

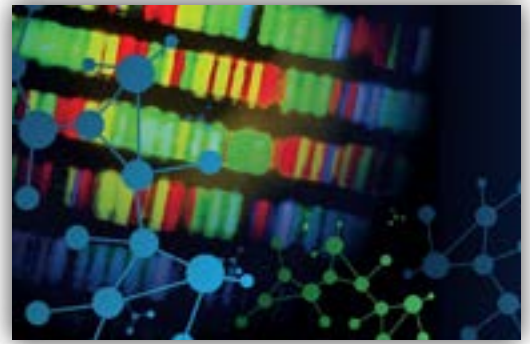
3rd International Conference and Expo on

Herbal & Alternative Medicine

September 01-02, 2017 London, UK

Keynote Forum Day 1

Herbal Medicine 2017





Nripendranath Mandal

Bose Institute, Kolkata, India

Drug development from natural resources: an insectivorous plant, *Drosera burmannii*, is a source of better medicine to combat breast cancer by altering tumor-microenvironment

The routine conventional therapy can not differentiate between the malignant and normal cells. Due to this problem, purified chemical drug therapy i.e., Chemotherapy often manifests into harmful side effects in patient's body. Drug resistance, in some cases, is also another major problem. Thus, it is still a challenge for scientific community to develop new therapies focusing on cancer cell and its microenvironment including inflammation, while avoiding the detrimental side effects of conventional therapies involving synthetic drugs. We have explored various natural resources including medicinal plants, algae and lichens for their potent antioxidative and free radical scavenging efficacies, among which eleven resources have shown *in vitro* anticancer effects in various cancer cell lines by inducing apoptosis and/or regulation of cell cycle, while being nontoxic to the normal cells. For the first time, Sundew plant, *Drosera burmannii* an insectivorous plant have been investigated for *in vitro* anticancer and anti-inflammatory activity. 70% methanolic extract of *D. burmannii* (DBME) selectively inhibited the proliferation of breast cancer (MCF-7) cells without affecting the viability of other malignant and non-malignant cells. DBME induced G2/M phase arrest and apoptosis in MCF-7 cells by suppressing the expression of cyclin A1, cyclin B1 and Cdk-1; and increasing the expression of p53, Bax/Bcl-2 ratio leading to activation of caspases

and PARP degradation, hence, activating both the pathways of apoptosis. DBME also down regulated LPS-induced increased expression of iNOS, COX-2 and TNF- α along with suppression of intracellular ROS production which confirms the potential of DBME as anti-inflammatory extract. DBME also showed excellent ROS and RNS scavenging along with iron chelation and DNA protection activity. GCMS and HPLC analysis of DBME revealed the presence of several bioactive phytochemicals. Hence, *D. burmannii* can be considered as a useful source for the discovery of new drug leads against breast cancer.

Biography

Nripendranath Mandal has completed his PhD in the year of 1990 from University of Calcutta and Postdoctoral studies from MIT, NCSU and SLUHSC, USA since 1989-1996. He is the Professor in the Division of Molecular Medicine, Bose Institute, a premier research institute founded by Sir J C Bose, Calcutta, India. He has published 142 papers in reputed journals, patents from seven countries, book chapters, News Media, etc., and serving as reviewer for various renowned journals. He has been elected Fellow of SERS, Meerut, 2015 and FZS, Kolkata, 2014 and also received various awards and recognition for his marvellous research output.

mandaln@rediffmail.com



Ning-Sun Yang

Agricultural Biotechnology Research Centre-Academia Sinica, Taiwan (ROC)

Potent and multi-faceted immune-modifying activities of specific phytochemicals from medicinal herbs

Recent studies showed that a spectrum of innate immune responses, various immune cell types and their cross-talks, and the associated inflammatory activities are involved with many different types of diseases. These findings strongly suggest that, by modulating specific immune cell responses or mechanism-defined, molecular/and cellular inflammation-suppressing activities of targeted diseases, we may then design new approaches for therapy or treatment of organ-specific inflammatory and chronic diseases, e.g., colitis, dermatitis, IBD and some cancers. Interestingly, it's well known and appreciated that traditional Chinese medicine (TCM), especially some commonly used medicinal herbs, claimed with functional specificity (e.g., anti-dermatitis, promote wound-healing), and routinely used historically for hundreds to thousands of years, have been established for their "strong anti-inflammatory" activities toward specific organ/tissue targets. With the observations and understandings, my laboratory has investigated a group of phytoextracts or the derived pure phytochemicals from specific TCM plants, and evaluated their bioactivities/effects, *in vitro* and *in vivo*, on dendritic cells, MDSCs, Th17, Tregs and other immune cell types

