1867th Conference

Breast Pathology and
MedChem & Rational Drugs 2018

6th World Congress and Expo on

Breast Pathology and Cancer Diagnosis

&

20th International Conference on

Medicinal Chemistry and Rational Drugs

July 25-26, 2018 | Vancouver, Canada

Scientific Tracks & Abstracts

Day 1

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Marine bioactive natural products from coral-derived fungi collected from the South China Sea

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Symbiotic microorganisms in corals have proven to be a rich source of structurally novel and biologically active secondary metabolites that have become interesting and significant resources for drug discovery. In recent years, during our ongoing study on bioactive natural products from the South China Sea, diverse bioactive secondary metabolites with variety structures have been isolated from coral-derived fungi, such as alkaloids, macrolides, anthraquinones, and peptides. For instance, a pair of new enantiomeric alkaloid dimers, (+)- and (−)-Pestaloxazine A, with unprecedented symmetric spiro-[oxazinane-piperazinedione] skeleton, consisting of 22 carbons and 12 heteroatoms, were isolated from a *Pestalotiopsis* sp. fungus derived from the soft coral *Sarcophyton* sp.. A series of prenylated indole alkaloids were isolated from Aspergillus sp. fungus derived from the gorgonian coral *Dichotella gemmacea*. Quinazoline alkaloids with heptacyclic skeleton formed via a bridging hemiaminal linkage was isolated from *Scopulariopsis* sp. fungus derived from gorgonian *Carijoa* sp. Prenylated dihydroquinolone derivatives were obtained from the fungus *Aspergillus* sp. cultured from gorgonian *Muricella abnormalis*. And a series of 14-membered resorcylic acid lactones (RALs) belonging to a family of benzannulated macrolides were obtained from a gorgonian-derived fungal strain *Cochliobolus lunatus*. The compounds exhibited diverse promising bioactivities, including antifouling activity against barnacle *B amphitrite,* antibacterial activity towards pathogenic bacteria, cytotoxicity against human tumour cell lines, and antiviral activity against human respiratory syncytial virus (RSV) and enterovirus 71 (EV 71). It could be concluded that the bioactive secondary metabolites produced by coral-derived symbiotic microorganisms should be a rich source for discovery of marine lead compounds.

Biography

Chang-Yun Wang received his PhD degree in marine drugs from Ocean University of China, Qingdao in 1999. From 2000 to 2002, he moved to University of Duesseldorf, Germany, and joined the research group of Prof. Peter Proksch as a DAAD fellow. Since 1995, he is a professor of marine pharmaceutical chemistry at Ocean University of China. He is a member of the Commission of Marine Drugs Special Committee, Pharmaceutical Association of China. He has published more than 100 papers in reputed journals and has been serving as an editorial board member of repute.

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Notes:

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Dopamine receptor Type 1 (D1R) in breast cancer: Expression, signaling, and therapeutic applications

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Dopamine (DA) is a catecholamine which acts as a neurotransmitter in the brain and as a circulating hormone in the periphery. DA binds to five G-protein-coupled receptors, classified by their ability to increase cAMP (D1R and D2R) or decrease cAMP (D2R, D3R and D4R). We discovered D1R overexpression in breast cancer cell lines and tumors, thus identifying this receptor as a biomarker and a novel therapeutic target in breast cancer. Using tissue microarrays, D1R was overexpressed in 30% of 751 primary breast carcinomas, and was undetectable in normal breast tissue. D1R overexpression was associated with larger tumors, higher grades, node metastasis, and shorter patient survival. Unexpectedly, selective D1R agonists signal via the cGMP/protein kinase G (PKG) pathway. Activators of this pathway suppressed cell viability, inhibited cell invasion, increased chemosensitivity, and induced apoptosis in breast cancer cell lines. Fenoldopam, a peripheral D1R agonist which does not penetrate the brain, dramatically suppressed growth of D1R-expressing xenografts in two mouse models by increasing both apoptosis and necrosis. We also developed a fluorescent imaging method for D1R-expressing tumors and metastases in these mice. Ongoing studies are optimizing a positron emission tomography (PET) imaging for detecting D1R-expressing tumors in patients. In conclusion, D1R overexpression is associated with advanced disease and poor prognosis. Activation of the D1R/cGMP/PKG pathway induces apoptosis *in vitro* and causes tumor shrinkage *in vivo*. Fenoldopam, which is FDA-approved to treat acute renal hypertension, could be repurposed as a novel therapeutics for a sub-population of patients with D1R-expressing breast tumors who fail to respond to conventional treatments.

