

**One day seminar on
Innovations in Pharmaceutical Research
and Poster Presentations
23rd August 2014**



ABSTRACTS

**G.PULLA REDDY COLLEGE OF PHARMACY
Mehdipatnam, Hyderabad-500 028**

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VISION: G. Pulla Reddy College of Pharmacy envisages to become the centre of excellence for research in Pharmacy. It aims to contribute significantly to drug development and drug discovery.

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COURSES OFFERED

B. Pharm

EAMCET CODE: GPRP

PGE CET CODE: GPRP1

M. Pharm - Pharmaceutical Chemistry
Pharmacognosy
Pharmaceutics
Pharmacology
Pharmaceutical Analysis & Quality Assurance

**Dr. S.S.Apte**

*Vice President, NDDS Divn, Natco Research Center
Natco Pharma Limited., Hyderabad*

Formerly:

*Professor, University College of Pharmaceutical Sciences,
Kakatiya University, Warangal*

Dr.S.S.Apte is Vice President at NDDS Division of Natco Research Center, Hyderabad. Previously he worked as Professor in Pharmacy, at the University College of Pharmaceutical Sciences, Kakatiya University, Warangal. After completing M. Pharm. from Nagpur University in 1980, he joined research at Kakatiya University in 1981 and subsequently joined as lecturer in 1983. After completing Ph.D. in 1985, he got an opportunity to work at the Federal Institute of Lipid Research, Muenster, Germany, under the German Academic Exchange Service fellowship, where he worked for two years on biotransformation of alkyl glycerols into phospholipids. He visited Germany several times subsequently, the Netherlands, England and Canada for attending conferences or discussions. At Kakatiya University, he was responsible along with others for establishment of laboratories for plant tissue culture and nanoparticulate delivery systems. He has guided more than 40 M.Pharm. dissertations and nine Ph.D. students. He has about 30 publications to his credit. The major areas of interest include, search for novel lipidic ligands for drug delivery and targeting; vesicles, nanoparticles and nanosuspensions for drug delivery.

At Natco, he is heading the research team responsible for development, scale up, technology transfer of products based broadly on nanotechnology. Two of the products have already been commercialized.

FORMULATION DEVELOPMENT OF NANO DRUG DELIVERY SYSTEMS – CHALLENGES

Dr. S.S.Apte

ABSTRACT

Drug delivery systems are gaining prominence in the recent years because of need to deliver effectively, drugs with challenging physicochemical properties emerging out of R & D efforts. From the commercial angle, drug delivery technologies are predicted to take an increasingly important role in lifecycle management of the patented products. Nanotechnology has already started making significant impact in the drug delivery market. Nanotechnology offers solutions to hitherto unsolved problems in drug delivery.

Reducing the drug to a nanoparticulate form alters some fundamental physicochemical properties. These modifications offer new possibilities of altering the drug disposition in a favorable way. This in turn would produce immense therapeutic benefit by offering safe and effective delivery, improving absorption, reducing the side effects, protecting the labile drugs, ensuring ease of administration and patient compliance and the possibility of targeted delivery. In addition nanotechnology provides a new tool to pharmaceutical formulator to handle the challenges of “difficult to formulate” drugs. For pharma industry, it offers a unique opportunity of generating therapeutically beneficial yet innovative products, which will be useful as one of the lifecycle management strategies with impact on profitability.

Formulation Development of a nano-particulate drug delivery system follows the normal steps in formulation development although with a difference. Different aspects of formulation development will be discussed with liposomal product as an example.



Dr.D.Vijaya Bharathi

APL Research Centre- II,
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Dr. D. Vijaya Bharathi has completed her MSc from Osmania University and MPhil, Ph.D from Jawahar Lal Nehru University, School of Chemistry. She is working as Principal Scientist- II in Analytical Research Department in APL Research Centre- II, an emerging global pharmaceutical company.

She has more than 18 years of analytical and bioanalytical pharmaceutical research experience. She has brought around 15 years of expertise in mass spectrometry in terms of analytical and bioanalytical research including identification, characterization of unknown impurities, impurity profiling, quantification of genotoxic impurities and quantitative bioanalysis. She has published more than 35 papers in reputed international journals. She has guided thesis of PhD, M Pharm, MSc, BTech students.

AN OVERVIEW ON ANALYTICAL / BIOANALYTICAL METHOD DEVELOPMENT AND VALIDATION

Dr. D. Vijaya Bharathi

ABSTRACT

Analytical methods play a crucial role in today's regulated drug development; analytical methods are used during initial phase of pharmaceutical development and at advance phase of pharmaceutical development. Different strategies are applied for development of methods and method development strategy depends on chemistry of drug, its matrix and its usage.

Various methods need to be developed for active ingredients, formulations and clinical samples during pharmaceutical development. Developed methods need to be validated to ensure its specificity, sensitivity and reproducibility.

Various regulatory agencies have provided guidance's for validation in both analytical and bioanalytical methods.

Based on method requirement, validation parameters are assessed and upon complete verification of validation parameters the method is introduced into routine usage.

To conclude, regulatory requirements has changed conventional analytical method development into quality based development and which in turns ensure quality of medicines introduced into the market.

CONTENTS

| | |
|--|-----------|
| Pharmaceutical Chemistry | 5 |
| Pharmacognosy and Biotechnology | 7 |
| Pharmaceutics | 13 |
| Pharmacology | 31 |
| Pharmaceutical Analysis | 43 |
| Pharmacy Practice | 47 |

BPCH-001. BIOLOGICAL ACTIVITY OF N-HYDROXYETHYL-4-AZA-2,3-DIDEHYDROPOPHYLLOTOXIN DERIVATIVES UPON COLORECTAL ADENOCARCINOMA CELLS

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Aza-podophyllotoxin compounds (AZP 8a & AZP 9a) are analogues of podophyllotoxin and these are screened for anti-cancer activity through the NCI 60 cell line screening panel showing activity on various cell types including colon cancer. The COLO 205 cell line was selected and exposed to AZP to determine the IC₅₀ doses at 24 hours treatment. Apoptosis hallmark events such as migration of phosphatidylserine (PS) to the cell membrane, DNA fragmentation, cell cycle effects, mitochondrial membrane permeabilization and caspase activation were included. Experiments were performed in triplicates for all tested compounds including AZP 8a, AZP 9a, camptothecin as positive control and vehicle as negative control. The results present contrasting apoptotic activity between the experimental compounds. Compound 8a presented migration of PS, DNA fragmentation and cell cycle arrest at S phase. Compound 9a presented PS migration with fragmented DNA, cell cycle arrest at S phase, mitochondrial membrane permeabilization and activation of caspase 3, 8 and 9. Compound 8a without the oxygen atoms in ring A appears to cause effects. Compound 9a with the oxygen atoms in expanded ring A presented induction of cell death following activation of a classical apoptosis pathway.

BPCH-002. CADD

HYDDIVYA MOUNICA*

Gland institute of pharmaceutical sciences, Narsapur,

Strategies for CADD vary depending on the extent of structural and other information available regarding the target (enzyme/receptor) and the ligands. "Direct" and "indirect" design are the two major modeling strategies currently used in the drug design process. In the indirect approach the design is based on comparative analysis of the structural features of known active and inactive compounds. In the direct design the three-dimensional features of the target (enzyme/receptor) are directly considered. Computer-Aided Drug Design (CADD) is a specialized discipline that uses computational methods to simulate drug-receptor interactions. It is an exciting and diverse discipline where various aspects of applied and basic research merge and stimulate each other. In the early stage of a drug discovery process, researchers may be faced with little or no structure activity relationship (SAR) information. The process by which a new drug is brought to market stage is referred to by a number of names most commonly as the development chain or "pipeline" and consists of a number of distinct stages. To design a rational drug, we must firstly find out which proteins can be the drug targets in pathogenesis. CADD methods are heavily dependent on bioinformatics tools, application and on the support side of the hub, information technology, information management, software applications, databases and computational resources all provide the infrastructure for bioinformatics. On the scientific side of the hub, bioinformatics methods are used extensively in molecular biology, genomics, proteomics, other emerging areas (*i.e.* metabolomics, transcriptomics) and in CADD research.

BPCH-003. GREEN CHEMISTRY: INNOVATION APPLICATION AND TECHNIQUES

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To implement the usage of substances which are environment friendly or derived from environment including solvent, a new technique has been implemented known as GREEN CHEMISTRY. It is the latest and one of the most researched topics now days has been in demand. Green chemistry aims to reduce the energy consumption required for production of desired product such as any drug, dyes and other chemical compounds. It aims to reduce or eliminate the production of any harmful by-products and maximizing the desired product without compromising with environment. The three key developments in green chemistry include use of super critical carbon dioxide as green solvent, aqueous hydrogen peroxide as an oxidizing agent and use of hydrogen in asymmetric synthesis. It focuses on replacing traditional methods of heating with that of modern methods of heating like microwave radiations so that carbon footprint should be reduced as low as possible. It also focus on disposal of waste material so avoided that it should not produce in reaction or if not possible should be treated in a way that it should not harm the environment. It is also used in replacement of soluble Lewis acids by mesoporous solids containing bound sulphonates in green synthesis. This review emphasize on principle, methodology and recent applications of green chemistry.

MPCH-001. IN-SILICO DESIGN OF NOVEL HDAC2 MODULATORS BY DRUG REPURPOSING APPROACHJageshwari sahu, **Mallika Alvala***

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Histone deacetylase 2 (HDAC2) is a class I histone deacetylase protein mainly localized in the nucleus and regulates various cellular processes, such as cell cycle, senescence, proliferation, differentiation, development, apoptosis, and glucocorticoid function in inhibiting inflammatory response. HDAC2 is crucial for embryonic development, affects cytokine signaling relevant for immune responses and is often significantly over expressed in solid tumors. The expression of HDAC2 is regulated at transcriptional, post- transcriptional and post-translational levels. Modulators of HDAC2 are emerging interest as HDAC2 plays important role in diseases like cancer and COPD. First generation histone deacetylase inhibitors are at various stages of clinical investigation; however most of them are non-selective inhibitors, including suberanilohydroxamic acid (SAHA) which has been launched as an oral formulation by Merck, raising alarms on their safety and efficacy. Present study was aimed to identify novel scaffolds as HDAC2 modulators by screening various chemical databases like drugbank, Asinex, Zinc and Natural products database etc. We have identified novel scaffolds as potential HDAC2 modulators.

MPCH-002. PATENTS, TYPES AND ITS FILLING PROCESS**R.Suthakaran* & M.Raju**

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A Patent is an intellectual property right relating to inventions and is the grant of exclusive right, for limited period, provided by the Government to the patentee, in exchange of full disclosure of his invention, for excluding others, from making, using, selling, importing the patented product or process producing that product for those purposes. The purpose of this system is to encourage inventions by promoting their protection and utilization so as to contribute to the development of industries, which in turn, contributes to the promotion of technological innovation and to the transfer and dissemination of technology. Under the system, Patents ensure property rights (legal title) for the invention for which patent has been granted, which may be extremely valuable to an individual or a Company. One should make the fullest possible use of the Patent System and the benefits it provides. Patent right is territorial in nature and a patent obtained in one country is not enforceable in other country. The inventors/their assignees are required to file separate patent applications in different countries for obtaining the patent in those countries.

MPCH-003. EPIGENETIC INHIBITOR DISCOVERY: A NEW FRONTIER IN DRUG DEVELOPMENT

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Epigenetics is a major field of biomedical research, and epigenetic drug discovery shows great promise for new drugs. The first epigenetic inhibitors are already approved for human treatment. Within the past few years, an expanding collection of epigenetic modulators - spanning multiple classes and disease implications - have been positioned as promising targets for therapeutic development. Since the approval of first-generation epigenetic therapies, an increasing amount of chemically tractable epigenetic targets, such as Histone Deacetylases (HDACs), Histone Methyltransferases (HMTs), Histone Demethylases (HDMs), and a distinct set of chromatin readers - the BET family bromodomains - have given rise to novel inhibitors that are now in preclinical and clinical development. Epigenetic proteins are promising and intensely studied targets for therapeutic drug discovery in cancer. Among the chromatin modifying enzymes, so-called epigenetic “writers”, “reader” and “erasers”, chromatin binding modules or epigenetic “readers” are more difficult targets perhaps owing to perceptions regarding the difficulty of targeting protein-protein interactions. There is a recent development first-in-class, drug-like inhibitors of “bromodomain and extraterminal domain” epigenetic readers (BETs) for mechanistic study and therapeutic application in cancer and other diseases. We are continuously integrating the transcriptional consequences of BETi with changes in the epigenomic landscapes of cancer cells to elucidate the mechanisms underlying response to BETi using chemical and genetic perturbations. These protein families are emerging as druggable classes of enzymes and druggable classes of protein-protein interaction domains.

BPCG-002. MENINGOCOCCAL DISEASE**T. Priyanka ¹ and A. Keerthi ²****Department of Pharmacology, Joginpally B R pharmacy College, Yenkapally, Hyderabad.**

Meningococcal disease occurs both endemically and epidemically across the world. Meningococcal disease is caused by the gram-negative bacterium *Neisseria meningitidis*, also known as meningococcus. Infection occurs both endemically and epidemically, in developed and developing countries. The impact of the disease persists due to the lack of effective control measures necessary to significantly decrease the number of asymptomatic carriers. There are two main forms of clinical manifestation of the disease meningococcal meningitis, which has a good prognosis if it is adequately treated and meningococemia or Meningococcal septicemia, which is less frequent and highly lethal even when treated. It is characterized by positive blood cultures and an exaggerated systemic inflammatory response, associated with endotoxemia. Epidemics of meningo-coccal disease have occurred in Delhi in the year 1935, then in the year 1966 which lasted for a year and again in 1985-86. The last epidemic took a great toll with case fatality rate nearly 13%.

BPCG-003. HUMAN GENOME EDITING**Bojjam Narasimhulu Pharmacy College For Women****B. Preethi****prettybpreethi@gmail.com**

Targeted genome editing using engineered nucleases has rapidly gone from being a niche technology to a mainstream method used by many biological researchers. This widespread adoption has been largely fueled by the emergence of the clustered, regularly interspaced, short palindromic repeat (CRISPR) technology, an important new approach for generating RNA-guided nucleases, such as Cas9, with customizable specificities. Genome editing mediated by these nucleases has been used to rapidly, easily and efficiently modify endogenous genes in a wide variety of biomedical important cell types and in organisms that have traditionally been challenging to manipulate genetically. Furthermore, a modified version of the CRISPR-Cas9 system has been developed to recruit heterologous domains that can regulate endogenous gene expression or label specific genomic loci in living cells. Although the genome-wide specificities of CRISPR-Cas9 systems remain to be fully defined, the power of these systems to perform targeted, highly efficient alterations of genome sequence and gene expression will undoubtedly transform biological research and spur the development of novel molecular therapeutics for human disease.

BPCG-004. PHARMACOLOGICAL ACTIVITY OF SPINACIA OLERACEA LINN**M. Sree Varsha,****MNR College of Pharmacy, Sangareddy, Hyderabad, Andhrapradesh, India.****mm.sreevarsha@yahoo.in**

Herbal and natural products of traditional medicine have been used for centuries in every culture throughout the world. Medical professionals and scientists have shown increased interest on this field as they diagnose the true health benefits of these remedies. Spinach is a leafy green vegetable which is scientifically known as *spinciaoleracealinn* (family-chenopodiaceae). Though spinach is most often used as a food, it has medicinal value as well. Spinach is packed with vitamins such as vitamin C, vitamin A and vitamin E and minerals like magnesium, manganese, iron, calcium and folic acid. Spinach is also a good source of chlorophyll. Which is known to aid in digestion. Spinach is also rich in the carotenoids beta-carotene and lutein. It is a good source of the bioflavonoid quercetin with any other flavonoids which exhibits anti-oxidant, anti-proliferative, anti-inflammatory, anti-histaminic, CNS depressant, protection against gamma radiation, hepatoprotective properties. Spinach is also used to prevent the bone loss associated with osteoporosis and for its anti-inflammatory properties in easing the pain of arthritis. Spinach is good for the heart and circulatory system and has energy boosting properties. Spinach is truly one of nature's most perfect foods.

BPCG-005. IMMUNOTHERAPY IN TREATING EBOLA VIRUS**A.V Soujanya****N.Sushmitha**

Immunotherapy involves the use of monoclonal antibodies that are monospecific antibodies that are the same because they are made by identical immune cells that are all clones of a unique parent cell, in contrast to polyclonal antibodies which are made from several different immune cells. Monoclonal antibodies have monovalent affinity, in that they bind to the same epitope. Given almost any substance, it is possible to produce monoclonal antibodies that specifically bind to that substance; they can then serve to detect or purify that substance. This has become an important tool in biochemistry, molecular biology and medicine. This method of treatment has been previously used since years for the treatment of syphilis and certain strains of cancer. The drug is composed of three humanized monoclonal antibodies that are produced transgenically and subsequently grown in large numbers in the tobacco plant *Nicotiana*. The serum combines the best components of MB-003 (Mapp) and ZMAb (Defyrus/PHAC).

BPCG-006. ENZYME IMMOBILIZATION TECHNIQUES AND ITS SUPPORT MATERIALS**Sujith das*, Praveen. A , madhu.M****GLAND INSTITUTE OF PHARMACEUTICAL SCIENCES , KOTHAPET**

The current demands of the world's biotechnological industries are enhancement in enzyme productivity and development of novel techniques for increasing their shelf life. These requirements are inevitable to facilitate large-scale and economic formulation. Enzyme immobilization provides an excellent base for increasing availability of enzyme to the substrate with greater turnover over a considerable period of time. Several natural and synthetic supports have been assessed for their efficiency for enzyme immobilization. Nowadays, immobilized enzymes are preferred over their free counterpart due to their prolonged availability that curtails redundant downstream and purification processes. Future investigations should endeavor at adopting logistic and sensible entrapment techniques along with innovatively modified supports to improve the state of enzyme immobilization and provide new perspectives to the industrial sector.

BPCG-007. THE BIO-TERROR AGENT-EBOLA VIRUS**Shaik shahenaz, Soundarya rajoori, Kaila shravani reddy, Anna eapen****Sri Venkateshwara College Of Pharmacy, Hyderabad, Telangana 500081****Email : shahenazshaik786@gmail.com**

Ebola virus is a member of the Filoviridae viral family of RNA viruses, which are characterized by the long, thin filaments seen in micrograph images. Ebola virus was first discovered in 1976 when an outbreak of Ebola hemorrhagic fever occurred in Zaire and later same year in Sudan. Ebola is transmitted through bodily fluids and /or direct contact with infected individuals. Ebola virus begins to affect infected individuals with flu-like symptoms. Patients are diagnosed by testing urine or saliva with an ELISA test, however the results are not always accurate. There is currently no treatment for Ebola hemorrhagic fever. Ebola is in United States' list of possible bio terror agents because no humans have been found to have immunity to it. The National Institute of Allergies and Infectious Diseases collect records of all new and emerging research on Ebola virus. Ebola is such a great concern of global health today because of its high fatality rate.

BPCG-008. FUNCTIONAL FOODS

**Syeda Adiba Arjumand; B. Pharmacy Iv Year, Preeti Utukuri,dept Of Pharmacy
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Functional food can be considered to be those that have potentially positive effect on health beyond basic nutrition oatmeal is a familiar example of a functional food because it naturally contains soluble fiber that can help to lower cholesterol levels when they are consumed at efficacious level as a part of varied regular basis. Functional foods are an emerging field in food science due to their increasing popularity with health conscious consumers and the ability of marketers to create new interest in existing products. Functional foods represents one of the most intensively investigated and widely promoted areas in the food and nutrition sciences. Today however, it must be emphasized that these foods and ingredients are not magic bullet. Diet is only one aspect of a comprehensive approach to good health.

BPCG-009 EFFICIENT METHOD IN CONVERSION OF FAT CELLS TO LIVER CELLS

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Conversion of fat cells to liver cells is an efficient and new technique introduced by a scientist named Dr.Peltz from Stanford's University. As we know many of the liver damaged patients are dying due to lack of perfect matched liver from donor. Mostly liver damages are seen in the persons who take Tylenol drug which is a painkiller, if it is taken in overdose or frequently it will destroy the liver cells which leads to the total damage of liver and finally death to the person. To avoid this situation Peltz have introduced conversion method in 2012 i.e. through liposuction process fat cells of the patient are taken and are converted to liver cells which can regenerate the liver cells by SCi - Heps process i.e Spherical culture induced hepatocytes which is very efficient and shows no side effects i.e formation of tumours. In this method immuno-suppressants are not used because fat cells are taken from the patient's body itself. Sci-Heps is the process where, instead of growing on flat surfaces in a laboratory dish, the harvested adipose stem cells are cultured in a liquid suspension in which they form spheroids. But clinical trials on human will start in 2015 . Following this previous method was a dangerous process i.e iPC-induced pluripotent cells and immuno-suppressant drugs are used, which showed many side effects and tumour formation when tested on the mice which was proposed by Shinya Yamanaka a Japanese scientist. But by conversion method many lives can be saved.

