

Day 1 : January 23rd 2017

10.30 am -11.00 am - Registration

11.00 am -11.20 am - Inaugural session

11.20 am -11.30 am - Group photo



Keynote Forum

11.30 am -12.00 pm - Dr.Alessandra Piccitto

12.00 pm - 12.15 pm - **Coffee Break**

Session Introduction

12.15 pm - 12.45 pm --- Oral Presentation by **Christina Yuen Ki Leung**
Topic :- Comparison of transdermal Buprenorphine and Fentanyl for their pharmacology and toxicology properties to guide healthcare professionals to use the opioid transdermal patch safely and effectively

12.45 pm - 02.00 pm --- **Lunch Break**

02.00 pm - 02.30 pm --- Oral Presentation by **Salman alfadhel**
Topic :- A Sensitive LC-MS/MS Method for the Determination of Busulfan Level in Cancer Pediatric Patients

02.30 pm - 03.00 pm --- Oral Presentation by **Gisele Monteiro**
Topic :- L-Asparaginase Mutants Resistant To Lysosomal Proteolytic Degradation

03.00 pm - 03.30 pm --- Oral Presentation by **Marina Filimonova**
Topic :- New Abilities of Selective Nitric Oxide Synthase Inhibitors in the Treatment of Severe Hypotension of Various Etiologies

03.30 pm - 03.45 pm --- **Coffee Break**

03.45 pm - 04.00 pm --- **End of day Discussion**

DAY 1 END

Day 2 : January 24th 2017

11.00 am - 11.30 am	--- Video Presentation by Abbas alnaji Topic :- Pharmaceuticals and Intracellular Bacteria
11.30 am - 12.00 pm	--- Poster Presentation by Oh Hyeong Kwon Topic :- A study to estimate longevity of thermostable Newcastle disease Vaccine (strain I-2) in village chickens of Nepal
12.00 pm - 12.15 pm	--- Coffee Break
12.15 pm - 12.45 pm	--- Poster Presentation by Hung-Pin Hsu Topic :- Roles of Annexin A2 in Digoxin-Regulatory Hepatocellular Carcinoma
12.45 pm - 01.00 pm	--- E-Poster
01.00 pm - 02.00 pm	--- Lunch Break
02.00 pm - 02.30 pm	--- Oral Presentation by Delair Thierry Topic :- Vaccine and targeted drug delivery with Polyelectrolyte nano-complexes
02.30 pm - 03.00 pm	--- Poster Presentation by Naureen Wajid Topic :- Role of Point of Care Pharmacist In Patient Receiving Oral Chemotherapeutic Agents
03.00 pm - 03.15 pm	--- Coffee Break
03.15 pm - 03.30 pm	--- Feedback

DAY 2 END

GSPSC - 2017



Global Summit on Pharmaceutical Sciences & Clinical Trials

**at
Copenhagen, Denmark on
January 30th-February 1st, 2017**

KEY NOTE FORUM

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark



Alessandra Piccitto

Politecnico di Torino, Italy

Syn Diag

Ultrasonography is worldwide the most adopted and the safest screening method for prenatal imaging and diagnosis of possible fetal pathologies. It allows physicians to visualize in a non-harmful way the fetus development, despite the sensitiveness of ultrasound to scattering noise. Indeed, this represents the main drawback of the technology, impeding easy development of fully automatic images post-processing, which usually requires some level of human intervention [1]. This is true also for newest 3D ultrasound machines [2], whose output is a qualitative render obtained from registered bi-dimensional ultrasound scans.

In this paper, we present a recently developed algorithm for automatic extraction of a three-dimensional surface of fetus face from a registered stack of bi-dimensional ultrasound scans [3]. It operates without human intervention, elaborating input data in the standard DICOM format with a two-steps statistical analysis based on volumetric histogram processing and 2D segmentation. It outputs a quantitative triangular mesh in PLY format, ready for further mathematical analysis.

By way of method validation and as an example of the application, we developed a diagnosis tool, based on the former elaboration, which succeeded in discriminating labio-schisis manifesting individuals from healthy individuals [4]. Being a stochastic algorithm based on unsupervised clustering, its feasibility is tested upon a small set of available real fetus data and then extensively studied with adult individuals' dataset, known as Bosphorus [5]. The algorithm maps the individual's surface with geometrical descriptors useful to identify the face's landmarks, i.e. pronasion and labrum superior, and compute a distance measure between each faces couple. The algorithm correctly identifies left- and right-sided cleft lips, providing the physicians with a probability of pathology affection and supporting decision making. Since the method is fully automatic and pathology independent, it allows to easily populate large database of quantitative fetus' faces individuals, enabling objective pathologies to be characterized and normotypes defined.

Biography:

Alessandra Piccitto is a registered Pharmacist in the United Kingdom. She received her MPharm degree from the University of Turin (Italy) after completing a research project at Durham University (UK) in 2010. She has been teaching human anatomy and chemistry in high schools of the north of Italy. She started her PhD at Politecnico of Turin (Italy) and she worked with the inventors' team of SynDiag - Doct. Daniele Conti, Doct. Antonio Froio, Doct. Luca Bonacina and Prof. Emilio Paolucci, to develop and commercialize a 3D Ultrasound machine with quantitative output. She is now working at University College London to develop a new coating film with a strong bactericidal activity under dark conditions against *P. aeruginosa* and MRSA with the scope of self-sterilize the transducer of the Ultrasound machine. To reach the target Ag NPs and a light activated agent that provide a dual kill mechanism will also be developed.

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- [2] Anquez J, Angelini ED, Grandé G, et al.: Automatic segmentation of antenatal 3-d ultrasound images; IEEE Trans Biomed Eng 2013;60(5):1388e400.
- [3] Bonacina L, Froio A, Conti D, Marcolin F, Vezzetti E: Automatic 3D foetal face model extraction from ultrasonography through histogram processing; Journal of Medical Ultrasound (2016), <http://dx.doi.org/10.1016/j.jmu.2016.08.003>
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- [5] Savran A, Alyüz N, Dibeklioglu H, Çeliktutan O, Gökberk B, Sankur B, Akarun L: Bosphorus Database for 3D Face Analysis, The First COST 2101 Workshop on Biometrics and Identity Management (BIOID 2008).

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ACCEPTED ABSTRACTS

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Dr. Abbas Alnaji

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Pharmaceuticals and Intracellular Bacteria

Some fifteen intracellular bacteria could be identified harboring the human living cells may be for the rest of its life with all slow ongoing structural changes that end with many varieties of diseases the more importantly the chronic ones. Chemotherapy against these intracellular bacteria is ineffective and poorly understood. So eradication is practically not a fact. Over fifteen years of my work on the biological bases of diseases and as a neurosurgeon on surgical pathologies, I found that Brucella is the cause behind a wide variety of unknown etiology medical disease and also behind a wide range of surgical pathologies. At the beginning it was based on clinical trials. Treating with anti Brucella was very effective and encouraging to control that of unknown etiology and to cancel the need for surgery. But the unwanted event, is no cure !!! which means the antibiotics are of very limited capacity to eradicate chronic Brucellosis, for that you see the patient swinging between good and bad when on anti Brucella due to resistance, so we change regimens every now and then, patients go to pretreatment condition when stop treatment even after months. This fact made many who diagnose brucellosis use symptomatic and palliative medical and surgical treatment. As the pathogen is still present, you see more and more medical worsening and surgical failures.

I made a great personal and cooperative efforts to understand the way with which antibiotics can affect these intracellular bacteria, still many vague points made me very illiterate in what I use to help my patients. In some situation I feel not sure, this lead me to widen the spectrum of PCR tissue biopsy screen to detect more than Brucella however the clinical outcome is in favor of it. If we skip the costly return of Tb. Brucella and other intracellular bacteria hazards are under estimated which is a real mankind danger.

The pathogenesis of intracellular bacteria is very serious, simply due to their sitting inside our cells in a way we are so unaware about its nature, we are SLAVES for them. For that our pharmaceutical weapons are still need to be upgraded. Through my work analyses I concluded that the intracellular bacteria is the attractive factor to the viruses to invade our cells, where bacteria act as a natural nests for viruses. we know viruses within our cells make gene mutations for Carcinogenesis, I say bacteria within our cell act as the "sweet which attract the ants" the ants here is the viruses, in other words viruses could not inhabit our cells and make changes unless these intracellular bacteria

are present, In nature one find many examples like monster shark accompanied with some kind of small fishes as symbiotic manner or others. For that I think it is the missed ring in the chain of cancer preventive and therapeutic researches, efforts should be re-directed towardsthis fact which also act as a key hole which open a new routes to understand and bring more favorable results in prevention and treatment of diseases. According to this vision, my definition had change to the classification of acute and chronic diseases, where I realized that, it is only chronic illnesses and the acute ones are the event built on long standing of structural alterationswithin the cell caused by these intracellular bacteria. Pharmaceuticals including herbs and Probiotics are the answer to make our cells free from intracellular bacteria, this is the doctrine in preventive and therapeutic medicine . Pharmaceuticals made a successes over the past century. today pharmacology is requested to adopt more darefullconcepts in management of thoughts and recourses to make the second derivative of the equation.

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Multi-reservoir genipin-crosslinked zein nanocapsules for sequential delivery of exemestane and resveratrol in targeted breast cancer therapy: resveratrol phytosomes vs. Resveratrol nanocrystals & lactoferrin targeting

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Combinatorial cancer therapy has gained a great attention in the recent years. We have developed multi-reservoir zein-based nanocapsules to accomplish a sequential release pattern characterized by faster resveratrol (RES) release followed by more prolonged exemestane (EXM) delivery. RES is proposed to act firstly by reducing the aromatase enzyme expression thus decreasing the enzyme amount available for binding with EXM which will in turn reduce the required EXM dose and hence side effects. Consequently, EXM slowly released will act by binding to the available aromatase enzyme resulting in inhibition of its activity. This pattern could be obtained via two strategies; the first one includes the formation of non-PEGylated and PEGylated phytosomal RES-phosphatidylcholine complex bilayer as an envelope of the genipin-crosslinked zein-coated oily core containing exemestane and RES. In the second strategy, RES nanocrystals were prepared by anti-solvent precipitation technique and then incorporated in the aqueous phase of the zein nanocapsules to promote fast release of RES. A combined sequential release formula utilizing both phytosomal bilayer and nanocrystal technologies was also developed. Moreover, lactoferrin-targeted zein nanocapsules were also prepared via electrostatic interaction. Drug content, morphological analysis, particle size, zeta potential determination, hemolytic, serum stability and in vitro drug release of the prepared nanoparticles were performed. Finally, scaling up of the optimized formula was tried via spray-drying technology. The optimized formula revealed a superior cytotoxicity where its IC₅₀ decreased by 3 and 4-fold against the MCF-7 cell line and 4T1 Murine cells, respectively, compared to the free drug(s). Cellular uptake of drug-loaded NPs were studied using fluorescein isothiocyanate (FITC) as a model compound to label the NPs. In-vivo pharmacokinetic studies revealed encouraging data, where zein NCs exhibited a longer circulation time with markedly delayed blood clearance of the loaded drugs. The anti-tumor superiority of zein NPs over the free drug(s) was manifested as a marked reduction in the percentage change of tumor volume. Mechanistically, the anti-tumor properties of the fabricated formulae were correlated to their ability to inhibit aromatase enzyme, activate apoptotic enzyme, caspase 3, prohibit cyclin D1 and suppress the tumor angiogenic marker, VEGF. Histopathological studies were done and different tumor growth biomarkers were determined. These results confirmed the beneficial synergistic anti-tumor effects obtained from combining EXM/RES in treatment of breast cancer.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Ms. Dharmi

Department of Organic Chemistry from Saurashtra University, India.

