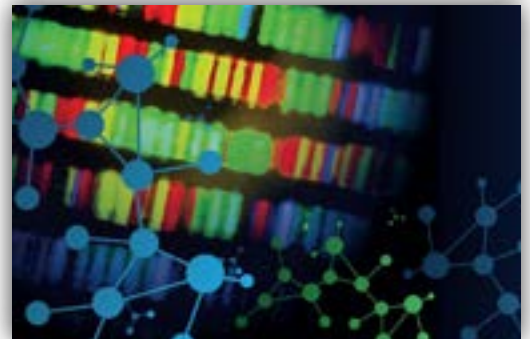


3rd International Conference and Expo on

Herbal & Alternative Medicine

September 01-02, 2017 London, UK

Poster



Korean *Scutellaria Georgi* flavonoid extract induces mitochondrially mediated apoptosis in human gastric cancer AGS cells

Gon Sup Kim¹, Venu Venkatarama Gowda Saralamma¹, Ho Jeong Lee¹, Gyeong Eun Hong¹, Hyeon Soo Park¹, Silvia Yumnam¹, Suchismita Raha¹, Won Sup Lee², Eun Hee Kim³, Nak Ju Sung¹, Sang Joon Lee⁴ and Jeong Doo Heo⁴

¹Research Institute of Life science and College of Veterinary Medicine, Gyeongsang National University, Gazwa, Jinju, Republic of Korea,

²College of Medicine, Gyeongsang National University, Chilam, Jinju, Republic of Korea,

³Department of Nursing Science, International University of Korea, Jinju, Republic of Korea,

⁴Gyeongnam Department of Environment Toxicology and Chemistry, Gyeongnam Biological Resource Research Center, Korea Institute of Toxicology, Jinju, Republic of Korea

Objective/Purpose: In the present study, the anticancer effect of flavonoid extract from Korean *S. baicalensis* Georgi (FSB) was investigated with the aim of elucidating the underlying molecular mechanisms of the anticancer effect of FSB on AGS human gastric cancer cells.

Materials & Methods: The flavonoid compounds were extracted with 70% methanol from radix of Korean *Scutellaria bicalensis* Georgi (Jinju, Korea). We got the AGS cells from the Korea Cell Line Bank (Seoul, Korea). All experiments used that AGS cells were seeded into 6-well plates and stabilized for 24 h. The cells were then treated with or without *Scutellaria bicalensis*. Cells were cultured in RPMI1640 medium supplemented with 10% FBS, and 1% penicillin, streptomycin in a humidified atmosphere of 5% CO₂ at 37°C. Cell viability was determined using MTT assay. Apoptotic cells were detected using a FITC annexin-V apoptosis detection kit 1 (BD Pharmingen, San Diego, CA, USA). And the levels of the apoptosis related proteins expression were analyzed by Western blot.

Results: Treatment of AGS cells with FSB significantly

inhibited cell viability in a concentration-dependent manner. Furthermore, FSB significantly increased the proportion of cells in sub-G1 phase, and Annexin V and Hoechst 33258 fluorescent staining confirmed the apoptotic cell death. Furthermore, Western blotting results identified that treatment of AGS cells with FSB significantly downregulated the expression of caspase family members, namely procaspases 3 and 9, and poly (ADP-ribose) polymerase (PARP), and subsequently upregulated cleaved caspase 3 and cleaved PARP. It was observed that FSB treatment significantly decreased the mitochondrial membrane potential of AGS cells. In addition, the ratio of the mitochondrion-associated proteins B cell lymphoma 2-associated X protein and B cell lymphoma extra-large was upregulated.

Conclusion & Discussion: The results of the present study indicate that FSB significantly inhibits cell viability and induces apoptosis in AGS cells via the mitochondrially mediated intrinsic apoptotic signalling pathway. FSB-induced apoptosis was identified to be mediated by caspase activation and triggered by the modulation of Bcl-2 family proteins. To the best of our knowledge, the present study is the first to elucidate the underlying molecular mechanism for the anticancer activity of FSB in human gastric cancer AGS cells. Therefore, the present study provides novel insights into the biological effects of FSB, which may possess therapeutic potential for the treatment of human gastric cancer.

Biography

Gon Sup Kim has completed his PhD from Seoul National University and Postdoctoral Studies from University of Pennsylvania School of Veterinary Medicine. He is the Director of Korea National Animal Bio-resources Bank, Research Institute of Life Science and Professor of College of Veterinary Medicine, Gyeongsang National University South Korea.

gons6027@hanmail.net

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Middle East Respiratory Syndrome Coronavirus: Are Makkah Medical Students Sufficiently Aware of it?

Osama Abdulqadir Khairoalsindi¹, Anas M Tayeb¹, Raghad M Mandora¹ and Muhammad I Siddiqui²

¹Umm Al-Qura Medical College, Umm Al-Qura University, Saudi Arabia

²Department of Community Medicine, Umm Al-Qura University, Saudi Arabia

Objective / Purpose: Middle East Respiratory Syndrome Coronavirus continues to pose great challenges to Saudi Arabia and many other countries. The medical students in Makkah, in addition to their role in spreading the awareness among the indigenous population of their community, possess a crucial role owing to their unique setting and their major participation in the annual Hajj event. This study was designed to assess the awareness among medical students of Umm Al-Qura Medical College in Makkah towards MERS-CoV.

Material and Methods: A cross-sectional study was conducted on medical students who finished the second, third, fourth, fifth, and sixth academic year using a previously constructed questionnaire that was used in a study on dental students in Jeddah, Saudi Arabia.

Results: Among the 317 respondents, 92.4% knew at least one definition of MERS-CoV. Mean awareness scores for the second, third, fourth, fifth and sixth years were 31%, 51%, 61%, 63%, and 69% respectively. GPA was found to be correlated with knowledge level among fourth and sixth year students only ($p>0.05$).

Conclusion / Discussion: A general moderate knowledge was found among the respondents; however, continuous rigorous campaigns and courses by the Saudi Ministry of Health and other authorities are needed for all medical students, in particular for the second and third year students who demonstrated a relatively poor knowledge. The newly implemented academic curriculum in UQU Medical College needs to contain more comprehensive infection control lectures and activities; the distinguished setting of the Medical College underscores this need.