BPCG-010 PLANT-DERIVED ACETYLCHOLINESTERASE INHIBITORY ALKALOIDS FOR THE TREATMENT OF ALZHEIMER'S DISEASE

***K.Asha, Abigail Fernandez,K Shalini, Komal Jain, B Jyothirmayee. S.Vanitha sagar,A.Srinivas.**

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The inhibition of acetylcholinesterase (AChE) has been one of the most used strategies for the treatment of Alzheimer's disease (AD). The AChE inhibitors (AChE-I) produce not only short-term symptomatic effects, but can also play a role in other pathological mechanisms of the disease (eg,formation of amyloid- β plaques), which has renewed interest in the discovery of such inhibitors. Four of the five currently prescribed treatments for AD are AChE-I. Natural alkaloids such as galantamine or alkaloid-related synthetic compounds (such as rivastigmine) are considered beneficial for patients with mild-to-moderate AD. However, there is a need for the discovery of more effective compounds and for this reason, plants can still be a potential source of new AChE-I. Findings and advances in knowledge about natural alkaloids as potential new drugs acting as AChE-I .

BPCG-011. PHARMACOLOGICAL EVALUATION ON GLUCOSE LOWERING EFFICACY OF LEAVES OF *PRUNUS PERSICA***Sadia naseem*, Saba anjum, ¹Zainab begum, Md.mohi uddin, SH Rizwan.**

The aim of the present study was to evaluate the glucose lowering efficacy of methanolic and aqueous extracts of leaves of *Prunus persica* using oral glucose loaded normoglycemic rat model, alloxan induced diabetic rat model and inhibition of intestinal glucose absorption by everted gut sac model. Diabetes mellitus [DM] is a group of heterogeneous disorders in which carbohydrate metabolism is reduced while that of proteins and lipids are increased. Hyperglycaemia is a common end point for all types of DM and is an important parameter to evaluate the efficacy of antidiabetic drugs. The results shows that in case of everted gut sac model, both methanolic and aqueous extracts showed significant results at $p < 0.01$ and $p < 0.001$ respectively compared to control. In oral glucose loaded normoglycemic rat model administration of test drug at different doses and at different dosing intervals were administered to evaluate the glucose lowering efficacy. Acarbose was used as reference standard in all models. The results revealed that there is suppression of postprandial spike initially and later maintenance of blood glucose levels were noticed. In case of alloxan induced diabetic rat model blood glucose levels were estimated on 7th and 10th day after alloxan induction. The results showed that the percentage reduction of blood glucose for methanolic extract 500mg/kg on 7th day and 10th day was 49.58 and 69.27 respectively. In case of Aqueous extract the percentage reduction of blood glucose on 7th and 10th day was 42.83 and 55.26. Hence the present study clearly demonstrated the antihyperglycemic activity of leaves of *Prunus persica*.

BPCG-012. HERBAL DRUGS BACK TO INDIAN SYSTEM OF MEDICINE**Adeeba Jameel****(addujameel@gmail.com)****Malla Reddy Pharmacy College, Maisammaguda Secunderabad**

The present abstract deals with the allopathic drugs which are being used extensively in the market for treating many ailments along with their adverse reactions. In olden days the Traditional system of medicine is 'The Ayurveda'. Allopathy until the production of penicillin in the year 1930 by Alexander Fleming was not known. From then the era of Allopathy has started after Second World War. Till today the allopathic formulations have been drastically increased in production and consumption. The boom of allopathic formulations, have increased in such a way that the traditional system of medicine 'The Ayurveda' has become extinct. But now due to increased toxicity and adverse reactions of allopathic formulations the people began to come back to the traditional system of medicine 'The Ayurveda'. The best example here is the drug Thalidomide which has been banned due to its teratogenic effect. Hence traditional systems of medicine which aim at prevention of a disease is proving more and more attractive with people these days.

BPCG-013. MITOCHONDRIAL DYSFUNCTIONING & HUMAN DEFICIENCY VIRUS**Sara Fatima*, Asma Rustum, Samreen Begum⁽¹⁾, Miss Tasleem, Miss Nazima⁽²⁾****Deccan School Of Pharmacy, JNTUH, Hyderabad-500001****Email id: sara.fatima28@yahoo.com**

Mitochondria are at the center of cellular energy metabolism and regulate cell life and death. The human mitochondrial genome is very small and is economically packed, the expression of the genome is essential for the maintenance of mitochondrial bioenergetic function. Mutation occurs at a much higher rate in the mitochondrial DNA (mtDNA) than in chromosomal DNA. Transient heteroplasmy of mtDNA occurs after a mutational event; the random pattern of cytoplasmic segregation that occurs during subsequent growth which gives to a mosaic of cells. It is proposed that the accumulation of mitochondrial mutations and the subsequent cytoplasmic segregation of these mutations during life is an important contributor both to the ageing process and to several human degenerative diseases. Moreover, new compounds with desired redox potentials can be rationally designed for clinical use. Human immunodeficiency virus (HIV) infection and the pharmacological treatment have been shown to affect mitochondrial function in a number of tissues, and each may cause specific organ pathology through specific mitochondrial pathways. HIV has been shown to kill various tissue cells by activation of mitochondrial apoptosis. Nucleoside analogues, used extensively to treat HIV infection, are known to influence a number of steps affecting mitochondrial DNA integrity. HIV describes the basic physiology, pharmacology and pathophysiology of HIV infection and the nucleoside analogues regarding mitochondrial function and discusses the progress made in this field with respect to the measurement of these effects and the prediction of potential drug toxicity caused by the disease.

BPCG-014. THREE-Dimensionally Printed Biological Machines Powered by Skeletal Muscle**SYEDA AFREEN NIKHAT****Bojjam Narasimhulu Pharmacy College For Women, Hyderabad, Telangana, India – 500 059****Email: syedaafreennikhat@gmail.com**

Combining biological components, such as cells and tissues, with soft robotics can enable the fabrication of biological machines with the ability to sense, process signals, and produce force. An intuitive demonstration of a biological machine is one that can produce motion in response to controllable external signaling. Whereas cardiac cell-driven biological actuators have been demonstrated, the requirements of these machines to respond to stimuli and exhibit controlled movement merit the use of skeletal muscle, the primary generator of actuation in animals, as a contractile power source. Here, we report the development of 3D printed hydrogel “bio-bots” with an asymmetric physical design and powered by the actuation of an engineered mammalian skeletal muscle strip to result in net locomotion of the bio-bot. Geometric design and material properties of the hydrogel bio-bots were optimized using stereolithographic 3D printing, and the effect of collagen I and fibrin extracellular matrix proteins and insulin-like growth factor 1 on the force production of engineered skeletal muscle was characterized. Electrical stimulation triggered contraction of cells in the muscle strip and net locomotion of the bio-bot with a maximum velocity of $\sim 156 \mu\text{m s}^{-1}$, which is over 1.5 body lengths per min. Modeling and simulation were used to understand both the effect of different design parameters on the bio-bot and the mechanism of motion. This demonstration advances the goal of realizing forward-engineered integrated cellular machines and systems, which can have a myriad array of applications in drug screening, programmable tissue engineering, drug delivery, and biomimetic machine design.

BPCG-015. NUTRITIONAL ASSESSMENT OF LEAVES OF WILD EDIBLE PLANT URTICA ARDENCE**M. Manoj kumar*, Manikanta****GLAND INSTITUTE OF PHARMACEUTICAL SCIENCES****M.Manojkumar112@gmail.com , Manikantagoud1996@gmail.com**

Considering the growing need to identify alternative bio-nutritional sources, wild edible leaves consumed in forest zone of Uttarakhand, India were evaluated for their nutritive value in order to prioritize edible wild plant suitable for domestication. The result showed significance of wild plant species as important source of nutrient for rural poor people. The nutritional value of leaves of wild plant *Urtica ardens* were evaluated in terms of protein, carbohydrate, fat, fiber content, vitamin content, reducing sugars and minerals. *Urtica ardens* had a significant level of above nutrients and therefore was identified as promising species for promotion as backyard planting especially farming systems suffering from crop loss, food shortage and chronic malnutrition.

BPCG-016. DETECTING THE QUALITY OF PHARMA PRODUCTS BY PCR**C ShrutiBharathi, Maria Hussaini*****Sultan ul- Uloom College of Pharmacy, Banjara hills, Hyderabad- 500034****Email: maria.hussaini4@yahoo.com**

PCR occurs *in vitro*, or outside of the body in a laboratory, it is based on the natural process of DNA replication. In its simplest form, the reaction occurs when a DNA sample and a DNA polymerase, nucleotides, primers and other reagents (man-made chemical compounds) are added to a sample tube. The reagents facilitate the reaction needed to copy the DNA code. PCR for pharmaceutical manufacturing help to ensure the quality and safety of pharmaceutical products especially when accuracy and time-to-results are critical. Detecting impurities and identifying contaminants by using molecular techniques such as DNA sequencing, PCR, and real-time PCR, are fast becoming the standards for pharmaceutical analytics worldwide. It is also ideal for use in public health laboratories, cosmetics and personal care products manufacturing, food testing laboratories, and academic and research centers.

BPCG-017. MONOCLONAL ANTIBODIES: VERSATILE PLATFORM FOR CANCER IMMUNO-THERAPY**Faria Nimrana¹, Sana Fatima¹, Afshan Meherose²****DECCAN SCHOOL OF PHARMACY (Osmania University), Aghapura, Hyderabad-500001.****Email id: Sf564454@gmail.com**

Monoclonal antibodies have monovalent affinity i.e. they bind to the same epitope. It is possible to produce monoclonal antibodies that specifically bind to the given substance and serve to detect or purify that substance. The term monoclonal antibody refers to a single specificity antibody derived from a single B cell clone and initially these were created by fusing B cells (from immunised mice) with lymphoma cells. Two types of monoclonal antibodies are used in cancer treatments. Naked mAbs are antibodies that work by themselves. There is no drug or radioactive material attached to them. Conjugated monoclonal antibodies are the monoclonal antibodies (mAbs) joined to a chemotherapy drug, another kind of toxin (a substance that poisons cells), or a radioactive particle. Monoclonal antibodies (mAb) have been an invaluable tool that has added to our biological knowledge for over a decade. mAb are important diagnostic reagents used in biomedical research, microbiological research in diagnosis of Hepatitis, AIDs, influenza, herpes simplex, Chlamydia infections and in treatment of such diseases as infections and cancer. Monoclonal antibody therapy has emerged as an important therapeutic modality for cancer. Unconjugated antibodies show significant efficacy in the treatment of breast cancer, non-Hodgkin's lymphoma, and chronic lymphocytic leukemia. Hybridoma-derived or bacterially cloned monoclonal antibody technology has enabled the mass production of highly specific probes for antigenic sites, whether on enzymes, receptors, hormones, or microbial products. The great utility of such antibody assays is in their ability to be easily automated and standardized, primarily through an adaptation of the enzyme-linked immunosorbent assay. Monoclonal antibody diagnostic kits being increasingly used to identify communicable diseases including transfusion transmissible infections. The introduction of therapeutic antibodies has increased the number of treatment options for this disease. Antibody–drug conjugates are powerful new treatment options for solid tumours and lymphomas. In addition, recent efforts to combine currently applied therapeutic antibodies with other biologic and targeted therapies with efficacy in various diseases offers the potential to move toward alternative non–chemotherapy-based treatment approaches.

BPCG-018. IMMOBILIZED ENZYME REACTORS IN HPLC AND ITS APPLICATIONS IN INHIBITORS SCREENING**Madhu.M* Supraja. S, Krishna.T****Gland Institute of Pharmaceutical Sciences, Narsapur, Medak**

Immobilized enzyme bio- chromatography and its application in inhibitors screening in the novel technique, in order to screen enzyme inhibitors from a mass of compounds. The immobilized enzyme reactor applied as the immobilized enzyme stationary phase in HPLC. Different types of supporting materials are used for the immobilization of enzymes such as inorganic, organic, magnetic nano spheres. Immobilized enzyme strategy created by magnetic nanospheres for monitoring enzyme activity and screening inhibitors followed by high performance liquid chromatography (HPLC) has performed. Through the reaction of the aldehyde groups with amine groups, glycosidase was simply and stably immobilized onto magnetic nanospheres by the cross-linking agent glutaraldehyde. In order to profiling the activity of the immobilized α -glucosidase, the natural substrate was hydrolyzed by it and the yield of product was determined by HPLC. Compared with traditional bioassay approach, the prepared immobilized α -glucosidase displays a high activity and stability which allows it to be easily reused for 10 times.

BPCU-001 APPLICATIONS OF NANOROBOTICS IN PHARMACEUTICAL FIELD**k.Vaishnavi*, L. Satyanarayana, M. Alok Kumar****Omega College of Pharmacy, Edulabad (V), Ghatkesar (M), R.R District- 501301.**

Nanotechnology promises futuristic applications such as microscopic robots that assemble other machines or travel inside the body to deliver drugs or do microsurgery. Taking inspiration from the biological motors of living cells, chemists are learning how to utilize protein dynamics to power microsize and nanosize machines with catalytic reactions. Nanorobot's toolkit contains features like medicine cavity containing medicine, probes, knives and chisels to remove blockages and plaque, microwave emitters and ultrasonic signal generators to destroy cancerous cells, two electrodes generating an electric current, heating the cell up until it dies, powerful lasers could burn away harmful material like arterial plaque. A nanorobot is a machine designed to perform a specific tasks repeatedly and with precision at nanoscale dimensions. These are theoretical nanoscale biomolecular machine systems within a size range of 0.5 to 3 microns with 1-100 nm parts. The proposed application of nanorobot can range from common cold to dreadful diseases like cancer, diabetes, influenza, cerebral aneurysm. This study of nanorobot serves as a lead to the field of nanomedicine. Work in this area is still largely theoretical, and no artificial non biological nanorobots have yet been built. These ultra miniature robotic systems and nanomechanical devices will be the biomolecular electro mechanical hardware of future biomedical applications.

BPCU-002. SPECIAL IM INJECTION TECHNIQUES- An Overveiw**T. Yaminikrishna*, L. Satyanarayana, B. Samyuktha rani****Omega College of pharmacy, Edulabad, Ghatkesar, R.R District- 501301.**

Route of administration plays a major role to provide good bioavailability of the dosage form towards the patients. The most effective route to administer the medication is depends on the purpose of its use. The most common injection routes includes intradermal, subcutaneous, intramuscular and intravenous. Giving an injection safety is considered to be a routine nursing activity, however it requires knowledgement of anatomy and physiology, psychology and practical expertise. IM injection refers to introduction of larger amounts of drugs (as much as 3 mL) into muscles, using needle & syringe. IM injections bear few disadvantages like Risk of accidental injection into blood vessels. Thus to avoid the risk many more special techniques came into existence. Special IM injection techniques like Air lock technique and Z- track injection technique. These two techniques are mainly preferred for drugs that stained the skin or were particularly irritant. Thus the present poster overviews the special IM injection techniques along with their advantages and applications.

BPCU-003. SMART DRUG DELIVERY FOR CANCER**Sunaina*, L.Satyanarayana, B.SamyukthaRani**

Cancer is one of the most common causes of death, taking nearly 7 million lives each year worldwide. New cancer targeted therapies that make use therapeutic antibodies or small molecules have made treatment more tumor specific and less toxic. Nevertheless, there remain several challenges to the treatment of cancer, including drug resistance, cancer stem cells, and high tumor interstitial fluid pressure. In many solid tumors, for example, increased interstitial fluid pressure makes the uptake of therapeutic agents less efficient. One of the most promising ways of meeting such challenges is ligand targeted therapy that may be used to make targeting more specific and carry higher dosages of anti-cancer drug to tumor tissue. The knowledge is now used to generate specific tumor therapies either by directly targeting the proteins involved in the neoplastic process or by targeting drugs to the tumor. Targeted therapy as direct approach target tumor antigens to alter their signalling either by monoclonal antibodies or by small molecules. Indirect approach rely on tumor antigens. Monoclonal antibodies have emerged as important therapeutic agents for several different malignancies. Choice of target antigen determines the success of treatment. Ligand-targeted therapy have tumor specificity and less toxicity, develops novel therapies for cancer. There are several obstacles for cancer therapy including drug resistance, high tumor interstitial fluid pressure and cancer stem cells. Nano particle delivery systems have improved anti cancer effects. Ligand-targeted therapy via liposome carry high dose of drug and gives effective cancer therapy.

BPCU-004. SMART DRUG DELIVERY SYSTEMS: A REVIEW**T. Mamatha, Maimanath Siddiqua*****Department of Pharmaceutics, Sultan – Ul – Uloom College of Pharmacy, Road No: 3, Banjara Hills, Hyderabad – 500034, India. Email: tmamatha12@gmail.com**

Smart drug delivery system (SDDS) is a method of delivering medication to a patient in a manner that increases the concentration of the medication in some parts of the body relative to others. The goal of a smart drug delivery system is to prolong, localize, target and have a protected drug interaction with the diseased tissue. Sensitiveness to internal or external signals of the body can be achieved by means of materials that modify their properties as a function of the intensity of the signal. There are different types of drug delivery vehicles, such as polymeric micelles, liposomes, lipoprotein-based drug carriers, nano-particle drug carriers, dendrimers, etc. The system utilizes MEMS or NEMS (micro and nano electromechanical systems) technology based drug pumps, micro-pumps, micro-needles, micro-osmotic pumps, and nano-pumps. SDDS uses microchips/nanoparticles placed under the skin or into the spinal cord or brain that detects various chemical signals in the body to deliver drugs ranging from pain medication to chemotherapy. An ideal drug delivery vehicle must be non-toxic, biocompatible, non-immunogenic, biodegradable, and must avoid recognition by the host's defense mechanisms. The advantages to the targeted release system is the reduction in the frequency of the dosages taken by the patient, having a more uniform effect of the drug, reduction of drug side-effects, and reduced fluctuation in circulating drug levels. Smart drug delivery can be used to treat many diseases, such as the cardiovascular diseases and diabetes. However, the most important application of smart drug delivery is to treat cancerous tumors. The ultimate goal of SDDS is, to administer drugs at the right time, at the right dose anywhere in the body with specificity and efficiency which can help patients better adhere to their therapy regimen.

BPCU-005 FORMULATION AND EVALUATION OF IMMEDIATE RELEASE COMBINED DOSAGE FORM CONTAINING ATORVASTATIN AND EZETIMIBE**¹V.Praveen Kumar, ²Shubhrajit Mantry*, ³S.Anil Kumar****Department of Pharmaceutics, Kottam Institute of Pharmacy, Mahaboobnagar, AP, INDIA-509125****Email: manu28pharmacy@gmail.com**

The present study deals with the formulation of film coated immediate release tablet of Atorvastatin and Ezetimibe in combination. Atorvastatin is a selective competitive inhibitor of HMG CoA reductase while Ezetimibe is a lipid lowering drug which acts mainly at intestinal lumen. Atorvastatin reduces total cholesterol, low density lipoprotein (LDL). Both the drugs are of BCS class-II, i.e. high permeability and low solubility. The main aim of the study was to decrease the disintegration time and simultaneously increase the dissolution rate of the dosage form. Drug excipients studies, FT-IR spectroscopic studies and DSC studies revealed that there were no drugs – excipients interaction. In the present study the tablets were prepared by wet granulation method using purified water, calcium carbonate, silicified microcrystalline cellulose, lactose, croscarmellose, sodium bicarbonate, purified talc, magnesium stearate, sodium lauryl sulphate using 3² factorial designs. The prepared tablet formulations were evaluated for various parameters like weight variation, hardness, disintegration time, and drug content. Along with these tests, in-vitro dissolution studies and stability studies were also performed. In-vitro release studies were carried out in USP-XXII tablet dissolution apparatus –II using 0.05M phosphate buffer pH - 6.8 as dissolution medium and analyzed by HPLC for Atorvastatin and Ezetimibe at 240 nm. The formulated tablet was compared with marketed preparation in all evaluation aspects.

