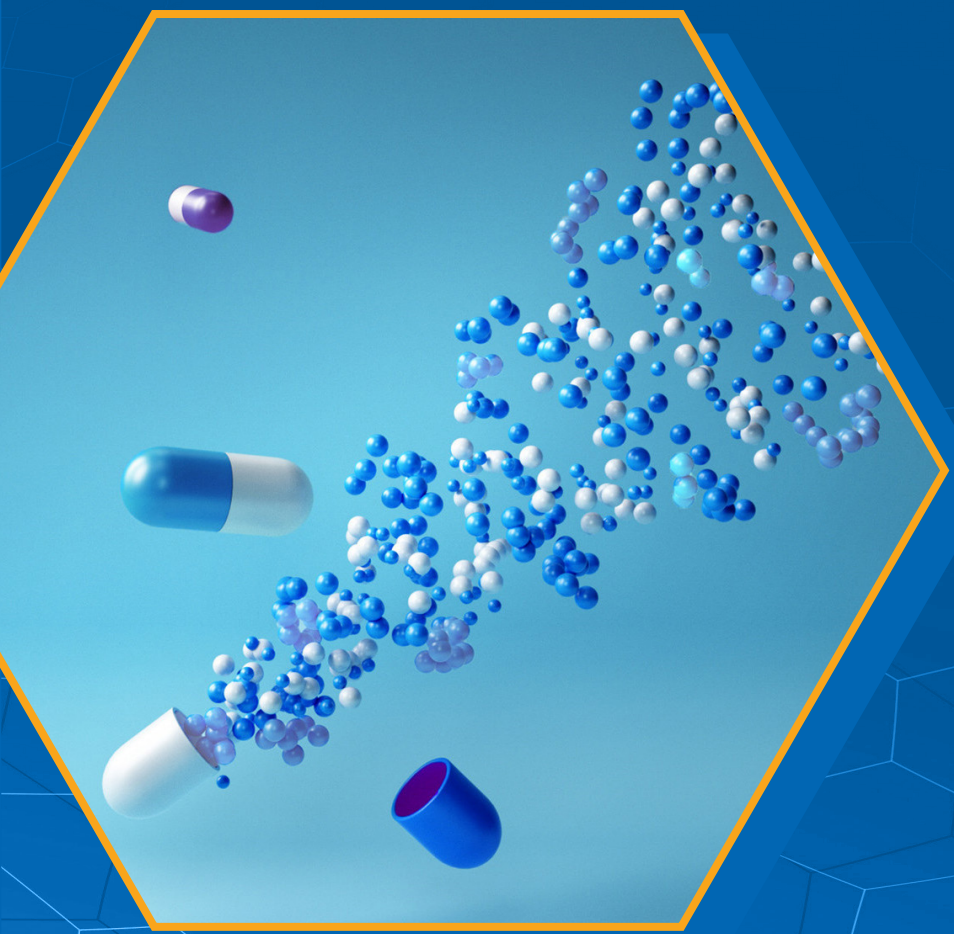
SCHOLARS CONFERENCES

5th Edition Scholars International Conference and Exhibition on

Pharmaceutics and Drug Delivery Systems

14-15 November 2022
TIME Asma Hotel, Dubai, UAE



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Pharmaceutics 2022
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ABOUT SCHOLARS CONFERENCES

Scholars Conferences is a global leader in producing high quality Conferences, Meetings, Workshops, Symposia and, Webinars in all major fields of Pharma, Healthcare, Science, Technology and Medicine.

Scholars Conferences is currently bringing International Conferences, Meetings, Workshops, Symposia and, Webinars with a main theme of "Accelerating the Cutting-Edge Scientific Research into Success by Bringing People Together". We have a stable and growing client base that ranges from small and medium-sized organizations worldwide. Our production and management teams are located in the US, UK, Japan and India access to deep pools of subject matter experts.

All the Conferences, Meetings, Workshops, Courses and Webinars conducted by Scholars International are accredited with Continuing Professional Development (CPD), Continuing Education (CE), and Continuing Medical Education (CME) Credits.

Scholars International Organizes International Conferences in Asia Pacific, Europe, Middle East, Canada and USA in the fields of Medical, Clinical, Life Sciences, Pharmaceutical Sciences, Healthcare and Engineering which covers all the subjects like Medical, Clinical, Nursing, Oncology, Neuroscience, Pediatrics, Microbiology, Chemistry, Environmental Sciences, Materials Sciences, Nanotechnology etc., We aim at bringing together world-renowned scientists, researchers, specialists, practitioners along with senior executives, industry experts, societies & associations members to share and exchange the advancements, approaches, and challenges in their expertise. Our conferences include Workshops, Symposiums, Special Sessions, Panel Discussions, B2B Meetings and Exhibitions.

We welcome all the interested members to participate at our conferences as Keynote Speakers, Plenary Speakers, Poster Presentations, Delegates, Sponsors and Exhibitors.

WHO WE ARE

We focus on bringing a much-needed level of efficiency and quality standards in the way we service our clients, thus building lasting partnerships-based quality, innovation, and commitment to abide by our deeply rooted core values.

WHAT WE DO

- Professional Scientific Event Organizing
- Event Management and Planning Services
- Conference Management Services
- Marketing and Promotion of Conferences
- Website Development and Management
- Sponsorship and Exhibit Sales
- Publication Services

OUR VISION

We are a truly professional group of individuals, striving hard to maintain and improve the quality of execution of our services. Our people constituting our team are our key assets.

Our fleet consists of young, dynamic, and quality conscious scientific professionals. A Promising Future In Store For You. Our motive is to create a chain of distinguished scholars, young researchers and industry experts to collaborate and harness the benefit of the scholars networking through our strong chain of academicians and market experts, we always strive to bring advancements to our scientific events.

OUR MISSION

As a Medical and Scientific Conference Organizer, Scholars Conferences oversees every detail of the conference program, from conference title selection, gathering speakers, participants and venue finalization to post-activity assessment and attendance certificates. We believe that a successful conference program requires focus, creativity, clear communication, and attention to detail. Our medical and scientific conferences are designed to meet the various needs of medical practitioners and clinicians, scientific researchers and developers, and industry partners.

Scientific Program

Day 1 | November 14, 2022 | Meeting Room: Shaikha 1

JOIN ZOOM MEETING
Day 1: https://us06web.zoom.us/meeting/register/tZEld-qrrD4oGNVOXmF3AwbY1tGd3DCFcsef

MEETING ID: 858 0332 5221
PASSCODE: 587194

09:00-09:30 Registrations
09:30-09:45 Opening Ceremony

Keynote Forum

09:45-10:20
Title: Lipid Nanoparticles: Enabling technology for enhancing bioavailability of drugs
Shaukat Ali, Ascendia Pharmaceuticals, Inc., USA

10:20-10:55
Title: Atletico de Madrid elite soccer cardiovascular risk. How to prevent an update
Ramon Hernandez-Molina, Atletico de Madrid Football Club, Spain

Networking and Refreshments Break: 10:55-11:15 @ Foyer

11:15-11:50
Title: High pressure applications for design of pharmaceutical products
Zeljko Knez, University of Maribor, Slovenia

11:50-12:25
Title: Developing models of care for self-management in heart failure
Pupalan Iyngkaran, Victoria University, Australia

12:25-13:00
Title: Precision Medicine for a Personalized Care in Dyslipidaemia
Syed Raza, Awali Hospital, Bahrain

Group Photo

Lunch Break: 13:00-13:40 @ Zaytuna Restaurant

Keynote Forum

13:40-14:10
Title: Needleless oral delivery of mRNA vaccines
Radwan Almofti, TADA Consulting, Canada

Session Tracks

Session Chair: Ramon Hernandez-Molina, Atletico de Madrid Football Club, Spain
Session Introduction

14:10-14:35
Title: Establishment and Three Years Outcomes of Robotic-assisted Hybrid Coronary Revascularization in the Middle East
Salman Bafageeh, King Saud bin Abdulaziz University for Health Science, KSA

14:35-15:00
Title: Comparison between the traditional way of BLS and online course
Mohammad Shaban, Health Point Hospital, United Arab Emirates

15:00-15:20
Title: Mitochondrial DNA Editing
Vasily Sukhorukov, FSBSI "Petrovsky NRCS", Russia

15:20-15:45
Title: Development and in vitro evaluation of mucoadhesive buccal film of Aceclofenac
Rana M F Sammour, Dubai Pharmacy College for Girls, Dubai, UAE

15:45-16:10	Title: The optimal antithrombotic therapy after transcatheter valve interventions. The less the merrier **Theodora Bampali,** University Hospital of Ioannina, Greece
Networking and Refreshments Break: 16:10-16:30 @ Foyer	
16:30-16:55	Title: To highlight the role of percutaneous left ventricular assist device (LVAD) decommissioning as a safe procedure after myocardial recovery in patients with advanced heart failure **Mohamad Ibrahem Abdelhamed,** Prince Sultan Cardiac Center Hassa, KSA
16:55-17:20	Tittle: Secondary prevention medication prescribing in medically managed NSTEMI patients: an assessment of discharge letter quality from Royal Liverpool University Hospital, United Kingdom **Waleed Ahmed Khan,** Royal Liverpool University Hospital, UK
17:20-17:40	Title: Elucidating the toxicological impact of WS2 quantum dots in biological subjects by probing the biodistribution/ blood kinetics status using Sprague Dawley rats **Anju Surendranath,** SCTIMST, India
Poster Presentaions @ 17:40-18:00	
SICP01	Title: Treating anemia: point of convergence for chronic heart failure and chronic kidney disease? **Oana Nicoleta Buliga-Finis,** "Grigore T. Popa" University of Medicine and Pharmacy, Romania
SICP02	Title: Development and Characterization of Repurposed Molecule-Loaded Polycaprolactone Electrospun Nanofibers as a Wound Dressing Biomaterial for Tissue Regeneration **Divya Pamu,** JSS College of Pharmacy, India
SICP03	Title: pH Responsive Metallic Nano-theranostics with active receptor target towards CRC reduction **Saloni Sharma,** JSS College of Pharmacy, India
SICP04	Title: Nurse-led care post-PVI **Yael Vanharen,** Cardiac Catheterization Laboratory, Belgium
Panel Discussions | Closing Ceremony	

Day 2 | November 15, 2022 | Virtual | GMT

JOIN ZOOM MEETING
https://us06web.zoom.us/meeting/register/tZwvfuusqz4uHtVvSgi_Aa5KxI_j9vpzVRmj

MEETING ID: 882 9245 5441
PASSCODE: 238779

Keynote Forum

09:30-10:00	Title: New Nanovesicular Carriers for Nasal Drug Administration **Elka Touitou,** The Hebrew University of Jerusalem, Israel
10:00-10:30	Title: Drug carriers production through the use of conventional and supercritical assisted processes **Paolo Trucillo,** University of Naples Federico II, Italy
10:30-11:00	Title: Development of Nanomedicine of Poorly Bioavailable Drug for Treatment of Breast Cancer **Bijal Prajapati,** Parul University, India
11:00-11:30	Title: Will be updated **Arul Joseph,** Avanir Pharmaceuticals, USA

Networking and Refreshments Break: 11:30-11:40

Speaker Session

11:40-12:00	Title: Advances in Polymeric Particle Vaccine Formulations **Srinath Balkundhi,** Sanjay Ghodawat University, India
12:00-12:20	Title: 2D DNA nanoporous scaffold promotes osteogenic differentiation of pre-osteoblasts **Mirza Muhammad Faran Ashraf Baig,** The University of Hong Kong, Hong Kong
12:20-12:40	Title: TBA **Imran Saleem,** Liverpool John Moores University, UK
12:40-13:00	Title: Treatment outcomes of drug-resistant tuberculosis in Indonesia, 2018-2021 **Mita Restinia,** UIN Syarif Hidayatullah Jakarta, Indonesia
13:00-13:20	Title: Advances & Innovations in Pharmaceutics **Dev Sharma,** Omatek, India

Break: 13:20-13:40

Speaker Session

13:40-14:00	Title: Effect of methanolic extract of Phoenix dactylifera L. seeds on blood glucose levels of normoglycemic and dexamethasone induced diabetic rabbits **Ahlam Abdullah Al-bokai,** Sana'a University, Yemen
14:00-14:20	Title: A DFT Approach to the adsorption of the Levodopa anti-neurodegenerative drug on pristine and Al-doped boron nitride nanotubes as a drug delivery vehicle **Shahla Hamedani,** Islamic Azad University Abhar, Iran
14:20-14:40	Title: Mechanism of Action of Novel Nickel (II) Complex in Simultaneous Reactivation of the Apoptotic gene Against Ehrlich Ascites Carcinoma (EAC) Cells **Ronok Zahan,** Rajshahi University, Bangladesh