Biography

Osama A. Khairoalsindi is a 22 years old medical student who recently finished his third year of Medicine; affiliated to Umm Al-Qura College of Medicine, Makkah, Saudi Arabia. He was ranked first among his class of medicine during his second medical year. He has graduated from high school with many awards of excellence.

Khairoalsindi.O@hotmail.com

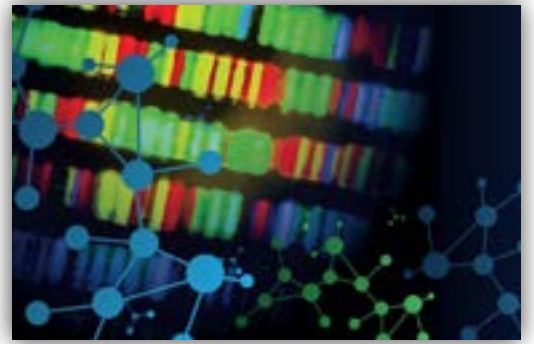
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Accepted
Abstracts



Trends in South African traditional medicine: ethnobotany, phytochemistry and biotechnology

Ambrose Okem

North-West University, South Africa

To date, South Africa is one of the few nations that have made significant progress to integrate traditional and complementary medicine into the legislative framework for health practitioners. There are over 190000 registered traditional health practitioners providing healthcare needs to millions of South African. According to the WHO recent classification, South Africa can be categorised as having an inclusive system. Many regulatory policies are placed now to fully integrate traditional medicine into

the national healthcare system. The recent surge in the demands for herbal medicinal plant products has led to steady growth in traditional medicine market making it a multibillion rand economy in South Africa. However, many of these products currently sold are without control due to lack of appropriate registration system. According to the Red Data List of South African Plants, most of the highly valued medicinal plants are listed as threaten, declining or at the verge of extinction due to over exploitation of the wild population. *In vitro* propagation techniques offer promising perspectives to overcome the problem of overexploitation of medicinal plants from the wild. Plant biotechnology improves the commercial production of highly useful bioactive compounds.

aokem39@gmail.com

Importance of ethnobotanic survey in Tamanrasset (Saharan region) in the south of Algeria face to climate changes

Chabane Djamila

University of Sciences and Technology Houari Boumediene, Algeria

The ethnobotanical survey conducted in Ahaggar (south part of Algeria) has showed very rich arid areas of various plant species composed by trees and herbs used in traditional medicine. The investigation carried out (2012-2015) has listed over than 50 wild local plants with therapeutic effects according to different ailments. On the other hand, the traditional healers of these arid areas use some of them in the treatment of numerous health problems (digestive, diabetes, skin infections, external scorpion stings and snake bites). Currently, the arid regions as Tamanrasset are facing serious challenges due to lack of sufficient water and increase of

drought conditions, which could have substantial negative effects on the harvest yield of agriculture and impact the morphology of organs (roots, stem and leaves), anatomy structures and biodiversity development of many plant species which was used in herbal medicine. Tamanrasset, is known as an oasis city in Ahaggar Mountains located in Southern Algeria an altitude of 1,320 m with very high temperatures of over 47°C with an interesting development of various plants just after raining. Climate changes and the phenomena of degradation by desertification of the in heritage enable a variation in the number of medicinal plants and their morphological and anatomical characters with a consequent disappearance or change in occurrence of many medicinally useful species, thus depriving rural communities of their benefits. It is useful to protect the flora and the Tuareg's traditional knowledge.

chabanedj@yahoo.fr

Chiropractic management of a patient with chronic fatigue: a case report

Christopher T Arick
National University of Health Sciences, USA

The purpose of this case report was to describe the examination and management of a patient with chronic fatigue. A 34-year-old woman presented to a chiropractic clinic with complaints of fatigue and inability to lose weight for 2 years. When tested, she was found to have high serum thyroglobulin antibodies, low serum vitamin D3, low saliva dehydroepiandrosterone-sulfate, and low saliva total and diurnal cortisol. The patient was placed on an anti-inflammatory ancestral diet and given recommendations to decrease the aerobic intensity of her

exercise routine. Based on the result of conventional and functional laboratory tests, she was prescribed a treatment plan of targeted supplementation. After 12 weeks of application of dietary, lifestyle, and supplementation recommendations, the patient reported experiencing increased energy and weight loss of 15 pounds. Her thyroglobulin antibodies returned within reference range, salivary cortisol increased and closely followed the proper circadian rhythm, and dehydroepiandrosterone-sulfate increased. This report describes improvement in a patient with chronic fatigue with the use of nonpharmaceutical polytherapy involving dietary changes, lifestyle modification, and supplementation.

carick@nuhs.edu

Transcriptional and posttranscriptional upregulation of p27 mediates growth inhibition of isorhapontigenin (ISO) in human bladder cancer cells

Chuanshu Huang¹ and Haishan Huang^{1,2}

¹New York University School of Medicine, USA

²Wenzhou Medical University, China

There are few approved drugs available for the treatment of muscle invasive bladder cancer (MIBC). Recently, we have demonstrated that Isorhapontigenin (ISO), a new derivative isolated from the Chinese herb *Gnetum cleistostachyum*, effectively induces cell-cycle arrest at the G0/G1 phase and inhibits anchorage-independent cell growth through the miR-137/Sp1/cyclin D1 axis in human MIBC cells both *in vitro* and *in vivo*. Herein, we show that treatment of MIBC cells with ISO resulted in a significant upregulation of p27, a key cyclin-dependent kinase (CDK) inhibitor. Importantly, knockdown of p27 caused a decline in the ISO-induced G0-G1 growth arrest and reversed ISO suppression of anchorage-independent growth in MIBC cells. Mechanistic studies revealed that ISO promoted p27 expression at mRNA transcription level through an

increase in the direct binding of FOXO1 to its promoter, while knockdown of FOXO1 attenuated ISO inhibition of MIBC cell growth. On the other hand, ISO upregulated the 3'UTR activity of p27 which was accompanied by a reduction of miR-182 expression. In line with these observations, ectopic expression of miR-182 did significantly block p27 3'UTR activity, whereas mutation of the miR-182 binding site at p27 3'UTR effectively reversed this inhibition and led to a significant loss of ISO induction effect on its activity, indicating that miR-182 is able to bind directly to p27 3'UTR and repress its activity in MIBC cells. Accordingly, ectopic expression of miR-182 also attenuated ISO upregulation of p27 expression and impaired ISO inhibition of BC cell growth. These studies reveal that p27 expression is transcriptionally upregulated by enhancing binding of FOXO1 to its promoter, and that it is post-transcriptionally induced through decreasing binding of miR-182 to its mRNA 3'UTR upon ISO treatment. Our results not only provide novel insight into understanding of the underlying mechanism related to regulation of MIBC cell growth, they also identify a new role and mechanisms underlying ISO inhibition of the growth.