Biography

Nira Ben-Jonathan published 175 manuscripts, edited one book, and contributed 12 chapters to textbooks and encyclopedias. She mentored 65 students, fellows and research scientists. She was awarded the NIH Research Career Development Award, was elected Fellow of the AAAS, and elected Chairman of the Gordon Research Conference on Prolactin. She received the Rieveschl Award for Outstanding Scientific Research, and the Edward Merker Lectureship in Translational Endocrinology. Over the years, she served as a member on numerous study sections of the NIH, DOD, and the Komen foundation, and as chairman on five NIH study sections.

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A Novel prodrug of glutamylcyclotransferase inhibitor has anti-proliferative activity *in vitro* and anti-cancer activity *in vivo*

Hiromi Ii[1], Taku Yoshiya[2],Susumu Nakata[1], Keiko Taniguchi[1], Koushi Hidaka[3], Shugo Tsuda[2], Masayoshi Mochizuki[2], Yuji Nishiuchi2, Yuko Tsuda[3], Kosei Ito[4], Susumu Kageyama[5] and **Tatsuhiro Yoshiki[1,4]**
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[2]Peptide Institute Inc., Japan
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C7 or f24 was discovered as a highly expressed protein in bladder cancers by a proteomic analysis and later identified as the α-glutamylcyclotransferase (GGCT). The silencing of GGCT using siRNA inhibited cancer cell proliferation and tumor growth in mice inoculated with cancer cells. However, the relationship between GGCT enzymatic activity and these phenotypes remained unknown. Therefore, we tried to identify a potent GGCT inhibitor and investigated its anti-cancer activity *in vitro* and in a xenograft mouse model. We performed a screening of GGCT inhibitors from 41 candidate compounds, and identified N-glutaryl-L-Ala (GA) that showed the highest inhibitory activity. Next, we used a NBD fluorochrome-tagged GA, Nα-glutaryl-L-Lys (NBD), to evaluate cell permeability. However, no signal derived from NBD was observed inside cells. In order to improve its permeability, we generated a less polar prodrug "Nα-methoxyglutaryl-L-Lys(NBD)-OCH2OCOCH3 (Me-gKFA-AM)" where carboxylates in the structure of the parent inhibitor were substituted by alkyl esters. As had been expected, Me-gKFA-AM was successfully internalized into the cells and conversion of the prodrug into the parent drug in MCF-7 breast cancer cells was confirmed by HPLC. We demonstrated anti-proliferative activity of the methyl-acetoxymethyl ester prodrug of GA (pro-GA) in human MCF7, HL-60, and PC3 cancer cells *in vitro*. Moreover, pro-GA administration exhibited anti-cancer effects in a xenograft model using immunocompromised mice inoculated with PC3 cells. These results indicate that the pro-GA may be promising as a lead compound to inhibit GGCT activity for the novel cancer therapeutic strategy.

Biography

Hiromi Ii has completed her PhD at Kyoto Pharmaceutical University in 2008 and postdoctoral studies at University of Washington. She is an assistant professor of the Department of Clinical Oncology, Kyoto Pharmaceutical University.

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Notes:

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Transforming the battle with cancer

Annie Pool
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The fear of cancer can cause more harm than anything else. This fear propels people to take immediate action out of a sense of urgency - but often not the right kind of action. Oftentimes, those who are diagnosed with cancer end up submitting themselves to all manner of treatments and so-called cancer cures in the hopes of surviving their disease. However, the less focused one is in the healing process, the more anxiety this creates. Without any strategic long-term planning, if the only objective is to get through cancer treatments, the end result can be disastrous. What I offer is a way to turn fear into focus so that those who are struggling with cancer have absolute clarity to move forward.I teach people how to incorporate the concepts of travel into daily living so they can experience more joy, more healing, and a greater sense of adventure in their lives - even while they are coping with cancer.

Biography

After receiving a diagnosis of Stage 3.C/4 incurable cancer, I desperately needed to put some fun back into my life again or the fear of this disease was going to be deadly for my health. Recalling my travel memories, these were some of the happiest moments of my life. They were the moments when I felt most alive. While undergoing treatment, I daily visualized memories of my past travels to Italy and Ireland. It wasn't always easy for me to do. But eventually, my experience of cancer turned into a healing adventure. Remarkably, within less than 6 months, I was completely cancer FREE. Since then I have been able to confidently and consistently make my travel dreams come true even though at the time I was barely making enough to scrape by. By using a 5 step process that enabled me to turn a battle with cancer into a healing adventure, I now empowers others with the tools to transform their obstacles into their greatest assets. I am also the author of the book, “Passport to Life — How I Overcame Incurable Cancer through the Power of Travel.”