Sustainable R & D Productivity- Future Pharmaceutical Demand

Future of pharmaceutical science heavily relies on drug discovery, drug development and research and development productivity. There is a lack of productivity in drug development area. Industries are trying to close this gap for more than a decade by implementing different working models within organization. Drug discovery, drug development and performance and process measuring tools in pharmaceutical science have become very significant and challenging as pharmaceutical industry evolves. Companies have looked in to tools to measure performance to identify the gaps and make research and development area more sustainable. However, drug development and research and development productivity remains un-sustained specifically small scale organizations. Future of pharmaceutical science requires universal tactic that would address the drug development strategies, processes, and investment and organization management. High performance companies can take inclusive deeds to advance and increase research and development revenues. In order to achieve this goal, pharma companies mainly rely on skills, quality and funding. These elements can be strategically managed by contracting research and development activities to third party organization (TPO). This paper describes a robust TPO selection methodology on how to select TPOs thoughtfully that can make organization's research and development productivity sustainable. This methodology may also help organizations in filling the productivity gap to remain sustainable.

Biography

Ms. Dharmi has Master's degree in science majoring in Organic Chemistry from Saurashtra University, India. Dharmi is a Pharmaceutical Quality and Compliance Professional. Dharmi has over 20 years of experience in Pharmaceutical Industries including, Research and Development, Quality and Compliance and Quality Control. During her career she has gained expertise in R & D areas and cGMP areas that include; Third Party Organizations (TPOs) management, developing Key Performance Indicators (KPI) methodology, Investigations/CAPA process, Change control, Process validation, Quality Management System (QMS), and selection of Contract Manufacturer Organizations (CMOs).

Global Summit on Pharmaceutical Sciences & Clinical Trials

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Dr. Salman alfadhel

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A Sensitive LC-MS/MS Method for the Determination of Busulfan Level in Cancer Pediatric Patients

Busulfan drug is a chemotherapeutic agent used as a conditioning regimen prior to allogeneic hematopoietic progenitor cell transplantation for chronic myelogenous leukemia (CML). The drug has a narrow therapeutic index feature and wide variability in metabolism physiological influencing factors. The rapid and accurate quantification of Busulfan in plasma carried out using a sensitive liquid chromatography-tandem mass spectrometry (LC-MS/MS) method. The method has been developed and validated according to USFDA Guidelines and shows an impressive and effective result in monitoring a number of 20 pediatric patients. Chromatographic conditions of LC-MS/MS run using Tolbutamide as an internal standard and Mobile Phase with composition of 55% Water, 20% Methanol, and 25% Acetonitrile at Flow rate 0.30 ml/min and with total injection volume of 10 µl. The Acquity BEH C18

(1.7 μ m) (50x2.1mm) UPLC column was used at Column temperature of 30 °C. The sensitivity of the method, which is reflected as a lower limit of quantitation (LLOQ), was 25ng/ml. The drug was extracted from plasma sample by using direct protein precipitation method with high percentage of recovery (95%). The regimen doses (0.9 mg/Kg) of Busulfan for the patients were significantly adjusted between 900 – 1200 (μ Mol/L/min) by calculating Area Under Curve (AUC). Blood samples for Busulfan should be obtained in 4 mL heparinized Vacutainer tubes. Samples of the first dose should be collected at the following interval time 2, 2.25, 2.5, 3, 4 and 6 hours. Samples of the second dose (or any subsequent doses) should be collected immediately from the end of the first dose followed by the following interval time 2, 2.25, 2.5, 3, 4 and 6 hours. During Busulfan monitoring, first blood sample should be collected from a peripheral IV line to avoid probable sample contamination caused by the proximity between the different ports of the central venous catheter. The rest of the samples should be collected from the central catheter. All samples should be separated immediately in a refrigerated centrifuge for 10 minutes at a speed of 4000 rpm. The plasma samples should be kept frozen at -70°C until analysis by using Liquid Chromatography Tandem Mass Spectrometry. goal, pharma companies mainly rely on skills, quality and funding. These elements can be strategically managed by contracting research and development activities to third party organization (TPO). This paper describes a robust TPO selection methodology on how to select TPOs thoughtfully that can make organization's research and development productivity sustainable. This methodology may also help organizations in filling the productivity gap to remain sustainable.

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L-Asparaginase Mutants Resistant to Lysosomal Proteolytic Degradation

L-asparaginase extracted from *Escherichia coli* (EcAII) is used in the treatment of acute Lymphoblastic leukemia (ALL). The enzyme acts in the depletion of the amino acid L-asparagine from patients serum, which is essential for the neoplastic cell's proliferation. However, this treatment with EcAII is hampered by human lysosomal proteases asparaginyl endopeptidase (AEP) and

cathepsin B (CTSB). Both hydrolases cleave EcAII, inactivating the enzyme and exposing epitopes associated with immune response. In this work we employed error-prone PCR to produce variants of EcAII with higher resistance to proteolytic cleavage by AEP and CTSB. A library of 1,128 clones was established and screened for asparaginase activity; among the mutants that maintained activity, one was resistant to CTSB proteolytic cleavage and two were resistant to both CTSB and AEP. The effect of each mutation in EcAII quaternary structure affecting the AEP and CTSB proteolytic recognition sites was explained using Molecular Dynamics Simulation. The mutant EcAII with higher resistance to CTSB could allow a prolonged half-life in human serum diminishing dose and frequency of protein administration, decreasing immune response.

Biography :

Gisele Monteiro de Souza has completed her Ph.D at the age of 27 years from University de São Paulo and postdoctoral studies from the same University. Now, she is professor of Pharmaceutical Biotechnology at Faculty of Pharmaceutical Sciences (FCF/USP) and the vice-coordinator of the Graduate Course in Biochemical-Pharmaceutical Technology. She has published more than 20 papers in reputed journals and serving as an associate editor of Brazilian Journal of Microbiology. She has received 10 scientific awards, including internationals. The main scientific interest is the study of molecular targets involved in cell response to antitumor drugs and the engineering of proteins used as biopharmaceuticals, such as asparaginase.

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Jae Hyun Kim

University/Organization: Yonsei University

Structural Modification of Thieno[2,3-d]pyrimidine Derivatives as a Potential FLT3 Inhibitors for Improving Chemical Properties.

Acute myeloid leukemia (AML) is a clonal disorder of hematopoietic progenitor cells that cause bleeding, fatal infection, and organ infiltration with leukemic cells. Cytotoxic chemotherapy is often used for treat AML but limited by mutation of several genes. Especially, a mutation in FLT3 is commonly occurs and is associated with poor prognosis. Our previous research to identify FLT3 inhibitors showed that thieno[2,3- d]pyrimidine derivatives had an inhibitory activity against both wild type and mutant FLT3 and synthesized compound 1. Compound 1 exhibited stronger antiproliferative activity against MV4-11 cells than AC220, which is a well-known FLT3 inhibitor, and has good microsomal stability. However, compound 1 had poor solubility in PBS. We then carried out further structural modification at the C2 and the C6 positions of thieno[2,3-d]pyrimidine scaffold. Compound 13b, which has a thiazole moiety at the C2 position, exhibited better antiproliferative activity and better solubility than compound 1 and moderate microsomal stability. These results indicate that compound 13b could be a promising potential FLT inhibitor for AML chemotherapy.

Biography:

Graduate student (Ph.D. course) at Laboratory of Molecular Medicinal Chemistry in department of biotechnology in Yonsei University, researching for developing potential FLT3 inhibitors for treating Acute myeloid leukemia (AML)

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Marina Filimonova

University/Organization: A.Tsyb Medical Radiological Research Centre – branch of the National Medical Research Radiological Centre of the Ministry of Health of the Russian Federation.

New Abilities of Selective Nitric Oxide Synthase Inhibitors in the Treatment of Severe Hypotension of Various Etiologies

Knowledge about the role of nitric oxide (NO) in physiological and pathological processes, such as blood vessels regulation, are widely used in experimental biology. Thus, the ability of inhibitors of NO synthase (NOS) to increase the blood pressure bypassing receptors can be claimed in the treatment of various hypotensive states. However, the problem of using the most of them in medicine is in its low selectivity and/or irreversible inhibition of synthase. We have synthesized several original reversible inhibitors selective to endothelial and inducible NOS and uncovered its expressed vasoconstrictive properties suitable for use in medical care and at the prehospital stage. Hemodynamic studies were carried out on male Wistar rats and dogs in hypotonic (the models of severe hemorrhagic shock, severe endotoxemia, ganglioplegic hypotension and refractory vazoplegia) and normotonic conditions. A single non-toxic (1/20 – 1/30 of LD₁₆) injection of NOS inhibitor caused marked and prolonged increase in blood pressure without any negative effects. Our investigations suggest that the reversible selective NOS inhibitors are the new generation of promising vasopressors which can create new opportunities in emergency treatment of hypotension and critical states. This work is supported by Russian Ministry of Education and Science (Government Contract 14.N08.11.0078).

Biography:

Marina Filimonova, Doctor of Sciences (Pharmacology, Clinical Pharmacology, Radiobiology), Head of the Laboratory of Radiation Pharmacology of A.Tsyb Medical Radiological Research Centre, Obninsk, Russia. Associate Professor, Department of Biology of Obninsk Institute for Nuclear Power Engineering of the National Nuclear University, MEPhI. The main areas of research: the development of radioprotective, anticancer and anti-shock drugs.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Oh Hyeong Kwon

University/Organization: Kumoh National Institute of Technology

Effective Drug Release from Biodegradable Nanofibrous Materials for Growth Inhibition of Human Cancer Cells

Various polymers have been used in drug delivery research as they can effectively deliver the drug to a target site and increase the therapeutic efficacy, while minimizing toxicity. The controlled release of pharmacologically active agents to the specific site at the therapeutically optimal rate and dose regimen has been a major goal on designing such devices. The use of biodegradable polymeric nanofibers as drug carriers can be promising in postoperative local chemotherapy. To develop a drug carrier for cancer therapy, plant polyphenol-loaded polycaprolactone (PCL) nanofibers were fabricated by electrospinning. The resulting nanofibers exhibited a fully interconnected pore structure. ATR-FTIR and XRD results clearly revealed the existence of intermolecular interaction between PCL and polyphenols in nanofibers. The nanofibers showed no burst release and controlled release of polyphenols, which implied the homogenous dispersion and perfect inclusion of polyphenol within the nanofibers. The released polyphenols can generate H₂O₂, which is the major cause of cytotoxicity of polyphenols. Moreover, generated H₂O₂ is mainly involved in apoptosis of gastric cancer cells by activation of caspase-3. It is concluded that plant polyphenol-loaded nanofibers are useful in drug delivery to offer a long term cancer therapy and to prevent a recurrence of cancer after surgical operations.

Biography:

Oh Hyeong Kwon is a professor of Department of Polymer Science and Engineering at the Kumoh National Institute of Technology in Korea. He obtained his Ph.D. degree at Department of Materials Chemistry of Kyoto University, Japan in 1998, and moved to Tokyo Women's Medical University as a postdoctoral researcher for 2 years. He joined in the Department of Polymer Science and Engineering, Kumoh National Institute of Technology in 2000 as a professor. His research focuses on the development and applications of novel functional nanobiomaterials for the treatment and diagnosis of various diseases, including tissue/organ regeneration and implantable devices.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Rangasamy Natarajan

University/Organization: Dept of Pharmaceutics and Research, Swamy Vivekanandha College of Pharmacy, Thiruchencode Tk, Namakkal Dt, & Under The Tamilnadu Dr.M.G.R.Medical University, Chennai.,Tamilnadu State, South India

Invitro - Invivo Correlation Study of Cefixime Trihydrate in Transdermal Drug Delivery System

The third generation cephalosporin with a broad spectrum bactericidal activity of cefixime trihydrate in transdermal matrix patches were prepared by Solvent casting method using cross linked polymers with Chitosan and Sodium alginate with or without permeation enhancer and the patches were evaluated and found to be having good physicochemical properties. The cumulative percentage of drug permeation without and with permeation enhancer after 24 h through rat skin was found to be (FS-1 to FS-4) 49.40% to 50.84% and (FPE-1 to FPE-4) 75.48 % to 88.38 %. The kinetic profile show that the drug release followed zero-order kinetics and well fits with Higuchi's model and followed by non-fickian diffusion mechanism of drug release. The drug permeation rate (flux) 28.7315 mcg/hr/sq.cm and enhancement ratio (1.6465) was found to be maximum in the formulation FPE-2. Further, selected for in-vivo study of FPE-2 formulation and compared with oral suspension by using the rats, the results shows after 24 h 82.91% and 28.04%. The invitro-in vivo correlation of FPE-2 was found to be 0.969, which indicates that not super-imposable and linear.

