



**ICMR SPONSORED
ONE DAY NATIONAL SEMINAR
ON**

**“ALTERNATIVE TO ANIMAL USE IN
RESEARCH, EDUCATION AND TOXICITY
INVESTIGATIONS”**



**SRI VENKATESWARA
COLLEGE OF PHARMACY
RVS Nagar, Tirupati Road,
Chittoor - 517127. (A.P.)**

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**SRI VENKATESWARA COLLEGE OF PHARMACY, RVS
NAGAR, TIRUPATHI ROAD, CHITTOOR- 517127. (A.P)**

**PRESENTED ABSTRACTS
IN
“ICMR SPONSORED ONE DAY NATIONAL SEMINAR”
ON
“ALTERNATIVE TO ANIMAL USE IN RESEARCH, EDUCATION AND
TOXICITY INVESTIGATION”
ON 22nd SEP 2015**

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METHOD DEVELOPMENT AND VALIDATION OF SIMULTANEOUS ESTIMATION OF TIMOLOL MALEATE AND TRAVOPROST IN BULK AND IN PHARMACEUTICAL DOSAGE FORM BY UV-SPECTROSCOPY AND RP-HPLC

S.DILLI BABU*, M.INDHU, G.NEERAJA, R.ASHOK KUMAR, B. CHANDRAOBULAREDDY AND D.JOTHIESWARI

Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor – 517127, Andhra Pradesh, India.

CORRESPONDING AUTHOR: S.DILLI BABU

EMAIL: dillibabunotnothing@gmail.com

ABSTRACT:

The Combination Of These Two Drugs (Timolol Maleate And Travoprost) Is Used To Lower The Pressure In The Eye, When One Of The Medicines Does Not Lower The Pressure Enough On Its Own. The Eye Drops Should Be Layed Into The Affected Eye(S) Once Per Day. The Aim Of The Present Study Is To Develop New Analytical Methods For The Simultaneous Estimation Of Timolol Maleate And Travoprost In Bulk And In Pharmaceutical Dosage Form. Spectroscopic Methods Have Been Developed For The Quantification Of Timolol Maleate And Travoprost In Bulk And In The Formulation. In Simultaneous Equation Method The Absorbance Of The Timolol Maleate And Travoprost Measured At 234nm And 280nm Respectively By Using Double Distilled Water As Blank Which Was Further Applied For Determining The Concentration Of The Both The Drugs In Formulation. The Proposed Method Validated Statistically For Specificity, Linearity, Accuracy And Precision. The Lod Value Of Timolol Maleate And Travoprost Was Found To Be 0.043, 0.0021 Respectively. Loq Value Of Timolol Maleate And Travoprost Was Found To Be 0.142, 0.0069 Respectively. This Method Is Validated As Per Ich Guidelines. This Method Is Simple, Cost Effective, Accurate And Precise. A Simple, Rapid And Accurate Rp-Hplc Method For Simultaneous Quantitative Determination Of Travoprost And Timolol Maleate In Ophthalmic Solution Was Developed. Chromatographic Separation Was Achieved With Pda Detector Using Phenomenoxc₁₈, 150×4.6 Mm; 5 Micron reverse Phase Analytical Column. The Mobile Phase Consist Of Ortho Phosphoric Acid (0.1%): Methanol (60: 40 V/V), Was Passed Through The Column At Flow Rate Of 0.8 ml/min. The Method Was Performed At The Wavelength 272nm By Isocratic Technique. The Experiment Was Carried Out At 25°C. The Retention Time Of Travoprost And Timolol Maleate Was Found To Be 6.322 Min And 3.730 Min. The Calibration Curves Were Linear In The Concentration Range Of 50% To 150% Of The Working Concentration ($R^2 > 0.999$). The Lower Limit Of Quantification Was 0.142 And 0.0069 For Timolol Maleate And Travoprost Respectively. The Lower Limit Of Detection Was 0.043 And 0.0021 For Timolol Maleate And Travoprost Respectively. The Developed Procedure Was Used For Simultaneous Quantitative Estimation Of Travoprost And Timolol Maleate In Ophthalmic Solution. Developed Method Was Validated As Per Ich Q2 (R1), And It Is Most Useful For Academic As Well As Industrial Scale.

**DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR
DETERMINATION OF FORMOTEROL AND TIOTROPIUM IN A
CAPSULE DOSAGE FORM**

BALAMMAL G^{1*} AND SARAVANA KUMAR A²

¹Research Scholar, Pacific Academy of Higher Education and Research University,
Pacific Hills, Udaipur – 313024, Rajasthan, India.

²Sri Venkateswara College of Pharmacy, CHITTOOR, Andhra Pradesh – 517 127, India.

ABSTRACT:

A simple, specific and accurate reverse phase high performance liquid chromatographic method was developed for the simultaneous determination of formoterol and tiotropium in capsule dosage forms. A phenomenex supelco c-18, 5 µm column having 250 x 4.6 mm i.d. in gradient mode, with mobile phase containing 0.01 M potassium dihydrogen phosphate, pH 3.5:acetonitrile (60:40), ortho phosphoric acid was used. The flow rate was 1.0 ml/min and effluents were monitored at 230 nm. The retention times of formoterol and tiotropium were 3.7 and 4.7 min, respectively. The linearity for formoterol and tiotropium were in the range of 1.25-3.75 µg/ml and 2.25-6.75 µg/ml, respectively. The recoveries of formoterol and tiotropium were found to be in the range of 99.21 – 100.02% w/v and 98.59 – 100.56% w/v, respectively. The proposed method was validated and successfully applied to the estimation of formoterol and tiotropium in combined capsule dosage forms.

EVALUATION OF ANTIARTHRITIC ACTIVITY OF 70% ETHANOLIC EXTRACT OF BARK OF *BOSWELLIA OVALIFOLIOLATA*

N. JAYASREE*, V.SILVIYA SUDHARSHNI

Krishna Teja Pharmacy College, Chadalawada Nagar, Tirupati, Andhra Pradesh, India.

ABSTRACT:

To investigate the anti-arthritis activity of ethanolic extract of bark of *Boswellia Ovalifoliolata* in adjuvant arthritic (AA) rat model induced by complete Freund's adjuvant. Method: Thirty six healthy albino rats were selected and randomly divided into six groups. Arthritis was induced by Freund's complete adjuvant (FCA) and then treated with ethanolic extract of *Boswellia Ovalifoliolata* for 28 days. The various parameters like paw volume, paw diameter, arthritic index, body weight, hematological parameters (RBC, WBC, Hb and ESR), SGOT, SGPT, ALP, RF, TNF $-\alpha$, IL β 1, SOD, CAT, histopathological and radiological studies were assessed. In FCA induced arthritic rats, there was significant increase in rat paw volume whereas three doses of BOEE treated groups showed strong significant reduction in paw volume. The altered hematological parameters in the arthritic rats were significantly recovered to near normal by the treatment with BOEE at the dose of 100, 200 and 400 mg/kg b wt. Further radiological studies revealed the anti-arthritis activity of BOEE by preventing cartilage and bone destruction of the arthritic joints of AA rats. BOEE has shown anti-arthritis activity with a significant decrease in paw volume and it could significantly normalize all parameters in adjuvant induced arthritic rats. Further radiological & histopathological studies confirmed the anti-arthritis activity of BOEE.

FABRICATION AND *IN-VITRO* DEVELOPMENT OF FLOATING DRUG DELIVERY OF RANITIDINE HYDROCHLORIDE

SARAVANAKUMAR K*, RAGINI RAMESH D, JAYA PREETHI P

Sree Vidyanikethan College of Pharmacy, Sree Sainath Nagar, A Rangampet-517102, Andhra Pradesh, India.