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The risks of Triple Negative Breast Cancer (TNBC): The need for greater awareness, education & support

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Triple-Negative Breast Cancer (TNBC) tends to be more aggressive, more likely to recur or spread, and more difficult to treat. This is because most chemotherapies target one cancerous receptor, where as triple-negative breast cancer is diagnosed based upon the lack of three receptors known to fuel typical breast cancers. For patients with triple-negative breast cancer, prognosis is poor, and there are no targeted therapies available, leaving chemotherapy-based regimes as the only treatment option. Despite the best treatment plans, five-year disease-free survival rates for women with triple-negative breast cancer are about 50%, and nearly all patients who develop distant metastasis die of the disease. So is true in the case of Deborah Zimmel, who was diagnosed incorrectly with stage 4-breast cancer in 2013 and shortly there after underwent a double mastectomy followed by a year of chemotherapy treatments and radiation. It came as a sock in 2014 uncovering that her cancer had metastasized and she was triple-negative breast cancer positive all along. Deborah underwent a second round of unsuccessful chemotherapy treatments and sadly, she passed away from Leptomenningeal Carcinomatosis in September, 2015. This was a devastating and exasperated journey for Deborah and her family driving the establishment of the Deborah Zimmel Triple Negative Breast Cancer Foundation based the evident need to aid in the areas of awareness, education and support surrounding triple-negative breast cancer. Currently, researchers are working to identify novel drug targets and treatment strategies to more effectively treat, manage and hopefully cure triple-negative breast cancer. This is something the Mayo Clinic Breast Cancer SPORE (Specialized Program of Research Excellence) is working to achieve. Much of the research is in its preliminary testing phases, namely, immunotherapy, which has demonstrated responsiveness in some patients with triple-negative breast cancer, signalling a potential role for immunotherapy in this tumor type. Secondly, the therapeutic activation of ERβ, this project arose from the discovery that up to 30% of triple-negative breast cancer tumors express a second form of the estrogen receptor known as ERβ and it is hypothesized that therapeutic activation of ERβ will result in clinical benefits for patients with ERβ-positive triple-negative breast cancer. Lastly, genetic testing for mutations in breast cancer predisposition genes is a crucial study for triple-negative breast cancer prevention. Women found to have mutations in the cancer genetic panel genes will receive accurate information about their risks of cancer. This is expected to lead to improvements in the use of mammography screening, MRI screening and prophylactic surgeries as it relates to triple-negative breast cancer. The need for quality triple-negative breast cancer prevention and treatment plans is at the top of many oncologist lists, but there is a great deal more work that must be done.

Biography

Deborah Zimmel Triple Negative Breast Cancer Foundation .The Deborah Zimmel Triple Negative Breast Cancer Foundation was established in 2016 by Deborah's husband and daughters as the first foundation in Canada with a specific mandate to provide greater support, education and awareness surrounding the lack of targeted triple-negative breast cancer treatment plans.

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Notes:

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Synthesis of azetidines and pyrrolidines: Towards medicinal chemistry and organocatalysis applications

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Room temperature iodocyclisation of homoallylamines stereoselectively delivers functionalised 2- (iodomethyl)azetidine derivatives in high yield. Increasing reaction temperature from 20°C to 50°C switches the reaction outcome to realise the stereoselective formation of functionalised 3-iodopyrrolidine derivatives. It was shown that these pyrrolidines are formed via thermal isomerisation of the aforementioned azetidines. Primary and secondary amines could be reacted with iodomethyl azetidine derivatives to deliver stable methylamino azetidine derivatives. With subtle changes to the reaction sequences homoallyl amines could be stereoselectively converted to either cis- or trans- substituted 3-amino pyrrolidine derivatives at will. The stereochemical divergent synthesis of cis and trans substituted pyrrolidines supports an ion part, aziridinium, isomerisation pathway for azetidine to pyrrolidine isomerisation. Six azetidine derivative were probed in a zebrafish embryo developmental assay for capacity to illicit morphological changes. The range of effects across the probed molecules demonstrates the suitability of this assay for screening azetidine derivatives. One of the probed molecules, exhibited particularly promising effects in the developmental assay.

Biography

Antonio Feula is a PhD Chemist with 10 years of research experience in organic multi-step synthesis, drug discovery, surface chemistry, medicinal and supramolecular chemistry. Expertise ranges from multi-step synthesis (designing and performing) to chromatography (sample isolation, purification) and NMR methodologies. He has been part of several cross-functional teams including engineers, chemists and biologists. Antonio was a post-doctoral research fellow at the University of Reading and Oxford before moving to USA where he worked for Merck, Coty and Orthobond. He is currently involved in the drug discovery of small molecules for genetic heart diseases at Myokardia in South San Francisco.