chuanshu.huang@nyumc.org

Ayurveda and its holistic approach to life and treatment

Deepika Gunawant^{1,2}

¹Max Multi Specialty Centre, India

²Quality Council of India, India

The term Ayurveda is made up of two Sanskrit words “Ayu” and “Veda” which means life and knowledge respectively indicating that Ayurveda is not merely medicine and treatment it is a way to tackle positively the subject of life in its entirety. Good health depends on the balance and interaction of the three Doshas or physiological units in our body namely Vata, Pitta and Kapha according to Ayurveda. As a system of medicine Ayurveda helps to tackle health, wellness and disease in a comprehensive manner, considering the personality traits of an individual. Our personality traits are a blend of these Doshas with one or more predominating from birth and at various times of the day and stages of life. Any

discrepancy of these three leads to imbalance in health and causation of illness. Ever growing levels of stress and anxiety can induce conditions which include everything from hypertension and infertility to depression and even aging process thus decreasing the quality of life. Ayurveda treatment thus planned is for restoring the disturbed mechanism through personalized wellness and healthy living programs involving wellness and regeneration experience. Ayurveda’s thrust is to keep the health well and offers natural holistic self-care methods through proper diet, exercise, meditation/yoga, psycho-spiritual counselling, external therapies and medicines from herbs to balance the Doshas or humours on a physical and mental plane. All dimensions of wellness are inextricably woven in the concepts of Panchakarma and Rasayana in Ayurveda. Ayurveda can contribute to the development of regenerative medicine with integrative approach.

dgunawant@hotmail.com

Integrating flower essences therapy and intuition into a holistic life coaching practice

Alicia Holland

Alise Spiritual Healing & Wellness Center, USA

Limited research has been conducted on the integration of flower essences therapy and intuition into a holistic life coaching practice. The objective for the current qualitative case study was to examine the clients' experiences, beliefs, and perceptions regarding the integration of flower essences and intuition in a holistic life coaching context. Clients who elected to participate in the study kept a weekly reflection journal regarding their insights and any key spiritual experiences. Twice a month, clients had either in-person or phone intuitive life coaching sessions and reported their experiences with the flower essences in each 30-day cycle. After three months of intuitive life coaching, clients completed an interim survey

regarding their experiences. At the end of their intuitive life coaching program, clients completed their final survey regarding their experiences. Themes extracted were related to flower essences, intuition, emotional healing, meditation, personal power, and general wellness from the data: online surveys, monitoring notes, and weekly journals. There were 10 emerging themes, five categories, and seven sub-categories that were coded and analyzed. Evidence from each theme included a narrative revealing what the clients experienced with flower essences, intuition, and other alternative medicine and holistic practices in the study. The findings revealed that flower essences therapy was effective with emotional healing, body image, intuition, and meeting both personal and professional goals as it relates to the body, mind, and spirit.

alise@alisehealingcenter.com

Augmentation of triclabendazole therapy with herbal extract in ovine fasciolosis

Guesh N, Etsay K, Yohannes T, Endale B, Awet T, Kassaw A and Yohannes H
Mekelle University, Ethiopia

Fasciola is a major parasite of sheep around Lake Hashenge that is claimed to cause serious destruction of liver and liver condemnation (more than 80%) which lead to loss of profit/market despite its potential nutritional and price value. Liver infected with *Fasciola* is hard and fibrotic and is not fit for human consumption regardless of its zoonotic potential. Triclabendazole is the drug of choice for treating fasciolosis but triclabendazole have no effect in the healing or regeneration capacity of the already damaged liver by the parasite unless augmented with other natural herbal preparations which make the damaged liver heal faster. Therefore, this project was designed to study the augmentation responses of herbal extract to triclabendazole therapy which was expected to facilitate the regeneration and healing process of the liver of sheep. A total of 12 naturally *Fasciola* infected sheep diagnosed with coprological examination were used in this study. The 12 naturally *Fasciola* infected sheep were grouped into three groups (G1=Experimental, treated with both triclabendazole and the herbal extract bolus; G2=Experimental, treated only with triclabendazole; and

G3=Control, not treated with either of the treatments) each containing 4 sheep. Herbal bolus were prepared at the College of Veterinary Medicine, Mekelle University and used for augmentation. Three months after the treatment sheep in all the three groups were coprological examined. The effect of augmentation was evaluated with liver function tests, gross pathology and histopathology. All the data were analyzed using STATA version-11.0 statistical software and P-value of 0.05 was considered a statistically significant difference for all analysis. Gross findings showed live *Fasciola* parasite and severe liver damage; irregular shaped and rough fibrotic liver; and liver with slight fibrosis and distended gall bladder in G3, G2 and G1, respectively. Liver function test results were higher in the control group (G3) compared to G1 and G2 (P<0.05). Microscopic findings of the tissue samples revealed liver with very severe necrotized area with diffused extensive fibrosis (cirrhosis) around the section of parasite in the middle; liver with moderate necrotized area with diffused extensive fibrosis (cirrhosis); and liver with fibrosis (cirrhosis) being degraded and regeneration of hepatocytes around it in G3, G2 and G1, respectively. Augmentation of triclabendazole with herbal extract improves the healing and regeneration capacity of *Fasciola* infested liver and thus it should be encouraged.