14:40-15:00	Title: Green Synthesized Silver Nanoparticles for Ciprofloxacin Delivery Against Resistant Escherichia Coli **Gebremariam Birhanu Wondie,** University of the Free State, South Africa
15:00-15:20	Title: In Vitro Evaluation of Native Taro Boloso-I Starch as a Disintegrant in Tablet Formulations **Tamrat Balla,** Wolaita Sodo University, Ethiopia
15:20-15:40	Title: TBA **Gote, Vrinda,** University of Missouri-Kansas City, USA
15:40-16:00	Title: Formulation and Development of Anti-Fungal Film Forming Gel for Topical Drug Delivery **Prachi Khamkar,** CiREE EduTech, India
16:00-16:20	Title: Halloysite Nanotubes: Design, Characterization and Applications. A review **Fatima Dasankoppa,** KLE Academy of Higher Education and Research, India

Break @ 16:20-16:30T

E-Poster

SICP05	Title: The antibiotic effects of Fluoxetine with and without nanotubes on Mycobacterium tuberculosis Efflux pumps and their expression systems **Seyedeh Asal Ghavami,** Shahid Beheshti University of Tehran (SBU), Iran
SICP06	Title: Phytochemical analysis and evaluation of leaf and root parts of the medicinal herb, Hypochaeris radicata L. For in vitro antioxidant activities **Vidhi Upadhyaya,** Kumaun University Bhimtal, India
SICP07	Title: The Distribution and Drug Resistance Characteristics of Methicillin Resistant Staphylococcus aureous to be Public and Animal Health Burdon in Ethiopia: Meta-Analysis **Negassa Feyissa,** Ambo University, Ethiopia
SICP08	Title: Acceptance Quality Level (AQL): A useful technique for defect identification and improve productivity **Waresul Islam,** University of Asia Pacific (UAP), Bangladesh

Panel Discussions | Closing Ceremony

6th Edition World Congress on

Nanomedicine and Advanced Drug Delivery

Drug Delivery 2023 | 6th Edition

19-20 Jun 2023 | Paris, France

THEME: "Frontiers in Nanomedicine and Advanced Drug Delivery Systems"

https://scholarsconferences.com/drugdelivery-nanomedicine/

WELCOME AND GREETINGS:

The organizing committee would like to welcome you to the **Sixth World Congress on Nanomedicine and Drug Delivery, 2023** in **Paris, France.** The convergence of recent advances in nanotechnology with modern biology and medicine has created the new research domain of nanobiotechnology. The use of nanobiotechnology in medicine is termed nanomedicine.

Drug Delivery 2023 efforts are aimed at improving health by enhancing the efficacy and safety of new drugs and imaging agents through the discovery and application of innovative methods of drug delivery.

Reasons to attend the conference:

Think in a logical way about how to develop the right formulation and delivery strategy with a strong clinical, scientific, and commercial mind set.
Discover the recent innovations in drug delivery devices.
Get inspired by innovative case studies and realize the potential impact of Nano pharmaceutics and drug delivery on your formulation or delivery processes.
Occupy yourself in the exciting event format, with multiple conference tracks, round tables, panel discussions, symposiums, and speed networking.
Share insights, experiences, and strategies in the interactive sessions or among the peers.
Hear wide perspectives at one place given by the speakers belonging to various institutions, fields, organizations and companies.

For more information and enquiries contact undersigned:
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5th Edition Scholars International
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KEYNOTE SPEAKERS Day 1

Shaukat Ali
Ascendia Pharmaceuticals, Inc., USA

Biography

Shaukat Ali has worked in the pharma industry about 30 years as innovator and formulator in design and development of oncology and small drug molecules. His area of expertise are synthesis, lipids and surfactants, oral, topical and parenteral formulations, liposomes drug delivery of small molecules and biologics. Dr. Ali obtained his PhD in chemistry from the City University of New York and caried out the postdoctoral training in physical biochemistry at the University of Minnesota and Cornell University, He returned to the industry and joined a pharma/ biotech after a brief tenure at the US university. He has published over 45 articles in scientific journals and inventor in 14 US patents. Dr. Ali is USP member of expert for the Excipient Test Methods committee and is the recipient of 2020 IPEC Foundation's Henk de Jong industrial research award.

Lipid Nanoparticles: Enabling technology for enhancing bioavailability of drugs

Lipid nanoparticles (LNPs) are extensively explored asalternative drug delivery systemsfor encapsulation and specific tissue targeting. With innovative lipidsand surfactants,finding smarter lipids as nanocarriers forefficient encapsulationanddelivery ofsmall and large molecules, vaccines, plasmids DNA and mRNAareall within reach. Thus, LNPscomprised of lipids and/or surfactants, andare used asliposomes, solid lipid nanoparticles (SLNs), andnanostructured lipid carriers (NLCs) forimmediate and sustained release formulation of drugsfor unmetneeds. Ascendia's proprietarysolubilizationtechnologies like Emulsol®, Amorsol®, and Nanosol®, aredesigned to meet the solubility challenges for immediate oral and long acting injectable suspensions of small molecules and biologics.

This presentation will focus on our formulation technologies and their relevance in development of oral and injectable suspensions of innovative molecules and complex generics.

Ramon Hernandez-Molina
Atletico de Madrid Football Club, Spain

Biography

Ramon Hernandez Molina is a Clinical Cardiologist with over 25 years of experience in Cardiovascular Risk Assessment including prevention of cardiovascular events, as well as the cardiological follow-up of people who practice sports. For more than 5 years, he is the Reference Cardiologist for the continuous evaluation of the players of the first soccer team of Atletico Madrid. Developing activity through an intensive electrocardiographic and echocardiographic clinical evaluation in each and every one of the players, he believes that it is very important to individualize the cardiological prevention needs of the elite player to minimize their possible cardiovascular events.

Atletico de Madrid elite soccer cardiovascular risk. How to prevent an update

Soccer playing is a universal practice in the whole world. Young and elderly people like very much to play a match everywhere and also follow closely every event related to soccer professional teams. Worldwide, soccer is one of the main important universal sports. And all related to this great business have a deep impact on populations. Five years ago, I introduced a brief approach to the occurrence of adverse cardiovascular events related to the practice, of elite players. The age range of high-competition players in football is between 16 and 35 even up to 40 years. As I noticed, these players undergo pre-entry examinations at different soccer clubs but the development of their physical activity in relation to cardiovascular events, among them sudden death, has shown that this initial evaluation is insufficient for the correct follow-up and prevention of cardiovascular events in the extreme physical activity that this type of athletes. Related COVID issues maybe could affect the normal cardiovascular response. The constant and continued cardiovascular examinations submitted to those players will allow a very significant decrease in the appearance of negative cardiovascular events as well as the prevention of any alterations that may affect their normal physical activity. The persistent and closed examination helps us to contribute to avoiding problems and get the best development of soccer matches and to benefit the training and any cardiovascular activity of this type of elite athlete.

Zeljko Knez
University of Maribor, Slovenia

Biography

Zeljko Knez, born on August 26, 1954 in Maribor, Ph.D. (science), M.Sc., B.Sc. (Eng.; Chem.)., Professor of Chemical Engineering at the Faculty of Chemistry and Chemical Technology of the University of Maribor.

In 1973, he graduated from the 1st gymnasium (secondary school) in Maribor with highest honours. He continued his studies in chemical technology at the University of Maribor, and graduated with a B.Sc. in 1977. He completed his master's degree in chemical technology at the Faculty of Natural Sciences and Technology of the University of Ljubljana in 1979. From 1977 to 1981, he was employed in TKI Pinus-Rače, where he performed research in the field of organic synthesis. Based on his research, the synthesis of biologically active substances on an industrial scale was subsequently realized. He received his Doctorate from the University of Maribor in 1984.

In 1981, he was employed at the University of Maribor, Department of Chemistry, as Teaching Assistant; in 1985 he was appointed Assistant Professor in Chemical Engineering, in 1990 as Associate, and in 1995 as Full Professor.

In 1985, he founded the Laboratory for Separation Processes at the Faculty of Chemistry and Chemical Technology, University of Maribor, and was the first Slovenian researcher of supercritical fluids. Later, he helped establish research groups and industrial laboratories (TKI Pinus Race, VitivaMarkovci).

Continuing his postdoctoral studies, he attended the Department of Food Engineering, University of Agriculture, Wageningen (NL), and from 1990-97, worked for several months as a visiting researcher at TechnischeChemie II, at the University of Erlangen - Nuremberg.

High pressure applications for design of pharmaceutical products

High pressure technologies involving sub and supercritical fluids offer the possibility to obtainnew products with special characteristics or to design new processes in pharma industry, whichare environmentally friendly and sustainable.There are several high pressure processes using sub- and supercritical fluids which are alreadydeveloped to the commercial scale, like extraction of solids and liquids, particle formation, highpressure sterilization, thin-film deposition for orthopedic implants, separations of value-addedproducts from fermentation broths in biotechnology fields and as the solvent in a broad rangeof synthesis. All of these applications lead to sustainable manufacturing methods that are notonly ecologically preferable but also give the products with very special properties.

For the design of all high pressure processes, data are required on the operating parameters, thetype and quantity of the solvent, the recirculation rate and energy consumption. Thisinformation can be obtained from phase equilibrium and mass transfer measurements.However, scientific literature offers some of these data, measured at a variety of pressures andtemperatures, for several pure compounds.

An overview of the success of micro- and nano-forms fabrication using environmentallyfriendly supercritical fluid technologies for processing and incorporation of active compoundswill be presented. Several new approaches will be described in detail, namely micronization forthe production of micro- and nano-sized particles, supercritical drying for the production ofaerogels, supercritical foaming and supercritical solvent impregnation, as well as currentlyavailable drug delivery data for these formulations.The presentation will also give a limited overview of future perspectives in developments ofprocesses and applications of different sub-and supercritical fluids as green processing mediain pharma industry.

Pupalan Iyngkaran
Victoria University, Australia

Biography

Pupalanlyngkaran having qualified from the University of Adelaide in 1998, Balan commenced basic cardiology training (2003) at Queen Elizabeth Hospital, SA. He undertook further general cardiology training at the National Heart Centre, Singapore, returning to Flinders Medical Centre (SA) in 2006, after completing 18 months sub speciality training in Echocardiography and General Cardiology. Balan completed Cardiology specialist qualification from the Royal Australasian College of Physicians in 2007. In 2008 he commenced 2.5 years research of heart failure and kidney impairment at The Department of Epidemiology and Preventive Medicine, Monash University, Victoria. He worked on basic science and clinical research exploring uremic toxins on heart function and novel kidney biomarkers. In 2011, he took up a position as Staff Cardiologist at the Royal Darwin Hospital and Alice Springs Hospital. In the Northern Territory he started 3 ethics approved projects with the Baker Heart and Diabetes Institute, Alice Springs and Flinders Human Behaviour and Health Research Unit South Australia, exploring Indigenous patients' health journey, self-management and post marketing research in heart failure. He returned to Melbourne in 2015. In addition to clinical work he continues research as a Senior Lecturer at Flinders University Northern Territory Medical School with local and external collaborators. Despite building a busy clinical practice, he is keen to maintain research interest to help close clinical gaps for heart failure in the fields of self-management, disease management programs, clinical audits and targeted bedside to bench basic research for the Western region. From his research he has received several awards and honors, such as: Australian Postgraduate Award, RACP Fellows Contribution Award, Heart Foundation and Health Professional Scholarship. He is an editor on several cardiac journals, has authored an editorial series, 25 research articles and book chapters. He is a fellow of the RACP and CSANZ.

Developing models of care for self-management in heart Failure

Syed Raza
Awali Hospital, Bahrain

Biography

Syed Raza graduated from Aligarh University in India in 1993. After completing his postgraduate degree in Medicine from the same university, he moved to the UK for higher specialist studies. He successfully completed MRCP and CCT and later also awarded Fellow of the Royal College of Physicians of Edinburgh. He was awarded professor John Goodwin prize for outstanding performance in Diploma Cardiology exam at Hammersmith Hospital, University of London in 2001. Dr Raza is Fellow of American College of Cardiology , Fellow of European Society of Cardiology and Fellow of European Society of Cardiovascular Imaging. He is also on the committee of Acute Cardiovascular Care, Heart Failure and Cardiovascular Imaging (European Society of Cardiology) He is Review author for abstracts for European Society of Cardiology for the past three years. Obtained Diploma certificate in Medical Education from University of Cardiff , Wales in 2015.