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Workshop

Day 1

Velusamy K Velu, J Clin Exp Pathol 2018, Volume 8
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Velusamy K Velu

SNKV Services Inc, USA

Peruselab: Improving onscreen chemistry - A comprehensive chemical informatics system

Statement of the Problem: There's a deluge of chemical software available off the shelf or online. Majority of them perform well in addressing the targeted functionality the developers of the respective software intended to solve. Some are good in letting you draw structures of molecules and chemical reactions. Some let you plan and/or search for chemical reactions while some let you conduct a patent search. The list goes on. The lack of comprehensiveness is a consistent gap between all those products. Our ambitious goal is to develop a software to help you – draw publication quality molecular structures, draw chemical reactions & mechanisms, reuse drawings of molecules and reactions that are already drawn, and create illustrations for presentation and publication. The application's core focus is also to help you search for chemical information by all types of names, molecular formula, keyword, generic terms, properties (chemical, physical, spectral, effects, etc.), and any digitized information. Searching by structures includes – identical, substructure, super-structure, and similar structure. The third goal is to help you conduct online analytics to – identify hidden relations between molecular structures and their properties, identify structural fragments or complete structure, to aid structure elucidation. Our last goal is to let chemists, students, and teachers of chemistry, laboratories, and scientists exchange rich information on chemicals and share knowledge. The software is currently in development and an initial version of it will be available by the first week of July. It's an always available rich web application and will run on any device that can run a modern internet browser.

Biography

Velusamy K. Velu obtained his PhD in physical chemistry from the Indian Institute of Technology, Roorkee, India. His research topic was "Kinetic Studies, Mechanism and Micellar Effects on Substitution Reactions of Some O-Substituted Oximes". He later joined Prof Morton E Munk as a Post-Doctoral fellow to research and develop computer applications in chemistry at Arizona State University, Tempe, Arizona, USA. He developed INFERCNMR, an automated 13C NMR spectrum library search and interpretation system. After that he became a fulltime software developer to develop applications for banks to manage hedge funds and electricity utility companies to manage smart meters. During this period, he gained substantial experience in developing applications using modern techniques, tools and usability improvement guidelines. Currently his focus is to combine his training, knowledge, experience, and expertise to develop a comprehensive chemical informatics system that is intuitive, accessible, and economical.

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Young Research Forum

Day 1

Sang Hoon Han, J Clin Exp Pathol 2018, Volume 8
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One-pot synthesis of oxindoles through C-H activation and evaluation of anticancer activity

Sang Hoon Han
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The oxindole skeleton has been recognized as a ubiquitous heterocycle found in bioactive natural products and synthetic compounds with medicinal applications. In particular, 3-substituted and spiro oxindole derivatives have been implicated in a wide spectrum of biological activities including serotonergic, anti-tumor, anti-Alzheimer's, anti-Parkinson disease, glycoprotein-mediated MDR inhibition, anti-bacterial and anti-inflammatory activities. Additionally, oxindoles serve as synthetic precursors to a range of other heterocyclic compounds including indoles and isatins. Therefore, the development of novel and highly efficient strategies for the formation of oxindole architectures is an area of great interest in organic synthesis. With recent advances in direct and catalytic C–H functionalization, a great deal of effort has been devoted to the formation of oxindoles via transition-metal-catalyzed or metal-free oxidative C–H functionalization events. Among reported examples, the tandem cyclization of acrylamides has attracted much attention for the synthesis of various functionalized oxindoles. Other routes rely on the Ir- or Cu-catalyzed intramolecular cyclization of β-keto amide derivatives. Moreover, the Ag- or Rh-catalyzed aromatic C–H functionalization of α-diazoamides is another effective way to construct C3-functionalized oxindoles. However, these methods require specifically functionalized starting materials and result in a special subclass of oxindoles. With a rational design based on C–H addition and subsequent cyclization process, we herein reported efficient access to the formation of oxindoles through Rh(III)-catalyzed site-selective alkylation of azobenzenes and internal olefins, such as maleimides, maleates and fumarates, followed by reductive intramolecular cyclization. Particularly noteworthy was the resulting 1-amino-indolic framework, which represents a biologically important scaffold found in various synthetic molecules. Thus, synthesized oxindoles were evaluated for cytotoxicity against human prostate adenocarcinoma cell lines (LNCaP), human breast cancer cell lines (MCF-7), human Ovarian Cancer Cell lines (SKOV3), human lung carcinoma cell lines (A459) and human renal adenocarcinoma cell lines (786-O).

Biography

Sang Hoon Han is a student for Master and Ph.D combined Course in School of Pharmacy, SKKU.

