2019

Novel Trends in Drug Design and Natural Product Chemistry

One Day National Symposium

The severity of diseases gives rise to the need to develop new ideas for the discovery of drugs through screening natural products along with computer-assisted methods which helps in accelerating the whole process of drug development. Recently the development of new technologies has revolutionized the drug designing and screening of herbal medicines. Applying these technologies compensate for the inherent limitations of natural products and offer a unique opportunity to re-establish natural products as a major source for drug discovery.

Yashwantrao Bhonsale College of Pharmacy in collaboration with The Indian Pharmaceutical Association Maharashtra State Branch
Bhonsale Knowledge City
2/2/2019

Shri.Yashwantrao Bhonsale Education Society's

Yashwantrao Bhonsale College of Pharmacy, Sawantwadi

&

Indian Pharmaceutical Association Maharashtra State Branch

Organized

One day national symposium on

NOVEL TRENDS IN DRUG DESIGN AND NATURAL PRODUCT CHEMISTRY

Saturday, 02nd February 2019

Executive Chairman Message

Achyut K.Sawant-bhonsale
Executive Chairman, Shri. Yashwantrao Bhonsale Education Society

It is my great pleasure to welcome all the great scientists, academicians, researchers, delegates and students from all over India who are coming to attend this National Symposium on **Novel Trends in Drug Design and Natural Product Chemistry** organized by Yashwantrao Bhonsale College of Pharmacy, Sawantwadi.

Sawantwadi, a part of Konkan region which falls under the most famous Western Ghats declared as a World Heritage Center by UNESCO is home to a rich and diverse ecosystem. It is a biodiversity hotspot that contains a large proportion of the country's *flora and fauna;* many of which are only found here and nowhere else in the world.

This biodiversity in the surrounding areas of Sawantwadi makes it natural biological capital of this region. The area is highly enriched with lots of herbal and medicinal plants too. I am sure the latest trends on natural products to be discussed in this symposium will promote more scientific knowledge of the subject and in that way help to manage natural wealth sustainably in this remote area.

I appreciate the sincere efforts of the Principal and entire organizing committee in bringing together intellectuals of the subject and giving the students, teachers and participants, a platform to update knowledge, learn new possibilities and to share innovative ideas. This will certainly enhance their capabilities to interact and collaborate with researchers and teachers from other places of India.

Once again I am delighted to welcome you all and wish this event a grand success!

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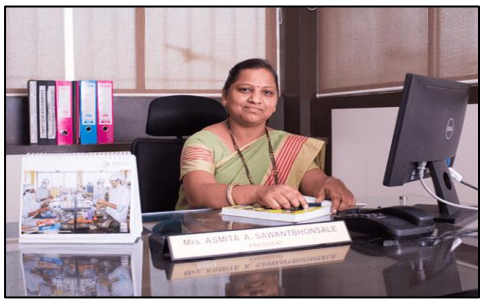

Chairperson Message

Adv. Asmita A.Sawant-bhonsale
Chairperson
Shri. Yashwantrao Bhonsale Education Society

It is my great honor and privilege to welcome you to One Day N*ational Symposium* at Yashwantrao Bhonsale College of Pharmacy which is located amidst serene atmosphere of Sawantwadi. I believe that our venue guarantees a successful event amid the culture and beautiful scenery of Konkan.

The theme for this symposium is titled **Novel Trends in Drug Design and Natural Product Chemistry.** This topic is highly relevant to recent discoveries and developments of natural drug substances which are tremendously available in Konkan region of Maharashtra. This symposium is a golden opportunity for all the participants to witness scientific and professional interaction through a distinguished group of individuals sharing global, regional as well as local experiences and updates on the respective subject.

It is our pleasure to serve this kind of national event and is thankful to you for being part of this initiative. Your vision, knowledge and experience will help us pave our way into the future. Throughout this symposium, I request you to stay engaged and help us to shape the future of pharmacy profession.

I wish a great success to this major event in the history of Yashwantrao Bhonsale College of Pharmacy.

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Secretary Message

Sanjeev I.Desai
Secretary
Shri. Yashwantrao Bhonsale Education Society

Message

On behalf of the organizing committee, I am delighted to welcome all the delegates to attend *One Day National Symposium on* **Novel Trends in Drug Design and Natural Product Chemistry** which is to be held on 2 February 2019 at Yashwantrao Bhonsale College of Pharmacy, Sawantwadi.

The Principal and organizing committee has succeeded in preparing a line-up of highly renowned speakers consists of experts who agreed to shed light on research and issues that will shape the pharmacy future. I hope that every participant will take this opportunity to plan and attend the symposium to exchange ideas, discover novel trends, meet new friends and broaden their knowledge.

My best wishes for the success of this remarkable event!

