Two-Day National Conference on

Automation, IT and Advancements in Pharmaceutical Sciences (ICAAPS - 2022)

July 22 - 23, 2022

CONFERENCE PROCEEDING

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Dr. S. M. Habibur Rahman

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PSG COLLEGE OF PHARMACY, COIMBATORE-04

Co- sponsored by:

National Conference on Automation, Information Technology and Advancements in Pharmaceutical Sciences (ICAAPS – 2022)
22nd and 23rd July 2022
Scientific Program

Time	22.07.2022, Friday Event		
09.30 – 10.30 am	Registration and Inauguration		
10.45 – 01.00 pm	**Key note address on the theme** **Automation, Information Technology and Advancements in Pharmaceutical Sciences** **Chair: Dr. K. Elango,** Professor, Karpagam Academy of Higher Education and Research, Coimbatore **Dr. V. Ida Christi,** Professor and HOD, PSG college of Pharmacy **Regulatory Perspective** **Speaker: Dr. B. Jayakar,** EC member, PCI, New Delhi and Registrar, Vinayaka Mission's Research Foundation, Salem **Industrial Perspective** **Speaker: Dr. B. Darshit Shah,** Intas, Ahmedabad **Academic Perspective** **Speaker: Dr. M. Ramanathan,** Principal, PSG college of Pharmacy, Coimbatore		
01.00 – 02.00 pm	Lunch Break		
02.00 – 04.00 pm	Hall - 1	Hall - 2	Hall - 3
Theme	Bio drugs, Bio-molecules and Therapeutics	Artificial Intelligence and Data Science	Stem cells and Stem cell Therapy
	Chair: **Dr. K. Bhuvaneshwari** Professor and HOD, PSG IMSR, Coimbatore **Dr. A. Justin** Associate Professor, JSS College of Pharmacy, Ooty **Speakers:** **Dr. Damodaran Solai Elango** Clinical development medical director, Novartis, Hyderabad **Title: Biologics drug development: Focus on biosimilars** **Dr. Rani** Professor, Department of Biotechnology, PSG College of Technology, Coimbatore **Title: Design and development of a brain presenting peptide–drug conjugate targeting Alzheimer's disorders-An in-silico approach** **Dr. Irfan Tamboli** Senior Scientific Manager, Innoplexus consulting services, Pune, Maharashtra **Title: Blockchain technology in pharmaceutical sciences**	**Chair:** **Dr. M. Alagappan** Assistant Professor, PSG college of Technology, Coimbatore **Mr. S. Karthikeyan** Assistant Professor, PSG College of Pharmacy, Coimbatore **Speakers:** **Dr. Karthika Renuka** Associate professor, PSG college of Technology, Coimbatore **Title: Privacy-preserving blockchain based electronic health records using zk- SNARK's** **Dr. Kabila B** Lead - Medical affairs, HCL Technologies, Chennai **Title: Optimizing the real-world applications of healthcare innovations – Demanding need for medical affairs** **Dr. Abdul Khayum K** Clinical Pharmacologist, Credo Health Services, Bengaluru **Title: Role of AI and data science in Healthcare industry – Ushering a new era of precision care**	**Chair:** **Dr. Madhulika Vijayakumar** PSG Hospitals, Coimbatore **Dr. P. Rama** Associate Professor, PSG College of Pharmacy, Coimbatore **Speakers:** **Dr. Shinto Francis Thekkudan** Senior consultant and Chief-Clinical hematology and hemato-oncology, Baby Memorial Hospital, Kerala **Title: Stem cell transplantation** **Dr. Mettu Srinivas Reddy** Director-Liver transplantation and HPB Surgery, Gleneagles Global Hospital, Chennai **Title: Stem cells in liver diseases** **Dr. Prathab Balaji Saravanan** Assistant Director, Human Lee Islet Transplant lab, VCU Health, Richmond, Virginia, USA **Title: Role of exosomes and miRNAs in islet transplantation**
04.00 – 05.00 pm	Poster Evaluation		

23.07.2022, Saturday			
09.00 – 10.00 am	Poster Presentation		
10.00-12.00 pm	Hall - 1	Hall - 2	Hall - 3
Theme	Pharmacovigilance, Drug safety, Regulatory affairs and IPR	Advancements in Pharmaceutical sciences	Personalization of Medicine and Prescription Monitoring
	Chair: **Dr. V. Siva Kumar** HOD and Professor, PSG College of Pharmacy, Coimbatore **Dr. B. Kabila** Lead Medical Writer, HCL Technologies, Chennai **Speakers:** **Dr. Venkateswara Rao Sunkavalli** Lead Safety Science Specialist, Lab Corp Drug Development, Bengaluru **Title: Patient safety tomorrow** **Dr. Potrilingam D** Narrative Writer, Novartis, Hyderabad **Title: Evolving role of pharmacist in the transforming pharmaceutical industry** **Dr. Sandhiya V** Pharmacovigilance Scientist, Lab Corp Drug Development, Mumbai **Title: Data handling in clinical trials-General overview and relevant opportunities-Perspective of a clinical reviewer**	**Chair:** **Dr. V. Sankar** Vice Principal, PSG College of Pharmacy, Coimbatore **Dr. A. Mohathasim Billah** Professor, Thanthai Roever College of Pharmacy, Perambalur **Speakers:** **Dr. Ponpandian N** Professor, Department of Nanotechnology, Bharathiar University, Coimbatore **Title: IOT based Nano biosensors** **Dr. Sivakumar Kannan** Manipal Academy of Higher Education, Mangalore, Karnataka **Title: Advancements in Pharmaceutical sciences – A sport pharmacist** **Dr. S. M. Habibur Rahman** Professor/In Charge of Research Activities, PSG College of Pharmacy, Coimbatore **Title: Lipid nanoparticles – Advancements and Machine Learning approaches**	**Chair:** **Dr. Prudence A Rodrigues** Professor, PSG College of Pharmacy, Coimbatore **Dr. Abdul Khayum** Clinical Pharmacologist, Credo health services, Bengaluru **Speakers:** **Dr. Naveen R N G** Clinical Pharmacist, Oncology department, PSG Hospitals, Coimbatore **Title: Personalization of medicine in cancer** **Dr. Vithunes Sriramalu Manivannan** Regulatory Reporting – Clinical Trials, IQVIA Pharmaceuticals, Ireland **Title: Regulatory affairs in clinical trials- An overview** **Dr. Seema Anjum** Narrative writer, Novartis, Hyderabad **Title: Importance of regulatory writing in drug approval: Role of pharmacist**
12.00 – 01.00 pm	Poster Evaluation		
01.00 – 02.00 pm	Lunch Break		
02.00 – 04.30 pm	**Group activity-Theme wise** **Open Session** **Concluding Remarks** **Recommendations to Regulations** **Participants: All Speakers** **Moderator: Dr. S. M. Habibur Rahman,** Professor/ In Charge of Research Activities, PSG College of Pharmacy, Coimbatore		
04.30 pm	**Valedictory Function** **Merit Certificate Distribution**		
05.00 pm	**High Tea**		

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ABOUT OUR CHIEF GUESTS

Dr. J. Venkateswaran, M.Pharm, PhD

Assistant Division Manager
Aurolab, Aravind Eye care system
Madurai

Dr. J. Venkateswaran is the Assistant Division Manager of Aurolab, a not for profit manufacturing arm of Aravind Eye Care System, Madurai. He worked as a quality control chemist at Aurolab and promoted as a Quality Assurance manager in the Pharmaceutical Division of Aurolab. He completed his master degree in Pharmacy and PhD at Dr. M.G.R Medical Univesity, Chennai. He has engaged in various functions of sterile ophthalmic products production, procuring of Active Pharmaceutical Ingredients and excipients and new products development in Aurolab. Pharmaceutical division like drug control licensing activities, design and development of drugs, Quality management system implementation of GMP, CGMP and ISO activities, drug product registration in various countries, complaints handling, Product disposal, purchasing activities and drug product release.

Dr. B. Jayakar, M.Pharm, PhD

Executive member, PCI, New Delhi
Registrar – VMRF, Salem

Dr. B. Jayakar M.Pharm, PhD, is currently the registrar, Vinayaga Missions Research Foundation, Salem. He is also Principal, Vinayaga Missions College of Pharmacy. He is also Executive member of Pharmacy Council of India. He was graduated from Madurai Medical College, Madurai Kamaraj University in 1982 and achieved IDMA Gold medal. He completed Masters Degree in Pharmaceutical Analysis in 1986 from Nagpur University and PhD from 2002 from The Tamilnadu Dr. M.G.R. medical University, Chennai. He functioned as the Chairman for B Pharmacy Syllabus Committee. He is an Ex Officio member in NIPER. He is a PCU Nominee for scrutiny, Pharmacy Council of India. He has received Best Pharmacist Award. To his credit he has published over 134 publications in peer reviewed journal on Pharmaceutical Sciences and Technology.

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ABOUT OUR GUEST SPEAKERS

Dr. Damodaran Solai Elango
Clinical Development Medical Director
Novartis, Hyderabad

Dr. Damodaran is pharmaceutical physician working with Novartis, Hyderabad as Clinical Development Medical Director. He completed MBBS from Madras Medical College and MD (Pharmacology) form JIPMER, Puducherry. His research dissertation was on pharmacogenomics of breast cancer therapy. After completing MD, he worked as a Senior Resident at Dept. of Clinical Pharmacology, ACTREC, Tata Memorial Centre, Mumbai, where he worked on pharmacokinetic studies and therapeutic drug monitoring. Later he worked as an Investigator for bioequivalence studies in a CRO and as a Field-based Medical Advisor for a pharmaceutical MNC. He has been with Novartis for the last 6 years and in his current role, he works on clinical development programs for communicable diseases.

ABSTRACT:

Biologics drug development: Focus on biosimilars

Biologics or biopharmaceuticals refers to any pharmaceutical drug product manufactured in, extracted from, or semi-synthesized from biological sources. Biologics can be composed of sugars, proteins, or nucleic acids or complex combinations of these substances, or may be living entities such as cells and tissues. Among the biologics, monoclonal antibodies (mAbs) are an important class of therapeutics and are developed for the treatment of a broad range of diseases including cancer, immunological disorders, and infectious diseases. Unlike small molecules, ‘generics’ cannot substitute the innovator mAbs due to the complexities in developing a biological product. The follow-on biologics are termed ‘Biosimilars’ as it is comparable to an already approved biotechnological product in terms of quality, safety and efficacy, but exactly same as the approved biologic. Biosimilars makes the therapies affordable and accessible for patients, and offer cost savings for healthcare organizations. However, development of biosimilars is challenging, as it needs to establish similarity to the innovator biologic and meet stringent regulatory requirements.

Dr.Rani Palaniswamy
Professor, Department of biotechnology
PSG College of Technology

Dr.Rani Palaniswamy, Professor, Department of biotechnology, PSG College of Technology, Coimbatore. She completed her B.Sc and M.Sc in biochemistry from Bharathiyar University, Coimbatore; M.Phil in the same from Avinashilingam deemed University, Coimbatore; Ph.D in selenium biochemistry from IIT, Madras and PDF in protein engineering from IIS, Bangalore. She has teaching experience of 20+ years as lecturer in department of biotechnology. She has a research experience of 34 years on various biological principles. She has lifetime membership in Indian Academy of neuroscience, Lucknow, Bioinformatics Institute of India, Noida; Society of biotechnologist, Cochi and more boards. Her external grants sum up to over 400 lakhs. To her credit she has done 25 national and international papers published and 18 national conferences.

ABSTRACT:

Design and development of a brain penetrating peptide-drug conjugate targeting Alzheimer's disorders – An in silico approach

R Rajalingam and P Rani, Department of Biotechnology, PSG College of Technology, Coimbatore

Brain related disorders are facing a rising concern due to their complexity in understanding the disease pathogenesis and their therapeutics targeting the disease. Therapeutics targeted to brain mostly don't reach the brain parenchyma, instead they accumulate in the systemic circulation owing to their inability of crossing the Blood Brain Barrier (BBB) and reaching the brain lumen. This has led to the decreased therapeutic potential of the currently available drugs in the treatment of brain disorders such as Alzheimer's and Parkinson's. In this regard, many strategies have been explored and employed in the treatment of the disease and prevention of its progression. One feasible approach is the usage of peptides in targeting the drug molecule to the brain parenchyma. Peptides are stretch of few amino acids that can be used a shuttle in targeting the drug for brain disorders. In this aspect, this work focuses on the in-silico design and development of a peptide drug conjugate that effectively targets the blood brain barrier for its abluminal delivery of the therapeutic molecule. Extensive literature survey for the search of BBB targeting peptides and the choice of mechanism of transport was performed to collect the entire lists of peptides that were reported to target BBB along with their corresponding mechanisms. Receptor mediated transport was chosen to be the mechanism and the receptor chosen for the in-silico studies was Transferrin Receptor. With this information, the list of peptides and their binding site were found using global docking servers to verify the binding site of the peptides is non-competitive to avoid competition in the iron homeostasis with regard to the transferrin receptor. After docking studies, the interacting residues were identified and a match was performed to find if any of the peptides have interacting residues in the active site of Transferrin receptor. The peptides were then linked to the therapeutic molecule (here a peptide inhibitor of RAGE receptor) using a peptide linker and another global docking was performed to analyze if there were any changes in the binding properties upon linker and therapeutic peptide addition and its interaction as well. The complete peptides (based on the interaction after linker and therapeutic peptide addition) were analyzed and shortlisted for Molecular Dynamics Simulation and in-silico pharmacological properties evaluation.

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Dr.Irfan Tamboli
Senior Scientific Manager
Innoplexus consulting service
Pune

Dr.Irfan Tamboli, Senior Scientific Manager in Innoplexus consulting service, Pune, Maharashtra has completed his B.Sc and M.Sc in Pune University and Ph.D in biochemistry in Bonn University, Germany. He has worked as senior scientific manager in innoplexus consultant, Pune; Team leader in Jai research foundation,Vapi;Assistant professor in department of biotechnology,Savitribai Phule Pune University and Research officer in Unilever Research laboratories,Bangalore. He has taught various courses at graduate and undergraduate level at USA, Germany and India. He has got over 15+ Peet reviewed published manuscripts;over 3 patents in USA;conference and also has published chapter in book. He has received grant role for principal investigator; Best publication award, German Neuroscience society award, Alzheimer society award, Merit award from various firms and boards.

ABSTRACT:

APPLICATIONS OF AI/ML IN DRUG DELIVERY

Artificial Intelligence (AI) refers to systems or machines that simulate human intelligence. Multiple types of method domains, such as reasoning, knowledge representation, solution search, data science contribute to Al development, and, among them, a fundamental paradigm of machine learning (ML). ML algorithms recognize and learn patterns within a set of data which enables predictions and decision making. Al has been increasingly used in diverse aspects of day-to-day life to broader areas of industrial applications. Applications of Al in the pharmaceutical industry pertaining to the field of drug discovery and development will be discussed. Particularly, focus will be on the state-of-art platforms built by Innoplexus Consulting Pvt. Ltd. that enhance the efficiency, accuracy, decision making and reduce manual efforts and time throughout the life-cycle of drug discovery and development process. Ontosight platform that makes use of self-learning ontologies and Al offers real-times and highly relevant insights to accelerate drug discovery as well as provides algorithm-based collation and aggregation of competitive and regulatory intelligence. Moreover, targeted pipelines/ tools that aid target identification, phenotypic drug discovery, biomarker discovery, drug repurposing, antibody engineering, clinical trial optimization and prediction will also be discussed briefly.

Dr. D. Karthika Renuka
Professor
Departmentof IT
PSG College of Technology

Dr. D. Karthika Renuka (Dhanaraj Karthika Renuka) is Professor in Department of Information Technology in PSG College of Technology. Her professional career of 18 years has been with PSG College of Technology since 2004. She is an Associate Dean (Students Welfare) and convenor for Students Welfare Committee in PSG College of Technology. She is a recipient of Indo-U.S. Fellowship for Women in STEMM (WISTEMM)-Women Overseas Fellowship program supported by the Department of Science and Technology (DST), Govt. of India and implemented by the Indo-U.S. Science & Technology Forum (IUSSTF). She was a Postdoctoral Research Fellow from Wright State University, Ohio, USA. Her area of specializations includes Data Mining, Evolutionary Algorithms, Soft Computing, Machine Learning and Deep Learning, Affective Computing, Computer Vision. She has Organized an International Conference on Innovations in Computing Techniques Jan 22- 24, 2015 (ICICT2015) and National Conference on “Information Processing and Remote Computing” 27th and 28th February 2014 (NCIPRC 2014). Reviewer for Computers and Electrical Engineering, Elsevier, Wiley Book chapter, Springer Book Chapters on "Knowledge Computing and its Applications". She is currently guiding 7 research scholars for their Ph.D under Anna University. She has published several papers in reputed National and International journals and conferences.

ABSTRACT:

Privacy-Preserving Blockchain-based Electronic Health Records using ZK-Snarks

An Electronic Health Record (EHR) is a digital format of a patient's medical history including progress notes, problems, medications, vital signs, past medical history, immunizations, and laboratory data. As with any online digital format, concerns of breach exist. Likewise, EHR information is subject to considerable security and privacy issues these days. This paper has designed a secure decentralized medical blockchain to solve privacy and security issues when exchanging patient health care data with different organizations. Previous sophisticated techniques dealing with the protection of EHRs usually make data inaccessible to patients. These techniques struggle to balance data confidentiality, patient demand, and constant interaction with provider data. Blockchain technology solves the above problems since it distributes information in a transactional and decentralized manner. The proposed framework is a blockchain security framework (BSF) to effectively and securely store and keep EHRs. Moreover, the patients feel insecure about their data being shared and they do not prefer to choose EHR. Ensuring privacy can promote more effective communication between physician and patient, which is essential for quality of care, enhanced autonomy, and preventing economic harm. To ensure this, we present an authentication scheme based on Non-Interactive Zero-Knowledge Proof that is lightweight enough to run on medical health devices with minimal resources to address this issue. Zero-Knowledge Proof is about proving something without revealing the data behind that proof. It presents a safe and proficient means of acquiring medical information for doctors, patients, and insurance agents while protecting the patient’s data. This work aims to examine how our proposed framework meets the security needs of doctors, patients, and third parties and how the structure addresses safety and confidentiality concerns in the healthcare sector. Simulation outcomes show that this framework efficiently protects EHR data which can be used in medical field in future.

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Dr. B. Kabila
Lead – Medical Affairs
HCL Technologies, Chennai

Dr. Kabila completed her Doctor of Pharmacy from PSG College of Pharmacy. A professional medical writer in the medical device industry stands familiar with medical terminology and concepts and possesses versatile and strong written communication skills to create the regulatory documents. Has scientific and research skills to manage the wide ranging clinical evidence required for product approval or renewal. Produced an ample number of high-quality technical documents in various therapeutic areas and formats and has collaborated across diverse cross functional teams. Endorse current knowledge of industry trends and standards to serve as a creditable resource and an asset to an organization. A significant scaling up of expertise with diligence and integrity aided me to grip the leadership in an industry-leading organization. She is currently working as Lead – Medical Affairs in HCL Technologies, Chennai.

ABSTRACT:

Optimizing the real-world applications of healthcare innovations – Demanding need for medical affairs

Healthcare innovations are new or improved solutions withthe transformative ability as these ever-increasing advancements accelerate the positive health impact. Real-world applications of innovative products have thepotential to unlock actionable healthcare insights nottypically garnered from controlled clinical investigationsand unveil the actual benefit and risk. It imposeschallenges that make it difficult to drive transformation inthe clinical practice. Medical affairs, one of the strategicpillars of the healthcare industry, with the scientific andclinical expertise, plays a vital role in the generation,evaluation, andcommunication of scientific evidence toappropriately optimize the real-world use of any innovativedrug or device to benefit patients. The strategic decision-making starts from the development phase and continuesto the lifecycle management of the products. The pharmacurriculum offers a blend of scientific knowledge withclinical expertise, and a basic understanding of theregulatory framework enable the graduate to fulfill thecrucial requirements of medical affairs.

Dr. Abdul Khayum
Clinical Pharmacologist
Credo Health Services
Bengaluru

Dr. Abdul Khayum K is currently working as Clinical Pharmacologist in Credo Health Services, Bengaluru. He completed his PhD in Pharmacology from The Tamil nadu Dr. MGR Medical University, Chennai. He has completed 11 projects and has 8 ongoing projects. He holds 10 publications. He worked as an Assistant Professor in Karpagam University. He attended various International and National conferences, FDP and CME Programmes. He is also a good sports personality.

ABSTRACT:

Role of Artificial Intelligence and Data Science in Healthcare Industry – Ushering a New Era of Precision Care

Abdul Khayum K, Bindu Charles, Bhavani Sundari B, Prabha Raj, Dinesh Babu, Kalpana Anbalagan, Murugabalaji, Ganesh Prabu, Chakravarthy Mazumdar, Anju Ramachandran
Pillai, Rajkumar Channabasavaiah , Credo Health Services Pvt Ltd, Bangalore

Artificial intelligence and data science plays a vital role in modern healthcare Industry. It requires technical skill to perform data processing, analysis, and visualization in multiple real-time applications. At Credo Health, we provide intelligent chronic disease management solutions catering to diseases like type 2 diabetes, hypertension, obesity, chronic kidney disease and cardio-vascular diseases. Our technology enables us to predict, prevent, delay and reverse chronic disease conditions.

Credo uses technologies to collect biomarkers using sensors such as CGM (continuous glucose monitoring) to continuously monitor interstitial glucose levels in patient for 14 days. Additionally, we also study the impact of other parameters such as activity levels, sleeping hours, water and nutritional intake including macro-and micronutrients on the glycaemic levels of the patient. Data analytics provides futuristic values and outcomes in glycaemic levels for the individual member. Credo also uses advanced technologies like OCR (Optical character recognition) technique to capture data from the medical prescriptions and reports as well. AI computes vital information provided by patients to predict health and future risk scores thus suggesting changes in diet and lifestyle which subsequently minimizes the modifiable risk factors in patients. Credo health has mapped specific algorithms such asspeech and image recognition technology to cumulate, document and analyze the nutritional pattern and depicts patients' emotional status. Credo health assist chat bot aids in assisting patients with simple rudimentary queries to sophisticated levels of personalized responses.

The advent of AI and data science has a complete transformation in the traditional Healthcare industry. The AI technology in medicine mixed with mobile application is helping to organize precise treatment plans for patients.

Dr. Shinto Francis Thekkudan

Chief & Senior Consultantof the Department of Clinical Hematology, Hemato-Oncology and BMT, Baby Memorial Hospital, Calicut, Kerala

Dr. Shinto Francis has basic training in clinical medicine (MD) followed by Doctorate (DM) in Clinical Hematology. He has worked and got trained at various prestigious institutes across the country like Christian Medical College (CMC), Vellore; Sanjay Gandhi Post Graduate Institute (SGPGI), Lucknow and Rajiv Gandhi Cancer Institute (RGCI), New Delhi. He was trained in procedures including bone marrow study, lumbar puncture, line insertions and has adequate thorough exposure in routine laboratory diagnostic methods in hematology. In pursuit of advanced training in stem cell transplantation and CART therapy, he attended training in the Stem Cell Department at the MD Anderson Cancer Centre, Houston, Texas as the recipient of the prestigious Indo-American Cancer Association Fellowship. He was also fortunate to get selected into the coveted American Society of Hematology - Visitor Training Program scholarship award to get trained in Stem Cell Transplantation at University Hospitals Seidman Cancer Center, Cleveland, Ohio and Cleveland Clinic, Ohio. He has also presented multiple papers in many national as well as international conferences along with publications in indexed journals as given below. Also,he got selected for the LEUKA - European School of Hematology - International Scholarship to attend and present my oral paper at the 20th Annual John Goldman Conference on Chronic Myeloid Leukemia at Miami, Florida, USA. Presently, he is serving as Chief & Senior Consultant of the Department of Clinical Hematology, Hemato-Oncology and BMT at Baby Memorial Hospital, Calicut, Kerala, India.

ABSTRACT:

STEM CELL TRANSPLANTATION

Hematopoietic Stem Cell Transplantation (HSCT), also known as Bone Marrow Transplantation (BMT), is a procedure to treat life threatening blood, immune and genetic disorders. Basic idea of hematopoietic stem cell transplantation is to eradicate diseased marrow/immune system and in that process damaged cells are replaced by healthy one. In 1969 Dr Donnell Thomas and his team at the University of Washington in Seattle performed the first BMT to a leukemia patient from a matched sibling donor. Ever since then, there is huge amount of research and development happening in the field of HSCT. There are mainly 2 types of HSCT: Autologous stem cell transplantation and Allogenic stem cell transplantation. As the name implicates, in autologous transplant patients own hematopoietic stem cells are used, after achieving disease remission. Basic principle of an autologous SCT is that a chemo-responsive tumour with good initial response to chemotherapy may relapse ultimately. So, a high dose chemotherapy regimen that exceeds marrow tolerance is given, followed by an autologous stem cell rescue. It utilizes multiple agents active against the disease, including those different than used in the induction regimen. Autologous SCT are usually done for diseases like lymphomas, myelomas, solid tumors like neuroblastoma, germ cell tumors etc. In allogeneic stem cell transplantation, cells from another person/donor who is a close genetic match, which can either be a fully matched sibling donor, fully matched unrelated donor, matched cord blood stem cells or even a half-matched or haplo-identical parent or sibling. Allogeneic SCT are utilised in curing conditions including leukemias, myelodysplastic syndromes, myeloproliferative disorders, certain lymphomas and benign disorders like Thalassemia, aplastic anemia, and immunodeficiency disorders. Only 20-25% of patients will have a matched related donor (10/10 allele match) for transplantation. So, probability of finding a matched unrelated donor (MUD) in the worldwide registries increases the available donor pool. Recently Chimeric Antigen Receptor T cell (CART) therapy has also been added to the therapeutic armamentarium in the treatment of hematological malignancies.