in mouse models of skin inflammation, colitis and tumor metastasis systems. Experimentally, we employed functional genomics, proteomics, transgenic promoter analysis, cytokine/chemokine profiling, micro RNA array and signaling pathway analysis systems in various cross-examination studies. Results and findings, published in seven key papers during the past several years will be discussed and projected for future research directions. The key lesson we learned from these studies: Highly specific cellular, molecular and signaling pathway effect on mouse and human dendritic cells, tumor stromal cells, skin tissue cells can be obtained by specific phytochemicals from TCM, apparently contributing to the potent inflammatory-modulatory activities in test animals of various disease models.

Biography

Ning-Sung Yang is a Distinguished Professor and Distinguished Research Fellow of Academia Sinica and the associated universities in Taipei, Taiwan. His major research interests include gene-based cancer vaccines, anti-inflammatory and anti-cancer phytochemicals, and functional genomics studies of dendritic cells. He has helped the development of gene gun technology and pioneered its application to mammalian transgene experimental systems and gene therapy approaches. After thirty years of a research career in USA, he went back to his home town in Taiwan and established the Agricultural Biotechnology Research Center in Academia Sinica, Taipei, which is now recognized for medicinal herb and crop plant research. He was elected in 2006 as a member of the American Association for the Advancement of Science (AAAS, USA). He has published more than 160 research papers, and obtained 14 USA patents.

nsyang@gate.sinica.edu.tw



Seonghyung Cho

Korea Pain Diagnosis Society, South Korea

New treatment about sacral torsion: Joint Energy Technique (JET)

Muscle Energy Technique (MET) is utilized to correct pelvic asymmetry, inhibit pain, and improve disability in Sacroiliac joint dysfunction (SIJD). But sometimes the patient in SIJD is in too much pain to contract a muscle or may be unable to cooperate with instructions or positioning. Moreover there are patients unable to be cooperative due to age, intellectual capacity during sacral MET. Thus this study introduces the new treatment of Joint Energy Technique (JET) to easily apply for SIJD relatively regardless of a patient's condition. A new concept of JET in SIJD is proposed to solve the difficulties, which is simple and easy to apply to practice. The aim of this study was to investigate whether the rotational direction of innominate altered after JET on sacral torsion problem in comparison with JET on neutral position. The 80 subjects in age group of 15-68 years with low back pain were randomly assigned and confirmed as Left on Left (LOL) sacral torsion with seated flexion test, Faber test and Stork test in right SIJ with ipsilateral pronated foot. This study revealed that there was a statistically significant ($P < 0.001$) difference in pre and post treatment of JET between both groups. The Stork test was changed from positive to negative in 37 subjects of group (A). In group (B), 6 subjects were changed from positive to negative. A new concept

of JET is simple and easy to apply to practice in the treatment of patients with SIJD. This trial is revealed that JET is significantly effective in correction of SIJD and sacral torsion. JET should be considered as an adjunctive intervention in SIJD treatment.

Biography

Seonghyung Cho, MD, OMD graduated from the College of Medicine, Chosun University for MD in 1999 and then graduated from the College of Oriental Medicine, Daejun University for OMD. He has published 5 books about musculoskeletal pain and delivered numerous seminars introducing the diagnosis and treatment of musculoskeletal pain. He has devised concepts: Functional Orthopedic Stimulation Therapy (FOST) including Joint Energy Technique (JET), shoulder capsular approach, biomechanical neural mobilization, Biomechanical acupuncture, etc.

medicx@hanmail.net



Oroma Nwanodi
Locum Tenens, USA

Nutraceuticals: Nongynecologic Cancer Chemoradiation Sensitizers, Chemopreventives and Adverse Effect Resolvers

Nutraceutical chemoradiation sensitization can reduce conventional chemoradiation dosing, in turn reducing conventional chemoradiation adverse effects, while maintaining chemoradiation therapeutic effectiveness. Nutraceuticals also prevent and treat chemoradiation adverse effects from anxiety and depression through xerostomia. Improved quality of life motivates up to 75% of integrative oncology users. Nutraceutical chemoprevention should motivate everyone towards healthy diet consumption. Diindolymethane and indole-3-carbinol can sensitize pancreatic cancer to conventional chemotherapy. Sulforaphane chemosensitizes arsenic trioxide, doxorubicin, and gemcitabine. Turmeric is synergistic with docetaxel in lung cancer treatment. Inositol hexakisphosphate chemosensitizes for irinotecan colon cancer therapy. Withaferin A is synergistic with doxorubicin. Curcumin radiosensitizes prostate cancer, polyunsaturated fatty acids radiosensitize renal cancers, and sulforaphane radiosensitizes head and neck cancers. Some Ferula species derived monoterpenes independently reverse multidrug resistance via p-glycoprotein inhibition.