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THE INDIAN PHARMACEUTICAL ASSOCIATION
(Maharashtra State Branch)
IPA Outstanding State Branch Award For The Year 2018
(Society Regn. No. 1273/1998 GBBSD. Public Trust Regn. No. F-20669 (Mum) dt. 16/12/1998)
Bombay College of Pharmacy Campus, Kalina, Santacruz (East), Mumbai - 400 098, India.
Tel.: +91 22 2667 0815 / 2667 1071 • E-mail : ipamsb@yahoo.com
IPA-HQ Tel.: +91 22 2667 1072 / 2667 0744 • Website : ipapharma.org
Maharashtra State Branch
Maharashtra State Branch 1941-2016

MISSION

The Indian Pharmaceutical Association (IPA) is the national professional body of pharmacists engaged in various facets of the profession of pharmacy. The IPA is committed to promote the highest professional and ethical standards of pharmacy, focus the image of pharmacists as competent healthcare professionals, sensitize the community, government and others on vital professional issues and support pharmaceutical education and sciences in all aspects.

Dr N Sivaprasad

President,
The Indian Pharmaceutical Association - Maharashtra State Branch (IPA-MSB)

Message

I behalf of Indian Pharmaceutical Association- Maharashtra State Branch (IPA-MSB), I feel honored and pleased to pen few words as message for the souvenir of the National Symposium on "Novel Trend in Drug Design and Natural Product Chemistry".As pharmacy education being one of the focus areas of its activities,IPA MSB is glad to associate with Yashwantrao Bhonsale College of Pharmacy who have initiated this National Symposium and will organize on 2nd Feb 2019 at Sawantwadi, Sindudurg Dist. It gives me the pleasure to know that Dr Vijay A. Jagtap, Convener and Mr Vinod S. Mule, Coordinator of this symposium have taken the onus to organize this National Symposium on a topic of current interest. The theme chosen" Novel Trend in Drug Design and Natural Product Chemistry" is very appropriate in the context of the present development in the field of pharmacy.

Pharma technology is changing every day and there is a growing need for update on the new development. I am sure this symposiumwill add to the needed update. I am also confident that close interaction during this symposium between the participants and experts will be useful for further development and this will benefit the pharmacists and pharmacy students

On this occasionI congratulate Dr Jagtap and his team for all their effort. I wish this National Symposium a grand success

N Sivaprasad

Ventures of IPA-MSB :

★ Bombay College of Pharmacy (National Institutional Ranking Framework India Rankings 2018. Ranked 8th in Pharmacy Category) (Accreditated by National Board of Accreditation for UG Program for the Academic Years 2017-18 to 2021-22 i.e. up to 30.06.2022)
★ Amrut Mody Research Fund ★ Dr. M. K. Rangnekar Memorial Testing Laboratory ★ Academy For Clinical Excellence
★ The Research Society of Bombay College of Pharmacy ★ Bombay College of Pharmacy - Alumni Association

1k-011

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Chairperson IPA-MSB Message

Dr. John Disouza
Principal, Tatyasaheb Kore College of Pharmacy, Warananagar
Chairperson, IPA-MSB, Education Division,
Member, BOS Pharmacy, Shivaji University, Kolhapur

I am glad that the One Day National Symposium on **"Novel Trends in Drug Design and Natural Product Chemistry"** is being organized by **'Yashwantrao Bhonsale College of Pharmacy (YBCP)'** on February 2, 2019 in collaboration with 'The Indian Pharmaceutical Association, Maharashtra State Branch'.

The main objective of this symposium is natural products drug discovery, outlining important drugs from natural sources that revolutionized treatment of serious diseases. It is clear that – Nature will continue to be a major source of new structural leads; and effective drug development depends on multidisciplinary collaborations. So, this is an opportunity for students, researchers and academicians professionals to have a good overview of the herbal pharmaceuticals and present days drug discovery.

I congratulate the Management, enthusiastic Principal Dr. Vijay Jagtap, Co-ordinator Prof. Vinod Mule, all dedicated staff, students of YBCP, Sawantwadi for taking initiative for organizing the symposium.

I wish that the symposium ends with lot of learning.

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Principal Message

Dr. Vijay A. Jagtap
Principal, Yashwantrao Bhonsale College of Pharmacy, Sawantwadi
Coordinator, IPA-MSB, Education Division, Sindhudurg District
Convener – One day National Symposium

On behalf of Yashwantrao Bhonsale College of Pharmacy, I extend a very warm welcome to all the delegates and participants present today for the one day National Symposium on the subject "**Novel Trends in Drug Design and Natural Product Chemistry**" on 2nd Feb. 2019.

YBCP has borne the mantle of excellence, committed to ensure the students their own space to learn, grow and broaden their horizon of knowledge by indulging into diverse spheres of learning. In our endeavour to raise the standards of discourse, we continue to remain aware in order to meet with the changing needs of our stakeholders.

The severity of diseases gives rise to the need to develop new ideas for the discovery of drugs through screening natural products along with computer-assisted methods which helps in accelerating the whole process of drug development. Recently, the development of new technologies has revolutionized the drug designing and screening of herbal medicines. Applying these technologies compensates for the inherent limitations of natural products and offers a unique opportunity to re-establish natural products as a major source for drug discovery. The current seminar will gives an update on recent advances, trends, technologies and developments in the field of drug designing paving the way for novel drug discoveries.

The symposium aims to bring different ideologies under one roof and provide opportunities to exchange ideas face to face, to establish research relations and to find partners for future collaboration.