Consultant Cardiologist and Head of the department of Medicine at Awali Hospital, Bahrain. He is the regional educational coordinator and examiner for MRCP (PACES) exam for the Royal College of Physicians of Edinburgh. Certified Educational and Clinical supervisor , NHS-UK. He has to his credit numerous publications and he has presented his scientific work in different parts of the world. He is peer review author for some well respectedInternational journals.

He is American Board certified in Medical Quality and is involved in patient safety and quality improvement assignments during his current and previous jobs. He participates in key decision making for quality improvement.

His special interests are Cardiovascular Imaging, Heart Failure and Acute Cardiovascular Care.

Precision Medicine for a Personalized Care in Dyslipidaemia

Dyslipidaemia comprises of abnormal lipid components and refers mainly to increased levels of LDL, non HDL particles and triglycerides while decreased levels of HDL Dyslipidaemia is a common and independent modifiable risk factor for cardiovascular disease . Besides quantitative measurement , qualitative assessment of these components is also essential and therefore particles like Lipoprotein (a) and Apo-B should be taken into account.

Unlike in the past where dyslipidaemia was treated mainly based on their quantitative levels , there is a paradigm shift in providing a more personalized care to patients. This is based on assessment of cardiovascular risk of individual patient which allows choosing the right strategy of therapy for them. This would include using the right intensity statin therapy in the correct dose for a category or level of cardiovascular risk. In addition, there is now more emphasis on making use of other lipid lowering drugs like Ezetimibe, PCSK-9 Inhibitor, Fibrates and Omega 3 Fatty Acid. Adoption of these strategies are based on evidence derived from several well designed randomized control trials that have shown to lead to better cardiovascular outcome.

It is therefore vital that clinicians are aware of this concept of precision Medicine so that prescription for managing dyslipidaemia is more cost effective and lifesaving.

Radwan Almofti
TADA Consulting, Canada

Biography

Radwan Almofti, PhD Pharm Founder & Senior Consultant – TADA Consulting Solutions After finishing my bachelor's degree in pharmacy, I worked for a few years as a pharmacist. Next, I pursued my postgraduate studies and got my Master's and Doctorate degrees in pharmaceutical sciences, then my post-doctorate studies in biopharmaceutics. My postgraduate studies focused on gene delivery systems and energy transfer across cellular and mitochondrial membranes; in addition, I supervised numerous undergrads and postgrad students up to Ph.D. candidates. Next, I worked for the pharmaceutical industries in start-ups, medium and large organizations leading quality & compliance, regulatory, and scientific/R&D affairs teams. Currently, I am the founder of and senior consultant at TADA Consulting Solutions providing compliance, regulatory and scientific/R&D consultation. Over the years, I have acquired a unique combination of in-depth academic, scientific and technical knowledge along with extensive practical and industrial experience in various aspects of the development, production, and analytical procedures and instrumentation of almost all pharmaceutical dosage forms.

Needleless oral delivery of mRNA vaccines

Vaccination is considered one of the most successful public health interventions of the modern era. Vaccines are mostly administered via intramuscular (IM), subcutaneous (SQ) or oral (PO) route. However, these routes of administration have limitations and side effects such as poor induction of mucosal immunity, less patient compliant, less potent, high cost and cumbersome production process. An alternative route could be buccal/sublingual administration using oral thin film (OTF) dosage form as delivery system. The buccal/sublingual regions can provide an elastic and permeable tissue, thus aiding drug absorption. Because of their large surface area and immunological competence, mucosal tissues are attractive administration and target sites for vaccination. An important characteristic of mucosal vaccination is its ability to elicit local immune responses, which act against infection at the site of pathogen entry. OTF delivery system has several advantages: it can avoid first pass effect, it is easy to administer and prepare, it is able to induce both systemic and mucosal immunity, it is needleless, it increases patient compliance, it does not require medical professionals for administration, and is more cost effective. Several studies have shown that embedding thermosusceptible vaccines in OTF stabilizes these vaccines at room temperature for long term, eliminating the need for deep freezers. Vaccines in their original form or encapsulated in nano/microparticulate or viral vectors can be successfully delivered using OTF. OTF can be developed in multilayers to protect the vaccine from degradation by saliva or swallowing. OTF can also be formulated to provide the desired controlled release of vaccine and the optimum muco-adhesiveness of the films. The current presentation highlights 1) the advantages of OTF delivery system for vaccines over non-mucosal delivery systems such as IM and SQ, and over other mucosal delivery systems such as intranasal and inhalers, 2) the improvements needed, and 3) future expectation.

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SPEAKERS Day 1

Salman W. Bafageeh[1,3], and **Uthman Aluthman[2]**
[1]King Saud bin Abdulaziz University for Health Science, KSA
[2]King Faisal Specialist Hospital and Research Center, KSA
[3]King Abdullah International Medical Research Center, KSA

Biography

Salman Bafageeh did his Bachelor of Medicine, Bachelor of Surgery (MBBS) and Currently he is a medical intern. And, he graduated from King Saud bin Abdulaziz University for Health Science, Jeddah, Saudi Arabia.

Establishment and Three Years Outcomes of Robotic-assisted Hybrid Coronary Revascularization in the Middle East

Background: Hybrid coronary revascularization (HCR) is a technique that merges coronary artery bypass grafting surgery and percutaneous coronary intervention (PCI) approaches for the treatment of multivessel coronary artery disease. The surgical component of the procedure is minimally invasive and can be done using robotic technology that avoids the need forsternotomy. This paper intends to report an initial series of 78 patients treated with robotic-assisted HCR (RHCR) during establishment phase.

Methods: This study is a retrospective chart review conducted at King Faisal Specialist Hospital and Research Centre in Jeddah (KFSRC-J). The study focuses on patients who underwent RHCR between July 2018 to December 2020.

Results: Robotic-assisted HCR was performed on 78 patients (mean age, 56 years [range, 43 to 72 years]; 89.75% males) during the study phase. Left internal mammary artery grafting was used in all patients. There was no hospital mortality, and the mean hospital and ICU staywere5.8 and 1.4 days, respectively. We found that 93.6% of the patients had no blood transfusion. There were no major adverse cardiac events (MACE) and peri-operative MI recorded. There was a 3.8% rate of postoperative complications.The percentage of surgeries converted to conventional and re-exploration for bleeding were 1.2% and 2.6%, respectively. The average operation time was 164 minutes.

Conclusion: This study emphasizes on the safety and effectiveness of RHCR in treating patients with multivessel coronary artery disease. Moreover, Robotic-assisted hybrid coronary revascularization offers an alternative, functionally complete revascularization option to a selected group of patients with minimal surgical trauma, short hospital and ICU length of stay, quick recovery, and little to no blood transfusion requirement.

Mohammad Shaban
Health Point Hospital, United Arab Emirates

Biography

Mohammad Shaban, leading instructor of life support training, currently I am working as Clinical education manager in Health point hospital - Abu Dhabi.

As clinical educator, I believe that healthcare providers must keep updated with knowledge and skills because the evolution in the science and researches, every day is good chance to develop our knowledge and skills by maintaining education for everyone in many ways, from open discussion, direct observations of skills and knowledge test.

I have MSc in Leadership in Health professions Education, and Bachelor in Nursing in 2003. My nursing journey exceeding 17 years in many hospitals in Middle East and different positions (RN, Charge nurse, Nursing supervisor, Life support coordinator and Clinical educator), I notice that nurses are the heart of hospital which keep the hospital active and proactive. Without nurses efforts there will be continuity in medical progress and treatment progress. That required to keep the nurses updated always with the recent knowledge and practice. That lead to enhance the treatment plan and improve multidisciplinary efforts of care giver.

Through my education activity (CME lectures, case presentation, practice demonstration, Conferences, workshops…etc.) I hope that I will be able to have impact in future nursing education, share my clinical expertise and participate in research.

I believe by participating in conferences & virtual education and training, the clinical educator will be able to sharing and delivering care-effective, increase the awareness of the community, answering the attendance queries, and highlighted the common errors and risk factor of the non-medical participant.

Comparison between the traditional way of BLS and online course

Background: Cardio Pulmonary Resuscitation (CPR) it's the way to save someone life after he suffers from cardiopulmonary arrest, this needs good knowledge from many aspects like Anatomy of the human body, heart electrophysiology, and breathing needs. Also it required physical and critical thinking skills like chest compression, managing the airway, and defibrillator awareness. Basic Life Support (BLS) course becomes essential to get the DOH license and to start work as a nurse in Abu Dhabi regardless of the working area, field, and specialty. Basic Life Support (BLS) is an essential course for all nurses. it contains knowledge and practice to guide the nurses how to deal with cardio-pulmonary resuscitation and managing the victim till advance team arrived. Objective: This study debate the difference between the traditional ways of BLS (Class course) and the update way (Online course).

Methods: I start by interview the nurses and ask about BLS knowledge. Followed up with a schedule training was conducted frequently for nurses who's employee in hospitals, clinics, education facilities and who attend outside camps and big community events. Monitor the participant during theory part and practice part, then evaluate their knowledge with written test. Following by start to observe their performance in real CPR in their respective unit as primary nurses.

The assessment used isworkplace-based assessment (WPBA) because of the advantages and implementation way, which have many benefits for the study to use workplace-based assessment in clinical areas. My tool will be using direct observation in procedural skills (DOPS), research method was qualitative and the questions used in the interview reflect the depth of the nurses concept of BLS knowledge and

skills. All tools and assessment guarantee the validity and reliability of research.

Results: The result show thatonline version have more advantages than class course, from perspective of time, efforts, and using in real situation. With emphasize to use the refresher mock drills in between, nurse who receive online training of BLS and followed with practice session was performing good in CPR comparing to the nurses who receive class course every two years without refreshing mock drills. Nurses who receive online training feel more confident and able to deal immediately with life threatening situation.Which can be improve post cardiac arrest neurological outcome and discharge planning. In the same time it's decrease of mortality and morbidity rate.

Conclusions: The research find that BLS online version have various benefits of the quality of life support skills which is mandatory in maintaining and save life of patients.

Vasily Sukhorukov
FSBSI "Petrovsky NRCS", Russia

Mitochondrial DNA Editing

Background and Aims: We have previously found an association of some mitochondrial mutations with asymptomatic atherosclerosis in the carotid arteries of patients. The most direct way to elucidate the role of these mutations in atherogenesis is by editing the mitochondrial genome. The aim of this work was to develop an approach to eliminate mitochondrial mutations from mitochondrial DNA (mtDNA).

Methods: The mitoCAS9 vector was used to produce RNA complex, consisting of Cas9 nuclease linked to sgRNA. Mannose liposomes were used to deliver RNA complex in the THP-1 cells. The THP-1 cybrid cells that carried Cytb G15059A mutation. The efficiency of mutation elimination was assessed by T7E1, qPCR, and ddPCR.

Results: The elimination of Cytb G15059A mutation by MitoCas9 RNA complex was successfully confirmed by T7E1, ddPCR, and sequencing. We found that the MitoCas9-RNA complex can cleave up to 92% mtDNA, and the heteroplasmy level was reduced up to 3.7% from 68%. Moreover, we found that some double-strand breaks were repaired by the mechanism of microhomology-mediated end joining (MMEJ). The possible matrix for MMEJ was a part of the mitoCas9 vector, that was delivered to mitochondria together with the RNA complex. This mechanism might be used to incorporate mitochondria mutations of interest in "healthy" mitochondria.

Conclusions: The method to eliminate mitochondrial mutations was created. It might be possible to create a novel approach of mtDNA editing via the MMEJ mechanism.

This study was supported by Russian Science Foundation, Grant # 22-15-00064

Theodora Bampali
University Hospital of Ioannina, Greece

Biography

Theodora Bampali is a Cardiologist. The last 3 years I work as a Consultant in Cardiac Surgery Department of Ioannina University Hospital, in NW Greece. In 2021 I passed the European Examination on Core Cardiology. I am Sub-investigator in 6 recent Clinical trials related to thrombosis and heart failure and member of several WG under the aspects of European Society of Cardiology. I have authored/co-authored 9 papers the last 2 years, published in Pubmed. I am invited speaker in more than 20 congresses the last 5 years.