Other Ferula species derived monoterpenes need synergism with vinblastine to reverse multidrug resistance. Fermented nutraceuticals may offer additional micro-organism derived chemopreventive properties. Diets can now be targeted against a given type of cancer. Individual nutraceuticals such as rice bran possess multiple encompassing chemopreventive mechanisms of action: anti-oxidation, anti-proliferation/pro-apoptosis, immune modulation, and mucosal protection. Chemoradiation sensitization equivalence, anti-angiogenesis, and immune modulation are a few areas for future research. Chemopreventive dietary research can explore the quality of consumed products in addition to component portions. Nutraceutical chemoradiation sensitization has the potential to positively affect most cancer patients.

Biography

Oroma Nwanodi graduated from Meharry Medical College of Nashville, Tennessee in USA as a Medical Doctor in 2001. She specialized in Obstetrics and Gynecology at The University of Massachusetts and Maimonides Medical Center. In 2013 and 2014, she obtained specialization in Integrative Holistic Medicine. In 2016, she completed the Doctor of Health Science program at A T Still University, Mesa, Arizona. She has practiced in California, Missouri, Minnesota, and Wyoming. She has published more than 25 papers in reputed journals and serves as an Editorial Board Member for several journals.

o.nwanodi@juno.com



Jun Xu

Sun Yat-Sen University, China

Chinese herbal medicine innovation through chemoinformatics

Chemoinformatics has been applied in Chinese herbal medicine studies for decades. These studies mainly focus on creating databases, mining the active components, or classifying the Chinese herbal medicines into hot or cold according to the theory of Chinese Medicine. Conceptually, however, Chinese herbal medicine is significantly different from western medicine. From the view point of modern pharmacology, a drug acts against at least one disease, while a Chinese herbal medicine is taken against at least one symptom that can be caused by many diseases. In this talk, the relationship between the drug targets and the Chinese medical concepts is articulated through herb-chemome-MOA network (HCMN). Based upon the privileged chemotypes (chemome) in HCMN, the knowledge intrinsic to Chinese medicine can be translated into new agents against the targets through the steps in this protocol: (1) elucidate herbal compatibilities, (2) identify active constituents, (3) derive privileged chemotypes, (4) select targets by referencing HCMN, (5) enumerate a virtual library by connecting the privileged chemotypes with chemical linkers, (6) generate conformations for the compounds in the virtual library, (7) virtually screen this library against the selected targets from step 4, and (8) confirm the hits by biological assays. The approach can

offer a bridge between Chinese herb treatments and the search for molecular targets thus helping to discover new chemotherapies for other systemic diseases.

Biography

Jun Xu received his PhD from University of Science & Technology of China, and Postdoctoral studies from Australian National University and McGill University. He is the Professor of School of Pharmaceutical Sciences and the Founding Director of Research Center for Drug Discovery at Sun Yat-Sen University (SYSU). Prior to joining SYSU, he worked in US pharmaceutical industry, practicing chemoinformatics and computer-aided drug design (CADD) for over 20 years. He was a Principle Scientist at Boehringer Ingelheim Pharmaceuticals, Inc., and Research Director for BIO-RAD Sattler Labs, Biofocus/DPI and other firms. He has published more than 90 papers in reputed journals.

junxu@biochemomes.com

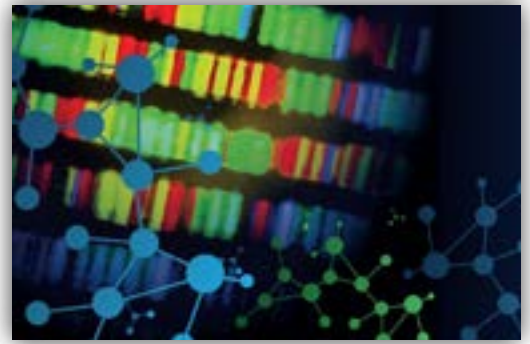
3rd International Conference and Expo on

Herbal & Alternative Medicine

September 01-02, 2017 London, UK

Keynote Forum Day 2

Herbal Medicine 2017





Pierluigi Pompei
University of Camerino, Italy

ALCAT® test and dysbiosis: A new insight

Aim: The objective of the study was to evaluate whether food intolerance is associated with an intestinal dysbiosis.