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Dr. Mettu Srinivas Reddy MS, DNB, FRCS, PhD
Director,Liver Transplantation & HPB Surgery
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Dr. Mettu Srinivas Reddy completed his MBBS from JIPMER, Pondicherry, MS from Postgraduate Institute of Medical Education & Research, Chandigarh, FRCS from Royal College of Edinburgh and Doctor of Philosophy from University of Sunderland, UK. He is the Council member- Liver Transplantation Society of India, Lead for LTSI Organ Donation Task Force, Editor for LTSI Newsletter 'LiveReport'and Member of Vanguard committee of iLDLT. He holds nearly 115 Scientific Publications. He is currently serving as Director, Liver Transplantation & HPB Surgery, Institute of Liver Disease& Transplantation, Gleneagles Global Hospital & Health City, Chennai.

ABSTRACT:

Stem cells in liver disease- Current status and challenges

Liver has a high potential for regeneration and can completely recover after an acute insult such as viral infections, drug toxicity or major liver surgery. However, prolonged liver injury or a very severe injury can overwhelm the regenerative capacity of the liver leading to liver failure and death if left untreated. Currently, liver transplantation is the only means of treating such patients. While liver transplantation has exceptional success rates, the need for major surgery and shortage of donor livers means that it is not universally accessible. Stem cell-based therapies to repair renew or regenerate the damaged liver can significantly reduce the need for liver transplantation and save millions of lives every year. Liver based stem cell research has grown from 2D cultures, 3D cultures to hepatic organoids with potential uses in studying the physiology and pathophysiology of the liver, drug discovery and treatment of several liver based disorders. Currently, research is ongoing to evaluate the role of stem cell based therapies in the management of acute liver failure, liver failure after major liver surgery, monogenic metabolic liver diseases and chronic liver failure. However there remains a large gap between success in the laboratory and ultimate clinical use. The roadblocks to successful stem cell treatment of liver based disorders and the potential pathways to success are presented.

Dr. Prathab Balaji Saravanan
Assistant Director, Human Lee Islet Transplant Lab
VCU Lab, Richmond, Virginia, USA

Dr. Prathab Balaji Saravanan, completed his Doctor of Philosophy in Bio-Technology, Center for Research, Anna University, Tamil Nadu. He is a member of The Transplantation Society (TTS), American Society of Transplantation (AST) and Virginia Academy of Science. He served as an NIH grant review panel member for the RFA-DK-21-016 and also as Chief Judge for Microbiology and Cell biology study section in Virginia Junior Academy of Science (VJAS) 78th Annual Research Symposium 2019. Editorial and active peer reviewed member of 15 Journals. Reviewed 32 scientific manuscripts, Published 14 research articles and has 32 scientific conference abstract publications. He also presented 13 oral presentations in International conferences. Presently serving as Assistant Director, Human Lee Islet Transplant Lab, VCU Lab, Richmond, Virginia, USA.

ABSTRACT:

Role of exosomes and miRNAs in islet transplantation

Islet transplantation is an appropriate treatment option for the restoration of normoglycemia and good quality of life in patients with brittle type 1 diabetes (T1D) and chronic pancreatitis. However, the achievement of desired islet transplant outcomes is highly compromised due to various factors. During transplantation, isolated islets suffer rapid ER stress before it progresses to dysfunction or cell death. In these early stress conditions, the highly active endoplasmic reticulum (ER) experiences a malfunction, which results in the accumulation of unfolded protein responses (UPRs) Further, ER also plays a crucial role in exosome biogenesis. Exosomes are nanoparticle-sized extracellular vesicles derived from cells under normal or differed physiological conditions. The content of the exosomes is enriched by proteins, metabolites, and nucleic acids, which are specific to cells or tissues. They are capable of performing specific local and distant cellular responses. Islet cells release exosomes and exosomal miRNAs as representative molecules during various stress and damage conditions. Hence, it is likely that undesirable signals due to Islet ER stress are transferred to the circulation via exosomal proteins and miRNAs.

In our previous study, we isolated the peritransplant plasma exosomes from the islet transplant recipient's blood and also from mice models of islet transplantation and investigated our panel of exosomal miRNAs expression and its clinical significance in islet transplantation. Identification and characterization of these exosomal biomarkers specific to islet stress and the damage is key to understanding the mechanism behind the islet graft failure and also, helps to develop therapeutic strategies to improve graft function.

Reference:

- Saravanan PB, Vasu S, Yoshimatsu G, Darden C, Wang X, Gu J, Lawrence MC, Naziruddin B. Differential expression and release of exosomal miRNAs by human islets under inflammatory and hypoxic stress. Diabetologia. 2019 October
- Saravanan PB, Kanak MA, Chang CA, Darden C, Yoshimatsu G, Lawrence MC, Naziruddin B. Islet damage during isolation as assessed by miRNAs and the correlation of miRNA levels with posttransplantation outcome in islet autotransplantation. Am J Transplant. 2018 April

The general outline of the talk:

- Introduction (Islet transplantation)
- Types of islet transplantation (Allogenic vs Autologous)
- Various steps in clinical islet isolation
- Factors affecting islet transplantation
- Need for exosomes and miRNA biomarkers

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Dr. Venkateswara Roa Sunkavalli
Lead Safety Science Specialist
Lab Corp Drug Development, Bengaluru

Dr. Venkateswara Roa Sunkavalli working as a Lead safety science specialist at Labcorp drug development, Bengaluru. He has 7 years of working experience in the field. Previously he worked as Senior Safety Science Specialist at Covance Pharmaceutical Services in Bangalore and as Medical services senior analyst (SUSAR safety scientist) at Accenture Solutions, Chennai, Clinical Pharmacist at GKNM Hospital, Coimbatore. He received 5 ACE awards in Labcorp. Awarded star of Business. Awarded second prize in a Paper presentation entitled Pharmacovigilance 2020 at Accenture solutions. Delivered more than 20 process-related presentations to the project team. Conferred the TN Dr.M.G.R University Gold Medal. Awarded Gold Medal for Best Academic Performance by PSG College of Pharmacy, Coimbatore. He has done many research publications and conferences.

ABSTRACT:

PATIENT SAFETY TOMORROW

Innovation and advent of technology plays a key role in the patient safety and expedited approval of drugs, vaccines and devices resulting in improved patient safety. Information technology is paramount in clinical trials, regulatory and data handling. Pharmacovigilance and medical device safety involves handling of humongous patient safety data, data entry, multiple follow ups, product complaints, medication errors reports. However, recent health care dynamics, need for emergency use medications and vaccines resulted in need for faster analysis of safety data due to regulatory obligations. Hence automation and data analytics is cognizant in patient safety which reduces time taken to process adverse event information and decreases cost of case processing and line listings. Over 75% of clinical research organizations, pharmaceutical and medical device corporates are ramping up their investments to promote automation in patient safety which is a win-win model in terms of case handling costs and turnaround time to meet demanding regulatory requirement. Automation in patient safety is also aimed at reducing duplication and error rate. Handling patient data with multiple events and medical records is tiresome for the workforce. However, automation of components in pharmacovigilance reduces efforts and improves quality of data submitted to regulatory authorities. A survey conducted by a multinational company, revealed that the management of the pharmaceutical companies prefer to cut down the case processing time and budget and are willing to infuse funds to encourage automation and data analytics. This marks the need for change in patient safety to meet tomorrow's requirements.

Key Words: Patient safety, Automation, Case processing, Analytics

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Dr. D. Potrilingam
Narrative Writer
Novartis, Hyderabad

Dr. D. Potrilingam, Clinical research professional with more than 4.5 years of experience, currently working as Narrative Writer in Novartis, Hyderabad dealing with drafting, QCing, reviewing and project management of CSR Narratives. Prior experience as Clinical Scientific Expert (external) in Novartis dealing with clinical and operational aspects of Phase-III pivotal study. By education, a Pharm.D graduate, from Dr.MGR Medical University, Chennai. His research works are published in peer reviewed journals. He received various awards for his excellent Contribution.

ABSTRACT:

Evolving role of pharmacist in the transforming pharmaceutical industry

The objective is to provide an overview of job opportunities in clinical research domain for freshers. This domain has multiple roles available for freshers immediately after graduating from college (eg-, Clinical Research Associate, Clinical Trial Coordinator, Medical Writer, Clinical Data Manager, Drug Safety Associate, etc.). All commonly available roles will be discussed at length and information regarding what is expected from the candidate for each of this role will be provided. This overview of the job opportunities in the industry would help students identify their area of interest, choose their career path and develop the required skills accordingly.

Dr. Santhiya.V
Pharmacovigilance scientist,
Lab corp drug development, Mumbai
Novartis pharmaceuticals, Hyderabad

Dr.Santhiya working as a Pharmacovigilance scientist in Lab Corp drug development, Mumbai. She worked as a Clinical Reviewer in a Pharmaceutical company with overall 4+ years of experience in various domains of the healthcare sector. Previously she worked as a Clinical scientific expert in Novartis pharmaceuticals, Hyderabad. She has experience in ADR monitoring and served as Clinical Pharmacist in Coimbatore. She received the “Client Excellence Award” for significant contributions toward achieving study milestones.

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ABSTRACT:

Data handling in clinical trials – General overview and relevant opportunities – Perspective of a clinical reviewer

The objective is to provide a general overview on how the vast volume of data generated during the conduct of clinical trials are being handled in the pharmaceutical industry to provide reliable, accurate and high-quality information for regulatory submission; and to focus on relevant roles (such as data management and clinical data review), skills and expertise one shall develop to grab such opportunities. The pharmaceutical industry has equal opportunities for candidates from varied academic background. So, as a take home message, to highlight on how as a pharmacist, we shall showcase our scientific or clinical expertise to outshine in the industry, and share my experience of career transition from healthcare sector to pharmaceutical industry.

Dr N. Ponpandian

Professor and Head of the Department of Nanoscience and Technology

Bharathiar University, Coimbatore

Dr N.Ponpandian is Professor and Head of the Department of Nanoscience and Technology of Bharathiar University, Coimbatore. He is also the Director of Internal Quality Assurance Cell of Bharathiar University. He is the Fellow of the Royal Society Chemistry and Academy of Sciences, Chennai. He is the author and co-author of more than 200 publications in peer reviewed international journals and more than 180 papers in conferences/seminars/ workshops etc. He has delivered more than 300 lectures in various events with different capacities. His papers are cited for more than 8600 times by researchers throughout the world. He is an editorial board member in Scientific Reports, Nature Publishing Group, UK. He is the reviewer in more than 50 International journals. 11 research scholars have already obtained their Ph.D. degree under his supervision and he guided more than 19 students for their M. Phil. degree. At present 8 research scholars are working under his guidance. He has completed 5 research projects funded by UGC, DST, DRDO, etc and three ongoing research projects. He also becomes the Co-ordinator for the UGC Special Assistance Programme and DST-FIST programme of the department. He has visited several Universities in Germany and USA. He also obtained several awards and he has recently received the Tamil Nadu Scientist Award, Government of Tamil Nadu. He has been listed as World Top 2% Scientist in Applied Physics by the Survey Made by Stanford University Research Group based on SCOPUS. He is serving in different committees in various capacities in different organizations. He also involved in the fabrication of several instruments.

ABSTRACT:

Biosensors and Internet of Things in Smart Healthcare Applications

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The use of smart technologies in medicine and healthcare has been steadily increasing over the last years. Health and well-being monitoring systems are now deployed in homes, at work, and in everyday environments to support health, smart homes and age-friendly workplaces. A large variety of different off-the-shelf smart sensors and medical devices are exploited to support functional, physiological and behavioral monitoring, as well as to address social interaction aspects of daily life. They focus either on specific health-related conditions or on supporting more the general aim of well-being and improved quality of life. However, there are still several technological and societal challenges that pose barriers to the widespread adoption and deployment of smart biosensors. The high cost of the device andcomplex interoperability hinder the expandability of the biosensors to the public usage. These technological barriers should be overcome in order to promote mass usage and public trust of the biosensor technology. Sensors that can precisely and accurately collect and process large amounts of data are under development to provide high-level data analytics and data extraction.Based on the data acquired from the user's sensor, personalized recommendations and health care can be provided, without the need of in-lab testing. This can be achieved with the help of IoT which enable the sensors to communicate with the primary health care provider. IoT enabled biosensors provide an integrated platform that combines heterogeneous sensors with assistive medical and mobile devicesfor continuous data collection from the everyday life of the patients. Data are further analyzed to offer personalizedinterventions and immediate health and medical care, if required.This technology will reduce the laboratory dependency for monitoring and diagnosis, thus reducing time delays and effort and promotes healthy and independent living, which is beneficial for a huge mass, especially, lone elderly.

Dr. Sivakumar Kannan

Manipal Academy of Higher Education

Mangalore, Karnataka

Dr. Sivakumar Kannan, PhD, a Pharmacist with research expertise with multiple antidoping aspects and promoting Sports Pharmacy. Provides antidoping counseling to atheletes, raises public awareness and collaborates with stakeholders to play fair and prevent doping in all forms of sports. He has four copyrights to his works and he has published one book and 12 research publications, out of which 4 of them are awarded. He completed his M.Pharm from Manipal Academy of Higher Education, Master of Business Administration in Sports management from Tamilnadu Physical Education and Sports University and PhD in Pharmacist and Sports from Manipal Academy of Higher Education.

ABSTRACT:

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Advancement in Pharmaceutical Sciences – A Sports Pharmacist

Pharmacists represent the third-biggest healthcare professional group in the world who contribute to the health of people by imparting the safe use of medicines. The health of athletes in sports is at high risk with the increasing incidences of doping. Anti-Doping agencies like the World Anti-Doping Agency (WADA) are working together to prevent doping from sports, listing prohibited performance-enhancing substances, creating awareness, thereby providing an equal chance to each sportsperson and protect their health. Pharmacists with their existing knowledge about drugs and with training the basics of sports can play vital roles in preventing doping in sports. Sports Pharmacists can be involved in imparting education to the sportsperson, conducting drug research and testing to control doping in sports and thereby creating a culture of "Play Safe" in sports.

Dr. S. M. Habibur Rahman MPharm, PhD
Professor – Department of Pharmaceutics
PSG College of Pharmacy, Coimbatore

Dr. S. M. Habibur Rahman Working as a Professor in PSGCP. He served as Assistant Professor in Pharmaceutical Technology Department, Faculty of Pharmaceutical Sciences, University of UCSI, Kuala Lumpur, Malaysia from 2018-2020. He received PhD from Jawaharlal Nehru Technological University, Hyderabad in 2016. He began his research on pharmacokinetics and nutraceutical bioavailability. He has successfully spearheaded many research projects funded by AICTE, DST and CERVIE, UCSI University, Malaysia. He received travel grants from DST, DBT and ICMR to present his research work in the USA. He has received GOLD and SILVER MEDAL from Malaysia Technological Expo 2021 &2020 in the category of Asian Youth Innovation Award for his innovation. He has been Awarded International Eminent Researcher by Academy of innovation for researchers in Sep 2020. Awarded Honorable Jury Mention (Faculty Category) in 8th Faculty Branding Awards-20 by EET CRS. Recognized as Member of International Governance and President of Malaysia of Academy of Innovations for Researchers in Sep 2020. He has been Awarded Academic Excellence Award 2020 by Institute of Scholars in November 2020. He is an abstract screener for American Association of Pharmaceutical Scientist (AAPS) Expo, USA. He has also been awarded as Best Individual Participant in a skill test organized by pharmainfo, Canada. To his credit he has published more than 30 research articles and 3 book chapters in various peer-reviewed journals (including Q1 & Q2) and was involved in the review committee, editorial board member for the scientific review progress. His research paper presentations have won several best poster and oral presentation awards.

ABSTRACT:

Lipid Nanoparticles – Advancements and Machine Learning (ML) Approaches

Drug delivery has played a vital role in recent years in the development of new drug development. The exclusive physical properties of inactive ingredients including lipids are being exploited in the field of medicine for drug delivery and targeting. Numerous lipids found to be nontoxic and physiologically acceptable are used to formulate insoluble and toxic molecules that results in a product with reduced toxicity and greater bioavailability. Nanotechnology in the lipid-based drug delivery system is focused on the recent research to achieve the target drug delivery. Application and expansion of various classification systems is providing better platforms for the development of drug delivery systems. Machine learning based approaches in the recent years has enormously contributed to the decision making in the drug development and reducing the timeline of the overall drug development programs.

Dr. R. N. G. Naveen
Clinical Pharmacist – Oncology Department
PSG Hospitals, Coimbatore

Dr. R.N.G. Naveen completed his Doctor of Pharmacy at PSG College of Pharmacy. He is self-motivated professional servingas a Clinical pharmacist inPSG hospitals at Oncology Department. He is trained in handling chemotherapeutic drugs including dose calculation, titrations, reconstitution and he is also well versed in handling & managing of ADR's of chemotherapy. He participated in Antibiotic Stewardship activities and published various research papers.

ABSTRACT:

PERSONALISATION OF MEDICINE IN CANCER

Personalized medicine uses an individual's genetic profile for the diagnosis, prevention and treatment of diseases. It includes comprehensive health care teams and integrated technologies in order to optimize the health care strategies. The process of personalization starts at the developmental stages of medicine and is based on pharmacogenomic and pharmacogenetics. By using these concepts, will allow physician to use existing medicines more effectively and safely. Personalization of medicine in cancer tends to improve the quality of treatment. All the cancers have certain pathological and clinical characteristics in common, but those arising in different organs often have very different causes. The most widely used treatment for cancer includes surgery, radiation and chemotherapy. Frequently used chemotherapy drugs have been identified empirically without any pre-existing knowledge regarding the molecular mechanism of action of the drug. Our understanding on molecular diagnosis and biomarkers play an important role in personalization of medicine especially in the treatment of cancer. The biggest challenge for optimal treatment outcomes in cancer patients is complex in nature of the disease due to heterogeneity and dysfunction for numerous molecular networks. Understanding fundamental principles in biology and empowering technologies will enable comprehensive approach to cancer treatment and provide new strategies for drug target discovery. Tailoring health care to each person's unique genetic makeup – that's the promising idea behind precision medicine.

Key words: Personalized medicine,cancer,biomarkers

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Dr. Vithunes Sriramalu Manivannan
Regulatory Reporting – Clinical Trials,
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Dr. Vithunes Sriramalu Manivannan is a PharmD with Msc in Regulatory affairs Graduate and experienced regulatory reporting specialist working in IQVIA Pharmaceutical Company in Ireland. He holds Irish Stamp 1 Visa. Previously he worked as Clinical Pharmacist and Pharmacy Technician. He has various dissertation and publications. He is specialised in Reporting Regulatory submissions and represents the pharmaceutical company while they perform clinical trials and helps with regulatory requirements. Performing project lead activities for three major pharmaceutical companies. Expert in various software's used in regulatory submission.

ABSTRACT:

Regulatory Affairs in Clinical Trials – An Overview

The Main objective of the presention is focused on How the complete process of Regulatory Affairs works in the world of clinical trials which is much beyond the Formulation and Innovation. The Regulatory Affairsis the profession who overlooked, players in drug development. Among which we will focus much more deeper about Regulatory Affairs in Clinical Trials.

The process of Regulatory submissions are in two main types as ICSR & PSUR. Where ICSR is Individual Case Safety Reports which is the reports what we call as CIOMS or Medwatch Reports from the Principal Investigator of the Study where it is conducted and that will be processed by the Regulatory professional to the Health Authorities of different parts of the world based on the Regulatory Intelligence Database that shows which country need the information of the incident or SUSAR's for the study conducted. PSUR is Periodic Safety Reports where there are different periodical submisisons starts from Weekly Reports submisison,Bi-Monthly, Six Monthly Line Listing Reports and Development safety update Reports. For these periodic reports submisiosn we have to refer our so called bible of Regulatory profession, Regulatory Intelligence Database we check the regulatory requirements based on the study. The process of submisison is completely depends on the safety Management plan in which it includes the details of the products and countries involved in the trail where it is going on and we check the regulatory requiremnets for those countries in the RID and do the submisisons. So these will be performed by the team of regulatory professionals in which they process the documents and do the regulatory requirement and also the Quality check is performed for the quality of the document before submisison.

The world of Regulatory Affairs in Pharmaceutical science is the main event in which the safety of the drug or device is monitored by the confirming theevent Coding, seriousness, labelling and causality assessment from medical point of view the regulatory submissions to the Health Authorities.

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Dr. Seema Anjum
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Dr. Seema Anjum, Clinical research professional with 4 years of experience in drafting, QCing, reviewing, and project management of CSR narratives, query management, high quality clinical trialdata review, and MS excel skills. Expert in handling various tools and databases. Previously she served as clinical pharmacist trainee and clinical scientific expert. She holds paper publications. By education, a Pharm.D graduate, from PSG College of Pharmacy.

ABSTRACT:

Importance of regulatory writing in drug approval: Role of pharmacists

The objective is to provide an overview, scope and importance of regulatory writing in pharmaceutical industry. In the pharmaceutical world, medical writing erupted as an essential field because of the need to produce well structed documents and to present information clearly and concisely. The Medical Writers authors and reviews a wide variety of documents (e.g., Clinical Study Report, Clinical Overview, Summary of Biopharmaceutics, Summary of Clinical Pharmacology, Summary of Clinical Efficacy, Summary of Clinical Safety, Risk Management Plans, Development Safety Update Reports (DSURs), Patient Narratives, HAQ responses etc.). Various documents required for drug approval, the importance of individual documents, the corresponding ICH guidelines, and the essential skills required to begin the career as a medical writer will be demonstrated in this forum

Dr.B.Darshith Shah
Intas
Ahemedabad

Dr.B.Darshith Shah has completed his B pharm from NITTE gulabi Shetty memorial institute of Pharmaceutical Science, Mangalore. M pharm in pharmacology and Doctor of Philosophy from PSG College of Pharmacy, Coimbatore. He has an experince of over 6 yrs as Assistant Manager & Research associate in Aurobindo Biologics and Research Scientist in Intas. He has done several posters in National conferences and has numerous paper publications to his credit .

ABSTRACT:

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Industrial Perspective

Industrial perspective is very mechanical term and of “N” dimension of factors that works together. Industry is driven by a business, a business is driven by ‘HUMAN MINDS’. These human minds were students with a MISSION and a VISION. Organization works with a defined and structured workflow depends on type of business. Considering Pharmaceutical and Biopharmaceutical business organizations, the major focus is to deliver a drug product to patients which can improve the quality of life and enhance life expectancy. A whole lot of EXPERTISE and LEADERS from different departments work together to deliver drug product to patient. These BENCH TO BEDSIDE process requires a lot of skills and science. The journey of the mind from student to industrial leader determined by many attributes.

Dr. M. Ramanathan
Principal
PSG College of Pharmacy

Dr. M. Ramanathan is working as a Principal / Professor of Pharmacology and his field of specialisation is Pharmacology and Neuroscience. Recently he was awarded with DSc. In 1998, he joined in the Department of Pharmacology, JSS College of Pharmacy as Assistant Professor and worked up to 2005. To his credit he received various awards, Young Scientist Fellowship Award 2000 from Tamil Nadu State Council for Science and Technology, P.P Surya Kumari Prize for the year 2000 from Indian Pharmacological Society for the best paper published in the field of diabetes, International Brain Research Organization Fellowship for Asia Oceanic region 2001. Currently he is having three ongoing research projects with worth of 75lakhs. He is guiding 6 PhD students. In November 2011 he was conferred with Professional Excellence Award by the TN Dr.MGR Medical University, Chennai to recognise his service rendered in the development of Pharmacy profession. He is holding one parent for herbal formulation. Total research paper published 53 in last five years. The total Research papers published includes over 104.

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ABSTRACT FOR POSTER PRESENTATION

Theme: Advancements in Pharmaceutical Sciences

Abstract no: ab/ic/22-ADV-001

Nanoparticles:- Novel approach for the treatment of breast cancer

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Breast cancer is a major ongoing public health problem for women in both developing and developed countries. Over the last few decades, great progress has been made in improving breast cancer treatment. However, current clinical approaches are invasive, less specific and can cause serious side effects. As a rapidly evolving field, nanotechnology offers promising opportunities for the diagnosis and treatment of human breast cancer. The use of nanoparticle-based platforms overcomes biological barriers and enables extended blood circulation time, simultaneously targeting the tumor and enhancing drug accumulation in tumors. Many nanoparticle-based chemotherapy delivery platforms have been approved by the US Food and Drug Administration or they are in clinical trials for the treatment of breast cancer. Innovative nanotherapy for HER2 and triple-negative breast cancer or RNA interference, photothermal ablation through nanoparticles and nanotherapy based on nanoparticles bring a different perspective beyond traditional breast cancer treatment. Common obstacles are drug loading concentration and encapsulation efficiency, selection of the appropriate targeting moiety and production of consistent clinical grade nanoparticles on an industrial scale. This review describes an innovative nanoparticle-based system for breast cancer nanotherapy that is currently available and clinically applicable.

Abstract no: ab/ic/22-ADV-002

Development and characterization of Tetrahydrocurcumin Nano Structured Lipid carrier (NLC) for enhanced bioavailability

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Tetrahydrocurcumin (THC), one of the major active metabolites of curcumin, exhibits many of the similar pharmacological activities as curcumin and in some systems may exert greater antioxidant activity than curcumin. It is highly antioxidant due to presence of phenolic and beta di ketone group helps in treatment of many diseases. Its problem said to have low bioavailability in systemic circulation when it's taken orally due to non-polar nature .The objective of the present study is to develop and characterize NLC loaded THC systems for solubility improvement thereby bioavailability. High shear homogenization followed by probe sonication was employed to prepare THC loaded NLC. Formulations were prepared using cocoa butter and coconut oil as lipids and tween 80, poloxamer as surfactant. The prepared formulations were characterized for its particle size, drug content and entrapment efficiency. In vitro release profile is compared with plain THC to compare the improvement in the release profile. The results are evident that the NLC loaded with THC is

improved in its solubility thereby the bioavailability may improve when the THC in NLC formulation.