My main field of interest, and also the theme of my Msc is the antithrombotic therapy in valvular disease, both in native valves and in surgical or transcatheter treated, and specifically in complex patients with several comorbidities that interfere with their thrombotic and bleeding phenotype. I treat more than 100 patients per month during hospitalization and in outpatient clinic.

The optimal antithrombotic therapy after transcatheter valve interventions. The less the merrier

Since the late 2000's, TAVR has led to constant improvement in clinical outcomes with the development of techniques and technological ameliorations along with increased operator experience. Over time the philosophy of non-surgical intervention extended to the other valves i.e., mitral valve and tricuspid valve. This target group of the patients have multiple comorbidities and subsequently high surgical risk. Amongst other, atrial fibrillation, concomitant coronary disease treated with stenting, peripheral artery disease, or stroke augment the innate thrombotic risk of these patients and the need for combined antithrombotic therapy rises. On the other hand, advanced age, frailty, anemia, thrombocytopenia, chronic kidney disease increase the bleeding risk and suspend the combination and duration of the antithrombotic therapy. The current guidelines suggest that the optimum antithrombotic therapy must be personalized. After the Galileo OAC trial OACs are ostracized if there is not atrial fibrillation. Nevertheless, these guidelines carry a LoE B or C, so there are a lot of gaps in the literature and more trials are awaited. The purpose of my speech is to guide through the current bibliography via clinical scenarios, in order to clarify the optimal antithrombotic therapy after transcatheter valve interventions.

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Mohamad Ibrahem Abdelhamed
Prince Sultan Cardiac Center Hassa, KSA

Biography

Mohamad Ibrahem Abdelhamed is a cardiac surgeon pledged to provide state of the art, high quality and patient-centred surgical care. Pursuing his aim, he is committed to continuous surgical training and professional development. He was privileged to participate in a collaborative project to initiate an LVAD program in PSCCH for five years. The program has gained both local and international recognition; however, the gratitude and love I see in the patients' eyes represent the most significant prize. He hope to continue serving the patients till the last moment of my life. Hence, He won't stop learning unless he stop breathing.

To highlight the role of percutaneous left ventricular assist device (LVAD) decommissioning as a safe procedure after myocardial recovery in patients with advanced heart failure

Objectives: To highlight the role of percutaneous left ventricular assist device (LVAD) decommissioning as a safe procedure after myocardial recovery in patients with advanced heart failure.

Background: The HeartMate3 LVAD (Abbott, Chicago, IL, USA) is designed to provide circulatory support with enhanced hemocompatibility for patients with advanced heart failure. Most VADs are used as a bridge to heart transplantation; however, in certain cases, myocardial function recovers, and VADs can be explanted after the patient is weaned. Although surgical explantation remains the gold standard, minimally invasive percutaneous decommissioning has been described as a successful alternative. In this study, we present our experience, one-year outcomes, and adverse events associated with percutaneous LVAD decommissioning.

Methods: We conducted a retrospective review of data from six consecutive patients who underwent percutaneous LVAD decommissioning.

Results: Six patients were enrolled in the study. For all six patients, HM3 decommissioning was completed at least 6 months ago. No technical complications were documented. No strokes were observed within the study period, and the ejection fraction improved. The mean follow-up duration was 18±8.5months, and the survival rate was 100%.

Conclusion: Percutaneous HeartMate3 decommissioning appears to be safe. In particular, the survival after the procedure was 100%, and no events, especially thromboembolic ones, occurred.

Waleed Ahmed Khan
Royal Liverpool University Hospital, United Kingdom

Biography

Waleed Khan is currently working as an Acute Medicine registrar at NHS hospital in United Kingdom. He has completed his Internal Medicine training and aiming to apply for Cardiology speciality training this year. He have keen interests in Advance heart failure management and Heart transplant medicine. He takes up leadership, management and educator roles and currently is Associate College Tutor, from Royal College of Physicians (RCP) at his local hospital. He is involved extensively in medical education, specifically MRCP PACES teaching and helps organise MRCP PACES exams for RCP Edinburgh (UK).

Secondary prevention medication prescribing in medically managed NSTEMI patients: an assessment of discharge letter quality from Royal Liverpool University Hospital, United Kingdom

Background: Clear guidelines exist from NICE for the management of secondary prevention medications following myocardial infarction (MI). Communicating these plans is essential to avoid adverse outcomes. This QIP was performed at Royal Liverpool NHS Hospital, United Kingdom.

Members: Dr. Waleed Khan (IMT 2/3), Dr. Tom Raynor (FY1/2), Dr.Haselton (Cardiology Consultant)

Aim: To assess the quality of discharge letters written for medically managed MI patients, comparing these to the gold-standard guidelines from NICE.

Methods: A protocol was approved by the Trust audit team. Data were collected on patients with a coded diagnosis of non-ST elevation MI (NSTEMI) between February and April 2021 for cycle 1 and December 2021 to March 2022 for cycle 2. Patients were excluded if they had not had a NSTEMI, died or transferred for coronary intervention to tertiary centre. (N= 40 cycle 1, N=81 Cycle 2). Letters were assessed for documentation of secondary prevention medication prescribing, plans to uptitrate beta-blockers and ACE-inhibitors (ACE-i) and duration of antiplatelet therapy.

Results: Cycle 1:

A majority were prescribed the correct medications (mean compliance 78%). 57.5% of letters failed to detail the duration of antiplatelet therapy. Most (75%) patients not receiving antiplatelet therapy had suitable reasons given in the letter. Plans to uptitrate medication were mentioned in 7.5% and 15% of letters for ACE-I and beta-blockers, respectively. No clinically justifiable reason was given for omitting ACE-I and beta-blockers in 87.5% and 95% of letters, respectively.

We demonstrate a marked paucity of essential information in letters on the prescribing and ongoing management of secondary prevention medications for NSTEMI in our department. This precludes optimal transition of care to the general practitioner and could compromise patient outcomes. Urgent intervention is required to improve the quality of our discharge letters.

Cycle 2:

Improvement from 12.5% to 32.4% for prescription of Apirin with duration, from 22.5% to 32.4% for prescription of second antiplatelet with duration, prescription of ACE-i with uptitration from 7.5% to 18.9% and for betablockers with uptitration from 15% to 18.9% was demonstrated in cycle 2 of this QIP.

Less numbers of discharge letters lacked prescription of Aspirin and second antiplatelet (from 30% to 8.1% and from 20% to 10.8%, respectively) or where not indicated, clear reasons were provided. Similar improvements were shown with prescription of ACE-i and Betablockers (from 20% to 18.9% and from 17.5% to 8.1%), and marker reduction in lacking reasons for nor prescribing ACE-i and Betablockers (from 87.5% to 8.1% and from 95% to 2.7%, respectively).

We demonstrated that highlighting paucity of essential information in letters to GP, in handovers and by showing posters in department, resulted in marked improvement of quality of letters. It is evident more letters contained important and relevant information in letters to GP in line with NICE guidelines. We understand further work is required to improve quality of discharge letters for patients admitted and treated for NSTEMI, from RLUH Cardiology department at first and whole hospital later on. For this we advocate changes in JAC which will automatically pull relevant information from system to the letters.

Compliance is still far behind the targeted 100% as per the NICE guidelines.

Conclusion:

Prescribing of post-MI medications was in general satisfactory, but communication of uptitration of ACE-I and beta-blockers, as well as details regarding duration of antiplatelet therapy requires improvement. We aim to assess whether further doctor education and introduction of new prescribing protocols can improve compliance.

Anju Surendranath
SCTIMST, India

Biography

Anju Surendranath, currently doing PhD in Toxicology, under the guidance of Dr P V Mohanan, Toxicology Division, SreeChitraTirunal Institute for Medical Sciences and Technology, Trivandrum, India. Our institute is an organization of national importance currently focusing on biomedical researches under the aegis of department of Science and technology, Govt of India. I am a UGC Senior Research Fellow. I have published around 12 research publications and 2 book chapters in reputed journals of high impact factor.

Elucidating the toxicological impact of WS2 quantum dots in biological subjects by probing the biodistribution/ blood kinetics status using Sprague Dawley rats

As one of the typical TMDCs, WS_2 has attracted recent scientific attention due to its unique properties such as anisotropic nature, high strength moduli, good shock absorbing capacity, high stability, large surface area as well as optical, electronic and electro catalytic properties.In the QD dimensionality with ⊠10 nm size, WS2 exhibits unique optical propertieswhen compared to its nanosheets or bulk material counterpart, which makes it a suitable candidate for biomedical applications, especially in imaging guided therapies. Such QDs could provide abundant active edges and large specific surface areas, as well as stable quantum confinement effect. Based on these facts, an idea is made to synthesize, characterize and explore thetoxicological impact of this emerging material along with an in depth QD-bio interaction analysisin-vivo.

In the present study, WS_2QDs of ~4nm size and uniform size distribution were synthesized by solvothermal exfoliation method. XRD, XPS and FTIR confirmed the chemical and material composition of the QDs. In vitroQD uptake and cellular interaction studies were evaluated using LN-229 cells.Further in vivo toxicological evaluation was done in Sprague Dawley rats after 10mg/kg body weight administration of WS_2QDs in physiological saline. Serum biochemistry, hematology and histopathological studiesshowed no evident signs of clinical changes, morbidity/ mortality after 3, 7 and 14 days of administration. Biodistribution and blood kinetics was evaluated using ICP-MS analysis, which showed the maximum retention of the compound in major organs on the 7th day but didnot evoke a toxic impact in the animal physiological system. Antioxidant assays were performed in liver/ brain tissue homogenates, which again confirmed the non-toxic nature of the QDs.Hence the study clearly confirms that WS_2 QD_s is a promising material for future biomedical applications.

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POSTERS
Day 1

Oana Nicoleta Buliga-Finiș
"Grigore T. Popa" University of Medicine and Pharmacy, Romania

Biography

Oana Nicoleta Buliga-Finis, graduated from "Grigore T. Popa" University of Medicine and Pharmacy Iasi, Roumania in 2016. My field of interest is the complex area of cardio-renal domain. As a result i begun a PhD with the thesis " Algorithm of secondary cardiorenal syndrome in diabetic patients" in 2021. The aim of my research is to develop a panel of biomarkers of cardiorenal syndrome that could detect subclinical organ damage in order to obtain an earlier diagnosis. I work at the "Sf. Spiridon" County Clinical Emergency Hospital as a physician at the III rd Clinic of Internal Medicine. I am a member of the Romanian Society of Internal Medicine.

I am University Assistant at "Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania.

I was resident physician for 4 moths in France at " CentreHospitalier de Sens" in internal medicine departement.

Treating anemia: Point of convergence for chronic heart failure and chronic kidney disease?

Cardio-renal-anemia syndrome represents the pathological triad in which the vicious relationship between chronic heart failure (HF), chronic kidney disease (CKD) and anemia is associated with increased morbidity and mortality and decreased quality of life.

Anemia is a common condition in patients with advanced HF and CKD with a prevalence in CRS from 5% to 55%.

Anemia often leads to progressive renal and cardiac dysfunction and exacerbates both cardiovascular disease and chronic kidney disease. The decrease in erythropoietin production, oxygen transport leads to tissue hypoxia, peripheral vasodilation, stimulating neurohormonal activity and maintain cardiorenal syndrome pathological cycle.

Intravenous iron therapy has an important role in the management of anemia being beneficial for patients with both heart failure and chronic kidney disease. It improves symptoms, quality of life and reduce hospitalization for heart failure.

Erythropoiesis-stimulating agents combined with intravenous iron increase hemoglobin levels and stabilize creatinine level in patients with cardiorenal syndrome. Recent studies suggest that only 10% of patients with cardio-renal-anemia syndrome are eligible to this therapy due to the increased risk of mortality for patients with heart failure. Generation of endogenous erythropoietin and lowering the fibroblast growth factor 23, hypoxia inducible factor prolyl hydroxylase (HIF-PH) inhibitors are promising agents for cardio-renal anemia syndrome. Also, hepcidin antagonists and their effects on renal and cardiac function could become a new potential therapy for this complex syndrome, studies suggest.

Anemia therapeutic strategies diminishes the loss of kidney and heart function of patients with cardio-renal-anemia syndrome and improves the prognosis and clinical outcomes.