Corresponding Mail ID: saravanakumar156@gmail.com

ABSTRACT:

The Main Aim Of The Present Study Is To Develop And Characterize A Novel Expandable Gastro Retentive System For Sustained Release Effect. Drug-Excipients Compatible Studies Like Ft-Ir, Dsc Were Carried Out And Which Reveals No Interaction Between Selected Polymers And Drug. Formulation Chiefly Contains Hpmc K100 And Guar gum Found To Be Favourable For Mucoadhesive Strength And Sustained Release Of Drug. Ranitidine Hydrochloride Floating Tablets Were Prepared By Using Wet Granulation Technique. The Prepared Floating Tablets Were (F1-F8) Subjected To Physiochemical Characterizations Such As Weight Variation, Thickness, Hardness, Drug Content, Swelling Index, Mucoadhesive Strength, *In-Vitro* Buoyancy And % Drug Release. All The Results Are Found To Be Satisfactory. The Results Indicate That Floating Drug Delivery Of Ranitidine Hydrochloride Will Provide Sustained Release For 12 Hr.

PC 102

CARVEDILOL NANO STRUCTURED LIPID CARRIERS: DESIGN, OPTIMIZATION, *IN-VITRO* AND *INVIVO* PHARMACOKINETIC EVALUATION

BRITO RAJ S*¹, VENKATESH PALUVAI¹, CHANDRASEKHAR K.B², BHASKAR K¹, SANDEEP DK¹

¹Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

²JNTUA-Oil & Technological Research Institute, Ananthapuramu, Andhra Pradesh, India.

Email ID:britosraj@yahoo.co.in

ABSTRACT:

Agreeable To Bioavailability, Poorly Water-Soluble Drugs Present One Of The Most Challenges In Drug Formulation. Nano Structured Lipid Carrier's Drug (Nlc) Are The Most Advanced And Commercially Viable Formulation Approaches. The Aim Of Present Study Is To Develop Poorly Water Soluble Carvedilol Loaded Nlc And Compare The *In vivo* Pharmacokinetic Profile Of Pure Drug Vs. Nlc Oral Suspension By Using Various Formulation Variables Like Lipids Eg. Campritol-188, Captex-200; Surfactants Like Polaxomer-188, Tween-40; Soya Lecithin As Co-Surfactants And Process Variables Like Homogenization Speed Respectively. Nlc Are Colloidal Mixture Of Solid Lipid: Liquid Lipid: Surfactant: Co-Surfactant With Incorporated Drug (7:3:7:0.9). Carvedilol Drug Under Gone Solubility Studies In Various Surfactants, Co-Surfactants, And Lipids. Optimization Of Formulation Was Done By 2³ Factorial Design By Using Design Expert Software 9.0, By Varying The Concentration Of Lipids, Surfactant, Co-Surfactant, Homogenization Speed. By Optimization Of The Formulation In 2³ Factorial Design Best Nlc Formulation Region Is Identified. Prepared Nlc Was, Evaluated For Thermodynamic Stability (Stable), Visual Assessment (Transparency), Drug Content (29.08% ± 0.079, 29.19% ± 0.132), Drug Entrapment Efficacy (95.01% ± 0.653, 98.12% ± 0.069), Sem, Particle Size Distribution (0.5 Nm To 1.4 Nm), Zeta Potential (14.9 Mv To -35.6 Mv), Poly Dispersibility Index (0.429), *In- Vitro* Drug Release (78.44% ± 0.262, 78.08% ± 0.03) And *In vivo* Pharmacokinetic Studies. From All The Above Optimized Experimental Results Carvedilol Nlc Suspension Will Be A Promising Drug Delivery System By Increasing The Solubility And Bioavailability Of Carvedilol For Treatment Of Hypertension.

PC 103

**STUDY OF EFFECT OF RATIO OF LIPIDS ON SOLID LIPID
NANOPARTICLES OF BUPROPION**

M.VIDYAVATHI * J SANDHYA RANI,

Institute of Pharmaceutical Technology, Sri Padmavathi Mahila Visvavidyalayam, Tirupati,
Andhra Pradesh, India.

Email ID:vidyasur@rediffmail.com

ABSTRACT:

The Objective Of This Research Work Was To Develop Solid Lipid Nanoparticles (Slns) Of Bupropion And To Optimize It For Independent Variable (Ratio Of Lipids) In Order To Achieve Desired Particle Size With Maximum Percent Entrapment Efficiency (% Ee) And Percent Cumulative Drug Release (% Cdr). The Experimental Design Runs (8 Formulations, Sln1–Sln8) Were Prepared By Solvent Injection Technique And Characterized For Shape, Surface Morphology, Particle Size, Entrapment Efficiency And Drug Release. The Developed Formulae Showed A Nanometric Particle Size Range (23.8nm - 1018.5 Nm), High Entrapment Efficiency % (73.58 - 91.72%) And Prolonged Release Over 24 Hr Period (81.05 - 92.20%). On The Basis Of Results, Formulation Sln2 With A Desirability Factor (Od) Of 0.967 Was Selected As Optimized Formulation And Was Evaluated For Further Analysis. Fourier Transformed Infrared Spectroscopic Analysis Was Performed To Study The Presence Of Interaction Between The State Of Drug And Lipid Modification Respectively. The Drug Release From Slns Formulation Was Studied Which Shows The Sustained Release Of Drug. From The Above Results, It Can Be Concluded That Bupropion Solid Lipid Nanoparticles (Sln2) Could Act As Better Formulation For The Effective Management Of Depression.

NUTRACEUTICALS- HEALTH PROMOTERS

POOJA MONGAR*, K.HARIKUMAR, TSHERING DEMA, MITTA SRIJA

Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSTRACT:

Nutraceuticals Is A Broad Umbrella Term That Is Used To Describe Any Product Derived From Food Sources With Extra Health Benefits In Addition To The Basic Nutritional Value Found In Foods. The Term “Nutraceutical” Combines The Word “Nutrient” (A Nourishing Food Or Food Component) With “Pharmaceutical” (A Medical Drug). It Is Defined “As A Food Or Parts Of Food That Provide Medical Or Health Benefits, Including The Prevention And Treatment Of Disease.” Nutraceuticals Are Medicinal Foods That Play A Role In Maintaining Well Being, Enhancing Health, Modulating Immunity And Thereby Preventing As Well As Treating Specific Alarming Diseases Like Diabetes, Obesity, Cardio Vascular Diseases, Malignant Tumours, Parkinson’s Diseases Etc. It Has Been Scientifically Proved And Supported By Various Research Articles That Nutraceutical Are Efficacious To Treat And Prevent Various Disease Conditions. Nutraceuticals Mainly Contains Health-Promoting Ingredients Or Natural Components That Have A Potential Health Benefit For The Body.

RECENT TRENDS IN VACCINE DELIVERY SYSTEMS**T. SUNIL KUMAR REDDY***

Sree Vidyanikethan College of Pharmacy, sree Sainath Nagar, A.Rangampet, Andhra Pradesh, India.

ABSTRACT:

Vaccine is a material that induces an immunologically mediated resistance to a disease but not necessarily an infection. Vaccines are generally composed of killed organisms or subunits of organisms or dna encoding antigenic proteins of pathogens. Alarming safety profile of live vaccines, weak immunogenicity of sub-unit vaccines and immunization, failure due to poor patient compliance to booster doses which should potentiate prime doses are few strong reasons, which necessitated the development of new generation of prophylactic and therapeutic vaccines to promote effective immunization. Attempts are being made to deliver vaccines through carriers as they control the spatial and temporal presentation of antigens to immune system thus leading to their sustained release and targeting. Hence, lower doses of weak immunogens can be effectively directed to stimulate immune responses and eliminate the need for the administration of prime and booster doses as a part of conventional vaccination regimen. The systems such as liposomes, microspheres, nanoparticles, dendrimers, micellar systems, iscoms, plant-derived viruses which are now being investigated and developed as vaccine delivery systems. Vaccine drug delivery systems are now being proven to be patient friendly as they avoid the need to administer booster doses and provide a long term therapy in small doses.