Abstract no: ab/ic/22-ADV-003

Synthesis of Silver Nanoparticles Using Leaf Extract of Tamarindus indica and Optimization by Box-Behnken Design

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The present study was aimed at green synthesis of silver nanoparticles using aqueous leaf extract of Tamarindus indica as a reducing agent and optimize the different factors involved in silver nanoparticle synthesis by response surface methodology via Box-Benkhen Design (BBD). Silver nanoparticle synthesis using aqueous leaf extract of Tamarindus indica was done by biological reduction method. Using BBD, investigation of effect of different factors (independent variables) such as volume of Tamarindus indica extract, temperature and concentration of silver nitrate on particle size and polydispersiblity index (responses) of silver nanoparticles were carried out. Optimized silver nanoparticles were characterized by UV-Visible spectroscopy, FTIR spectroscopy, Scanning electron microscopy and Transmission electron microscopy imaging studies. Production of silver nanoparticles using 5ml of aqueous leaves extract of Tamarindus indica, 0.055M silver nitrate concentration at a temperature of 50°C was found to be the optimized condition. Optimised silver nanoparticle formulation showed SPR peak at 423nm and was spherical in shape with particle size of 148±0.11 nm and PDI of 0.2±0.09. Formulation of silver nanoparticle was done by eco-friendly approach and this study highlighted the different associated factors which influences the quality of silver nanoparticles.

Abstract no: ab/ic/22-ADV-004

Design and optimization of Transethosomes Loaded with Rivastigmine by central composite design for Transdermal Delivery

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The aim of the present was to formulate and optimization of Transethosomes Loaded Rivastigmine by central composite design for Transdermal Delivery. Transethosomes of Rivastigmine were prepared by a cold method which was then incorporated into a transdermal patch prepared by solvent casting method. The transethosomes were optimised using the central composite design. The optimised transethosomes showed small vesicle size, good entrapment efficiency and enhanced transdermal flux. The electron microscopy revealed that the vesicles were uniform and sphereshaped. Also, the vesicle surface was found to be smooth. Rivastigmine hydrogen tartrate was released slowly in the study, and the mechanism of drug release followed the Korsmeyer-Peppas model. Transethosomal formulation showed a significant increase in the steady-state flux to 2.18 times that of the pure drug solution. Also, the transethosomal patch showed a significant increase in the steady-state flux to 1.55 times more than the conventional patch. Based on the results, the rivastigmine

hydrogen tartrate-loaded transethosomal patch was the best formulation since it provided long-term drug release.

Abstract no: ab/ic/22-ADV-005

Simultaneous Estimation of Pyridoxine Hydrochloride and Doxylamine Succinate in Bulk and Pharmaceutical Dosage Form by RP-HPLC Method

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A simple, rapid, precise, economic and isocratic RP-HPLC method was developed for the simultaneous estimation of doxylamine succinate and pyridoxine hydrochloride in bulk and the tablet dosage form. Based on the trial and error, percentage of organic phase (Acetonitrile) in mobile phase, flow rate, and molarity of the buffer were selected as factors. The optimized condition was carried out for separation on Sun fire C18 column (150 × 4.6 mm; 3.6 µ particle size) using mixture of 0.05m ionic strength of potassium hydrogen orthophosphate buffer adjusting its pH to 4.5. A mobile phase system consisting of Acetonitrile: Potassium hydrogen orthophosphate (30:70) with the flow rate of 1.0 mL/min in Photo Diode Array (PDA) detection at 266 nm. Paracetamol was used as the internal standard. The method was developed and validated with respective, precision, linearity and repeatability, limit of detection (LOD) and limit of quantification (LOQ), system suitability studies. Retention time was found to be 1.5 minutes for pyridoxine HCl and 3.5 minutes for doxylamine succinate. The calibration curves were found to be linear from 5 to 25 µg/mL for pyridoxine HCl and doxylamine succinate with their correlation coefficient values 0.999 . LOD and LOQ were found to be 0.75 µg/mL and 2.50 µg/mL for pyridoxine HCl and 0.87µg/mL and 2.91 µg/mL for doxylamine succinate. The proposed method was rapid and convenient for routine laboratory quality control analysis.

Abstract no: ab/ic/22-ADV-006

Investigation Nanoparticle Delivery Systems in Treatment of Diabetes Mellitus

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Diabetes mellitus, an incurable metabolic disease, is characterized by changes in the homeostasis of blood sugar levels. The present treatment method is subcutaneous injection of insulin as the first line of treatment.This administration route has some disadvantages. Patient's compliance are; risk of pain, discomfort and local infection. Nanoparticles stand for particles in the nanometer range that can be obtained from different material and are commonly used with the aim to improve the physicochemical stability of the loaded drug and there by its bioavailability. Drug delivery systems possess the ability to target and to control the drug release. The treatment method enhances the route of administration by oral, nasal and subcutaneous. The field of Nanomedicine has evolved alongside growing technological needs to improve the delivery of various therapeutics.This review discusses the use of different types drug loaded nanoparticle drug delivery for treatment of diabetes mellitus.

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Abstract no: ab/ic/22-ADV-007

Self Nanoemulsifying solid of atorvastatin calcium -development, characterization & evaluation

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The aim of the present study is development & characterization of Self-Nanoemulsifying Drug Delivery (**SNEDDS)** to enhance the bioavailability of poorly, water soluble drug of antihyperlipidemic agent Atorvastatin calcium which comes under the Biopharmaceutical classification system (BCS) Class II. SNEDDS will enhance solubility & absorption of lipophilic drugs by increasing the surface area & decreasing the size of droplets that are readily digested & incorporated into micelles that can pass through lumen. The solubility was estimated in various solvent to find maximum solubility of drug in solvent. Vegetable oil (as vehicle), non-ionic surfactant (as surfactant, co-surfactant) & water is used to construct pseudo-ternary phase diagram (identify nanoemulsifying region). Stability, dispersibility & robustness to dilution to be performed to optimize formulations by using phase diagram. Different formulations are prepared with different composition of vegetable oil, non-ionic surfactant ratios. At one globule size of optimized system will be expected to accept nano emulsion size range for improving the dissolution of Atorvastatin calcium. There by we may enhance the bio-availability of Atorvastatin calcium by using SNEDDS method.

Abstract no: ab/ic/22-ADV-008

Stability Indicating Simultaneous Estimation of Ofloxacin and Ornidazole in Tablets by HPTLC Method

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A rapid, selective and stability-indicating high performance thin layer chromatographic method was developed and validated for the simultaneous estimation of ofloxacin and ornidazole in bulk and tablet dosage form. Ofloxacin and ornidazole were chromatographed on silica gel 60 F254 TLC plate using methanol:chloroform:formic acid(8.5:1:0.5 v/v/v) as the mobile phase and spectrodensitometric scanning-integration was performed at a wavelength of 254 nm using a Camag TLC Scanner III. This system was found to give compact spots for both ofloxacin (Rf value of 0.20±0.01) and ornidazole (Rf value of 0.94±0.01). The polynomial regression data for the calibration plots showed good linear relationship with r2=0.9988 in the concentration range of 100-500 ng/spot for ofloxacin and 250-1250 ng/spot for ornidazole with r2=0.9994. The method was validated in terms of linearity, accuracy, precision, recovery and specificity. The limit of detection and the limit of quantification for the ofloxacin were found to be 20.53 and 62.22 ng/spot, respectively and for ornidazole 36.75 and 111.35 ng/spot, respectively. Ofloxacin and ornidazole were degraded under acidic, basic and oxidation degradation conditions and well resolved from the active pharmaceutical ingredient. Both drugs were not further degraded after thermal and photochemical degradation. The method was found to be reproducible and selective for the simultaneous estimation of ofloxacin and ornidazole. As the method could effectively separate the drugs from their degradation products, it can be employed as a stability-indicating method.

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Formulation and evaluation of ipriflavone nano-emulsion for the treatment of osteoporosis

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Ipriflavone (IP) is a semi-synthetic isoflavone that can bind to the estrogen receptor, showing bone developing character with a lack of intrinsic estrogenic activity. Ipriflavone is a highly lipophilic molecule with extremely low water solubility and bioavailability. Nanoemulsion formulation is one of the methods to improve the oral bioavailability of lipophilic drugs. Miglyol 812, ethanol, tween 80, and soy lecithin were selected as oily phase, surfactant and co-surfactant, respectively, using solubility and miscibility testing. The concentration of the ingredients were optimized using BoxBehnken Design. The most desirable formulation was selected from the three optimized formulations based on thermodynamic stability, globule size (72.03±0.02 nm), PDI (0.271), zeta potential (-12 mV) and drug content (95.42±3.83 %). TEM images confirmed the size and morphology of the oil globules present in the nanoemulsion. The emulsions released 60% of ipriflavone into the dissolution medium in 10 mins indicating a rapid and improved drug solubility. Ipriflavone shows toxicity on MG-63 cells with an increase in the concentration of the drug. Alkaline phosphatase activity and calcium uptake studies on osteoblast-like cells indicate the positive sign of bone cell development. For the anti-osteoporotic activity, the drug and formulation were tested on higher animals like zebrafish. The LC50 value of the ipriflavone was determined at 5.7ppm and shows no signs of toxicity in the given concentration.

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Targeting Strategies for Breast Cancer Therapy

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Aim: To identify the different targeting strategies for treatment of breast cancer and to choose a method for developing proof of concept.

Background: Breast cancer is the commonest type of malignant tumor in women, comprising of about 30% of all cancers in women worldwide. Most commonly the drugs such as Paclitaxel, Docetaxel, Doxorubicin, Epirubicin, Capecitabine and Platinum derivatives were used by the physicians during the treatment. The choice of the combination is based on the size, diameter and stage of the tumor. Triple negative breast cancer is more complicated for a specific targeting due to the lack of receptors such as ER, PR and HER 2 etc., It is highly desirable to develop new therapies that can specifically target carcinoma cells without damaging normal and healthy cells by approaching the drugs to specific pH.

Overview: Tremendous efforts have been made to develop an active targeted delivery system as an alternative or superior to passive approach (EPR) for breast cancer treatment by conjugating adrug with cancer cell demanding moieties like transferrin, folic acid, biotin, proteins, antibodies etc., Currently polymers such as PEG, PAA, PEO, Chitosan, PLA, PLGA etc.., are used in formulation as a carrier as well as for pH sensitization and anti-opsonization effect.

Challenges: Targeting design must adapt to physiological variables of blood flow, pH, micro environment and tissue architecture by accommodating physicochemical parameters such as carrier

Composition, functionalization, geometry, and avidity. Proof of concept method. Our idea is to develop a double layered Nano formulation with drug cargo conjugated with transferrin that can encapsulate Paclitaxel and Epirubicin and enveloping it with Polymers (Poly acrylic acid and Poly Ethylene oxide) as a pH-sensitive layer.
Conclusion: The drugs could reach the specific site with the help of pH sensitive polymers and it could enter the cancer cell via receptor mediated endocytosis as an active targeted approach for breast cancer treatment.

Abstract no: ab/ic/22-ADV-011

In-Silico studies of quercetin derivatives for anti-inflammatory activity

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Molecular Docking is the study of molecular structures (Drug and Enzyme / Protein) fit together. The ability of a protein to interact with molecules to form a supramolecular complex plays a major role in the activation or inhibition of biological activity. The objective of the study was to investigate the anti-inflammatory activity of quercetin derivatives by in-silico studies. In these prospective studies, the affinity of the drug was analyzed by investigating the binding affinity to the protein Cyclooxygenase-2(COX-2). In-Silico studies were carried out using the softwares Auto-Dock Vina and toxicity screening softwares. For primary screening 30 molecules were screened and the molecules with high output were selected {1a (-10.58) – 1h (-3.33)}. The other molecules were in acceptable range. The quercetin derivative [2-(3,4-dihydroxyphenyl)-3,5,6,7-tetrahydroxy-4H-1benzopyran-4-one] (1a) showed the highest activity. These molecular docking results could lead to further development of potent anti-inflammatory drugs.

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Design expert as a statistical tool for optimization of mucoadhesive diclofenac sodium tablets using full factorial design

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Mucoadhesive tablets are specially designed to adhere to the mucosal surface. There by intensifying retention of the drug at the site of application, which provides controlled release of drug for better therapeutic outcome. Mucoadhesive drug delivery is better than traditional drug delivery system as it bypasses the first pass metabolism and it will prevent direct exposure of Diclofenac Sodium attachs to mucosa there by it will reduce gastrointestinal ulceration.Design of experiment is extensively used for implementation of quality by design. It is an organised method for determining the factors affecting the process and the output of the product. In this study diclofenac sodium mucoadhesive tablets were prepared and optimized using design expert software. The best formulation was identified based on desirability value. The present study was undertaken with the aim to optimize and formulate mucoadhesive buccal tablets of diclofenac sodium using different proportions of three polymers HYDROXY PROPYL METHYL CELLULOSE (HPMC), SODIUM CARBOXY METHYL CELLULOSE (SCMC), POLYVINYL PYRROLIDINE (PVP). The best formulation were predicted using design expert software. The formulation were prepared based on

2(3) factorial design .To check the quality control parameter of the formulated tablets were evaluated for hardness, dissolution and swelling index experimentally and values were within the standard limits andthe best formulation was found to be formulation F1, where polymer concentration of HPMC is 795, SCMC is 378, and PVP is 238 and the optimized formulation was further characterized and evaluated for quality parameters

Abstract no: ab/ic/22-ADV-013

Reprogramming of Rivastigmine and Riluzole as inhibitors against human acetyl cholinesterase (AChE) and N-methyl-D-aspartate receptor (NMDAR) for curbing Alzheimer's disease

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In this study, rivastigmine and riluzole drugs were virtually screened againsteleven acetylcholinesterase (AChE) and four N-methyl-D-aspartate receptors (NMDAR) respectively, derived from the Protein Data Bank (PDB). Out of 15 proteins, significant binding was observed for AChE with PDB ID: 5FPQ, and NMDA receptors with PDB ID: 5I2K. Molecular docking studies of the 5FPQ/rivastigmine complex displayed a binding score of -8.6 kcal/mol, and the predicted (Ki) was found to be 31 nM, whereas the 5I2K/riluzole complex binding score of -9.6 kcal/mol and with an inhibitory concentration (Ki) 21 nM. Principal amino acid residues formed pi-pi stacking with Tyr144, pi-alkyl interaction with Pro129, and conventional hydrogen bond with Phe130 residues with riluzole. In contrast, non-bonded interactions were observed with rivastigmine in 5FPQ and conventional hydrogen bond with Phe130. On the other hand, designed decoy 1 and decoy 2 couldn't show very less non-significant binding at the binding pockets of 5I2K and 5FPQ, respectively. Molecular dynamics simulation study of 5FPQ/rivastigmine complex and 5I2K/riluzole complex showed stable RMSD, RMSF, Rg, significant numbers of hydrogen bonds, and free energy landscape was similarly observed. Overall, MD simulation and then binding free energies were estimated with MM-PBSA studies signify stable interactions of reprogrammed drugs in the AChE and NMDAR targets. From these in-silico prediction studies, it can be suggested that both rivastigmine and riluzole combination can curb the current need to treat Alzheimer's disease over the present therapy after preclinical and clinical studies.

Abstract no: ab/ic/22-ADV-014

Development and Evaluation of Resveratrol loaded NLC incorporated cream for enhanced anti-aging activity.

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Lipid based formulations have been shown to enhance absorption of drugs. It is believed that factors including improved drug solubilisation and increased membrane permeability. The Nanostructured lipid carriers (NLCs) are the second-generation solid lipid nanoparticles (SLNs). The specific objective of the present work is to develop Resveratrol loaded nanostructured lipid carriers (NLC) by Ultra-probe sonication using Cocoa butter as solid lipid, Coconut oil as liquid lipid & soya lecithin

as surfactant and developing these NLC into cream using different butters (Cocoa butter, Shea butter, Mango butter, Kokum butter, Avocado butter, Coconut butter) as cream base. Four NLC formulations were prepared from which F4 is selected as best formulations based on low particle size (44nm), entrapment efficiency (84%) and total in-vitro drug release of 96% at 48hrs. Shea butter & mango butter is found as suitable lipid base for development of anti-aging cream based on SPF value (33.05 & 23.4) and antioxidant activity (33.1 & 36.3) respectively. To conclude, the developed NLC loaded resveratrol cream may be used in the anti-aging product development.

Abstract no: ab/ic/22-ADV-015

Stability indicating rp-hplc method using ethamsylate and mefenamic acid in tablet

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A simple, specific, rapid, sensitive, precise and accurate RP-HPLC method has been developed for the quantitative determination of ethamsylate and mefenamic acid in tablet. The UV scanning at 200400nm for both ethamsylate and mefenamic acid showed that 304nm and 280mm was the suitable wavelength for detection as per maximum absorbance. This method gives reliable assay results with short analysis time using mobile phase of Acetonitrile: Buffer (4.5) in the ratio of 60:40 respectively. Retention time was found to be 2.56min for ethamsylate and 7.71 min for mefenamic acid. Both drugs ethamsylate and mefenamic acid showed linearity in the concentration range of 3-7µg/ml and the correlation coefficient was 0.9997 and 0.992 respectively. This method has been validated as per ICH Q2 (R1) guidelines. The LOD and LOQ were found to be 0.190, 0.323 for ethamsylate and 0.578, 0.981 for mefenamic acid. Interday and intraday precision was found to be below 2%. In this study, intrinsic stability of ethamsylate and mefenamic acid observed under stress condition. The drug was found to be degraded in acid, base,oxidation, photolytic and thermal conditions. This could effectively separate principle drug peak from degradation product peaks. It can be employed as a stability indicating method. The advantages of the proposed method involve a simple procedure for sample preparations and relatively short time of analysis. The proposed methods were suitable for the analysis of ethamsylate and mefenamic acid.

Abstract no: ab/ic/22-ADV-016

In vitro bioequivalence study of different marketed metforminHydrochloride sustained release tablets

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The substitution of branded drugs with generic drugs could be considered when it contains the identical amount of active ingredients in the same dose, dosage form, and route of administration which mitigates the cost of the treatment. The aim of the present study was to perform the in vitro bioequivalence between three generic products (M2, M3, and M4) of metformin hydrochloride sustained release tablets marketed in India with the innovator brand (M1). Initially, the procured tablets were subjected to various characteristics such as hardness, thickness, weight variation, friability, in vitro drug release studies, and drug release kinetics. Then the results obtained for the

generic tablets were statistically compared with the innovator brand. The dissolution profile was compared using the similarity factor and the difference factor was found to be within the specified limits. Drug release kinetics best fit the Higuchi equation with the r2 value of 0.975 and undergoes Fickian diffusion. Finally, it was evident from the study that the generic sustained-release tablets of metformin hydrochloride were pharmaceutically equivalent to the innovator brand. Thus it can be concluded that the brands can be interchangeable and bioequivalent to each other.

Abstract no: ab/ic/22-ADV-017

Influence of Osmogen in formulation and evaluation of diclofenac sodium osmotic controlled release tablet

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Diclofenac sodium osmotic controlled release tablet were designed to deliver drug in first order release. Osmotic drug delivery system is suitable for oral administration and typically consists of compressed tablet core which is coated with ethyl cellulose that act as a semipermeable membrane coating. Osmotic delivery system contain Osmogen for controlled delivery for drugs and also maintain the osmotic pressure inside the tablet core. The influence of different Osmogen such as sorbitol, Sodium chloride, fructose, sucrose, lactose, dextrose, potassium chloride was investigated in this study. Among these osmotic tablet with sorbitol as Osmogen found to have better effect in the *invitro* drug release. From the DD solver the plot was in a linear pattern with desirable r^2 value for sorbitol is 0.9860, which confirms that drug released by Higuchi diffusion model. Statistical evaluation on graph pad prism software, using unpaired t test shows p value was less than 0.05 where Sorbitol Osmogen formulation has significant *invitro* release.

Abstract no: ab/ic/22-ADV-018

Contribution of Phytoconstituents from Solanaceae family plants to the human health benefits

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Solanaceae is a large family in plant Kingdom with more than 3000 species in Solanaceae family worldwide. Species from Solanaceae family is the integral part of human as a food as well as drug since thousands of years. Even some edible plants also cause problems because of their phytoconstituents and their difference in concentration. Different species of this family plants are used for their different therapeutic values. Generally we can say the common phytoconstituents like tropane alkaloids are the most important phytoconstituent for their therapeutic activity. Though they are therapeutically parasymapathomimetics; overdose may include various adverse effects. Some of these species were subjected for molecular genetics research in the last 100 years. The comparative genome analysis of tomato, pepper and eggplant contributed to the understanding of plant genome evaluation. Most of the plants are used in traditional system of medicines for their potential benefits against cardiovascular and anti-inflammatory diseases, vision related diseases such as age related macular degeneration and glaucoma, having neuro protective properties, anticancer and immune modulator activity due to the presence of phytochemical molecules present in these species. Special

analytical methods has been developed for isolating commercially useful alkaloids as well as other important phytoconstituent and dose should be strictly decided and monitored to avoid the side efects. This review study used to focus different phytochemicals other than tropane alkaloids and its pharmacological activities present in the solanaceae family plants available in India. Key words: Solanaceae, parasymapathomimetics, tropane alkaloids, genome analysis

Abstract no: ab/ic/22-ADV-019

In silico drug design, synthesis and *in vitro* evaluation of certain piperine derivatives as anti alzheimer's agents

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Alzheimer's disease (AD) is a brain disorder and a neurodegenerative disease that slowly destroys memory, thinking skills and also the ability to carry out the simplest tasks. Piperine is an alkaloid isolated from black pepper and possess antioxidant, antidepressant, anti–inflammatory and neuroprotective effects. The main objective of this study was to design and synthesize novel active piperine derivatives displaying anti-Alzheimer's activity through inhibition of cholinesterase enzymes (AChE & BuChE) based on structural modification of piperine. In this study, about 26 semisynthetic piperine derivatives were subjected to ADMET properties, molecular docking studies using AutoDock 4.2 against target enzymes AChE (4ey7) and BuChE (4BDS). From *in silico* study, the compounds were selected based on BBB penetration and docking scores. A total of 3 compounds (PIP-4, PIP–5 and PIP–26) were selected and synthesized also analytical studies (UV&IR) were done to confirm its structure. *In vitro* cholinesterase inhibitory activity was performed (i.e.) acetylcholinesterase and butyrylcholinesterase inhibitory activity. The absorbance of all the piperine derivatives were decreased upon increasing the concentration of drugs in a dose dependent manner. The order of potency was based on IC50 values. All the determinations were carried out in triplicate and the values are expressed as the mean ± SEM. Hence PIP–5 possessed good AChE inhibitory activity (56±0.45µg/ml) and BuChE inhibitory activity (30±0.32µg/ml) when compared to other selected piperine derivatives and standard drug rivastigmine. Thus the compound (PIP-5) may offer a promising and new therapeutic lead for the treatment of AD which needs further research.

Abstract no: ab/ic/22-ADV-020

Formulation and characterization of Moringa oleifera seed oil loaded nanosponges based hydrogel for topical anti-inflammatory

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Nanosponges are a new class of cross-connected polymer-based colloidal structures with a particle size of less than 1 µm with wide cavities in which a wide range of drugs can be captured..Moringa seed oil is known for its anti-inflammatory activity. In this research work an attempt has been made to prepare nanosponges based hydrogel for topical anti-inflammatory activity. Hydrogel is a network of polymer chains that are water insoluble, colloidal gel that can act as superabsorbent (contain over 99% water) natural or synthetic polymers. Hydrogels also possess a degree of flexibility very similar

to natural tissue, due to their significant water content The aim of the study is to reduce the frequency of application, total dose, and incorporating self sterilizing behavior and better retention ability makes it suitable for the desired activity. The oil were extracted using various solvents . The n-hexane extracted oil was evaluated for its saponification value, acid value, free fatty acid. The nanosponges with different ratio of polymer F1, F2, F3 were formulated and evaluated by zeta potential and particle size determination, FT-IR, SEM analysis, in-vitro drug release studies, drug release kinetics. The F3 nanosponges had shown good characteristics so that particular nanosponges were loaded on hydrogel. They were evaluated for viscosity, pH determination, spreadability, determination of drug content, in- vitro release study, drug release kinetics. The formulation had shown anti-inflammatory activity using inhibition of protein denaturation.

Abstract no: ab/ic/22-ADV-021

Release kinetics of matrix type diclofenac sodium transdermal patch with polyvinyl alcohol as backing membrane

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Transdermal patch is a medicated adhesive patch that adheres to skin as a way to deliver drugs. The drug suitable for transdermal for transdermal drug delivery must be nontoxic, should be potent, molecular weight less than 1000 Daltons and half-life must be short and have low melting point. Nowadays, numerous transdermal patches for active agents are available in the market (e.g., nitroglycerin, nicotine, scopolamine, clonidine, fentanyl, estradiol, testosterone). Depending on the active, the time of delivery duration is generally from 1 to 7 days. In this abstract transdermal patch was formulated in 1:6 ratio by using ethyl cellulose & HPMC as polymers & 3%PVA as backing membrane and glycerine as plasticizer. The amount of drug release with and without backing membrane was evaluated. The result found that without backing membrane showed highest amount of drug release i.e., it releases 92.5% in 7.4 phosphate buffer. Drug release follows 1st order kinetics & obeys Higuchi model.

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Method development of oseltamivir phosphate in bulk and capsule dosage form by UV spectrophotometric method

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The objective of the proposed work was to develop UV Spectrophotometric method for the determination of Oseltamivir phosphate(OP) in bulk and capsule dosage form. It is used for the treatment of influenza A and influenza B.In this method development,the drug was tested with different solvents such as water,methanol,ethanol,dilute hydrochloric acid,chloroform and dimethyl formamide(DMF). Due to greater solubility and reproducible readings of maximum absorbance,DMF was used as a solvent.The UV Spectrum of Oseltamivir phosphate was obtained by using DMF as a solvent and then developed. The λmax was determined by scanning 10µg/mL solution of the drug in

DMF. The wavelength 256nm was selected,as it shows maximum absorbance. The percentage assay for the drug was 98.08%w/v.Then, for accuracy, recovery studies were carried out by adding known amount of pure drug to the formulation and it was found to be in the range of 98.0% - 102%,which was within the recommended limits. It indicates that the method has required accuracy. Hence the developed UV Spectrophotometric method was found to be rapid, simple, precise,accurate and can be conveniently adopted for the development of Oseltamivir phosphate in bulk and capsule dosage form.