BPCU-006. Nonionic Surfactant Vesicles in Ocular Delivery: Innovative Approaches and Perspectives**V.Sneha deepthi** B.Pharmacy III-Year****Bojjam narasimhulu pharmacy college for women,Hyderabad,Telangana****Email:Pinkyrocz18@yahoo.com**

With the recent advancement in the field of ocular therapy, drug delivery approaches have been elevated to a new concept in terms of nonionic surfactant vesicles (NSVs), that is, the ability to deliver the therapeutic agent to a patient in a staggered profile. However the major drawbacks of the conventional drug delivery system like lacking of permeability through ocular barrier and poor bioavailability of water soluble drugs have been overcome by the emergence of NSVs. The drug loaded NSVs (DNSVs) can be fabricated by simple and cost-effective techniques with improved physical stability and enhance bioavailability without blurring the vision. The increasing research interest surrounding this delivery system has widened the areas of pharmaceutics in particular with many more subdisciplines expected to coexist in the near future. This review gives a comprehensive emphasis on NSVs considerations, formulation approaches, physicochemical properties, fabrication techniques, and therapeutic significances of NSVs in the field of ocular delivery and also addresses the future development of modified NSVs.

BPCU-007 . NUTRACEUTICALS AS THERAPEUTIC AGENTS**Shainaz Mahveen*, Preeti Utukuri****Department of Pharmaceutics, Sultan – UI – Uloom College of Pharmacy, Road No: 3, Banjara Hills, Hyderabad – 500034, India.**

Nutraceutical, a portmanteau the words “nutrition” and “pharmaceutical”, is a food or food product that provides health and medical benefits, including the prevention and treatment of disease. It is regarded as the bio active substance and the constituents are either of known therapeutic activity or are chemically defined substance generally accepted to contribute substantially to the therapeutic activity of the drug. Nutrients, herbals and dietary supplements are major constituents of nutraceuticals which make them instrumental in maintaining health, act against various disease conditions and thus promote the quality of life. These products may also range from isolated nutrients, dietary supplements and specific diets to genetically engineered foods, herbal products, and processed foods such as cereals, soups, and beverages. Nutraceuticals have received considerable interest because of their presumed safety and potential nutritional and therapeutic effects. Pharmaceutical and nutritional companies are aware of the monetary success taking advantage of the more health-seeking consumers and the changing trends resulting in a proliferation of these value-added products aimed at heart health to cancer. Some popular nutraceuticals include glucosamine, ginseng, echinacea, folic acid, cod liver oil, omega-3 eggs, calcium-enriched orange juice, green tea etc. Majority of the nutraceuticals are claimed to possess multiple therapeutic benefits though substantial evidence is lacking for the benefits as well as unwanted effects.

BPCU-008. REMOTE INTELLIGENT DRUG DELIVERY SYSTEM**Shabnam siddique*,B pharm4th yearT. Mamtha****Department of Pharmaceutics, Sultan – UI – Uloom College of Pharmacy, Road No: 3, Banjara Hills, Hyderabad – 500034, India.****E-mail: shahnazsiddiqi4@gmail.com**

The Remote Intelligent Drug Delivery System (RIDDs), a device implanted under the skin and connected to a wireless control center, overcomes the inconvenience associated with taking drugs manually. Such devices include built-in sensors that allow health care workers to monitor pulse rate, blood oxygen levels and other functions. Based on the information, they can adjust how frequently the medication is delivered or increase or decrease amounts as necessary. Different types of implants devices used in RIDDs are microchip, dendrimers, hydro gel, polymer, phytosomes, microspheres. Microchip is a device consists of anode and cathode, drug releases due to the reaction between anode and reservoir. Phytosomes are advanced form of herbal formulations which contain bioactive phytoconstituent of herb extract surround and bound lipid. Microspheres are characteristic free flowing powder consisting of protein and synthetic polymers. Dendrimers has unique functional architecture and macromolecular characteristics. Polymers have been used as a main tool to control the drug release rate from formulations. Hydrogel is a advanced drug delivery system mainly used for ocular diseases. Patients who may otherwise be unable to take medication may benefit from new electronic implants capable of dispensing drugs automatically. This technology could be particularly useful for psychiatric and elderly patients who rely on a complicated regime of drugs and are at risk if they miss a dose or take it at a wrong time. The greatest benefit will come from patients receiving the right dose of the right medicine on time. RIDDs is a potential system that allows the storage and dependable, controlled release of multiple drugs.

BPCU-009 ORAL FAST DISSOLVING DRUG DELIVERY SYSTEM: AN OVERVIEW

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Fast dissolving films also known as orodispersible films, mouth-dissolving films, oral fast disintegrating films, melt-in mouth films, quick dissolving films, etc, is a technology that produces “formulations taken without water” with quick onset of action, protect drug from first pass metabolism and improve patient compliance. It improves the efficacy of APIs by dissolving within minute in oral cavity after the contact with saliva. Oral fast dissolving film is a thin film prepared using hydrophilic polymers, which rapidly dissolves on tongue or buccal cavity, manufactured using solvent casting method, rolling method, extrusion method and solid dispersion method. These films are evaluated for disintegration dissolution, tensile strength, thickness, folding endurance, elastic modulus. OFDFs are very similar to postage stamp in their shape, size and thickness. These films have a potential to deliver the drug systemically through intragastric, sublingual or buccal route of administration and also has been used for local action. This type of technology offers a convenient way of dosing medication, not only to pediatric, geriatric, bedridden patients, mentally ill patients, but also to the general population. OFDF formulations are suitable for cough, cold remedies, sore throat, allergenic conditions, nausea, pain and CNS disorders, analgesics to neuroleptics and anti-psychotic drugs, multivitamins, caffeine strips, snoring aid and sleeping aids are also applicable for incorporation in the oral films. They are an efficient tool to achieve desired therapeutic goals such as drug targeting and quick release. Hence, Fast dissolving films open new challenges and opportunities for improved novel drug delivery system.

BPCU-010 CHRONOPHARMACEUTICS FOR THE TREATMENT OF ARTHRITIS

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Due to advances in chronobiology and chronopharmacology, the traditional goal of pharmaceutics i.e., design drug delivery systems with a constant drug release rate is becoming obsolete. A major objective of chronopharmaceutical science in the treatment of several diseases is to deliver the drug in higher concentration during the time of greatest need according to the circadian onset of the disease or syndrome. It is basically composed of a drug-containing core provided with an outer release-controlling coating. Considering the fact that physiological event such as heart rate, blood pressure, plasma concentration of hormones, plasma proteins and enzymes display constancy over time, drug delivery systems with constant release profiles have thus been favored. Arthritis is a medical condition involving damage, swelling and pain to the joints of the body. The physiology and biochemistry of a human being is not constant during the 24 hours, but it shows some variability in a predictable manner as defined by the timing of peak and trough of each of the body. Chronotherapy of a medication may be accomplished by the judicious timing of conventionally formulated tablets and capsules. The relevant immunological parameters display an elevation in the early morning hours. The increase in nocturnal anti-inflammatory cortisol secretion is insufficient to suppress ongoing inflammation, resulting in the morning symptoms of joint stiffness, pain, and functional disability. The potential benefits of chronopharmaceutics have been demonstrated in the management of number of diseases. Such novel and more biological approaches to drug delivery may lead to safer and more efficient disease therapy in the future.

BPCU-011. Aquasomes: A Novel Self Assembled Peptide & Protein Carrier
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An attempt to enhance the delivery of poorly-soluble drugs by a nano-vesicular system leads to birth of aquasomes as the novel drug delivery system, spherical in shape with 60–300 nm particles size for bioactive molecules like peptide, protein, hormones, antigens and genes to specific sites. Aquasomes are called as “bodies of water”, their water like properties protect and preserve fragile biological molecules and maintain conformational integrity and high degree of surface exposure in targeting of bio-active molecules like peptide and protein hormones, antigens and genes to specific sites. These carriers are three layered self assembled structures through non-covalent and ionic bonds, comprised of a solid phase nano-crystalline core coated with oligomeric film to which biochemically active molecules are adsorbed with or without modification. Nano-carriers increase the therapeutic efficacy of the pharmaceutically active agents as they can regulate their release, improve their stability and prolong circulation time by protecting the drug from phagocytosis and premature degradation, augment the pharmacodynamic and pharmacokinetic profiles of drug molecules. The delivery system has been successfully utilized for the delivery of insulin, hemoglobin, and enzymes like serratiopeptidase etc. This reviews the principles of self assembly, the challenges of maintaining the conformational integrity and biochemical activity of immobilized surface pairs, the convergence of these principles into a single functional composition and its application in various fields of pharmacy.

BPCU-012. Formulation and Evaluation of Self Emulsifying Drug Delivery System (SEDDS) of Ibuprofen

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Ibuprofen, a phenyl propionic acid derivative, is widely used as first line non-steroidal anti-inflammatory agent with poor aqueous solubility and its oral absorption is dissolution rate limited, which leads to a potential bioequivalence problem. Thus, the improvement of ibuprofen dissolution for its immediate release is desirable for rapid absorption, which is prerequisite for quick onset of its pharmacological actions. The present study is to formulate ibuprofen in a SEDDS to increase its solubility in water and hence improving its dissolution rate which in turn may enhance ibuprofen oral bioavailability. In this study Labrafac, Tween 80 and PEG 200 were selected as oil, surfactant and co-surfactant respectively. Self emulsification region was determined by ternary phase diagram. All formulations of ibuprofen SEDDS showed globule size in nanometric range, good stability with no phase separation, creaming or cracking and rapidly formed emulsion which was clear. All formulations showed more than 90% of drug release within 30 min. The SEDDS showed improved dissolution rate compared to marketed product.

BPCU-013. ENHANCEMENT OF SOLUBILITY OF AQUEOUS INSOLUBLE DRUG BY NOVEL LIQUID LAYERING TECHNIQUE

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Purpose: To enhance the solubility of an aqueous insoluble drug, Trandolapril, using Novel liquid layering technique. The layering comprises the deposition of successive layers of drug entities from solution, suspension or dry powder on nuclei which may be crystals or granules of the same material or inert starter seeds with the aim of providing a desired drug release profile and enhanced solubility. **Method:** The drug was dissolved in a suitable solvent to increase its solubility. It was then coated onto seeds using conventional pan coating process. The seeds were prepared using Mannitol as carrier and Methanol and phosphate buffer were used as solvents for dissolving the drug. Starch was used as super disintegrant. Analytical methods for determining the drug content and dissolution profile were selected and validated. **Result:** Trandolapril was formulated as capsules. Mannitol was found to be the effective carrier of the active ingredient. The intermolecular association of the drug with Methanol led to increased effective surface area of the drug, hence the dissolution performance of the drug was enhanced. No substantial change in the physical state of the drug was observed. Thus from the results it was concluded that the formulation has good stability and solubility. These formulations are expected to have better bioavailability and patient compliance as compared to *conventional* dosage forms.

BPCU-014. Nanotheranostics □ Application and Further Development of Nanomedicine Strategies for Advanced Theranostics

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Gland Institute Of Pharmaceutical Sciences

Nanotheranostics is to apply and further develop nanomedicine strategies for advanced theranostics. This summarizes the various nanocarriers developed so far in the literature for nanotheranostics, which include polymer conjugations, endrimers, micelles, liposomes, metal and inorganic nanoparticles, carbon nanotubes, and nanoparticles of biodegradable polymers for sustained, controlled and targeted co-delivery of diagnostic and therapeutic agents for better theranostic effects with fewer side effects. The theranostic nanomedicine can achieve systemic circulation, evade host defenses and deliver the drug and diagnostic agents at the targeted site to diagnose and treat the disease at cellular and molecular level. The therapeutic and diagnostic agents are formulated in nanomedicine as a single theranostic platform, which can then be further conjugated to biological ligand for targeting. Nanotheranostics can also promote stimuli-responsive release, synergetic and combinatory therapy, siRNA co-delivery, multimodality therapies, oral delivery, delivery across the blood-brain barrier as well as escape from intracellular autophagy. The fruition of nanotheranostics will be able to provide personalized therapy with bright prognosis, which makes even the fatal diseases curable or at least treatable at the earliest stage.

BPCU-015. Emerging nanotechnological research for further pathways of biomedicine

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The purpose of this poster is to analyse the rate of scientific and technological advance of some emerging nanotechnological research fields in biomedicine to detect path-breaking technological trajectories. The approach, based on exponential models of growth, shows the current evolutionary trends of nanoresearch that may underpin future patterns of technological innovation in biomedicine and nanomedicine. In particular, results show that nano emulsions, biosensors, quantum dots, carbon nano tubes and nanomicelles have innovative applications in diagnostics and targeted therapies for cancers that have been generating a revolution in clinical practice. The present study also detects two main determinants that have been supporting continuous diffusion of nanotechnology in biomedicine: convergence of genetics, genomics and nanotechnology and multiplicity of learning processes in clinical research. These fields have been paving groundbreaking pathways in biomedicine that can lead to longer, better and healthier living of societies in not-too-distant future. nano emulsions are given prominent role in this presentation.

BPCU-016. ETHOSOMES: INNOVATIVE APPROACHES AND PERSPECTIVE

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NDDS is an advance drug delivery system which improves drug potency, control, drug release to give a sustained therapeutic effect, provide greater safety; finally it is to target a drug specifically to a desired tissue. Ethosomal carriers are systems containing soft vesicles and are composed mainly of phospholipids, ethanol at relatively high concentration and water. Ethosomes penetrate the deep strata of the skin or to systemic circulation and shows their action. They are prepared by hot method or cold method and do not require any sophisticated equipment and are easy to scale up at industrial level. Phospholipids, polyglycol, alcohol, cholesterol, dye, vehicle are used in its preparation. The size of the vesicle is 10nm to microns. They are applied as a drug carrier in pilosebaceous targeting, transdermal delivery of hormones, delivery of anti-parkinsonism agent, transcellular delivery, topical delivery of DNA, delivery of anti-arthritis drugs, delivery of antibiotics, delivery of antiviral drugs and delivery of problematic drug molecules. Ethosomes enhance permeation of drug through skin, platform for delivery of large and diverse groups of drugs, low risk profile, high patient compliance, high market attractiveness and it contains nontoxic raw material in formulation. But it causes skin irritation, dermatitis. They may not be economical and are uncomfortable to wear. It is adhesive, may not adhere well to all types of skin. Drugs that require high blood levels cannot be administered. The molecular size of drug should be reasonable so that it should be absorbed percutaneously, adequate solubility of the drug in both lipophilic and aqueous environments is important to reach dermal micro circulation and gain access to systemic circulation. Ethosomes are characterized by simplicity in their preparation, safety and efficacy and can be tailored for enhanced skin permeation of active drugs. They are much more efficient at delivering drug to skin. They are tested to encapsulate hydrophilic drugs, cationic drugs, proteins and peptides. Most of the device induced transdermal drug delivery techniques are still in the early stages of commercialization.

BPCU-017. NEEDLE FREE INJECTION SYSTEM**Munazza Sadaf*, Mariya Khabita, Sayada Mahewish Ali⁽¹⁾, Miss Afshan Meherose⁽²⁾****Deccan School Of Pharmacy, JNTUH, Hyderabad-500001****Email Id: munazzasadaf47@gmail.com**

Needle-free injection systems are novel ways to introduce various medicines into patients without piercing the skin with a conventional needle. Invention of needle-free injection technologies is to achieve the patient experience and removing the barriers to self-injection, such as the fear of needles. According to Food and drug administration [FDA] a needle-less or needle free injection is a device used for the parenteral administration of a medicament. Needle-free systems are designed to solve the problems such as making them safer, less expensive, and more convenient. Additional benefits include very fast injection compared with conventional needles and no needle disposal issues. Not only it can benefit the pharmaceutical industry in increasing product sales, it has the added potential to increase compliance with dosage regimens and improved outcomes. It can be placed in the bore of a barrel with the barrel having the shape of a nosecone at one end. A plunger is inserted into the other end of the bore. The plunger forces the medicament through the skin and into the subcutaneous layer of the patient without the need for penetration of the skin by a needle. A needle-free syringe is placed into the filling adapter and the liquid is drawn into the needle-free syringe and is slightly over filled. The plunger is broken off and discarded. With the adapter, needle-free syringe, and vial still engaged the needle-free syringe is placed into the injector with a ¼ turn to the right, this returns excess medicine or vaccine back into the vial and positions the plunger to deliver a 0.5ml dose. Today, they are a steadily developing technology that promises to make the administration of medicine more efficient and less painful.

BPCU-018. NEEDLE FREE INJECTION SYSTEM: INNOVATIVE APPROACHES AND PERSPECTIVES**K. Pranithanjali, *T. Pranathi****Bojjam Narsimhulu Pharmacy College For Women, Saidabad, Hyderabad, Telangana****Email: pranathi.tata@gmail.com**

A new generation and a steadily developing technology, the needle free vaccine delivery promises to decrease the risks of needle stick injuries to health care personnel and to prevent improper re-use of syringes and needles and at the same time helps in the administration of medicine more efficiently with less pain. All types of dosage forms can be administered without piercing the skin. This technique is simple, quick, more effective, more economical and an alternative local anaesthetic technique in dental surgeries. EXAMPLE: ENOXAPARIN; also prevents needle phobia in paediatric patient and infants by this jet injecting technique. Most commonly used jet injector is "biojector-2000", vaccines, topical anaesthetic, antibiotics can be administered through this technique. So this technique is most useful than conventional (needle) injectors by preventing improper blood transfusion induced diseases like HIV, hepatitis, syphilis, leishmaniasis, lime diseases and other allergies.

BPCU-019. TULO BUTEROL TRANSDERMAL PATCH**T. Swathi, B. Pharmacy.****Bojjam Narasimhulu College of Pharmacy for Women, Saidabad, Hyderabad 500 059.****Email: Swathi.terala7@gmail.com**

Tulobuterol Patch contains a β_2 -adrenergic agonist, the first transdermal bronchodilator. It relies on a matrix-type transdermal delivery system that contains both crystallized and molecular forms of tulobuterol. This delivery system enables the drug content to be released steadily over 24 hours. When the tulobuterol patch is applied to the skin at bedtime, the serum concentration of tulobuterol peaks in the early morning, suppressing the morning dip in pulmonary function. This pharmacological property also prevents steep increases in plasma drug levels. Because the tulobuterol patch is easy to use and requires once daily application. Therefore, the tulobuterol patch is currently used for the long-term treatment of patients with asthma and chronic obstructive pulmonary disease (COPD). The patches are applied to the skin on the chest, back or upper arm once a day. The main objective of the study was to formulate the tulobuterol transdermal patch to achieve the absorption, bioavailability and pharmacokinetic properties and also to reduce the risk of adverse effects. It is notable that adherence with treatment is far better in patients using the tulobuterol patch than in those on inhaled drugs. These characteristics of the patch make it useful for long-term management of chronic respiratory disease. The tulobuterol patch might become a first choice in treatment, especially for children and elderly patients who are unable to inhale drugs reliably.

BPCU-020. ROUTES OF DRUG ADMINISTRATION**Saba Jeelani, Tahseenfathima****Arya college of pharmacy, Kandi, Andhra Pradesh, India- 500 028.****Email: sabajeelani9@gmail.com**

Route of administration is the way through which the dosage form is administered into the body for treatment of various diseases and disorders. Various routes of administration play a marked role in bioavailability of the active drug in the body. Routes of administration are generally classified by the location at which the substance is applied. Common examples are oral / intra venous administration. Routes can also be classified on where the target of action is. Action may be topical, enteral or parental. During the past 20 years advances in drug formulation and innovative routes of administration have been made. Our understanding of drug transport across tissues has increased. There changes have often resulted in improved patient adherence to the therapeutic regimen and pharmacologic response. Many advances in routes of administration are made in present days to meet the need of patient according to his / her condition such as transdermal, pulmonary, subcutaneous, rectal and inhalation routes of administration. Though the mechanisms of action of drugs delivered by these routes are different, they offer a common advantage- increased Therapeutic Index with simultaneously decreased side effects. In this present review these routes are included with their advantages and limitations. This is an attempt for the initials of field to familiarize with the various routes of administration.

BPCU-021. NEW DRUG DELIVERY DEVICE TO TREAT DIABETES RELATED TO VISION LOSS**M.JENNY SUVARNA****M.ROCHISHNA, SHAKE SHIREEN, ROHINI.****St. Marys College Of Pharmacy Email: maddalajenny5@gmail.com**

A team of engineers and scientist at the University of British Columbia has developed a device that can be implanted behind the eye for controlled and on-demand release of drugs to treat retinal damage caused by diabetes. Diabetic retinopathy is the leading cause of vision loss among patients with diabetes. The disease is caused by unwanted growth of capillary cells in the retina, which in its advanced stages can result in blindness. Technologies available now are either battery operated and are too large for treating the eye, or they rely on diffusion, which means drug release rates cannot be stopped. The team is also working to pinpoint all the possible medical applications for their devices so that they can tailor the mechanical design to particular disease. **IS OXYGEN KEY TO HIGHER GLAUCOMA RISK IN BLACKS?**

They found that oxygen levels are significantly higher in the eyes of African Americans with glaucoma than in caucasians with the disease, more oxygen may damage the drainage system in the eye, resulting in elevated pressure. Higher pressure can damage the optic nerve causing blindness. **DRUG IMPROVES SIGHT FOR PATIENTS WITH LEBERS.** The drug idebenon [catena] improved the vision and perception of color in patients with Lebers hereditary optic neuropathy.