PC 107

DESIGN AND *IN-VITRO* EVALUATION OF PREDNISOLONE MATRIX TABLETS FOR COLON TARGETED DRUG DELIVERY SYSTEM

V.RAMANI, J.PRATHYUSHA, K.DIVYA SREE

Krishnateja Pharmacy College, Tirupati-517506, Andhra Pradesh, India.

ABSTRACT:

The aim of this work is to formulate Prednisolone matrix tablets for colon targeting drug delivery system by using pectin and chitosan polymers. Prednisolone is a synthetic glucocorticoid, a derivative of cortisol, which is used to treat a variety of inflammatory and auto-immune conditions. Colon targeted drug delivery is an active area of research for local diseases affecting the colon, as it improves the efficacy of therapeutics and enables localized treatment, which reduces systemic toxicity. Targeted delivery of therapeutics to the colon is particularly advantageous for the treatment of inflammatory bowel disease (IBD), which includes ulcerative colitis and Crohn's disease. Prednisolone matrix tablets were prepared by wet granulation technique by using different polymers such as chitosin and pectin are sustained release polymers, starch mucilage is a granulating agent. The matrix tablets were evaluated their compatibility studies by using FT-IR, micromeritics properties, post formulation characters, stability and *invitro* dissolution studies.

PCHEM 101

COMPUTER-AIDED MODELS AS ALTERNATIVE ANIMAL TESTING

R.PRANATHI REDDY*, B.VIJAYAKUMAR, R.GANDHIMATHI, G.SWARNALATHA

Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor, Andhra Pradesh- 517127, India.

Email: pranathi346@gmail.com

ABSTRACT:

Every year, October 4 is all concerning the protection of animals. On World Animal Day, animal welfare organisations about the globe advocate the courteous treatment and welfare of animals. One of the central demands of the animal activities is to eliminate animal testing and to use alternative testing methods as an alternative. While they are helping to reduce the number of animals needed for research. They represent a start in reaching the ultimate goal of significantly dropping and one day possibly eliminating the need for enveloping research on animals without compromising our ability to work toward breakthroughs that may ease suffering in humans as well as animals. Computer modelling speeds new discoveries and reduces the numbers of animals compulsory. Computer modelling is a useful tool in the growth of a new drug; however animal research will often be fundamental in the creation of the computer program itself. Computer models can be used to simulate diseases and to help scientists understand the way different substances can be used to treat disease. The models are based on existing information and data and can help researchers with information specifically relating to humans.

**SYNTHESIS AND ANTIBACTERIAL ACTIVITY OF 2-(4-NITRO
PHENYL)-5-ARYL-1, 3, 4-OXADIAZOLE ANALOGUES**

RAJESHBABU KOMARAGIRI, S. CHAND BASHA, L. CHENNAKESAVA, C. GOPINATH

Department of Pharmaceutical Chemistry, Annamacharya College of Pharmacy,

New Boyanapalli, Rajampet, Y.S.R. Dist. - 516126, A.P., India.

Email ID:rajeshbabukomaragiri@gmail.com

ABSTRACT:

Novel 2-(4-nitro phenyl)-5-aryl-1, 3, 4-oxadiazole analogues” (4a-g) are synthesized, characterized by the ir spectra and screened for antimicrobial activity by agar diffusion method. The synthetic route involves the 4-nitro benzoic acid was dissolved in excess of ethanol the reaction mixture was acidified and neutralized with sodium bicarbonate to obtain ethyl-4-nitro benzoate. Equimolar mixture of ethyl-4-nitrobenzoate and hydrazine hydrate was refluxed for 12 hr to obtain 4-nitro benzo hydrazide. 4-nitro benzo hydrazide and substituted aromatic aldehydes was irradiated by microwaves in micro oven for 10-50 sec using 20 mol% nahso₃ and ethanol-water system (1:2, v/v) solvent to give 7 novel 2-(4-nitro phenyl)-5-aryl-1, 3, 4-oxadiazole analogues (4a-g).the compounds show the mild to moderate anti microbial activity when compared with standard amoxicillin.

PCHEM 103

**A CURRENT VIEW ON NEW CANCER DRUGS (2014-USFDA
APPROVED) OVER OLD DRUGS**

M. SHANKAR, M. SRAVAN*, R. CHARAN KUMAR, M. NIRANJAN BABU

Department of Pharmaceutical Chemistry, Seven Hills College of Pharmacy, Tirupati - 517561, A.P,
India.

EMAIL: shankarmanichellappa2014@gmail.com

ABSTRACT:

Cancer is also known as a malignant tumor, is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Not all tumors are cancerous, benign tumors do not spread to other parts of the body. Treatment options are depend on the stage and type of cancer. As compare to previous drugs the newly 2014 usfda approved drugs work effectively in treating the cancer. The number of patients treated with new drugs such as bevacizumab, crizotinib, pembrolizumab, idelalisib was effectively against chronic lymphocytic leukemia patients without the need of chemotherapy and the treatment of pediatric osteosarcoma etc.

CHIKUNGUNYA VACCINE 2014 – A CURRENT VIEW

M. SHANKAR, A. NARASIMHULU, T. SHANKER REDDY, M. NIRANJAN BABU

Department of Pharmaceutical Chemistry, Seven Hills College of Pharmacy, Tirupati - 517561, A.P,
India.

Email: Shankarmanichellappa2014@gmail.com

ABSTRACT:

A virus is a small parasite that cannot reproduce by itself. Once it infects a susceptible cell, however a virus can direct the cell machinery to produce more viruses. The most common type of viral disease is the common cold, which is caused by a viral infection of the upper respiratory tract (nose and throat). Chikungunya disease is mostly confined to people living in tropical africa and asia and is characterized by a sudden and severe fever, skin rash and joint and muscle pain. Infection with the virus, spread by two mosquito species, typically is not fatal but can cause debilitating symptoms including fever, headache and severe joint pain lasting weeks or months. There is no current treatment and no licensed vaccine to prevent it. Scientists at the national institute of allergy and infectious diseases, texas branch of purdue university have developed a working vaccine for chikungunya. Several vaccine candidates have reached the stage of human clinical trials. The progress achieved so far suggests that the development of a safe and effective chik vaccine is within reach.

ADVANTAGES OF INHALED INSULIN OVER INSULIN INJECTION

M. SHANKAR, K. HARSHA VARDHAN RAO*, M. NIRANJAN BABU.

Department of Pharmaceutical Chemistry, Seven Hills College of Pharmacy, Tirupati - 517561, A.P,
India.

Email: shankarmanichellappa2014@gmail.com

ABSTRACT:

Insulin is a hormone that is completely produced by pancreatic beta cells. Beta cells are located in the pancreas in clusters known as the islets of langerhans. Insulin is response to changes blood glucose concentration. Due to lack of insulin in our body, we are taking insulin in the form of injection or inhalation. Inhalable insulin was available from september 2006 to october 2007 in the united states as a novel method of delivering insulin, a drug used in the treatment of diabetes, to the body. After the withdrawal of the only inhalable formulation, all currently available insulin formulations are administered by subcutaneous or intravenous injection. A new inhalable insulin product was approved. Inhaled insulin is a new route of insulin administration which has the potential to become a therapeutic option in the treatment of both type i diabetes mellitus and type ii diabetes mellitus. Overall the clinical trials have demonstrated that inhaled insulin is no inferior to subcutaneous insulin for improving glycemic control.

PCHEM 106

**PHYTOCHEMICAL STUDIES ON ETHANOL EXTRACT OF *ZORNIA*
*DIPHYLLA***

SREEDEVI. A., SRILAKSHMI.K.

Division of Pharmaceutical Chemistry, Institute of Pharmaceutical Technology,

Sri Padmavathi Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.