negashgu@yahoo.com

Essential oils in primary care

Judith Boice

Holistic Medical Clinic in Fairbanks, USA

In the past decade essential oils have received tremendous attention from the general population as well as medical researchers. Essential oils have a role in treating specific conditions including poorly healing post-surgical wounds, nausea, anxiety hot flashes, low libido, and poor memory. With the passing of the age of antibiotic “wonder drugs,” essential oils offer a viable option for treating antibiotic-resistant infections and also can potentiate the effects of certain chemotherapy drugs. Although there are limited human trials, *in vitro* and animal model studies suggest certain essential oils may have anti-cancer activity for specific cancer types. Essential oils are extremely concentrated (one drop is roughly equivalent to 30 cups of tea) and misuse, particularly ingestion, of

essential oils can elevate liver enzymes and bilirubin levels. These potent botanical medicines require special knowledge on the health care provider’s part to ensure the patient’s health and safety. The Learning Objectives of the presentation are: 1. Identify the safest, most effective methods of dosing essential oils; 2. Learn how essential oils influence liver detoxification pathways; 3. Differentiate classes of essential oils (commercial, medicinal, “therapeutic,” brokered, authentic); 4. Discover essential oils that are effective in treating bacterial and fungal infections; 5. Recognize essential oils that potentiate chemotherapy drugs; and 6. Apply knowledge in treating common conditions like Nausea and vomiting, Anxiety, Malodorous wounds, Radiation burns, Poor memory, Hot flashes and night sweats, Low libido. 7. Discuss current research on anti-cancer effects of specific essential oils; 8. Recommended proper usage of essential oils.

drjudith@drjudithboice.com

The role of pro- and anti-inflammatory cytokines in stress responses: implications of new target for antidepressant development

Insop Shim

Kyung Hee University, South Korea

The immune system and the central nervous system (CNS) form a bi-directional communication network through cytokines which act as signaling molecules of the immune system as well as producing neuroendocrine, neuroimmune, and behavioral changes in response to a variety of stress stimuli. It has been known that activation of the central innate immune system or exposure to stress can disrupt balance of anti-/proinflammatory cytokines. However the mechanism by which these cytokines regulate the hypothalamic-pituitary-adrenal (HPA) axis is still unclear. To understand the role of cytokines on stress-induced neuroinflammation, we investigated the role of pro- and anti-inflammatory cytokines in the modulation of depressive-like behaviors, the hormonal and neurotransmitter systems in rats. Single exposure of stress resulted in an increase of corticotrophin-releasing factor expression in the paraventricular nucleus of the hypothalamus, adrenocorticotropin hormone and the final hormone of HPA-axis, corticosterone levels in the serum.

Peripheral and central productions of pro-inflammatory cytokines, IL-1 β and IL 6 were significantly increased during stress, whereas anti-inflammatory cytokine, IL-4 was reduced after stress stimulation. Based on these animal models, we have screened and evaluated anti-stress and anti-depressant effect of several herbal formula such as soyo-san, a traditional medicinal formula, a mixture of 9 crude drugs including *Paeoniae Radix Alba*, *Atractylodis Macrocephalae Rhizoma*, *Angelicae Gigantis Radix*, *Poria*, *Liriodis Tuber*, *Bupleuri Radix*, *Menthae Herba*, *Glycyrrhizae Radix*, *Zingiberi Rhizoma Recens* which have been clinically used for treating mild depressive disorders. Soyo-san inhibited stress-induced inflammatory responses, IL-1 β production in the brain as well as effectively reduced behavioral and pathophysiological depression-like responses. These data suggest that stress may potentiate inflammation through interaction of cytokines with activation of the HPA axis and stress-related disorders may be influenced by imbalance of pro and anti-inflammatory cytokines. In addition, the immunorestorative compounds such as soyo-san may be useful as powerful therapeutic candidates for treatment of stress-related diseases such as depression.

ishim@khu.ac.kr

Ancient healing, modern ways: QiGong and treatment of cancer and chronic disease

Judith Boice

Holistic Medical Clinic in Fairbanks, USA

Qigong (qi denotes vital energy and gong means skill or practice) may be a new phenomenon in the United States but has roots that span over 10,000 years in China. This ancient healing art is not well understood in Western culture. New research has demonstrated that it can be extremely effective in treating chronic diseases including cancer. This presentation will explore the historical and cultural context of qigong; the five major types of qigong and relevance of each; effects on epigenetics and other biomarkers used to prove efficacy of qi gong; and the safest, most effective ways to support patients learning and practicing qigong. The safety aspect is extremely important as practicing qigong improperly can actually cause more harm than benefit. In addition,

this presentation will clearly discuss how to minimize harm and provide information to the practitioner that will foster a deeper level of understanding to the therapeutic benefit of this healing modality. Learning Objectives of the presentation are: 1. Understand the cultural and historical context for the development of qigong; 2. Review the five major types of qigong (moving, lying down, breathing, walking and sitting); 3. Discuss the most appropriate clinical situations for applying different types of qigong; 4. Explore how to avoid harm and recognize deviations that result from incorrect qigong practice; 5. Discuss epigenetic changes at the molecular level which may be implicated in qigong; 6. Careful review of current research in qigong, insights and limitations; 7. Develop an understanding of the therapeutic depth of this healing modality; 8. Experience the mind-body connection that is fostered by qigong training

drjudith@drjudithboice.com

Reclaiming indigenous healing legacies

Karen Rose

Sacred Vibes Apothecary, Brooklyn New York

The work of partnering with community members and healers to co-create and reimagine syncretic models of care, which adapt the ritualistic modes of healing from home countries, and respond to the differing cultural practices; Reclaiming Indigenous Healing Practices. In 2017, immigration and access to healthcare are two of the biggest challenges we'll face as a people. Often families migrate to new lands and abandon ancestral medicines to assimilate. In this process, accessibility to traditional plant medicines, community healers, and support is lost. Surviving the Western medical industrial complex has proven challenging to many immigrant families. Distrust of medical practitioners, lack of cultural competency among practitioners, and poor cross-cultural communication contribute to the difficulty immigrants face navigating

healthcare systems. Practitioners often use language that disenfranchises patients seeking care. Many indigenous healing traditions have been shared orally; a system of knowledge-sharing devalued in the West. Additionally, many Western practitioners have colonized many of our traditions and exploited indigenous resources and modalities, yet are often unwilling to engage in a reciprocal knowledge exchange with immigrant practitioners. This devaluation and appropriation of immigrants' traditional practices result in further marginalization. Many immigrant grandmothers who provide their family and communities with life-saving ancestral medicine. These medicine holders are also the artists of their community: facilitating ritual, storytelling, healing songs, and laying of hands to maintain their community's health, in mind, body and spirit. They hold the wisdom from their home countries, where many practiced as midwives, spiritual healers, and medicine women.

sacredvibeshealing@gmail.com

The use of complementary and alternative medicine in breast cancer: bridging the gap