BPCU-022. DENDRIMERS AS NOVEL FORMULATION IN NANOTECHNOLOGY BASED TARGETED DRUG DELIVERY**WazhaMahmood¹, Arshiya Afreen¹, Syeda Uzma¹, Amtun Noor² Pharm.D****Deccan School Of Pharmacy, Darussalam, Hyderabad**

The most challenging task in research field of pharmaceutical science is to develop targeted drug delivery system. Dendrimers are highly branched, three dimensional macromolecules with highly controlled structure and a novel class of polymeric material which has attracted considerable attention because of their unique globular shape and properties. Targeted drug delivery aims to greatly reduce toxic side effects of the drugs by combining molecules that specifically interact with receptors expressed on cancer cells with their cytotoxic drugs, enabling them to act only on tumour cells. Nanotechnology is the manipulation of characteristic of materials such as polymers that are able to provide superior drug delivery system for better management and treatment of disease. The unique structural feature of dendritic and hyperbranched macromolecules are low polydispersity and nanometer size range which can allow carrier passage across biological barrier. Thus dendrimers provide a route to create well defined nano structures that are suitable to act as a carrier for development of novel drug delivery system. This review of literature on dendrimers as a novel formulation describes how the dendrimers can be formulated as a carrier and the potential of the macromolecules, drug nano carriers in Ocular, transdermal, respiratory and intra venous administration. Dendrimers promises good future prospects for the biomedicine.

BPCU-023. MAGNETICALLY GUIDED NANOPARTICLES TO TARGET AND DESTROY DISEASED CELLS**P. Samyukta Salome*, Husna Kanwal Qureshi****Bojjam Narasimhulu Pharmacy College For Women, Hyderabad, Andhra Pradesh, India-500059.****Email: pagadamsalome@gmail.com**

Using nanoparticles and alternating magnetic fields, scientists have found that head and neck cancerous tumor cells in mice can be killed in half an hour without harming healthy cells. The findings mark first time to the researcher's knowledge this cancer type has been treated using magnetic iron oxide nanoparticle-induced hyperthermia, or above-normal body temperatures, in laboratory mice. Sub micrometer particles that contain even smaller particles of iron oxide could make magnetic resonance imaging a far more powerful tool to detect and fight disease. For the experiment, researchers injected a tiny amount- a tenth of a teaspoon of nanoparticle solution directly into the tumor site. With the animal relaxed under anesthesia, they placed animal in a plastic tube wrapped with a wire coil that generated magnetic fields that alternated directions 100,000 times each second. The magnetic fields produced by the wire coil heated only the concentrated nanoparticles within the cancerous tumor and left the surrounding healthy cells and tissue unharmed. Medical researchers are creating composite particles that can be injected into patients and guided by magnetic fields. Once in position, the particles may be heated to kill malignant tissues or trigger the release of drugs at the site. The 'nanoconstructs' should fully degrade and leave the body within few days. Nanoconstructs that contain iron oxide particles could make magnetic resonance imaging a far more powerful tool to detect and fight disease. By using these magnetic nanoparticles we hope one day be able to offer diagnosis and therapeutics using a single agent.

BPCU-024. INGESTIBLE THERMOMETER PILLS**T.Priyanka*,Husna Kanwal Qureshi****Email:priyanka199459@gmail.com**

A pill thermometer is a digestible thermometer that allows a person's core temperature to be continuously monitored. It was developed by NASA, collaboration with Johns Hopkins University for use with astronauts. Since then pill has been used by mountain climbers, football players, cyclists and drivers. Athletes may train when heat index is above 100 degrees, while wearing heavy pads that not only retain heat but also increase their body weight. Thermometer pill is less than an inch in length and wirelessly transmits core body temperature as it travels through the human digestive tract. Ingestible thermometer pill has a silicone-coated exterior with a micro battery, a quartz crystal temperature sensor, a space aged telemetry system, and micro miniaturized circuitry on the interior. Once the pill is swallowed the quartz sensor vibrates at a frequency relative to the body's temperature, transmitting a harmless, low frequency signal through the body. Recorder outside the body can read this signal and display core body temperature and other vital statistics. After 18-30 hours, the pill passes safely from the digestive system. Within 2 hours of being swallowed, thermometer pill transmits vital information, can be used to prevent and treat heat related illness. There are several options and configurations for tracking athletes, by holding a data recorder near the back to read data from thermometer inside the body. Doctors have utilized the technology to study sleep disorders and improve heart surgery techniques. The technology had been used to monitor critical temperatures in paper manufacturing, food processing.

BPCU-025. TRANSDERMAL BLOOD MONITORING PATCH**G.Sankeerthana*, Husna Kanwal Qureshi****Bojjam Narasimhulu Pharmacy College For Women, Hyderabad, Andhra Pradesh , India-500059****Email:gubbasankeerthana@gmail.com**

New blood chemistry monitoring device could replace some traditional laboratory testing it makes possible to continuously monitor an individual's blood chemistry and wirelessly transmit the data. This technology uses a transdermal patch and is a different approach to clinical diagnostics with potential to supplant some traditional laboratory testing. This was developed by Sano Intelligence. Sano is building a small, wearable sensor that can capture and transmit blood chemistry data to virtually any device. The device could be ready to launch sometime next year. Sano's patch sensor is compatible with 30-40% of today's blood diagnostics. The nicotine-patch-sized device can already measure glucose and potassium levels. Transdermal patch has enough probes to continuously test up to a 100 different samples. The sensor is reported to cost around \$1 or \$2 in materials and will last for a week Sano is currently working on making device water proof. The current patch is 1 square centimeter and contains 25 individually addressable sensor sites arranged in 5*5 arrays. These sites will ultimately be controlled by external circuitry that will allow the patch to be programmed by user for hourly sampling or for on-demand use. The same patch area could hold as many as 500 sampling sites, allowing for continuous monitoring, at 15 minutes intervals, over a period of 5 years. Data from Transdermal patch will be retrievable in app form via a third party development and analytical platform. The device makes blood chemistry data accessible to users on their smart phones or other mobile computing devices.

BPCU-026. BUCKYSOMES: FULLERENE-BASED NANOCARRIERS FOR HYDROPHOBIC MOLECULE DELIVERY**Srinath Om,Vijay dande,Mr.Sushil Raut.****Gland Institute Of Pharmaceutical Sciences****Survey No 551, Shangrila, Kothapet Village, Narsapur, Medak-502313**

We report the preparation and preliminary in vitro studies of nanocarriers termed "buckysomes," which are self-assembled, spherical nanostructures composed of the amphiphilic fullerene AF-1. By inducing AF-1 self-assembly at an elevated temperature of 70 °C, dense spherical buckysomes with diameters of 100-200 nm were formed, as observed by electron microscopy and dynamic light scattering. The amphiphilic nature of AF-1 results in the formation of many hydrophobic regions within the buckysomes, making them ideal for embedding hydrophobic molecules to be tested in a drug delivery scheme. After confirming the cellular internalization of buckysomes embedded with the hydrophobic fluorescent dye 1,1'-dioctadecyl-3,3,3',3'-tetramethylindolyl-carbocyanine perchlorate, we embedded paclitaxel, a highly hydrophobic anticancer drug. The in vitro therapeutic efficacy of the paclitaxel-embedded buckysomes toward suppression of MCF-7 breast cancer cell growth was compared to that of Abraxane, a commercially available, nanoparticle-albumin-bound formulation of paclitaxel. Notably, the paclitaxel-embedded buckysomes demonstrated a similar efficacy to that observed with Abraxane in cell viability studies; these results were confirmed microscopically. Moreover, negative control studies of MCF-7 viability using empty buckysomes demonstrated that the buckysomes were not cytotoxic. The results of our studies suggest that buckysomes prepared from self-assembly of AF-1 at 70 °C are promising nanomaterials for the delivery of hydrophobic molecules.

BPCU-027. INTRODUCING THE NANOPATCH: A SKIN BASED NEEDLE FREE VACCINE DELIVERY SYSTEM**K. VidyaMudiraj, K. Soniya Reddy St. Mary's College of Pharmacy, Secunderabad, Telangana, India.****Email: qualityquest_00@yahoo.com**

Over 13 million people die from infectious disease every year while public and private research initiatives continue to develop Novel-vaccines for many diseases. The issue of how to formulate, package, distribute and administer these vaccines across the world remains a significant unsolved problem. Most vaccines have been delivered by the needle and syringe, however this technology has several important disadvantages which include needle stick injuries, disease transmission through needle reuse, limited thermo stability, the need for training expertise for administration, lack of targeting to immune rich regions of the body and the issue of pain/phobia that result in avoidance of medical care in 10% of population. Micro projection arrays [MPAs] can overcome some of these challenges and have thus far shown results in terms of immunogenicity and protection both in pre-clinical and Phase I human trials. As described in this article the technique is extended with an ultra-high density projection array – The Nanoparticles, to deliver vaccine into the epidermis and dermis, the skin layers rich in antigen presenting cells [APCS]. Key advantages of this design result in improved immune response and greatly improved thermo stability in comparison to needle syringe delivery, enabling better suitability for application in developing countries and broad applicability across a range of different vaccine types.

BPCU-028. CYCLODEXTRIN AND THEIR APPLICATIONS IN PHARMACEUTICS :**Najamunnisa mohammed¹, Samreem Fatima begum¹, Shazia naaz¹, SyedaAmena samreen¹, Afshaan meherose²
BPharmacy 2nd year Deccan School of Pharmacy, OU, Hyderabad-500001****E – mail Id : Samreensweety27@gmail.com**

Now a days drug pipe lines became difficult to formulate. This is prevented by retrospective and prospective analysis, which says that about 40% of drugs are poorly soluble based on the definition of the bio-pharmaceutical classification system (BCS). Almost 90% of the drugs in the development department are poor in solubility. Cyclodextrin plays a very important role in the formulators' armamentarium for improving the solubility and dissolution rate in the poor quality drugs. The Cyclodextrin are formed by treating cyclodextrin trans-glycosidase enzyme on a medium containing starch. These are cyclic oligosaccharides which contain at least six D (+) – glucopyranose units attached by a (1 – 2) glycoside bonds. There are three naturally found Cyclodextrin . There are β , α and γ , which differ in their ring size and solubility . The best feature of the Cyclodextrin is that they form inclusion complexes with a variety of compounds by entrapping the guest molecule inside the cyclodextrin cavity which acts as a host. Sodium valproate phenytoin sodium/ β cyclodextrin is prepared to stabilize the drug against moisture absorption, which leads to the formation of nonhygroscopic powders which is suitable for the preparation of tablets by compression. For masking the bitter taste of the drug, phenytoin sodium/ β cyclodextrin is prepared. It also maintains the stability of the drug. Due to their complexation ability and versatile characteristics cyclodextrins have found a wide use in the pharmaceutical industries. It enhances solubility, stability, safety and bioavailability of the drug molecules. This article contains information on the molecular structure, properties and applications of cyclodextrin. It also says about the route of administration. The purpose of this review is to note down the important findings and applications of cyclodextrins and their derivatives. It says about the applications of cyclodextrins on the various novel delivery systems like liposomes, microspheres, microcapsules and nanoparticles. It also gives the information about the complex formation as it is an important factor during the handling of the versatile materials.

BPCU-029. CURRENT TRENDS OF NANOTECHNOLOGY FOR CANCER THERAPY**C. Ayesha Firdouse¹, Mohammed Fasiuddin¹, Mohammed Khaleq¹, Afshan meherose²****Deccan school of pharmacy, Osmania University, Telengana, Hyderabad(India)****Email: fasiuddinannu@gmail.com**

Nanoparticulate technology is of particular use in developing a new generation of more effective cancer therapies capable of overcoming many biological, biophysical and bio-medical barriers that the body stages against a standard intervention. Most efforts to improve cancer treatment through nanotechnology are at the research or development stage nanoparticles show much promise in cancer therapy by selective gaining access to tumor due to their small size and modifiability. In this review, non material and bio-makers of cancer , general principle of drug targeting to cancer, inter cellular mechanism, nano particles based formulation in market, several recent applications in medicine as diagnostic and therapeutic are discussed. The review's basic approach is: the defining features of cancer nanotechnology are embedded in their breakthrough potential for design and development of nano particle based drugs. The use of nanotechnology in cancer treatment offers some exciting possibilities, including the possibility of destroying cancer tumors with minimal damage to healthy tissue and organs, as well as the detection and elimination of cancer cells before they form tumors. Cancer nanotechnology field has the potential to better monitor therapeutic efficacy, provide novel methods for detecting and profiling early stage cancers, and for enabling surgeons to delineate tumor margins and sentinel lymph nodes. The development of various nanomaterials and nanotechnology has enabled detection of cancer biomarkers with great precision and sensitivity that could not be achieved before, targeted delivery of drug molecules to tumor tissue is one of the most interesting and challenging endeavors faced in pharmaceutical field, due to critical and pharmacokinetically specific environment that exist in tumor.

BPCU-030. NEW EQUIPMENT APPROVED BY FDA**Shaistha Samreen, B.Pharmacy 2nd Year , Moin bagh*, saidabad****Bojjam Narasimhulu Pharmacy College For Women, Santoshnagar , Hyderabad-500059****E-Mail- Pretygirl.charming@yahoo.com**

A mammogram is a low-dose x-ray picture of the breast. Mammograms can help detect breast cancer when it is in its early, most treatable stages. Nearly 90% of women who find and treat their breast cancer are cancer-free at five years. The Selenia Dimensions System is a mammography device that provides digital 2D and 3D images for the screening and diagnosis of breast cancer. The Selenia Dimensions 3D System is comprised of hardware and software upgrades to the Selenia Dimensions 2D full-field digital mammography system, which is FDA approved for conventional mammography.. The hardware upgrades produces multiple, low-dose x-ray images of the breast; the software upgrade uses the low-dose images to create cross-sectional (tomosynthesis) views through the breast .The 3D images provide additional information to help physicians detect and diagnose breast cancer. FDA regulates the standards for mammography machines and training for the people who give mammograms. Tomosynthesis is a special kind of mammogram that produces a 3-dimensional image of the breast by using several low dose x-rays obtained at different angles. For tomosynthesis, the breast is positioned and compressed in the same way as for a mammogram but the x-ray tube moves in a circular arc around the breast. It takes less than 10 seconds for the imaging. The information from the x-rays is sent to a computer, which produces a focused 3-D image of the breast. The x-ray dose for a tomosynthesis image is similar to that of a regular mammogram. Screening mammography is the type of mammogram that checks you when you have no symptoms. It can help reduce the number of deaths from breast cancer among women ages 40 to 70. But it can also have drawbacks. Mammograms are also recommended for younger women who have symptoms of breast cancer or who have a high risk of the disease. The person who takes the x-rays places your breast between two plastic plates. The plates press your breast and make it flat. This may be uncomfortable, but it helps get a clear picture. You should get a written report of your mammogram results within 30 days.

BPCU-031. DNA ENCASED NANOTUBES TO KILL TARGETED TUMOURS**P.Lokeshwari * Pushpa B.pharmacy****Vishnu Institute Of Pharmaceutical Education And research.****Email id:- pushpapreeti089@gmail.com**

Nanoparticles, including multi-walled carbon nanotubes (MWNTs), strongly absorb near-infrared (nIR) radiation and efficiently convert absorbed energy to released heat which can be used for localized hyperthermia applications. The procedure, which used DNA-encased, multi-walled carbon nanotubes (MWCNTs) to treat human prostate cancer tumors, left only a small burn on the skin that healed within days. This demonstrate for the first time that DNA-encasement increases heat emission following nIR irradiation of MWNTs, and DNA-encased MWNTs can be used to safely eradicate a tumor mass in vivo. Upon irradiation of DNA-encased MWNTs, heat is generated with a linear dependence on irradiation time and laser power. DNA-encasement resulted in a 3-fold reduction in the concentration of MWNTs required to impart a 10 °C temperature increase in bulk solution temperature. A single treatment consisting of intra tumoral injection of MWNTs (100 µL of a 500 µg/mL solution) followed by laser irradiation at 1064 nm, 2.5 W/cm² completely eradicated PC3 xenograft tumors in 8/8 (100%) of nude mice. Tumors that received only MWNT injection or laser irradiation showed growth rates indistinguishable from nontreated control tumors. Nonmalignant tissues displayed no long-term damage from treatment. The results demonstrate that DNA-encased MWNTs are more efficient at converting nIR irradiation into heat compared to non encased MWNTs and that DNA-encased MWNTs can be used safely and effectively for the selective thermal ablation of malignant tissue in vivo.

BPCU-032. FORMULATION AND INVITRO EVALUATION OF LIPID MICROSPHERES**Sardar sarleen, srivani and Dineshmohan****Department of Pharmaceutics, Vishnu Institute of Pharmaceutical Education and Research**

The current work formulation and *invitro* evaluation of Rabeprazole lipid microspheres for the treatment of zolinger - Ellison syndrome and H.pylori infection was carried out with objective of long-term treatment for the syndrome. Lipid microspheres have great potential, time tested, safe, and stable at room temperature, easily mass produced yet cheaper. Rabeprazole is a benzimidazole derivative, which decreases the gastric secretion, regardless of the primary stimulus with half-life 1.4 hours in young and 2.9 hours with elderly patient. The treatment period from 6 months to 4 years depending on the condition. The lipid microspheres were prepared by coacervation and phase separation technique. The prepared formulation evaluated for various parameters like particle size, SEM, Drug release study, drug content uniformity, stability studies. The release study shows the formulation follows initially first order and later follows zero order kinetics. The stability studies limits with ich guidelines

BPCU-033. NEEDLE FREE INJECTION**Sanjana Joshi and V.Pushpa, B.Pharmacy****Vishnu Institute of Pharmaceutical Education and Research**

The development of needle-free injection originally stemmed from a general apprehension of needle injections, disease transmission by accidental needle-sticks, and the need for effective mass immunization. Naked DNA vaccines, as attractive and universal as they appear, have not produced robust immune responses in test systems. The concept of DNA vaccines as a generic platform for vaccines still remains viable and attractive. Many avenues are being explored to enhance the immunogenicity of DNA vaccines. This approach requires no additional development, and with an expanding market and willingness from jet injector manufacturers to produce prefilled syringes, the technique should become feasible for larger phaseCurrent needle-free injection technology is based on actuation via compressed springs or gas. These devices are not easy to modify for different depths of injections. This thesis describes the design and verification of a handheld needle-free device which is capable of various injection depths via electrical control of a Lorentz-force voice coil actuator. A benchtop proof-of-concept device was created to prove the concept of needle-free injection using a voice coil. After the successful testing of the proof-of-concept device, a handheld prototype was designed, manufactured, and tested. The controllability of injections was tested on excised sheep tissue in-vitro. The handheld device was also tested in-vivo on sheep midside and was shown to give comparable injections to a needle for delivery of the drug collagenase. The controllable needle-free injection principles described in this thesis could be used in human or veterinary applications.

BPCU-034. DIGITAL CAMERA VS THE PH ROD USING A CAMERA TO DETERMINE PH**Jaipal Reddy ,Goutham Reddy****Vishnu Institute of Pharmaceutical Education and Research****Email:gouthamreddy572@gmail.com**

A Robust classification algorithm that applies colour science and image processing techniques is developed to automatically identify the ph on a level strip.this algorithm is implemented on camera that captures colour images of ph test strips .the pre installed and platform independent program in the camera cell phone then processes the images captured and is able to inform visually challenged users of the ph level of the strip. experimental results show that this new approach is more robust and efficient in handling reflection skewed placements, as well as different types of color reference.

BPCU-35. An Overview On Pulsative Drug Delivery System.**Syeda Amreen Fatima¹, Habeeba Fatima¹, Afshan Mehrose². Deccan School Of Pharmacy****Aghapura, Hyderabad. E-mail ID: syeda_amreen79@yahoo.com**

Formula and evaluation of pulsatile drug delivery system for chronobiological disorder:asthma-The objective of the present study is to develop and evaluate an oral pulsatile drug delivery system to mimic the circadian rhythm of the disease by releasing the drug with a distinct predetermined lagtime of 6 hour(0.25h).The basic design of the system consists of a Rapid release tableted core and a controlled release tableted coat.A combination of isopropyl alcohol (70%)and acetone (30%)is used as a solvent for Eudragit S100 coating.An invitro dissolution study of the prepared tablet is conducted initially for 2 hours in simulated gastric fluid and after that medium is changed to intestinal fluid PH 7.4....A review on Arthritis:patients suffering from osteoarthritis are reported to have less pain in morning hours than night.while patients suffering from rheumatoid arthritis feel more pain in morning hours.In this case medication at night is an obvious solution.NSAIDs such as Ibuprofen need to be administered 4-6 hours before achieving their maximum benefit, as a result peak will occur at patients waking and the effect will be declined as patient starts to wakeup...peptic ulcer disease:because of maximal acid secretion,peptic ulcer disease pain and perforation of gastric and duodenal ulcers are more common at night,administration of drugs at bed time is more effective.Nocturnal administration not only reduces acid secretion more effectively but also promotes ulcer healing and reduces ulcer recurrence.Bedtime H2 receptor blockade is one such regime.