Biography:

Cefixime trihydrate a hydrophobic drug can be effectively transported through the skin by using suitable permeation enhancer. The in-vivo studies proved a controlled release effect of the drug in to the systemic circulation. In-vitro/ In-vivo correlation the slope between the in-vitro skin permeation studies and in-vivo absorption studies regression value were found to be 0.969. And they appear to be well correlated; the plots were not super imposable and linear.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Samer M. Al-Hulu

Al-Qasim Green University / Ira

Gold Nanoparticles and Some Pharmaceuticals Application

Gold nanoparticles (AuNPs) are particles with small size from (1–100 nm), having large surface-to-volume ratio, unique physical and chemical properties, high robustness and quantitative and qualitative target-binding properties. There are many applications for (AuNPs) in pharmaceuticals using, such as using in cancer therapy, AuNPs have a tunable optical properties that allow the absorption of light at near UV to near infrared which due to entering of cell. In Radiotherapy, AuNPs accumulates in the tumor cell and acting as a trap to focus the radiation in the tumor and limit for action in normal tumor vicinity, for Angiogenesis inhibition, AuNPs have the capability for prevent phosphorylation of proteins which involved in this process of angiogenesis, by their binding to the cysteine residues in heparin-binding growth factors. AuNPs as delivery systems (DDSs) which include specific targeting, nanoparticles having selectivity for cancer target which achieved by the enhancement of cellular accumulation of AuNPs by an active targeting to cancer cells. AuNPs for drug/cargo delivery. Functionalizing of AuNPs with a plethora of different cargos due to drug delivery development. Stable nano - vectorization systems in the blood-stream, drug release rate and clearance of the vector are important properties for nanoparticles using as DDSs. AuNPs for gene therapy, when conjugated to AuNPs, siRNAs exhibit increased stability, cellular uptake and efficacy in physiological conditions, retaining the ability to act through the RNAi pathway.

Biography:

Samer M. Al-Hulu, Assistant Professor of Microbiology, has completed his PhD from Babylon University/College of Science-Iraq. He has published more than 14 papers in microbiology field. Al-Hulu, has training at Ministry of Health at Laboratory of Babylon Maternity and Children Hospital. Now working at Al-Qasim Green University/College of Food Science-Iraq.

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Wei-Ju Huang

Department of Oral Hygiene, Hsin-Sheng College of Medical Care and Management, Taoyuan; Division of Cardiology, Department of Internal Medicine, Taipei City Hospital, Taipei, Taiwan

Hung-Pin Hsu

Department of Oral Hygiene, Hsin-Sheng College of Medical Care and Management, Taoyuan; Division of Cardiology, Department of Internal Medicine, Taipei City Hospital, Taipei, Taiwan

Roles of Annexin A2 in Digoxin - Regulatory Hepatocellular Carcinoma

Digoxin (DG) is widely used in the treatment of various heart conditions, namely atrial fibrillation, atrial flutter and sometimes heart failure. DG inhibits the growth of cancer cell lines at concentrations commonly found in cardiac patients. Annexin 2 (ANXA2), a calcium-dependent phospholipid-binding protein, is involved in diverse cellular processes such as cell motility, linkage of membrane-associated protein complexes to the actin cytoskeleton, endocytosis, fibrinolysis, ion channel formation, and cell matrix interactions. ANXA2 overexpression is important to maintain the malignancy of cancer cells. The aim of this study is to find the roles of ANXA2 in DG-regulatory hepatocellular carcinoma (HCC) by observing the proliferation, apoptosis, and morphology in DG treatment.

Material and Methods: The shRNA is transfected in 293T breast cancer cell line to produce the virus cultured suspension, which can make the several HCC cancer cell lines to express ANXA2 or not in virus infection, and they were used to treated with DG ineffective dose. Cells apoptosis was observed by MTT assay, cells containing transforming oncogenes grown in focus-forming assay.

Results: 9 liver cancer cell lines were tested by Western blot and found in ANXA2 expression. We choose HA22T due to its higher expression in ANXA2 and characteristic in migration. Moreover, ANXA2 shRNA (6144/6145/6322/9719) were bought by Academia Sinica and used to knockdown HA22T cell line by Transfection and Infection. The shANXA2-6322 and shANXA2-9717 were confirmed in Q-PCR, RT-PCR and Western blot, and chosen to used in Transwell. We found that whether coating or uncoating, the cell migration and invasion were decreased in shANXA2-6322 and shANXA2-9717 cell line. After treating with DG, the decrease in cell migration and invasion were stronger especially in DG

at dose of 0.1uM . Moreover, the shANXA2-6322 and shANXA2-9717cell survival rate were also decreased under DG treatment in MTT assay.

Conclusion: Weather coating or uncoating, the cell migration and invasion were decreased in shANXA2-HA22T. After treating with DG, the decrease in cell migration and invasion were stronger especially in DG at dose of 0. 1uM Moreover, the shANXA2-HA22T cell survival rate were also decreased under DG treatment in MTT assay.

Keywords : Annexin 2 (ANXA2), shANXA2-HA22T, Digoxin (DG), migration, invasion

Biography:

Dr. Wei-Ju Huang has earned her PhD degree in 2009 in Department of Physiology, Nation Yang-Ming University, Taipei, Taiwan. Now, she is head and assistant professor in Department of Oral Hygiene, Hsin-Sheng College of Medical Care and Management. Dr. Huang was interested in cardiovascular physiology and cancer research, so since 2013, she cooperated her studies in cancer pathology with Professor Yung-Ming Jeng in National Taiwan University and with Dr. Hung-Pin Hsu in Division of Cardiology, Department of Internal Medicine, Taipei City Hospital, Taipei, Taiwan. Dr. Huang has about 13 peer-reviewed publications and many national and governmental grants each year. She is also the reviewer in several Journal.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Prof. Xiangming Liu

South-Central University for Nationalities.

The Methodology of Drug Discovery Based on Traditional Medicine and the Existing Problems

In reverse pharmacology, agents that have a history of therapeutic activity are used as a starting point for drug discovery. However documented natural-product drugs from traditional medicine are generally the mixtures of compounds having a variety of pharmacological effects. It is extremely difficult to identify their active components and clarify their pharmacological mechanism due to the complex relationship between the pharmacological effect of a traditional drug itself and that of its components. In response to this situation, the key idea used in solving the problem is that traditional medicine-inspired approaches to drug discovery should start with the relevance between identifying material basis for the efficacy and clarifying pharmacological mechanism of the traditional drug. Based on the above understanding and under the background of the analgesic effect of Dragon's Blood, the methodology of reverse pharmacology was proposed, which takes the pharmacological effect of the traditional drug itself as the reference. The effects of the components and/or the combinations of components are compared with that of the traditional drug itself to obtain lead compounds with certain chemical structures. According to the principle above, the operational definition of the material basis for the efficacy of the traditional drug was established. Searching for the material basis of the efficacy of the traditional drug was converted to detecting, expressing and analyzing of the relationship between pharmacological effects of the components and/or combinations of components and the traditional drug itself. Thus the research framework of the pharmacological mechanism and the material basis of the traditional drug was built up. The research shows that following the above methodology, the analgesic effect of Dragon's Blood could be due to the synergistic effect of its three components.

In order to improve the methodology of reverse pharmacology and strengthening synergistic multi-component drug clinical effect, Here we put forward two problems which need to be studied further:

1. How to identify molecular signaling mechanisms of synergistic components combination?
2. When material basis for the efficacy of traditional drug is composed of its multiple components, how should these components be combined to produce a stable and significant effect in vivo?

Biography:

Professor Xiangming Liu, South-Central University for Nationalities, Wuhan, P. R. China. Dr. Liu received his PhD (Bio-Medical Engineering) in 2001 from Huazhong University of Science and Technology. Then He joined South-Central University for Nationalities and worked as the first dean of Pharmacy College in 2008-2009. From 1989 to 2000, he has served as head in Department of Preventive Medicine during as a teacher at Medical College of Yangtze University. Between 1990 and 1992, he went off to Medical College of Beijing University and Medical College of Sun Yat-sen University to improve his technique for a year and a half. He has been engaged in teaching and research in mathematics, statistics and biomedical science for a long time, also focuses on the discussion of Gating Dynamics of Ion Channel (GDIC) and its effects on pharmaceutical-related research. Research Interests: Molecular Neuro-pharmacology of Traditional Chinese Medicine and Ethnic drug. Research Achievements: Dr. Xiangming Liu is a recipient of the World Congress of Arts, Sciences and Communications Lifetime Achievement Award 2011 based on his pioneering research contributions on analgesic pharmacological mechanism and the corresponding material basis of the renowned traditional medicines Dragon's Blood.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Yoon Jeong, Kook

University/Organization: Yonsei University.

Structural Modification of Pyridone-Based Histone Deacetylase Inhibitors for RUNX3 Activity Restoration and Stabilization

Histone deacetylases (HDACs) have been great research targets for cancer treatment since their irregular expression due to abnormal epigenetic change was known as a significant cause of tumor onset and progression. Recently, HDAC inhibitors are reported to stabilize a tumor suppressor called runt-related transcription factor 3 (RUNX3) and recover its anticancer activity. In the previous study, we introduced a new approach to cancer treatment using HDAC inhibitors that restores RUNX3 activity and presented a series of novel compounds to recover RUNX3 activity.

In this study, we reported a new series of HDAC inhibitors with an alkenyl linker between the core and the cap group to improve chemical and biological properties. Through structure-activity relationship study, we found that the introduction of an alkenyl group enhanced structural rigidity, aiding compound fit better into the HDAC active site, and increased metabolic stability. We conducted in vitro biological assay to select compounds with high level of activity and metabolic stability. Then, we analyzed in vivo anti-cancer effect of the selected compounds in a xenograft regression model using gastric cancer cell lines. Compound 7k showed the highest inhibition level of tumor growth, so it was selected for further pharmacokinetic evaluation. Showing a high oral bioavailability, compound 7k is a prospect candidate for anticancer chemotherapeutic agent with high efficacy and metabolic stability.

Biography:

Yoon Jeong Kook is a second-year graduate student at Yonsei University pursuing a master's degree in integrated omics for biomedical sciences. Currently, she is doing research on developing anti-cancer agents using mTOR signaling pathway as a target.

Global Summit on Pharmaceutical Sciences & Clinical Trials

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Yung-Chih Kuo

Department of Chemical Engineering, National Chung Cheng University, Chia-Yi, Taiwan 62102, Republic of China

Yin-Jung Lee

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Rescuing Cholinergic Neurons from Apoptotic Degeneration by Targeting of Serotoninmodulator - and Apolipoprotein E-Conjugated Liposomesto Hippocampus

β -Amyloid ($A\beta$)-targeting liposomes (LIP) with surface serotoninmodulator(SM) and apolipoprotein E (ApoE) wereutilized to deliver nerve growth factor (NGF) across the blood–brain barrier (BBB) for neuroprotectionin the hippocampus. An in vitro Alzheimer’s disease(AD) model of degenerated SK-N-MC cellsand anin vivo AD model of $A\beta$ -insulted Wistar rats wereused to assess the therapeutic efficacy ofSM- and ApoE-grafted LIPcarrying NGF (NGF-SM-ApoE-LIP). The experimental evidence revealed that the modified SM and ApoEon the surface of LIPincreased the permeation of NGF across the BBBwithout a serious damage to structural integrity of the tight junction. When compared with free NGF, NGF-SM-ApoE-LIP upregulatedthe expression of phosphorylatedneurotrophic tyrosine kinase receptor type 1on cholinergic neurons and significantly improved their survival. In the brain of rats, NGF-SM-ApoE-LIP could reduce the secretion of acetylcholinesteraseand malondialdehydeand rescuehippocampal neurons from apoptosis. The synergisticceffect of SM andApoE in the current LIP carriers is effective in the induction of NGF to inhibit the neurotoxicityof $A\beta$ and can be a potent anti-apoptotic pharmacotherapyforAD care.