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Melanin loaded solid lipid nanoparticle camouflage for vitiligo management

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Lipid based formulations are submicron sized carriers that achieves controlled and targeted drug delivery. Solid lipid nanoparticles – a rapidly developing field of nanotechnology with several potential applications in drug delivery, clinical applications and research. The main objective is to develop melanin loaded SLN (by (1) high shear homogenization along with probe sonication and (2) probe sonication alone) to fight against vitiligo. Vitiligo is a chronic and progressive disease (any autoimmune, genetic, oxidative stress, neural or viral causes) caused due to depigmentation of the skin which occurs due to death or non-functioning of melanocytes. Present study focuses on the extraction process of melanin from human hair and to incorporate into the SLN to enhance better skin penetration. About 16 (8 &8) formulations of drug loaded SLN were formulated by the above mentioned two preparation methodologies using Melanin as drug, Gelucire 33/01 as lipid, Labrasol as surfactant, PEG 6000 as co-surfactant followed by optimization. The optimized formulation was subjected to characterization studies. The in-vivo skin irritation study on animals (rabbits) were also performed for the formulations in various time intervals and observed. Two formulations were selected to undergo sterility test for microbial growth. To conclude that, melanin loaded SLN promotes good permeation

Abstract no: ab/ic/22-ADV-024

Development of predictive model for chemotherapy in luminal a breast cancer

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Aim: The aim of this study is to develop a predictive model for Adriamycin-cyclophosphamide (AC) and Adriamycin-cyclophosphamide plus Paclitaxel (AC-T) regimen in individualizing chemotherapy for luminal A breast cancer. Materials and methods: Data were collected retrospectively and analyzed by SPSS ver26 USA inc. Multinomial regression method was used to develop a statistical predictive model. 74 Breast cancer patients diagnosed with luminal A type were taken for this study Results: Totally 74 luminal type A breast cancer patient receiving chemotherapy data were taken in the analysis; the demographic, diagnostic and therapeutic data were found to be influential and the prepared predictive model serves to select regimen, dose and to estimate adverse drug reactions for individual patients. Conclusion: A statistical model was developed to assess the likelihood of response to AC and AC-T regimens.

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Olmesartan medoximil nanosuspension : comparision of two different method of preparation

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Nanosuspensions of drugs are Nano sized heterogeneous aqueous dispersions of insoluble drug particles stabilized by surfactants and polymers. Nanosuspension can be applied for poorly water soluble drugs, absorption window can be enhanced, long term physical stability. The main advantage is that Nano suspension can be incorporated in tablets, pellets, hydrogel and suppositories are suitable for various route of administration. Olmesartan medoximil (OLM) is an angiotensin II type 1 receptor antagonist which helps in treating hypertension. It inhibit the action of angiotensin II on the renin angiotensin aldosterone system, thereby shows anti-hypertensive activity. Oral bioavailability of OLM is 26 % which may be due to the low solubility of drug (BCS class II drug).The most reliable method to enhance the solubility of OLM is by reducing the particles to Nano size. The solubility of OLM was enhanced by preparing Nano suspension which may leads to substantial increase in bioavailability. The aim of this research work is to compare two different methods of preparation of nanosupension. The primary objective is to study the influence of method preparation on the particle size. Nanosuspension was prepared by top down method and bottom up method. There is a slight decrease in the particle size of OLM Nano suspension prepared by top down method when compared to bottom up approach. Further optimization will be done by DOE to reduce the particle size by both the method and further studies will be carried out.

Abstract no: ab/ic/22-ADV-026

Neurotrophin mimetics to improve the dopaminergic and cholinergic functions in Parkinson's disease: A novel approach

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Global Burden of Disease study has estimated that the number of Parkinson's disease (PD) cases is expected to be about 13 million in the year 2040. Presently, accessible treatment strategies have focused only on reduction of PD symptoms especially motor symptoms caused by dopamine deficit and it fails to attenuate the non-motor symptoms occurring due to cholinergic imbalance leading to rapid disease progression, increased patient suffering and death. Therefore, novel therapeutical strategies to improve the dopaminergic as well as cholinergic functions is the need of the hour. Interestingly, neurotrophins are crucial endogenous ligands that regulates both dopaminergic and cholinergic neuronal differentiation, maintenance, survival, and functions. Neurotrophins exerts its pharmacodynamic effects by binding and activating two types of receptors i.e., Trk and p75NTR receptors. Neurotrophins trigger various neuronal signalling pathways, involving those facilitated by ras and members of the cdc-42/ras/rho G protein families, the MAP kinase, and PI-3 kinase cascades. Due to which, the neurotrophins control axonal growth, dendrite pruning, patterning of innervation, expression of proteins, ion channels and neurotransmitters content required for the basic physiology

of the neurons. Unfortunately, deficiency of neurotrophins level at nigrostriatal regions was reported in PD brain and thereby decreased the Trk and p75NTR neuronal signalling, which has improved the PD progression. Hence, development of small molecules as neurotrophin-mimetics to activate the neurotrophic receptors facilitated neuronal signalling during PD like conditions and might reduce the motor and non-motor symptoms of PD through attenuation and regeneration the dopaminergic and cholinergic neurotransmission in PD brain.

Abstract no: ab/ic/22-ADV-027

Rp-hplc method development and validation for the determinatio of resveratrol and coenzyme q 10 loded solid lipid nanoparticles.

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This includes the Formulation, Analytical Method development and Validation of Resveratrol and Coenzyme Q10 (coQ10) by RP-HPLC. Combination of Resveratrol and Co Q10 was not formulated in SLN before. The formulated SLN loaded resveratrol and CoQ10 was correlated in analytical work. Combined method has not been developed yet. Formulation of Resveratrol and Coq10 had been successfully incorporated into the lipid and the SLN have been prepared by means of the high shear homogenization method. GMS (solid lipid) were used as the lipid phase and brij 72% (surfactant) &brij 35% (co-surfactant) which is dissolved in aqueous phase in this study .The optimized formulation had a mean particle size of 188.8 nm (resveratrol & Co Q10).The in-vitro studies of sustained release for combined formulation (Resveratrol+ Coenzyme Q10) were found to be 61% in 8 hours and 92% for 1 hour. It shows maximum absorbance of 308 am for Resveratrol and 274nm for Co Q10 279 nm was found as the isobestic point for these two drugs With Sunfire C18 Column (4.6×150mm, 5mic) column, Mobile phase was Acetonitrile:THF:Water ratio of 50:30:20, the drugs get eluted with good peak and the pressure was within the limit. The linearity concentration range of 2-10 mcg/ml for Resveratrol and 10-35 mcg/ml for Coenzyme Q10 were found to be linear with correlation coefficients of 0.997 and 0.998.LOD of Resveratrol and co Q10 was found to be 10.44 and 26.10 mcg/mL. LOQ of Resveratrol and co Q10 was found to be 31.65 and 79.10 mcg/mL.

Abstract no: ab/ic/22-ADV-028

In silico predictions of curcumin and tetrahydrocurcumin solubility parameters in various carriers using molecular dynamics

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The objectives of this study were to develop a computational model based on molecular dynamics technique to predict the miscibility of curcumin and tetrahydrocurcumin (THC) in carriers (polyethylene Glycol-400, stearic acid , and Tween 80) and to theoretically verify the in silico predictions by characterizing the Hildebrand solubility parameter using Group contribution method. Molecular dynamics (MD) simulations were performed using the OPLS3e force field, and the cohesive energy density and the solubility parameters were determined for the model compounds. The magnitude of difference in the solubility parameters of drug and carrier is indicative of their miscibility. The MD simulations predicted curcumin and THC to be miscible with polyethylene glycol, stearic acid, Egg- PC and Tween 80. The solubility parameter values obtained using the MD

simulations values were in reasonable agreement with those calculated using group contribution methods. The findings would help to choose molecular descriptors related to solubility of curcumin and THC in various lipids and molecular insight to the solubility of Curcumin and THC in various lipids. Further In silico predictions of miscibility would be tested with experimental Differential Scanning Calorimetry analysis. In future these studies would help to develop a QSPR model using Artificial Neural Networks (ANN) and Molecular descriptors.

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Impact of lead modification in drug design

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Today the new drug research is on a sound scientific background and with rationale approach. This was largely possible due to better understanding of biochemical process and molecular pharmacology. Any attempt to develop a new drug involves the search for a 'lead' molecule and develop further by lead optimisation. In this process the knowledge of other fields particularly combinatorial chemistry, computer aided molecular modeling and statistical methods are extensively used. Leads are prototype compounds that have desired biological or pharmacological activity but may have many other undesirable characteristics like high toxicity, other pharmacological activities, instability, or metabolism problems. The structure of the lead compound is then modified, by synthesising analogue, to amplify the desired activity and to minimize or eliminate the unwanted properties. Normally the lead modification is carried out to achieve to increase the potency, decrease or eliminate toxic effect, isolate single pharmacological action from the lead having more than one pharmacological action, make it resistant to metabolic enzyme there by increasing the duration of action, restrict the distribution of the drug in the body (e.g. To prevent the entry of the drug to brain by making it more polar or ionic, so that it will not cross the lipoid blood brain barrier), minimize undesirable physical and chemical properties like poor solubility, partition co-efficient and chemical instability. Lead modification is as much an art as it is a science and there is no absolute rule for procedure or guidelines. The knowledge, imagination, and intuition of the medicinal chemist are the most important factors for success. The intent of the paper is to highlight the potential of Lead modification applications by presenting case studies.

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Advancements in the use of disease-modifying agents in the treatment of alzheimer's

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Alzheimer's disease is a brain disorder that slowly destroys memory and thinking skills due to the formation of abnormal clumps (amyloid plaques) and neurofibrillary tangles (tau tangles) in the brain. The amyloid hypothesis of Alzheimer's disease holds that the accumulation of amyloid beta peptides leads to synaptic dysfunction neurodegeneration and ultimately symptoms, approximately 20 years before the onset of the disease. Hence the monoclonal antibody (MAb) therapy to treat or

prevent AD, has to be initiated before the emergence of the symptoms. However, monoclonal antibodies vary considerably in how they interact with the amyloid beta peptide, which may impact whether they target the neurotoxic conformations (amyloid beta oligomers and protofibrils), which may impact their clearance and occurrence of important side effects. The drugs that target the causes of the disease are called disease modifying drug therapies, a majority of which are directed against the amyloid beta peptide (such as Aducanumab, Bapineuzumab and Solanezumab). The goal of this review is to focus on monoclonal antibodies or immunotherapy that target protein betaamyloid or TREM2 (Triggering Receptor Expressed on Myeloid cells 2) to reduce amyloid plaques or activate the microglial cells; and also to address the current challenges and emerging strategies to treat Alzheimer's disease.

Abstract no: ab/ic/22-ADV-031

Repurposing of drugs from different systems of medicine in covid-19

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At the end of December 2019, a pandemic crisis named COVID 19 evolved through zoonotic pathogen. The etiological agent is SAR-COV-2. The disease may appear as a mild asymptomatic infection, which can progress to severe respiratory failure. The main symptoms of virus are fever, dry cough, muscle ache, fatigue, and shortness of breath. Its complication may result in death include pneumonia (need ventilator), acute respiratory distress syndrome and septic shock. During initial times, there were no duly medicine to treat the pathogen and the fatal rate was in peak. The people suffered severely and dead because of no effective medicine to cure. Hence the earlier marketed drugs were repurposed in treatment of Covid-19 patient. During life threatening times, the Allopathic and Traditional system of medicines were reused based on their therapeutic value and the symptoms based on the patients' conditions. Some of the Allopathic drugs - Hydroxychloroquine, Chloroquine, Remdesivir, and the traditional medicine like Siddha drugs - Kabasurakudineer, Nellikailehyam, Tripalachooranam, Vajarakandimaathirai and the Homeopathy drugs - Arsenic album 30, Camphora 1M and Bryonia alba were repurposed. This presentation review is about the repurposed drugs in accordance with their MOA related to treating the symptoms based. Also, includes, how effective the medicine worked and was at emergency period. In concluding, that the repurposed Allopathic (Antiviral therapeutic) and traditional system of medicine (Immunotherapeutic) paved way for some beneficial outcomes in the treatment of Covid 19 and in developing more new molecules and medicines for treatment.

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Rp-hplc method development of levocetirizine and phenylephrine in bulk and tablet dosage forms

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A simple, novel, economical, rapid, sensitive, reproducible and accurate method for the Simultaneous estimation of LCZ and PHY in Bulk and Phamaceutical dosage form by using RP-HPLC. This Method gives reliable assay results with short analysis time using mobile phase of Acetonitrile:

0.05M Potassium Dihydrogen Orthophosphate (pH 4.5) in the ratio of 40: 60 respectively. Retention time was found to be 6.8 min and 2.4 for LCZ and PHY respectively. System suitability parameters were in the desired Limit. This method has been developed and optimized as per ICH Q2 (R1)guidelines.In the Introduction, General theory about method development, Chromatographic parameters, principles, procedures and also about HPLC and validation parameters were explained. Literature survey part deals with the research and review articles based on the study and their results. Aim and plan of work defines about the work and plans about the project. Details about the nature of the sample, its molecular weight and solubility were enclosed in Drug profile. In Materials and methods, details about instruments used for the study and briefs out the preparation of Standard and Sample solution. The Results (Graphs, Tables, Spectrums and Chromatograms) were shown for the conclusion of the study which were developed and validated as per ICH Q2 (RI) Guidelines.

Abstract no: ab/ic/22-ADV-033

Combination of Encorafenib and Cetuximab in treatment of metastatic colorectal cancer:A Comprehensive review

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Metastatic colorectal cancer seems to the major leading cause of cancer death world wide. World wide survival rate was found to be 15 %,in case of metastatic colon cancer.IARC also estimates in 2021 colon rectal cancer was also the second most common cause of cancer death worldwide, causing almost 1 Million deaths.Encorafenib (Braftovi) a Kinase Inhibitor Class, inhbit BRAF gene. Cetuximab (Eribitux) a monocolonal antibody which Inhibits EGFR.The use of this combination lead to Response in 20% of patients and yielded a median overall survival of 9.3 Months. On the treatment with combination of encorafenib and cetuximab, observed that the patients was improved with objective response rate and progressive free survival ,indicating that combination of encorafenib and cetuximab could be effectively used as the new standard care for patients with BRAFV600E-mutant metastatic colon cancer.From the clinical trial data, it seems that encorafenib and cetuximab has distinct safety profile. In this review we concluded that this new regimen may also serve as a suitable back bone in treatment of metastatic colon cancer

Abstract no: ab/ic/22-ADV-034

Review on Enhancing the Aqueous Solubility, thereby Dissolution Rate and Bioavailability of Hypolipidemic Drug by Various Method

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Hypolipidemic drugs are BCS II drugs, as it presents very low aqueous solubility and poor bioavailability when administered orally. This review's aim is to study the various methods of enhancement of solubility, bioavailability and dissolution rate of hypolipidemic drugs. Will discuss the methods involved in it, for instances by size diminution, conversion of crystalline into amorphous counterpart, solvent-evaporation method, o/w emulsion-evaporation method, electrospray method, co-crystallisation, complexation with cyclodextrin and others. The solubility and bioavailability of the drugs are enhanced when administered in novel drug delivery systems with additives like

hydrophilic polymer-PVP K30, ethyl cellulose, poloxamer, surfactants- Cremophor ELS and nanoparticulate formulation-CAOM-SMEDDS. Atorvastatin is encapsulated by ethyl cellulose NP and it is performed by emulsification-evaporation methods enhances the bioavailability by 3.87 folds. A single o/w emulsion solvent evaporation method facilitates the Atorvastatin-Ca with PLGA nanoparticle, results in sustained release of drugs. The use of the CAOM with SMEDDS facilitates an unprecedented enhancement in fenofibrate bioavailability. Electro sprayed polymeric nanosphere for fibrates with PVP K30 and Cremophor ELP formulation employed through solvent -evaporation and electro spraying technique results in increasing the bioavailability by 14 folds.

Abstract no: ab/ic/22-ADV-035

Preparation, Evaluation andCharacterisation ofDe-TanningCreamContaining Nano Sized Glutathione and Aloe Vera for De- Tanning

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Sun tanning is the process in which skin colour is darkened or tanned. The first effect of sun light is erythema(redness) of skin followed by formation of tan. Moderate exposure to sun contributes the production of melanin and vitamin D by body. Melanin is to protect skin cells from UV radiation damage. Glutathione is responsible for de tanning process and so this formulation mainly consists of Glutathione, where its actual particle size was reduced to nano particle size to increase the absorption, aloe vera, rose water extract and additives were used. Nano sized Glutathione is the main ingredient used to enhance the whitening property of the skin. Honey was used as humectant to improve the moisturizing property of Aloe vera. This product is also used to treat acne. Where rose extracted water has anti-bacterial property. Various parameters were examined and evaluated. The developed preparation was evaluated over skin spreadability, viscosity, pH and consistency. The research study showed that, all the obtained values were in the acceptable range. Hence it can be concluded that the developed cream was safe and effective for the intended purpose without any signs of irritation.

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Enhancing entrapment efficiency of hydrophilic drugs in liquid crystal nanoparticles – A Review

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Liquid crystalline nanoparticles are particles comprising dimensionally arranged bicontinuous as well as nonintersecting lipid bilayers. This forms a continuous periodic membrane lattice structure with pores formed by two interwoven water channels. Here the Liquid crystalline nanoparticle – cubosomes, have the advantage of incorporating hydrophilic, lipophilic and amphiphilic drug molecules. But incorporating hydrophilic drugs is challenging as it exhibits low entrapment efficiency. This is because of low diameter of water channel which leads to leakage of hydrophilic drugs. This hydrophilic drug leakage may be avoided by tuning the pore size of the water channels in cubosomes.This review aims to find various methodologies for rational design of cubosomes which helps in tuning the water channel pore size and increasing the entrapment efficiency of the

hydrophilic drug molecules. By identifying a rational design and overcoming this difficulty various biomolecules can be incorporated in cubosomes and can be used therapeutically.

Abstract no: ab/ic/22-ADV-037

Design, Characterization and Formulation of Carbamazepine Nanocrystals Tablet

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In this study, a high speed homogenisation followed by lyophilisation was developed to produce nanocrystals of carbamazepine (CBZ), a poorly water soluble drug, for solubility rate enhancement of CBZ include compaction with HPMC-K100, Poloxamer-188, Ethyl cellulose formation of nanosuspension followed by lyophilisation with highly hydrophilic carrier such as mannitol to prevent particle agglomeration in powdered state. Nanocrystals were characterized in terms of drug content, particle size and zeta potential and saturated solubility, dissolution studies were investigated and compared to the pure drug CBZ to verify the theoretical hypothesis on the benefits of increased surface area. Crystalline state were evaluated by scanning electron microscope (SEM) and x-ray powder diffraction (XPRD) analysis. Through this study, it has been revealed that initial crystalline state is maintained following particle size reduction and that the dissolution characteristics of Carbamazepine nanoparticles were significantly increased with regard to the commercial product. The method existence simple and easily scaled up, this approach should have a general applicability to many poorly water-soluble drug entities.

Abstract no: ab/ic/22-ADV-038

Hytochemical evaluation and wound healing activity of herbal based formulation “Ramenta” in rats

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Background and Purpose:Wound is defined as the disruption of cellular, anatomical, and functional continuity of a living tissue.Current estimates indicate that worldwide nearly 6 million people suffer from chronic wounds. Delayed wound healing is producing high economic burden on the society and is generally associated with Diabetes mellitus or related complications thus need needing safe treatment like herbal formulation. To overcome above hurdles, herbal based formulation is used.These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms. These phytomedicine are economical and affordable but are also safe Ramenta, a coconut plant material was evaluated for wound healing potential in rats. These constituents include various chemical families like alkaloids, essential oils, flavonoids, tannins, terpenoids, saponins, and phenolic compounds. Methods: Preparation of Ramenta suspension:- Ramenta suspension was prepared using Ethanol(90%) and peanut oil.The effect of herbal formulation using Ramenta on wound healing has been studied in animals with Coconut plant material(Ramenta),Ethanol(90%),Octanol ,Peanut Oil, Ether and compared with standard (povidone iodine suspension) using excision wound model. The prepared crude drug, Peanut oil and Ramenta suspension was administered at a dose of topically 25µl

on the animal wound. Standard drug and test drug (T1, T2 and Pure drug) were applied on wound everyday up to 14th day. The wound area of each animal was measured on the 0, 3rd , 6th , 9th . 12th and 14th days in square millimeter by using graph paper and scale. Results: The preliminary phytochemical evaluation test has shown the presence of steroids (or)triterpenoids.In-vivo wound healing results revealed the decreasing of wound area from day to day. However on 14th day, the Group–1 shown 75.15% protection, whereas the Group–2 showed 93.55% protection. On the other hand Group – 3 showed appreciable wound healing activity of 81.40% protection as compared to standard group, whereas Group – 4 exhibited 89.16% protection,Group –5 exhibited 79.86% protection which is closer to that of standard providone iodine. Conclusion: The present preliminary work found the significant wound healing activity and Ramenta herbal work required a lot of In-vivo studies needed to perform for clinical usage of this formulation

Abstract no: ab/ic/22-ADV-039

In-vitro and In-vivo assessment of Dual loaded phyto-isolates encapsulated with anionic polymer based nanoformulation against cancer cell lines.

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Background: Flavanoids like Quercetin,Rutin,Silibinin possessing anti-cancer activities with limited solubility and bioavailability.To overcome this limitation in this study aimed to prepare dual loaded nanoformulation containing Quercetin,Rutin and Silibinin compared with single loaded nanoformulation has been performed using anionic polymers(Eudragit E100) with poloxamer188&407 as surfactant.

Methods: To prepare this nanoformulation, stirring techniques has been used. The prepared polymeric nanoformulation were subjected for characterization studies like FT-IR,FESEM,Zeta sizer(Malvern). Performed *In-vitro* anticancer efficacy studies using MTT assay against MCF-7 cells and SRB assay against Ovkar-3,HEPG2,HeLa cells were cultured separately in DMEM supplemented with 10% inactivated FBS and *In-vivo* anticancer efficacy studies in SD rats with the help of tumerogenesis parameter.

Results: In MTT assay, Qu-Ru & Qu-Si polymeric nanoformulation showed good cytotoxicity on MCF-7 cells at 1000µg/mL(CTC50:580.00±0.3&273.33±5.8µg/mL) in comparison with paclitaxel. In SRB assay,Qu-Ru,Qu-Si polymeric nanoformulation displayed excellent cytotoxicity on Ovkar-3 cells(LC50:>100µg/mL;TGI:55.2µg/mL;GI50:<10µg/mL),HEPG2cells(LC50:>100&95.5µg/mL;TGI:42.7&36.8µg/mL;GI50:<10µg/mL),HeLacells(LC50:>100&95.5µg/mL;TGI:42.7&36.8µg/mL;GI50:<10µg/mL) which similar to control Adriamycin but single loaded NF's displayed mild and poor cytotoxicity based on cell lines. *In-vivo* studies confirmed that prepared plain,Qu,Ru,Si,QuRu,Qu-Si loaded nanoformulations does not produce any sign of toxicity in animals at given single and multiple oral dose and also displayed enhanced cytotoxicity against cancer cell lines.

Conclusion: Qu-Ru,Qu-Si dual loaded polymeric nanoformulation has shown a significant anticancer activity as compared with the pure compound and single loaded polymeric based nanoformulation.

Abstract no: ab/ic/22-ADV-040

Determination of the impact of drying on bioactive compounds present in Morinda citrifolia (Noni) by HPTLC fingerprinting technique

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Noni is a popular medicinal plant used in the traditional system of medicine. The present study reveals the impact of drying on bioactive compounds present in Morinda citrifolia L (Rubiaceae) by the high-performance thin-layer chromatographic (HPTLC) fingerprinting technique. The phenolic acid p-coumaric acid (p-CA), also known as 4-hydroxycinnamic acid, has been extensively researched because of its protective properties against several disorders. p-CA has potential pharmacological effects because it has high free radical scavenging, anti-inflammatory, antineoplastic, and antimicrobial activities, among other biological properties. Fully Ripened noni fruits are dried by conventional drying technique (hot air oven 70℃) and by lyophilization technique. Dried fruit powders obtained from both techniques contain p-coumaric acid, which has been quantified by the HPTLC technique. Among the different combinations of mobile phases used, the best separation was achieved in Toluene-ethyl acetate-formic acid: methanol [12: 5:0.8:0.4]. Densitometric scanning of the plates directly at 254nm was used for the analysis of p-coumaric acid. The Rf values (p-coumaric acid-0.28) and fingerprint data were recorded by WIN CATS software. The drying technique plays a crucial role in the bioactive compounds present in noni. The developed HPTLC methods for bioactive marker compounds present in the fully ripened noni fruit were found to be simple, accurate, and economical.

Abstract no: ab/ic/22-ADV-041

Synthesis and In-silico studies of N-Alkyl substituted thiocarbamates as anti HIV agents

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To date, 76 million are infected by the virus globally with around 33 million deaths. According to the UNAIDS report in 2019, 37.9 million people were living with HIV, among them 36.2 million are adults and 1.8 million are children, indicating these infections as a major threat to humans all over the world. Thiocarbamates are the important class of compounds that have numerous biological effects ranging from pesticidal, fungicidal, bactericidal, anaesthetic, anticancer and antiviral activity. The Riemschneider thiocarbamate synthesis converts alkyl or aryl thiocyanates to thiocarbamates under acidic conditions, followed by hydrolysis with ice water. In present study N-Alkyl substituted thiocarbamate derivatives are synthesized and characterized and subjected for In-silico studies for their anti HIV activity. In present study totally 30 compounds of N-Alkyl substituted thiocarbamates were synthesized using simple method. All the synthesized compounds were characterized using NMR and Mass spectroscopy. The synthesized compounds were docked against the target Reverse transcriptase enzyme to explore the binding mode. Most the compounds showed interaction with TYR 181 one of the important amino acid residues of HIV RT enzyme. Future studies related to in vitro and in vivo studies will lead the development of novel anti HIV agents.