Kavi Sharma¹, Joana Almeida², Jonathan Gabe² and John L Anderson¹

¹Brighton and Sussex Medical School, UK

²University of London, UK

Breast cancer is the most prevalent cancer in United Kingdom. The extensive use of complementary and alternative medicine (CAM) by women suffering from breast cancer is well documented in research. A study in Canada, reported this use to be as high as 80%. In a similar survey in Germany, over 90% of breast cancer patients used CAM therapy. Similar trends have been

reported in USA, and Asia. The literature highlights a disturbing lack of communication between healthcare professionals and patients about CAM use. Up to 77% of cancer patients do not reveal their CAM use. This creates a communication gap and could hinder efforts to provide effective healthcare. Our study aims to address this deficit. We have two aims: To explore the Knowledge, Attitudes and Practices (KAP) towards CAM. of women with breast cancer, to understand and to use this information to develop means of improving communication between cancer patients and their Health Care Professionals. The results of this study will be presented and opened to discussion.

K.sharma2@uni.brighton.ac.uk

Protective effect of the standardized extract of *Holmskioldia sanguinea* on tumor bearing mice

Mahesh Pal, Tripti Mishra, Ch V Rao and D K Upreti
CSIR - National Botanical Research Institute, India

Cancer has been considered to be very dreadful disease. *Holmskioldia sanguinea* is a large climbing shrub found in the Himalayas at an altitude of 5,000 ft and preliminary investigation showed the excellent yield of andrographolide and subjected for the anticancer activity. Protective effect of *Holmskioldia sanguinea* leaf ethanolic extract has been investigated against Ehrlich ascites carcinoma (EAC) and Daltons ascites lymphoma (DAL) in

Swiss albino mice and to evaluate the possible mechanism of action. The enzymatic antioxidant status was studied on tumor bearing mice, which shows the potential of the compound to possess significant free radical scavenging property and revealed significant tumor regression and prolonged survival time. The isolated bioactive molecule andrographolide from *Holmskioldia sanguinea* yields (2.5%) in subject to HPTLC/HPLC analysis. The cellular defense system constituting the superoxide dismutase catalysis was enhanced whereby the lipid peroxidation content was restricted to a larger extent. The *Holmskioldia sanguinea* is a new source of andrographolide and demonstrated the potency in treatment of cancer.

drmpal.nbri@rediffmail.com

Andrographis paniculata for symptomatic relief of respiratory tract infections (RTIs) in adults and children: a systematic review

Martin Logue

University of Southampton, UK

Background: Antimicrobial resistance is a major threat to global healthcare systems. Safe and effective alternatives to current antimicrobials are required. *Andrographis paniculata* (*A. paniculata*) is used in Western, Chinese and Ayurvedic herbal traditions for the treatment of respiratory conditions including cough, cold, sinusitis and influenza. This systematic review aimed to evaluate the clinical effectiveness and safety of *A. Paniculata* for symptoms of acute RTIs.

Methods: English and Chinese databases were searched from their inception to March 2016 for randomized controlled trials (RCTs) evaluating oral *A. paniculata*. Primary outcomes were improvement in RTI symptoms and adverse reactions. Random effects model was used to pool the mean differences and risk ratio with 95% CI reported. Methodological quality was evaluated using

the Cochrane risk of bias; two reviewers independently screened eligibility and extracted data.

Results: Thirty-three RCTs (7175 patients) were included. Interventions included *A. paniculata* as a monotherapy and as an herbal formulation. Most trials evaluated *A. paniculata* provided commercially but seldom reported GMP details. There was a statistically significant effect in favor of *A. paniculata* versus placebo (n=445, SMD: -0.69, 95% CI [-1.26, -0.12] for overall symptom; n=596, SMD: -0.39, 95% CI [-0.67, -0.10] for cough; and n=314, SMD: -1.13, 95% CI [-1.37, -0.89] for sore throat). Favorable effects were shown when *A. paniculata* was compared to standard care, and other herbal interventions. No major AEs were reported. The methodological quality of included trials was limited.

Conclusion: *A. paniculata* appears beneficial and safe for relieving RTI symptoms and shortening time to symptom resolution. Due to limited study quality and heterogeneity, the evidence reviewed is inconclusive. Well-designed trials evaluating the effectiveness and safety of *A. paniculata* are warranted.

martinlogue@gmail.com

Prospects for two new South African herbal teas (*Athrixia phylicoides* and *Monsonia burkeana*): potential for harvesting herbal teas rich in polyphenols and antioxidant for health attributes

Fhatuwani Nixwell Mudau¹, Wonder Ngezimana² and Mpumelelo Nkomo¹

¹University of South Africa, South Africa

²University of Zimbabwe, Zimbabwe

Herbal teas are assumed to have health-promoting properties. Based on the historical success of indigenous South African herbal teas such as rooibos and honeybush and the growing interest in new herbal remedies, *Athrixia phylicoides* (bush tea) and *Monsonia burkeana* (special tea) have the potential to satisfy the global market owing

to their properties. Bush tea contains 5 hydroxy-6, 7, 8, 3', 4', 5'-hexamethoxyflavon-3-ol, 3-O-demethylgigicitrin, 5, 6, 7, 8, 3', 4'-hexamethoxyflavone, quercetins, antioxidants, polyphenols and tannins, and has no cytotoxic effects. Special tea contains significantly higher amounts of total polyphenols and antioxidants than bush tea, and as a result antioxidant and antimicrobial activity are higher. In this article, we review the major studies conducted on the phytochemical composition and processing of these new herbal teas and the agronomic practices carried out in producing them. Overall, the results of the studies conducted confirmed the potential of South African herbal teas for a broad spectrum of uses, including the treatment of various ailments. They also have potential in terms of plant-based antimicrobial agents.

mudaufn@unisa.ac.za

Antiplasmodial activity of methanolic leaf extract of mangrove plants against *Plasmodium berghei*

Muhaimin¹, Riski Dwimalida Putri¹, Andita Utami¹ and Josephine Elizabeth Siregar²

¹University of Jambi, Indonesia

²Eijkman Institute for Molecular Biology, Indonesia

Objective: Malaria is a mosquito-borne disease caused by parasitic protozoa from the genus of *Plasmodium*. The protozoans have developed resistance against many of current drugs. It is urgent to find an alternative source of new antimalarial agent. In the effort to discover new antimalarial agents, this research has been conducted on Jambi mangrove plants. This study was conducted to evaluate the antiplasmodial properties of Jambi mangrove plants.