Keywords: Alzheimer’s disease; blood–brain barrier; serotoninmodulator;apolipoprotein E; nerve growth factor;liposome

Biography:

Dr. Yung-ChihKuo is a professor at the Department of Chemical Engineering, NationalChungChengUniversity. His research interests are focused onbiomaterials, drug delivery system, nanomedicine, tissue engineering (cartilage and pancreas), blood–brain barrier, cancer therapy, nerve regeneration, spinal cord injury treatment,

stroke treatment, Alzheimer's disease therapy, Parkinson's disease therapy, biophysics, colloid and interface science. In these fields, he has authored or coauthored over 130 SCI journal papers, over 10 book chapters and patents. He is a fellow of Royal Society of Chemistry (UK), an honor member of Phi Tau Phi Society, a life member in various academic Societies including American Nano Society, European Atherosclerosis Society, European Association for Cancer Research, Society for Cardiovascular Magnetic Resonance, Asia-Pacific Chemical, Biological and Environmental Engineering Society, Asian Federation of Biotechnology, Asian Biotechnology Directory, Taiwanese Society of Biomedical Engineering, Chinese Institute of Engineers, Taiwan Institute of Chemical Engineers, Biochemical Engineering Society of Taiwan, and Taiwan Biomaterials and Controlled Release Society. He won the Best Paper Award in 2016 and 2008, Prof. Tsai-Teh Lai Award in 2015, Special and Talented Scholar Award in 2013-5, Outstanding Research Award in 2013, and Young Scholar Award in 2003. He is also an associate editor of J. Taiwan Inst. Chem. Eng. and an editorial board member in various journals, and has been invited as an organizing committee member of many international conferences, a manuscript reviewer for over 100 journals (top reviewer of the Journal of Physical Chemistry (American Chemical Society)), an external reviewer for academic awards, research grants, faculty recruitments and promotions, and financial support of hosting international symposiums, and an advisory board committee member of international conferences and symposiums.

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January 30th-February 1st, 2017 Copenhagen, Denmark

Christina Yuen Ki Leung

The University of Hong Kong – Shenzhen Hospital (HKU-SZH), Shenzhen, China

Comparison of Transdermal Buprenorphine and Fentanyl for Their Pharmacology and Toxicology Properties to Guide Healthcare Professionals to use the Opioid Transdermal Patch Safely and Effectively

Buprenorphine and Fentanyl transdermal patches are used for the management of chronic intractable pain in both malignant and nonmalignant patients. Both Buprenorphine and fentanyl are potent opioids, but they have different pharmacology and toxicology properties. It is important to understand the difference in these properties as this information is useful for clinicians and pharmacists to guide them to use the opioid patches effectively for the management of pain, and to monitor the side effects to ensure safe and efficacy of drug use.

Opioid analgesics mimic endogenous opioid peptides by causing a prolonged activation of opioid receptors (usually μ receptor). This receptor mediate analgesia, respiratory depression, euphoria and sedation. Fentanyl is potent, highly lipid soluble, rapidly acting μ -opioid receptor full agonist. Buprenorphine is a highly lipophilic semisynthetic opioid. It has complex pharmacology which is different from Fentanyl. Buprenorphine is a partial μ -opioid receptor agonist. A partial agonist is a drug that binds to and activates a receptor but has only partial efficacy compared to a full agonist. This means that it may have ceiling effect and demonstrate both agonist and antagonist effects. In human studies using clinical effective analgesia doses, buprenorphine does not have a ceiling effect to analgesia. However, Buprenorphine does have a ceiling effect for respiratory depression. Buprenorphine is a partial agonist. Higher doses can be given with fewer respiratory depression side effect compared with higher doses of Fentanyl.

Dose response studies showed that doses many times greater than normal buprenorphine therapeutic doses appear to be well-tolerated in most individuals, and rarely result in clinically-significant respiratory depression. Buprenorphine is safer in high doses than Fentanyl. The primary side effects of buprenorphine are similar to other μ -opioid agonists (eg, nausea, vomiting, and constipation), but the intensity of these side effects is reduced significantly compared to full agonist, Fentanyl. The most severe and serious adverse reaction associated with opioid use in general is respiratory depression, the

mechanism is behind fatal overdose. Buprenorphine behaves differently than other opioids in this respect, as it shows a ceiling effect for respiratory depression. Typically, 1%–11% of patients on opioid therapy suffer from respiratory depression. In one study using rats, much higher safety window (13.5-fold) is reported for buprenorphine than for fentanyl (1.2-fold) when comparing analgesia and respiratory distress doses.

Buprenorphine has slow off rate (half-life of association/dissociation is 2–5 hours). The slow dissociation from μ -receptor accounts for its prolonged therapeutic effect for treatment of pain. Respiratory depression is rare with buprenorphine, but if occurs, it can be reversed by Naloxone, often larger doses are required than Fentanyl because buprenorphine dissociates slowly from the receptors. The maximal opioid effects of Buprenorphine are less than that of full agonist, Fentanyl. Buprenorphine has high affinity for but low intrinsic activity at μ -opioid. Comparing to Fentanyl, it has a higher affinity for μ opioid receptors. In conclusions, the pharmacology profile of buprenorphine is complex but unique, and contributes to its distinct safety and efficacy when it is used under appropriate clinical indications.

Biography:

Christina Leung completed two Bachelor degrees in England, BSc Management Sciences degree followed by the BPharm Pharmacy degree. Following the registration as a pharmacist in the UK, she worked in different London Teaching Hospitals for 16 years. In the last 12 years in UK, she specialised in Paediatrics (especially in PICU and Paediatric Liver), Obstetrics and Gynaecology. She published two articles relating to drugs use in paediatric liver diseases in the UK Children Liver Diseases Magazine. Ms Leung is also a registered pharmacist in Hong Kong and she is currently working as the Senior Pharmacist (Clinical Pharmacy in Charge) at the HKU-SZH in China. She is also the Honorary Lecturer at the University of Hong Kong. She delivers lectures to the Master and Undergraduate Pharmacy students relating to Paediatrics, Obstetrics and Gynaecology.

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Babak Daneshfard

Research Center for Traditional Medicine and History of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

Reza Sanaye

Essence of Parsiyan Wisdom Institute, Phytopharmaceutical Technology and Traditional Medicine Incubator, Shiraz University of Medical Sciences, Shiraz, Iran.

Personalized Integrative Medicine A La Posited Assumptions

Employing a personalized strategy by taking into account the patient's specific conditions, Integrative Medicine (IM) endeavours to apply all appropriate interventions from a whole set of science branches to bring back health. However, this does not remain fully without its own challenges from almost all sides. Complementary and Alternative Medicine (CAM) on the one hand, and: Evidence Based Medicine (EBM), on the other, have their own rightful say in the affair. In order to be able to check up and down on the modalities of research as far as unforeseen challenges into the future are concerned (let alone those already extant), we have devised some a priori vs a posteriori systematology whereby experimental subjects are [constantly] "re-shuffled": then, groupings of instantiations are posed one onto the other so that a certain RCT could approximately represent (without necessarily presenting) another run of a similar RCT.

Keywords: Systematology, Randomized Control Trial (RCT), Research modality, a priori presentation, a posteriori representation

Biography

He has been born in Ahvaz, Southern Iran--Khuzestan in 1988. During the years of childhood and early teens, he was recognized by masters in intelligence-fishing psychologists in schools as of possessing an abnormally high level of IQ. Having finished the high school period with weak grades in Humanities and extraordinarily superb marks in science, he went on to simultaneously matriculate for basic sciences and conventional medicine. He soon took on various responsibilities and duties in affiliation with spearheading student research committee board faculty development[S.R.C.B.F.D]. He went on to be an M.D., and a little later, a GP who served as one focused on neurologic/psychiatric disorders. When going far out to even rural areas for humanitarian purposes, where some shortage of modern medication and state of the art equipments was tangible, he self-made initiated to integrate more traditionalistic healing approaches with modern medicine. All throughout the proceedings of the Iranian National Conference on "The Comprehensive Psycho-physical Health Agenda", BabakDaneshfard acted

as the deputy Governing Scientist to the debate panels of the said seminar where he received the certificate with the doctoral degree for his concentration during the three years prior to (and inclusive of) 2011 on a variety of novel designs for clinical trials integrating mind and body ailments' investigations. Despite the fact that he has almost always preferred to stand at the arrowhead of designing research and investigation in various circles of medicine, he also has --among a battery of other extra-curricular activities--enough pedagogical experience in tutoring PhDe's scientific writing, research methodology, mind-body practice, and (non-)organic awareness entities.

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January 30th-February 1st, 2017 Copenhagen, Denmark

Behzad Mohaddesi

Department of Pharmaceutical Sciences, Saurashtra University, Gujarat, India.

Pharmacognosy evaluation and in-vitro biological screening of *Annona muricata* L. seeds (Bio-assay guided fractionation approach)

Study and use of plants as a medicine has a great record in many traditional system of medicine in different part of the globe. *Annona muricata* of Annonaceae family, posses many medicinal properties and used for treatment of various diseases. In this study, detailed pharmacognosy evaluations of seeds of *Annona muricata* were carried out, Anti-oxidant activity of different extracts determined and bio-assay guided fractionation approach used for in-vitro anti-cancer screening of seed on human cancer cell lines by using Sulforhodamine B (SRB) colorimetric cytotoxicity assay. The result showed important Pharmacognostical characteristic of seeds of *Annona muricata*, the phytochemical screening gave a positive test for presence of various phytoconstituents. Anti-oxidant tests showed the anti-oxidant capacity of each extracts in connection with other extracts and standard drug. In addition, bio-assay guided fractionation lead to collect different extracts and fractions which compared with the known standard drug of Adriamycin (Doxorubicin), and showed significant activity against tested human cancer cell lines with GI₅₀ <10 µg/ml which demonstrate very promising effect. On conclusion, the *Annona muricata* seeds with unique pharmacognostical characteristics showed important biological activity, which prove its medicinal value and its potency as an important medicinal plant for drug discovery process from natural products.

Biography

Behzad Mohaddesi has done his Ph.D research work on division of herbal drug technology in Department of Pharmaceutical Sciences, Saurashtra University and completed his M.Sc on Medicinal Plants Sciences from Gujarat Ayurved University, India. His area of work is pharmacognosy evaluation and screening of biological activity of medicinal plants used in different traditional medicine.