Abstract no: ab/ic/22-ADV-101

Effect of Plasticizer Type on the Mechanical Properties of Oral Dissolving Films of High Amylose Maize Starch loaded with Salbutamol Sulphate

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Purpose: High amylose maize starch (HAMS), a genetically modified starch has an excellent property to form transparent, odourless, tasteless films with good mechanical and barrier properties, and is attributed to the high amylose content (>60%) of the starch. The present work aims at the development of oral dissolving films using HAMS containing salbutamol sulphate as model drug and to study the impact of plasticizers on the mechanical properties of the prepared films.
Materials and Methods: The HAMS oral films are prepared after gelatinizing the starch using alkali treatment at low temperature by solvent casting method. Glycerol and sorbitol are employed as plasticizers in different concentrations. The casted films were evaluated for thickness, mechanical properties, disintegration time and *in vitro* drug dissolution studies.
Results and Discussion: The increase in the concentration of the polymer was found to enhance the mechanical property of the HAMS oral dissolving films. On the otherhand, films containing glycerol as plasticizers exhibited poor mechanical properties than the films containing sorbitol. However, all the prepared films demonstrated satisfactory results in characterization such as content uniformity, swelling index, folding endurance, disintegration time and *in vitro* dissolution studies.
Conclusion: From the study, it is evident that the HAMS can be utilized as a promising film-forming polymer in the development of oral dissolving films. Also, sorbitol could be the preferred plasticizer in formulating HAMS oral films with good mechanical property.

Abstract no: ab/ic/22-ADV-102

Development and assessment of anti-bacterial activity of plant based bioactive wound care dressing

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Background: Most of the marketed bioactive wound dressings contain ionic silver for immediate and controlled release. But they have certain drawbacks like a secondary dressing is needed to secure silver dressing in place and cannot be used in patients sensitive to silver. Also, upon oxidation, the silver turns black and may stain the tissues. Hence, they are not recommended for use together with topical medications. Therefore, the present study aimed to develop a plant based bioactive wound dressing (non-woven viscose) for natural healing using the plants *Acalypha indica* &*Aloe vera*.
Methods: The wound dressings were prepared by using the extracts obtained from the plants & phytochemical screening of the extracts were carried out. Qualitative identification of active ingredients in extracts were carried by UV-Visible Spectroscopy and IR analysis and screened for their antibacterial activity. The dressing was activated by Dip and Dry method and anti bacterial activity was evaluated by Agar- well diffusion method against *S.aureus & E.coli.*
Results: The UV and IR analysis confirms the presence of alkaloids, flavonoids and polyphenols. The anti-microbiological assay results exhibited that the wound dressing containing *Aloe vera* & that

containing *Acalypha indica* exhibited significant activity against both the organisms and the wound dressing activated with the combination of both extracts did not produce any significant activity.

Abstract no: ab/ic/22-ADV-103

Stavudine Loaded Reverse Micelles for Sustained release: Development and Characterization

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Stavudine is an antiretroviral drug used in the treatment of HIV (human immunodeficiency virus). It has short half life of 0.8-1.5 hr. It has significant dose related toxicities. The sustained release formulation of stavudine may overcome this deficit, by reducing total administered dose thereby lessens the toxicity. Stavudine is highly soluble in water (BCS Class I), and hence judicious selection of carrier which can encapsulate the drug is necessary to sustain the release of drug.Reverse micelles are nanometer-size droplets of aqueous phase, stabilized by surfactants in an organic phase. The orientations of surfactant in reverse micelle are inverted so that the head groups point into the enclosed volume containing the polar phase. Enclosed polar phase in the reverse micelles facilitate the encapsulation of water soluble drugs and helps in sustaining the release of the water soluble drug. In the present study, the sustained release system for stavudine was achieved by encapsulating it in to reverse micelles. To prepare reverse micelles, lecithin was used as surfactant and isopropyl myristate was used as organic solvent. Various concentrations of lecithin were optimized to achieve reverse micelles with desired particle size and encapsulation efficiency. In vitro release studies were performed to confirm the sustained release of the formulated reverse micelles containing stavudine.

Abstract no: ab/ic/22-ADV-104

Nanovesicles as Targeted Therapy for Non small cell Lung Cancer treatment

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Lung cancer is the second most commonly diagnosed cancer and the main reason for cancer-related death worldwide.Approximately 90% of lung cancer cases are non-small cell lung cancer (NSCLC). Most patients experience a significant death rate as a result of the advanced stage of diagnosis. This highlights the inadequacy of current therapeutic strategies.Recent years have seen significant advancements in the creation and use of nanotechnology for the treatment, diagnosis, and detection of cancer.The newly growing discipline of "cancer nanomedicine" has resulted from these advancements.Due to their bioavailability, invivo stability, sustained and targeted distribution, and therapeutic efficiency of various anticancer drugs, nanoparticle-based therapeutic systems have become increasingly popular.Currently, a wide variety of nanocarrier formulations are used, including lipid-based, polymeric and branching polymeric, metal-based, magnetic, and mesoporous silica.In order to diagnose, image, screen for, and treat primary and metastatic cancers in lung cancer, nanoparticle-based treatments are paving the way.A fascinating and challenging area of research is the use and development of new nanocarriers for drug delivery, especially for the delivery of cuttingedge cancer medicines. Our research focus is to develop hypoxia activated nanovesicular system functionalized with biotin to selectively target cancer cells. The development of such novel

nanoparticle-based drug delivery systems for the treatment of lung cancer is reviewed here, along with some of the hurdles that still need to be addressed.

Theme: Biodrugs, Bio-molecules and Therapeutics

Abstract no: ab/ic/22-BB-001

Novel ER-β compounds exhibited antiapoptosis in focal cerebral ischemia condition and gender difference study

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Focal cerebral ischemia occurs when a blood clot has blocked a cerebral vessel, where its reduces blood flow to the particular region, increases the risk of cell death in that area (MCAo). During this ischemic condition, upregulation of the estrogen receptor have been exhibited neuroprotective role. The new chemical entities CMU,CUE (ER-β Agonist) were developed and were treated in animals to evaluate the neuroprotection activity. Different dose of the CMU (10mg/kg), (20mg/kg), CUE (10mg/kg) & the standard drug estradiol (180µg/ml) were given to the animals. The neuroprotective activity was compared between Estradiol & NCE. The neuroprotective action of estrogen compounds were studied for gender difference because estrogen has been known neuroprotective hormone. The parameters like neurological deficit score, grip strength, open field, elevated plus maze were measured to evaluate the behavioural activity. The pro-inflammatory mediators like IL- 1β, TNF-α levels are measured by the ELISA. The apoptotic proteins Bcl-2/Bax levels were measured using the Western blot analysis. The necrotic region was measured with TTC staining. The results showed that after 7 days of CMU, CUE treatment, the compounds have demonstrated neuroprotective activity by decreasing the level of pro-inflammatory mediators & pro-apoptotic protein. In gender comparison study, the females has exhibited more neuroprotection when compared to males. Hence in the present research work new chemical entities have been developed targeting estrogen receptor. Keywords: Estrogen Receptor, estradiol, neuroprotection, neuroinflammation, gender difference.

Abstract no: ab/ic/22-BB-002

Olanzapine for cognitive dysfunction exhibited neuroprotection through suppressing inflammatory mechanism

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Stroke is a condition caused by occlusion or haemorrhages from a blood vessel supplying the brain. Focal cerebral ischemia occurs when a blood clot has blocked the cerebral blood vessel, reducing blood flow to particular region. Olanzapine which is atypical antipsychotic drug is also non selective GSK β inhibitor, has been used to evaluate its neuroprotection after focal transient cerebral ischemia in rat model. The parameters like neurological deficit score, locomotor activity, grip strength, Morris water maze test, inflammatory mediators expression were measured to elucidate the possible mechanism of olanzapine.TTC staining was performed to assess the cerebral ischemia lesions. The

sham operated group showed no infraction whereas the MCAo performed groups showed infraction. There was increased neurological deficit score in MCAo rat when compared to sham operated rats. The MCAo rats showed decrease in locomotor activity, exploratory, rearing, grooming and ambulation behavior indicating cerebral ischemia resulted in anxiogenic behaviour. The neuromuscular activity was decreased in MCAo rats. The MCAo rats in Morris water maze have shown significant increase in mean escape latency and decrease in time spent in target quadrant indicates decrease in spatial memory. Olanzapine was treated (1mg/kg, 5mg/kg) after 24 hours of MCAo surgery. Post ischemic olanzapine treatment increased the locomotor activity, neuromuscular activity and cognitive behaviour suggesting that olanzapine protects the brain damage induced by cerebral ischemia. Olanzapine showed inhibitory effect on IL-1 β cytokine level whereas TNFα levels remained unaltered. To conclude, treatment with olanzapine exhibited neuroprotection through restoring behavioural and cognitive functions. The neuroprotective role of olanzapine is attributed to anti inflammatory property.KEYWORDS: Olanzapine, Neuroinflammation, Neuroprotection, Cerebral ischemia, Cognition

Abstract no: ab/ic/22-BB-003

Streptozotocin induced neurotoxicity alleviation by daidzein, an isoflavone

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Streptozotocin (STZ) on neuronal cells causes cell death via oxidative stress and mitochondrial dysfunction. The protective effects of an Isoflavone, Daidzein, from soybeans was evaluated in streptozotocin induced neurotoxic model. Neuro 2A (N2A) cells were used to assess the daidzein effect against STZ toxicity. Reports indicates Daidzein possesses activities like anti proliferation, anti-oxidant, anti-inflammatory and anti-hyperglycemic. The present study has been designed to evaluate the neuroprotective effect of daidzein and resveratrol in STZ treated cells. The cytotoxicity of streptozotocin and protective activity of the drug was determined by MTT assay by measuring cell viability. The morphological and nuclear variations were assessed by acridine orange/ethidium bromide staining. The mitochondrial membrane potential was also determined to reflect the mitochondrial function. The results have shown that daidzein treated cells showed increased number of live cells compared to STZ treated cells. The AO/EB staining confirms the neuroprotective activity of daidzein and resveratrol against STZ induced neuronal toxicity. The daidzein and resveratrol treated cells showed higher mitochondrial protection than STZ treated cells. The effect of STZ on N2A cells on JNK 3 signaling after 48 hours was determined by western blot. The JNK 3 expression in STZ treated cells was higher than normal, treatment of daidzein and resveratrol decreased the JNK 3 expression after 48 hours. To conclude, daidzein protects the N2A cells from pathological hallmarks of STZ induced neurotoxicity by inhibiting JNK 3 expression.

Abstract no: ab/ic/22-BB-004

Simultaneous quantification of dolutegravir and lamivudine in human plasma (in- vitro) by rp-hplc method

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The objective of the study was to develop a simple and rapid chromatographic method for quantification of dolutegravir and lamivudine in combined dosage form and plasma. The separation was achieved with a sun fire C8 [150×4.6 mm] 5 µm column with an isocratic mobile phase containing a mixture of acetonitrile: potassium dihydrogen orthophosphate buffer [55:45 v/v]. The flow rate of the mobile phase was 1.0 ml/min with Photodiode array [PDA] detection at 260 nm. Methanol was used as extraction solvent. Different concentration of drug spiked with plasma and centrifuged for 20 minutes at 3000 rpm.Retention time was found to be 3.1 min and 1.6 min. The calibration curve was linear over a concentration range from 1-5 µg/ml for dolutegravir and 6-30 µg/ml for lamivudine with a correlation co-efficient 0.995 and 0.999 respectively. The method was developed and validated with respective, precision, linearity and repeatability, limit of detection (LOD) and limit of quantification (LOQ), system suitability studies. The precision of the results stated as the relative standard deviation was below 2 %. The lowest detection limits were found to be 0.05 µg/ml for dolutegravir and 0.10 µg/ml for lamivudine. The lowest quantification limits were found to be 0.15 µg/ml of dolutegravir and 0.30 µg/ml of lamivudine. The developed method was applied successfully for the determination of dolutegravir and lamivudine in the combined dosage form and plasma.

Abstract no: ab/ic/22-BB-005

Activation of adiponectin mediated AMPK pathway using bisphenolic antioxidant for amelioration of insulin resistance

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The present study investigated the anti-diabetic effect of 4,4'-methylene bis (2,6-di-tert butyl phenol) via amelioration of insulin resistance in Sprague Dawley rats. In silico studies involving molecular docking was performed to find the adiponectin receptor-1 agonist followed by molecular dynamics to find the stability of the drug. Further, in vivo studies were performed that involved the induction of insulin resistance via high fructose diet-streptozotocin (40mg/kg/i.p) for 14 days. Group I served as positive control; Group II that served as negative control received HFD-STZ; Group III received HFD-STZ followed by Metformin (120mg/kg/p.o); Group IV and V received HFD-STZ followed by drug treatment at 200mg/kg and 400mg/kg respectively for 28 days. The results of the present study revealed that Group IV and V had significantly ($p<0.05$) reduced food and water intake, improved body weight and random blood glucose levels when compared with Group II. In biochemical parameters, altered level of serum lipids such as TC, TG, HDL, VLDL and LDL were found to be corrected in Group IV and V. These results were supported by histopathological studies of liver and pancreas. Taken together, these results suggest the ameliorative effect of the drug on insulin resistance via activation of adiponectin mediated AMPK pathway.

Abstract no: ab/ic/22-BB-006

Regulation of lipid, glucose metabolism and insulin resistance through PPAR using glycosyloxyflavone

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This work investigated the amelioration of insulin resistance via activation of PPAR by using glycosyloxyflavone using high fructose diet and streptozotocin induced animal model. The number

of phytoconstituents structures are selected for in-silico docking studies and screened for potential PPAR agonist. Then phytoconstituents are selected based on docking score and. MMGBSA analysis. The baicalin selected based on most stable complex with PPAR is MD studies. Further, in vivo studies were performed that involved the induction of insulin resistance via high fructose dietstreptozotocin (40mg/kg/i.p) for 14 days. Group I served as positive control; Group II that served as negative control received HFD-STZ; Group III received HFD-STZ followed by pioglitazone (20mg/kg/p.o); Group IV and V received HFD-STZ followed by drug treatment at 80mg/kg and 120mg/kg respectively for 28 days.This study proved the regulative effect of Baicalin on lipid glucose metabolism and insulin resistance in diabetes induced animals which may be due to Pan PPAR agonistactivity of the compound. The high dose of baicalin treatment, revert the food and water intake, improved body weight and random blood glucose levels and correct the altered level of serum lipids such as TC, TG, HDL, VLDL and LDL when compared with negative control group. These results were supported by histopathological studies of liver, pancreas and adipose tissue. This may be a promising source for the discovery of novel antidiabetic agents.

Abstract no: ab/ic/22-BB-007

Assessment of incidence and management of contrast induced nephropathy

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Contrast induced nephropathy (CIN) is defined as an acute deterioration of renal function after the intravascular exposure to contrast media. It defines AKI by an absolute increase in serum creatinine to 1.5 times baseline, occurred within 7 days. There is no specific treatment for contrast induced nephropathy. EBM includes administration I.V fluids with isotonic and half isotonic sodium chloride or sodium bicarbonate.The objectives are to identify the incidence, possible risk factors of CIN and assessing the effectiveness of I.V fluids therapy against combination of I.V fluids with NAC therapy. Assessing the CIN treatment by grouping population as patient received I.V fluids along with NAC. Independent t test, paired t test and ANOVA were done to analyse the data. The severity of renal injury is more in patients with comorbid conditions like DM, hypertension, cardiac disease and DM plus hypertension than without comorbid conditions. The average risk of serum creatinine is 0.35mg/dl in patients with comorbid risk & 0.21mg/dl in patients without comorbid risk. Combination of I.V fluid & NAC therapy is effective treatment of CIN. The recovery of renal is more effective in I.V fluids plus NAC therapy than I.V fluid alone therapy. The average serum creatinine of I.V fluid plus NAC is (1.38 mg/dl) and in I.V fluid alone is (1.25mg/dl) & hospital stay is required less I.V fluid plus NAC therapy (3.90 days) than I.V fluid alone therapy (5.14 days). This study concludes that incidence of CIN was found to be 10%.The combination of I.V fluid plus NAC therapy is the more effective treatment of CIN.

Abstract no: ab/ic/22-BB-008

Benefits of n-acetylcysteine in the management of acute pancreatitis

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The objective is to evaluate the outcomes of conventional therapy and combination of NAC with conventional therapy in acute pancreatitis. The patients based on treatment received: 40 patients who

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received conventional therapy and 25 patients who received NAC (Infusion: 1g/5ml + 25ml normal saline followed by oral tablet of 600mg twice a day) along with conventional therapy. The biochemical markers such as serum amylase and serum lipase were observed at baseline and after the therapy. In the conventional therapy group the mean serum amylase value was decreased from the baseline mean serum amylase value and similarly in NAC+ conventional therapy the mean serum amylase value decreased from the baseline value (225).From the difference in serum values obtained from both the treatment groups it was found that the serum values was greater reduced in conventional therapy (129) compared to NAC+ conventional therapy (81) and was statistically significant (p= 0.01). Ransons criteria was assessed, in which the difference between the mean scores did not show any significant difference in two treatment groups (p=0.4). APACHE-II scores showed significant effect after 24 hours (p=0.04) and after 48 hours (p=0.01) of the treatment. The difference in mean APACHE-II scores in the conventional therapy was greater reduced than NAC+ conventional therapy and was statistically insignificant (p= 0.1). The assessment of benefits of the treatment for AP with conventional therapy and NAC+ conventional therapy shows that the NAC does not have any additional beneficial effects over acute pancreatitis when added along with conventional therapy.

Abstract no: ab/ic/22-BB-009

Extraction of collagen from bovine hide wastes of tannery: A waste-derived biomaterial as building blocks for Pharmaceutical applications.

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Introduction: Skin is the largest and one of the most complex organs in the human body easily affected by various harmful external factors. Appropriate healing of the wound is essential for the restoration of disrupted anatomical stability and disturbed functional status of the skin. Collagen plays a significant role in treating acute and chronic wounds such as cuts, burns, ulcers associated with other illness via enhancing the debridement of infected tissues, angiogenesis and promoting natural growth. Bovine based collagen contributed many shares towards biomedical application. This study presents the extraction of collagen a highly valuable product.

Methods: Experiments were carried out using acetic acid for the solubilisation of collagen from hide waste. The extracted collagen was purified using dialysis method and freeze dried. The collagen was further characterized for its physical, biochemical, morphological properties by specific analytical techniques.

Results:The UV, IR spectra, SDS-PAGE analysis confirmed the presence of helical native confirmation. Scanning Electron microscope presented loose long fibers with interconnected fibrils. Differential Scanning Calorimetry report showed that thermal denaturation of protein 73.97ºC for extracted collagen. The zeta potential results indicated that net charge of zero was found at pH 6. Presence of higher concentration of hydroxyproline in aminoacid analysis and EDX report clearly shows the presence of type-I collagen.

Conclusion:Hence the extracted collagen, confirmed the helical structure and higher thermal stability and it may enhance the added value for bovine hide. The isolated biomaterial can be used to developing burn wound dressing.

Abstract no: ab/ic/22-BB-010

Anti-Diabetic Activity of Selective Androgen Receptor Modulators in Type 2 Diabetic Rats

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Type II diabetes mellitus (T2DM) results from defects in insulin secretion and/or insulin resistance. Roughly, 37% to 57% of men with T2DM have low serum testosterone level. Testosterone therapy had improved the β-cell function and insulin resistance among the T2DM men. However, the ratelimiting factor is the increase in the hematocrit value. Hence, selective androgen receptor modulators (SARMs) that act in a tissue-specific manner could be beneficial for T2DM treatment. Molecular docking was performed to select SARMs which has a high selectivity with androgen receptor in partial agonist conformation. SARMs were screened against agonist-bound (PDB: 1T7R) and partial agonist-bound (PDB: 3V49) androgen receptors. The best hit molecule was then subjected to molecular dynamics simulation of 40ns by using Desmond, Schrodinger. In-vivo studies were performed on a high-fat diet and STZ-induced diabetic rats. Parameters such as blood glucose level, hemoglobin content, RBC count, and histopathology of the pancreas were assessed. Among the SARMs, ligandrol was highly selective towards 3V49. Molecular dynamics simulation showed a better protein-ligand contact during a span of 40ns with 3V49. In the in-vivo studies we observed a significant decrease in the blood glucose level in the ligandrol-treated group. Consistently, histopathological studies showed that the ligandrol-treated group protected islet degeneration when compared to negative (disease) control. Ligandrol doesn't affect the hematocrit values during the 14day treatment period. However, chronic studies are required to prove ligandrol's effect on hematocrit values. In this study, we conclude that ligandrol could be a potential agent in the treatment of T2DM.

Abstract no: ab/ic/22-BB-011

Protective effect of naringenin against hepatocellular carcinoma

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Hepatocellular carcinoma is the major type of liver malignancy. Worldwide, liver cancer is the third leading cause of cancer death. Hepatic damage results in necrosis, jaundice, fibrosis, cirrhosis, hepatitis, etc. This review illustrates about the activity of naringenin against hepatocellular carcinoma cells. Wiley, PubMed were considered to outline the review. Naringenin is a important phytochemical which belongs to flavanone group of polyphenols and obtained from various fruits such as grapes, citrus fruits, tomatoes and figs. Naringenin exhibits several therapeutic actions like antioxidant, anticancer, antimicrobial and anti–mutagenic. Researchers have reported that naringenin inhibits migration and induces apoptosis in cancer cells. Treatment with naringenin increased the proportion of apoptotic cell membrane blebbing, protrusion and cell fragmentation. The main protective effect of naringenin in liver disease are the inhibition of oxidative stress, transforming growth factor pathway and the prevention of hepatic stellate cells. Using MTT Assay and Lactate dehydrogenase assay on HepG2 cell lines, the anticancer activity of Naringenin was studied. Naringenin have been

reported to overcome multidrug resistance, which is major obstacles of clinical treatment. Naringenin is efficient in cancer combination therapy. However, it possesses low bioavailability and high intestinal metabolism. Hence formulations, such as nanoparticles or liposomes, have been developed to improve naringenin bioavailability.

Abstract no: ab/ic/22-BB-012

Monoclonal antibodies: A new therapeutic approach for the treatment of Covid-19

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COVID-19, mainly an infectious disease which affects primarily the lungs. In the first phase of SARS-CoV-2 infection, the damage is induced by the virus entering the host cell through the binding of the spike protein with ACE-2 receptors and they start to replicate. In the second phase of disease progression, the disease was driven by an exaggerated inflammatory response. According to the epidemiological data on worldwide reported that 63.6 Lakh deaths were reported since 2019. Monoclonal antibodies for the treatment of COVID-19, which are available under emergency use authorization to prevent disease progression and reduce the risks of hospitalization and mortality when given early. Among the therapeutic options available, human monoclonal antibodies can be developed in a short time duration. Most effective ones are the combination of casirivimab and imdevimab or bamlanivimab and etesevimab. Bamlanivimab and etesevimab: to be used when there is mild to moderate infection. Casirivimab and imdevimab: to be used when there is mild to moderate infection and the person is at risk of developing severe infection. The main advantage of this therapy was the patient doesn't require any oxygen therapy. Levilimab and Tocilizumab are used to fight against the cytokine storm in covid-19 patients. Tixagevimab and cilgavimab, these recombinant human anti-SARS-CoV-2 mAbs bind to nonoverlapping epitopes of the spike protein RBD of SARSCoV-2. In this review we concise about the various aspects of treating covid-19 with novel monoclonal antibodies.

Abstract no: ab/ic/22-BB-013

A Systematic Review of Lenvatinib – a potential multitargeted tyrosine kinase inhibitor in the treatment of Differentiated Thyroid Cancer

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Aim: The objective of this review is to display the importance of Lenvatinib as an effective multitargeted tyrosine kinase inhibitor. The primary objective is to elucidate the safety and efficacy profile of Lenvatinib. The secondary objective is to compare the effectiveness of Lenvatinib with other kinase inhibitors.

Introduction: Thyroid cancer is the most predominant endocrine malignancy. Most cancer types are very well treated with surgery and radioactive iodine (RAI) therapy. But certain types are resistant to surgical and RAI therapy. Differentiated thyroid cancers (DTCs) account for about 95% of all thyroid cancer cases and it is subdivided into 2 major histologic subtypes-papillary thyroid carcinoma and follicular thyroid carcinoma. DTC can be treated with multitargeted tyrosine inhibitors such as Lenvatinib, Sorafenib, Cabozantinib, Vandetanib. Lenvatinib is FDA approved drug for patients with

RAI-refractory DTC.The dosing and adverse-event management strategies for lenvatinib have been developed through extensive clinical trial experience.The adverse-event profile of lenvatinib is consistent with that of other tyrosine kinase inhibitors.Lenvatinib mainly functions by blocking certain cancer proteins. The targeted blocking of these receptor kinase inhibitors leads to inhibition of cancer blood vessel formation and suppression of the growth signaling pathways in these tumors. Conclusion: We suggest that Lenvatinib is a more valuable treatment option for treatment of patients with differentiated thyroid cancer than other tyrosine kinase inhibitors. Monitoring and careful management of adverse events including supportive care are required to ensure continuation of therapy.