BPCU-036. DEVELOPMENT AND CHARACTERIZATION OF CURCUMIN LOADED NANOGEL FOR TREATMENT OF INFLAMMATORY AND NEOPLASTIC DISEASES.**GOUTHAM KUMAR*, SRIKANTH ST.Marys College Of Pharmacy**

Curcumin, a non-nutritive yellow pigment derived from the rhizome of *Curcuma longa* (turmeric), is considered to be an established nutraceutical with anticancer activity. Turmeric contains three principal components, curcumin, demethoxycurcumin and bisdemethoxycurcumin, of which curcumin is most abundant and potent. Curcumin is one of the most versatile compounds obtained from *Curcuma longa*. Curcuminoids are poly phenols that are responsible for the yellow coloration in natural pigments. The concurrence of a high consumption of turmeric and a low incidence of prostate cancer in Asian countries may suggest a role for curcumin in chemoprevention human cancers. The pro-apoptotic, antioxidant and anti-inflammatory characteristics of curcumin are implicated in its anticancer activity.These compounds are well known due to their anticancer and anti-inflammatory properties, inducing apoptosis in cancer cells without cytotoxic effects in healthy cells. curcumin can interfere with the activity of the transcription factor NF-kB and to decrease the cytokines release, linked to a number of inflammatory diseases such as dermatitis and cancer. The major obstacle in the therapeutic use of curcumin is its aqueous solubility. To enhance its aqueous solubility and biological activities, we prepared curcumin nanospheres (CNSs) by wet milling-solvent evaporation technique without any surfactants physical chemical stability was evaluated by size , zeta potential and polydispersity index(PdI).

BPCU-037. MUCOADHESIVE DRUG DELIVERY SYSTEM**Aliya Parveen, Faiq Unnisa, Shazia Yousuf, Rukhaiya Fatima.****Deccan School Of Pharmacy, Darussalam-500 001, Hyderabad.**

Mucoadhesion can be defined as a state in which two components, atleast one of which is of biological origin are held together for extended periods of time by the help of interfacial forces. Over the past few decades, mucosal drug delivery has received a great deal of attention. Mucoadhesion in drug delivery systems has recently gained interest among pharmaceutical scientists for its primary objective of promoting dosage form residence time at the absorbing surface in order to enhance the drug action. In addition to this mucoadhesion improves intimacy of contact with various absorptive membranes of the biological system. These systems remain in close contact with the absorption tissue, the mucous membrane, releasing the drug at the action site leading to a bioavailability increase and both local and systemic effects. Besides acting as platforms for sustained-release dosage forms, bioadhesive polymers can themselves exert some control over the rate and amount of drug release, and thus contribute to the therapeutic advantage of such systems. Mucoadhesive ability is conferred on the particulate systems by coating their surface with mucoadhesive polymers such as chitosan and Carbopol. The feasibility of this surface modification was confirmed by measuring the zeta potential. In applying these mucoadhesive nanoparticles to the oral and pulmonary administration of peptide drugs, more effective and prolonged action was observed which confirms the usefulness of mucoadhesive nanoparticulate systems for peptide drug delivery. MDDS shows promising future in enhancing the bioavailability by utilizing the physicochemical properties of both the dosage form and mucosal lining.

BPCU-038. NANOROBOTS FOR MEDICINE: HOW CLOSE ARE WE?**Sravika Josyula, B.Pharmacy G. Pulla Reddy College of Pharmacy, Hyderabad, Andhra Pradesh, India .****Email: sravika.j@gmail.com**

Doctors today can't affect molecules in one cell while leaving identical molecules in a neighbouring cell untouched because medicine today cannot apply surgical control to the molecular level. There are opportunities to design nano sized, bio responsive systems which are able to diagnose and deliver drugs, and also systems which are able to promote tissue regeneration and repair (in disease, trauma and aging), avoiding chemotherapy. For such cases where treating or controlling disease at molecular or cellular level is required, the use of nano technology was proposed. Particularly the use of nano robots for treating various diseases. Nanorobotics is the technology of creating machines or robots at or close to the microscopic scale of a nano meter (10^{-9} meters). These machines are expected to be highly efficient, controllable, economical in mass production, and fully operational with minimal supervision. The emerging field of medical nanorobotics is aimed at overcoming these shortcomings. Molecular manufacturing can construct a range of medical instruments and devices with greater abilities. Ongoing developments in molecular fabrication, computation, sensors and motors will enable the manufacturing of nanorobots. These are theoretical nano scale bio molecular machine systems within a size range of 0.5 to 3 microns with 1-100 nm. Work in this area is still largely theoretical, and no artificial non biological nanorobots have yet been built. These ultra-miniature robotic systems and nano-mechanical devices will be the bio molecular electro-mechanical hardware of future biomedical applications.

BPCU-039. USING SKIN WHITENING PRODUCTS, SOME CREAMS MAY CONTAIN TOXIC MERCURY**Nishanth, Sai Vishal , Vishnu Institute of Pharmaceutical Education and Research****Email: ravitejarockzzzz@yahoo.com**

Some people slather and even inject creams containing mercury onto or under their skin to lighten it, putting themselves and others at risk for serious health problems. Researchers say they can now identify these creams and intervene much faster than before. "In the US, the limit on mercury in products is 1 part per million," said Gordon Vrdoljak. Identifying the toxic products has been a slow process, however. So, Vrdoljak turned to an instrument that uses a technique called total reflection x-ray fluorescence. The machine can screen product samples for mercury content far more efficiently, and just as accurately, as its well-established but time-consuming counterpart. That means the team can identify the sources of mercury poisoning and help those affected much faster than before. As a result, the US and many other countries have set low limits on or have banned mercury in consumer products. But demand is high among certain populations for these skin-lightening products, researchers said. The work has led to two product recalls earlier this year, but often, they find the cosmetics are homemade and come in unmarked containers, researchers said.

BPCU-040. TRANSDERMAL PATCHES: A SYNERGISTIC APPROACH OF DRUG DELIVERY FOR NSAIDs**M.Rajitha*, M.Sai Neela****Vishnu institute of pharmaceutical education and research**

Transdermal drug delivery system has been accepted as potential non-invasive route of drug administration, with advantages of prolonged therapeutic effect, reduced side effects, improved bioavailability, better patient compliance and easy termination of drug therapy. Non-steroidal anti-inflammatory drugs (NSAIDs) represents the most commonly used medications for the treatment of pain and inflammation, but numerous well-described side effects can limit their use. Therefore transdermal delivery of NSAIDs has advantages of avoiding hepatic first pass effect, gastric irritation and delivering the drug for extended period of time at a sustained level. The present article gives the brief view on the work been done on various NSAIDs by formulated and delivered as transdermal patches to decrease the side effects associated with the oral delivery. The various NSAIDs included in this article include Ketoprofen, Ibuprofen, Naproxen, Flurbiprofen, Diclofenac, Aceclofenac, Ketorolac, Indomethacin, Meloxicam, Nimesulide, Celecoxib, Etoricoxib.

MPCU-001. FORMULATION AND COMPARISON OF ATOMOXETINE HYDROCHLORIDE FLOATING TABLETS BY EFFERVESCENT AND NON-EFFERVESCENT METHOD**Shravya S^{1a}, Chandra Shekhar Reddy B ^{*1}****¹Vaagdevi College of Pharmacy, Warangal, Telangana, India.****Email: shravyareddy.singireddy@gmail.com**

The present study focuses on the preparation of atomoxetine hydrochloride (ATMH) floating tablets by both effervescent and non-effervescent methods and comparison of *in vitro* evaluation parameters to justify the best method by which sustained drug release can be obtained. The drug, ATMH is used for the treatment of attention deficit hyperactivity disorder (ADHD) and having a half life of 5hrs with bioavailability of 63% and maximum absorption in stomach. Hence it is formulated as a floating delivery system to remain buoyant in the gastric juice prolonging the residency there by increasing the bioavailability of the drug. The tablets were prepared by wet granulation method using HPMC K4M, Eudragit RL100 and their combination as polymers along with sodium bicarbonate (as gas generating agent) in effervescent method and camphor (as sublimation material) in non-effervescent method with the tablet weight of 300mg and are evaluated for the pre-compression parameters such as bulk density, compressibility and hausner ratio. The prepared batches of tablets were evaluated for hardness, friability, weight variation, thickness, *in vitro* buoyancy studies, FT-IR studies, swelling index, drug content, *in vitro* dissolution profile and stability studies and the results were compared between two best formulations each prepared from two different methods. Among all, the formulation F17 prepared by non-effervescent method having 10% of camphor and combination of polymers provides a better option for sustain release action and improved bioavailability than tablets prepared by effervescent method and with one polymer alone and showed prolonged drug release for 24 hrs as 99.59% compared to all other formulations where the drug release varied from 12-24 hrs.

MPCU-002. FORMULATION AND EVALUATION OF TRANSDERMAL LIPOSOMAL GEL OF MEFENAMIC ACID

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The main aim of present research was to encapsulate Mefenamic acid in liposomes and incorporate the prepared liposomes in the gel base for sustained therapeutic action. Mefenamic acid is an anti-inflammatory drug (NSAID) with analgesic and antipyretic properties used in the treatment of Rheumatoid arthritis, Osteoarthritis etc. Mefenamic acid loaded liposomes were prepared by thin film hydration technique using Rotary evaporator. The drug is embedded within the phospholipid bilayers of phosphatidyl choline. The addition of cholesterol to the formulation promotes the stability of lipid bilayer. The prepared liposomes were characterized for vesicle size, polydispersity index, charge and entrapment efficiency. Liposomal vesicles with good entrapment efficiencies were incorporated in carbopol gel base to form the liposomal gel. The prepared liposomal gel was evaluated for pH, rheological properties, *in vitro* release studies and *ex vivo* permeation study across the rat skin. The results of permeation study revealed that the gel formulated with 1% carbopol 940 showed sustained the drug release for 18 hr and showed cumulative % drug release of 89.63% at 18th hr.

MPCU-003. VIROSOME

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Virosomes are innovative and versatile vaccine or drug delivery systems acting as adjuvant and carriers for prophylactic and therapeutic vaccines. Virosomes are the reconstituted influenza virus envelopes devoid of genome hence lacks replicative properties and are pure fusion vehicles used for targeting specific cells. It consists of influenza viral glycoproteins haemagglutinin and neuraminidase which helps in fusion. It induces both cellular and humoral immunity. It can be used to deliver various vaccines, peptides, anticancer drugs, steroids etc. Presently two marketed products by Berna crucell includes inflexal and epaxal.

MPCU-004. Formulation and Evaluation of Resveratrol loaded Solid lipid Nanoparticles.

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Nanotechnology has provided remarkable prospects for the efficient delivery of food molecules which usually suffer from low aqueous solubility, insufficient bioavailability and stability issues. The objective of the present investigation was to explore the potential of the solid lipid Nanoparticles (SLNs) for oral delivery of Resveratrol, a natural polyphenol that faces problems of low and variable oral bioavailability, rapid metabolism and photosensitivity. Resveratrol is found in various common foods like grapes, peanuts, various berries and red wine is recognized as a bioactive agent with potential beneficial effects on health. It is well-known for its vast therapeutic potential antioxidant, anti-inflammatory, cardioprotective, neuroprotective, anti-aging and anticancer activities. Resveratrol loaded Stearic acid based SLNs (RLNs) coated with Poloxamer 188 were produced successfully by solvent diffusion-solvent evaporation method. RLNs had smooth surface with an average diameter of 136 nm with a zeta potential of -34.3 mV. The encapsulation efficiency of Resveratrol in RLNs was found to be 68.9, was confirmed by FTIR and DSC studies. The *in vitro* release studies exhibited a sustained drug release from the RLNs up to ~120 h and the formulations followed Higuchi release kinetics which described the diffusion of Resveratrol from homogenous and granular matrix systems. All the lyophilized formulations of RLNs provided a high degree of photo protection to Resveratrol, determined by UVA irradiation study and the stability results suggested 4 ± 2 °C to be the best storage temperature for lyophilized Nanoparticles. Thus, Stearic acid-based RLNs could act as promising sustained release system with enhanced bioavailability for Resveratrol after oral administration.

MPCU-005. PHARMACOSOMES: A NOVEL VESICULAR DRUG DELIVERY SYSTEM FOR POORLY SOLUBLE SYNTHETIC AND HERBAL DRUGS

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In the arena of solubility enhancement, several problems are encountered. A novel approach based on lipid drug delivery system has evolved pharmacosomes. Pharmacosomes have shown their potential in improving the bioavailability of poorly water soluble as well as poorly lipophilic drugs. They are amphiphilic colloidal, phospholipid complexes of drugs bearing active hydrogen that bind to phospholipids, and may exist as ultrafine vesicular, micellar, or hexagonal aggregates, depending on the chemical structure of drug-lipid complex. Because the system is formed by linking a drug (pharmakon) to a carrier (soma), they are called pharmacosomes. They provide an efficient method for controlled release of drug at the site of action, delivery of drug directly to the site of infection, leading to reduction of drug toxicity and drug leakage with no adverse effects and also reduces the cost of therapy by imparting better biopharmaceutical properties to the drug, resulting in improved bioavailability of poorly soluble drugs and restorative effects. Pharmacosomes have been prepared for various non-steroidal anti-inflammatory drugs, cardiovascular, chemotherapeutic agents and antineoplastic drugs and proteins along with a large number of herbal drugs. Developing the pharmacosomes of the drugs has been found to improve the absorption and minimize the gastrointestinal toxicity. Pharmacosomes are like a panacea for most of the problems associated with liposomes, transferosomes, niosomes, and so forth. They are an efficient tool to achieve desired therapeutic goals such as drug targeting and controlled release. Hence, pharmacosomes open new challenges and opportunities for improved novel vesicular drug delivery system.

BPCL-001. TELOGEN EFFLUVIUM- AN OVERVIEW**K.Hajira*, L. Satyanarayana, B. Samyuktha rani****Omega college of pharmacy, Edulabad, Ghatkesar, R.R District- 501301.**

Hair loss is one of the most distressing problems faced by both the genders. Hair loss is caused due to the major stressful event such as childbirth or major surgery, hormonal imbalance, malnutrition, stress, medication, environmental changes etc. Effluvium comes from the latin word *Effluere*, which means 'to flow out'. Telogen effluvium is expressed as the second most common forms of hair loss. Telogen effluvium may triggered by many possible ways such as shock, illness, malnutrition and heavy metal toxicity etc. One may not visualize any patches of hair loss (bald patches), but rather a generalized thinning. There are a few clinical features that will not be present and which can be used to differentiate telogen effluvium from other types of hair loss like *finger nail ridge* known as Beau's line. Identity of Telogen hairs by observing small, barely perceptible hair bulb on the end of the hair. They are also referred to as club hairs. Both invasive and non-invasive methods are used to treat telogen effluvium. A number of different medications have been implicated in the etiology of telogen effluvium. These include anticoagulants, retinoids (or excess vitamin A), lithium and beta blockers among others. Thus the present poster overviews the stages of hair cycle, epidemiology, treatment methods to cure telogen effluvium.

BPCL-003. ALZHEIMER'S DISEASE : NEW TREATMENT STRATEGIES**Juveria khan , B-Pharmacy 4 year*, Dr.N. Anitha,****Department of Pharmacology, Sultan-ul-Uloom College of Pharmacy, Road No: 3,
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Alzheimer's disease (AD) is a neurodegenerative disorder. It is the most common form of dementia. The cause and progression of the disease are not well understood; it is associated with plaques and tangles in the brain. There is no cure for the disease, which worsens as it progresses, and eventually leads to death. It was first described by German psychiatrist and neuro-pathologist Alois Alzheimer in 1906 and was named after him. **OLDER DRUG TREATMENTS:** The Food and Drug Administration (FDA) has approved two types of drugs specifically to treat symptoms of Alzheimer's disease. 1) Cholinesterase inhibitors 2) Memantine. **NEWER TREATMENTS:** Taking aim to treat plaques, tau from tangling and Reducing inflammation. Current approved drug treatments for Alzheimer disease (AD) include cholinesterase inhibitors (Donepezil, Rivastigmine, Galantamine) and the NMDA receptor antagonist Memantine. These drugs provide symptomatic relief but poorly affect the progression of the disease. Drug discovery has been directed, in the last 10 years, to develop 'disease modifying drugs' hopefully able to counteract the progression of AD. Because in a chronic, slow progressing pathological process, such as AD, an early start of treatment enhances the chance of success, it is crucial to have biomarkers for early detection of AD-related brain dysfunction, usable before clinical onset. Disease modifying drugs developed so far include drugs to reduce β amyloid ($A\beta$) production, drugs to prevent $A\beta$ aggregation, drugs to promote $A\beta$ clearance, drugs targeting tau phosphorylation and assembly and other approaches. Unfortunately none of these drugs has demonstrated efficacy in phase 3 studies. The failure of clinical trials with disease modifying drugs raises a number of questions, spanning from methodological flaws to fundamental understanding of AD pathophysiology and biology. Recently, new diagnostic criteria applicable to presymptomatic stages of AD have been published. These new criteria may impact on drug development, such that future trials on disease modifying drugs will include populations susceptible to AD, before clinical onset.

BPCL-004. MECHANISMS OF MEDICINAL PLANTS USED AS ANTIDIABETICS**Jabeen Fatima*, AzmathUnnisa Begum****Deccan School of Pharmacy, Hyderabad, Telangana.-500001****Email: jabeen_f27@yahoo.com**

It is the fact that diabetes can't be cured and currently available therapeutic agents such as dietary modifications, oral hypoglycemic, insulin have their own limitations. During the past few years some of the new bioactive drugs isolated from plants showed antidiabetic activity with more efficacy than oral hypoglycemic agents used in clinical therapy; additionally they have no side effects. The present paper is an attempt to list the plants with antidiabetic effects originating from different parts of the world. In this review such plants are described which clearly shows the importance of herbal plants in the treatment of diabetes mellitus. The effects of these plants may delay the development of diabetic complications and provide a rich source for antioxidants that are known to prevent or delay different diseased states.

BPCL-005. THE CLINICAL OUTCOMES OF INCRUSE ELLIPTA IN PATIENTS WITH COPD AND ITS POST ALBUTEROL TREATMENT RESULTS.**K.SRI SHRUTHI, sruthi.mano1996@gmail.com.****Bojjam Narasimhulu Pharmacy College For Women, saidabad, vinaynagar, hyd.**

Incruse Ellipta (umeclidinium inhalation powder) is a long-acting muscarinic antagonist (LAMA) monotherapy, a type of bronchodilator, it exhibits pharmacological effects through the inhibition of M3 receptor at the smooth muscle leading to bronchodilation. The FDA approval of Incruse Ellipta approved in May 2014 was based on dose-ranging trials in 624 subjects with COPD and two placebo-controlled confirmatory trials in 1,738 subjects with COPD conducted by GSK. Dose selection for umeclidinium in COPD was supported by a 7-day, randomized, double-blind, placebo-controlled, crossover trial evaluating 4 doses of umeclidinium (15.6 to 125 mcg) or placebo dosed once daily in the morning in subjects with COPD. The confirmatory trials included 2 randomized, double-blind, placebo-controlled, parallel-group trials in subjects with COPD designed to evaluate the efficacy of INCRUSE ELLIPTA on lung function. Trial 1 was a 24-week placebo-controlled trial, and Trial 2 was a 12-week placebo-controlled trial. Two additional dose-ranging trials in subjects with COPD demonstrated minimal additional benefit at doses above 125 mcg. The volunteers in both the confirmatory trials had a post-albuterol FEV1 less than or equal to 70% of predicted normal values and Modified Medical Research Council (mMRC) score greater than or equal to 2. In Trial 1, the mean peak FEV1 (over the first 6 hours relative to baseline) at Day 1 and at Day 168 for the group receiving umeclidinium 62.5 mcg compared with placebo was 126 and 130 mL, respectively. Similar results were obtained in Trial 2.