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W. Arap

Deputy Director, University of New Mexico Comprehensive Cancer Center, Chief, Division of Hematology/Oncology, Department of Internal Medicine, University of New Mexico School of Medicine, Albuquerque, NM, USA

R. Pasqualini

University of New Mexico Comprehensive Cancer Center, Chief, Division of Molecular Medicine, Department of Internal Medicine, University of New Mexico School of Medicine, Albuquerque, NM, USA

Ligand-directed Targeting and Molecular Imaging in Translational Medicine

Our group originally developed two targeting platforms to uncover ligand-receptor interactions in disease: peptide and antibody library selection in vivo and in vitro. By using these complementary technologies, we probe the molecular diversity to discover cell surface addresses (termed ZIP codes) for delivery of therapeutics to selective vascular beds. In this lecture, the topics covered will be: (i) Human Vascular Mapping: We developed scientific and ethics frameworks for direct combinatorial screening in cancer patients and validated human tumor ZIP codes. We translated peptidomimetics into investigational new drugs (INDs), realized sequential selection in patients, and identified human ligand-receptors. (ii) Molecular-genetic Imaging: We invented AAV-phage (AAVP) for targeted transcription-based molecular imaging and created self-assembled nanotechnology-based phage-nanogold networks. We are integrating these into nanoparticle-based delivery systems for several payloads, including siRNAs. (iii) Fingerprinting Antibodies: We “fingerprinted” auto-antibodies from cancer patients, thus discovering tumor antigens that serve as prognostic and diagnostic markers, in addition to receptors for ligand-directed delivery. (iv) Disease Models: We reverted obesity by targeting the vasculature of white fat for destruction. We also identified cancer ZIP codes, within multiple tumor compartments, including infiltrating bone-marrow derived cells and pericytes. (v) Small peptidomimetics & human antibodies: We developed biopanning methodologies in vivo and ex vivo, which yielded angiogenesis inhibitors and tumor-specific targets for imaging and radiosensitization.

Biography

Dr. Wadih Arap received his M.D. from the University of São Paulo Medical School and his Ph.D. in Cancer Biology from Stanford University. He trained in medical oncology and hematology as a fellow at Memorial Sloan Kettering Cancer Center and completed his thesis work at the Ludwig Institute for Cancer Research. He joined the Burnham Institute in La Jolla, California as a Staff Scientist where he co-developed and optimized targeted vascular cancer therapies. Early in his scientific training, Dr. Arap focused on understanding the genetic basis of malignant tumors, endothelial cell adhesion, angiogenesis, metastasis, and vascular molecular markers in cancer. Given his extensive training as a physician-scientist, Dr. Arap serves as co-PI with Dr. Pasqualini and also treats cancer patients in a thriving clinical practice.

Dr. Renata Pasqualini is a biochemist and cell biologist. She received a Ph.D. from the Ludwig Institute for Cancer Research and completed her postdoctoral training at Harvard Medical School and the Burnham Institute in La Jolla. Dr. Pasqualini is an international expert in vascular biology, cancer metastasis, and angiogenesis. She co-developed in vivo phage display, a powerful technology to map molecular addresses within the human body. In addition to her integral activities as principal investigator and head of a large research laboratory, she also serves as a board member, reviewer, and chair of multiple review panels for the National Institutes of Health, the Department of Defense, the Department of Energy, and several other American, Asian, and European Foundations that support basic and clinical research. Drs. Arap and Pasqualini are married and established a long-standing collaboration as PIs of a joint laboratory since October 1999, first at The University of Texas, M. D. Anderson Cancer Center and now at the University of New Mexico. Their central working hypothesis is that differential protein expression in the human vascular endothelium, associated with normal or diseased tissues, will reveal novel diagnostic, imaging and therapeutic strategies. Their research team develops innovative technologies to identify tissue and organ-specific molecular addresses. They demonstrated that these “zip codes” provide a targetable site to selectively and specifically deliver drugs or other molecules to tumors. This pioneering outlook is the core of the Arap/Pasqualini research program. Over the past two decades, these ground-breaking insights and efforts yielded 180+ peer-reviewed publications, 35 issued US patents, five new biotech start-ups, and two successful IND applications.

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Mustofa Ahda

Fakultas Farmasi Universitas Ahmad Dahlan

Figrirozi

Fakultas Farmasi Universitas Ahmad Dahlan

Gina Noor Habibah

Fakultas Farmasi Universitas Ahmad Dahlan

Mas Ulfah Lestari

Fakultas Farmasi Universitas Ahmad Dahlan

Tomy Hardianto

Fakultas Farmasi Universitas Ahmad Dahlan

Yuni Andriani

Fakultas Farmasi Universitas Ahmad Dahlan

Optimation of Ethanol Extract of Gotu kola and Majapahit Composition As Natural Antioxidant Source

The development of natural antioxidants in the Gotu kola and Majapahit is a great potential . This research has been optimizing the composition of ethanol extract of Centella asiatica and leaves Majapahit as an antioxidants source using measure the free radical scavenging activity of DPPH . The results of research showed that both the ethanol extract of Centella asiatica and leaves majapahit has a total content of phenol. its shown with the ability to reduce reagent Folin Ciocalteu become blue colour. The composition optimazion of extract Centella asiatica:leaves majapahit = 30:70 has free radical scavenging activity of DPPH most well compared ethanol extract of Centella asiatica and leaves Majapahit . IC50 values for the composition of ethanol extract of Centella asiatica : leaves majapahit = 30:70 is 0,103 mg / mL .

Keywords : Antioxidant activity , Centella asiatica, Leaf Majapahit, Composition Extract

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

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Vaccine and Targeted Drug Delivery with Polyelectrolyte Nano-Complexes.

The complexation of polyelectrolytes is very attractive to process polysaccharides into biomaterials, because it is energy efficient, requires no toxic chemical, has a low environmental impact and can be applied to biocompatible polymers such as polysaccharides. We used chitosan, a copolymer of N-acetyl glucosamine and glucosamine obtained from the partial deacetylation of chitin as polycation and a variety of polyanions such as dextran sulphate, hyaluronan, heparin, chondroitin sulphate. These polysaccharides are generally regarded as safe and some of them can be found in the extracellular matrix of In this contribution we will present our latest achievement in the control of the elaboration, structure and performances of polyelectrolyte nanocomplexes as drug and vaccine carriers of high potential. In particular, we will address the issues of colloidal stability in physiological media, a major limiting factor in the development of this technology; the nanocomplex loading with drugs or vaccine; the targeting of these nanodelivery systems.

The formation of polyelectrolyte complexes is spontaneous at room temperature, i.e. under kinetic control. We will present an alternative approach close to the thermodynamic equilibrium and discuss the potentiality of this particularly innovative synthesis route. Finally, we will present our latest results on the delivery of anti-retroviral drug and the inhibition of the infection by the HIV-1 virus of hPBMCs in vitro. The delivery of vaccine will also be shown.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Dr. Pawan Saharan, MS (JNU). Ph.D.,

Stanford University

Indian Solution to Global Problems Via Path Breaking Innovations

After 10+years of Global research on Indian solution to global problems via path breaking innovations, Dr. Saharan has invented Receptol® oral spray, which will enable people to lead longer & healthier lives via building body's own immune system naturally, through state of the art US Product patented technology. Radha108 Nanopeptides, isolated from mammalian colostrum with antiviral and immunomodulator activity that fully treated Asthma, Allergy, HIV & 48 other chronic diseases approved by US PTO(U.S. Patent No. 9,249,188 & 8,518,454 B2) under controlled clinical studies in US, Africa & India. Radha108 functions as a molecular signaling device which works through receptors on target cell surfaces. The mode of action of Receptol® is based on API Radha 108 Nano-informational peptides proteins which are active in mitigating cell fusion & docks on Gp120, 180, 160 receptor CD4, CD8 on the cell surface closing entry of virus like foreign antigen and allergens & get absorbed in the blood through buccal mucosa crossing BBB. Radha108 promotes differentiation of B cells, maturation of macrophages and monocytes & Stimulates production of cytokines IL-1 to IL-11, TNF- α , INF- γ & maturation of immature thymocytes into either helper or suppressor T cells that helps building body's immune system strongly to fight any infection and immune disorders like Asthma, Allergy, URTI, Carcinomas and Type 2 diabetes saving 100s of Billions of \$ that are spent in treating such ailments with little or no efficacy.

Receptol® is clinically proven through global clinical trials in the USA, Africa & India using worst case scenario for immune disorder like AIDS patients, who were fully treated within one year. Radha108 is very effective and safe among cases with indications like HIV, Swine flu, Allergy, Asthma, Arthritis, Diarrhea, Fever, Fatigue-Malaise, Anemia, Endometriosis.

Biography

Dr. Saharan has MS in Life Sciences (JNU); Ph.D in medicine (WVU) & Post Doc. (Stanford University). He has several International Publications / Presentations including in Top Scientific Journal Nature from the age of 21. Nominated for several Global Awards including by New Drug Discovery Programme of Department of Science & Technology (GoI) funded US\$ 3 million grant and the best US Scientist Award at age 22 years by AAAS, Washington DC. Dr. Pawan Saharan has been CSO & CEO for large MNC & founder of Biomix Network Inc. USA & India.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Prof. Sadhana Rajput

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Nasir Vadia

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Mesoporous Silica Nanocarriers for Enhancing the Solubility of Poorly Soluble Anticancer Drug Dasatanib

Poor aqueous solubility is the biggest barriers for new drug candidates emerging from drug discovery programs to enter toxicology studies, let alone clinical trials. Various techniques have been proposed to improve the aqueous solubility of drugs: particle size reduction, solid lipid dispersion, amorphous drug formulations etc are a few such techniques. Mesoporous silica materials (MSM) have attracted the attention of pharmaceutical researchers around the world in last several years as these particles are fully porous amorphous silica particles with highly ordered pore structures with pore size in the range of 2-50 nm. MSMs have shown to effectively increase drug solubility by stabilizing the amorphous state of APIs.

In the present study, the mesoporous silica material, MCM- 41 was used as drug carrier for improving the solubility of a poorly water soluble anticancer drug, Dasatanib. Dasatinib is a potent, oral multi targeted kinase inhibitor of BCS Class II drug, approved in 2006 for first line use in patients with chronic myelogenous leukemia and acute lymphoblastic leukemia. DST has very low aqueous solubility.

Mesoporous silica nanocarriers (MSNs) were synthesized using an already reported organic template method with some modifications. A DoE based approach was used to achieve the maximum loading of the drug into the mesopores of MCM 41. After successfully loading more than 50% dasatanib into the pores of MSNs, the nanocarriers were characterized using scanning electron microscopy (SEM), transmission electron microscopy (TEM), nitrogen adsorption and zeta potential analysis. The prepared nanocarriers were evaluated for their dissolution behavior in different media. The dissolution profiles thus obtained showed an highly improved release profile for Dasatanib when compared with that of a commercial formulation..

Biography

Professor(Mrs.)Sadhana Rajput Working as a Professor in Faculty of Pharmacy with a teaching experience of approximately 30 years. My area of specialization are Pharmaceutical Analysis, Quality Control and development of modified release formulations. 11 Ph. D.and 59 M. Pharm students have already completed their projects under my supervision. I have received grants from National agencies for research projects. I have 106 publications in peer reviewed National and International journals. Received awards for best published papers. Filed for 4 patents. On the expert panel of many Indian Universities. Reviewer for many National and International journals.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Dr. R. R. Rao., Ph.D., FNASc., FASc., FNA

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Role of Cross Cultural Ethnic Knowledge in Bioprospection and Drug Development with Special Reference to Indian Region”- Concerns and Strategies

Indian region is one of the greatest Emporia of ethno-biological wealth and a store house of traditional knowledge. The time tested traditional knowledge among the tribes has percolated from generation to generation through oral folk lore. The profound traditional knowledge on resource use and their conservation by the ethnic tribes provide modern scientists with unparalleled opportunities for research and product development. Although the heritage of Indian medicinal plants is very ancient and goes back to the Vedic times, there are several problems in equating local names in ancient literature with scientific names. A few such botanical riddles are discussed. The Himalayan region is said to be a real store house of many reputed ‘Sanjivani-like’ medicinal plants such as *Aconitum heterophyllum*, *Valeriana* spp., *A. falconeri*, *Arnebiabentharii*, *Dactylorhiza hatagirea*, *Gymnadenia orchoides*, *Megacarpaeapolyandra*, *Picrorhiza kurroa*,

Nardostachys jatamansi, *Podophyllum hexandrum* and *Taxus wallichiana* and *Rheum emodi* which are used by many ethnic tribes in the region and have great potential for drug development. Use of a number of diverse, unrelated medicinal plant species for a particular ailment by different ethnic tribes in India is another major issue observed with regard to the use of traditional medicinal plants. The same is observed even in authoritative treatises like *Charaka Samhita*. The author stresses the need for short listing and prioritizing the leads for a specific ailment by cross-crossing of information through cross-cultural studies among different ethnic tribes within a country and then compare with other developing countries in the region for intense bio prospecting and product development. The author elaborating on this issue calls for collaborative research programmes aiming at drug development by all developing countries having rich heritage of ethnic knowledge within the framework of the Rio Convention. Use of a particular species for the same ailment by different unrelated ethnic groups certainly indicates the efficacy and potential of these plants for drug development. However, shortage of field botanists / ethno botanists / taxonomists, lack of adequate financial support for ethno botanical investigations involving cross cultural studies, lack of much needed co-operation between biotechnologists and ethno botanists in Bio-prospecting programmes on ethno botanical leads, lack of comprehensive ethno botanical databases among biodiversity rich

developing nations for comparative ethno botanical study are shown to be some of the major constraints in this direction. Future responsibilities for Ethno biologists must include inventorying the traditionally used biological resources and development of data bases (for purposes of sharing royalties if any) conservation and revitalization of the traditional cultures, safeguarding the traditional knowledge against misuse or over use by ‘modern societies’, acting as custodians of the traditional knowledge and on behalf of the ethnic tribes decide and distribute the benefits that may accrue for their traditional knowledge (again as per the guidelines of Rio convention), and finally identify the knowledgeable resource persons in each region for providing some subsidy for pursuing their unique profession. What we can provide to the ethnic tribes and not what we can extract from them should be the target of all ethno biologists in the 21st century.