Abstract no: ab/ic/22-BB-014

Review of Prophylactic Medicine in Preeclampsia

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The condition which high blood pressure during the period of pregnancy is known to be pregnancy-induced hypertension (PIH). The PIH is said to be TOXEMIA or PREECLAMPSIA(PE). This finding suggests that PIH more specifically preeclampsia is a heterogeneous syndrome and preeclampsia may appear in two forms, Restricted fetal growth preeclampsia, and Normal fetal growth preeclampsia and they are considerably more prevalent in low-income than in high-income countries. The first clinical trials were very promising, but then two large multi-center trials dampened enthusiasm until meta-analysis studies showed aspirin was effective, but with caveats. Low-dose aspirin was most effective when started <16 weeks of gestation and at doses >100 mg/day. This PIH may lead to dietary differences, particularly calcium deficiency therefore the efficacy of vitamin D and calcium supplantation in preventing preeclampsia is controversial. To assess the impact of vitamin D and calcium supplements on the risk of preeclampsia. Here we came to infer that prophylactically aspirin, vitamin D and calcium supplements probably have a reduced risk of developing preeclampsia.

Abstract no: ab/ic/22-BB-015

Review on Targeted Therapy in Colorectal Cancer

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Colorectal cancer (CRC) is among the most deadliest and prevalent malignancies in the world. According to WHO the Death of colorectal cancer in 2020 is 916,000. CRC can be benign or malignant. The benign can be easily removed in the form of excision or tumorectomy. The malignant one can't be treated in this way. Many kinds of therapies are there like Surgery, Chemo therapy, Radiation therapy, Immuno therapy and Targeted therapy to treat malignant colorectal cancer.Targeted therapy (TT) is a therapy which only focus on cancer cells and leave the human cells unharmed .TT is comparatively high efficacy therapy, and in this therapy the adverse effects are less when compared to other therapies.TT may work on cancerous cells by directly blocking the cancer cell’s multiplication, differentiation,and migration, which may decrease the spreading of cancer cells throughout the body.In TT Mono clonal antibodies (MABs) are responsible for destroying cancer

cells by blocking the connection between a cancer cell and protiens that promote cell growth. In human cells dna damage repair protein PARP (Poly ADP ribose polymerase) and a gene BRCA (BReast CAncer gene) both are present but , In cancer cells BRCA genes are deficient, It only has PARP protein . MABs inhibit the action of PARP. By inhibiting PARP the cancer cells will be destroyed but the human cells will survive due to the presence of BRCA gene.

Abstract no: ab/ic/22-BB-016

Preliminary larvicidal potential of Andrographis echioides against dengue vector Aedes aegypti larvae

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The present study was conducted to assess larvicidal activity of Andrographis echiodies against the dengue vector Aedes aegypti larvae. Alcoholic leaf extract of Andrographis echiodies was studied at 500, 250, 125, 62.5, 31.25 and 15.625 ppm concentrations against third instar larvae of Aedes aegypti. 100 larvaes of Aedes aegypti mosquitoes were exposed to each concentrations of both ethanolic and methanolic crude extract of Andrographis echiodies in a volume of 100ml. To minimize the error five replicates were employed with respective diluted alcoholic solutions as control. The percentage mortality of larvae at different concentrations of both alcoholic extracts and control were recorded after 24 hrs and 48 hrs of constant exposure followed by LC50 and LC90 determined. The effective and highest coefficient of determination (R2) was calculated using regression analysis. The effective and highest coefficient of determination (R2) was 0.88 in 24 hrs of exposure of larvae in methanolic leaf extract of Andrographis echioides. Similarly the effective and highest coefficient of determination (R2) was 0.94 in 24 hrs of exposure larvae in ethanolic leaf extract of Andrographis echioides. From the result it was concluded that, both methanolic and ethanolic leaf extract of Andrographis echioides exhibited larvicidal activity against dengue vector Aedes aegypti larvae and it may be due to its secondary metabolite diterpenoid lactone. Further studies may be needed to expose its exact mechanism of action.

Abstract no: ab/ic/22-BB-017

Nipah virus – outbreak and treatment approaches: a review

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Nipah virus is a zoonotic pathogen, comes under biosafety level 4 (BSL – 4). They are non – segmented, negative stranded RNA virus, belongs to the family – Paramyxoviridae and the genus Henipavirus. The fruit bat comes under the genus pteropus, which is considered as primary reservoir for Nipah virus. Ephrin B2 and B3 found in the host cell, is identified as the entry receptor for Nipah virus. In the year 1999, Nipah virus was reported in Malaysia among the pig farmers and its outbreak was continued to report in some countries like Singapore, Bangladesh, India and Philippines. The people who are infected by Nipah virus, develop symptoms like fever, headache, myalgia, vomiting and sore throat. The diagnosis test for Nipah virus are found to be RT-PCR, ELISA, serum neutralization test. There is no currently available approved drugs or vaccines for Nipah virus.

Ribavirin is an antiviral drug used for the treatment of Nipah virus during its outbreak. Followed by Ribavirin, other antiviral drugs like Remdesivir, Favipiravir and monoclonal antibody m102.4 are currently on clinical trials.

Abstract no: ab/ic/22-BB-018

Novel Strategies for Treatment of Epilepsy: A Receptor Based Approach

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Epilepsy is a neurological disorder having two or more unprovoked seizures that affects 50-70 million people worldwide. There are three million people with drug resistant epilepsy (DRE) in whichmortality rate is increased 5 to 10 times. Sudden Unexpected Death in Epilepsy Patients (SUDEP) is seen in 1.16 per 1,000 people with epilepsy. Our review helps us to understand the different novel mechanisms drugs can act for treating Epilepsy.
mTOR INHIBITOR – EVEROLIMUS: Mammalian target of rapamycin inhibitors block the activity of Rapamycin, a protein kinase regulating the cell growth and angiogenesis which can act as molecular target for epilepsy. CANNABINOID RECEPTOR –CANNABIDIOL: CB2 has increased expression compared to CB1 which can be seen in various neurological diseases.Cannabidiol acts through antagonizing GPFR55 receptor, TRPV1 channels, ENT-1 adenosine reuptake pumps. TYROSINE KINASE INHIBITOR – SARACATINIB: Saracatinib is a Src/Fyn protein tyrosine kinase inhibitor whereinhibition of Fyn treatment to improve cognitive function in Status Epilepticus ADK INHIBITORS – 5-IODOTUBERCIDIN (5-ITU): Augmenting adenosine signaling by ADK-inhibitors will effectively suppress seizures including those that are resistant to conventional AEDs SEROTONERGIC RECEPTOR – FENFLURAMINE: Fenfluramine provides anti-epileptic activity via sigma1 (σ1) receptors. Zebrafish and mice studies have shown that FA- induced 5-HT1D,2A,2C,4, 7 agonism provides the anti-seizure activity.
CONCLUSION:The therapeutic approaches presented in this review are potential interventions for targeting seizure propagation and also novel strategies for effective treatments of refractory epilepsy and prevention of SUDEP in the future.

Abstract no: ab/ic/22-BB-019

Effect on Quality of Life in the Management of Asthma and Chronic Obstructive Pulmonary Disease Patients

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INTRODUCTION: Bronchial Asthma and Chronic Obstructive Pulmonary Disease (COPD) are two airway diseases which have shown high incidence of disability and mortality. An effective management plan might help to improve the patient's quality of life.
AIM: To compare the change in quality of life before and after the treatment of asthma and COPD patients
METHOD: The study was an open labeled observational study done in 64 patients with Asthma or COPD having FEV1<80%. Patient demographics such as age, gender, occupation, smoking habits and spirometric value FEV1 were documented. The patients were provided with a self reporting St.

George's Respiratory Questionnaire twice – At admission and review. The three component scores - Symptom, impact, activity and also total score was calculated using the SGRQ calculator. RESULT: After treatment, the SGRQ domains of asthma and COPD patients showed a statistically significant reduction in Symptom (t=25.568), Activity (t=20.427), Impact (t=27.167) and total score (t=31.855), and a statistically significant increase in FEV1 (t= -11.684) [all domains $p<0.05$]. There was a significant correlation between SGRQ total score and FEV1 found out by correlation analysis (r = -0.396) [$p<0.05$].

CONCLUSION: The results of this study underlined that the Quality of life of patients improved after treatment through the comparison of SGRQ component scores, and the FEV1 also improved in the revisit.

Abstract no: ab/ic/22-BB-020

Pro drugs: a vital tool in drug design

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The prodrug approach became a technique for improving drug therapy in the early 1970s. Numerous prodrugs have been designed and developed to overcome pharmaceutical and pharmacokinetic barriers in clinical drug application, such as low oral drug absorption, lack of site specificities, Chemical instability, toxicity, and poor practical acceptance (bad taste, odour, pain at the injection site, etc.). Classical prodrug design often represents a nonspecific chemical approach to mask undesirable drug properties such as limited bioavailability. On the other hand, targeted prodrug design represents a new strategy for directed and efficient drug delivery particularly; targeting the prodrugs to a specific enzyme or a specific membrane transporter, or both has potential as a selective drug delivery system in cancer chemotherapy or as an efficient oral drug delivery system. Siteselective targeting with prodrugs can be further enhanced by the simultaneous use of gene delivery to express the requisite enzymes or transporters. This paper highlights evolving strategies in targeted prodrug design, including antibody-directed enzyme prodrug therapy, gene-directed enzyme prodrug therapy, and peptide transporter-associated prodrug therapy.

Abstract no: ab/ic/22-BB-021

Development of Prediction Tool for the Asessment of Risks Associated With Acenocoumarol

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Background: Acenocoumarol, vitamin K antagonist have been widely used in clinical practice for both primary and secondary prevention of thromboembolic diseases. Since the acenocoumarol has narrow therapeutic index, its treatment is associated with increased risk of bleeding and clotting, thus the dosing management is difficult. The purpose of this study is to develop a Risk assessment tool to ensure the safest use of Acenocoumarol and to improve better patient outcomes. Materials and Methods: It is a retrospective observational single-centre study done at PSG Hospitals in Coimbatore, Tamilnadu, India. The data were collected for period of 2019-2020 from Hospital Information System based on inclusion and exclusion criteria. Using SPSS-version 26 Chi-square and Multinomial

logistic regression statistical tests were used to prepare the tool. Results: The determining factors associated with the bleeding and clotting risks were analysed and the risk assessment tool is developed. The developed tool has been validated in patients based on inclusion and exclusion criteria and it resulted in 75% accuracy. This tool indeed helps in the prior prediction of the risks associated with acenocoumarol treatment and further dosage adjustment. Conclusion: The study aimed for the safest use of acenocoumarol and decrease in the risks associated with the treatment. Therefore, a Risk assessment tool is developed which helps in the prior prediction of risks and the further dosage adjustments. As the sample size increases, the accuracy of predictability also increases. So further validation of the tool is required for more accuracy and the data input should also be increased.

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Evaluaton of Antibacterial, Anthelmintic and Antioxidant Activities of Eichhornia Crassipes (Mart) Solms

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INTRODUCTION: Eichhornia crassipes (Mart.) Solms – Laubach, it is commonly known as water hyacinth. It has distributed all over the world, flourishing in tropical and subtropical region found as a free floating aquatic plant. It posses activities like antibacterial, anthelmintic, antioxidant, anticancer, anti-inflammatory, skin whitening, wound healing, neuroprotective and hepatoprotective. AIM: To carry out the comparative study on fresh and dry extracts of whole parts of plant and pharmacological study of eichhornia crassipes. MATERIALS AND METHODS: Eichhornia crassipeswere collected in and around the region of erode, Tamil Nadu. The plant extracts (fresh juice and dry extracts) were prepared. Antibacterial, anthelmintic and antioxidant activities of Eichhornia crassipes were evaluated. RESULTS: Antibacterial Activity:FEEC shows greater zone of inhibition in (Gram positive organisms) as compared to (Gram negative organisms). DHAEC shows greater zone of inhibition in (Gram negative organisms) as compared to (Gram positive organisms). Anthelmintic activity: By comparing the two extract, DHAEC shown more significant anthelmintic action. Antioxidant activity: By comparing the two extract, DHAEC shown greater percentage inhibition. CONCLUSION: It is recommended that the plant may be subjected to further advanced research in search of the potential bioactive compounds as well as for human use through pharmaceutical processes.

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Influence of midodrine in progression of refractory ascites in cirrhosis patient - a prospective observational study

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Refractory Ascites is the most frequent complication that occurs in patients with Decompensated liver cirrhosis, ascites that occurs recurrently despite multiple treatment approaches is Refractory Ascites. These patients require Large Volume Paracentesis (LVP) for symptomatic relief along with other treatment measures. Repeated LVP causes patient discomfort, reducing Quality of Life, and increases other complications. Vasoconstrictors have shown beneficial effect in reducing the

recurrence of ascites, by constricting blood vessels, reducing Nitric Oxide (NO) levels, and preventing further fluid accumulation. Midodrine, a vasoconstrictor has proven beneficial effects in refractory ascites control. The ideology behind this study is to rule the appropriate condition for midodrine initiation. So, the ascetic population are divided into 3 groups based on serum Sodium (normal sodium,<125mEq/L and <130mEq/L) and Creatinine levels, (since sodium being an indirect parameter reflecting ascites severity).The main objective of the study is to assess the efficacy of Midodrine, such that there is a significant reduction in the frequency and volume of paracentesis done in patients. The results illustrate overall significant reduction in LVP frequency(p=0.010) and weight change (p=0.019), while it was not significant with changes in urine volume (p=0.821). But on comparing between groups, it was in-significant, materializing that initiation of midodrine at either of these stages has equal effects on ascites control.
Keywords : Midodrine, Refractory ascites, Vasopressors, Large Volume Paracentesis

Abstract no: ab/ic/22-BB-024

Role of RG 108 in Treating Genetic Cancer – An Overview

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Tumors of prostate cancer, pancreatic ductal adenocarcinoma (PDAC), Familial atypical multiple mole melanoma (FAMMM) Esophageal cancer are most aggressive and malignant type of tumor respectively related with high morbidity and mortality. They are caused by epigenetic alterations in the tumor suppressor gene. They often hold a genetic predisposition. These tumors are the result of aberrant DNA methylation leading to transcriptional silencing of certain tumor suppressor genes. The promoter hypermethylation at CPG islands causes of lack of production of tumor suppressor proteins and cell cycle deregulation.Most epigenetically susceptible genes involved are (p16IN4a, p15INK4a, Rb, P14arf),DNA repair (BRCA1, MGMT), apoptosis(DAPK, TMS1) RG 108 or N phthalyl - L – tryptophan is a non-nucleoside compound. It is an inhibitor of DNA methyl transferases (DNMTi) thereby has an effect of demethylation of DNA with no detectable cytotoxicity. This review article provides an overview about the effect of RG 108 on the above- mentioned cancer cell lines.

Abstract no: ab/ic/22-BB-025

Molecular Docking and ADME analysis for Anti-cancer potential of Quassinoids from Simarouba glauca

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Plant based anticancer drug discovery stands as golden mark and more popular in the current world. *Simarouba glauca* DC is flower plant belonging to the family of Simaroubaceae, commonly known as Laxmi Taru. In traditional practice it has been widely reported for effective against different types of cancers and various ailments. The objective of this study was to investigate the anticancer potentialof selected quassinoids from the *Simarouba glauca* as a potent inhibitor against breast cancer target by employing I*n-silico* dockinganalysis & ADMET prediction using QikProp. Breast cancer targets (3D structure) were retrieved from the RCSB protein data bank (PDB) and the structures of quassinoids have been collected from PUBCHEM database. Molecular

docking and drug likeness studies were performed for those natural compounds to evaluate and predict the anti-breast cancer activity using Glide, Maestro Schrodinger. Molecular docking score of selected quassinoids were exposed excellent docking score with breast cancer targets. Further analysis of the drug likeness by means of ADME properties were predicted using QikProp. None of the compounds violated Lipinski's parameters, making them potentially promising agents for breast cancer therapy. From these results, qusssinoids of *Simarouba glauca* can further be validated for its proper function.

Abstract no: ab/ic/22-BB-026

Natural diversity on biotin, folic acid & its comprehensive review on bioactivity

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Biotin and Folic acid are water-soluble vitamins sourced from vegetables, fresh fruits, meat, cereals, egg yolk and dairy products. People with a deficiency of biotin often show symptoms of hair loss or a scaly red rash. The consumption of folic acid can prevent the neural tube defects during pregnancy. **Scope**: To summarize the review on natural diversity of biotin and folic acid containing plants with phytochemicalprofile and their potential applications.**Method:** The folic acid and biotin containing plant materials were explored for its identity. The same plant materials were summarized for its phytoconstituents. Along with this the biological properties of these plant materials have been explored and compiled. **Results:** The narrative review on folic acid containing plant species were *Moringa oleifera*, *Carica papaya*, *Solanum lycopersicum* and *Psidium guajava* and their potential leads were recorded. The review on biotin rich edible plants were *Persea americana, Ipomoea batatas* and *Cucumis sativus* had been recorded with their potential leads. **Conclusion :** This review concludes that the significance of naturally sourced biotin and folic acid inhuman health. From the gathered information, we can further proceed with the development of formulations with biotin and folic acid from natural edible plant species.

Abstract no: ab/ic/22-BB-027

In-silico investigation of dihydropyrimidinones as potent antifungal agents

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This work investigated the binding interaction of dihydropyrimidones with target proteins through molecular docking studies. Molecule selected for docking (DHPMs).an main obiective of the present study is to utilize the docking technique in order to predict the ligand –receptor complex with optimized conformation and with the intention of possessing less binding free energy. 10compound selected for docking study against fungal protein. Software requirement for docking- Autodockvina, discovery studio visualizer (Dsvisualiser).Target protein for the study are 1)
Dihydrofolate reductase (DHFR) PDB: 4HOE. 2) N-Myristoyltransferase (NMT) PDB I'd:4CAW. Among all the compounds compound 8 has best binding affinity score of -8.2kcal/mol for NMT protein. And -7.8kcal/mol for DHFR fungal protein. Results indicated that comparatively, all dihydropyrimidones showed significant inhibiting property of fungal protein against NMT than

DHFR. it was concluded from the study that these derivatives had shown the good binding with less affinity score and derivatives could be synthesized and experimentally tested for antifungal activity on fungal strains for justifying the molecular docking studies.

Abstract no: ab/ic/22-BB-028

Levetiracetam - Risk or Remedy for Psychiatry Illness?

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Levetiracetam has proved to be effective and safe for the treatment of epilepsy. It has been shown to induce psychiatric illness in 13.3% of adults, leading to the discontinuation of the drug. Controversially, there are certain animal studies and pilot studies that show the efficacy of levetiracetam in the treatment of psychiatric illness. Here we present a review article that analyses levetiracetam as a treatment and as a causative agent for psychiatric disorders.
Levetiracetam can induce psychiatric illness not in all but only in biologically vulnerable individuals and the risk factors that put the patient vulnerable are analyzed. It can be used in the treatment of bipolar disorder and mania as adjuvant therapy, but monotherapy has not yet proved to be effective. And it does not cause a psychiatry illness for all the people only for the biologically vulnerable patient. The future research be conducted on this drug to prove whether it a risk or remedy for psychiatry people.

Abstract no: ab/ic/22-BB-029

Evaluation ofthe effect of methanolic extract of Psychotria octosulcata on biogenic amines concentration in mice brain after induction of chronic anxiety

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Aim:To evaluate the effect of methanolic extract of Psychotria octosulcata on biogenic amines concentration in mice brain after induction of chronic anxiety. Methodology:A total of 30 male Albinorats, 200-250g, were divided into six groups of six animals each. Standard Diazepam was administered 30 minutes before testing, and the extract was administered orally for 45 minutesbefore testing. Results & Discussion: In the anxiolytic study group, Dopamine levels significantly ($p<0.001$) decreased in the brains of anxiety control animals. Methanol extract of Psychotria octosulcata at all the dose levels and standard drug diazepam treated animals showed significant ($p<0.05$, $p<0.01$ & $p<0.001$) increase in Dopamine levels in the brain of mice. Serotonin levels were observedto be a significant ($p<0.01$) decrease in the brains of anxiety control animals. MEPO at the dose of 100mg/kg, 200&400mg/kg and standard drug 2mg/kg treated animals showed a significant ($p<0.001$) increase in Serotonin levels in the brain of mice. At 100mg/kg and 200mg/kg dose of MEPO showed a significant increase in serotonin level. At 400mg/kg, the extract showed an extraordinary increase in neurotransmitter level when compared to the standard drug Diazepam. Noradrenaline levels significantly ($p<0.001$) increased in the brains of anxiety control animals. MEPO at the doses of 200mg/kg and 400mg/kg, standard drug-treated animals showed a significant ($p<0.05$, $p<0.01$& $p<0.001$) decrease in Noradrenaline levels in the brain of mice. MEPO at the dose of 100mg/kg had less significance ($p<0.05$) when compared to standard, but 400mg/kg was comparable with standard treated animals. GABA levels significantly ($p<0.001$) decreased in the brains of anxiety control

animals. Treatment with MEPO (100 and 200 mg/kg) dose increased the GABA levels in the brain. A similar effect was observed with diazepam (2 mg/kg). However, the effect of MEPO at 400mg/kg was an excellent increase in GABA levels than diazepam (2 mg/kg). Conclusion:There is extensive evidence to involve brain Neurotransmitters in Psychopharmacology, and its deviation leads to the development of anxiety disease. Evidence concludes that compounds can treat anxiety and maintain normal neurotransmitter levels, especially from natural sources.

Abstract no: ab/ic/22-BB-030

Formulation and evaluation of polyherbal anti-dandruff hair gel

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Dandruff is a very common non-contagious hair problem, affecting person irrespective of age. Medically it is defined as pityriasis simplex capitis – shedding of dead skin from the scalp. Malassezia furfur is a lipophilic, saprophytic, budding, unipolar, dimorphic, gram positive double walled, oval to round yeast which requires free fatty acid for survival. Its infection leads to cell mediated response and activation of the alternative complement path way, causing inflammation. The treatment of dandruff includes application of topical, antifungal or other products. Unlike chemical-based products, herbs are completely safe, extremely effective and have almost no side effects due to their compatibility with human body. The study aimed to determine the effect of herbal adjuvants on the enhancement of antidandruff activity. Herbal extract was prepared and gel was formulated using Emblica officinalis, Citrus limonum, Hibiscus Rosa sinensis, Zingiber officinalis, Aloe barbadensis. The prepared gels were characterized for their physicochemical constants- Clarity, pH, homogenicity, spreadability, extrudability, viscosity, % drug content. The anti-fungal activity was carried out using organism Malassezia furfur-MTCC 1765. It is concluded from the results of physicochemical parameters and anti-microbial activity that the formulation 4 having multiple extracts enhanced the antidandruff potential.

Abstract no: ab/ic/22-BB-031

Olanzapine for the control of cisplatin-induced emesis: a prospective observational study

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Background: Chemotherapy-induced nausea and vomiting is an adverse event that affects patients undergoing chemotherapy. Olanzapine, which is generally used as an antipsychotic, has anti-emetic properties. Objectives: To determine the effectiveness of Olanzapine for control of nausea and vomiting.To assess the quality of life (QoL) in patients experiencing nausea and vomiting. Methodology: All patients were administered with premeditations alike- Granisetron (1mg) and Dexamethasone (12mg). We compared the extent of nausea and vomiting seen in the Treatment group; patients who received Olanzapine (5mg) to that in the Control group. Grading was done according to Common Terminology Criteria for Adverse Events and QoL was assessed with the

help of Functional Living Index Emesis Questionnaire.Results: Complete response rates attained by the treatment group were 55.5% and 92.6% in nausea and vomiting respectively. A significant improvement in QoL was seen in 92.5% of the patients who underwent treatment with Olanzapine.

Abstract no: ab/ic/22-BB-032

Incidence and risk of hyperglycemia in psychiatric population on atypical antipsychotics- a prospective

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Antipsychotic drugs are used to treat certain types of mental health problem whose symptoms include psychotic experiences. Psychosis is characterized by the distortion of thoughts during which a person loses touch with reality, often manifesting with hallucinations, paranoia, or delusions. Atypical antipsychotics are commonly used which were introduced in the 1990s and are commonly referred to as second-generation antipsychotics. Atypical antipsychotics are dopamine antagonists, typically prescribed to treat schizophrenia and to augment the treatment of major depressive disorder (MDD), bipolar disorder, and schizoaffective disorder. There is anincreased risk of diabetes in patients with psychiatric disorders and this risk is elevated by someantipsychotic medications when taken for a long time. Some pharmacological studies in animalmodels show these drugs may cause hyperglycemia even with short-term use but there were nostudies regarding to the incidence of hyperglycemia in humans. Drug-naive patients who were prescribed with atypical antipsychotics after evaluation were monitored for blood glucose levels (fasting and post-prandial) on day 1(baseline) and day 15(follow-up). It was confirmed that occurrence of hyperglycemia within 15days secondary to atypical antipsychotics use in drug naïve patients was found to be limited. The incidence of atypical antipsychotics induced hyperglycemia from this study showed the need to monitor the blood glucose levels in patients taking atypical antipsychotics. The risk factors discussed in this study were age, weight, gender, physical activity and family history that predisposed the patients to hyperglycemia.

Abstract no: ab/ic/22-BB-033

Biosynthesis of silver nanoparticles from Ethanolic leaf extract of *Simarouba Glauca*and exploring its antibacterial potential

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Growing interest in both academic and industrial research is being shown for nanotechnology. One of the promising items in the nanotechnology sector is silver nanoparticles. There are numerous physical, chemical, and biological processes that can produce silver nanoparticles. Green synthesis is one such exciting process. However, due to reduced process toxicity and improved quality, green synthesis has recently displaced a number of quick chemical processes. In the current study, silver nanoparticles were created utilising *Simarouba glauca* ethanolic leaf extract as a reductant in a straight forward and environmentally friendly manner from silver nitrate (1 mM). The reduction of the silver ions upon exposure to the ethanolic leaf broth led to the green production of silver nanoparticles. The bioreduced silver nanoparticle were characterized by UV-Vis spectrophotometer,

Scanning electron microscope (SEM) and Fourier transform infra-red (FTIR) spectroscopy. The observed peaks in UV a broad spectrum at 428 nm wave length. Size of silvernanoparticles range 0.1µm-0.5µm observed by SEM. The FTIR measurement was carried out to identify the possible biomolecules responsible for efficient stabilization of silver nanoparticles. The synthesized silver nanoparticles were tested against Staphylococcus aureus and E. coli. Keywords: *Simarouba Glauca*, Silver nano particles, Green synthesis, SEM, pathogens.