Email: sridevitirupati@rediffmail.com

ABSTRACT:

A large number of indian medicinal plants are attributed with various pharmacological activities because they contain a diversified class of phytochemicals. *Zornia diphylla* plant was used by folklore for curing various ailments may be because of the presence of bioactive principles. Present study was aimed at phytochemical investigation of the whole plant of *zornia diphylla*. It was collected from tirupati, andhra pradesh, india and authenticated by the botanist. Plant was dried, powdered and initially defatted with petroleum ether. marc obtained was extracted with ethanol by hot extraction method. The filtrate was concentrated under reduced pressure to obtain a semi-solid residue. Preliminary phyto chemical studies were carried out and followed for phyto chemical studies on column chromatography by using silica gel (100-200 mesh) as stationary phase. Gradient elution was done with pure and mixed solvents comprising of different ratios of petroleum ether and chloroform. Preliminary phytochemical screening revealed the presence of flavonoids, steroids, tannins, fats, gums and mucilages. Yellow waxy compound was isolated in petroleum ether: chloroform (4:6) solvent system. Compound was purified by recrystallization and characterized with the help of ftir, ¹h nmr, ¹³c nmr and mass spectra. Further structure of this compound was confirmed by spectral matching with authenticated sample and was found to be 1- heneicosanol. This compound was reported for the first time in ethanol extract of *zornia diphylla*.

PCHEM 107

GREEN NANO CATALYST

C.PAVAN KUMAR, S.SATHISH KUMAR

Krishna Teja Pharmacy College, Thirupati, Andhra Pradesh, India.

Email:sathishsure7@gmail.com

ABSTRACT:

There is a growing interest in applying green chemistry for nanocatalysis applications. On the basis of a Scifinder Scholar search, the field of applying green chemistry to catalysis with nanoparticles has undergone an explosive growth from year 2002 to present. It can be seen that green chemistry applied to nanocatalysis is a relatively hot area with much room for growth. A Nanocatalyst is a substance or material with catalytic properties that has at least one Nanoscale dimension, either externally or in terms of internal structures. Generally, catalysts that are able to function at atomic scale are Nanocatalysts. It is a emerged as a domain at the interface between homogenous and heterogeneous catalyst. Silica nanoparticles that are mild and environmentally benign have been used as catalysts for synthesis of highly substituted pyridines. These catalysts retained most of their catalytic activity after being reused three times. Silica nanoparticles that are used as catalysts for the synthesis of highly substituted pyridines .

PCHEM 108

INVITRO ANTIOXIDANT ACTIVITY OF NELUMBO NUCIFERA

E.KEERTHI PRIYA*

Sree Vidyanikethan College of Pharmacy, Rangampeta, Tirupathi, Andhra Pradesh, India.

ABSTRACT:

The worldwide interest in medicinal plants reflects recognition of the validity of studying antioxidant activity of *Nelumbo nucifera*. The present study was carried out to explore total antioxidant potential of hydroethanolic extract of pink and white flowers of *nelumbo nucifera* by ferric reducing antioxidant power(frap), haemoglobin glycosylation ,reducing power and compared with standard ascorbic acid .high antioxidant activity is noticed in haemoglobin glycosylation .the results suggest that alkaloids, phenols, flavnoids was responsible for antioxidant activity. Finally, nelumbo extract shows effective antioxidant activity which can be used as a lead compound for drug development in future.

PCHEM 109

IN VITRO TESTING OF NEPHROTOXICITY - AN INVALUABLE TOOL

PRASANTHI.D, SREEDEVI. A.

Division of Pharmaceutical Chemistry, Institute of Pharmaceutical Technology,
Sri Padmavathi Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.

Email :prasanthi.doppalapudi@gmail.com

ABSTRACT:

Although animals make good research subjects because of their biological similarity to humans, susceptibility to same health problems and easily controllable environment, there is a dire need to search for an alternative to minimize the usage of animals because of various reasons. Significant among them is the prevention of cruelty to animals' act 1960. Alternatives to animal use fall into four broad categories i.e., modified animal use, use of living systems, non-living systems and computer simulation. Using alternative methods holds several advantages like reduction in the number of animals used, reduction in animal pain, suffering and experimental insult, savings in time with the benefit of obtaining results more quickly, reduction in the cost of research to study cellular and molecular mechanisms. Among these alternatives *in vitro* methods have become an invaluable tool for understanding the mechanism of action. *In vitro* methods for nephrotoxicity testing include the isolated perfused kidney, isolated glomeruli, tubular fragments and renal cells, isolated perfused nephrons, renal tissue slices and cell culture models . Freshly isolated cells and nephron fragments represent a sufficient basis to study acute effects of nephrotoxins. Renal cell lines are easy to cultivate in large quantities and have an unlimited life span. Upcoming molecular biology approaches may result in the availability of highly differentiated renal cells with marked extended life spans and near *in vivo* characteristics that may facilitate the use of renal cell culture for routine screening of nephrotoxins in the near future.

PCHEM 110

IN VITRO SCREENING OF ANTI-OBESITY DRUGS: AN INSIGHT FOR MINIMUM USE OF ANIMALS

K. SAISRUTHI, SREEDEVI. A.

Division of Pharmaceutical Chemistry, Institute of Pharmaceutical Technology,
Sri Padmavathi Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.

sruthisai7@gmail.com

ABSTRACT:

The number of animals used in research has increased with the advancement of research and development in medical technology. Every year, millions of experimental animals are used all over the world. The pain, distress and death experienced by the animals during scientific experiments have been a debating issue from the past. Various alternatives to animal testing were proposed to overcome the drawbacks associated with animal experiments. A strategy of 3 r's (i.e. reduction, refinement and replacement) is being applied for laboratory use of animals. *In vitro* screening is one good insight for reduction of animal usage. Very few animals are required for these tests. Obesity is a complex disease caused due to changes in genetic, dietary, life style and environmental factors. Various *in vivo* and *in vitro* methods are available for evaluation of anti-obesity drugs. *In vitro* tests for screening anti-obesity agents include measurement of pancreatic lipase activity, oil red o staining of intracellular triglycerides and assay of leptin mrna levels in adipose tissue, phosphodiesterase assay and α -amylase inhibition assay. These methods are simple and less time consuming. Apart from that the mechanism of action of anti-obesity drugs can be known by these methods at molecular level.

PCOL 104

A REVIEW ON ALTERNATIVES TO ANIMAL TESTING IN RESEARCH

JAYA PREETHI P^{*1}, PRASANNA RAJU K² BASAVESWARA RAO MV³

¹sree Vidyanikethan College of Pharmacy, Tirupati, ²Sree Padmavathi School of Pharmacy, Tirupati,

³Krishna University, Machillipatnam, Andhra Pradesh, India.

E Mail ID: jayapeesa@gmail.com

ABSTRACT:

The use of animals in research has increased with the advancement of research, testing and education. Every year, millions of experimental animals were sacrificed all over the world for research. Today, to predict toxicity, corrosivity and other safety variables as well as the effectiveness of a new product for humans, scientists have developed and validated alternative methods for animal testing. A strategy of 3 rs (i.e. reduction, refinement and replacement) is being applied for laboratory use of animals. Here an attempt is made to provide detailed information about the alternative methods and advantages associated with examples like skin corrosivity and irritation can be easily measured using three-dimensional human skin equivalent systems such as epiderm and skinethic.

PCOL 105

**A YEAST CAN KILL CANCER--BY(CMG) B-D-GLUCAN-
CARBOXYMETHYL GLUCAN WHICH IS OBTAINED FROM CELL
WALL OF YEAST**

M. MANASA REKHA^{1*}, P.NEELAPHAR², C.GOPINATH³

Annamacharya College of Pharmacy, Rajampet,(Y.S.R) Kadapa District, Andhra Pradesh, INDIA.

E Mail:manasarekharoyal@gmail.com.