BPCL-006. PHARMACOLOGY and EFFECTS OF CANNABINOIDS – A REVIEW**Dr.N.ANITHA and MARIA KHAN*****Sultan-ul-Uloom College of Pharmacy, Banjara Hills, Hyderabad.**

Cannabinoids are naturally occurring compounds found in the plants *Cannabis sativa* and *Cannabis indica* belonging to the family Cannabaceae. These are a class of diverse chemical compounds that act on cannabinoid receptors on cells that repress neurotransmitter release in the brain. The most notable cannabinoid is the phytocannabinoid Δ^9 -tetrahydrocannabinol (THC), the primary psychoactive compound of cannabis. Cannabinoid receptors are CB₁ & CB₂. The CB₁ receptor is expressed mainly in the brain, lungs, liver & kidneys. The CB₂ receptor plays a role mainly in the immune system & in hematopoietic cells. Other is, non-CB₁ & non-CB₂, which are in endothelial cells & in CNS. Cannabinoids are metabolized in the liver, especially by cytochrome P450 mixed-function oxidases, mainly CYP 2C9. CB₁ and CB₂ are G proteins coupled and their activation leads to an inhibition of adenylyl cyclase, decreased production of cAMP and modulation of the ion channel activity. At the cellular level, cannabinoids act through CB receptors to hyperpolarise neurones by closing voltage-dependent calcium channels and by activating potassium channels. Cannabinoids are therapeutically used in Spastic disorder, pain, epilepsy, appetite stimulation, bronchial asthma, anti emetic, mood disorder and psychiatric condition. Cannabis is not, as widely perceived, a harmless drug but poses risks to the individual and to society.

BPCL-008. RECENT DEVELOPMENT IN THROMBIN RECEPTOR ANTAGONIST AS NOVEL ANTITHROMBOTIC AGENT**B.Sushma,13Z31R0080,2nd year B.pharmacy.****Bojjam Narasimhulu Pharmacy College for Women,Saidabad,Hyderabad-500 059.****sushmareddy5794@gmail.com**

The thrombin receptor antagonist as a novel antithrombotic treatment since the thrombin receptor (protease-activated receptor-1, PAR-1) was cloned 20 years ago. It is possible to develop potent thrombin receptor antagonists to compete effectively with the receptor's internal "tethered" ligand to block platelet activation. Vorapaxar (SCH 530348) from Schering-Plough (now Merck) and atopaxar (E5555) from Eisai have been advanced to human clinical trials. Recently, the pivotal phase III clinical trial results for vorapaxar were published. The phase II results from atopaxar several newly described thrombin receptor antagonists from the literature will also be discussed. The phase III results from vorapaxar demonstrated that a thrombin receptor antagonist can achieve efficacy in addition to current standard-of-care in treating atherothrombotic patients, especially those with previous myocardial infarction (MI). However, the increased moderate and severe bleeding, especially intracranial bleeding, point to the limitations of current thrombin receptor antagonists. Future thrombin receptor antagonists that can improve on the efficacy and bleeding profile of current ones should have a promising place in meeting the unmet medical need in treating atherothrombotic patients using current standard therapy.

BPCL-009. Advancement in the treatment of Cancer- HER-3 Deactivation**Shaik Abdullah Quddus*,Rushna khatoun, Mohd Adil Shareef.****Sultan ul uloom college of Pharmacy, Road no 3 Banjara Hills, Hyderabad 500034****Email: adilshareef07@gmail.com**

Aberrant receptor expression or functioning of the epidermal growth factor receptor (ErbB) family plays a crucial part in the development and evolution of cancer. Inhibiting the signalling activity of individual receptors in this family has advanced the treatment of a range of human cancers. Most critically with ErbB2, is implicated in growth, proliferation, chemotherapeutic resistance, and the promotion of invasion and metastasis. In this Review we re-evaluate the role of two important family members, ERBB2 (also known as HER2) and ERBB3 (also known as HER3) and explore the mechanisms of action and preclinical and clinical data for new therapies that target signalling through these pivotal receptors. These new therapies include tyrosine kinase inhibitors, antibody-chemotherapy conjugates, heat-shock protein inhibitors and antibodies that interfere with the formation of ERBB2-ERBB3 dimers.

BPCL-010. REGULATORY PEPTIDE RECEPTORS AS TARGET FOR DIAGNOSIS**Soofia Fatima * Madiha * syed hussain*.****Department of pharmacology, Sultan-ul-uloom college of pharmacy.**

Regulatory peptides are small, readily diffusable and potent natural substances with a wide spectrum of receptor-mediated actions in humans. High affinity receptors for regulatory peptides such as somatostatin, substance P, vasoactive intestinal peptides, and cholecystokinin can be overexpressed in several human diseases, in particular in neoplasms, and represent therefore new molecular targets for cancer diagnosis and therapy. The availability of suitable regulatory peptide radioligands, which can be labeled with radioactive iodine or indium, makes peptide receptor scintigraphy a particularly useful new in vivo diagnostic tool, as seen with the example of somatostatin receptor scintigraphy (Octreoscan). Octreotide is a synthetic analogue of somatostatin, which is a cyclic neuropeptide that is normally found in neuronal and endocrine cells. The presence of somatostatin receptors in numerous pituitary and parasellar tumors allows visualization with radionuclide-labelled somatostatin analogs in vivo. In the pituitary gland, prolactin- and adrenocorticotrophic hormone-secreting adenomas cannot be localized, but clinically nonfunctioning pituitary adenomas are visualized in 75% of cases with ¹¹¹In-DTPA-octreotide. A positive scan result in patients with growth hormone- and thyroid-stimulating-hormone-secreting pituitary tumors indicates a good suppressive effect of octreotide on hormone release by these tumors.

BPCL-011. ROLE OF SELECTIVE PPAR- GAMA MODULATORS IN INFLAMMATORY BOWEL DISEASE**Nazneen Fatima*, C Shruti Bharathi Bhatt****Sultan ul uloom College of Pharmacy, Banjara Hills, Hyderabad, Telangana- 500034****Nazneen761@gmail.com**

Inflammatory bowel disease is characterized by the inflammation in the gut wall. The major chronic diseases that cause inflammation in the intestine are ulcerative colitis and crohn's disease. The peroxisome proliferator-activated receptors (PPARs) comprise an important subfamily of the NR that bind to and are activated by fatty acids, eicosanoids, and numerous structurally dissimilar xenobiotics, known collectively as peroxisome proliferators. Ligands for PPAR γ are the drugs rosiglitazone and pioglitazone used for the treatment of type 2 diabetes. Apart from their anti-diabetic activity PPAR γ ligands have been showed to be effective in a number of inflammatory animal models including ulcerative colitis. However currently approved Thiazolidinedione compounds have a limitation with respect to their side effect profile for chronic administration. Selective PPAR γ modulators are the new anti-diabetic compounds that are under development and expected to have a better side effect profile compared to full PPAR γ .

BPCL-012. PARKINSONISM: A REVIEW**N.ANITHA AND AYESHA BEGUM*****Sultan-ul-Uloom College of Pharmacy, Banjara Hills, Hyderabad, Telangana- 500034.**

Parkinsonism is a disease that affects the nervous system and causes people's muscles to become weak and their arms and legs to shake. It is a chronic progressive neurological disease chiefly of later life that is linked to decrease dopamine production in the substantia nigra and is marked especially by tremor of resting muscles, rigidity, slowness of movement, impaired balance, and a shuffling gait. Dr. James Parkinson authored a work entitled "An Essay on the Shaking Palsy", and published in the year 1817. This work formally recognized as Parkinson's disease. Causes of Parkinsonism includes medications such as those used to treat psychosis and nausea, repeated head trauma, certain neuron degenerative disorders such as Supra Nuclear Palsy, Lewy body dementia. Prevention of Parkinsonism can be achieved by Staying physically active & Creating a safe environment. Treatment of Parkinsonism mainly includes drugs such as Levodopa, Dopamine agonists, Anticholinergics, Amantidine, Apomorphine, Glutamate antagonist, Catechol-O-methyl transferase inhibitors and Mono amine oxidase – B inhibitors. The main ADR associated with antiparkinsonian drugs are Nausea, vomiting, and insomnia, allergic reactions, diarrhea, seizures, depression or suicidal thoughts, syncope, anorexia, hallucinations, Raynaud's phenomenon, blurred vision, decreased secretions, slowed GI motility, increased heart rate, twitching , uncontrolled repetitive movements of tongues, lips, face, arms or legs.

BPCL-013. CANCER STEM CELLS – A REVOLUTION AGAINST CANCER.**Rushna khatoon*, B.Pharmacy 4th year , Mohd Adil Shareef.****Sultan ul uloom college of pharmacy, Road no 3 Banjara Hills Hyderabad 500034****Email: adilshareef07@gmail.com**

Cancer stem cells (CSCs) are transformed cells (found within tumors or hematological cancers) that are thought to share several characteristics with normal stem cells. Cancers are speculated to contain stem cell and non-stem cell components, of which only the relatively rare stem cell fraction can generate new tumors upon transplantation into immunodeficient hosts. Some cancers are hierarchically organized into undifferentiated cells that can drive disease progression and differentiated cells with less capacity to drive disease progression, consistent with the cancer stem cell model. Cancers that exhibit this kind of hierarchical organization have functional differences among undifferentiated and differentiated cancer cells that affect response to therapy and prognosis. Basic and clinical research accomplished during the last few years on embryonic, fetal, amniotic, umbilical cord blood and adult stem cells has constituted a revolution in regenerative medicine and cancer therapies by providing the possibility of generating multiple therapeutically useful cell types. A particular emphasis is made on the therapeutic potential of different tissue-resident adult stem cell types and their *in vivo* modulation for treating and curing specific pathological disorders.

BPCL-015. RECENT INNOVATIONS & PHARMACOTHERAPEUTIC APPROACHES IN HUMAN IMMUNODEFICIENCY VIRUS INFECTION

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The Human immunodeficiency virus infection / acquired immunodeficiency syndrome (HIV/AIDS) is a disease of the human immune system. HIV is transmitted primarily via unprotected sexual intercourse (including anal and oral sex), contaminated blood transfusions, hypodermic needles, and from mother to child during pregnancy, delivery. 31 medicines have been approved to treat HIV infection, and a 20 year old diagnosed with HIV can expect to live 50 years. In 2007, Selzentry was the first oral HIV drug which was discovered. Recent medicine in the treatment of HIV infection in 2012 includes amdoxovir, dapivirine, Cbcenicriviroc, Fuzeon. In Sep 2013, a killed whole HIV vaccine, SAV001, has got approval after US FDA phase 1 human clinical trial. The annual Conference on Retroviruses and Opportunistic Infections (CROI) was held in Boston, US from 3-6 March 2014 concluded that a study of GSK-744LA, a long acting injectable from daily pill-taking to 3 monthly injections, showed good protection in monkeys. The next step is to assess what effect these drugs would have in the human body. Another strategy to improve adherence is the development of a new vaginal ring, which has both the contraceptive and anti-HIV properties. A new technology of gene modification has also approached to treat HIV. On 14 August 2014, 3 different Histone deacetylase (HDAC) inhibitors i.e; romidepsin, panobinostat, and SAHA, are under investigation as flushing agents for HIV. A science group speculated that an effective vaccine for HIV would be completed in 2019.

BPCL-016. PERFUSION-DECELLULARIZED MATRIX : USING NATURE'S PLATFORM TO ENGINEER A BIOARTIFICIAL HEART

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About 500,000 people in India die due to unavailability of organs; worldwide, 22 million individuals are living with heart failure. A bioartificial heart is a theoretical alternative to transplantation or mechanical left ventricular support. Generating a bioartificial heart requires engineering of cardiac architecture, appropriate cellular constituents and pump function. Hearts are decellularized by coronary perfusion with detergents, preserved the underlying extracellular matrix, and produced an acellular, perfusable vascular architecture, competent acellular valves and intact chamber geometry. To mimic cardiac cell composition, these constructs are reseeded with cardiac or endothelial cells. To establish function, hearts are maintained by eight constructs for up to 28 d by coronary perfusion in a bioreactor that simulated cardiac physiology. By day 4, there was observation of macroscopic contractions. By day 8, under physiological load and electrical stimulation, constructs could generate pump function (equivalent to about 2% of adult or 25% of 16-week fetal heart function) in a modified working heart preparation.

BPCL-017. STIMULATION OF HAIR GROWTH IN HUMANS BY CELL SECRETED PROTEINS ST MARY'S COLLEGE OF PHARMACY

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Hair loss (alopecia) is a complex phenomenon that is not fully understood either in human or nonhuman primates. Hair loss can occur as a result of a congenital or genetic disorder, or it can develop during lifetime of the animal. In this topic we have evaluated a bioengineered human-cell derived formulation, termed hair stimulating complex (HSC), on the effects of hair growth activity in male pattern baldness and female diffuse hair loss. HSC is produced by cells grown on beads in hypoxic bioreactors and contains cytokines including KGF, VEGF and follistatin. Follistatin antagonizes activin and BMP's which maintain the quiescent state of hair follicle stem cell proliferation. We hypothesized that injection of this medium may increase the supply of progenitor and transit amplifying keratinocytes provided to the growing hair shafts, leading to an increase in the thickness of the hairs and a reversal of the miniaturization process. The safety and efficacy results with HSC in this in-patient controlled human clinical trial represent a novel regenerative medicine approach in hair growth treatment by using bioengineered, cell-derived growth factors and substantiates research around the activity of follistatin and other factors in hair growth stimulation and maintenance. Initial safety and efficacy endpoints were achieved, with statistical significance reached. In addition to the two successful trials with subjects with male pattern baldness, women with diffuse hair loss treated under a physician's IND showed notable new hair growth at 6 weeks with an additional increase in hair at 12 weeks.

BPCL-018. BENCHMARK THERAPY –A NEW APPROACH FOR TREATING ATHEROSCLEROSIS**V. Jyothi*, M. Karthavya.****Gland institute of pharmaceutical sciences****vellankyjyothi@gmail.com, karthavya.mallipeddi@gmail.com.**

Atherosclerosis is a disease, characterized by thickening of artery wall as a result of the accumulation of calcium and fatty materials such as cholesterol and triglyceride. Benchmark therapy which is also known as Ethylenediamine tetraacetic acid (EDTA) chelation therapy has been practiced since longtime for the treatment of cardiovascular diseases, alone or in combination with other treatments. It has been recommended as a harmless, relatively inexpensive and non-surgical method of restoring blood flow in atherosclerotic vessels. Ability of EDTA to form complex with heavy metals like calcium, lead, copper is used to remove calcium from atherosclerosis plaques which ultimately improves the condition. It can be concluded that chelation therapy is emerging form of complementary (or) alternative medicine to surgery and can be used in safe manner. Still there is insufficient evidence to decide on the effectiveness (or) ineffectiveness of chelation therapy in improving clinical outcomes of patients with atherosclerotic cardiovascular disease.

BPCL-019. DRUGS ACTING ON BRONCHIAL ASTHMA**T.Mahendar, Ravi kumar****MNR College of Pharmacy, sangareddy,Medak,Telangana,india****Email:mahendarthirupathi@gmail.com**

Now-a-days asthma is a most common disease in india. Asthma is a chronic inflammatory disorder of the air ways that cause recurrent episodes of breathlessness,chest tightness and cough particularly at night or early morning.asthma may be categorized into atopic(with evidence of allergen sensitization) and non atopic (without evidence of allergen sensitization) .atopic is diagnosed based on evidence of allergen sensitization by serum radio allergosorbent test. on-atopic is diagnosed based on the test which is not yet discovered.drugs used in asthma was small doses of aspirin as well as other NSAID'S medication. Symptoms of asthma are chest tightness, dyspnea and cough with or without sputum production.

BPCL-020. RECENT PHARMACOTHERAPEUTIC INNOVATIONS IN ASTHMA**Syed Abbas*, Humeera,R, Syed Azizullah.G, Mirza Misba Ali.B****B.Pharm II Year, Deccan School Of Pharmacy, Darussalam ,Hyderabad.**

Pressurized metered dose inhalers (MDIs) are a long standing method to treat asthma and pulmonary diseases. This study is associated with formulating MDIs as solution or suspension products with one or more drugs while considering the physicochemical properties of various excipients and how the addition of these excipients may impact overall product performance of the MDI. Mice treated with IL-13 and GGsTop shows attenuation of methacholine- stimulated airway hyper-reactivity, inhibition of Muc5ac and Muc5b gene induction, decreased airway epithelial cell mucous accumulation and a fourfold increase in LLF glutathione content compared to mice treated with IL-13 alone. Inhalation devices are as important as active substances and training and monitoring are essential in ensuring effective treatment of asthma and COPD. Inhalation device switching without medical consultation should be avoided. Fluticasone/formoterol provided a faster onset of bronchodilation than fluticasone/salmeterol.Ciclesonide, despite the highest proportion of fine and super-fine particle fractions, is the only ICS not associated with an increased risk of systemic adverse effects. In contrary to ICS, bronchodilators should not be administered to peripheral airways. This does not improve their efficacy and may increase their risk of cardio toxicity. Thus, from a pharmacological point of view and the theory of aerosols' deposition, fixed combinations of ICS and long-acting beta agonists are always suboptimal. In many cases, the best solution may be to use fine-particle ciclesonide and a non-fine particle beta agonist administered from separate inhalers.

BPCL-021. SHOCK AND KILL TECHNIQUE-A NEW HOPE FOR HIV-1 ERADICATION**B.priyanka****Bojjam Narasimhulu Pharmacy College for Women, Vinaynagar, saidabad, Hyderabad****Email: priya_bobe@yahoo.com**

“Shock and kill” technique represents a new milestone along the way to the discovery of a cure for HIV/AIDS. This technique involves ‘smoking out’ latent HIV genes from human cells. Latent reservoirs of HIV-1-infected cells are refractory to antiretroviral therapies (ART) and remain the major barrier to curing HIV-1. Because latently infected cells are long-lived, immunologically invisible, and may undergo homeostatic proliferation, a “shock and kill” approach has been proposed to eradicate this reservoir by combining ART with inducers of viral transcription. This can be achieved by using inhibitors of histone deacetylases (HDACs), which are a class of enzymes that maintain HIV latency. In this technique, quiescent HIV- infected cells are first genetically woken up by one chemical so that they start to produce HIV and then selectively destroyed by another one. Dr. Savarino and his team first used a drug called a class 1 histone deacetylase (HDAC) inhibitor to waken up cells. They then added a drug called buthionine sulfoximine which depleted cells of the vital antioxidant glutathione, making them more likely to self-destruct. The HIV-infected cells in the test tube died out while the non-infected cells stayed intact. Based on the results it can be concluded that, "shock-and-kill" approach involving the activation of dormant viruses with drugs called inducers, combined with virus-fighting antibodies could represent a promising strategy for curing HIV-1 infection in humans.

BPCL-022. EBOLA-A ORPHAN VIRUS**Shruti,Bibika & Apurupa****Joginpally B.R Pharmacy College,Yenkapally,Moinabad,Ranga Reddt,Telangana****Email id:shrutijanwad@yahoo.com**

'Zaire Ebola virus' a orphan disease causing virus, belonging to family 'Filoviridae' which has a structure containing 3-lobe Chalice like structure, a filamentous, single-stranded RNA,unusual variable length & branched morphology.This virus resembles to Marburg virus. **spreading cause:** This is spread by skin or body fluids or secretions like urine, saliva, semen, or sweat of an infected animal or a human. But it is not a air-borne disease. symptoms:The symptoms include high fever, head-ache, joint & muscle-aches, sore throats, weakness,stomach-pain, internal and external hemorrhage. **Detection:** This is detected by routine blood test which shows the reduced white cell count &plate count, it can also detected by electron microscopy, cell culture, and range of serological tests.This can be managed by mixture of 3 monoclonal antibodies against the ebola virus called as Zmapp. **Prevention:** This can be Prevented by avoiding contact with infected persons and avoiding raw meat consumption.

BPCL-023. ADVANCEMENT IN THE TREATMENT OF CANCER- HER-3 DEACTIVATION**Shaik Abdullah Quddus,Rushna khatoon, Mohd Adil Shareef*.****Sultan ul uloom college of Pharmacy, Road no 3 Banjara Hills, Hyderabad 500034****Email: adilshareef07@gmail.com**

Aberrant receptor expression or functioning of the epidermal growth factor receptor (ErbB) family plays a crucial part in the development and evolution of cancer. Inhibiting the signalling activity of individual receptors in this family has advanced the treatment of a range of human cancers. Most critically with ErbB2, is implicated in growth, proliferation, chemotherapeutic resistance, and the promotion of invasion and metastasis. In this Review we re-evaluate the role of two important family members, ERBB2 (also known as HER2) and ERBB3 (also known as HER3) and explore the mechanisms of action and preclinical and clinical data for new therapies that target signalling through these pivotal receptors. These new therapies include tyrosine kinase inhibitors, antibody–chemotherapy conjugates, heat-shock protein inhibitors and antibodies that interfere with the formation of ERBB2–ERBB3 dimers.