Divya Pamu
JSS College of Pharmacy, India

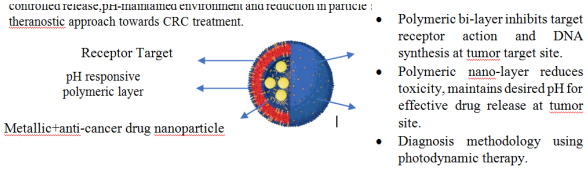
Development and Characterization of Repurposed Molecule-Loaded Polycaprolactone Electrospun-Nanofibers as a Wound Dressing Biomaterial for Tissue Regeneration

The present study aimed to develop and characterize repurposed molecule-loaded polycaprolactoneelectrospunnanofibers as a wound dressing biomaterial for tissue regeneration. The electrospunnanofibers were prepared using the electrospinning technique by loading different repurposed drug molecules (atorvastatin, fluvastatin, pravastatin, and rosuvastatin) in polycaprolactone of 80,000 grade at the concentration of 30%. The instrument was set at 0.15-0.5 (µL/min) at 15kV of voltage, and the distance between the needle and the collector mandrel was 15 cm. They characterized SEM, compatibility, thermal analysis, drug release, and invitro MTT assay and migration wound assay in NHDF cells. The polycaprolactone-loaded nanofibers have demonstrated excellent morphology of aligned fibers distribution without any interactions and the nanofibers were found to be compatible and have thermal stability. Among the nanofibers, fluvastatin and pravastatin have shown better release in a controlled manner for 360hrs when compared with atorvastatin and rosuvastatin. In the MTT assay and migration assay, the HDF cells have shown cell proliferation and migration. The fluvastatin and pravastatin have exhibited improved fibroblast cell proliferation and migration in skin tissue regeneration in non-healing wounds. Hence, we concluded that the repurposing of fluvastatin and pravastatin molecules could accelerate the wound healing process by fulfilling the fibroblast deficiency in the tissue and enhancing the further collagen deposition and ECM secretion in the wound region. Further in vivo studies are needed to provide a structured background for commercialization and future clinical purposes.

Saloni Sharma
JSS College of Pharmacy, India

pH Responsive Metallic Nano-theranosticswith active receptor target towards CRC reduction

Colorectal cancer is one of the leading causes of death worldwide that has shown 24% increase statistically by the WHO. It has been a tedious outlook towards this research on the outcome for the reduction of CRC. As a result, it has paved way for advancements towards nano-technology for the treatment and management of CRC. One such branch is the application of theranostics that imparts as a dual role of diagnostic and a therapeutic moiety functioning simultaneously. In this study, we will illustrate the effect of metallic theranostics using the photodynamic therapy towards the diagnosis of CRC. The formulation strategy implemented consists of an effective polymer with the combination of desired choice ofsurfactant that is the critical formulation parameter for effective formulation development, followed by the synthesis of metallic nano-particles infused with the anti- cancer agent coated with receptor for active cancer target. The receptor layer on the outer coating of metallic nano-particle acts as an active tumortarget.This novel approach is opted due to its reduction in toxicity, controlled release,pH-maintained environment and reduction in particle size. As a result, we will prove a novel theranostic approach towards CRC treatment.



Yael Vanharen
Cardiac Catheterization Laboratory, Belgium

Biography

Yael Vanharen is a full-time nurse specialized in electrophysiology. In addition to her full-time job, she will complete her master's degree at the University of Antwerp in September 2022 and become an advanced practitioner nurse. Yaël has always been interested in research and is currently contributing to several studies in the field of cardiovascular advanced nursing for the hospital network of Antwerp (ZAS).

Nurse-led care post-PVI

Pulmonary vein isolation (PVI) is a well-known treatment in patients with atrial fibrillation (AF). In addition to medication and PVI, the importance of cardiovascular risk factors and their modification in the prevention of AF has been clearly demonstrated. Some of these risk factors such as obesity, alcohol intake, smoking behaviour and physical activity are reversible lifestyle factors. The aim of this RCT was to investigate the influence of educational post-PVI consultations by an advanced practitioner nurse (APN) specialised in AF on recurrence, knowledge about AF, lifestyle and patient satisfaction. Sixty-five patients were included and randomised to control or intervention group, respectively. In addition to the standard follow-up, the intervention consisted of an educational session, three consultations spread over six months, and continuous telephone access coordinated by the APN. The control group received a standard follow-up by the treating cardiologist. Prior to each consultation, a questionnaire about lifestyle and clinical measurements were taken. A patient satisfaction survey was completed afterwards. Statistical analyses were performed on the demographic data using Chi-square test and Student t-test. The difference in relapse of AF was measured with a Kaplan-Meier analysis. The difference for lifestyle and patient satisfaction between groups was measured with a student t-test and the difference within one group across months was measured with a paired t-test. Finally, a univariate and multivariate regression analysis was done to see the influencing factors on recurrence. Kaplan-Meier analysis showed more freedom of AF in the intervention group (87.5% vs 60.6% in the control group, $p=0.014$). Knowledge of AF was significantly higher in the intervention group (8.28 vs 7.55 out of ten in the control group, $p<0.001$). Within the intervention group, alcohol intake decreased significantly ($p=0.031$) from 4 to 2.89 units per week, physical activity increased from 222 to 290 minutes per week ($p=0.048$), patient satisfaction increased from 9 to 9.6 out of ten ($p<0.001$). Mean BMI and number of smokers remained unchanged. Regression analyses showed that the intervention itself was the only significant predictive factor for recurrence. This study shows that the APN offers added value in terms of recurrence and lifestyle in the follow-up of patients with AF post-ablation.

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KEYNOTE SPAKERS Day 2

Elka Touitou
The Hebrew University of Jerusalem, Israel

Biography

Professor Elka Touitou is an internationally recognized authority in the field of drug delivery and design of new carrier technologies for efficient nasal, transdermal and cannabinoid new products. She has pioneered leading technologies in the field that evolved into startup companies. Also she has been invited as Visiting Professor at Universities in Europe and Asia. She has been the instructor of numerous graduate students. Prof. Touitou has broad experience in collaborating with the pharmaceutical industry serving in their Advisory Board. She has more than 100 scientific publications including original research, reviews, book chapters and co-editor of two books. She is the inventor of international granted patents.

New Nanovesicular Carriers for Nasal Drug Administration

The nasal way of drug administration is considered a safe, convenient, and noninvasive alternative to the conventional oral and parenteral routes. However, the low permeability of the nasal mucosa prevents systemic and brain delivery of many molecules. Nanovesicular carriers have been investigated extensively to overcome this barrier aiming to improve the nasal drug delivery. Liposomes, rigid phospholipid nanovesicles, are almost non-penetrating the nasal mucosa. Altered lipid vesicles by incorporating alcohols or surfactants are the new generation of carriers able to overcome the permeability barriers in the mucosa. We have shown that the administration of a number of drugs including Tramadol, Insulin, Ketoprofen, Rizatriptan, Buspirone and Epidermal growth Factor in soft phospholipid vesicles allowed a rapid delivery to animal brain, leading to a quick onset of action. Drugs loaded in these carriers were investigated for the treatment of various diseases in animal models, including multiple sclerosis (MS), hot flushes, Parkinson's disease, pain, inflammation and insomnia. These nanosystems were tested in a number of pharmacokinetic studies in animals. The use of altered phospholipid vesicles for nasal drug administration is now a growing field of research.

Paolo Trucillo* and **Daniele Naviglio**
University of Naples Federico II, Italy

Biography

Paolo Trucillo is a researcher in material science and technology and assistant professor in chemical plant design, at the Department of Chemical Engineering, Materials and Industrial Production Design, University of Naples Federico II, Italy. He has a PhD in industrial engineering and has expertise as a process engineer in many fields of application, such as nutraceutical, pharmaceutical and cosmetic.

He has an expertise in the production of liposomes, niosomes and nanostructured lipid particles using processes assisted by conventional, sub-critical and supercritical fluids. He is also an expert in high-pressure foaming processes for the production of polymeric drug carriers loaded with active principles. He has worked on conventional and supercritical assisted processes for the extraction of essential oils from natural matter, for the following encapsulation in drug delivery systems.

Drug carriers production through the use of conventional and supercritical assisted processes

Drug carriers are objects characterized by double-function of transportation and protection of the entrapped drugs.Therefore, they are designed to avoid drug degradation phenomena, which are often responsible of poor bioavailability. This resulted in an improved efficiency, preserving drug properties during administration and reducing side effects such as toxicity. However, drug carriers properties can be improved according to manufacturing parameters, production processes and type or raw materials employed. Depending on process operating parameters, it is possible to tune mean dimensions at micrometric or nanometric level, encapsulation efficiency and membrane permeability. Moreover, the choice of the most powerful process and operating parameters can affect drug release kinetics, either in case of natural release, either for external stimuli activation, such as temperature or pH variation.

For the production of drug carriers, different techniques have been developed in batch or in continuous operating mode. Conventional methods generally suffer of poor replicability, high solvent residue, low encapsulation efficiency and high dispersion of particledistributions. High-pressure systems have been developed to overcome those problems and to guarantee high stability of drug carriers over long times. The high-pressure jet break up of a continuous flow results in particle dimensions reduction, increase of drug entrapment efficiency and increased bioavailability.

In order to provide pure essential oils and other active principles for the encapsulation in drug carriers, extraction processes have also been employed; conventional methods such as maceration and percolation suffer of several drawbacks such as long operating times, contamination, reduced efficiency and high environmental impact. However, novel methods were developed to improve process efficiency, such as Naviglio Extractor (NE) and Supercritical Fluid Extraction (SFE), which can be used to extract active principles from waste materials of different manufacturing fields. In details, SFE uses low-impact solvents, while NE even manages to avoid completely organic solvents.

Bijal Prajapati* and **AbhayDharamsi**
Parul University, India

Biography

Bijal Prajapati has expertise in Formulation and Evaluation of various nanotechnology-based Pharmaceutical Preparations like Solid lipid nanoparticles, Preliposomes, Insitu hydrogel, Nanostructured lipid carriers, Microemulsion, Spanlastics, as well as dosage forms like Solid liquid compacts, Topical formulations, Transdermal Drug delivery systems, Scaffolds. Risk Assessment studies applied to Product development. Actively working on the development of Nano formulations for CNS disorders. She has successfully developed Nano formulations for Schizophrenia and Bipolar disorders. She has skill in Risk Assessment studies for Product development, Applications of QbD approach and DoE in formulation development. Currently working for development of anticancer nanomedicines for Breast cancer. Expertise on operation and handling of HSH, HPH, Probe sonicator, Zeta sizer, E spinning technology.

Development of Nanomedicine of Poorly Bioavailable Drug for Treatment of Breast Cancer

Recent advances in nanotechnology has promoted to the development of Nanomedicine as innovative architypes used for biomedical applications and optimized therapy. Nanomedicines with the unique features of a large surface area, structural properties, and a long circulation time in blood compared with small molecules, has been developed, with the potential to transform the diagnosis and treatment of cancer.

Objectives: The present study mainly focuses on the development and evaluation of nanostructured lipid carriers (NLCs) for the oral route to overcome the problem of lower bioavailability of poorly soluble anticancer drug.

Scope: Nanoformulations like NLCs can improve the efficacy of drug, which is a blend of solid lipid and liquid, which results in a partially crystallized lipid system, either through an active or passive targeting approach against cancer.

Methods: The NLCs of poorly soluble anticancer drug was prepared by hot homogenization method using High speed homogenizer and High pressure homogenizer. The process parameters were optimized using 32 Factorial design and formulation parameters by Box-Behnken Design. Screening of lipids done based on maximum solubility of drug in lipids. Compatibility of drug and formulation components studied by FTIR. Various assessment parameters characterized for the optimized formulation and stability study conducted as per ICH guidelines for 3 months.

Results: The optimized NLCs exhibited mean particle size of 125.35 ± 2.75 nm, Polydispersity Index of 0.349 ± 0.032, and Entrapment efficiency of 82.27±1.67 %. The TEM analysis shown the spherical size of NLCs and uniform drug distribution. An In vitro drug release study was proven by using the 0.1 N HCl pH 1.2 and Phosphate Buffer pH 6.8 with % cumulative drug release of 85.52 ± 6.41 and 88.82 ± 58.34 respectively comparable to plain drug solution.

Conclusion: A low-dose Nanomedicine with improved bioavailability was successfully developed with predicted sustained drug release. The optimized formulation found stable with respect to Entrapment efficiency, Particle size and PDI. The results showed a prominent potential for bioavailability enhancement of anticancer drug and effective breast cancer therapy.