ABSTRACT:

Now a days the available treatments for cancer are surgery, radiation, chemotherapy, immunotherapy, hormone therapy, steroid therapy but with a number of adverse effects. In order to minimise the adverse effects, here we are presenting the new water soluble derivative of microbial polysaccharide.β-d-glucan-carboxymethyl glucan (cmg) belongs to such a category of natural substances.carboxymethyl glucan (cmg) is a derivative of β-d-glucan which was isolated from the cell walls of baker's yeast *s. Cerevisiae*, here *saccharomyces cerevisiae* toxicity and antimutagenicity assay, simultaneous phytotoxicity and anticlastogenicity assay, salmonella/microsome assay (ames assay) the anticlastogenic effect of cmg against mh-induced clastogenicity in *vicia sativa* l.and antimutagenic effect of cmg against ofloxacin induced *ilv-1* revertants in *s. Cerevisiae* d7. Bioprotective effect of cmg against mms-inducedcytotoxicity and mutagenicity in recombination-repairdeficient strain *uvs10* of *chlamydomonas reinhardtii*.antigenotoxic effect of cmg against9-aa-induced mutagenity in salmonella typhimuriumta97. Are performed ,and evaluated. Inthis study potential antigenotoxic properties of cmg were investigated using yeast, algae, plant and bacteria as model genetic systems.the conventional treatment of surgery, radiation, and chemotherapy has been the cornerstone of cancer treatment over the past 50years.today, the clinical success of these treatments has reached a plateau. There is an urgent need to break through this cure plateau by trying fresh approaches. Acceptance and utilization of brms, including cmg, is one of them.

PCOL 106

ACCUPUNTURE THERAPY FOR CNS DISORDERS

ARINA RANJIT*, K.HARI KUMAR, ARJUN KUMAR RAY

¹Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSTRACT:

Acupuncture an ancient chinese treatment could be solution for our current health problems which is based on the theory that energy called *chi*, flows through and our body along the pathways called meridian. It believes an illness is result of imbalance of *chi* and it works by unblocking *chi* and help it flow into balance. It involves insertion of very thin needles through the patient's skin at specific points on various depths. There are specific points in the body called acupoints where it is believed to be responsible for regulating our body mechanism and this therapy applies pressure in these points. It has been found as a treatment for cns disorders like parkinsonism, alzheimer, dementia, depression, epilepsy, and headache. It's mode of action is based on the three mechanism i.e., regulating *yin* (deficiency) and *yang* (*excess*), strengthening the body resistance and eliminating the pathogenic factor and distinguishing the primary from the secondary case. It elicits signals in the nervous system and mediates the neural pathways for therapeutic effects. Thus beneficial effects of acupuncture can be used for treatment for various cns disorder.

PCOL 107

**THERAPEUTIC APPROACHES FOR THE ALZHEIMER'S DISEASE:
THE LONG WAITED DARKNESS**

FAYAZ SK*, KAVYA VM.

Sree Vidyanikethan College of Pharmacy, Tirupati- 517102, Andhra Pradesh, India.

ABSTRACT:

Alzheimer's disease (ad) is a slowly progressive disease of the brain that is characterized by impairment of memory and eventually by disturbances in reasoning, planning, language, and perception. Alzheimer's disease results from an increase in the production or accumulation of a specific protein (beta-amyloid protein) in the brain that leads to death of nerves. It was first described as an incurable, degenerative, nerve terminal disease by a German psychiatrist neuropathologist Alois Alzheimer in 1906 and was named after him. The standard of care for mild to moderate ad includes treatment with acetylcholine esterase inhibitors, such as donepezil or rivastigmine, to improve cognitive function. The NMDA antagonist memantine has also been shown to improve cognitive function in patients with moderate to severe ad. In addition, common non-cognitive neuropsychiatric symptoms, such as mood disorder, agitation, and psychosis often require the introduction of medication, even though no existing drug is specifically indicated for their management. However, there is no approved treatment with a proven disease-modifying effect and interventions with current drugs, if started early enough, may at best slow down the fatal pathophysiological alterations leading to manifestation of clinical ad symptoms, but are unable to reverse the neurodegenerative process. The current paper describes the therapeutic approaches employed in the research and development towards evolution of new drugs in the treatment of Alzheimer's.

PCOL 108

NOOTROPICS - MEMORY BOOSTERS

AUTHORS: MITTA SRIJA*, POOJA MONGAR, TSHERING DEMA, K.HARIKUMAR,

¹Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSTRACT:

Nootropics also called smart drugs, memory enhancers, neuro enhancers, cognitive enhancers, and intelligence enhancers are drugs, supplements, nutraceuticals, and functional foods that improve one or more aspects of mental function. Specific effects can include improvements to working memory, motivation, or attention. Nootropics drugs are able to promote, enhance and protect cognitive function. As cognition is the typically human higher activity of the brain, nootropic concept looked quite appealing for scores of people dreaming to enjoy better and longer lasting mental activity and for drug makers keen to produce such enviable products. There are large number of drugs which can be used as a nootropic agent and help to enhance memory of a people. nootropics offer a lot of benefits for cognitive aptitudes and brain health. Nootropics used for the treatment of alzheimer's disease, parkinson's disease, huntington's disease and dementia and cognitive symptoms of schizophrenia.

PCOL 109

**ALTERNATIVE AND COMPLEMENTARY TREATMENTS FOR
AUTOIMMUNE SKIN DISORDERS**

RAMISETTY DAVARIKA*, K.HARI KUMAR, M.SHAHEEDHA

¹Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSTRACT :

An autoimmune disease develops when immune of our system which defends our body against diseases, decides our healthy cells or foreign substances as a result our immune system attacks healthy cells. There are as many as 80 types of autoimmune diseases are present, many of them have similar symptoms which makes them very difficult to diagnose. In autoimmune diseases, the body undergoes an inappropriate immune response that causes excessive inflammation that becomes destructive to the body. autoimmune disorders pathophysiologically, states that a loss of self-tolerance and the consequent immune destruction of host tissues. Autoimmunity is mediated by a variety of molecular and cellular events, and responses. The development of an autoimmune disease is a very complex process in which recognition of self-antigens by lymphocytes is centrally involved in pathological organ damage. Various autoimmune skin disorders like psoriasis, dermatomyositis, epidermolysis bullosa, bullous pemphigoid, vitiligo, now burning autoimmune skin infection is psoriasis is defined as chronic skin problem which causes skin cells to grow too quickly, resulting in thick, white, silvery or red patches of skin. Currently there is no cure for psoriasis but many types of alternative and complementary therapies can help to relieve the psoriasis and related symptoms.

PCOL 110

**ARTIFICIAL AND BIOARTIFICIAL SUPPORT SYSTEMS IN THE
TREATMENT OF LIVER FAILURE**

P.SUMA

Sree Vidyanikethan College of Pharmacy, Tirupati, Andhra Pradesh, India.

Email id: sumapnr@gmail.com

ABSTRACT:

Artificial and bio artificial liver support system may bridge with acute or acute on chronic liver failure to liver transplantation or recovery. Liver failure may develop without pre-existing liver disease (acute liver failure) or with pre-existing (acute on chronic liver failure).both disorders are serious and may lead to death. Liver failure is a characterised by the development of hepatic encephalopathy, jaundice and coagulopathy. Few patients develop sub-acute liver failure occurring after 30 days of illness. Liver failure can also occur in chronic liver disease precipitated by metabolic stress. Example: bleeding infections or because of slowly progressing end stage liver disease. Therefore herpetologist's ought to collaborate in randomised trails allocating patients to one support system plus 'standard medical therapy' versus 'the same standard medicinal therapy'.