Material & Methods: This study has been conducted by screening antiplasmodial bioactivity of methanol leaf extract of mangrove plants against *Plasmodium berghei*. Antiplasmodial activity from methanol leaf extract of mangrove plants, namely *Sonneratia alba*, *Acanthus ilcifolius*, and *Sonneratia caseolaris* were tested *ex vivo* against *Plasmodium berghei* strain ANKA infected into

Balb-C mice. Antiplasmodial activity were observed by calculating the parasitaemia percentage of *Plasmodium berghei* in mice red blood cells at 0 and 24 hours and expressed as decreased levels of parasitaemia and percent of inhibition.

Results: Based on the decrease of parasitaemia level and the percent of inhibition value, the three methanol leaf extracts of mangrove plants (*Sonneratia alba*, *Acanthus ilcifolius*, and *Sonneratia caseolaris*) concluded to have potential antimalarial activity. The highest activity showed by the methanol leaf extract of *Sonneratia alba* with percent inhibition as much as 48.5; 44.9; 42.7 and 18.8% at concentrations of 300, 100, 10 and 3 µg/ml. Antiplasmodial activity can also be studied from the inhibition of the development life cycle of plasmodium. Methanol leaf extract of *Sonneratia alba* have activity in inhibiting the development ring stage to which schizonts were not found at the extract concentration of 300 µg/mL. At lower concentration, trophozoite and schizonts still survived with defect morphological conditions.

Conclusion: The results of this study indicated that mangrove plant *Sonneratia alba* was a potent source of natural antimalarial drugs.

muhammad_73@yahoo.de

Effect of chanting Vitthal on heart: a clinical study

Prasad Joshi¹, Jyuthica K Laghate², Avinash Inamdar³ and Sanjeevani Inamdar³

¹Ved-vidnyan Research Centre, India

²Vishwanand Kendra - Center for Integrative Medicine and Research, India

³The Inamdar Heart Clinic, India

The present study aims to explore the effect of chanting vitthal on various heart parameters and energy of Heart Chakra. According to ancient Sanskrit language science, Yogic chakra concept and Ayurveda, Vitthal has connection with heart chakra. The study was conducted on 30 healthy volunteers and baseline screening was done using parameters like blood pressure, pulse rate, pulse pressure product, heart rate, and left ventricular

ejection fraction. Energy profiling of Heart Chakra was done using Biofield viewer and Electro scanning method. The results showed statistically significant differences at 5% significance in heart rate, blood pressure, pulse rate, pulse pressure product, ejection fraction as well as energy values before and after chanting vitthal for 9 minutes once as a part of study intervention. There was statistically significant increase in green pixel parameter which is the colour energy of Heart chakra. As far as the cardiac parameters, the study revealed that the chanting helped in improving the pumping action of the heart as suggestive of ejection fraction as well as regulating the blood pressure, pulse heart rate and pulse pressure product. It can be concluded, that chanting Vitthal has beneficial action on physiologic activity and energy of Heart and Heart Chakra.

prasadjosshi038@gmail.com

Cocculus hirsutus (L.) Diels an important medicinal plant serving as boon for herbal drugs

Rishikesh Meena and Mukesh Kumar Meena

Plant Pathology, Tissue Culture and Biotechnology Laboratory,
Department of Botany
University of Rajasthan, Jaipur, India

Medicinal plants have played an essential role in the development of human culture. Medicinal plants are resources of traditional medicines and many of the modern medicines are produced directly or indirectly from plants. This study illustrates the importance of traditional and modern medicines in the treatment and management of human diseases and ailments. It has been confirmed by WHO that herbal medicines serve the health needs of about 80 percent of the world's population; especially for millions of people in the vast rural areas of developing countries. Meanwhile, consumers in developed countries are becoming disillusioned with modern health care and

are seeking alternatives. Bioactive compounds produced during secondary metabolism are usually responsible for the biological properties of plant species used throughout the globe for various purposes, including treatment of infectious diseases. *Cocculus hirsutus* is an important species of flowering plant belonging family Menispermaceae. *C. hirsutus* is widely used medicinal plant in famine food and pharmaceutical industries. In Traditional medicine *C. hirsutus* is used in various state of India by most people especially in rural areas depending on herbal medicines to treat many diseases including inflammation-related ailments such as rheumatism, arthritis, muscle swelling, insect bites, pains, etc. *Cocculus hirsutus* is rich of chemical constituent, which have therapeutic and medicinal value like alkaloids, phenolic compounds, flavonoids, glycosides, and carbohydrates. *C. hirsutus* produces antipyretic, antispermatic, antidiabetic, antitumour, antimicrobial, diuretic and laxative activity.

rishi_1180@yahoo.com

Fertility regulating effects of Withaferin-A and Withanolide-A: a treatment in male albino rats

Pratap Chand Mali
University of Rajasthan, India

Background: Population explosion is creating immense pressure on natural non-renewable resources leading to economic imbalances, environment pollution and health hazards thus human fertility regulation becomes a global concern. However, a wide variety of contraceptives are available for fertility control to both men and women, although, caused some side effects in users. In recent years, use of traditional and alternative medicine has increased worldwide; number of modern drugs has been developed from natural sources, particularly plants, based on their use in traditional medicine.

Objective: Two Withanolide i.e. Withanolide-A and Withaferin-A were administered orally at the three different dose levels for 60 days to in adult male Wistar rats to evaluate effects on reproduction and fertility to develop a safe, orally effective and reversible male contraceptive agent.

Materials & Methods: Withaferin-A and Withanolide-A were separated from *Withania somnifera* dissolved in DMSO to administered orally. The initial and final body weights of the animals were recorded. Testes, epididymis, seminal vesicles and ventral prostate were dissected out, freed from adherent tissues and weighed to the nearest milligram. Sperm motility and density were done by routine procedure. To check fertility of animal mating was carried out with all the animals 5 days prior to sacrifice. The mated females could complete the gestation. The number of pups was recorded and litter size and percent fertility was calculated. Serum was separated and stored at 20°C

for protein, cholesterol and triglycerides. Serum was analysed for the estimation of testosterone, FSH and LH levels by ELISA Kits. Protein, glycogen, cholesterol, sialic acid ascorbic acid and fructose were estimated in right side of testis and other accessory reproductive organs. Sections of testes were stained with Harris's hematoxylin and eosin to observe under light microscope. Data are expressed as mean \pm SE and analyse for statistical significance by using student's t-test. The study was carry out under the supervision of the ethical committee of the Department of Zoology, University of Rajasthan, Jaipur, India and CPCSEA guidelines followed for maintenance and use of the experimental animals.