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Scientific Tracks & Abstracts

Day 2

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Study the effects of capsaicin on triple negative breast cancer cells

Moudi Alasmari, H Alshaeri, Bohlke, J Demasi, T Maher and **A Pino-Figueroa**
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Triple negative breast cancer (TNBC) is one of the most aggressive types of breast cancer. It accounts for 12% of breast cancer cases. It lacks of estrogen receptor (ER), progesterone receptor (PR), and human epidermal receptor 2 (HER-2) which limits its treatment options and enhances its ability to metastasize and raises the risk of recurrence. Patients with TNBC are not responsive to conventional targeted breast cancer therapies. Capsaicin (CAP) is the most abundant and potent capsaicinoid produced in chili pepper fruits. Capsaicin has been used for its analgesic and anti-inflammatory effects. Moreover, several studies have shown that capsaicin has anti-carcinogenic properties in various types of human cancers. The aim of this study is to investigate the effects of capsaicin in human TNBC by using the BT-20 cell line. The results showed that capsaicin demonstrated concentration and time-dependent inhibitory activity on BT-20 cell viability as determined by MTS assay. Capsaicin produced cell viability inhibition at concentrations 150 and 250 μM at 24 and 48 h while at 72h it caused inhibition on cell viability at concentrations of 100, 150 and 250 μM. Capsaicin showed significant 5 fold increase in cytochrome C release at 250 μM as well as significant 1.6 fold increase in caspase 3/7 activity at 250 μM. Which are markers of apoptotic activation. In conclusion, capsaicin showed an inhibitory effect on cell growth and enhance apoptosis. These results will provide useful information regarding the development of a new therapy that can help in treating TNBC.

Biography

Moudi Alasmari is a PhD candidate in pharmacology at Massachusetts College of Pharmacy and Health Sciences University (MCPHS University, Boston, USA). She completed her MS in pharmacology in 2014 from MCPHS University. She is a Pharm D graduate from King Abdulaziz University (KAU, Jeddah, KSA) in 2009. She has experience in neuroscience research. She did 3 poster presentations and wrote 1 article under submission in this field. Also, she has been working in breast cancer research and she did one poster presentation about the anticancer activity of *annona muricata* extract on triple negative breast cancer cells and isolation/charcterization of active compounds.

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Study of the iron chelating effect of green tea in smear positive TB patients using sputum smear, serum malondialdehyde and blood iron indices

Shahryar Eghtesadi, Honarvar M R, Gill P, Jazayeri S, Vakili M A, Shamsardakani M R and **Abbasi**
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Green tea with possessing iron chelating properties can be useful in TB treatment and management. We studied the effect of green tea consumption on iron status and improving process of pulmonary tuberculosis treatment (accelerating the negative sputum smear, reducing the level of oxidative stress). Following the approval by Ethics Committee for Human Studies of Golestan and Tehran Universities of Medical Sciences and also obtaining the written consent of patients, this double-blinded randomized clinical trial study, was conducted on patients with TB, who were assigned randomly to the intervention group (41 patients) receiving 500 mg catechin of green tea extract and the control group (39 subjects) receiving placebo for two months, since the beginning of concomitant anti-TB treatment. Sputum evaluation was carried out on three slides using the Ziehl Nelson method. At first, the demographic and dietary intake data were obtained. After obtaining 10 ml of venous blood, Hemoglobin (Hb), Transferrin, Ferritin, Total iron binding capacity (TIBC), Iron and Serum malondialdehyde (MDA) were measured at the beginning and end of the study. Sputum samples were collected from the third week (every 10 days) and the reduction of microbial load was also tested until sputum smear became negative. Data were processed using independent and paired t-test, McNemar, Wilcoxon, Kaplan-Meier, Log-rank test and Cox regression model. P-value was taken significant as <0.05.Average daily energy intake of patients was 1518±431 kcal, distribution of which was as follow: carbohydrates (58%), protein (17%) and fat (22%).Vitamin D and Zinc intake of patients were less and iron intake was higher than the DRI. Weight changes in both groups of placebo and green tea had tendency of increase with a significant difference at two and six month follow ups (p>0.0001). However, there were no significant changes due to intervention compared to placebo. Sputum conversion time (days) was 52.5± 24.5 (median= 53 days) and 40.6 ± 22.5 (median= 29 days) in placebo and catechin groups, respectively. The proportion of patients in the green tea group based on criterion of; The short duration of being negative sputum smear; Was significantly higher than the placebo group (p=0.032). To measure the mean of iron status after intervention, ANCOVA test showed mean difference level (Pvalue) in both groups for Hb, iron, TIBC, transferrin and ferritin as of: 0.004, 0.56, 0.65, 0.38 and 0.16, respectively which means that increase of hemoglobin in the green tea group was significant compared with the placebo group. There was just a 9.2 nmol/ml difference between the two groups for MDA at the beginning of study, which was not statistically significant (p=0.078) whereas, it was increased to 24.8 nmol/ml after the intervention, indicating a significant difference (p<0.001). The decline value was estimated -45.45 ± 14.69 nmol/ml for catechin group and -19.91 ± 18.38 nmol/ml for placebo group. In conclusion green tea can systematically reduce the inflammatory elements and oxidants (decrease of MDA as fatty acids oxidation indicator), and consequently, can improve the hematopoiesis and hemoglobin level. Therefore, localized inflammation and damage in the lung is reduced, and adjunct to antimicrobial therapy, accelerate sputum smear conversion, disease amelioration and treatment improvement. Finally, given the higher iron intake despite of lower micronutrients and macronutrients in diet of our patients, and considering the iron effect on mycobacterium survival and the incidence and exacerbation of inflammatory complications in patients, it seems that policy of mandatory flour fortification with iron, especially in provinces such as Golestan, must be viewed cautiously and its further implementation being revised meticulously.