PCOL 111

HYDATIDIFORM MOLE

K LAVANYA*, K.S BHARATH

¹Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSRTACT:

Hydatidiform mole is also called as molar pregnancy. It is type of disorder belonging to gestational trophoblastic disease (gtd). It is benign nature. It usually develops in uterus which is usually rapid growth of organs or excess production placental fluid due to which the excess placenta shows sacs like structure called cysts. Hydatid means droplet. This cysts look like grapes attached to the uterus wall. Due excess of such cysts it develops into a tissue. They are classified into two types (a) partial h.m (which is due to fertilization of two sperms with single normal ovum), (b) complete h.m (if trophoblast cells develops into mass of tissue, where it suppress the development of fetus). There are several diagnosis methods to identify the h.m. there are different types of treatments available including surgery procedures at initial stages. However this hydatidiform mole if not treated develops into the malignant cancer called gestational trophoblastic neoplasia. Even after developing into tumors it can be successfully treated and cured.

PCOL 112

**ALTERNATIVES TO THE USE OF ANIMALS IN EXPERIMENTATIONS
THROUGH THE PRINCIPLES OF 4R'S**

SK ALEESHA, M.NAGAMANI, B. RENUKA, G. SUJANA, JANAKI G AND P. RAJESWARI

Department of Pharmacology, Rao's College of Pharmacy, Nellore, Andhra Pradesh, India.

ABSTRACT:

“Animal ethics” an issue is as important as the human welfare. It needs an emphasis for effective implementation of 4r's [replace, reduce, refine and rehabilitate]. Number of animals used in research has increased with the advancement of research and development in medicinal technology. The death and distress experienced by the animals during the scientific study have been a matter of debate. So, the strategy of 4r's is being applied for the laboratory use of animals. Different methods and alternative organisms are applied to implement this strategy. The concept of replacement was first discussed by” charles hume” for animal welfare. The term reduction is an approach to motivate this use of minimum number of animals. Refinement is an process enriching the cage environment that reduce the stress on the animals during scientific study. Replacement involves usage of alternative models such as in vitro models, cell cutlers, computer models, new imaging or analyzing techniques. A knowledge on computer aided drug design [cadd], structural activity relationship [sar] computer programs, qsar [qualitative structural activity relationship] software, computer assisted learning program [cal] provides a better approach in scientific studies when compared to conventional, traditional laboratory practices. Many prokaryotic organisms, lower vertebrates are being used as a different models that replace the experimental animals. These integrated approaches would result in minimum involvement of animals in scientific procedures.

PCOL 113**RECENT TRENDS IN USE OF ALTERNATIVES TO ANIMAL USE FOR TOXICOLOGICAL AND SAFETY EVALUATION OF NEW DRUGS****VT. ANA, V. BHAGYA SRI, T. KAVITA, O. SUPRAJA, L. DIYA AN B. V KRISHNAREDDY**

Department of Pharmacology, Rao's College of Pharmacy, Nellore, Andhra Pradesh, India.

ABSTRACT:

Every year, millions of experimental animals are used all over the world. Out of which 8 % of the total number are utilized in toxicological and other safety evaluation. Fund for the replacement of animals in medical experiments (frame) considers that the current scale of animal experimentation is unacceptable, but, it also recognizes that immediate abolition of all animal experiments is not possible. Cell culture can be an alternative to animals. Important approaches include the development of in-vitro (in the glass) methods based on biological materials (skin or other human body cells) that will be suitable for reliably verifying the safety and compatibility of product ingredients. Cell cultures are now routinely used to test substances for mutagenic properties. A 3-dimensional model of breast cancer has recently been developed. Human skin equivalent tests like epiderm and episkin models can replace animal-based corrosive and irritative studies. Corrositex, an invitro test that can effectively replaces the rabbit test of dermal corrosivity. The modular immune in vitro construct uses human cells to create a model of the human immune system, that effectively replacing some steps of the vaccine development process otherwise be performed on animals. Already some alternative methods have been validated and given regulatory approval that can replace legally required tests on animals as per oecd guidelines. On the basis of above it may be concluded that in spite of extensive effort and a number of successful results, a great deal still needs to be done before it will be possible to eliminate animal testing completely.

PCOL 114

IMPACT OF *IN-SILICO* PREDICTIVE PHARMACOLOGY AND TOXICOLOGY STUDIES ON USAGE OF EXPERIMENTAL ANIMALS USED IN THE DRUG DISCOVERY AND DEVELOPMENT

SHAIK. SANA BANU, K CHANDHANA, SK THAJAJEB, V. ROOPA VANI, N. VISHNU PRRIYA AND B. V KRISHNAREDDY

Department of Pharmacology, Rao's College of Pharmacy, Nellore, Andhra Pradesh, India.

ABSTRACT:

Besides *in-vitro* cell lines and organ studies as an alternatives to animal experimentation, various other alternatives particularly, *in-silico* techniques are developed. These methods provide an alternative means for the drug and chemical testing, with reduced animal use up to some levels. For example, software known as computer aided drug design (cadd) is used to predict the receptor binding site for a potential drug molecule. Cadd works to identify probable binding site and hence avoids testing of unwanted chemicals having no biological activity. Also, with the help of such software programs we can tailor make a new drug for the specific binding site and then in final stage animal testing is done to obtain confirmatory results. In addition, quantitative structure activity relationship (qsar) computer program that uses mathematical descriptions by which the relationship between physicochemical properties of a drug molecule and its biological activity can be established. Further, recent qsar software shows more appropriate results while predicting the carcinogenicity of any molecule. Advantages associated with these methods are, time efficiency, requires less man power, and cost effectiveness. In this review, we have been described various in-silico approaches in details, by which we can reduce the total number of experimental animals in drug discovery and development to achieve the objectives of russel and burche's 3 rs in usage of experimental animals.

PCOL 115

A REVIEW ON BARIATRIC SURGERY PROCEDURE AND ITS IMPLEMENTATION

SONIYA*, KARISHMA, N.PRIYANKA

Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ASBTRACT :

Bariatric surgery is performed by reducing the size of stomach with a gastric band or by removal of tissues section of the stomach or by resecting and re-routing the small intestine to a small stomach pouch . Long-term studies show these signifacant long-term loss of weight , recovery from diabetes , improvement in cardiovascular risk factors and a reduction in mortality of 23% from 40% . Classifications are included in this . A study recently done in the nertherlands found a decrease of 5.5 bmi points in 3 months with an endoluminal sleeve . Weight loss from bariatric is associated with reduction of obesity such as diabetes, metabolic syndrome and sleep apnea . There is no evidence concerning longer-term effects . Bariatric surgery in older patients has been a topic of debate . Short-term complications from laparoscopic adjustable gastric banding to be l,ower than laparoscopic roux-en y surgey, and complication from laparoscopic roux-en y surgery are lower than conventional roux-en y surgery . Few studies have shown that psychological health can improve after bariatric surgery . The cost of bariatric surgery depend in the type of procedure performed . The four established porcedure types, roux-en y gastric bypass , gastric banding, vertical sleeve gastrectomy and duodenal swtich, carry an average cost in the united states of \$24.000 , \$15.000, \$19.000 and \$27.000 , respectively . Bariatric surgery in youth progression of surgery in adults bariatric surgery for youth has become common when compared to children and adolescents . Difficulties and ethical issues arise in deciding procdure for treatment in youth .

PCOL 116

ADVANCED DEVICES FOR THE ESTIMATION OF BLOOD GLUCOSE LEVEL

Y. DHARSHNI*, PRIYANKA

Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSTRACT:

Blood glucose levels is defined as quantity of glucose present in the blood. Normal sugar level is usually at low levels before taking the diet. This low levels are seen till 8hours.(100mg/dl). Then after diet intake blood glucose level increases to 140mg/dl. Normal blood glucose level is 70-80mg/dl. Now a days as the soft ware is advanced there are many computed devices, electronic devices which is used in detecting the blood glucose level at any time. The few devices are ear lobe glucometer, gluco watch biographer, hypomon, silicon micro needle, cell robotics lasette.