Results: The weight of testes, epididymites and sex accessory reproductive organs were significantly decreased. Sperm density and motility and fertility of treated male rats reduce significantly. The level of fructose, protein, ascorbic acid and sialic acid contents of reproductive tract were significantly declined after the treatment of both Withanolide. Level of LH, FSH and testosterone were significantly decreased in Withaferin-A and Withanolide-A treated rats. Histological observations showed degenerative changes in germinal epithelium of testes as compared to control rats.

Conclusions: The decreased number of spermatocytes, spermatids and spermatozoa in lumen of seminiferous tubules after the treatment of Withaferin-A and Withanolide-A in rats might be due to suppression of androgen, resulted reduction of fertility potential of rats. The possible mechanism of antispermatogenic and antiandrogenic effects of the Withaferin-A and Withanolide-A treatment are discussed.

malipc_zool@yahoo.co.in

Efficacy and safety of Hepano tablet in liver disorder patients with abnormal liver function test: a randomized active controlled prospective clinical study

Satyendra Kumar

Jamia Hamdard University, India

Hepano tablet is an Ayurvedic herbal formulation studied in pre-clinical models for safety and hepatoprotective efficacy. The current study was a randomized, active controlled, multicentre, prospective clinical study that aimed to evaluate hepatoprotective efficacy and safety of Hepano tablets. Male and female liver diseases patients (18-65 years) with abnormal liver function tests were randomized to receive two tablets twice daily orally of either Hepano or a marketed comparator for 8 weeks

with follow up at day 7, 14, 28 and 56 during treatment period and thereafter at day 84. Results were assessed from baseline to end of treatment basis changes in liver function tests and improvement in clinical symptoms of icterus in both the groups. Safety was assessed at all the visits basis changes in laboratory parameters and adverse event reporting for all cases who took at least one dose of the study drug. Hepano tablet and marketed comparator showed significant improvement in Liver functions - serum aspartate transaminase (AST), alanine transaminase (ALT) and total, direct and indirect bilirubin levels and a significant reduction in clinical symptoms of icterus that was comparable at all the visits. Results concluded Hepano tablets can significantly improve liver function tests and clinical symptoms in liver disease patients and could be consumed safely.

satyendra.kumar@mail.dabur

Novel antioxidant potential of commonly used plants of Unani system of medicine

Sharmila Chattopadhyay and Mehar D Kalim
CSIR-Indian Institute of Chemical Biology, India

Reactive oxygen species (ROS) mediated oxidative stress, which is involved in several pathological diseases, such as cancer, atherosclerosis, diabetes, inflammation, and aging considered as serious concern globally. Natural antioxidants are playing a leading role to control these devastating conditions. Exogenous dietary antioxidants, called nutraceuticals, are capable of scavenging ROS and have shown potential promise in preventing certain disease conditions. Present investigation has been designed to explore the antioxidant potential of five plants routinely used in the Unani system of medicine. For that, several plants were screened for ROS scavenging activity, and five plants showed better results were selected for further evaluation. 50%

aqueous-methanol extracts were prepared from these five Unani plants, viz. *Cleome icosandra*, *Rosa damascena*, *Cyperus scariosus*, *Gardenia gummifera*, and *Holarrhena antidysenterica* and their *in vitro* scavenging of DPPH, ABTS+, and capacity to prevent oxidative DNA damage were determined. Cytotoxic activity was also determined against the U937 cell line and showed no toxicity. The total phenolic, flavonoid and ascorbic acid contents of the extracts were in the ranges 62.89±0.43 - 166.13±0.56 mg gallic acid equivalent (GAE)/g extract, 38.89±0.52 - 172.23±0.08 mg quercetin equivalent (QEE)/g extract and 0.14±0.09 - 0.98±0.21 mg AA/g extract. In conclusion, these routinely used Unani plants, viz. *C. icosandra*, *R. damascena* and *C. scariosus*, reported to have significant activity against several human ailments, could be exploited as potential sources of natural antioxidants as well as towards the development of dietary antioxidants or nutraceuticals.

sharmila@iicb.res.in

Influence of environmental factors on the effectiveness of an antidiabetic plant: *Laportea ovalifolia* (Schumach. and Thonn.) Chew. (Urticaceae)

Tsabang Nole^{1,2}, Yedjou Clement G² and Tchounwou Paul B³

¹University of Yaounde1, Cameroon

²University of Dschang, Cameroon

Objective/Purpose: The environmental factors have influence on the effectiveness of medicinal plants. Plants collected without taking in consideration these influences may be insignificant active or not active. Furthermore active plants harvested habitats may not active when they are collected out of these habitats. These hazardous medicinal plants' harvesting is responsible of the traditional healer's failed treatments. The failure in the treatments happened when traditional healers change their native region, where they usually collect plants. The purpose of this study is to verify the influence of changing of the habitat of a plant in the traditional healers' treatments of diabetes. However, this evaluation of traditional healers' diabetic patients' treatments according to habitats of plant used has not been previously studied.

Material & Methods: An ethnopharmacological survey was carried out at traditional healers who treat diabetes

with *Laportea ovalifolia*. In previous studies we have controlled 30 patients using drugs prepared with material brought from Fongo-Tongo (native habitat) and in the second we controlled 30 patients treated with material collected in Mount Nkala (residential habitat). Patients used their glucometers during the control.

Results: The variety harvested is a perennial male plant. The mean level of blood glucose in diabetic patients of group 1 who took the plant harvested from Fongo-Tongo (West region) became normal between 1 to 10 days. The mean level of blood glucose in those of group 2 who took the plant harvested in *Indian Journal of Natural Products and Resources, International Journal of Biological and Chemical Sciences, Journal of Medicinal Plants and Research and African Journal of Biotechnology* out Nkala (Centre region) failed town between 3 to 15 days.