Theme: Pharmacovigilance, Drug Safety, Regulatory Affairs and IPR

Abstract no: ab/ic/22-PV-001

Role of pharmacovigilance: an overview

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Pharmacovigilance plays an important role in the health care system throughassessment, monitoring and discovery of interactions of Drugs and their effects in human. The Thalidomide tragedy of 1960's opened the eyes of drug regulators toensure drug safety. The drug safety issues where globalized, strengthen andsystemized after the establishment of World Health Organization program forinternational drug monitoring in 1968. Pharmacovigilance is concerned withdetection, assessment, understanding and prevention of ADR. It estimates that about10-20% of the hospital inpatient suffers from ADR, so Pharmacovigilance is the onlyappropriate and effective monitoring of ADR to safeguard the public health. Adverseevents reported by Pharmacovigilance system potentially benefit to the communitydue to their proximity to both population and public health. Pharmacogenetics andPharmacogenomics are an indispensable part of the clinical research.Disproportionality analysis is most commonly used method of data interrogation tofigure out the association between drug and ADR of interest. Hence,Pharmacovigilance helps the patients to get well and to manage optimally or ideally,avoid illness is a collective responsibility of industry, drug regulators, clinicians andother health care professionals to enhance their contribution to public health. In terms,Pharmacovigilance is mainly focused on the adverse effect and benefits of every drugassociated with its treatment and to safeguard the public health.

Abstract no: ab/ic/22-PV-002

Current Challenges and Future Directions of Drug Development

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Drug development is a long and costly process fraught with tribulation. The tortuous pathway travelled by a new drug from synthesis to sale requires the constant percolation of data through rigorous clinical and regulatory filters. New drugs do make it from discovery to the market, but only at the approximate rate of one in every 10,000 new molecules synthesized. It is a long, costly, and extremely risky process, involving a steady progression through multiple stages, with treacherous

decision points along the way. Most of all, it is a process involving the constant percolating of data through filters strewn with tribulations and complicated by the difficulty of making decisions that affect human health when all the facts are not known.Despite the daunting challenges of bringing a new drug from discovery to market, new medicines continue.

Abstract no: ab/ic/22-PV-003

Assessment of Relapse Rate in Disulfiram Treated Alcohol Dependence Syndrome Patients-A Descriptive Study

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Alcohol Dependence syndrome is a mental condition and a physiological issue that can happen paying little heed to the substance of decision an individual with dependence. Aim & Objectives: A Descriptive study aimed to assess the Relapse Rate and the effect of Disulfiram in ADS patients. The probability of relapse in ADS patients was assessed by using follow up aware questionnaire and mental status examination and psychomotor activity were also assessed. Methodology: It's a descriptive study conducted in 71 patients in department of Psychiatry department for 6 months. All the inpatients of male gender of any age group with clear diagnosis of alcohol dependence syndrome were included in this study. Substance use disorders other than alcohol, female community, some medical issues present that would affect the treatment passivity and past medication history suggests that resistance to disulfiram treatment were excluded. Results: Among in 71 patients, 44 % of patients have >20 years of past history for alcoholism. 52 (73.2%) patients showed normal psychomotor activity, whereas 19 (26.8%) patients showed psychomotor agitation. 43 patients treated with disulfiram therapy in which 56 % have high dependence and 28 patients treated without disulfiram wherein 64 % have high dependence to alcohol. Conclusion: This study has found a wide spectrum of outcomes confirming the majority of the patients were highly dependent on alcohol. An assessment after 2 months' reveals that the relapse rate is less in patients with Disulfiram therapy compared to patients who are not treated with Disulfiram.

Abstract no: ab/ic/22-PV-004

Assessment of Quality of Life and Functional Outcomes For Burn Patients

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Background: The estimated annual burn incidence in India is approximately 6-7 million per year. The high incidence is attributed to illiteracy, poverty and low level safety consciousness in the population. Aim & Objectives: Toassess the functional outcomes and quality of life for burn patients in intensive care unit.

Methodology: It's a descriptive study conducted in the burn intensive care unit for the period of six months. Overall 58 burn patients were enrolled in this study. All age group of either gender, patients admitted in burn intensive care unit not less than 3 days and with co-morbidities and known surgical histories patients were enrolled in this study. Patients were received treatment in burns ICU for less

than 3 days, receiving therapy for burn in other clinical departments and patients not willing to give informed consent were excluded. The WHO BREF questionnaire was used to the assess the quality of life in burn patients.
Results: Among in 58 patients, about 18 patients were affected with electrical burns. The sepsis is found to be a major complication in burn patients which is affected for 10 patients in the study subjects. The antibiotics Injection Taxim, analgesics like Paracetamol were most commonly prescribed patients during ICU stay.
Conclusion: They were more functional limitations in the body and disfigurement observed in the study population that affects quality of life which in turn, can lead to lowered self-esteem, social isolation and job discrimination.

Abstract no: ab/ic/22-PV-005

Role of pharmaceutical care in the safe practice of respiratory medicines

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BACKGROUND: Respiratory disease is the speciality that deals with the disease of lung and respiratory tract. Since it is the major cause of death, patient care must be given to the patients. As a part of multidisciplinary patient care strategy, clinical pharmacy service has to led improvement in patient care. AIM: To ensure the safe and effectiveness of use of medicines by controlling drug related problem in respiratory disease. METHODS: A prospective interventional study was carried out in multispeciality hospital. The study subjects were respiratory disease inpatients who are with or without comorbid condition, admitted under the department of respiratory medicine of the hospital. The study was carried out for a period of 8 months. Initial screening was based on inclusion and exclusion criteria in which psychiatric patients, patients aged below 12years were excluded. After enrolling the subject of the study, their data such as drug related problems (DRPs) and risk factors for DRPs will be identified by using designed patient data collection form and pharmacist intervention form. Documented data will be analysed using descriptive analysis and Chi Square test. RESULTS: Out of 100 patients, 76 patients had DRPs. The most common DRPs was identified as drug-drug interaction followed by cost effectiveness and prescribing error. CONCLUSION: This study shown that DRPs were frequently observed in the patients with respiratory disease and clinical pharmacy services point out the major role of clinical pharmacist in identifying, resolving and preventable DRPs will improve the quality of treatment.

Abstract no: ab/ic/22-PV-006

Escalation and de-escalation of antibiotics usage in hospitalized patients with urinary tract infections:A retrospective study

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Urinary Tract Infections (UTIs) are the second most commonly occurring infectious conditions after respiratory tract infection. These bacterial infections are most commonly occurring and the predominant reason for exposure of antibiotics. The emergence of Multidrug-resistant pathogens also linked with overuse of antibiotics. A retrospective study was carried out in a multi-specialty hospital

and the initial selection of subjects was based on the inclusion and exclusion criteria. The usage of antibiotics and cost effectiveness analysis data were collected in a specially designed data collection form. The data was analysed using SPSS version 23. Out of 202 patients, de-escalation of antibiotics occurred in 31% and escalation of antibiotics was found to be 25%. Among 88% of patients were treated with ceftriaxone, Piperacillin- Tazobactum, Cefoperazone-Sulbactam, Nitrofurantoin and Amikacin were most commonly used antibiotics. The cost of therapeutic therapy in both E.coli and E.coli [extended spectrum beta-lactamases (ESBL)] was found to be less when compared to the cost of empirical therapy. Identification of the reasons that impair escalate and de-escalate could eventually helps to curb the clinician's reluctance to generalize this strategy. This study will suggest that empirical use of antibiotics for UTIs should be based on the knowledge of local prevalence of UTIs causing organisms in order to reduce the cost of antibiotic therapy and to combat increasing resistance to antibiotics due to over usage of antibiotics.

Abstract no: ab/ic/22-PV-007

Upshot of Adverse Drug Reaction for Anti-tubercular Drugs in the department of Pulmonology

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Background:Tuberculosis is one of the leading infectious causes of death and it affect at least one out of three people worldwide.Adverse drug reaction(ADR) caused by anti tuberculosis treatment are a major cause of withdrawal of medication,hospitalization and non-compliance.

Objectives:To study aimed to assess occurrence of adverse drug reaction for anti tubercular drugs in a teritary care teaching hospital.

Method:It is a descriptive study conducted in the department of pulmonology for a period of 12 months.Patients of all age group either gender,patients developed adverse drug reaction with anti tuberculardrugs,suspected ADRs diagnosed by physicians and in-patient who are exposed to any adverse drug reaction and received treatment for adverse drug reaction caused by anti tubercular drug were included.Patients received treatment in outpatient care and presenting difficulties in acciendental or intentional poisoning due to anti tubercular drugs were exclude for this study.All data were analyzed using SPSSsoftware for statistical correlation analysis.

Results: Among 242 patients with tuberculosis,male patients(61.1%) were predominant over female (38.9%).Patients diagnosed with sputum positive for pulmonary tuberculosis started with newer anti tuberculosis drug therapy were included.The adverse drug reaction were assessed by using WHO scale and the severity of the ADR were analyzed using Hartwigsscale.Out of 242 study case,103 developed ADR.In which 90 patients were possible and 13 patient had probable adverse drug reaction.In case of severity,maximum number of patient(58) experienced moderate adverse drug reaction.The most common adverse drug reaction observed were found to be knee pain followed by vomiting and hepatitis.Breathelessness,blurring of vision and deafness were also be reported duringthe study period.

Conclusion:Inthe study most of anti-tubercular drugs taken on a daily basis were observed and adverse drug effects were monitored that might lead to non-compliance and hospitalization of the patients.Hence individualization of rational therapy and proper follow-up can be done to minimize the adverse effect caused by various anti-tubercular drugs.

Abstract no: ab/ic/22-PV-008

Intellectual Property Rights and Filing procedures in India

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Intellectual property or Intellectual Property Right have been expounded as inventions, creative expressions based on public willingness to vouchsafe on status of the property and it is also referred as a legal protection to certain inventions or creations of the mind. There are several types of IPR's such as Patents, Copyrights, Trademarks, Trade Secrets, Geographical Indications, Industrial Designs, Plant Varieties etc. IPR provides certain exclusive rights on particular property of the inventor in order to procure benefits from their efforts. Patent is a proprietary right granted in recognition of an invention, which is novel and satisfies the non-obviousness and industrial application. Patent also protects the commercial inventions such as new product or process. Patents are accompanied by diagrammatic representation through chemical structures, drawings of electrical, mechanical and also by textual descriptions. IPR is prerequisite for the identification, planning, rendering, commercialization and protection of creativity or an invention. The role of IPR's is to provide incentives to discover develop and market new drugs. Here it is mainly focused on providing the information about IPR's and there filing procedures.

Abstract no: ab/ic/22-PV-009

Pharmacoepidemiological Study of Influenza Vaccine and Antiviral Drugs for Influenza in a Tertiary Care Hospital

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Background:Influenza is an acute respiratory tract infection caused by influenza virus. It can cause mild illness or in some people it may result in serious, even life-threatening complications such as pneumonia, acute bronchitis, worsening of chronic conditions, respiratory failure and significant mortality risk to humans.

Objective:The objective is to identify and categorize influenza affected people who were non vaccinated and vaccinated, to analyze the antiviral treatment regimen and its outcomes, to identify the associated co-morbidities or risk factors for developing complications and to assess the mortality.

Methodology:It is retrospective study conducted during the period of Jan 2018- Dec 2018. Influenza was identified using (RT-PCR). Patients records were selected based on inclusion and exclusion criteria. The data was analysed using SPSS version 19.

Result: 1244 patients were vaccinated for influenza during period of Jan18-Dec18. Among 1244 patient, 77.7%(n=966) were IIV3 vaccinated patients and 22.3%(n=278) were IIV4 vaccinated patients. None developed influenza after vaccination. 295 patients were influenza positive, in which 48.2%(n=27) were respiratory failure and 42.9%(n=24)were pneumonia.10.8%(n=32) patients were on ventilation. No death was reported.

Conclusion: The findings of this study showed that none developed influenza infection after vaccination. Inactive influenza vaccines were effective against the infection and reduced the risk of illness. Oseltamivir was the most commonly used antiviral drug for influenza infection in this tertiary care hospital. Most of the complications were pneumonia and respiratory failure.

Abstract no: ab/ic/22-PV-010

A Prospective Observational Study on Drug Related Problems at Tertiary Care Hospital

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Evaluation of drug – related problems (DRPs) is a very important topic in the pharmaceutical field, which would aid to resolve the consequences caused by negative drug therapy. The purpose of identifying drug - related problems is to help patients to reach their goals of therapy and achieve the best possible outcomes from drug therapy. A cooperative collaboration between clinical pharmacists and clinical pharmacologist was created, in order to make them work together, address DRP's questions in internal medicine by screening medical records, attend medical rounds and provide advice for pharmacotherapy optimization. Hence, the study aimed to measure the drug related problems at tertiary care hospital. The Prospective, observational study conducted at KG hospital for 6-month period with 60 patients, 37% were female and 63% were male. 32% of DRP are due to Antimicrobial agents and 24% were by NSAIDs. 48% of ADR are mild and 43% were moderate and only 9% were severe ADR. The causality assessment of adverse drug reaction had been done using the Naranjo scale. In which no reactions were found to be unlikely & majority were probable amid less number of possible & definite reactions. The majority of drug related problem were reported in general medicine 26.66%. The geriatric patient was more accounted 44.90% in DRP. The study concludes that, the establishment of pharmacovigilance center is essential for rational use of drug and better patient care.

Abstract no: ab/ic/22-PV-011

Clinical Evaluation of Diuretics in The Management of Hepatic Diseases

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The major complications of liver cirrhosis include Ascites. The development of ascites usually indicates the progression of underlying cirrhosis. Patients with large or refractory ascites are usually managed by repeated large volume paracentesis. Diuretics induced renal failure is most frequently due to intravascular volume depletion occuring due to excessive diuretic therapy. Objectives are to determine efficacy of diuretics as single and combination therapy, to evaluate the prescribing pattern and incidence of ascites in Chronic Liver Disease and to assess the complications of diuretics. This work was carried out with patients in Gastroenterology with liver cirrhosis and ascites on diuretic therapy. In this study, out of 100, 74 were on combination, 16 were on spironolactone and 10 were on furosemide, drugs prescribed based on severity of ascites. Rise in serum potassium level in Spironolactone group when compared to those in Furosemide group. The rise in potassium was intermediate with the other two in combination group. They found a modest decline of bicarbonate in Spironolactone and combination groups when compared to Furosemide group. Increase in urine output-input ratio was significantly higher in combination group when compared to Spironolactone group. Onset of diuretics was reasonably prompt in Combination therapy. This concludes that, eventhough Furosemide is of low cost, it is less effective & electrolyte abnormalities were more and

it often requires KCl supplementation. Management with combination was found to be as economic, safe and effective as Spironolactone monotherapy when compared to Furosemide monotherapy.

Abstract no: ab/ic/22-PV-012

Effect of L-Linalool on Primary Symptoms Against Reserpine Induced Parkinson's Disorder in Wistar Albino Rat Models

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Parkinson's disease is a long-term neurodegenerative disorder of the central nervous system. The motor symptoms of the disease results from the death of cells in the substantia nigra of the midbrain. Parkinson's disease is the second most common neurodegenerative disease and manifests as bradykinesia, rigidity, resting, tremor and posture instability. Parkinson's disease is a degenerative disorder of the central nervous system. It results from the death of dopamine- generating cells in the substantia nigra, a region of the midbrain; the cause of cell death is unknown. L-Linalool was used in this research work as the test compound against the treatment of Parkinson. Linalool (60–80%) is the main constituent of Coriandrum sativum. L-linalool which has been efficacious in treating neurological issues has already been reported has found to the more exciting treatment. It was analysed using the In-vivo reserpine induced Parkinson in rat. Various In-vivo study are performed.Evaluation of Tremor and Akinesia , Locomotor activity by using Actophotometer , Open field exploratory behaviour apparatus, Grip strength: Rotarod Apparatus. Anti-depressive effect: Forced swim test. The effect of L-Linalool were evaluated with different behavioural and biochemical parameter. Above behavioural and biochemical study showed the effect of L-Linalool on treatment of primary symptoms of Parkinson. And it proves to improve the dopamine level in the striatum.

Abstract no: ab/ic/22-PV-013

Comparison of Acuity and Crusade Scores in Predicting Bleeding During Acute Coronary Syndrome in a Tertiary Care Hospital

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Bleeding due to ACS drug therapy is associated with mortality, so the clinical decision should be made to balance the risk of ischemia and bleeding. The purpose of the study was to determine the bleeding risk in ACS patients using ACUITY and CRUSADE scores and to assess the association between ACUITY and CRUSADE score parameters and major bleeding.**Methodology**: The prospective study includes 92 consecutively admitted patients for Acute Coronary Syndrome. The information was gathered from medical records, and the ACUITY and CRUSADE bleeding risk scores were computed. We have considered major bleeding events during therapy (not related to any cardiac surgery) according to the Bleeding Academic Research Consortium (BARC). Patients were followed for a period of 3 months for bleeding risk evaluation.**Result**: Major bleeding was observed in 15 patients with an incidence of 16.3%. While both scores were associated with bleeding, CRUSADE demonstrated better C-Statistics (0.567, 95% CI: 0.4107-0.7226) as compared to ACUITY (0.497, 95% CI: 0.3329-0.6611). Exploratory analysis suggested that the presence of variables "Hematocrit" and "Signs of CHF presentation" in CRUSADE was the main reason for its

superiority.**Conclusion**: The CRUSADE score was a better predictor of bleeding risk when compared with the ACUITY score in patients hospitalised for ACS.

Abstract no: ab/ic/22-PV-014

A Comprehensive Survey on Circulation of Drugs in Hospital Pharmacy

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INTRODUCTION: Hospital pharmacy is the health care service, which comprises the art, practice, and profession of choosing, preparing, storing, compounding, and dispensing medicines and medical devices, advising patients, doctors, nurses and other healthcare professionals on their safe, effective and efficient use. Traditionally activities were carried out by hospital pharmacies through professionally competent and legally qualified pharmacists working in the hospital pharmacy services. Here the pharmacist will dispense the drugs which were prescribed by the physician. AIM: To study the survey on circulation of drugs in hospital pharmacy at a tertiary care hospital. METHODS: A specially designed questionnaire was used to collect the response among the hospital pharmacists. It contains whether the pharmacy located in each floor of the hospital, any delay in ordering of drugs from pharmacy, the Pharmaceutical agencies can distribute the drugs to the hospital pharmacy, E- prescription is possible or not, how the patients receive the drugs from the hospital pharmacy, how the pharmacist distribute the drugs to the Inpatients, floor stock system means, reveals dose dispensing mean and procedures to maintain the dispensing drugs. RESULTS: Based on survey, the overall response percentage was found to be 60 %.CONCLUSION: Our study gained the importance of pharmacist in hospital and hospital pharmacist plays a vital role but, more than he/she will be responsible for entire drug circulation process from arrival to the disposal.

Abstract no: ab/ic/22-PV-015

The Effects of Generic Antibiotics Approved Under Hatch Waxman Act in Possible Potentiation of Antimicrobial Resistance (Amr)

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Antibiotics are the biologically or chemically synthesized agents with the intention to treat bacterial infections. The Hatch Waxman act (1984) of IPR allows approval of generic drugs upon submission of ANDA.This makes it possible for drugs to be available at cheaper costs and makes it affordable because of the advantage of relaxation for the needs of clinical trials. The effect of the act on Antibiotics unlike other medications are increased risk of Antibiotic resistance due to inappropriate prescriptions and over the counter use of antibiotics. Antibiotic resistance is the resistance to drugs exhibited by bacterial organisms resulting in treatment failure. It complicates the healthcare system and is considered as silent pandemic. Methodology employed is review of articles in Pubmed, Journal of pharmacy and Bioallied sciences, sciencedirect, googlescholar and IQVIA X Potent Database. The availability of surplus substitutes to brand antibiotics results in irrational antibiotic usage contributing to AMR. Since generic agents are approved based on Bioequivalence properties of patent drugs, it is recommended to strictly carry post marketing surveillance to ensure effectiveness of drug product.

Abstract no: ab/ic/22-PV-016

Knowledge and attitude towards antibiotics use and antibiotic resistance: Cross sectional study among general public population.

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Objective: This study was carried out to evaluate the participant's knowledge and attitude towards antibiotics use and antibiotic resistance and also to evaluate the impact of the educational intervention.
Methodology: This coss-sectional study was carried out using a pre-validated questionnaire among general public in Coimbatore. The study was conducted in two phases. Both phases had two groups: sample group and control group.
Results: A total of 383 and 50 participants were involved in sample and control group respectively. In Phase 1, 78.33% of the participants had poor knowledge whereas in Phase 2, 57.70% had average knowledge. Similarly, in Phase 1, 72.85% of the sample group participants had negative attitude whereas in Phase 2, 39.95% had neutral attitude followed by 34.20% with positive attitude. It was found that participants showed good improvement in knowledge and attitude in Phase 2 when compared to Phase 1. In control group, there was no statistically significant difference between the knowledge and attitude in Phase 1 and Phase 2.
Conclusion: The overall knowledge of the participants regarding antibiotic use and its resistance, was poor and attitude was also negative at the end of Phase I. However, it improved after the education intervention. Further intervention is required to increase the knowledge and improve the attitude of the public regarding the topic. Hence, increasing the public's awareness by means of any educational program and/or campaigns would definitely improve the knowledge and change the attitude of participants positively at a higher percentage.

Abstract no: ab/ic/22-PV-017

Knowledge attitude and practice towards insulin self administration among diabetic population

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Objectives: The study was conducted to assess the diabetic patients knowledge levels and practice skills on insulin self administration.
Methods: This cross-sectional descriptive study was carried out using a pre-validated questionnaire was administered through face-to-face interview. Responses from 186 subjects were analysed. All type 1 and type 2 diabetic patients using insulin were included and participants less than 18 years were not included.
Results: It was found that the knowledge was overall poor and only 5.4% of the participants had good knowledge, only 21% of the participants had positive attitude towards the use of insulin whereas only 7.5% of the participants had good practice on the administration of insulin. The results showed that there is association (significant) between knowledge and attitude ($p>0.05$), and knowledge and practice ($p>0.05$), whereas there is no significant association between attitude and practice ($p<0.05$).

Conclusion: The overall knowledge of the participants towards diabetes and insulin was poor. Similarly the participants also had negative attitude and poor practice toward insulin administration. It shows that there is lack of awareness and education regarding the insulin self administration. Further intervention is required to increase the knowledge and improve the attitude of the public regarding the topic. Hence we conclude that increasing the public's awareness by means of any educational program and or campaigns would improve the knowledge and change the attitude of participants positively at a higher percentage and improve the practice levels.

Abstract no: ab/ic/22-PV-018

Medication adherence among paediatric asthma patients in a tertiary care hospital : a cross sectional study

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Background: Asthma is the most common chronic health condition in children and is believed to be the leading preventable cause of morbidity, mortality and healthcare cost worldwide. The aim of the study was to assess the medication adherence among pediatric asthma patients.
Method: Children within the age group of 5 to 18 years with asthma symptoms were included in this study. 54 patients were studied at the time period of 6 months. Asthma control test questionnaire was used to assess the severity of asthma in pediatric patients. Morisky GL adherence scale is used to assess the medication adherence in patients. Inhaler device scoring pattern for MDI and rotahaler is used to find out the knowledge of patients on how to use the inhalers.
Result: In this study, 40.7% patients showed low adherence and 59.3% patients showedvmedium adherence in their first visit and 42.6% patients show medium adherence and 57.4% patients show high adherence in their second visit. ACT assessment score included 50 patients who may not be control their asthma symptoms during their first visit and 4 patients may be under control their asthma symptoms. At the time of their 2nd visit, 54 patients may be under control their asthma symptoms.
Conclusion: In this study, Morisky GL score was determined before and after the treatment and was found to be significant. ACT was done and to assess the severity of asthma symptoms before and after treatment and was found to be significant.

Theme: Stem Cells and Stem Cell Therapy

Abstract no: ab/ic/22-ST-001

Applications of Various Nanomaterials and Its Advancements in Stem Cell Regenerative Medicine

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Regenerative medicine is a new class of therapeutics, which aims at restoration and regeneration of defective tissues and organs, which is generally untreatable by present methods. This technique can be further improved and enhanced using nanoparticles like transportation, tracing, differentiation,

capturing and labelling of cells. Stem cells are undifferentiated cells, which are categorised into various types depending on their origin and differentiation potency. Here the stem cells classification and applications in regenerative medicine has been explained. Also, we the nanotechnology applied in the stem cell regenerative therapy and the various experimental data performed has been eloborated. The use of umbilical cord and amniotic fluid cells has received a lot of consideration as it can be used as an alternative effectively. Presently, several animal and human trials are ongoing to analyse the chances of applying stem cell therapy for regeneration and their promising results assist in understanding the regeneration potential of the body itself. It has also incorporated nanomaterials and their nanomaterials in stem cell therapy. Various nanoparticles usually used are graphene, glycolic acid polymers, gold, silver nanoparticles, iron oxide, graphene quantum dots, selenium, so on. Few of the recognised advancements in this field are the differentiation of human mesenchymal stem cells and neural stem cells using magnetic core-shell nanoparticles.