Biography

Shahryar Eghtesadi received Bachelor degree in Nutrition Science and Food Chemistry 1975, from Shahid Beheshti University of Medical Sciences, Tehran; MSPH degree in Nutrition, 1977, from Tehran University of Medical Sciences, Tehran and PhD from University of California at Davis(UCD), USA, in Nutrition (1985). He served as Visiting Scientist in USDA Human Nutrition Research Center on Aging (HNRCA), Boston, USA (1994-1995); Full professor of Tabriz, Iran and Tehran Universities of Medical Sciences and currently serves as Professor of Azad University, Science & Research Branch. He was the chairs of Departments of Nutrition and Biochemistry, Biochemistry & Clinical Nutrition, Public Health Nutrition and Nutrition in aforementioned Universities. Also Served as Associate Dean and Dean of School of Public Health & Nutrition and School of Public Health of Tabriz and Iran Universities of Medical Sciences respectively. He was selected as distinguished professor and Scientist. For long and extended period of time, experienced teaching various courses in nutrition in undergraduate, graduate and postgraduate and international Bureau programs and directed many projects and dissertation of MS and PhD programs and Published numerous peer reviewed articles in journals and also edited several books and finally served as Principal Investigator of World Bank Project for Capacity Building in Nutrition in Iran.

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Trends in the development of novel approaches to cure benign prostatic hyperplasia: Hormones to 5α-Reeducates inhibitors

Neelima Dhingra
University Institute of Pharmaceutical Sciences, India

Benign prostatic hyperplasia (BPH) a common condition of aging men is characterized by nonmalignant enlargement of the prostate gland, and clinically manifested as lower urinary tract symptoms (LUTS). Past experience reveals that with the advent of profound knowledge of the pathogenesis, the natural history, and risk of the progression and new generation of experiments powered by technological breakthroughs, the concept of management has undergone many changes with time. The specific approach used to treat benign prostatic hyperplasia depends upon number of factors like age, prostrate size, weight, prostate specific antigen level and severity of the symptoms. Quest spanning over hundred years to find out the novel approaches for the potentially progressive condition (BPH) of aging men has resulted in the discovery of the Finasteride and Dutasteride as 5α-Reeducates Inhibitors in 2002, starting from the discovery of the first stillbesterol in the early 1937. Research outcome from our laboratories has also resulted in some novel steroidal derivatives as 5α-Reeducates Inhibitors and found to be more potent than Finasteride. These new agents can be used for the design of future targets and development of new drugs in the treatment of BPH. Yet one cannot be certain that the quest has ended and the discovery of this number of active leads may also help in developing new safe and effective drugs.

Biography

Neelima Dhingra is an academician by profession with 10 year of teaching and research experience. She earned her B. Pharmacy, M. Pharmacy (Pharmaceutical Chemistry), and Ph.D. (Pharmaceutical Chemistry) from the University Institute of Pharmaceutical Sciences, Panjab University, and Chandigarh. Presently, she is serving as an Assistant Professor at the Department of Pharmaceutical Chemistry, University Institute of Pharmaceutical Sciences, Punjab University, and Chandigarh. Her major area of research focuses on Designing (2D-QSAR, 3D-QSAR), synthesis, spectroscopy analysis, physicochemical parameters and biological evaluation (*in vitro, in vivo*, in silico) of steroidal derivatives especially 5- alpha reeducates inhibitors. Research work has been credited with 2 US patents, 4 national patents, 40 abstracts, 22 research papers in the peer reviewed journals, 8 awards. She is a member on the editorial board of the various national journals and Editor Member of Asian Council of Scientific Editors 2014 onwards and also life member of various national scientific bodies like APTI, IPGA, PAS, PUPS, IABMS and SPER.