Conclusion: The differences between the values of blood glucose concentrations in the two cases were not significant. Recommendations are made for chemists to determine the chemical composition of the samples of *Laportea ovalifolia* that would help to explain the variation of the active compounds responsible of the failure of blood glucose level.

tsabang2001@yahoo.fr
tsabang@hotmail.com

Traditional Chinese Medicine Associated With Quantum Therapy To Prescription Of Trace Element Chromium And Quantum Frequencies In Patients With Depression

Wilson F.S. Neto

College Mario Schenberg (CEATA), Brazil

Objective: To present the trace element chromium, the quantum frequency Desobesim and the quantum frequency Krebs as indication in patients with depression

Methods: an interrogation was used according to the precepts of Traditional Chinese Medicine (TCM), in which two patients responded orally to a questionnaire of 32 questions filled by the health professional. This interrogation covers constitutional and environmental aspects (addictions, habits and customs acquired). The myriad of Traditional Chinese Medicine water towards psychosomatic medicine, since they are areas seeking the origin of the cause of diseases. For this, the issues have been formulated objectively and contextually according to the current history and former of each individual to thus avoid evaluation errors that certainly incurred in the failure of the treatment. Every four questions formulated specifically corresponded to an organ (Zang) and/or Viscera (FU). The organs or viscera that added more

amount of YES in the interrogation was regarded as the organ or viscera with greater imbalance. It is not uncommon for the diagnosis of Traditional Chinese Medicine (TCM) not to point out energetic imbalance in the meridian of the liver and pericardium, even if the patient was clinically diagnosed with depression. In this way, the prescription of trace element chromium and the Desobesim and Krebs Modulators, are added to other floral frequencies and modulars corresponding to the organs diagnosed by the Traditional Chinese Medicine diagnostic method.

Result: has been observed that patients with depression produce neurotoxins triggering various degenerative frames. After 120 days of use of the inductors and modular floral frequencies incurred in the natural detoxification of the organism when restoring the healthy frequency of brainwaves

Conclusion: Evident conclusion that much additional study will be needed before a clear understanding between Traditional Chinese Medicine and Quantum Medicine. This treatment can stimulate future investigations in this highly significant area for exploratory study in depression. The limits of the study, because it is a sample composed of two patients, the data cannot be widespread for the population.

doutorneto@hotmail.com

Role of Autophagy in Cardiac Hypertrophy: An Insight into Use of Autophagy-Targeted Drugs

Vandana Sankar

CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Kerala, India

Objective / Purpose: Cardiovascular diseases (CVD) are the leading cause of death in the world. The percentage of deaths due to CVD is equivalent to that due to cancer, COPD, diabetes and other non communicable diseases put together. Hypertension ranks among the first risk factors for CVD. Sustained hemodynamic load imposed by hypertension on the heart leads to cardiac remodeling. Hypertrophy is the first and foremost element in cardiac remodelling. Hypertrophy, even though an adaptive mechanism initially, leads to heart failure in the long run. Hence prevention of hypertrophy is a major therapeutic target. Autophagy is a cellular homeostatic process that involves lysosome-dependent turnover of organelles as well as proteins. Alterations in autophagy may occur in cardiac pathologies. Efforts to target autophagy selectively in the cardiac cells may be a logical step towards development of novel therapeutic strategies for the prevention of hypertrophy and thereby heart failure. In this backdrop, the main objective of the study was to determine the regulation of autophagy in hypertrophy using known inhibitors and activators of autophagy. Another objective is to test the effect of selected natural compounds on autophagy and determine the end outcome on hypertrophy.

Material and Methods: Hypertrophy was induced by exposing H9c2 cell lines (rat embryonic cardiomyoblasts) to β -adrenergic receptor agonist, isoproterenol (ISO). Evaluation of hypertrophy was carried out by analyzing the size of the cells using phase contrast microscopy and flow cytometry. Autophagy was assessed by confocal microscopy and flow cytometry utilizing a novel autophagy-specific dye. Rapamycin (RAP) and chloroquine (CHL) were used as activator and inhibitor of autophagy respectively. LC3B and LAMP2 protein markers of autophagy were detected by immunofluorescence microscopy and immunophenotyping. Lysosomal activity was also measured.

Results: ISO stimulation induced hypertrophy (27% increase in cell size) in H9c2 cell line. Autophagy was

found to be significantly lower in ISO- stimulated cells when compared to control. RAP showed a heightened induction of autophagy in the cells. Surprisingly, in ISO+RAP cotreatment group, there was a robust induction of autophagy which was significantly higher than that of other groups. CHL and ISO+ CHL groups showed negligible autophagy when compared to other groups. In ISO+RAP, the heightened autophagy induction well correlated with increased hypertrophy of the cells ($p \leq 0.05$). There was a proportional increase in granularity with increase in cell size as well. Lysosomal activity was significantly higher for ISO even though it demonstrated lower autophagic activity. In addition, increased autophagic activity correlated with increased lysosomal activity in ISO + RAP group. LC3B puncta was significantly higher in ISO+CHL indicating inhibition of LC3 turnover. Increased autophagy (26.5% increase) could be associated with exacerbation of hypertrophy (120% increase) as cellular hypertrophy was found to increase significantly in ISO+RAP group. Chloroquine, being an autophagy inhibitor, reduced autophagy and also reduced (52%) the percentage of hypertrophied cells. Thus it is inferred that by inhibiting autophagy, it is possible to attenuate hypertrophy, even though further investigations have to be done to establish the findings.

Conclusion / Discussion: Reduction of cardiac hypertrophy as a strategy for prevention of cardiac failure is a fairly novel area as till recently; regression of cardiac hypertrophy was not attempted as it was considered to be an adaptive change. In view of the fact that therapeutic option for cardiac failure is limited, it is appropriate to prevent the progression of cardiac hypertrophy to failure. The current study is aimed to target autophagy in cardiac hypertrophy which will hopefully provide an insight into a potential therapeutic strategy. Moreover, studies are aimed to test the effect of selected natural compounds on autophagy and observe the end outcome on hypertrophy. With the thrust given on the use of natural products and herbal medicines and the absence of scientific records in line with modern medicine, research in this direction will have a great impact on the acceptance of traditional medicine as well. I sincerely hope that the Herbal and Alternative Medicine Conference 2017 will provide a platform for suggestions regarding natural products that can be used in the current study and prospects for future collaborations.

saavan1998@gmail.com