Abstract no: ab/ic/22-ST-002

Induced Pluripotent Stem Cells for Stroke Treatment – A Review

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Cerebrovascular disease is the most common life-threatening neurological disorders such as stroke, are triggered by loss of neurons and glial cells in the brain. Stroke therapy primarily focuses on restoring blood flow to brain for treating stroke induced neurological damage. The mechanism by which cell therapy works that the injected cells travel to organ from which they were taken to revitalize and stimulate that organ's function and regenerate its cellular structure. Although administration of various stem cells has shown promise in stroke models, neural stem cells (NSCs) derived from human induced pluripotent stem cells (IPSCs) have advantages over other cell types. In the last few years, the recent development of Ipscs has opened new possibilities to find new cell therapies against stroke. These cells have genetic backgrounds of patients that more precisely model disease specific pathophysiology and phenotypes. Ipscs have attracted increasing interest in the field of ischemic stroke therapy, due to the lack of ethical concerns and reduced risk of immune rejector. The Pluripotency of Embryonic cells has been demonstrated in vitro and in vivo. There is a large body of preclinical data and now mounting data from clinical trials that have utilized exogenous approaches to stem cell therapy for stroke. In this review, we aim to summarize the recent advances in stem cell based therapies for the treatment of stroke. Undoubtedly stem cell based gene therapy represents a novel potential therapeutic strategy for stroke in future.

Abstract no: ab/ic/22-ST-003

In-vitro investigation of acerola fruit extract in the treatment of breast cancer using MDA-MB 231 cell line

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To investigate the role of in-vitro anticancer activity of selected plant malpighiaemarginata (acerola fruit) extract for the treatment of breast cancer. The Anti-proliferative activity in MDA-MB 231 cell line was performed by MTT assay. Then morphological changes and apoptotic activity has been detected by using AO/EB staining. The wound healing assay was performed in order to find the migratory ability in cells on MDA-MB 231 using scratch assay. Assessment of Reactive Oxygen

Species production and Intracellular ROS levels was performed by DCFH-DA staining method. The MTT assay revealed that the extract showed a dose dependent decrease in cell viability. An IC50 value of extract in MDA-MB 231cell lines at 24hrs was obtained as 191.27µg/ml. Similarly, in AO/EB staining test the results proved that extract induces apoptosis compared to untreated cells. It exhibited a condensed nucleus, cell membrane destruction and apoptotic body formation suggesting an intact nucleus with necrotic cells. The scratch assay shows that the extract hinders the cell migration in a dose dependent manner. Decreased ROS generation was observed in the untreated cells compared to increased extract treated cells. It's due to the mitochondrial membrane apoptosis by increased ROS generation. These results showed that the treatment of Malpighiaemarginata extracts produced anti-cancer activity. We conclude that the Malpighiaemarginata is a new therapeutic agentthat helps in the treatment of breast cancer.

Abstract no: ab/ic/22-ST-004

A Review on Cystic Fibrosis (Cf) and Its Therapy

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Cystic fibrosis is a hereditary disorder, which results due to mutation of the CFTR (cystic fibrosis transmembrane conductance regulator protein) gene. Mutation results in defects of various organs, it primarily affects the pulmonary airway and causes obstruction of airway cells. To overcome those obstruction goblet cells secrete excess mucus. Secondary causes of CF includes insufficient secretion of pancreas ,COPD , infectious disease and inflammatory disease caused by various bacteria such as pseudomonas aeruginosa , staphylococcus aureus,haemophilus influenza .Primary sign of CF includes increased concentration of salt in sweat glands . Various therapies are used in CFTR gene mutation such as CFTR modulators, drugs such as anti-inflammatory, antibiotics, etc airway clearance therapy, cell based therapies and gene therapy. Gene therapy can be done by introducing the normal Protein DNA with viral or non viral vectors in invitro transport which targets the mutated Protein gene. In Stem cells therapy of CF, Pluripotent hematopoietic stem cells are widely used to rectify mutated genes. Stem cells particularly airway basal cells (stem cells in airway) can either be collected from CF or non CF patients. After isolation they are expanded in culture and genomic correction is done which targets the defective Protien's DNA. The genetically corrected basal cells are now engraftment into the CF patients, it causes repair and regeneration on those obstructed cells and corrects the mutated gene.

Abstract no: ab/ic/22-ST-005

Cervical Cancer Stem Cells

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Cervical Cancer (CC) is one of the leading causes of cancer death among women. Over 30 years, young women affected by cervical cancer have ranged from 10% to 40%. It is the most common malignant tumour of women worldwide. Human papillomavirus (HPV) infections in different countries arise in accord with various circumstances.According to World Health Organisation, there were 529,000 new cases of cervical cancer worldwide in 2008. The causative agent of cervical cancer

is a persistent infection of the Human papillomavirus and its subtypes.The cancer stem cells role and their carcinogenic process had confirmed over the past decade. In the light of discoveries of stem cell niches, existence of cancer stem cells niche was proposed.The exploration of the cancer stem cells leads to the diagnosis and therapy of cervical carcinomas. The cancer stem cells hypothesis could explain the therapy failure and relapse in the future. In the last few years, the evidence suggests that the capacity of initiating a tumour due to the presence of the small subset of stem-like cells called "cancer stem cells."This review describes their hypothetical origin and the cancer stem cell niche. Though cervical cancer stem cells have not been characterized properly. But in the future, they may be used as a treatment for this carcinoma.

Abstract no: ab/ic/22-ST-006

Impact ofscaffolds and Signalling molecules in the efficacy of regenerative medicine – A systematic review

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In recent years, stem cell therapy has become a promising and alternative technique for chemo and radiotherapy treatments with minimal side effects. Stem cells are unspecialized, undifferentiated primordial cells of our human body. There are mainly two types of stem cells namely Embryonic stem cells (ESCs) and Adult stem cells. Somatic cells can be reprogrammed into an ESC-like state and such types of cells are called induced Pluripotent Stem Cells(iPSCs). The pluripotency of these stem cells led to the development of Regenerative medicine or stem cell therapy. This is an alternative yet effective way to treat degenerative diseases like Alzheimer's, Parkinson's, diabetes, etc. Autologous stem cells are isolated, cultured in vitro, and inoculated on the patients where these cells proliferate and differentiate on biomaterials, so-called scaffolds which mimic the extracellular matrix and also maintain the tissue's microenvironment. Scaffolds are biological substitutes designed to aid the treatment of damaged tissue caused by a trauma or disease. The differentiation process of these stem cells is controlled by signalling molecules such as microRNA, growth factors, etc. The success of these tissue-engineered grafts highly depends on the appropriate selection of scaffold materials and signalling molecules. This review focuses on sources of stem cells, various materials used as scaffolds, bioprinting and other signalling molecules used for regenerative therapy.

Abstract no: ab/ic/22-ST-007

New emerging therapy for Motor Neuron Disease (MND)

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Motor Neuron Disease or Amyotrophic Lateral Sclerosis (ALS) is a group of chronic sporadic neurological disorder which is characterized by progressive degeneration of motor neurons. Mutation in C9orf72, SOD 1, TAR DNA-Binding Protein 43 and glutamate excitotoxicity are responsible for disease progression. Clinical manifestations of ALS includes muscle vulnerability, Cognitive dysfunction, Split hand pattern. Riluzole is the only medication available for the ALS and it prolongs life by only 3-4 months. Stem cell therapy is a dynamic approach for the treatment of this devastating disease. Owing to robust safety profile and ease of availability make a strong case for using stem

cells for therapeutic purposes. The approach of stem cell is to replace the degenerated neurons by differentiate into neuronal cells. Stem cell therapy aims to stop or slow down disease progression in people with ALS/MND.

Theme: Artificial Intelligence and Data Science

Abstract no: ab/ic/22-AI-001

A review on machine learning (ml) and quantum computing (qc) in the field of pharmaceutical science

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Machine learning (ML) is a branch of artificial intelligence (AI) and computer science which directs the use of data and algorithms to mimic the way that humans acquire, deliberately refining its preciseness. ML techniques enhance the decision-making in various fields. ML tools and algorithms are finding its unique relevance in the pharmaceutical data across diverse applications like QSAR analysis, hit discoveries, and de novo drug architectures to recoup meticulous outcomes and adopted in drug discovery include: Random Forest (RF), support vector machine (SVM), Simplified Molecular Input Line Entry Specifications (SMILES) as well as other methods. Quantum Mechanics is an essential tool in computer aided drug design based research. QM is the study of matter and its interactions with energy on the atomic particles. Highthroughput insilico screening of ligand binding (such as docking or QSAR) can reduce the time required for compound discovery and optimization. Based on the recent evolution in the computing algorithms quantum computing (QC) is expected to have a far-reaching impact, bio-pharma is among the most promising. Many types of software are used in QC. One such software used effectively in drug discovery is Schrödinger. The companies that currently use Schrödinger are Takeda pharmaceutical, Johnson & Johnson, Merck etc. Hence this article emphasizes the concept and application of quantum mechanics (especially Schrödinger) in drug design and pharmaceutical field

Abstract no: ab/ic/22-AI-002

Melloddy [AI in Drug discovery] - a review

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MELLODDY is a project to train machine learning models across multi-partner datasets while ensuring privacy preservation of both the data and the models by developing a platform using federated learning. Its dataset has the world's largest collection of small molecules with known biochemical or cellular activity to enable more accurate predictive models and increase efficiency in drug discovery. It evaluates how strong a given compound can bind with the given protein. These models can be used in discovery process as they suggest more promising compounds to pursue. The performance of the machine learning application is based on the availability of training data. Here the dataset was extracted from ChEMBL . The collective dataset has more then 1 billion activity annotated small molecules and more than 1 billion activity labels measured in biological assay. The individual information stored within the model had remained private and only statistical information

will be shared between partners. This project allows the pharma partners for the first time to collaborate in their core competitive space. Some famous pharma partners of MELLODDY are Astellas, Amgen, Boehringer Ingelheim, Janssen, Merck Kommanditgesellschaft Auf Aktien, Nividia and Novartis.

Abstract no: ab/ic/22-AI-003

Database Searching and Molecular Docking Studies of Cardiovascular Agents

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Globally cardiovascular diseases has become a major life threatening problem because of the life style modification and other factors. The largest single cause of death in India is cardiovascular disease. CVD is a cluster of diseases and injuries that affect the cardiovascular system which includes cardiac hypertrophy, heart failure, hypertension. Higher level of carbonic anhydrase 2 is found to be associated with cardiac hypertrophy and heart failure. Arjunolic acid is a novel phyto principle that is reported to have cardiac benefits along with multifunctional therapeutic application. It is a triterpenoid saponin isolated from *Terminaliaarjuna*. In present study Arjunolic acid was used as search query in PubChem database for similarity search (80%). By database searching of 61 compounds were retrieved and they were subjected to docking studies against carbonic anhydrase 2 inhibitor (PDB code: 1YDA). All the retrieved compounds showed docking score between -14.6 to 10.0. -14.6 was found to be the highest docking score among the retrieved compounds. The interaction found was with THR A:200 amino acid.

Abstract no: ab/ic/22-AI-004

Artificial Intelligence in Pharma Industry – An Overview

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Although the success rate for new medication research is incredibly low, it assures a very substantial return on success. Pharmaceutical companies have tried a variety of tactics to improve the rate of drug development success, but this objective has proven challenging to accomplish. The application of artificial intelligence (AI) has recently accelerated in a number of societal domains, with the pharmaceutical sector leading the way. This paper emphasises the useful application of AI across a range of pharmaceutical industry sectors, including drug discovery and development, drug repurposing, boosting pharmaceutical productivity, clinical trials, etc., to mention a few, hence decreasing human workload and meeting goals quickly. The future of AI in the pharmaceutical sector is also covered. In this review paper, we concluded that Artificial Intelligence was used as a main tool for drug discovery and it's influence in pharmaceutical industries

Abstract no: ab/ic/22-AI-005

Integrated Network and Gene Ontology Analysis Identifies Key Genes and Pathways in Isoproterenol and Exercise-induced Cardiac hypertrophy

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Background:Gene ontology is a notable prototype for the depiction of clustering the gene and its associated gene products in various diseases including cardiovascular diseases.
Aim:This study was designed to investigate the differentially expressed genes and their prominent network of genes, protein interactions and associated metabolic pathways.
Methods:We selected the microarray dataset of GSE18801 from GEO consisting of healthy, Isoproterenol and Exercise-induced cardiac hypertrophic samples (n=3) in rats were downloaded and enrichment analysis were performed using GEO2R. Later, these DEGs were subjected to bioinformatics tools such as KEGG, ShinyGO, STRING for Gene ontology and Network analysis to determine their Molecular functions, Cellular components and Biological processes.
Results:About 1286 genes were differentially expressed from the healthy group. Genes such as isoci, mmp3, lox, pp1k, serpina3n, apod, ddx6, hif1a were strongly associated with Cardiac hypertrophy by their significant enrichment folds. Molecular functions such as binding of Copper dependent Protein, macrolide and Protein kinase were associated with 35 genes. A total of about 40 genes were reported to be implicated in the regulation of cellular protein metabolic process were found. Conclusion: Further empirical testing of the targeted genes and their underlying molecular mechanisms can be incorporated to advance therapeutic interventions using these biocurated data.

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Identification of a metabolite-gene network inCardiac hypertrophy

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Background: Cardiac hypertrophy (CH) characterized by asymptomatic thickening and ventricular dysfunction leads to heart failure or sudden death. Correlation and regression methods identified the predictor metabolites for CH models that can impact the cardiac electrophysiology and pathways. Objective: To identify the interactions between crucial predictor metabolites and remodelled genes in CH. Methodology: Predictor metabolites namely L-proline, L-isoleucine, oleic acid, L- valine and succinic acid were subjected for metabolite interactions and enrichment analysis (MSEA) using MetaboAnalyst 5.0. The genes nef2l2, gapd, nppb, parp1, col1a1, nfkb1, ager and acly were analysed for gene-metabolite interaction, STRING analysis and Gene Ontology (Biological process) using ShinyGO enrichment tool. Resllts: MSEA revealed valine, leucine, isoleucine degradation, arginine and proline metabolism, ketone body and butyrate metabolisms, mitochondrial electron transport chain and fatty acid metabolisms as the highly impactable pathways by the metabolites. The gene-metabolite interactions revealed only oleic acid interaction with nfkb1 and parp1. The metabolite-metabolite interactions revealed succinic acid > oleic acid > L-valine > L-proline > Lisoleucine as the highest order of interaction associated with other low interacting metabolites.
STRING analysis revealed three clusters of interactions namely nfkb1-ager;gapd-parp1-col1a1-acly and nppb. GO revealed the interactions between acly-parp1-nfkb1-col1a1-nppb can affect key regulatory and mechanism underlying metabolic pathways. Conclusion: This study revealed for the first time the existence of interactions between the given gene clusters and predictor metabolites thereby validating their role and interactions in cardiac remodelling. It warrants their network investigations using data science techniques for newer insights on CH pathophysiology, prognosis, diagnosis and intervention.

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Artificial intelligence for Alzheimer's Disease

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Decades of experimental research in Alzheimer have created so many unraveling solutions to the treatment,but the promise is still on process.The recent development of open data sharing platforms like collecting clinical and biological data from AD patients has bought a revolution in the discovery.Artificial intelligence offers wide methods to analyse large data to improve the knowledge about AD.In this review,we focus on the recent discoveries for AI in AD research.In particular we elaborate on the Computer-aided diagnosis tools for diagnosis of AD , support the clinical treatment of AD for diagnosis,prediction of disease and develop personalized treatment plans.The machine learning and deep learning helps to create algorithms for stratification of patients and integration of large data from patients.The use of advanced mechanisms of AI for the prognostic treatment of AD, identify individual symptoms and predict the risk of AD in prior.

Theme: Personalisation of Medicine and Prescription Monitoring

Abstract no: ab/ic/22-PM-001

Correlation between Cardiovascular Diseases and Socio-Economic Status of the Population in a Tertiary Care Hospital in Vadodara

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Objectives: To determine the correlation between cardiovascular diseases and socio economic status of the population.
Materials and Methods: For 6 months, a prospective observational study was conducted in a tertiary care hospital. The patients who had CV complications were interviewed regarding their demographics, comorbidities and economic status. The socio-demographic status was determined using the modified Kuppuswamy Socio economic scale (SES) and the 10-year survival score in patients with multiple comorbidities was determined using the Charlson Comorbidity Index (CCI). The data obtained was analysed and the correlation was studied.
Results: In total, 97 patients were enrolled in the study. The average age of the group was 58.98 ± 8.55 years. It was observed that the average population drops under the class 3 - Lower middle class of the modified Kuppuswamy SES. However, there was no significant correlation found between the SES and CCI scores of the population.
Conclusion: The impact of socioeconomic status (SES) on cardiovascular health is observable and meaningful. The correlation between SES and cardiovascular disease is exacerbated in vulnerable people due to biological, behavioural, and psychosocial risk factors (CVD).

Abstract no: ab/ic/22-PM-002

Role of Pharmacist to Improve Inhalation Pattern in Asthma and Copd Patients

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INTRODUCTION: Asthma and COPD are the most frequently occurring respiratory disease and represent a major public health burden. They are pulmonary disease resulting from interaction between environmental exposures and genetic predisposition, incorrect technique when using inhaled medication frequently prevents patient from receiving maximal benefit of their medication in asthma and COPD. AIM: To assess the quality of inhalation technique in asthma and COPD patients. METHODS: A randomized, prospective and interventional study which was classified among 100 adults into two groups: interventional and control groups. Inhaler technique and lung function was assessed using standardized checklists and frequent counseling was given to intervention group. RESULTS: This study shown gradual increase (17.54 to 20.78) in scoring of inhalation technique in the intervention group after counseling and shown decrease (18.06 to 75.62) in scoring of inhalation technique due to lack of frequent counseling. It shown improvement in FEV1 values in patient in intervention group (65.68 to 75.62) compared to control group (70.26 to 70.04). It shown improvement in PEFR values in patients in intervention group (290.45 to 322.42) compared to control group (297.92 to 291.67). CONCLUSION: Our study has shown that majority of patients with lungs disease made one or more errors when inhaling their medication and frequent monitoring and counselling of pharmacist has significantly improved inhalation pattern of patients.

Abstract no: ab/ic/22-PM-003

Pharmacy Experts Play Key Role in Medication Error Prevention: A Review

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Pharmacy technicians can play a crucial role in preventing medication errors, according to a presentation at the National Pharmacy Technician Association's virtual Pharmacy Technician Student Summit.As the role of pharmacists continues to expand to include more primary care duties, pharmacy technicians are needed to help fill the gap. Medication errors are a leading cause of mortality in the United States. Dispensing errors account for ~21% of all medication errors. In addition to causing serious morbidity and mortality, dispensing errors increase the economic burden on society by adding to health care costs. Faulty dispensing may also result in litigation, which can be expensive and lead to increased costs for professional liability insurance coverage. Dispensing in error is traumatic for the pharmacist as well as the patient; therefore, the goal of every pharmacy is to reduce the amount of dispensing errors. Dispensing errors include any inconsistencies or deviations from the prescription order, such as dispensing the incorrect drug, dose, dosage form, wrong quantity, or inappropriate, incorrect, or inadequate labelling. Also, confusing or inadequate directions for use, incorrect or inappropriate preparation, packaging, or storage of medication before dispensing are considered to be errors.Dispensing errors committed by individuals are often the result of error-prone systems and processes. Therefore, the main strategy to reduce dispensing errors is to implement a system-oriented approach rather than a punitive approach targeted at an individual. A list of strategies for minimizing dispensing errors will be presented.

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Abstract no: ab/ic/22-PM-004

A Study on Prophylactic Antibiotic Therapy on Patients Undergoing Surgery in a Tertiary Care Hospital

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Surgical site infections (SSI) are common nosocomial infections. SSIs are more frequent in India compared to other economies. Antibiotics are an important part of surgical prophylaxis but resistance remains the main problem. Therefore rational use of antibiotics is necessary in hospital setting. The main objective of the study is to evaluating the pattern of prophylactic antibiotics in surgery and to classify surgical wound procedures and to assess the extent of adherence to hospital antibiotic policy. A prospective observational study was conducted in a tertiary care hospital on 169 patients who underwent surgeries in Department of Surgery and Orthopaedics. Data was collected based on the inclusion and exclusion criteria. The extent of adherence in selection of agent, dose, prior administration to surgery and Re-dosing were assessed against hospital antibiotic policy framed by infection control committees. The results demonstrate that the extent of adherence with antibiotic policy in Selection of agent, dose, prior administration and in Re-dosing were found to be 71%, 85.3%, 68.8% and 31.2%. Only 38.2% were adherent to all parameters, which was considered and improved. It was concluded that adherence to antibiotics policy in selection of agent prior administration and re- dosing helps in providing a rational therapy for patients at minimal cost. Adherence to antibiotic policy and educating the healthcare professionals will reduce the incidence of SSI. The risks and benefits of continuing antibiotic prophylaxis after the completion of the operative procedure has to be further assessed.

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An observational study on the comorbidities and associated 10-year survival rate in patients with cardiovascular complications

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Cardiovascular disease, also called heart condition, is an umbrella name for a large range of disorders of the heart and/or blood vessels. The objective was to determine comorbidities and the associated 10-year survival rate in patients with cardiovascular complications. For 6 months, a prospective observational study was conducted in a tertiary care hospital. The patient who had cardiovascular complications, were interviewed regarding their demographics, concomitant conditions, past histories and major surgery. The data was jotted down in a designed Case Record Form which was further analysed using the Charlson Co- morbidity Index and the correlation was studied. In total, 97 patients got enrolled in the study. The average age of the group was 58.98 ± 8.55 years. It was observed that the majority of patients were males, accounting for 75.26 % of the total population, as opposed to females, who accounted for 24.74%, both of whom were primarily around the ages of 56 to 60 years. Mean Body Mass Index among the population was 26.9, that is, overweight-II category. The maximumnumber of patients, 32.99%, fell in the Charlson co-morbidity index “2” score band. A strong positive correlation, indicating that older people have more comorbidities, i.e. greater

Charlson co-morbidity index score. A patient's age, gender, body mass index, and underlying comorbidities all have a significant impact on their cardiovascular health. Older patients, majorly male from the overweight category, had multiple co-morbidities and thus lesser survival rate.

Abstract no: ab/ic/22-PM-006

A Study on Literature Review using the Boolean search engine PubMed in Medical Subject Heading (MeSH)

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PubMed is a free search system for biological information that has over 20 million citations. Medical Subject Headings (MeSH) is a restricted vocabulary used in PubMed for indexing and searching the biomedical literature. A research to improve PubMed search tactics for Evidence-Based Practice (EBP) in Pharmacy Practice with MeSH using some vocabulary and acronyms frequently used was utilized. The goal of this paper is to show how MeSH keywords may be utilised to search efficiently in PubMed. We compiled a list of 50 Pharmacy Practice words and 20 acronyms for PubMed searches. The query field on the PubMed search page and the MeSH database were used to look for terms and acronyms. The outcomes were classified because of the study. The results are based on a restricted number of search phrases and acronyms. The activity shows the significance of MeSH words when searching the PubMed database for terms and acronyms that yielded the best results in the literature review process.

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Point of Sale (POS) Software requirements at Community Pharmacy Services to enhance the practice

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The development of technology in this modern era had bought a significant impact on the computerization of pharmacy. And this change will eventually benefit both the pharmacist and patients. This impact should be able to support any web pages, and it should help to decrease medical and pharmaceutical errors. The study aimed to determine the usage and requirements of computer software and recent advancements in community pharmacies to prevent errors and enhance the practice. A Survey was conducted in the Corporate managed community pharmacy and retail managed community pharmacy in Perambalur area of Tamil Nadu, in which the most commonly used software was Tally ERP Software, Marg ERP Software, Wonder Soft software, HTML-5 Software, Smart POS software. The pharmacist in the pharmacy should be well trained to operate the computer software to avoid errors. If the drug name is mistyped in the search option of the software, in such cases, the software itself should provide the proper suggestion of the drug name. The software should automatically remind the patient after completion of their medication at a certain time by sending an SMS to the registered phone number of the patient. All pharmacy software should contain complete drug information such as Drug interactions, ADR, Drug dosage etc. In the software, the Drug profile access should contain a warning about the scheduled drugs. So, in case during the inspection, the reports of scheduled drugs and controlled substances should have separate options to avoid misconceptions. Any malfunction or inconvenience during software functioning should have

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immediate online customer support around the clock. The software used in the community pharmacy should be updated up to date, which will prevent errors and bug issues. If the drug is dispensed, the software should provide the label about patient counselling of the drug, which will benefit the pharmacist by time consumption. The software should be user-friendly for pharmacists, which eventually brings positive interaction with patients.

Abstract no: ab/ic/22-PM-008

Translation Facility Requirement at Community Pharmacy at Tourism Site

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The study objective was to know the importance of translation requirement in the community pharmacy service at tourism area and the need of the service to avoid any errors in the medication suggestion by pharmacists. Foreign people visiting the tourism spots may visit the nearest community pharmacy for their minor ailments treatments. There are studies which necessitates the arrangements of translation services at community pharmacy in the middle east countries where the local population outnumbered by the expatriates and being a tourist hub for the world population. There were approximately 296 surveys were completed in UAE and 30% computer software was used more than oftenfor translation. In another important study 498 pharmacists completed the survey in Swiss, among them 79.8% perceived risk of foreign patients for adverse drug reactions due to communication trouble. This motivated for further study and necessity of making the translation facility available to dispense error free medication due to the difficulty of communication. Development of communication tool to support pharmacist using the current Artificial Intelligent systems. By means of this novel idea to develop educational program, automated language access service kiosks and inter disciplinary model developing to communicate using pictogram andtouch screen access to the patient can bring a change in the medication dispensing for minor ailments treatment in the community pharmacy.

About us

PSG College of Pharmacy (PSGCP) was established in the year 2001. The college of Pharmacy, which has now completed 20 years of existence and commitment to excellence in Pharmacy Education, is located in the PSG Health campus at Peelamedu in Coimbatore city. The college is affiliated to the prestigious "The Tamil Nadu Dr. MGR Medical University" Chennai and also approved by the AICTE and Pharmacy Council of India, New Delhi. Since 2005, the college is consistently meeting annual ISO (International Organization for Standardization) Certification Standards. The pharmacy college was recently ranked 70th among pharmacy colleges across the nation, by NIRF 2022 MHRD which is indeed a phenomenal achievement for a privately funded institution which has only very recent history. Its philosophy is embedded in its commitment to quality as well as its vision and mission statements.

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