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Colored computer aided diagnosis system for breast mammography

Maha Ali
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Breast Cancer is the most common and life threatening cancer among women. Mammography is a key screening tool for breast abnormalities detection. It is an effective way that has demonstrated the ability to detect breast cancer at early stages, because it allows identification of tumor before being palpable. Radiologists may miss the breast abnormality due to the textural variation of breast tissues intensity in mammogram. So, radiologists may result in false-positive or false-negative results. Efforts in developing the Computer Aided Detection/Diagnosis (CAD) systems for mammogram analysis improve the diagnostic accuracy by radiologists. This study developed an algorithm to read mammograms automatically with colors. It proposed the use of discrete wavelet decomposition technique using Symlet wavelet as a feature extraction, and the linear discriminant analysis (LDA) as a classifier in order to discriminate the extracted features to find out this detection. The algorithm achieved 98.8% accuracy, 95.0% sensitivity in breast tissue classification. This accuracy has been verified with the ground truth given in the mini-MIAS database. So, this algorithm will help radiologists for a true diagnosis and decrease the number of the missing cancerous regions or unnecessary biopsies which are very stressful for women, it can help in early detection of breast cancer, and following treatment can significantly improve the chance of survival for patients with breast cancer. So, it will save women lives.

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Notes:

Soliman Khatib, J Clin Exp Pathol 2018, Volume 8
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Lyso-DGTS lipid isolated from microalgae enhances PON1 activities *invitro* and *invivo.*

Soliman Khatib
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High-density lipoprotein (HDL) plays an important role in preventing atherosclerosis. The antioxidant effect of HDL is mostly associated with paraoxonase 1 (PON1) activity. Increasing PON1 activity using natural comounds may improve HDL functions and decrease atherosclerotic risk. In a previous study we isolated the compound, lyso-DGTS (C20:5,0) from *Nannochloropsis* sp. ethanol extract. In the present study, the effect of lyso-DGTS on PON1 activities was examined and the mechanism by which the compound affects PON1 activity was explored. Lyso-DGTS increased and preserved recombinant PON1 (rePON1) and human serum PON1 activities in a dose dependent manner. Tryptophan-fluorescence-quenching assay and molecular modeling calculations, showed a spontaneous lyso-DGTS - rePON1 interaction which supported by hydrogen bonds and van der Waals interactions. Furthermore, Lyso-DGTS increased peneteration of rePON1 into macrophages and prevented macrophages from lipid accumulation after stimulation with oxidized low-density lipid (ox-LDL). *In-vivo* experiment show that Lyso-DGTS significantly increased PON1 lactonase activity and decreased glucose concentrations in a serum of mice fed a high-fat diet to the level of mice fed a normal diet. Our findings suggest a beneficial effect of lyso-DGTS on increasing PON1 activity and thus, improving HDL quality and atherosclerotic risk factors.

Biography

Soliman Khatib has completed his PhD at the age of 27 years from the Technion institute, Natural Science, Chemistry 1996-2000. BSC, from Ben-Gurion University, Natural Science, Chemistry1993-1995. Now I am a Researcher in the laboratory of oxidative stress Migal-Galilee Research institute and a Senior lecturer, Department of Biotechnology Tel-Hai academic collage. My research focus on understanding the relationship between oxidative stress and diseases related to oxidative stress, we identify volatile organic compounds (VOCs) as early biomarkers of diseases related to oxidative stress. And also to isolate and identify natural compound which improve HDL quality and functions for diseases risk of atherosclerosis disease.

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Notes:

Laurene S Cataline, J Clin Exp Pathol 2018, Volume 8
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The impact of Wellness of the Healthcare Professional on patient outcomes

Laurene S Cataline
Business Strategist, USA

I spent over 30 years in a clinical laboratory in a few different hospital settings. The settings ranged from Outpatient Oncology Laboratory to Forensic Toxicology to Reference Laboratory to being part of the team sent to Abu Dhabi with the Cleveland Clinic to get the laboratory up, operational and accredited. My role has varied throughout my career. And there are a few things that I know. I know that every single day, I would see stressed out professionals showing up fueled with lots of coffee or diet soda, barely taking care of themselves, showing up to take care of patients. The work that we do is very high stakes, and there are patients and families that are impacted by the quality and efficacy of our work. The demands are getting higher. During my time at the Cleveland Clinic, I developed a Wellness Program for the Robert J Tomsich Pathology and Laboratory Medicine Institute, where I helped build and incorporate initiatives that promoted a stronger culture of wellness within the community. It wasn't until some very dynamic and stressful life changes that I found myself facing my own health challenges. I then shifted my focus from aiding in the diagnosis of disease in the laboratory to focusing on the relationship with my own health. I made the shift to that of prevention, which started with my nutrition. In 2016, I drastically improved my health, wellbeing and vitality. The unequivocal difference that this makes in the way that people show up is more than impressive. I also know that busy professionals in stressful careers deserve to have the wellness edge and I am committed to raising the bar. I now work specifically with busy professionals to transform their physical health first, so they can further impact those that they serve in their professional and their personal lives. I believe that everyone deserves to live healthy, be happy and to enjoy an abundant joyful life at the office and at home.