Biography

Dr. R. Raghavendra Rao is the foremost plant taxonomist in India who has mainly worked on Floristics, Phytogeography, Ethnobotany and Conservation and has contributed enormously to the knowledge of Himalayan and northeast Indian botany. After obtaining a PhD degree from Mysore University, he has worked in Botanical Survey of India (as Botanist and Joint Director), in North Eastern Hill University (as lecturer and reader), in NBRI (as Scientist F and Scientist G). His work on the systematics of ferns of northeast India and the Forest Flora of Meghalaya are the pioneering efforts widely consulted by the fellow botanists. Through these works and also the revisionary studies on Berberis, Compositae, Aconitum, several taxa new to science have been described and new information to Indian phytogeography have been added. Several publications of Dr. R. R. Rao on different aspects of reproductive biology of *Eremostachys superba*, one of the critically endangered species of Doon Valley have highlighted for the first time various bottlenecks in its fecundity. His work on synoptic Flora of Mysore in a new perspective has added one more brick to the edifice of taxonomy. He has keyed 1600 taxa direct up to species level instead of passing through families and then genera as is customarily done. His works on biodiversity assessment, particularly of Himalayan region have provided new impetus for young workers. Dr. Rao has profound knowledge of Indian flora and high competence in conservation biology and ethnobotany of Northeast India. His ethno-botanical studies have highlighted several little known/unknown uses of medicinal plants of northeast India. “Capacity Building” in taxonomy is another area where Dr. Rao is a significant achiever. He is the author and/or editor of 16 books and over 200 research papers, which are widely consulted by the fellow scientists. His works have already been recognized as evident by the number of medals and honours he has received. He is recipient of Pitambar Pant National Environment Fellowship by the Ministry of Environment & Forests (1999), recipient of William Harshberger Medal by the Society of Ethnobotanists (1994), recipient of Prof. B. A. Razi Medal by the Association of Plant Taxonomy, Calcutta (1999), V. Puri Gold Medal by Indian Science Congress Association, Y.D. Tyagi Gold Medal by Indian Botanical Society, Scientist of the Year 2001 by the National Environmental Science Academy, New Delhi, Talented Scientist Award during the 35th World Congress on Natural Medicines, Tirupati and President, Society of Ethnobotanists for two terms of 6 years. Also he is the Fellow of all the leading science Academies of the country (INSA, New Delhi, Indian Academy of Sciences, Bangalore, National Academy of Sciences, Allahabad).

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Fatemeh Ghaffarifar

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Antimicrobial Effects of IL-22 and its Role in Wound Healing

Interleukin-22 (IL-22) structurally belongs to the IL-10 family of cytokines, which is expressed by Th22 cells and natural killer (NK) cells, lymphoid tissue inducer (LTi) cells, LTi-like cells and some other cells. Recently, the role of IL22 in creating the protection and natural defense mechanism for controlling bacterial infections, viral hemostasis and tissue recovery has been proved. IL-22 plays a protective role in wound healing of tissues such as skin. IL-22 acts by heterodimeric receptors and consists of IL-22R1 and IL-10R2. Human skin has the highest IL-22R1 expression among other tissues. The effect of IL-22 on skin tissue is related to the level of this cytokine and, in a limited range, has extraordinary wound healing effect and out of this range IL-22 may also have contradictory results. IL-22 provokes the expression of molecules such as keratin 6, which provokes hyperplasia of reconstituted human epidermis. In addition, keratinocyte migration is increased by IL-22 stimulation. IL-22 plays a protective role in wound healing of tissues such as intestine and liver. IL-22- deficient mice showed delayed healing of mucosal wound healing compared to controls. IL-22 enhances the expression of β -defensin2 and defensin3, which might be related to the increased innate immunity against pathogens. IL-22 in various skin damages. IL-22 is expressed after burn wounding, is elevated in human psoriasis patients, and promotes dermal inflammation.

Key words: IL22, mechanism, microbial agents, wound healing.

Biography:

Fatemeh Ghaffarifar has done her PhD research work on Evaluation of the role of hydatid antigenic fractions in cell mediated immunity (CMI) stimulation and cytokine production in hydatid patients in TarbiatModarres University and completed her M.Sc on Evaluation of intestinal parasitic disease in pregnant women, and effect of parasitic infection on mothers and new-borns in TarbiatModarres University

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Faten Mahmoud Ahmed Atlam

Tanta University, Faculty of Science, Chemistry Department, TACU, Tanta, Egypt

Computational Simulation of the Effect of Quantum Chemical Parameters on the Molecular Docking of Hmg-Coa Reductase Drugs

Density functional theory (B3LYP-6-31G(d)) was performed to study the effect of molecular and electronic structures, of 2-cyclopropyl-4-thiophenyl-quinoline mevalonolactones as potential hypocholesterolemic inhibitors, on their biological activities and discuss the correlation between the inhibition efficiency and quantum chemical parameters. Molecular docking was performed to investigate the mode of interactions between the investigated inhibitors and the active sites of the target Hydroxymethylglutaryl-Coenzyme A (HMG-CoA) reductase. The results could suggest further structural modifications to discover more potent and selective HMG-CoA reductase inhibitors. The catalytic active sites of HMGR have a positive electrostatic potential which is complemented with a negative electrostatic potential of the investigated drugs to form a stabilized complex. The presence of lipophobic groups, such as quinoline nucleus, cyclopropyl and substituted thiophenyl groups as well as a lactone moiety, is important for binding to the active sites. A good correlation between the experimental and theoretical data confirms that the quantum chemical methods and molecular docking studies are successful tools for enriching screening experiments aimed at the discovery of novel bioactive compounds.

Biography:

Faten Atlam is graduated from the Faculty of Science, Tanta University in 2004 with general grade very good. In May, 2009, she has got a M.Sc. degree in computational chemistry. Her research was concern in the use of computational chemistry in corrosion of metal surfaces. She has completed her PhD at the age of 27 years from Tanta University, 2012. Her research was concern with computer aided drug design, molecular docking and QSAR study. Her research interest is in the following fields Theoretical Applied Chemistry, Molecular Mechanics and molecular Dynamic, Drug Design, Computational Chemistry, Computational Biochemistry. Quantitative Structure Activity Relationship (QSAR). She published 6 scientific papers in international journals and she submits another three papers. During this period, she shared in teaching of the Quantum, Kinetics and General chemistry courses for the under graduate students and practical courses at the faculty of science, Tanta University, Egypt.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Habibur Rahman

PSG College of Pharmacy

Development and Pharmacokinetic evaluation of nutraceutical agent (curcumin) loaded Solid lipid nanoparticles

Curcumin (diferuloylmethane), a traditional herb and active ingredient of curcuma longa (Turmeric) are known for its wide pharmacological actions. Poor bioavailability of curcumin curtails the therapeutic utility of this potent molecule as drug. Lipid technology is one of the recent approaches developed to enhance bioavailability. In this line, the present investigation focused on the development of solid lipid nanoparticle (SLN) loaded with curcumin for enhanced bioavailability.

Method: Curcumin SLN was prepared using stearic acid, sterotex NF, Gelucire 33/01 and sterotex HM as lipids, Tween 80, Gelucire 44/14, Polyethyleneglycol (PEG), Polyvinylpyrrolidone (PVP) and Propylene Glycol (PG) as surfactants and co-surfactants. High shear Homogenization technique was applied for the preparation of SLN. The developed formulation is subjected to various characterization studies viz., particle size, entrapment efficiency, drug content, release profile and stability studies for optimization of SLN. Further, MTT assay in neuroblastoma cells were assessed for optimized formulation and subjected to pharmacokinetic studies in rabbit and rat animal model to establish bioavailability parameters.

Results: Stearic acid loaded curcumin SLN was characterized using zeta sizer, TEM analysis and the average particle size was in the range of 80 nm – 200nm. Drug content and entrapment efficiency was found to be from 78.12±1.21% to 93.33±2.12 and 58.98±2.12% to 85.32±3.2% respectively. The drug content results suggest that the drug loading capacity of the lipid is significantly influenced by addition of different co-surfactants. Based on the co-surfactant optimization PVP and PG was chosen to develop curcumin SLN with other lipids Sterotex HM, Sterotex NF and Gelucire 33/01. The results suggest that the formulation prepared using Sterotex HM, Tween 80 and PG (CU5b) to be optimized formulation based on the particle size (127nm), drug entrapment (90.40%) and in vitro drug release (82% at the end of 24hr) analysis. MTT assay was performed using IMR 32 (Neuroblastoma) cell line on the optimized formulation and the results are indicative that curcumin SLN showed better cytotoxicity in low dose while compared to plain curcumin. The optimized formulation has been subjected to pharmacokinetic studies in rabbit animal model. The optimized formulation was administered to rabbits at different dose levels to know the dose dependent effect on pharmacokinetics and

bioavailability. The AUC_{0-t} for the curcumin (100mg/kg) and curcumin SLN (25mg & 50mg/kg) was found to be 913.36, 7238.15, 10045.13 respectively. The results indicate that the curcumin delivered through SLN found to have enhanced bioavailability while compared to curcumin. Dose dependent increase in bioavailability was observed. Further, the optimized curcumin SLN is subjected to pharmacokinetic and brain distribution studies in rats. The drug concentration in plasma and brain was quantified by developed HPLC method. The curcumin SLN showed more than 10 fold increase in bioavailability and dose dependent increase in bioavailability was observed for the developed optimized formulation.

Conclusion: Based on the results it is evident that curcumin bioavailability and brain availability was promisingly improved in the form of SLN. To conclude, the developed curcumin SLN showed promising results of enhanced bioavailability. Further pharmacokinetic modelling and IVIVC should be carried out to establish the curcumin role as drug.

Biography:

Dr. S.M. HabiburRahman M. Pharm., Ph.D, Associate Professor in PSG College of Pharmacy, Coimbatore. Research grant awarded from AICTE, India under Research Promotion Scheme. Published & presented several scientific papers in pharmacokinetics and bioavailability. His area of research is Neuropharmaceutics, pharmacokinetics & Lipid Nanotechnology.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Hariprasad Ranganathan

PSG College of Pharmacy

Development of Tetrahydrocurcumin Solid Lipid Nanoparticles and Assessment of Pharmacokinetics in Wistar Rats

Tetrahydrocurcumin (THC), one of the major metabolites of curcumin, exhibits many of the same physiologic and pharmacological activities as curcumin and in some systems may exert greater antioxidant activity than curcumin. The objective of the present study is to develop and evaluate solid lipid based drug delivery systems to improve the bioavailability of the poorly water-soluble tetrahydrocurcumin (THC).