BPCL-024. PROMISING EBOLA VIRUS TREATMENT DEVELOPMENT**T.Priyanka*, Husna Kanwal Qureshi****Bojjam Narasimhulu Pharmacy College For Women, Hyderabad -500059.****Email: teepojupriyanka@yahoo.com**

Ebola virus causes an extremely virulent disease that currently leads to death in 25-90% of cases. The fast moving virus is spread via the blood or other bodily fluids of an infected person. Ebola virus uses a protein decoy to subvert the host immune response. There is currently no cure for Ebola hemorrhagic fever. Most die from a combination of dehydration, massive bleeding and shock. There is currently no vaccine or drug therapy for Ebola infection, but the findings of this study may lead to new treatments. Laboratories at The Scripps Research Institute [TSRI] is investigating antibodies to fight Ebola virus. TSRI laboratories are studying the structures of these antibodies using techniques called electron microscopy which creates high resolution images by hitting samples with electrons and X-Ray crystallography which determines atomic structure of crystalline arrays of proteins. Through these images the team will discover exactly how the immune system molecules bind to Ebola virus and stop it from functioning, a critical step in drug development. The ZMapp treatment is still in experimental stages and has not yet been approved for use outside the 2 recent cases. ZMapp is one of the best antibody cocktails currently known, but there may still be ways to improve it with the goal of finding the best for neutralizing Ebola virus and many other viruses like it. An ideal antibody cocktail would ease symptoms and improve the prognosis of infected individuals. It even works as preventive measure, protecting health care workers before they enter an infected area.

BPCL-025, BELSOMRA(SUVOREXANT)**M.Sushma****Bojjam Narasimhulu Pharmacy College For Women, Hyderabad -500059****sushmahoneywww@gmail.com**

Elsomra (suvorexant) tablets for use as needed to treat difficulty in falling and staying asleep (insomnia).Belsomra is an orexin receptor antagonist. Orexins are chemicals that are involved in regulating the sleep-wake cycle and play a role in keeping people awake. Belsomra (suvorexant) tablets for use as needed to treat difficulty in falling and staying alters the signaling (action) of orexin in the brain.Insomnia is a common condition in which a person has trouble falling or staying asleep. It can range from mild to severe, depending on how often it occurs and for how long. Insomnia can cause daytime sleepiness and lack of energy. It also can make a person feel anxious, depressed, or irritating.The FDA has approved Belsomra in four different strengths – 5, 10, 15, and 20 milligrams. People with insomnia may have trouble with attentiveness, learning, and memory.The effectiveness of Belsomra was studied in three clinical trials involving more than 500 participants. In the studies, patients taking the drug fell asleep faster and spent less time awake during the remainder of the night compared to people taking an inactive pill (placebo)Orexin receptor antagonist; orexin, also called hypocretin, is a neurotransmitter that regulates arousal, wakefulness, and appetite Blocking the binding of wake-promoting neuropeptides orexin A and orexin B to receptors OX1R and OX2R is thought to suppress wake drive.

BPCL-026. AN INNOVATIVE CHEMOTHERAPEUTIC APPROACH IN THE MANAGEMENT OF CANCER**Nazima Sultana¹, Anees Fatima¹, Syed Azizullah.G², Osman Ahmed²****Deccan School Of Pharmacy, Dar-us-salam ,Hyderabad.**

Metronomic chemotherapy refers to repetitive, low doses of chemotherapy drugs designed to minimize toxicity and target the endothelium or tumor stroma as opposed to targeting the tumor.” Toxic effects and chemoresistance are major hurdles in chemotherapy and to avoid these problems caused by traditional chemotherapeutic regimens, a new modality of drug administration has been emerged. Most of these drugs are DNA-damaging agents that are designed to inhibit/kill rapidly dividing cells. They are often administered in single doses/short courses of therapy at the highest possible dosage without causing life-threatening levels of toxicity. Such regimen involves the frequent administration of conventional chemotherapeutic agents at very low doses to target activated endothelial cells in tumors, the advantages of which include minimal adverse effects and a rare chance of developing acquired drug resistance. Previously it was thought that they act by targeting angiogenesis, but recently additional mechanisms have been discovered which has established metronomic chemotherapy as a type of multi-targeted therapy. The knowledge gained from the preclinical studies of metronomic chemotherapy, along with clinical experience, will help to design better therapeutic protocols against cancer. Pharmacogenomic and pharmacoproteomic studies on tumor endothelial cells and large multi-centered clinical trials, integrating bio-marker analyzes, are needed to investigate and validate the best treatment combinations for each tumor type and patient population.

BPCL-027. HEMOLUNG-RESPIRATORY DIALYSIS**VISHNU INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH,MEDAK,TELANGANA.**

Meghana Allani, Sai Krishna Teja

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Federal health regulations have approved a novel device that can preserve donated lungs outside the body for possible transplantation into critically ill patients. This Hem lung respiratory assist system could lead to more successful transplants of lungs for people with cystic fibrosis and other deadly respiratory diseases. Lungs can be kept in the machine for four hours as doctors evaluate their suitability for transplant. The device consists of a bubble-like chamber where the lungs are stored and connected to a series of pumps and filters that provide oxygen and a sterile cleansing solution. In 2012, 1,754 lung transplants were performed in the U.S. with 1,616 patients still on the national waiting list. Lung transplantation is often the only treatment for patients with end-stage lung diseases, including chronic obstructive pulmonary disease and idiopathic pulmonary fibrosis. The FDA approved the new device based on two studies of patients who received non-ideal lungs preserved with the XVIVO Perfusion System or ideal lungs preserved with conventional cold storage techniques.

BPCL-28. P-GLYCOPROTEIN INHIBITION AND ITS PHARMACOLOGICAL EFFECTS IN THE TREATMENT OF VARIOUS DISEASES**Anushree.K , Amreen Fathima****Gland Institute of Pharmaceutical Sciences, Narsapur, Medak, Telangana, India.**

P-glycoprotein (P-gp) is a cell membrane-associated ATP-dependent efflux drug transporter protein that transports a variety of drug substrates. Due to selective distribution at the port of drug entry and exit, P-gp has been speculated to play a major physiological role in absorption, distribution and excretion of drugs. P-gp inhibition is attractive therapeutic approach to reverse multidrug resistance. Human P-gp is polypeptide consisting of 1280 aminoacids organized in two tandem repeats 610 aminoacids joined by a linker region of 60 aminoacids. Function of P-gp is Protection from Drugs and Toxins, Steroid Metabolism, Cholesterol Metabolism, Immune responses and Cell death and cell differentiation. P-gp inhibition helps in treating MDR Cancer, MDR Tuberculosis, HIV, Refractive epilepsy, Neurological disorders, Syphilis, Leprosy.

BPCL-029. PEPTIC ULCER DISEASE (PUD)**V.RAVI TEJA*, V.MANASA KULAKARNI.****MNR COLLEGE OF PHARMACY. SANGAREDDY****Velicharlaraviteja2789@gmail.com**

The erosion of mucous layer of stomach and duodenal wall of small intestine is known as peptic ulcer.NSAID's are probably the most common cause of gastro- duodenal injury in the India today. Approximately half of patients who regularly take NSAID'S have gastric erosion and 15-30% have ulcer (endoscopically).The overall mortality from PUD has increased, death rate have increased in patients older than 75 years of age that is due to the consumption of NSAID's.Atleast 98% of peptic ulcer are either in the first portion of the duodenum or in the stomach, in the ratio of about 4:1.

**BPCL-030. ETHNIC SENSITIVITY ASSESSMENT FOR AN ANTIBODY-DRUG
CONJUGATETRASTUZUMAB EMTANSINE (KADCYLA)**

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To overcome the breast cancer effects, there was the invention of new drug known as **Trastuzumab emtansine** (T-DM1). Trastuzumab emtansine is approved drug used to treat HER2-positive breast cancer that spreads to other parts of the body. Trastuzumab emtansine is an antibody drug conjugate consisting of the monoclonal antibody trastuzumab linked to the cytotoxic agent mertansine. In the EMILIA clinical trial of women with advanced HER2-positive breast cancer who were already resistant to trastuzumab alone, it improved survival by 5-8months compared to the combination of lapatinib and capecitabine. Based on that trial, the U.S Food and Drug Administration approved marketing on February 22, 2013. This drug was developed by Genetech, a subsidiary group of **Roche** and manufactured by **Lonze**. It is introduced into the body as intravenous infusion. In vitro, it shows 93% of protein binding which increases drug effectivity. For people receiving kadcyla the most common adverse effects were thrombocytopenia, head-ache, musculoskeletal pain, constipation, increased liver enzyme levels etc. It is the first antibody drug conjugate for treating HER2-positive metastatic breast cancer. People receiving kadcyla experienced a 32% reduction in dying compared to people who received lapatinib and xeloda. This drug approval was based on the EMILIA study, a phase3 clinical trial. In support of the global marketing applications of T-DM1, particularly in Asian countries ethnic sensitivity assessment for T-DM1 was conducted to ensure that the clinically recommended dose regimen of T-DM1 (3.6 mg/kg every 3 weeks) is appropriate for patient populations with respect to ethnicity.

BPCL-031. ALZHEIMER'S DISEASE

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Alzheimer's disease was first by German psychiatrist and neuropathologist Alois Alzheimer in 1906 and was named after him. But research into its symptoms, causes, risk factors and treatment has gained momentum only in the last 30 years. Alzheimer's Association has created a list of warning signs for Alzheimer's disease, to help identify the problems early. Alzheimer's disease is a disease of the brain that causes problems with memory, thinking and behavior. The disease may cause a person to become confused, lost in familiar places, or have trouble with language. The symptoms include Memory loss that disrupts daily life, Difficulty completing familiar tasks at home, at work or at leisure, Confusion with time or place, Misplacing things and losing the ability to retrace the things, Changes in mood and personality. Treating the symptoms: Currently, there is no cure for Alzheimer's disease and no way to stop the underlying death of brain cells. FDA approved Treatments Two types of drugs are currently approved by the U.S. Food and Drug administration (FDA) to treat cognitive symptoms of Alzheimer's disease. The first type: cholinesterase inhibitors, prevents the breakdown of acetylcholine memory and learning. The second type: These drugs work by regulating the activity of glutamate, a different messenger chemical involved in information processing.

BPCL-032. INSOMNIA**Dr.N.ANITHA and SYED KHUNDMIR MUSHARRAF TASHRIFULLAH*****Sulatan -ul- Uloom college of Pharmacy, Road No: 3, Banjara Hills, Hyderabad.**

Insomnia is a common complaint. Insomnia is characterized by difficulty in initiating or maintaining sleep. Transient and short-term insomnias usually result from stress or the use of certain drugs and may be managed by reduced caffeine use, behavioral means, and/or pharmacologic treatment. Long-term insomnia is often a symptom of a medical or psychiatric condition or a primary sleep disorder. Chronic insomnias last over several weeks and are usually related to specific medical or psychiatric conditions. A diagnostic workup is expected; treatment should focus on the causative condition, as well as addressing the sleep problem itself. Insomnia periodically affects 50% of adults, and more than 90% of the population has trouble with sleep at some point during their lives. Insomnia becomes a problem when excessive daytime sleepiness impairs feeling well and performing functions that require alertness. Inadequate sleep can result in adverse personal, medical, or psychiatric sequela and increased risk for accidents. Many people with a sleep problem seek help from their doctor. Difficulty is observed also initially with the initiation, use, or discontinuance of certain pharmaceuticals or drugs, ethanol, stimulants such as theophylline, cocaine, and caffeine. Depression and anxiety-related disorders are common causes of poor sleep and characterize the bulk of psychiatric causes. Medical evaluation of insomnia should define a causative diagnosis with an etiology-specific treatment plan. Insomnias may call also for the use of "sleeping pills." Combining time-linked drug treatments with non-pharmacologic therapies gives the best results. Established medications for the symptomatic treatment of insomnia include benzodiazepines, zolpidem, zaleplon, and certain antidepressant or occasionally antihistaminic drugs.

BPCL-033. DETECTING THE MEASURES OF HIV BY POLYMERASE CHAIN REACTION**C ShrutiBharathi Bhatt, Md. WasimQuasim*****Sultan ul- Uloom College of Pharmacy, Banjara hills, Hyderabad- 500034****Email: wasimquasim@yahoo.com**

Polymerase chain reaction is an in vitro technique for rapidly synthesizing large quantities of given DNA segment that involves separating the DNA into its two complementary strands, using DNA polymerase to synthesize two stranded DNA from each single strand, and repeating the process. PCR is based on the natural process of DNA replication. In its simplest form, the reaction occurs when a DNA sample and a DNA polymerase, nucleotides, primers and other reagents (man-made chemical compounds) are added to a sample tube. The reagents facilitate the reaction to copy the DNA code. In addition to detecting diseases in a sample, PCR enables the monitoring of the amount of a virus present or viral load, in a person's body. In diseases such as hepatitis C or human immunodeficiency virus (HIV) infections, viral load is a good indication of how sick a person may be or how well a person's medicine and treatment is working. Armed with this information, physicians may determine when to start treatment and the person's response to treatment, making treatment personalized to each individual.

BPCL-035. OVERCOMING NOSOCOMIAL INFECTIONS**Leander Corrie, B. Pavan Kumar.****St Mary's College of Pharmacy****Email id :- leander.corrie8@gmail.com , bejjenki.pavan25@gmail.com**

A hospital –acquired infection (HAI) or Nosocomial Infection is an infection whose development is favored by a hospital environment, such as one acquired by a patient during a hospital visit or one developing among hospital staff. Nosocomial infections can be also defined as those occurring within 48 hours of hospital admission, 3 days of discharge or 30 days of an operation. They affect 1 in 10 patients admitted to hospital. Annually, this results in 5000 deaths with a cost to the National Health Service of a billion pounds. On average, a patient with hospital acquired infection spends 2.5-times longer in hospital, incurring additional costs of £3000 more than an uninfected patient. Intensive care units (ICU) have the highest prevalence of hospital-acquired infections in the hospital setting. The European Prevalence of Infection in Intensive Care Study (EPIC), involving over 4500 patients, demonstrated that the nosocomial infection prevalence rate in ICU was 20.6%. ICU patients are particularly at risk from nosocomial infections as a result of mechanical ventilation, use of invasive procedures and their immunocompromised status. Despite progress in public health. Hospitals are becoming dangerous places for the acquisition of infections worldwide. Though noncompliance in infection control practices and inappropriate use of antibacterial drugs is main reason, non compliance in validation methods, statistical study and booming medical tourism are equally responsible for high rate of HAI presently in India.

HAI are considered to be the fourth largest killer but thirty to fifty percent of them are preventable. The need for different methods and techniques of controlling procedures required to be followed to minimize the level of HAI ultimately reduces significant economic loss and additional burden on hospitals.

BPCL-002. RECENT ADVANCES IN MANAGEMENT OF THALASSEMIA**B.HARSHINI¹* K.HARINI¹****¹Department of pharmacy,Bojjam Narshimulu Pharmacy College for Women****Saidabad,Hyderabad.****Email:harshinisagar@gmail.com**

The life expectancy of patients with thalassemia majorly has significantly increased in recent years, as reported by several groups in different countries. However; complications are still frequent and affect the patient's quality of life. In a recent study from U.K. it was found that 50% of the patients had died before age 35. At that age 65% of the patients from an Italian long term study were alive. Thalassemia represents the most common single gene disorder causing a major public health problem in India. Thalassemia and hemoglobinopathies probably developed over 7000 years ago as defence against malaria. In simple terms, thalassemia is caused by a mutation in either the α or β globin chain which combine equally in red cells to form haemoglobin. These mutations lead to varying degree of anaemia resulting into thalassemia minor, intermedia or major. Rates of survival and complications free survival continue to improve, due to better treatment strategies. New complications are appearing in long term survivors. Iron overload of the heart remains the main cause of morbidity and mortality. The authors presenting the recent advances in the management of thalassemia.

MPCL-001. AN OVERVIEW OF PHARMACOTHERAPY OF OBESITY**Alluri Shivaramaraju*, M.Bhagavan Raju****Gland Institute Of Pharmaceutical Sciences, Narsapur, Medak District**

Obesity is a chronic disease and a major health problem which require long term treatment in developed and affluent society of developing countries. Pharmacotherapies for obesity have to be given for a long duration with lifestyle modifications. Anti-obesity drugs acts through various targets in the body which reduce the food intake, decrease absorption and increase metabolism. Many drugs were approved and used in the past but were removed or abandoned in the later stages due to the various adverse drug reactions associated with the drugs. There are new combinations from existing drugs are in various phase of clinical trials like bupropion/naltrexone, bupropion/zonisamide and pramlintide/metreleptin. Many single agents like tesofensine, liraglutide, cetilistat, etc are in various phases of clinical trials and have shown promise to be in the league of the present drugs with approval in future.

BPAQ-001. FOURIER TRANSFORM NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY**K. KARNAKAR, K. VINAY KUMAR, JAHNAVI BANDLA****Gland Institute of Pharmaceutical Sciences, Narsapur, Andhra Pradesh, India.**

Spectroscopy techniques are the most commonly used methods in standardization of many pharmaceutical drugs. NMR Spectroscopy is a branch of spectroscopy in which radio frequency waves induce transitions between magnetic energy levels of nuclei of a molecule. NMR Spectroscopy is a research technique that exploits the magnetic properties of certain atomic nuclei to determine physical and chemical properties of atoms or the molecules in which they are contained. Fourier-transform NMR spectrometers use a pulse of radiofrequency (RF) radiation to cause nuclei in a magnetic field to flip into the higher-energy alignment. The excited spins emit the absorbed radiation after the pulse. The emitted signal in time is recorded. The intensities of the several frequencies, are calculated by a mathematical operation, the Fourier transformation, which translates the time data into the frequency domain. A far better resolution and sensitivity in NMR was achieved by the introduction of pulsed Fourier transform techniques (FT-NMR). In FT-NMR the resonances are not measured one after another but all nuclei are excited at the same time by a radio frequency pulse. FT-NMR is Faster and possibility of multiple scanning, to improve the signal to noise ratio. So, FT-NMR is advantageous than the CW-NMR.

BPAQ-002. A Review on Analytical Techniques for the Detection of Counterfeit Drugs**Krishna Sai. Y*, Mr. Ravi Kiran. P****G. Pulla Reddy College of Pharmacy, Mehdiapatnam, Hyderabad-28.**

Counterfeit / Spurious drug' is one which is deliberately and fraudulently mislabeled with respect to identity and / or source, as per WHO. Counterfeit medicines may include products with the correct therapeutically active ingredients but fake packaging; with the wrong ingredients; without active ingredients or with insufficient active ingredients. Counterfeit drugs are an upcoming social evil. According to WHO estimates about 25% of the medicines consumed in developing countries are believed to be counterfeit. Analytical techniques like NIR Spectroscopy, Raman Spectroscopy, HPLC Techniques, LC-MS Techniques, etc. used to detect the Counterfeit Drugs.

BPAQ-003. NUCLEAR MAGNETIC RESONANCE (NMR) TECHNOLOGY ANALYZE THE CONFIGURATIONS OF THE TWO P75 AND P45 PROTEIN WHICH PROMOTES NERVE REGENERATION PAVING THE WAY FOR NEW TREATMENTS FOR PARALYSIS***P.Saahith Redddi, Rachit Sood, Farheen unisa, J.James*****St.Mary's College of Pharmacy, H.No. 9-1-248, St.Francis Street, Secunderabad-25, Telangana**

Paralysis is loss of ability to move one or more muscles. It may be associated with loss of feeling and other bodily functions. Paralysis is not usually caused by problems with the muscles themselves, but problems with the nerves or spinal cord that brain uses to control muscles. A person with paralysis will have nerve damage. The protein p45 activates nerve regeneration in few animals by stopping myelin the protective coating around nerve fibers from halting nerve regrowth. They found that humans and primates do not possess the p45 protein. They have a protein called p75, which attaches itself to myelin when nerves are damaged and prevents their repair. Nerve repair process of some animals 'could be mimicked in humans' the nerve repair is halted in humans as a result of two p75 proteins, which team up and attach to nerve repair inhibitors released from damaged myelin. Using NMR technology it was possible to closely analyze the configurations of the two p75 proteins. By introducing the p45 protein which promotes nerve regeneration, they found it could break up the pairing of the p75 proteins. The researchers discovered that p45 protein could bind to the exact region in the p75 protein that is responsible for their pairing. This reduced the number of p75 pairs that attach to nerve repair inhibitors released from damaged myelin, meaning nerve fibers were able to regenerate. This research implies that we might be able to mimic neuronal repair processes that occur naturally in lower animals, which would be very exciting.

BPAQ-004. A HIGHLY VALIDATED RP-HPLC METHOD FOR PYRAZOLINE DERIVATIVE HAVING ANTI-INFLAMMATORY ACTIVITY.