PCOL 117

**ALTERNATIVE (NON-ANIMAL) METHODS FOR COSMETICS
TESTING: CURRENT STATUS**

**D.K.SANDEEP*, K.HARIKUMAR, N.AUDINARAYANA, M.RAMUNAİK, M.SRIJA, BHARTH
RAJ JOSHI**

Sri Venkateswara College of Pharmacy, R.V.S Nagar, Chittoor, Andhra Pradesh, India.

ABSTRACT:

There has been a continuous effort of researcher's to find alternative approaches which avoid testing on animals wherever possible. Whenever replacement is not possible, the development of methods which use fewer animals or cause least harm to the animals is supported. There are three different approaches following to skip the animal use in experiments. They are replacement, reduction and refinement of animal use. Generally, for cosmetics testing more animals are using and applied cosmetics produces many toxic effects on animals like itching, redness, blindness and other allergic reactions. So, all the regulatory authorities imposing ban on experimentation on animals with cosmetics. For, this all the stakeholders committed to follow alternative or non-animal methods for cosmetics testing. Currently there are many methods has been developing for the cosmetics testing without animals by researcher's. Some of the popular methods are *in vitro* micronucleus test in 3d human reconstructed skin models, *in vitro* comet assay in 3d human reconstructed skin models, green screen hc assay, hens egg test for micronucleus induction, pluripotent stem cell-based *in vitro* tests etc.

PCOL 118

EDIBLE VACCINES

T.LIKHITHA MOUNIKA*,

Sree Vidyanikethan College of Pharmacy, Rangampeta, Tirupati, Andhra Pradesh India.

ABSTRACT:

Edible vaccines hold great promise as a cost effective, easy to administer, easy to store and readily acceptable vaccine delivery system .it involves introduction of selected desired genes into plants and then inducing these altered plants to manufacture the encoded proteins. These are currently being developed for a number of human and animal diseases. A variety of delivery system has been developed. It is useful for preventing infections, auto immune diseases, cancer therapy. There is growing acceptance of transgenic crops in both industrial and developing countries.

PCOL 119

MONOCLONAL ANTIBODY THERAPY OF CANCER

***K.SIVAKESUVLU, *P.SHRAVAN KUMAR, S.ANGALA PARAMESWARI,**

P.JAYACHANDRA REDDY

Krishnateja Pharmacy College, Tirupati, Andhra Pradesh India.

ABSTRACT :

Anticancer antibodies have a long history in the management of cancer, with major applications having been shown in the immunohistochemistry and immunoassay of tumor-associated antigen markers. With the advent of hybridomaderived monoclonal antibodies, attempts to use these more reproducible reagents in vivo for cancer detection and therapy have intensified. Radiolabeled monoclonal antibodies appear to be gaining a role in the management of cancer by means of imaging methods to detect sites of increased radioactivity, and several products have been developed and tested clinically. In the area of radioimmunotherapy, a number of problems still need to be solved, including low tumor uptake of the radioimmunoconjugate, dose-limiting myelotoxicity, and the induction of an immune response to repeated doses of murine (foreign) immunoglobulins. The recombinant engineering and other chemical approaches are making progress in developing second-generation immunoconjugates that may be more efficacious and less immunogenic as cancer-selective therapeutics. Although nonconjugated, “naked,” murine monoclonal antibodies have shown limited success in the therapy of human neoplasms, human and “humanized” forms may be more effective, particularly in lymphatic tumors. Some evidence also suggests that anti-idiotypic antibodies (antiantibodies) may serve as surrogate antigens in cancer vaccines. The most significant recent advances in the application of monoclonal antibodies (mAbs) to oncology have been the approval of bevacizumab (Avastin), an anti-vascular endothelial growth factor antibody, and of cetuximab (Erbix), an anti-epidermal growth factor antibody. In combination with standard chemotherapy regimens, bevacizumab significantly prolongs the survival of patients with metastatic cancers of the colorectum, breast and lung.

PCOL 120**NITRIC OXIDE AS A NEUROTRANSMITTER****D.REVATHI, K.RANI.**

Krishnateja Pharmacy College, Tirupati, Andhra Pradesh India.

ABSTRACT:

Nitric oxide has been present in the Earth's atmosphere since the cooling of the primitive planet, and has been identified as a biological mediator in some of the earliest animal species, indicating that the L-arginine: nitric oxide pathway may be among the oldest regulatory systems in physiology. Nitric oxide is synthesized from one of the terminal guanidino nitrogen atoms of the semiessential amino acid L-arginine in a stereospecific process catalysed by a family of enzymes, the nitric oxide synthases (NOS).. The effects of a nitric oxide (NO) donor, S-nitroso- N-acetyl-DL-penicillamine (SNAP), and an NO-synthase blocker, NG-nitro-L-arginine methyl ester (LNAME), on transmitter release and processes of exo- and endocytosis of synaptic vesicles in the motornerve ending were studied using electrophysiological and fluorescence techniques. During single stimulation of the motor nerve, SNAP reduced and LNAME did not change the amplitude of the endplate currents and both of the drugs did not affect spontaneous transmitter release. During high-frequency stimulation (20 Hz, 3 min) SNAP increased and LNAME slowed the depression of the amplitudes of endplate potentials (EPPs) compared to the dynamics of EPPs in the control. It was suggested that exogenous and endogenous NO in the mouse neuromuscular synapse caused the depression of neurotransmitter release as a result of the suppression of synaptic-vesicle recycling due to a decrease in endocytosis or/and mobilization of synaptic vesicles from a recycling pool to the exocytosis sites.

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3D PRINTING IN MEDICINAL APPLICATION

***K.ELVIN JONS,* K.MANIKANTA, S.HARSHA.**

Krishnateja Pharmacy College, Tirupati, Andhra Pradesh India.

ABSTRACT:

Additive manufacturing otherwise known as three dimensional (3D) printing, is driving major innovation areas, such as engineering , manufacturing, art, education and medicine. 3D bioprinting of biocompatible materials, cells and supporting compound into complex 3D functional living tissues. 3D bioprinting is being applied to regenerative medicine to address the need for tissues and organs suitable for transplantation. Compared with non-biological printing, 3D bio-printing involves additional complexities such as the choice of materials, cell type, growth and differentiation factor and technical challenges related to the sensitivity of living cells and the construction of tissues. It has already been used for the generation and transplantation of several tissues, including multilayered skin, bone, vascular grafts, tracheal splints, heart tissue and cartilaginous structure. Other application include developing 3D-bioprinted tissue models for research, drug discovery and toxicology.

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OLD DRUG WITH NEW USE- LANSOPRAZOLE

***R.K.MANJUSHA, S.ANGALA PARAMESWARI, P.JAYACHANDRA REDDY**

Krishnateja Pharmacy College, Tirupati, Andhra Pradesh India.

ABSTRACT:

Lansoprazole belongs to a class of drugs known as "proton-pump inhibitors" that keep the stomach from pumping too much acid, thus preventing heartburn, ulcers and also exhibits activity against *Helicobacter pylori*. Recently, the recommended duration of therapy for *H. pylori* eradication was 10 to 14 days. A one-day treatment course consists of bismuth subsalicylate, amoxicillin, and metronidazole, all given four times with a one-time dose of lansoprazole. Reversed-phase ultra-performance liquid chromatographic method was developed and validated for the determination of the assay and related substances of Lansoprazole (LAN) in bulk drug and capsule dosage forms. Lansoprazole and its impurities were monitored at 285 nm. Now Lansoprazole was found to be effective against *M. tuberculosis* but only when the bacterium grows inside cells. The researchers investigated the underlying biology and found that lansoprazole kills the bacterium after the human cells convert it into a sulfur-containing metabolite. This metabolite targets a particular enzyme that is crucial for the bacterium to produce energy, thereby killing it off. In addition, when the scientists tested lansoprazole against a wide range of other bacteria, it proved to be highly selective for *M. tuberculosis*. "Proton-pump inhibitors are both safe and widely sold around the world," says Stewart Cole. "Being highly active against drug-resistant strains of *M. tuberculosis*, this novel class of drugs provides us with an excellent opportunity to treat tuberculosis."

