an understanding of the five transport points based on five elements characters, pathological changes (deficiency and excess) of viscera and bowels, and concept of source point should be preceded.

Contact: Song-Yi Kim, cl2300@hanmail.net

<http://dx.doi.org/10.1016/j.imr.2015.04.278>

P6.022

Prediction of herb-drug interaction: the combination of Gumiganghwal-tang and montelukast for the treatment of asthma



Seong Eun Jin, Woo-Young Jeon, Mee-Young Lee, Hyeun-Kyoo Shin, Hyekyung Ha

Korea Institute of Oriental Medicine

Purpose: With the increased use of herbal medicines, many patients frequently co-administrated with herbs and conventional drugs, without being aware of the potential of herb-drug interactions. In particular, herbal formulas have the possible to interact with various drugs because they are composed of multiple active herbs and components. In the previous study, we demonstrated that co-treatment of traditional herbal formula Gumiganghwal-tang (GMGHT) and montelukast reduced the eotaxin production, which more effective than respectively single treatment of them in IL-4 and TNF- α -stimulated human bronchial epithelial cells (Jeon et al.). Therefore, the present study was carried out to investigate the possible interactions between GMGHT and montelukast.

Methods: The influence of GMGHT on the activities of human cytochrome P450 (CYP450; CYP1A2, CYP2B6, CYP2C9, CYP2C19, CYP2D6, CYP2E1 and CYP3A4) and UDP-glucuronosyl transferase (UGT; UGT1A1 and UGT2B7), which are drug-metabolizing enzymes, were assessed using in vitro fluorescence- and luminescence-based assay, respectively.

Results: The previous studies demonstrated that CYP3A4 and CYP2C9 was responsible in part for the oxidative metabolism of montelukast. GMGHT strongly inhibited CYP1A2 (IC₅₀ = 144.91 μ g/mL), CYP2D6 (IC₅₀ = 80.15 μ g/mL) and CYP2E1 (IC₅₀ = 105.99 μ g/mL), whereas it relatively weak inhibited CYP2B6 (IC₅₀ = 544.97 μ g/mL), CYP2C19 (IC₅₀ = 255.82 μ g/mL), CYP3A4 (IC₅₀ = 334.04 μ g/mL), and UGT1A1 (IC₅₀ = 470.55 μ g/mL). On the other hand, GMGHT negligible inhibited on CYP2C9, with an IC₅₀ value in excess of 1000 μ g/mL, and it had no effect on UGT2B7.

Conclusion: These findings suggest that co-administration of GMGHT and montelukast may useful to ameliorate airway inflammatory response, as well as it is unlikely to cause clinically relevant herb-drug interactions. Furthermore, even with low doses of montelukast can be expected a good therapeutic effect when montelukast are used in combination with GMGHT.

Contact: Seong Eun Jin, noellajin@kiom.re.kr

<http://dx.doi.org/10.1016/j.imr.2015.04.279>

P6.023

Acupoint herbal patching for allergic rhinitis: a systematic review and meta-analysis of randomised controlled trials

Fen Zhou, Lijiao Yan, Guoyan Yang,
Jianping Liu

Beijing University of Chinese Medicine

Purpose: Acupoint herbal patching (AHP) is extensively used in treatment of allergic rhinitis in China. However, existing systematic review is insufficient. To evaluate the effectiveness and safety of AHP in treating allergic rhinitis.

Methods: We searched seven electronic databases for RCTs from inception until August 2014. Two authors selected studies, extracted data and evaluated risk of bias independently. The Cochrane risk of bias tool was applied to assess the methodological quality of the included trials and RevMan 5.2 software was utilised to perform data analysis.

Results: Twenty RCTs involving 2438 participants were included. Most of them were evaluated as high risk of bias. AHP significantly decreased the recurrence rate at six months compared with western medicine (RR 0.52; 95% CI 0.42 to 0.64), and similar effect was found for AHP plus western medicine versus western medicine (RR 0.53; 95% CI 0.44 to 0.65). AHP appeared to be more effective than placebo in improving total clinical symptoms and signs after treatment and at 6 months, and in improving quality of life at less than 3 months and over 3 months. No severe adverse effects were found in the AHP groups.

Conclusion: AHP alone or combined with western medicine appears to be more effective than placebo or western medicine respectively. AHP seems to be a safe treatment. However, the findings should be interpreted with caution. Further large-scale, rigorously designed trials are warranted to confirm the findings.

Contact: Jianping Liu, Jianping.L@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.280>

P6.024

Acupoint Herbal Patching with or without Conventional Treatment for Stable Chronic Obstructive Pulmonary Disease: a Systematic Review of RCT

Fen Zhou, Yawei Shan, Jianping Liu

Beijing University of Chinese Medicine

Purpose: Acupoint herbal patching (AHP) alone or as an adjuvant therapy with conventional treatment (CT) has been widely used for prevention and treatment of chronic obstructive pulmonary disease (COPD). However, current clinical evidence from systematic review of randomized trials is lacking. To evaluate the effectiveness and safety of AHP with or without CT for people with COPD at stable stage.

Methods: We searched randomized trials comparing AHP (with or without CT) with no intervention, placebo, or CT from six databases. Two authors selected studies, extracted data and evaluated risk of bias of included trials. RevMan 5.2 software was used to analysis data.

Results: Twenty two randomized trials (2469 participants) were included. Combination of non sanfu (no fixed dates) AHP and CT significantly decreased the frequency of acute exacerbation of COPD (AECOPD) (MD: -1.24; 95%CI: -2.02 to -0.46; 2 trials), and improved the lung function parameters and quality of life. The combination showed no better effect in 6-minute walking distance (6MWD) and hospitalization. In addition, sanfu (specific dates in lunar calendar) AHP with CT had significant effect for 6MWD. One trial reported skin irritation and found no significant difference between two groups. Another trial reported two patients had eyes discomfort, which was inferred as the adverse effects of seretide.

Conclusion: AHP used as adjunct to CT, appears to be effective than CT alone in patients with stable COPD. However, further large, rigorously designed trials are warranted to confirm these potential effects.

Contact: Jianping Liu, Jianping.L@hotmail.com

<http://dx.doi.org/10.1016/j.imr.2015.04.394>