Biography

Laurene S Cataline is a business strategist, entrepreneur, mentor, and her passion is holistic wellness. She works with women to focus on prevention of burnout, improving their performance and transformation in the overall quality of their lives. She spent over 30 years in a clinical role as a Medical Technologist. During that time at the Cleveland Clinic, she developed a Wellness Program for the Robert J Tomsich Pathology and Laboratory Medicine Institute, where she helped build and incorporate initiatives that promoted a stronger culture of wellness within the community.

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1867th Conference

Breast Pathology and
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6th World Congress and Expo on

Breast Pathology and Cancer Diagnosis

&

20th International Conference on

Medicinal Chemistry and Rational Drugs

July 25-26, 2018 | Vancouver, Canada

Video Presentation

Day 2

Okpala et al, J Clin Exp Pathol 2018, Volume 8
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Effects of fractionated methanolic leaf extract of *Gongronema latifoliumon* CCl4-induced wistar albino Rats

Okpala[1] and **Jude Chinedu**[2]
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The general aim of this study is to assess the effects of fractionated methanolic leaf extract of *Gongronema latifoliumon* CCl4-induced wistar albino rats. Fifty-four wistar albino rats were divided into seven treatment groups. Group A was given feed and water, Group B was injected with olive oil intraperitoneally, while the rest of the groups (C, D, E, F and G) were injected intraperitoneally with a single dose of CCl4 (148 mg/kg). After 36 hours of induction, group E, F and G were given 100 mg/kg, 150 mg/kg and 200 mg/kg body weight of n-butanol fraction of methanol leaf extract of *Gongronema latifolium* by oral gavage. Group D was given 100 mg/kg of silymarin (standard drug) where as group C served as CCl4-induced group. At the end of 28 days of treatment, there were significant ($P<0.05$) reduction in PCV, Hb concentration and serum protein levels as well as a significant ($P<0.05$) increase in percentage change in liver weights of CCl4-induced control rats when compared with the induced treated groups. Liver marker enzymes studies showed that there was significant ($P<0.05$) increase in the serum activities of ALT, AST, ALP and bilirubin concentrations in CCl4-induced control group when compared with the induced treated groups. Antioxidant assay on the liver homogenate showed that there was significant ($P<0.05$) decrease in SOD, CAT, GPx and a significant increase ($P<0.05$) in MDA of CCl4-induced control rats when compared to the induced treated and normal control groups. These findings suggested that n-butanol fraction of methanol leaf extract of G. *latifolium* may have anti-hepatotoxic and antioxidative effects against CCl4-induced liver damage rats.

Biography

Okpala, Jude Chinedu is currently a PhD student at the Department of Biochemistry, Ahmadu Bello University where he also did his Masters Degree programme. He also attended Ebonyi State University, Abakaliki where he bagged his Bachelor of Science Degree. He is currently an independent researcher and has published several papers in reputed journals. He has also served as an editorial board member of several journals.

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Notes:

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Using Computer Aided Drug Design and docking softwares to determine *In-Silico* Metformin Binding site with its receptor AMP Kinase Enzym

Farah Yousef
Damascus University, Syria

Metformin receptor has been studied for decades as this drug is one of the most popular drugs used in the treatment of Type II diabetes Mellitus (TIIDM) in the globe. Different studies have confirmed that its receptor is AMPKinase enzyme in the liver cells. But, no crystal structure was found yet for its binding to the proposed enzyme. What we tried here is to use our experiences in medicinal Chemistry and Computer Aided Drug Design in a try to study Metformin binding site with AMPKinase in silico using two docking softwares and one internet site. AMPKinase crystal structure was downloaded from Protein Data Bank database, while Metformin structure was got from Pubchem database. After analyzing the structures and the docking results we had, we came to a conclusion that agrees with recent biological studies about this investigation. We hope these results help researchers in drug design field to discover and\or developing new agents for the treatment of TIIDM considering Metformin as a lead compound for that.

Biography

Farah Yousef is a PhD student from Damascus University. She has finished her previous studies at Faculty of Pharmacy at Tishreen University, Syria. She has published 6 articles so far in reputed journals and many Arabic articles in Arabic websites and has been serving as an editorial board member of repute in different journals. She has participated in different Syrian and Global conferences so far.

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