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TELOMERE : SECRET OF MORTALITY

P.SURENDRA

Krishnateja Pharmacy College, Tirupati, Andhra Pradesh India.

Email:psurendra644@gmail.com

ABSTRACT:

The question whether the humans may live for a long encounters study of DNA by scientists. Aging and mortality are common but using amazing command of science to avoid them faces a challenge in our study of DNA, how telomere and telomerase impact the mortality and people want to use modern technology to repair their bodies and see what life is like in the next few centuries. After discovering the ticking clock of the cell in the form of telomere. Telomeres are repetitive DNA sequence at the end of chromosomes which protects the chromosomes from degrading. With every cell division, it seemed these telomeres get shorter. The result of each shortening was that these cells were becoming more likely to senescent. The recent study was focused by the scientists on mice to see what happens when steps are taken to stop telomeres from shortening. The group looked at the enzyme telomerase which can replenish the telomere after replication and effectively lengthen it so that a cell can live for a longer. Mice lacked the ability to produce telomerase and observed rapid early onset symptoms of aging. Then they gave injection to reactivate the telomerase enzyme expecting to see the aging process slows down to normal levels. Instead they observed an astonishment as the mice appeared to age backwards, their withered organs repairing themselves even to the point of new neurons beginning to sprout in their brains. In essence, repairing the telomeres seemed to be able to reverse aging process and make the mice physiologically younger.

ALTERNATIVE USE OF ANIMALS IN PHARMACOLOGY- AN OVERVIEW

*V.M.PRUDHVI RAJ, *C.SAI CHANDANA, S.ANGALA PARAMESWARI,

P.JAYACHANDRA REDDY

Krishnateja Pharmacy College, Tirupati, Andhra Pradesh India.

ABSTRACT:

The number of animals used in research has increased with the advancement of research and development in medical technology. Every year, millions of experimental animals are used all over the world. The pain, distress and death experienced by the animals during scientific experiments have been a debating issue for a long time. Besides the major concern of ethics, there are few more disadvantages of animal experimentation like requirement of skilled manpower, time consuming protocols and high cost. The recent development of a biomedical software system at the Nizhni Novgorod State University High Performance Computing Competence Center. The main fields were plasma simulation, heart activity simulation, brain sensing simulation, molecular dynamics simulation. The software system is aimed at large-scale simulation on cluster systems with high efficiency and scalability. They demonstrate current results of the numerical simulation analyze performance and propose the ways to improve efficiency. That also includes different *in vitro* techniques like Organ cultures, Tissue slices, Primary cell cultures, Established cell lines, Stem cells. It seems likely that these alternative methods and models will eventually replace intact animal models in pharmacology education, either partially or completely. These methods provide an alternative means for the drug and chemical testing, up to some levels.

PCOL 125**HOME REMEDIES FOR DIABETES MELLITUS****SAHIL ANSARI*, BHARAT RAJ JOSHI, K.HARIKUMAR**

Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor-517127, Andhra Pradesh India.

ABSTRACT :

Diabetes mellitus (DM) is a metabolic disorder resulting from a defect in insulin secretion, insulin action, or both. Insulin deficiency in turn leads to chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism. It is the most common endocrine disorder and by the year 2015, it is estimated that more than 200 million people worldwide will have DM and 350 million will subsequently have the disease by 2025. As the disease progresses tissue or vascular damage ensues leading to severe diabetic complications such as retinopathy, neuropathy, nephropathy, cardiovascular complications and ulceration. Thus, diabetes covers a wide range of heterogeneous diseases. Diabetes mellitus may be categorized into several types but the two major types are type 1 and type 2. Drugs are used primarily to save life and alleviate symptoms. Secondary aims are to prevent long-term diabetic complications and, by eliminating various risk factors, to increase longevity. Insulin and Oral hypoglycemic agents are also useful in the treatment of type 1 & type 2 DM. Oral hypoglycemic agents include sulphonylureas, biguanides, alpha glucosidase inhibitors, meglitinide analogues, and thiazolidenediones. The main objective of these drugs is to correct the underlying metabolic disorder, such as insulin resistance and inadequate insulin secretion. But they are having so many side effects, to overcome these adverse reactions using home remedies along with diet and exercises is having importance for the treatment of diabetes.

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CONTRACEPTIVE POTENTIAL IN THE LEAVES OF CHENOPODIUM ALBUM.

AUTHORS: K.S.BHARATH AND S.M.SHAHEEDHA.

Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor-517127, Andhra Pradesh India.

ABSTRACT:

Chenopodium album belonging to the family chenopodiaceae is a fast growing weed in most of temperate regions and wide spread cosmopolitan in occurrence. The aqueous extract of leaves is a potential contraceptive which shows contraceptive action in both males and females. In male it immobilize the sperm and in female the decoction of the leaves acts as barrier, causing spermicidal activity. The contraceptive activity was evaluated by modified sander cramer test. The mode of spermicidal action was assessed by (a)Supravital and double fluoroprobe staining of sperms. (b)Hypoosmotic swelling tests and (c)Transmission electron microscopy etc. Contraceptive efficacy was evaluated by intrauterine and vaginal application of CAD in rats and rabbits, respectively, followed by their mating and evaluation of pregnancy outcomes. However this weed have sperm immobilizing and contraceptive properties this also posses other properties like, hepatoprotectivity, gastroprotectivity, spasmolytic effect, bloodpurifier, diuretic antihelmenthic effect, analgesic, sedative, anti-inflammatory antiscorbutic, antipruritic and antinociceptive in action.

**A COMPARATIVE STUDY BETWEEN ATG&BASILIXIMAB AS
INDUCTION THERAPY IN RENAL TRANSPLANT RECIPIENTS**

S.PRAVALLIKA*, DR.JAGADEESHAN

Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor-517127, Andhra Pradesh India.

ABSTRACT:

This study includes review of immunosuppressants in renal transplantation. Study of induction agent started based on the hypothesis that atg is more efficacious in preventing the rejection in renal transplant failure patients when compared with basiliximab. After getting approval from the ethics committee the study started in 1700 bedded hospital in Hyderabad. The laboratory data of renal transplanted patients were collected & followed up for 6 months. The evaluation of graft rejections among the post operative transplant patients was based on serum creatinine level and serum tacrolimus levels, GFR rate, blood urea levels & biopsy and the evaluations of infection in induction therapy patients was based on blood/urine culture tests, liver function test, X-ray sputum cultures. These data form the basis for better understanding to prevent renal allograft rejection and maintain of graft survival among high immunological risk in renal allograft recipients. The incidence of infection and rejection in both cadaveric organ recipients and living organ recipients in respective atg and basiliximab & age, gender distribution of induction therapy in renal transplantation patients were assessed and response to therapy is recorded.

**NECESSITY OF EFFECTIVE POST MARKETING SURVIELLANCE
IN INDIA**

T.ANUSHA*, JAGADEESAN MOORTHY.

Department of Pharmacy Practice,

Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor-517127, Andhra Pradesh India.

ABSTRACT:

Recent studies demonstrated that medicine morbidity and mortality is one of the major health problems. It also estimated that adverse drug reactions (adrs) are found to be 4th to 6th largest cause for mortality in usa. India is being the largest consumer of drugs, and in adr reporting india stands first by reporting one lakh adr to uppsala monitoring centre(umc) which is located at sweden, there by leading to 7th largest contributor for umc. In india most of the adrs were identified as new diseases due to lack of past medication history and lack of patient education. Hence there is need of effective pharmacovigilance in india. However, reporting of adrs associated with chronic administration for chronic diseases and delayed adrs are not satisfactory. The usage of medications may also be associated with beneficial effects too, which were discussed in this review.