Arul Joseph
Otsuka pharmaceuticals, USA

Biography

Arul Joseph leads the Pharmaceutical Development and Clinical Supply Chain function at Avanir Pharmaceuticals. He has about 15+ years of experience in chemistry, manufacturing, and controls (CMC) and has held roles of increasing responsibility at Gilead Sciences, Merck, Sanofi and Schering Plough. Before joining the pharmaceutical industry, he conducted postdoctoral research at the Scripps Research Institute in La Jolla, CA. Arul earned his PhD in Organic Chemistry from the University of Maryland in College Park, MD, and an MBA in Strategy and Finance from New York University's Stern School of Business in New York, NY.

Techniques to Improve Bioavailability of Drugs

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SPAKERS
Day 2

Srinath Balkundhi
Sanjay Ghodawat University Kolhapur, India

Biography

Dr. SrinathBalkundhi has completed his PhD in Pharmaceutical Sciences by JNTUA University and Mentor for postdoctorate scholar. He is workingas professor in Pharmaceuticsand Dean, School of Pharmaceutical Sciences Sanjay Ghodawat University Kolhapur Maharashtra, India. He has published more than 25 papers in reputed journals and presented papers in National and International conferences.

Advances in Polymeric Particle Vaccine Formulations

The increasing cost of modern health care that relies heavily on the direct treatment of on-going disease, is leading to a need to reappraise current medical practice. It is becoming highly desirable to place more emphasis on preventive medicine. An attractive and highly cost-effective preventive approach is the use of vaccines.

Vaccines are chemical substances prepared from the proteins (antigen) of othermo/ animal cells which confer immunity to a particular virus, bacteria etc. Some of the vaccines are also synthesized biologically through genetic engineering techniques. New advances in immunology, molecular biology, and biotechnology allow us now to realistically approach diseases for which vaccines were previously unfeasible. The advances have already led to the improvement of existing vaccines, developing safer acellular vaccines and some vaccines may prevent or stop the development of cancers and there is a real potential for preventive and therapeutic vaccination against tumors, auto-immune and allergic diseases. The development of new technologies has allowed scientists in exploiting and improving the formulation, immunogenicity, efficacy, safety and delivery of vaccines.

Improved and novel strategies involved in the development and designing of new generation vaccines like purified macromolecule, polymeric presentation of peptides, Synthetic peptide, and rDNA vaccines are few such types.

The polymeric presentation of peptide is a viable approach which improves the immunogenicity of multidose vaccine injection and synthetic peptides significantly. The novel polymeric particulate systems presently studied for delivery of antigen/peptide vaccines include liposomes, emulsions, ISCOMS, microspheres and nanoparticles. Most of the time these polymeric formulations entrapping proteins elicit immune responses. It is essential that the particles should entrap immunoreactive antigens and release of antigen should mimic the conventional vaccination schedule thus providing in vivo auto boosting to elicit desired antibody response. Apart from this, it is also desirable that antigens released from polymer particles are immunogenic. This is most important as polymer particles release soluble antigen and it is widely documented that soluble antigens are weak immunogen. Thus with proper formulation of polymer loaded particle it will be possible to generate cellular immune response which is in general difficult to generate with exogenous antigen.

Parameters which influences the entrapment, invitro release and immunogenicity of some vaccines were extensively studied in Wistarrats model. Optimization of particle formulation parameters in terms of size, loading, in vitro release characteristics and use of additional adjuvant during immunization resulted in generation of long lasting immune response from single point immunization. Intracellular uptake and immune response studies have provided evidence that nanoparticles can be selectively used to generate cellular immune responsewhere as humoral response

is predominantly generated by larger sized particles.

Nanoparticles based on polylactide, co-glycolide (PLGA, PLA) have gained much attention as carriers for antigens. Impressive results have been attained for both humoral and cell mediated effects. The incorporation of antigens into biodegradable micro/nanoparticles has several advantages including the protection of antigen from proteolysis and possible co-incorporation of immunological adjuvants that may further enhance the immune response.

Mirza Muhammad Faran Ashraf Baig
The University of Hong Kong, Hong Kong

Biography

Baig, MMFA is a registered Pharmacist and did a PhD in Chemistry. His recent research interest is designing nanomaterials for Biomedical Engineering, MechanoPharmacology, Developmental Biology, Structural Biology,and Neuroscience. He got his post-doctoral training in Nanomedicine at the Faculty of Dentistry, The University of Hong Kong. His postdoctoral work was focused on designing DNA-based functional & bio-active nanomaterials to apply in Restorative Dentistry, Oral Microbiology/ Oncology,Regenerative Therapeutics, Stem Cells Research, Drug Delivery, and Molecular Pharmaceutics. He got a Ph.D. degree in Chemistry (Therapeutical Biochemistry) from the School of Chemistry and Chemical Engineering, Nanjing University (NJU), China. During his Ph.D., he worked on DNA Nanotechnology, Nano-Therapeutics, Biosensing, Bio-imaging, Diagnostics, and Cellular Biophysics. Previously, He received his Doctor of Pharmacy (PharmD) and MPhil (Pharmaceutical Chemistry) degrees from the Faculty of Pharmacy, BahauddinZakariya University (BZU), Multan, Pakistan; where he learned about Biochemistry, Phytochemistry, Pharmacognosy, Biotechnology, Polymers, Organic, Medicinal, Bio-analytical, and Material Chemistry.

His research work mainly focused on the construction and function of DNA nanomachines, which are cuttingedge and challenging topics. He designed and constructed unique DNA molecular tension probes using a short circular DNA nanotechnology technique and functionalized these probes with fluorophores, gold nanoparticles, small molecular drugs, and peptide ligands. He achieved nano-specific precision in organizing plasmonic nanoparticles on the nano DNAframeworks to achieve plasmon resonance effects. My work on the DNA nanomachines provided an efficient mechanism of fluorescence resonance energy transfer that realizes the bio-imaging, anddetection of biological events, and functions of the biomolecules.

2D DNA Nanoporous Scaffold Promotes Osteogenic Differentiation of Pre-Osteoblasts

Biofunctional materials with nanomechanical parameters similar to bone tissue may promote the adherence, migration, proliferation, and differentiation of pre-osteoblasts. In this study, deoxyribonucleic acid (DNA) nanoporous scaffold (DNA-NPS) was synthesized by the polymerization of rectangular and double-crossover (DX) DNA tiles. The diagonally precise polymerization of nanometer-sized DNA tiles (A + B) through sticky end cohesion gave rise to a micrometer-sized porous giant-sheet material. The synthesized DNA-NPS exhibited a uniformly distributed porosity with a size of 25 ± 20 nm. The morphology, dimensions, sectional profiles, 2-dimensional (2D) layer height, texture, topology, pore size, and mechanical parameters of DNA-NPS have been characterized by atomic force microscopy (AFM). The size and zeta potential of DNA-NPS have been characterized by the zeta sizer. Cell biocompatibility, proliferation, and apoptosis have been evaluated by flow cytometry. The AFM results confirmed that the fabricated DNA-NPS was interconnected and uniformly porous, with a surface roughness of 0.125 ± 0.08035 nm. The elastic modulus of the DNA-NPS was 22.45 ± 8.65 GPa, which was comparable to that of native bone tissue. DNA-NPS facilitated pre-osteoblast adhesion, proliferation, and osteogenic differentiation. These findings indicated the potential of 2D DNA-NPS in promoting bone tissue regeneration.

Imran Saleem
Liverpool John Moores University, UK

Biography

I am a Professor in Nanomedicine and Leader for the Formulation and Drug Delivery Research Group within the School of Pharmacy & Biomolecular Sciences, Liverpool John Moores University, UK. I obtained my Pharmacy degree from the same university and am a registered pharmacist. In 2004, I received my Doctor of Philosphy (Ph.D) in drug delivery from Aston University, UK, entitled Improving diagnosis and vaccination strategies against Bovine Tuberculosis. Upon completing my Ph.D I went on to undertake a Postdoctoral Research Fellow at University of New Mexico in the Advanced Drug Delivery Laboratory of Dr H Smyth, working in the area of dry powder inhalation of anticancer agents for treatment of lung cancer.

Mita Restinia*, Nurmeilis and **LinatunNafiroh**
UIN SyarifHidayatullah Jakarta, Indonesia

Biography

Mita Restinia to apply her accumulated experience in the field of pharmacy practice, pharmacovigilance, clinical pharmacology, and pharmacoepidemiology in infectious diseases mainly tuberculosis. Her research aims to achieve successful treatment, identify and minimize adverse drug reactions and drug interactions, and to summit drug safety in infectious illness treatment. She has GCP certified and authored a book tittled"Guidelines of pharmaceutical care". In addition, she has a passion for delivering science to both scientific and non-scientific audiences. She decorates these skills by doing science communication at the national and international levels. Besides, her strong experience as a faculty lecturer also tailored her ability to design curriculum, teaching, presentation, and good communication skill. It also helps her to deliver scientific material to the faculty-student as well as become a speaker for pharmacy.

Treatment outcomes of drug-resistant tuberculosis in Indonesia, 2018-2021

Drug-resistant tuberculosis (DR-TB) poses a threat to public health. One of the biggest obstacles in achieving TB elimination is the rate of successful treatment. Therefore, we aimed to analyze the treatment outcome and the correlation of sociodemographic and clinical parameters with the incidence of poor outcomes of TB treatment among DR-TB patients in Indonesia. This was a retrospective cohort study of adult patients with confirmed DR-TB who were treated from 2018-2021 in one of the public hospitals in Kudus, Indonesia. The association of Predictors for unsuccessful TB treatment (default, failure, and death) was analyzed using Chi-Square. In all, 136 patients were enrolled during the study period, comprising 74(54.4%) males and 62(45.6%) females with a mean age of 49.14 years. Among those patients, 36% were cured and 64% were treated unsuccessfully with 32.4% defaulting, 29.4% dying, and 2.2% failing treatment. All patients with no adherence to their treatment had poor outcomes. Four types of DR-TB were identified from the included patients, i.e, Rifampicin resistant (93.4%), Poly-resistance (3.7%), extensively drug-resistance (2.2%), multidrug-resistance (0.7%). The majority of the patients with poly-resistance, extensive drug resistance, and multidrug resistance did not respond to the therapy. Statistical analysis showed that gender (P=0.042), marital status (P=0,021), adherence to visiting hospitals (P=0.000), and duration of treatment affected significantly the incidence of unsuccessful treatment. This study highlighted that the treatment success rate of drug-resistant TB patients in Kudus, Indonesia was poor. To further improve the treatment outcome, providing special attention, enhanced clinical management, and education should be given to patients with high-risk DR-TB patients. J

Dev Lal Sharma
Omatek Lab Pvt Ltd, India

Biography

Dr Devlal Sharma has vide range of over 4 decade Pharma experience as QC QA and R&D analytical development in Lupin, Orchid, Zydus cadila and Omatek, Founder members of Omatek lab pvt ltd achieved several awards in Athletics, NCC apart from philosophical ultimate knowledge of life. Food Pharma awards links being shared here.

Presentation Title: Advances & Innovations in Pharmaceutics

Advances & Innovations in Pharmaceutics" Answer of How to cure illness has been given by many scientists suggested many views and pathys, allopathic is most appreciated and it is advanced one.

Enhanced Effectiveness and reduced side effects of drugs are target of scientist, many generations development from Pen G to Cefixime and more beta lactom arrive in market. In formulation from Ferus sulphate to Iron ascorbate with folic acid has enhanced bioavailability of Iron further similar studies being proposed for effectiveness.

I have studied, practiced &would like to recommend an ultimate process of cure illness and sufferings which was suggested about 2600 year before (in 400BC) by a super pharmacist Lard Buddha,He invented and cured millions of people from suffering and illness.

Our ideal basic nature of pure mind was to be in equanimity (Samata) but we have deviated from this ideal nature of our calm mind to restless mind which always experiencing Raga/ Dwesha (Attraction and aversion, pleasure & pain)instead of equanimity (Samata) lot of vicar (Impurities) developed resulting sufferings/ illness, Our illness is due to our body and mind which is always in tens

By our practice of Awareness towards Seela Samadhi and Pragna and to see Breath mind get purified by this practice and pharmaceutics knowledge, the effectiveness of drugs will enhanced 100 folds which is practiced by me and many others. I will recommend the same innovative practice & drugs get rid of sufferings by the combination of latest and oldest experience.