Method: High shear homogenization followed by probe sonication was employed to prepare THC loaded solid lipid nanoparticles. Formulations were prepared using Sterotex HM and Stearic acid as lipids and hydrophilic surfactant Tween 80 as the surfactant and PVP, PEG 6000, PEG 400, Propylene glycol (PG) and Poloxamer 188 as co- surfactants. The prepared formulations were evaluated for particle size, surface morphology, drug content, entrapment efficiency and thermal analysis. As there is no specified dissolution method for THC in pharmacopoeia, discriminative dissolution method is developed and validated for release studies of THC solid lipid nanoparticle. Further, the optimized THC loaded SLN is subjected to pharmacokinetic studies in wistar rats.

Results: SLNs were prepared by hot melt technique using Tween 80 as the main surfactant. The effect of different co-surfactants on the characteristics of the SLNs like entrapment and also on in vitro drug release was evaluated. The optimized formulations were selected based on the entrapment and in vitro release data and further animal studies were carried out using these formulations. The particle size was found to be in the range of 25 to 877 nm. A high drug loading of 94% in the lipid nanoparticles was observed. The in vitro study showed a slow and sustained release of the drug for over 24 hrs. The thermogram of the pure drug showed melting point for the drug at 95o C. The thermograms of the formulations TF1 and TF9 showed the absence of the drug peak. An evident decrease of enthalpy with respect to raw lipid (from 124 to 53 J/g) was noted in the Sterotex HM – THC SLN thermogram. And decrease in enthalpy of stearic acid (from 184 to 68j/g) was noted in SA-THC SLN thermogram. The small difference in melting point and large difference in the enthalpy is evident that the tetrahydrocurcumin is dispersed uniformly in the lipid matrix and the THC-SA, THC-SHM complex formation is confirmed. The average particle size from atomic force microscopy (AFM) was found out to

be in bounds with that of the values obtained with photon correlation spectroscopy. The AFM images of a group of particles represented in the figures clearly shows that the particles are well separated, ruling out the possibility of the aggregation of the particles. The pharmacokinetic parameters like C_{max}, T_{max}, T_{1/2}, AUC_{0-t}, MRT were measured using winNonlin software. There was a good improvement in the plasma drug concentration when formulated as SLNs compared to the pure form of the drug.

Conclusion: Based on the results it is evident that tetrahydrocurcumin bioavailability was promisingly improved when administered orally in the form of SLN. Further pharmacokinetic modelling and IVIVC should be carried out to establish the tetrahydrocurcumin role as drug.

Biography

Hariprasad Ranganathan is associate professor in department of pharma analysis at P.S.G College of pharmacy. His area of research includes bio-analytical method development and pharmacokinetics. He has around 16 publications and two book chapters. He is associated with PSG hospitals as a part of therapeutic drug monitoring.

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Bioassay - Directed Isolation of Hypotensive Alkaloids from *Holarrhena Pubescens*

Holarrhenapubescens belongs to the family Apocynacea, commonly known as “kurchi” is highly reputed in traditional medicine as a remedy for amoebic dysentery and other intestinal ailment. Bioassay-directed fractionation [1] of the ethanolic extract of Holarrhenapubescens resulted in the isolation of steroidal alkaloids i.e. Holamide and Pubscinine.

Holamide showed a three proton doublet at 1.45 ($J=6.56$ Hz) and two AB doubles at 3.17 and 3.00 each for on proton ($J=12.06$ Hz) in the ^1H NMR spectrum suggested that it belongs to conanine series of alkaloid (A class of compound with the steroid nucleus and a five members heterocyclic ring with nitrogen). In contrast Pubscinine showed one methyl at 1.28 while the doublet is missing a three proton singlet was observed at 2.28 due to a vinylic methyl indicated a double bond in the 18,20 – epimino ring of the conanine series of alkaloids.

In anaesthetized rats, the Holamide and Pubscinine caused a fall in blood pressure in a dose-dependent manner. Pretreatment of animals Atropine completely abolished the hypotensive response of

Acetylcholine; whereas hypotensive effect of Holamide and Pubscinine were not modified by Atropine [1]. Similarly Acetylcholine produced contractile effect in guinea-pig ileum, which was antagonized by atropine, however both (Holamide and Pubscinine) failed to produce any stimulant response on guinea-pig ileum. These data indicate that the steroidal alkaloids i.e. Holamide and Pubscinine from *Holarrhenapubescens* mediated hypotensive response through a mechanism different to that of Acetylcholine.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Naureen Wajid

Oncology Pharmacist, American Hospital Dubai (AHD)

Role of Point of Care Pharmacist in Patient Receiving Oral Chemotherapeutic Agents

Oral Chemotherapeutic Agents has been conceptualized as a Convenient, less toxic form of therapy that is preferred by the patients. However many of the safety issues related to chemotherapeutic agents are under appreciated. Safety issues which include lack of check and balance to avoid medication errors, drug interactions, side effects, administration issues, lack of patient adherence and shift of responsibility for managing a potential complicated oral regimen from Oncologists, nurses and Pharmacists to the patient and caregivers.

As a result of these factors Oncology Pharmacist can be utilized as Point of Care Pharmacist (PCP) and can be consulted to identify drug related problems (DRPs) and to provide patient counseling.

Objectives:

1. To evaluate the role of Point of Care Pharmacist service provided to the patients receiving Oral Chemotherapeutic Agents.
2. Number of DRPs identified by the PCP.
3. Type of recommendations made for management of DRPs.

Study design:

- * This is prospective observational study.
- * PCP can help the patient with everything to get the Oral Chemotherapy to start. Provides the cost estimate for insurance, corporate and self payers.
- * PCP can help in designing standard order forms for Oral Chemotherapeutic agents which includes all the information including diagnosis, cycle number, and body surface area and dosing calculations.
- * PCP met with patient receiving Oral Chemotherapeutic Agents and takes the Patient medication history (PMH), check for drug – drug, drug –food interactions, and provides patient counseling and patient education materials.
- * Complete Pre and Post Counseling questionnaire to capture the understanding of their Oral Chemotherapeutic Agents.

Methodology:

PCP RECEIVES PROTOCOL → PROVIDE COST ESTIMATE → MEDICATION
PROCUREMENT → PCP RECEIVES CONSULT → PRE –COUNSELLING QUESTIONNAIRE
→ PCP COMPLETES PMH , INTERACTION CHECKING , COUNSELLING & PROVIDING
PATIENT EDUCATION MATERIALS → POST COUNSELLING QUESTIONNAIRE →
RECOMMENDATIONS

Intended Outcomes:

- * Peace of mind for Physicians, nurses and patients by Expert support from Point of Care Pharmacist.
- * Standard order forms for Oral Chemotherapy in order to keep the cycle track.
- * Reducing medication errors by multiple checking of Order forms from Oncologists, PCP and Nurses.
- * Helps in resolving tough administration issues e.g. IV to oral switching, can be crushed or not, can be given through Nasogastric Tubes, extemporaneous compounding options etc.
- * Identifies Drug interactions, communicate to Oncologists and document the recommendations.
- * Reduction in DRPs.
- * Improve understanding of Oral Chemotherapy by the patients.

Conclusion:

The study will suggest that the consult service of PCP for Oral Chemotherapeutic Agent is beneficial and should be continued.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

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Cost Effective Analysis of Pharmaceutical Care in Management of Patients with Stage III Hypertension: An Indian Pharmacists Experience

Poor control of hypertension is the leading comorbidity associated with hospitalizations due to CVD and associated with higher direct medical cost, which was estimated around 10% of total global healthcare costs. To calculate and compare cost effectiveness in hypertensive patients between intervention and usual care group in Stage III uncontrollable hypertension.

The present study was a prospective, randomized, comparative study in 1525 patients of stage III hypertension for 24 months. Patients were randomly divided into two groups. Intervention group patients were provided self-care education through a structured training session over 6 month period. Usual care group received usual care provided by the hospital and pharmacists. The economic evaluation on pharmaceutical care was based on patients perspective. The impact of the interventions on QoL was estimated by using the MINICHAL questionnaire. The primary outcomes were incremental cost-utility ratio and net monetary benefit.

The data of the present study showed an incremental cost due to periodic monitoring cost INR 2245 (\$33.59) with 0.17 qualityadjusted lifeyear (QALY) gained. The present study also showed an incremental utility ratio INR 17,960 (\$268.78) per QALY gained. In the cost-effectiveness acceptability curve, the probability that PC was more cost-effective than UCG was 90% at the INR 56,125 (\$840) per QALY gained threshold and 66% at the INR 17,960 (\$268.78) per QALY gained threshold.

The PC was not very cost-effective among patients with stage III uncontrollable hypertension at the INR 17,960 (\$268.78) per QALY gained threshold. However, there are considerable limitations in this study.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Dr. Poluri Koteswari

Organization/College: Hindu College of Pharmacy, Guntur

Development of an Intranasal in Situ Gel Forming Lipid Nanoemulsion Loaded with Curcumin and Evaluation of its Distribution Characteristics Into Brain in Swiss Albino Rats

In view of the existing evidence, a novel and stable in situ gel forming lipid nanoemulsion was developed to treat Glioblastomamultiforme (GBM) and to study the availability of curcumin in brain, cerebrospinal fluid (CSF) and plasma of Swiss Albino rats by calculating k_{puu} values and pharmacokinetic parameters. Methods: Trioleine, egg lecithin and a combination of poloxamer F 127 and F 68 were used. Employing 2×2 factorial experimental design, a nanoemulsion composition was optimized and lyophilized. The composition was systematically evaluated and in vivo performance was studied in Swiss Albino rats. Results: The gelation temperature, pH, drug content, dispersed droplet size, poly dispersity index, zeta potential, viscosity, mucoadhesive strength, were found as 35.3±0.6, 6.87±1.2, 99.55±0.86 % w/w, 283.8 nm, 0.356, -13.9±6.03 mv, 142.86 cps, 13.45 dynes/cm² before and 38±2°C, 6.9±0.2, 86.59±3.24, 139.9nm, 0.345, -7.47±6.45mV, 145.29 cp and 12.74 dynes/cm² after lyophilization respectively. The shelf life of lyophilized formulation was 214.72 days. The K_{puu} values were measured as 0.637 and 0.9012 in brain, where as 0.7455 and 0.129 in CSF after 5 min and 60 min respectively. Concentration of drug in brain at 60 min was 459.59±168.50 ng/ml.

Conclusion: The nanoemulsion composition was stable, functions as gel, and delivers curcumin directly in brain tissue.

Key words: trioleine, curcumin, shelf life, cerebro spinal fluid.

Biography:

Dr. Poluri Koteswari is a professor and research coordinator in Department of pharmaceutics, Hindu college of pharmacy, Guntur. She took her PhD from Jawaharlal Nehru Technological University Hyderabad in 2011. She has published several research articles in various journals and presented papers in national and international conferences. She has already completed one AICTE funded research project.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Saleem Iqbal

CAS In Crystallography & Biophysics, University of Madras

Deciphering Role of Chameleon Sequence Fragments in Understanding Folding and Oligomerization of β -amyloid Peptide

Proteins are dynamic in nature and they can alter their conformation upon different factors. This conformational alteration is extremely important to perform different functions, and is associated with many numbers of diseases like Alzheimer's. β -amyloid peptide accumulation is believed to be a major driving factor responsible for causing Alzheimer's disease. Many protein scientists have investigated the structure of β -amyloid peptide, but change in conformational dynamics of the above peptide is poorly understood. In the present work, we have made identical pentapeptide sequence search by employing heuristic algorithm to find important residues and motifs critical for β -amyloid folding and oligomerization. Our computational analysis on conformational dynamics of β -amyloid peptide reveal presence of certain novel chameleon sequence fragments in the β -amyloid peptide playing a pivotal role in pathogenesis of Alzheimer's disease. A novel 5-amino acid chameleon sequence thus found in the β -amyloid peptide has the potential to change its conformation from helix to extended. The results discussed here, throw light on the conformational dynamics of β -amyloid peptide which can ultimately help us to understand folding and oligomerization of β - amyloid peptides.