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A highly validated sensitive and specific reverse phase high performance liquid chromatography (RP-HPLC) method have been developed for the determination of synthesized product of pyrazoline derivative. The chromatographic separation was achieved using HPLC column Eclipse XDB C18 (150mm X 4.6mm X 5 μ m) column at isocratic mode. The mobile phase consists of 0.1% trifluoroacetic acid and methanol in the ratio of 20: 80. The flow rate and column temperature was maintained as 1.0 mL min⁻¹ and 25 \pm 2°C respectively throughout the analysis. The injection volume was maintained as 5.0 μ L and the detection was carried out at 206 nm. The current method demonstrates good linearity over the range of 50-80 μ g mL⁻¹ and regression coefficient (r^2) was found to be 0.998. The limit of detection (LOD) and limit of quantification (LOQ) of the compound was found to be 4 μ g mL⁻¹ and 15 μ g mL⁻¹ respectively. The method was validated in accordance with ICH guidelines which include accuracy, precision, specificity, linearity, ruggedness, robustness, stability and system suitability. In addition, the current method has been utilized for quantification and routine analysis of other pyrazoline derivatives.

BPAQ-005. RP-HPLC METHOD FOR DETERMINATION OF TAPENTADOL IN BULK AND ITS PHARMACEUTICAL FORMULATION

Arshiya sultana*, syeda fareesa sultana, mohd shanawaz, mohd muzzafer pasha
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The objective of the current study is to develop a Rapid, Simple, Specific, Accurate, Precise and Reproducible validated RP- HPLC method for the estimation of Tapentadol Hydrochloride in the Pharmaceutical dosage form. Tablet Formulation containing 50, 75 and 100 mg are available in the market. RP-HPLC analysis was carried out using 0.1 M potassium di hydrogen phosphate buffer pH adjusted to 3.6 with ortho phosphoric acid:Acetonitrile (50:50 v/v) as mobile phase and Symmetry C18 (4.6 x 150mm, 5 μ m, Make: Thermsil) as stationary phase with detection wavelength of 243 nm utilizing Shimadzu HPLC (LC-2010HT) equipped with DAD Detector. Linearity was obtained in the concentration range of 10-50 μ g/ml for Tapentadol Hydrochloride. The % recovery of the drug was found to be 99.9% – 100.00%. LOD and LOQ were found to be 0.01 μ g/ml and 30 μ g/ml at 243nm for Tapentadol Hydrochloride respectively. Method was statistically validated for Accuracy, Precision, Specificity, LOQ, Robustness and Ruggedness according to ICH guidelines and can be used for routine analysis of Pharmaceutical dosage form.

MPAQ-001. BIOMARKER PROFILING BY NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY FOR THE PREDICTION OF DEATH**Sheryl Andrews*, Y Padmavathi****G. Pulla Reddy College of Pharmacy, Hyderabad, Andhra Pradesh, India – 500 028.**

Will you die in the next five years? NMR Spectroscopy reveals biomarker signatures associated with mortality. Biomarker is a naturally occurring molecule, gene, or characteristic by which a particular pathological or physiological process, disease, etc can be identified. Identification of susceptibility to a particular disease or responsiveness to a given therapy is the main aim of biomarkers studies. But what if biomarkers for all-cause mortality could be found? How would that change the game? The present study throws light on four biomarkers namely, albumin, alpha-1-acid glycoprotein, citrate and very low density lipoproteins (VLDL), that act as predictors of all-cause mortality. The fact that these biomarkers reflect the risk of dying from very different types of diseases such as heart disease or cancer is the most intriguing part of the study. All the four biomarkers when unified into a single risk maker, it turns into a strong predictor of short-term risk of death than if someone has had cancer. Owing to our sedentary lifestyle, obesity is very commonly seen which is again the major culprit for various heart diseases. Therefore, by using this novel approach of Biomarker Profiling using NMR Spectroscopy, one can identify how prone or susceptible one is towards death and take the necessary measures, to remain hale and hearty.

MPAQ-002. A VALIDATED RPHPLC METHOD FOR THE SIMULTANEOUS ESTIMATION OF FLUOXETINEHYDROCHLORIDE AND OLANZAPINE IN TABLETS**S.Naga chandrika* , R. Suthakaran****Teegala Ramreddy college of pharmacy**

A new RP HPLC method was developed and validated for the determination of FLUOXETINE HYDROCHLORIDE and OLANZAPINE in tablets. The chromatographic separation was achieved on a Inertsil C₁₈ ODS(4.6 x 250mm, 5mm) with a mobile phase combination of orthophosphoric acid buffer and methanol (20:80) at a flow rate of 1.0 ml/min, and the detection was carried out by using PDA detector at 305 nm. Ambient column temperature has maintained. The total run time was 10mins. The retention time of Olanzapine and Fluoxetine hydrochloride were found to be 2.9 min. and 4.1 min. respectively. The performance of the method was validated according to the present ICH guidelines.

MPAQ-003. METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF METFORMIN AND SAXAGLIPTIN IN PHARMACEUTICAL DOSAGE FORM BY HPLC**R.R.Bangaramma*, R.Suthakaran****Department of Pharmaceutical analysis & QA****Teegala Ramreddy college of pharmacy**

A new HPLC method was developed and validated for the determination of Metformin and Saxagliptin in tablet dosage form. The chromatographic separation was achieved on a Inspire C₁₈(4.6 x 250mm, 5mm) with a mobile phase combination of phosphate buffer and methanol (45:55) at a flow rate of 1.0 ml/min, and the detection was carried out by using UV detector at 208 nm. The total run time was 8minutes. The retention time of Metformin and Saxagliptin were found to be 2.328 min. and 3.856 min. respectively. The degradation studies results of Metformin, Saxagliptin for Acid, Base, Thermal, Peroxide are performed under controlled conditions. The performance of the method was validated according to the present ICH guidelines.

MPAQ-004. A NOVEL VALIDATED RP-HPLC METHOD FOR THE ESTIMATION OF PERINDOPRIL ERBUMINE IN BULK DRUG AND PHARMACEUTICAL DOSAGE FORM**Yasmeen*, T. Mamatha**

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An accurate and precise RP-HPLC method was developed for the determination of perindopril erbumine in bulk drug and tablet dosage forms. Separation of the drug was achieved on a reverse phase C18 column using a mobile phase consisting of phosphate buffer (pH 5) and methanol in the ratio of 30:70 v/v. The flow rate was 0.8 ml/min and the detection wavelength was 214.5 nm. The proposed method was validated for its linearity, accuracy, precision and robustness. This method can be employed for routine quality control analysis of perindopril erbumine in bulk drug and tablet dosage forms.

MPAQ-005. A NOVEL VALIDATED RP-HPLC METHOD FOR THE ESTIMATION OF COBICISTAT IN BULK DRUG AND PHARMACEUTICAL DOSAGE FORM**Urooj Fatima*, T. Mamatha**

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A simple, rapid, precise, and reliable RP - HPLC method was developed for the separation and estimation of Cobicistat in bulk drug and pharmaceutical dosage forms. Chromatography was carried on reverse phase C18 column using a combination of methanol and water in the ratio of 20:80 v/v as mobile phase at a flow rate of 1.0 ml/min with UV detection at 210 nm. The method was validated as a final verification of method development with respect to precision, linearity, accuracy, robustness and system suitability. The validated method was successfully applied to the commercially available tablet, yielding accurate and reproducible result.

MPAQ-006. Method development and validation by RP-HPLC for simultaneous estimation of Doxofylline and Sertraline in bulk drug and tablet dosage form.**K. Sreedevi, Sana Begum***Sultan-Ul-Uloom College of Pharmacy, Road No.3, Banjara Hills, Hyderabad, Telangana,
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A reversed-phase high performance liquid chromatographic method has been developed and validated method for the simultaneous estimation of Doxofylline and Sertraline in bulk drug and tablet dosage form. The method was carried out on a C18 column with a mobile phase consisting of Acetonitrile:Phosphate buffer:Methanol of pH 2.8 (30:20:50 % v/v) at a flow rate of 0.8 mL min⁻¹ was carried out at 254nm. The developed method was validated and was found to be accurate, precise and linear. The other parameters of validation were also found to be within the accepted limits of ICH guidelines. Hence the proposed method can be used for the simultaneous estimation of Doxofylline and sertraline in bulk drug and tablet dosage form by RP- HPLC method in the routine quality control laboratories.

MMPR-001. MONITORING OXIDATIVE STRESS IN PATIENTS WITH NON-ALCOHOLIC AND ALCOHOLIC LIVER DISEASE**K.Rohali*, N.Srinivas , B.Venakateswarlu****Malla Reddy Institute Of Pharmaceutical Sciences, Hyderabad.****keesarirohali@gmail.com**

Ethanol-induced liver injury may be linked, at least partly, to an oxidative stress resulting from increased free radical production and/or decreased antioxidant effects. Distinguishing alcoholic and non-alcoholic liver disease has important implications. This study looked at the possible changes between alcoholic and non-alcoholic liver diseases by examining the presence of oxidative damage, as monitored by several parameters relating to oxidative stress. Lipids peroxides concentration, superoxide dismutase activity and glutathione S-transferase activity increased, where as glutathione content, glutathione peroxidase activity and glutathione reductase activity decreased among the tested subjects in comparison to normal healthy group. Determination of these parameters may be valuable in the evaluation of liver disease. However, oxidative stress related enzymes and non-enzymes cannot be utilized as a marker for alcoholic liver diseases, as these parameters responded in a same way after liver is damaged irrespective of their cause. Their level may help in determining the degree of liver damage. Degree of oxidative injury was similar in patients with non-alcoholic liver disease and in moderate drinkers; while significantly higher in heavy drinkers. The difference groups might be based on the type of liver pathological condition rather than its etiology

MMPR-002. EMERGING CHALLENGES IN THERAPEUTICS – PHARMACOGENOMICS**J Sadhana, Dr Rathnaker, Vasuda Bakshi****Pharm-d Fourth Year, School Of Pharmacy-agi,****Anurag Group Of Institutions, Ghatkesar**

The science of medicine has been undergoing changes in recent times both in terms of diagnosis and therapeutics. One of the major challenges the medicine currently facing is the lack of predictable outcome. Though the physicians are aware of this issues related non-responsiveness or resistance to drugs, the factors underlying such phenomenon are ill understood often. The therapeutic response variation is not totally attributed to molecule that has gone through various phases of drug trial. It is know increasingly recognized or non-responsiveness in different individuals suffering from same disease. Currently the paradigm has shifted to genomic mapping of individuals to address this problem. This poster outlines the current scenario in pharmaco-genomics.

MMPR-003. ROLE OF N-ACETYL CYSTEINE IN PREVENTION OF RENAL FAILURE FOLLOWING SNAKE BITE**Sara Nikhat, Nida Makeen, Mohammed Mohiuddin, Syed Azizullah Ghori, S.H.Rizwan****Deccan School Of Pharmacy, Darussalam, Hyderabad**

Snake bite remains the main cause of death in modern India and its public health importance has been systematically underestimated. India is inhabited by more than 60 species of venomous snakes. About 97% of deaths occur in rural India from snake bites. Acute renal failure is one of the most serious complication a person suffers from snake bite. It can also result in permanent damage to the kidneys requiring the need for maintenance haemodialysis. The process of haemodialysis is not available freely and is costly. N-acetylcysteine is the acetylated derivative of the amino acid L-cysteine. Historically it has been used as a mucolytic agent in chronic respiratory illness as well as antidote for hepatotoxicity due to acetaminophen overdose. More recently animal and human studies have shown N-acetylcysteine to be a powerful antioxidant and potential therapeutic agent in the treatment of cancer, heart disease, HIV infection, heavy metal toxicity, and other diseases characterized by oxidative damage. Use of N-acetylcysteine along with anti-venom has shown to reduce morbidity and mortality by reducing oxidative stress on the kidneys and thus preventing the need for maintenance haemodialysis. This work highlights the importance of N-acetylcysteine in preventing the need of haemodialysis especially among rural patients who are not economically well off.

MPPR-004. A NEWER APPROACH IN EMERGENCY MANAGEMENT OF SARIN GAS**Farheen F, Faizunnisa .B,Uzma.A, Fatma Ali, Md.Mohiuddin****Pharm.D IV Year, Deccan School Of Pharmacy, Darussalam, Hyderabad.**

Sarin is a human-made chemical warfare agent classified as a nerve agent. Sarin gas can be absorbed into the body by inhalation, ingestion, skin contact, or eye contact, a gas mask providing a partial protection against the deadly agent causing immediate signs and symptoms such as Diarrhea, Nausea, vomiting, drooling and excessive sweating, Chest tightness, Rapid breathing, Confusion, Drowsiness, Weakness, Headache, Slow or fast heart rate,. Atropine alone provides limited treatment for nerve gas symptoms. The CDC recommends a Mark I nerve agent antidote kit containing both atropine sulfate and pralidoxime chloride, which together provide the necessary dosage to counteract sarin. Early termination of prolonged seizures with intravenous administration of benzodiazepines improves better outcomes. For faster and more reliable administration, paramedics increasingly use of intramuscular route is preferred. The double-blinded randomized noninferiority trial have been done focusing on the comparison of effectiveness between intramuscular midazolam and intravenous lorazepam for children and adults in status epilepticus treated by paramedics. Subjects whose convulsions had persisted for more than 5 minutes and who were still convulsing after paramedics arrived were given the study medication by either intramuscular autoinjector or intravenous infusion. The primary outcome was absence of seizures at the time of arrival in the emergency department without the need for rescue therapy. Secondary outcomes included endotracheal intubation, recurrent seizures, and timing of treatment relative to the cessation of convulsive seizures. For subjects in status epilepticus, intramuscular midazolam is at least as safe and effective as intravenous lorazepam for prehospital seizure cessation.

MPPR-005. AN INNOVATIVE APPROACH INRESEARCH OF A CARDIAC MOLECULE THAT HELPS IN PREVENTION AND TREATMENT OF HEART FAILURE**Faizunnisa.B, Farheen F, Ruqaiya.N, MirzaMisba Ali.B, Syed Azizullah.G****Pharm.D IV Year, Deccan School of Pharmacy, Darussalam, Hyderabad.**

Heart failure occurs when the heart is unable to pump enough oxygenated blood around the body to support other organs. The incidence of heart failure in US was found to be about 5.1 million, around which 50% die within 5 years of diagnosis. If HF is diagnosed earlier, then with the aid of Beta blockers and Statins, the patient's quality of life can be improved. Daily physical activity and a healthy diet may also helps in slowing the disease progression. Researchers have developed a cardiac molecule which proves in reducing the incident rate of the disease. This latest study led by Dr. Ching-Pin Chang, provides a new approach of prevention and treatment strategy for heart failure, via the discovery of a long non-coding RNA (ribonucleic acid), which they call Myheart(myosin heavy-chain-associated RNA transcript).RNA is normally responsible for carrying instructions, or a "code" from the DNA in a cell's nucleus to parts of the cell that create proteins crucial for its activities. But in this recent study, the role of long non-coding RNA Myheart have been understood, which controls BRG1 - a protein which plays a crucial role in the development of cardiac cells. The preclinical study has been carried out via gene transfer technology to restore Myheart to normal levels in mice that had high levels of BRG1. The researchers say this stopped BRG1 from altering the heart's genetic material and prevented heart failure in mice.

MPPR-006. TRIPLE F – A BREAKTHROUGH IN CANCER MANAGEMENT

**Uzma Afreen, Juhi Aziz, Ruqia Nasreen, S.H Rizwan, Syed Azizullah G,
Pharm.D IV Year, Deccan School Of Pharmacy, Darussalam ,Hyderabad.**

Triple F Radio surgery unveils a new realm in the world of radiotherapy wherein hypo-fractionated stereo tactic treatments can be performed. Triple F technology is the Fastest: 1 to 3 days compared to the conventional 25 to 30 days of radiotherapy treatment. Increased dose rate leads to shortened treatment time, as low as 3 minutes per day, compared to 1 - 3 hours of other radio surgery. With 4D imaging it gives better outcomes, it has the highest Precision and it is the Safest as it reduces complications and side-effects. Triple F Radio surgery is better on treatment delivery; patient comfort, beam matching, dose calculation accuracy and radiation protection. Since the time of treatment is shorter, the results are better than the higher time of treatment that increases the chances for inaccuracy, complications and other side effects. A decrease in head scatter, leaf transmission and out of field scatter, leads to reduced dose to the surrounding normal tissues and thereby reduce the risk of secondary cancers.

**MPPR-007. RECENT ADVANCES IN THE MANAGEMENT OF
ORGANOPHOSPHOROUS COMPOUND POISONING**

**Nida Makeen, Sara Nikhat, Mohammed Mohiuddin, Syed Azizullah Ghori, S.H.Rizwan
Pharm.D IV Year, Deccan School Of Pharmacy, Darussalam, Hyderabad.**

Organophosphorous compounds have become increasingly popular for agricultural, industrial and home use and employed as pesticides and chemical warfare agents. Toxicity of organophosphorus compound is a result of excessive cholinergic stimulation through inhibition of acetylcholinesterase. Clinical manifestations includes the cholinergic syndromes, CNS and cardiovascular disorders. Prompt recognition and aggressive treatment of acute intoxication are essential in order to minimize the morbidity and mortality from these potentially lethal compounds. Following decontamination, depending on the severity of intoxication, the administration of ATROPINE to counteract muscarinic over-stimulation, and an OXIME particularly PRALIDOXIME to reactivate acetylcholinesterase are indicated as antidotes. Supportive and intense care includes the addition of DIAZEPAM along with atropine and 2-PAM to control seizure-induced brain and cardiac damage and mechanical respiration. Recent studies have suggested that ANTI-OXIDANTS such as vitamin-E should be administered for OP poisoning patients to reduce severity. HUPERZINE- A (HUPA), has been proven to be a powerful, highly specific and reversible inhibitor of acetylcholinesterase and used as new drug in symptomatic treatment of Alzheimer disease (AD) in china. GACYCLIDINE is an anti-glutamatergic compounds that was proved to be beneficial in OP poisoning. Recent years have introduce that adjuvant therapy and cheap medications such as MAGNESIUM SULFATE decrease hospitalization period and SODIUM BICARBONATE iv infusion produces mild to moderate alkalization and correct the metabolic acidosis. Given the signs and symptoms of organophosphorous poisoning, health professional should remain updated about the recent advances in the management organophosphorous poisonings.

COST-EFFECTIVENESS AND PHARMACOECONOMIC ANALYSIS OF THREE DIFFERENT COMBINATIONS OF DRUGS (SALMETEROL/FLUTICASONE, FORMOTEROL/BUDESONIDE & FORMOTEROL/FLUTICASONE) USED IN COPD PATIENTS AND HEALTH RELATED QUALITY OF LIFE OF COPD PATIENTS IN A TEACHING HOSPITAL

Mohammed Altaf, Suhaib Imran, Syed Aseem, Shaik Kareemulla*

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Deccan School Of Pharmacy, Hyderabad.

COPD is a disease with substantial social cost and exacerbation is the main cause of hospital admission in COPD patients. Current practice guidelines for the treatment of COPD recommend the use of combined inhaled corticosteroids and long-acting bronchodilators in severe and very severe patients. This study was designed to evaluate the clinical and economic consequences of Salmeterol/Fluticasone, Formoterol/Budesonide and Formoterol/Fluticasone in severe and very severe COPD patients. A Prospective observational Comparative study (Cost-effectiveness Analysis) in which 90 severe ($30 \leq \text{FEV1} < 50\%$ predicted) and very severe ($\text{FEV1} < 30\%$ predicted) COPD patients (OP/IP) who are prescribed with any one of the following combinations (SF/FB/FF) were selected. In our study we have divided 90 COPD patients into 3 groups (Group I, Group II & Group III) each group consisting of 30 patients. Group I was prescribed with medication SF (salmeterol/fluticasone), Group II with medication FB (formoterol/budesonide) and Group III with medication FF (formoterol/fluticasone). We used five different parameters such as Spirometry test (mean FEV1 initial & final visit), SGRQ-C questionnaire (initial & final visit), Number of symptom free days, Number of moderate & severe exacerbations and Direct, indirect & total cost to assess the cost-effectiveness of SF/FB/FF. The mean SGRQ-C total score for group I subjects (SF) at initial visit was 86.69 and the scores reduced to 58.78 at final visit (i.e. after using SF for 6 months). The mean SGRQ-C total scores for group II subjects (FB) at initial visit were 85.85 and the scores reduced to 67.98 at final visit. Results from our study showed that the recommended use of combined inhaled corticosteroids and long-acting bronchodilators for severe and very severe COPD patient treatment, compared with current practice, had the potential to improve clinical outcomes, and consequently patients' quality of life, without increasing healthcare costs. This study concludes that SF (Salmeterol/Fluticasone) and FB (Formoterol/Budesonide)) were the most effective strategies with a slight clinical superiority of SF. The FF (Formoterol/Fluticasone) strategy was dominated (i.e. associated with less outcomes & higher costs).

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