Ahlam Abdullah Al-bokai
Sana'a University, Yemen

Effect of methanolic extract of Phoenix dactylifera L. seeds on blood glucose levels of normoglycemic and dexamethasone induced diabetic rabbits

Background: The Phoenix dactylifera L. (Date Palm) is a plant have nutritional and therapeutic properties, The Plants are the source of many pharmaceutical compounds, so herbal treatments are attractive. In folk medicine, the date palm seeds are commonly used to treat diabetes.

Purpose: The aim of the present study was to evaluate the anti-diabetic potential of Phoenix dactylifera L. seed in dexamethasone -induced diabetic rabbits.

Study design: The study design involved preparation of a methanol Phoenix dactylifera L. seed extract; investigation of its effect on blood glucose levels in dexamethasone induced diabetic male rabbits and phytochemical study of the extract to identify further compounds with anti-diabetic effect.

Method: Diabetes was induced in male rabbits with a single intraperitoneal injection of 150 mg/kg dexamethasone. Normal and diabetic animals were treated with Phoenix dactylifera L. seed (PDS) methanol extract for a period of 30 days.

Results: The methanolic extract of Phoenix dactylifera L. (PDS) has been shown to have a significant anti-diabetic effect ($P \leq 0.05$). This effect may be due to the presence of flavonoids, saponins and fatty acids in the extract, which could function through different mechanisms. Furthermore, pancreas tissue regeneration was histologically clean. However, further research is needed to isolate and elucidate the bioactive compound(s) responsible for its anti-diabetic properties, as well as its molecular mechanism of action.

Conclusion: The result of this study suggests the anti-diabetic effect of Phoenix dactylifera L. seed extract, which might be due to its chemical compounds which have hypoglycemic properties.

Shahla Hamedani
Islamic Azad University Abhar, Iran

A DFT Approach to the adsorption of the Levodopa anti-neurodegenerative drug on pristine and Al-doped boron nitride nanotubes as a drug delivery vehicle

In this study, the adsorption behavior of the anti-neurodegenerative drug Levodopa (LD) on pristine and aluminum-doped (Al-doped) boron nitride nanotubes (BNNTs) has been investigated in the current study using the density functional theory (DFT) approach at the B3LYP/6-31G** level of theory. The aim was to improve and expand boron nitride nanotubes drug carriers used in biomedical systems, i.e. drug delivery systems. The binding qualities of pure and doped BNNT complexes as adsorbents with LD were explored using the natural bond orbitals (NBO) analysis, density of state (DOS), electrical and structural characteristics, and atoms in molecules (AIM) properties. Due to doping heteroatoms in the adsorbent's molecular structure, the obtained data reveal a gradual shift in LD adsorption, with a significant rise in negative adsorption energy values.

The electronic perturbation caused by doped atoms, particularly Al, improves boron nitride nanotube sensitivity to adsorbed Levodopa, and the electronic properties of the nanotubes are altered following Levodopa adsorption in the complex. As the frontier molecular orbital distributions were transferred from LD to BNNT in the complex of BNNT-LD, it was also shown that LD drugs could be loaded on pristine and Al-doped BNNTs while remaining safe from interactions with other substances. Furthermore, AIM analysis based investigations revealed that O–Al interaction in LD adsorbed on Al-doped boron nitride nanotube and O–N interaction in the BNNT-LD complex are partially covalent.

Finally, the same results were suggested by all the analyses as shown below:

1. Al atoms can be substituted by BNNTs atoms through chemical bonds, as a result of which the BNNT nanotubes' chemical, electrical, and mechanical structures are considerably altereded.
2. Al-doped BNNT has a comparatively high adsorption energy than pure BNNTs derivatives. Since the contact in this case comprises chemical adsorption, this Al-doped boron nitride nanotube would be an ideal sensor solution.
3. The Levodopa molecule's adsorption energy on BNNTs and Al-doped BNNT ranges from -19.13 to -31.24 kcal/mol, respectively.
4. LD adsorption on the surfaces of BNNTs and Al-doped BNNT changes the energy levels of HOMO and LUMO, as well as their energy gap.
5. The outcomes of the analysis of charge on the basis of NBO showed that a charge value of nearly 0.02|e| and 0.41|e| is transfered from the Levodopa molecule to the pristine and Al-doped BNNT.
6. Finally, AIM analysis indicated that the interaction of Levodopa molecule with single-walled BNNTs is more partially covalent in nature. Our findings indicate that BNNTs can be an efficient adsorbent in medication delivery when compared to the Levodopa molecule. It is hoped that the new nanotubes would be effective in treating Parkinson's disease.

Ronok Zahan[1], Sinthyia Ahmed[2], Mohammad A. Halim[2,3], Md. Chanmiya Sheikh[4], Ryuta Miyatake[4], Ennio Zangrando[5], Tarannum Naz[1], Md. Al-Amin-Al-Azadul-Islam[1] and Md Abu Reza[1*]

[1]University of Rajshahi, Bangladesh,
[2]The Red-Green Research Centre, Bangladesh
[3]University of Arkansas-Fort Smith, USA
[4]University of Toyama, Japan
[5]University of Trieste, Italy

Mechanism of Action of Novel Nickel (II) Complex in Simultaneous Reactivation of the Apoptotic gene Against Ehrlich Ascites Carcinoma (EAC) Cells

Background: Cancer is still an unsolved challenging mystery and the scientists are trying to attack the problem from different angles to combat this deadly disease. Synthesis of new compounds with potential anticancer activity is one of the popular approaches to find for a cure for the disease.

Objective: We conducted our study to explore the novel potential anticancer agent against Ehrlich Ascites Carcinoma (EAC) cells.

Methodology: A new-fashioned bis(dithiocarbazato) nickel(II)complex was constructed and distinguished by means of various physical, chemical and spectroscopic process. The X-ray single crystal diffraction analysis indicated two independent close comparable bischelated square planar complexes of trans configuration, where dithiocarbazate ligand coordinated via N,S-donor set. The inhibitory effect of the complex was examined through MTT colorimetric test. Cell morphological changes were determined by optical and fluorescence microscopic techniques. RT-PCR was used to verify the expression pattern of apoptosis regulatory genes as well as apoptotic hall mark DNA fragmentation was also checked. Molecular docking attached with molecular dynamics simulation studies was used for complex and Bleomycin to investigate anticancer effect towards targeting apoptotic genes.

Results: The complex is able to inhibit Ehrlich Ascites Carcinoma (EAC) cells expansion as a result of 51.81%, with 0.3mg/kg/day body weight dose, administered intraperitoneally for five successive days in Swiss Webster mice. After LD50 (1000mg/kg) determination, the dose was adjusted as 50 mg/kg and upon administration the inhibition percentage was increased to 75.75%. The inhibitory effect of the complex was 26.6-76.4% against EAC cells and 11.2-59.72% against MCF7 cells (concentration 31.25-500 µg/ml) as examined through MTT colorimetric test. Optical as well as fluorescence microscopic techniques were used to determine the apoptotic cell morphological change. The expression pattern of apoptosis regulatory genes (increased expression of P53, Bax, Cas-8, Cas-9, Cas-3, cyt-C, TNFα and decreased expression of Bcl-2 gene) was inspected after five days' treatment of EAC cells with nickel(II) complex. The complex showed DNA fragmentation at different base pair successfully. We also studied the effect in silico of the synthesized nickel(II) complex and of a standard drug, Bleomycin. Molecular docking coupled with molecular dynamics simulation studies was used for complex and Bleomycin with the aim to support experimental approach and to study anticancer effect towards marking apoptotic genes.

Conclusion: Both experimental and computational work uncover that our synthesized nickel(II)complex inhibits EAC and MCF7 cells growth successfully, suggesting a potential new approach for cancer treatment.

Mulualem Workye[1], Motlalepula Matsabisa[2], Gebremariam Birhanu[1,2]
[1]Addis Ababa University, Ethiopia
[2]University of the Free State, South Africa

Green Synthesized Silver Nanoparticles for Ciprofloxacin Delivery Against Resistant *Escherichia Coli*

Ciprofloxacin is a clinically important fluoroquinolone, effective against *Escherichia coli* (*E. coli*) infections across the globe. However, many clinical isolates of E. coli have emerged as resistant to ciprofloxacin, restricting therapeutic options. Due to the paucity of new antimicrobial agents in the drug development pipeline, it is imperative to develop new alternative approaches that improve the antibacterial efficacy of the available antibiotics. The aim of the current study was therefore to biosynthesize silver nanoparticles (AgNPs) using an aqueous extract of *Aloe camperi* for ciprofloxacin delivery, thereby enhancing its efficacy against ciprofloxacin-resistant *E. coli.* In this study, the aqueous extract of Aloe camperiwas utilized as a reducing and capping agent for the synthesis of AgNPs. Crucial operational parameters were controlled. Ciprofloxacin was loaded on the surface of AgNPs and the encapsulation efficiency was determined. Free and ciprofloxacin-loaded particles were characterized by VU-visible spectroscopy, Fourier-transform infrared, dynamic light scattering, scanning electron microscope, X-ray diffraction, and simultaneous differential scanning calorimeter-thermogravimetric analysis. The in vitro release profile of ciprofloxacin from the surface of AgNPs was investigated. Furthermore, the in vitro susceptibility test of the loaded particles as compared to their individual components was evaluated by employing a disk diffusion test. The results of characterizations revealed a successful synthesis of crystalline AgNPs with an average hydrodynamic diameter of 98.9 nm ± 0.3. Ciprofloxacin was also effectively loaded on the surface of AgNPs with a maximum encapsulation efficiency of 60.94 %. The in vitro releasing profile of ciprofloxacin exhibited a biphasic pattern at all study pH conditions. However, the releasing rate was pH-dependent. After loading, the susceptibility of *E.coli* against ciprofloxacin was transformed from resistant to intermediate. Therefore, this study demonstrated that biosynthesized AgNPs using Aloe camperiaqueous extract could be a potential nanocarrier for ciprofloxacin delivery to enhance its efficacy against ciprofloxacin-resistant *E.coli.*

Tamrat Balcha Balla[1,2], Nisha Mary Joseph[1], Anteneh Belete[1]*
[1]Addis Ababa University, Ethiopia
[2]Wolaitta Soddo University, Ethiopia

In Vitro Evaluation of Native Taro Boloso-I Starch as a Disintegrant in Tablet Formulations

Introduction: In drug delivery, solid dosage forms, of which tablet is the commonest, are still the leading preferences. An area of research focus in tablet drug delivery is the search for tablet excipients. This study was aimed at evaluating and optimizing native Taro Boloso-I starch as a tablet disintegrant.

Methods: The response surface methods with central composite design (CCD-RSM) was used for the analysis and optimization of the concentration of native Taro Boloso-I starch and compression force. Wet granulation method was used for the preparation of paracetamol tablets. The response variables considered were tablet crushing strength, friability and disintegration time.

Results and Discussions: Both the native Taro Boloso-I starch concentration and compression force had increasing effect on the tablet breaking force. The friability of the tablets was shown to decrease with increasing levels of the disintegrant concentration. On the other hand, compression force had a decreasing effect on friability in the investigated range. The disintegration time of the tablets was found to decrease with the concentration of the starch. The paracetamol tablets prepared with the optimized levels of native Taro Boloso-I starch and compression force showed tablet breaking force of 116.24 N, friability of 0.153%, disintegration time of 1.36 min, disintegration efficiency ratio of 562.3 N /(%Min)and comparative disintegration efficiency ratio 13.6 with respect to commercial potato starch.

Conclusions: The tablets exhibited improved crushing strength, friability, in vitro disintegration time and disintegration efficiency ratio which suggest the novel applicability of the native Taro Boloso-I starch as an efficient pharmaceutical tablet disintegrant.

Prachi Khamkar
CiREEEduTech, Pune and University of Mumbai, India

Biography

PrachiKhamkar obtained her Bachelor's degree in Pharmaceutical Science from Shivaji University. She has two years of Research experience at University of Mumbai. She is currently working as Project mentor at CiREEEdutech, Pune for Pharmaceutical Manufacturing Operations. She has guided students with Pharmaceutical background for bridging gap between industry and colleges. She has also worked as Scientific Writer at Next Big Innovation Labs, Bangalore. She has also recived first position at Gdansk Technical University, Poland for Pharmaceutical 3D Printing Polymers. Her Area of Interest includes Topical Drug delivery and 3D Printing. Received numerous awards for Scientific and Professional bodies at National and International Platforms for 3D Printing in Healthcare sector. She has published several review articles and book chapters based on 3D Printing Technology in Pharmaceutical for International Publication.