Keywords: Alzheimer's; chameleon sequence; β -amyloid; conformational dynamics; oligomerization

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Sihem Bihorel

Department of Pharmaceutics and Center for Pharmacometrics and Systems Pharmacology (Orlando), College of Pharmacy, University of Florida, FL, USA.

Systems Pharmacological Approach for a Rationally Derived Sequential Combination Therapy To Enhance the Delivery and Efficacy of Monoclonal Antibodies into Solid Tumors

HER2-positive breast cancer (BC) is fast-growing and more aggressive than other types of BC. Trastuzumab (TZM), an anti-HER2 receptor humanized monoclonal antibody, is used in BC in combination with paclitaxel (PAC) in a 24h sequence treatment during the first week followed by a simultaneous administration thereafter. There is no scientific rationale for such therapeutic regimen. Here we propose to utilize a proteomics approach to optimize the sequential combination of PAC+TZM to enhance their anti-tumoral activity, and hence patients' outcome.

Six therapeutic regimens were investigated in vitro on BT474 cells, a human BC cell line overexpressing HER2 receptor, including PAC and TZM alone at 50 and 100 nM, a tumor priming regimen (TPR) with PAC given 24h prior to TZM, a reverse-TPR, a concurrent regimen, and a vehicle as a control. Proteomics analysis was conducted in each regimen and several identified key signaling proteins in the PAC+TZM pathway were measured over time, including p21, p27, ERK1,2, JNK1,2, and cleaved-PARP.

TPR showed more amplified proteins dynamic responses compared to others with: 1) continuous activation of p21 and p27, both are hallmark biomarkers for the cell-cycle arrest response, and 2) down regulation of HER2 survival pathways mediated via ERK1,2 and JNK1,2. A more efficacious ADCC and a sustained apoptotic responses were also observed. TPR elicits synergistic interactions in vitro. The underlying mechanisms involve increased apoptosis, cell-cycle arrest, and antibody-dependent cellular cytotoxicity. The proposed research will develop and employ a systems pharmacology model to design optimal regimens for the association (PAC+TZM) in HER2-positive BC.

Biography :

Dr. Sihem Bihorel (Ait-Oudhia) is an assistant professor at the Center for Pharmacometrics and Systems Pharmacology and Department of Pharmaceutics at the College of Pharmacy, University of Florida. Dr. Bihorel research interests are in the areas of quantitative systems pharmacology, preclinical and clinical pharmacokinetic and pharmacodynamic (PK/PD) analysis, -omics, PK/PD modeling and simulation, and population modeling, large molecule therapeutics (proteins, monoclonal antibodies), liposomes, targeted therapeutics, and antiangiogenic therapeutics.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Valérie Nedbal, Ph.D.,

SAS Institute GmbH

Visual Approaches for Safety Analysis and Efficient Review of Clinical Trials and Personalized Medicine

The comprehensive assessment of drug safety is an essential component of clinical trials. The review of the drug's safety has greatly advanced in recent years by access to dynamically interactive graphs from different areas of data safety. During this presentation, we will demonstrate.

- * How to segment subgroup of population based on drug effectiveness
- * How to identify population structure and relatedness
- * How to perform a meta-analysis of Genome Wide Association to identify biomarkers associated with a particular drug related trait
- * How to identify a molecular signature of the patients by means of linear regression
- * How to predict the outcome of a treatment by means on biological profiles
- * How to analyse and visualize cytometric data

To effectively address these topics, is only possible through advanced and robust statistics combined with visual graphics. A clinical study of patients who underwent aneurysmal subarachnoid hemorrhage will provide illustration. The analyses from combined JMP Genomics and JMP Clinical, 2 software which combines the analytical power of SAS and a graphic, dynamic and elegant interface of JMP, will demonstrate key concepts.

Biography :

Valérie Nedbal, PhD, serves as Senior JMP System Engineer for Northern Europe at SAS Institute GmbH in Heidelberg and working closely with customers for software implementation. Prior to that, she was product manager for bioinformatics for SAS EMEA and supported life sciences sales activities. Before joining SAS, Valérie was Senior Field Marketing Manager for LION bioscience AG, a software company offering solutions in the Life Science Market. Valérie Nedbal holds a PhD in Biology from the German Cancer Research Center in Heidelberg, and did post-docs in Max-Delbrueck Center, Berlin-Buch and in European Molecular Biology Laboratory, Heidelberg.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Mr. Tesfaye Zerihun,

Addis Ababa University, CHS, Black Lion Specialized Teaching Hospital
Department of Pharmacy, Ethiopia

Phytochemical screening of the exudate extract to the Leaf of *Aloe otallensis* and the in vitro effect on the *Leishmania ethiopia* and *Leishmania donovani* Parasite

Several plant products have been tested and found to possess antileishmanial activity. The present study was undertaken to evaluate antileishmanial activity of methanolic extract of *Aloe otallensis*, which is endemic plant to Ethiopia, on the promastigote stage of *Leishmania ethiopia* and *Leishmania donovani* comparing to standard drugs and also tried to screen its phytochemical constituents.

Methods: Phytochemical screening was done on Methanolic extract of the exudates to the leaf of *Aloe otallensis*. The serial dilution of the Extract was also evaluated for in vitro antileishmanial activity against *Leishmania ethiopia* and *Leishmania donovani* on the strain of *L. ethiopia* (LDC/134) and *L. donovani* (AM 563), which is found from the black lion hospital parasitology unit and the result was compared to standard drug of Sodium stibogluconate, milfostin and paramomycin.

Result. The extract has an antileishmaniacidal activity with an IC₅₀ of 141 µg/ml on *L. ethiopia* (LDC/134) and 123 µg/ml on *L. donovani* (AM 563). The experimental data shows that relatively it has better activity than paramomycin and milfostin. But less activity than sodium stibogluconate, which is given in Ethiopia as a first line drug. The data analyses was done by pad graph prism version 5 software after it was read by ELISA reader at the wavelength of 650 nm. The phytochemical screening of the exudates of *Aloe otallensis* showed the presence of phenol, alkaloid and saponin.

Conclusion: The methanolic extract of exudates of *Aloe otallensis* has a good anti leishmaniasis activity relatively to paramomycin and milfostin and this activity may be attributed to phenol, Alkaloid and Saponin present in the plant. But it needs further analysis for the conformation of which constituent present in much concentration and to know which one have highest role.

Biography :

I am Tesfaye Zerihun. 34 Years old. I am graduated in Chemistry Diploma from Kotebe teaching college on JUN, 2006 and Bachelor of pharmacy on July 2011 from Addis Ababa University. I had trained on the area of Surveillance of Insecticide Resistance Mosquitoes at KEMRI, Kenya research center. I am employed at Addis Ababa university Aklilu Lema institution of pathobiology Research center on September 2007 as Technical Assistance and served for the past 5 years. In this research center I am well experienced with different Experiments Like Maintaining of Insect colonies of Malaria and Leishmania vectors, preparing of Laboratory solution, Bioefficacy test on Bed-nets, Insecticide susceptibility test, blood meal and Sporozoite test

with enzyme Linked Immunosorbent Assay (ELISA). With all these experience I am assist technical support for Master and PhD students both on the field and Laboratory. Some of the paper that I was participate and included on the acknowledgement part are:

- * Tesfaye et.al. journal of costal life medicine 2016;4(6) (Principal investigator)
- * Animutet al. parasite & vectors 2012, 5:117
- * Animutet al. malaria journal 2013,12:393

Currently, after I have graduated my B.Pharm I am working as a Senior ClinicalPharmacist transferred atAddis Ababa University, college of Health Science, Black lion specialized Teaching Hospital In this teaching Hospital I am serving asDrug Supply Management coordinator, The Head of special Pharmacy of the hospital, the secretary of DTC (Drug therapeutic Committee) andMentoring under graduate pharmacy students who are coming to the hospital for clinical attachment both at the ward and dispensary area.I am also participating in some of Clinical research which is under go in the Hospital beside the routine work.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Linda Zhong,

Hong Kong Baptist University

Study of MaZi Ren Wan in Functional Constipation

Functional constipation (FC) is a common clinical complaint. Despite that the effectiveness of MaZiRenWan for alleviating functional constipation symptoms has been proved in the previous randomized placebo-controlled study, further evidence is needed to make clinical recommendations about Chinese herbal medicine, especially comparing with conventional western medicine for functional constipation patients.

Methods: This was a prospective, double-blinded, double dummy, randomized, controlled trial. After a 2-week run-in period, eligible patients (Rome III) with excessive traditional Chinese medicine syndrome will randomly be assigned to Chinese medicine arm (MaZiRenWan and western medicine placebo), western medicine arm (senna and Chinese medicine placebo) or placebo arm (Chinese medicine placebo and western medicine placebo). Patients underwent an 8-week treatment and an 8-week follow-up. The primary outcome was the responder rate for complete spontaneous bowel movement (CSBM) during treatment. Patients with a mean increase of CSBM ≥ 1 /week compare with their baselines are defined as responders. The secondary outcomes included responder rate during follow-up, changes of colonic transit measured with radio-opaque markers, individual and global symptom assessments, and reported adverse effects.

Results: 843 participants were recruited for screening and 291 participants were randomly assigned to MaZiRenWan group, senna group and placebo group, and each group included 97 participants. 33 participants were withdrawn due to unsatisfied effects, mild adverse effects and low compliance. After 8-week of treatment and 8-week follow up, MZRW group displayed a significant effect on the mean CSBM than placebo ($P < 0.05$) during treatment and follow up and had similar effect of CSBM in the MZRW group and senna group ($P = 0.15$). The responder rates of MZRW group during treatment and follow up were 68.0% and 47.4%, senna group were 57.7% and 20.6%, placebo group were 33.3% and 17.5% respectively. The responder rate was similar during treatment in MZRW and senna groups ($P = 0.14$), but a higher rate of response was produced in the follow up period ($P < 0.05$). The MZRW group has clinical significance in the individual symptoms of ease of evacuation rating, sensation of straining, incomplete evacuation, bloating and passing of gas during treatment and follow up than senna and placebo groups ($P < 0.05$). The incidence of adverse events were similar in the three groups.

Conclusion: MZRW is a safe and effective intervention in the FC patients than placebo. For some of individual symptoms, MZRW has superior benefits than senna and placebo. The similar effects were displayed in MZRW and senna groups concerning the CSBM and responder rate during treatment.

Global Summit on Pharmaceutical Sciences & Clinical Trials

January 30th-February 1st, 2017 Copenhagen, Denmark

Samar Mohammed,

Faculty of Medicine University of Gezira

Patients' Rights and Ethical Practices

Patients' rights are a fundamental human right, a quality assurance that promotes ethical practices and an important part of modern health care practice. In order to improve the health service to satisfy the clients, Sudan Federal Ministry of Health (FMOH) launched , in 2009, a "Patients' Bill of Rights".

Objectives: To study the awareness and practice of patients' rights among hospitalized patients at Wad-Medani Teaching Hospital in Sudan.

Methodology: This is a cross-sectional descriptive analytic study, conducted among 263 patients in March-April 2015. Data was collected by using a questionnaire based on the Sudan FMOH Patients' Bill of Rights and analyzed using SPSS.

Results: Most patients (95.2%) did not know about the Bill of Rights and (92.8%) could not mention any rights. The most practiced rights were: The right to be asked for permission before examination (88.1%), proper handling (87.8%), safety of the hospital (87%), presence of a third person when examining a female by a male doctor (85.6%) and confidentiality of admission file (75.5%).

Conclusion: The patients' awareness about the Patients' Bill of Rights was very low. In spite of that they showed high satisfaction. So the public awareness of the patients' rights should be increased.