Method: 77 patients (122 females, 54 males, 36.5 average age) positive for dysbiosis test were tested by food intolerant test ALCAT®. Dysbiosis test is considered positive when at least one of the parameters considered (named INDICANO and SCATOLO, both tryptophan metabolites) exceeds 10 µg/L (mild dysbiosis). The dysbiosis diagnosis ranges used were: between 10 and 20 µg/L (mild dysbiosis), between 20 and 40 µg/L (medium dysbiosis), greater than 40 µg/L (severe dysbiosis). The ALCAT® test is an automated cytotoxic test for intolerance that electronically measures volumetric shift in blood cells following incubation with food antigens. The degree of reactivity was determined by comparing a baseline distribution curve against the distribution curve generated by the analysis of each test agent/blood sample and by calculating the absolute

differences between curves and the standard deviation (SD).

Results: Patients with a mild dysbiosis, uniquely determined by values between 10 and 20 µg/L of the INDICANO parameter, exhibit higher degree of reactivity compared to patients with a diagnosis of severe dysbiosis (both parameters higher than 40 µg/L).

Conclusion: This study provides evidence than in the presence of a limited alteration of the intestinal permeability, a reaction to food antigens (via ALCAT® test diagnosis) can be more severe in patients with greater intestinal permeability condition.

Biography

Pierluigi Pompei has completed his PharmD in 1988 at the University of Camerino and his PhD degree in 1994, at the University of Ancona, Italy. He is currently Associate Professor in the Unit of Pharmacology of the University of Camerino, where he is Head of the Lab of Pharmacology and Sport Nutrition, and Head of the County Marche for the SANIS (School of Sport Nutrition).

pete.pompei@unicam.it



Oroma Nwanodi
Locum Tenens, USA

Alternate, complementary, and preventive oncologic nutraceuticals


Nutraceutical use may be targeted at any number of health-related goals. Numerous nutraceutical classifications exist. Within each nutraceutical class, are nutraceuticals with oncologic benefits. Therefore, this presentation seeks to illustrate nutraceutical classification with an emphasis on preventive, complementary (additive, synergistic, or adverse effect ameliorating), and alternative (curative) oncologic nutraceuticals. Most nutraceutical categories abound with existing or potential alternative, complementary, and preventive oncologic nutraceuticals. Organic acids may be chemopreventive. Alkaloids are well established as chemopreventive via *Camellia sinensis*, and alternative, via *Taxus* spp. derivatives. Polysaccharides include immune boosting chemopreventive mushrooms and complementary ginseng, which reduces radiation therapy adverse effects. Organosulphurs may inhibit lung cancer and prevent estrogen excess driven

cancers. Docosahexanoic acid has dose-dependent anti prostate cancer activity. Nutraceutical bases for homeopathic remedies retain direct medicinal activity. The breadth and depth of nutraceuticals should result in more than 25% of conventional pharmaceuticals being nutraceutical derived. Bio-pharmacologic engineering harnessing microorganisms to produce phytonutrients reduces the likelihood of supply limitations that have affected *Taxus* spp. derivatives. The future could experience decreased cancer incidence, more tolerable and more effective cancer treatment.

Biography

Oroma Nwanodi graduated from Meharry Medical College of Nashville, Tennessee in USA as a Medical Doctor in 2001. She specialized in Obstetrics and Gynecology at The University of Massachusetts and Maimonides Medical Center. In 2013 and 2014, she obtained specialization in Integrative Holistic Medicine. In 2016, she completed the Doctor of Health Science program at A T Still University, Mesa, Arizona. She has practiced in California, Missouri, Minnesota, and Wyoming. She has published more than 25 papers in reputed journals and serves as an Editorial Board Member for several journals.

o.nwanodi@juno.com

 Notes:



Nik Soriani Yaacob
Universiti Sains Malaysia, Malaysia

Anticancer effects of *Strobilanthes crispus* in experimental breast cancer


Limited efficacy and concerns over toxicity of chemotherapeutic drugs have contributed to the worldwide increase in the use of herbal products by cancer patients. Natural products have always been an unrivalled source of anticancer therapeutics due to their seemingly compatible biological activities. We investigated the anticancer activities of a native plant, *Strobilanthes crispus*, valued for its traditional medicinal use. A number of studies demonstrated that *S. crispus* crude extracts are cytotoxic to cancer cell lines. We showed that a bioactive sub-fraction of *S. crispus* leaves (SCS) induced cell cycle arrest and apoptosis of human breast cancer cell lines. The mechanism involves perturbation of mitochondrial function and modulation of cell cycle regulatory proteins and apoptotic signaling molecules. SCS acted synergistically with the anti-estrogen, Tamoxifen, suggesting the potential to achieve the desired cytotoxic effect in cancer treatment at lower drug doses with the potential for reduction in side effects or toxicity of the drug on non-cancerous cells.

SCS also displayed potent anticancer effects in vivo. SCS reduced tumour volume and tumour multiplicity in rats bearing N-methyl nitrosourea-induced mammary tumors. These were accompanied by modulation of the expression of cyclins and cyclin-dependent kinases as well as various signaling molecules of both the intrinsic and extrinsic pathways. Interestingly, SCS is also capable of activating the immune system in vivo that may contribute to the anticancer effects of SCS. Importantly, hematological and clinical biochemistry profiles indicated that SCS is relatively safe, further lending support for the therapeutic potential of SCS.

Biography

Nik Soriani Yaacob is a Professor at the School of Medical Sciences, Universiti Sains Malaysia. She obtained her BSc and MSc from Australia and completed her PhD in UK. She has held several administrative posts in USM, including the Deputy Dean for Research at the School of Medical Sciences and currently holds the Directorship of the Medical and Health Sciences Nexus of the university, which is tasked to bring together various research groups to address a particular health issue for the country. Her own research focuses on the use of natural products as potential anti-cancer agents.

niksoriani@usm.my

 Notes:



Eun-Tae Jo

Joint & Spine Pain Center, Kwang-ju, Korea
Korea Pain Diagnosis Society, Korea

Biomechanical approach related to meridians and myofascias: Biomechanical acupuncture

Biomechanical acupuncture originated from the biomechanical approach of treating musculoskeletal pains by Myofascial concepts of Western medicine and Meridian concepts of Traditional Chinese Medicine (TCM). There have been various attempts to treat musculoskeletal pains using needle stimulations around the East and the West. But practical point of views, most practitioners agree upon the difficulties in choosing exact treatment points. In this paper, a new concept of Biomechanical acupuncture is proposed to solve the difficulties, which is simple and easy to apply to everyday practice but comprehensive enough to integrate modern myofascial concepts of the West and traditional Meridian concepts of the East. In the basis of biomechanical acupuncture, myofascial concepts don't mean trigger points developed by Janet G Travell and David G Simons but biomechanical network of anatomical myofascia spreading through human body. And acupuncture points in TCM related to 12 Meridian theories are to be used in the treatment of musculoskeletal pains through myofascial concepts. Owing to ceaseless connection of the whole myofascia, a disorder in one region may be expressed in the form of pain and limitation on certain movement in other part of body mainly in the same myofascial tension line by biomechanical dysfunction. When one attempts to move freely on the condition that one side is fixed, one's

body is bound to take compensatory overloading. As a result, a cause of biomechanical dysfunction gets to be enlarged. Repeated stresses transcending the limited range give rise to a local inflammation or a pain. According to these concepts I can approach goals of treatment: 1. improvement of biomechanical overloadings, 2. restoration of neural function, and 3. maintenance of optimal alignment. Biomechanical acupuncture doesn't cure and heal anything. All it does is set body back to normal so that healing process begins. Biomechanical acupuncture combined prevailing treatment concepts of both the East and the West is a new effective treatment method of Functional Orthopedic Stimulation Therapy (FOST) in the common pain problems arising from musculoskeletal system. Through this new method of treatment, all types of practitioners who use needle stimulations as their main treatment modality can benefit from ease of its application and consistency of its effectiveness.

Biography

Eun-Tae Jo has completed his PhD from Daegu Haany University and is a Member of Korea Pain Diagnosis Society. He presented a poster at 9th Interdisciplinary World Congress on Low Back and Pelvic Girdle Pain in Singapore on 31 October 2016. He is the co-author of "Shoulder Treatment ABC".

akarmajo@naver.com