Formulation and Development of Anti-Fungal Film Forming Gel for Topical Drug Delivery

The primary goal of this research is to provide an alternate medication delivery method to the traditional topical and transdermal formulations. Our formulation also contributes toward less frequent application and longer skin-residence times. The formulation offers high medication penetration and aesthetic qualities since it sticks to your skin. Localized action is preferred and better for chronic treatment. Film forming gels have an advantage over conventional because they are semisolid as gel and also give sustained release properties like patches. We can also adjust the release kinetics and support sustained release of the drug in film forming gel formulation.

Film forming gel increase retention of gel on skin thus allowing continuous release of drug and maintaining its diffusion to the site of action. Stable film forming gel of Clotrimazole were prepared with carbapol and sepineo as a gelling agent and HPMC EM4, kollicoat IR and kollidone VA64. The gels were evaluated for pH, viscosity, spreadability, retention time, in-vitro and ex-vivo release profile and skin irritation test. The relative simplicity informulation, manufacturing, and low cost are added advantages apart from wipe off resistance, sustained release for 6 to 8 hrs, flexibility, non-tacky , adhesive and peel-able films. Patients will be more accepting of such formulations that claim to shorten the length of medication. Potential of good customer acceptance. Film-forming topical dosage forms have applications in a variety of medical situations, including wound care, scar masking, sunscreen filters, skin cancer prevention and therapy, and cosmetics

Fatima Sanjeri Dasankoppa
KLE College of Pharmacy, India

Biography

Dr. Fatima SanjeriDasankoppa, Associate Professor, Department of Pharmaceutics, KLE College of Pharmacy, Vidyanagar, Hubballi, Karnataka, INDIA.

Halloysite Nanotubes: Design, Characterization and Applications. A review

Halloysite nanotubes (HNTs) have several exciting potential applications in polymer nanocomposites. These are naturally sourced nanomaterials obtained from the mines as a natural deposit. The hollow tubular nanostructure with biocompatibility, environmental friendly and low-cost possessing makes halloysite as trendsetter in green nanotechnology. These are composed of double-layered, aluminosilicate minerals with an ultra-tiny hollow tubular structure in submicron range. The specific characteristics of HNTs lead to plentiful range of applications in environmental sciences, dye removal, anticorrosive coatings, in cosmetics, flame retardants, forensic science, etc. HNTs display remarkable thermal stability, faster adsorption rates, tuneable release rates, excellent drug encapsulation, biocompatibility, mechanical properties and ease of availability, therefore with numerous pharmaceutical applications. Nanomedical applications are gene delivery, tissue engineering, cancer and stem cells isolation and bio-imaging. My talk will focus on the detailing HNTs for its structure features, functionalization methods, drug loading and their versatile applications.

5th Edition Scholars International
Conference and Exhibition on

PHARMACEUTICS AND DRUG DELIVERY SYSTEMS

E-Poster
Day 2

Seyedeh Asal Ghavami
Shahid Beheshti University of Tehran (SBU), Iran

Biography

Asal Ghavami is the top student in the final year of the master's degree in the field of industrial microbiology at Shahid Beheshti University of Tehran. Currently, in addition to studying the subject of her thesis, which is carried out in the Tuberculosis and Pulmonary Research Department of the Pasteur Institute of Iran, she is also investigating the effects of connecting nanotubes on the connection and drug delivery of common drugs in the treatment of tuberculosis. So far, these studies have been carried out on the drugs rifampin and isoniazid, and the positive effects of nanotube attachment on drug transfer and its binding to target cells on the bacterial cell surface have been proven.

The antibiotic effects of Fluoxetine with and without nanotubes on Mycobacterium tuberculosis Efflux pumps and their expression systems

In this study, which is conducted between Pasteur Institute of Iran and Shahid Beheshti University of Tehran, the antibiotic effects of fluoxetine on Mycobacterium tuberculosis, the cause of tuberculosis, are examined. Previously, this property was investigated and proven on Staphylococcus bacteria. However,due to the significant increase in the multidrug resistance of tuberculosis bacteria to the common drugs for its treatment, the need to provide new solutions for its treatment that have few side effects is needed. In this regard, in the initial phase of the study, the bioinformatics studies of this drug and the relevant receptors, which are called efflux pumps, will be done. In this phase, finding the best receptor for the binding of drug molecules is discussed. Next, by determining the best binding angle, the drug is applied to the bacteria in a laboratory environment at the Pasteur Institute of Iran, its binding to the receptor is checked, and the behavior of the bacteria is checked after that. Next, by connecting the nanotubes to fluoxetine drug, the rate of its drug transfer to bacteria is checked. It is predicted that the binding of fluoxetine to the efflux pumps in the bacterial wall will lead to the change of their gene expression and finally the dysfunction of the bacteria and its death.

Vidhi Upadhyaya
University Bhimtal, India

Biography

Dr. Fatima SanjeriDasankoppa, Associate Professor, Department of Pharmaceutics, KLE College of Pharmacy, Vidyanagar, Hubballi, Karnataka, INDIA.

Phytochemical analysis and evaluation of leaf and root parts of the medicinal herb, Hypochaerisradicata L. For in vitro antioxidant activities

Objective: To analyse qualitative and quantitative phytochemical and evaluate in vitro antioxidant properties of various alcoholic and aqueous extracts of leaf and root parts of Hypochaerisradicata.

Method: Preliminary phytochemical analysis for alkaloids, cardiac glycosides, flavonoids, glycosides, phenols, resins, saponins, steroids, tannins, terpenoids and triterpenoids and quantitative phytochemical analysis for alkaloids, total phenolics, total flavonoids, tannins, saponins and ascorbic acid were made by following standard procedures. In vitro antioxidant properties were evaluated by assessing DPPH•, NO• and ABTS•+, radical scavenging abilities and assaying the reducing power, β-carotene and antihemolytic activities by adapting standard methods.

Results:

The quantitative phytochemical analysis of this species exhibited the presence of alkaloids, total phenolics, total flavonoids, tannins, saponins and ascorbic acid in considerable quantity. The in vitro antioxidant activity of the species, Hypochaerisradicata clearly demonstrated that both the leaf and root parts have prominent antioxidant properties.

Conclusions: From this study, it can be concluded that the species is effective in scavenging free radicals and has the potential to be a powerful antioxidant.

Negassa Feyissa Hirpa
Ambo University, Ethiopia

Biography

Mir Negassa is a veterinary microbiologist, currently working at Ambo University being lecturer, and pursuing his PhD at Addis Ababa University. He has conducted various researches and reviewed on microbiology related issues. The aim of the current meta-analysis is to determine the status of the distribution in human, domestic animals, foods and environment, and to assess the multidrug resistance pattern of MRSA in Ethiopia. The relevant data was extracted, analysed and interpreted by Negassa Feyissa under the supervision Dr. TesfayeAlemu, Dr. AsnakeDesalegn, and Dr. DagimJirata who are professors at Addis Ababa University, and his PhD advisors.

The Distribution and Drug Resistance Characteristics of Methicillin ResistantStaphylococcus aureous to be Public and Animal Health Burdon in Ethiopia:Meta-Analysis

The current meta-analysis was aimed to analyze the prevalence rate of MRSA in S. aureus isolates from different sources of samples in Ethiopia. The multidrug resistance pattern of the pathogen was also one of the outcome of interest of the analysis.The data for the current study were extracted from original research articles published in journals indexed in PubMed databases, accessed online from 12th to 14th December 2021, whose pdf were freely downloadable,English language articles,and conducted on MRSA prevalence in Ethiopia.The data were displayed on Excel spreadsheet, coded, exported to R statistical software andthe pooled prevalence of MRSA was calculated per S. aureus isolates and analyzed at 95% CI. Accordingly, 79 eligible articles were selected for the meta-analysis. The result of the study revealed that 26930 samples have been collected from different specimens of which4219 (15.65%) were S. aureus positive. Of the total S.aureus,1695 were found MRSA strains and the overall pooled prevalence of MRASA perS. aureusisolates was 40%. In terms of the sources of the specimen, the pooled prevalence of MRSA in human, animal, food and environment were 38%,15%,77%,and 54% respectively and itwas significantly higher in food and environment than in animal and human samples ($p<0.05$). The analysis also showed thatthat MRSA was highly prevalent in patients than in health people ($p<0.05$). Furthermore, the study revealed that MRSA was highly resistant to cefuroxime (100%), Tobramycin (100%), Neomycin (99%) and Penicillin (92%), Pipracilin (91%), Erythromycin (88%), Bacitracin(84%)and Amoxacilin-clavulanicacid (80%). However, clindamycin (21%), chloramphenicol (22%), Amikacin (27%), vancomycin (20%), Knamycin(25%) and Ceftriaxone (30%)were antibiotic of relatively better effective against MRSA. .

Md. Waresul Islam
University of Asia Pacific (UAP), Bangladesh

Biography

Md. Waresul Islam endeavors to apply his accumulated experience in the field of Quality Assurance to ensure that, quality is maintained during the developing, manufacturing, testing, storing and distributing of any pharmaceutical dosage form. So that, humans of the world can get a quality medicine to cure from diseases. The aim of his studies is to obtain quality pharmaceutical products through vigorous monitoring and testing at every processing stages of any drug product.

Acceptance Quality Level (AQL): A useful technique for defect identification and improve productivity

The study on Acceptable Quality Level (AQL) says how many defective components are considered acceptable by random sampling during production of any pharmaceutical dosage form. It is usually expressed as a percentage or ratio of the number of defects compared to the total quantity and based on it the company can assess whether their product is meeting the desired quality standard about the physical condition of their manufactured products. If the product failed this AQL test then the company can take necessary CAPAs through QMS investigation, solve the problem permanently and; thereby can ensure patients safety, eliminate the chances of customer complaint about the product, and can create a positive impression among customers. ANSI (American National Standards Institute), Military Standard 105 E etc. have outlined several sampling techniques about AQL process to make it more accurate, which assures the manufacturers about their products physical quality and thereby meet the customers' reliability. To make the AQL sampling process effective, the defects of pharmaceutical products are being classified into three (03) categories: Critical defect (causes serious adverse reaction or death of a patient), Major defect (causes risk of temporary impairment or medically reversible reaction or involve a remote probability of serious adverse reaction) and Minor defect (do not impact product performance or compliance, they are often cosmetic in nature affecting only product appearance or pharmaceutical elegance).According to Military Standard 105 E, there is an Acceptance number for different lot sizes for each type of defect; if any defect (irrespective of category) goes outside of the acceptance number then the subject lot is considered as rejected. This type of rejection dictates the company to investigate the root cause of the failure, which may happen due to manufacturing process/starting material/process equipment/environmental/formulation/ cleaning/ human etc. related issues. .

Upcoming Conferences

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March 27-28, 2023 | London, UK
https://scholarsconferences.com/neuroscience/
neuroscience@scholarscongress.org

2nd Edition Scholars International Webinar on
Optics, Photonics and Lasers
March 27-28, 2023 | London, UK
https://scholarsconferences.com/optics-photonics-lasers/
optics@scmeet.org

2nd Edition Scholars International Conference on
Physics and Quantum Physics
March 27-28, 2023 | London, UK
https://scholarsconferences.com/physics/
david@scmeetings.org

Scholars Frontiers in **Nanoscience and Nanotechnology Congress**
March 27-28, 2023 | London, UK
https://scholarsconferences.com/nanoscience-nanotechnology/
nanotek@scmeet.org

5th Edition Scholars Frontiers in **Chemistry Forum**
March 29-30, 2023 | London, UK
https://scholarsconferences.com/chemistry-frontiers/
dileep@scholarsconferences.com

4th Edition Scholars International Conference on
Catalysis and Chemical Engineering
March 29-30, 2023 | London, UK
https://scholarsconferences.com/catalysis-frontiers/
catalysis@scmeetings.org

Global Summit on **Oil, Gas, Petroleum Science and Engineering**
March 29-30, 2023 | London, UK
https://petroleumscienceconference.com/
organizer@petroleumscienceconference.com

Scholars World Congress on **Material Science and Engineering**
June 19-20, 2023 | Paris, France
https://materialssciencemeet.com/
organizer@materialssciencemeet.com

World Biopolymers & Polymer Chemistry Congress
June 19-20, 2023 | Paris, France
https://polymerscience.scholarsconferences.com/
biopolymers@materialssciencemeet.com

6th Edition World Congress on
Drug Delivery and Nanomedicine
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