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The themes for this conference is indicative of relevant research areas to give the prospective authors innovative prepositions about the ambit of discussion.

We wish to welcome and thank our eminent technical session speakersDr. KishorkumarBurade, Principal and Head, Dept. of Pharmacognosy, Govt. College of Pharmacy, Ratnagiri and Dr. Raghuvir Pissurlenkar, Associate Professor, Dept. of Pharmaceutical Chemistry, Goa College of Pharmacy, Goa for delivering scientific sessions. It's my indeed pleasure to say thank you to The Indian Pharmaceutical Association along with Maharashtra State Branch Hon. President Dr. N. Sivaprasad, Hon. Secretary Mr. NitinManiar and Hon. Divisional Chapter Head – Education Dr. John D'souza for collaborating the symposium.

We would like to thank Journal of medical pharmaceutical and allied sciences (JMPAS) for providing us with the platform for online publication.

I also express my lot of thanks to all our Patrons Hon. Executive Chairman Mr. Achyut Sawantbhonsale, Hon. Chairman Adv. Mrs.Asmita Sawantbhonsale, Hon. Secretary Mr. Sanjeev Desai and Hon. Admn. Coordinator Mrs.SunetraPhatak for their support and constant encouragement to organize this symposium.

Last but not the least; I would also like to thank the staff, the teachers, the committee members, students and the coordinator for their contribution in successfully organising and managing this event. This event wouldn't have been possible without their enthusiasm and constant support.

We welcome you all to YBCP and hope that this symposium will act as a medium for all of us present here to ponder upon the topic of discussion, challenge us to strive towards it and inspire us at the same time.

Thank you!

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Coordinator Message

Mr. Vinod S. Mule
Coordinator
Asst. Prof., Yashwantrao Bhonsale College of Pharmacy, Sawantwadi

I would like to thanks to organizing institute **Yashwantrao Bhonsale College of Pharmacy, Sawantwadi** for conducting one day national level symposium on **"NOVEL TRENDS IN DRUG DESIGN & NATURAL PRODUCT CHEMISTRY"** on 02nd February, 2019 at Sawantwadi & offering such a marvellous opportunity to work as a Coordinator of symposium. During my work I had observed this grand symposium with all corners.

This one day national symposium has enlighten the bright minds of the delegates & also aspires them for research oriented thinking. This symposium basically aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences on all aspects of drug design & natural product chemistry. Theme for the symposium have revolved around the linkages between students, researchers & academicians. All the delegates had taken the efforts to present their research work, review work through poster presentation. This souvenir is the result of all vital movements that we all had witnessed during this symposium.

Wishing you all a bright future.

Thanking you.

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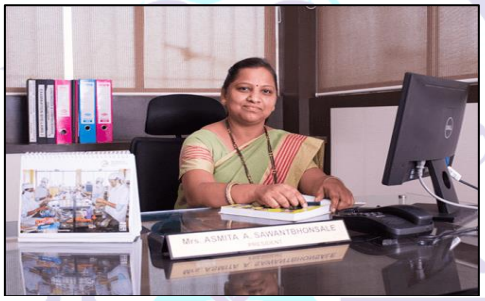
Chief Patrons

Hon. Shri. Achyut Sawantbhonsale
Executive Chairman



Hon. Adv. Smt. Asmita Sawantbhonsale
Chairperson

Hon. Shri. Sanjeev Desai
Secretary

Hon. Smt. Sunetra Phatak
Admn. Coordinator

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Resource Person

Dr. Kishorkumar B. Burade

Principal and Head

Department of Pharmacognosy

Government College of Pharmacy,
Ratnagiri, Maharashtra, India

Topic: Novel Trends in Herbal Medicine

Dr. Raghuvir Pissurlenkar

Associate Professor,

Department of Pharmaceutical Chemistry

Goa College of Pharmacy, Goa, India

Topic: Exploring atlas activity cliffs in SAR

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Convener

Dr. Vijay A. Jagtap
Principal and Head
Dept. Of Pharmaceutical Chemistry,
Sindhudurg District Coordinator, IPA-MSB Education Division

Coordinator

Mr. Vinod S. Mule
Head of Dept., Pharmacology

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Asst Professor
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Ms. Kavita S. Chavan
Asst Professor
Dept of Pharmaceutics

Mr. Namita G. Narvekar
Asst Professor
Dept of Pharmaceutics

Ms. Sneha S. Mahajan
Lecturer
Diploma in Pharmacy

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Dept of Pharmacology

Mr. Sparsha S. Bandekar
Asst Professor
Dept of Pharmacognosy

Mr. Priti C. Patle
Lecturer
Diploma in Pharmacy

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HOD, Integrated Diploma in Pharmacy

Ms.Rashmi H. Mahabal
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Dept of Pharmaceutical Chemistry

Mrs. Ovi. O. Paradkar
Asst Professor
Dept of Pharmaceutical Chemistry

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Assistant Professor, Dept. of Pharmaceutics

Ms. Shweta V. Shirodkar
Asst Professor
Dept of Pharmaceutics

Ms. Gayatri G. Shetgaonkar
Asst Professor
Dept of Pharmaceutics

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Ms. Namita S. Bhosale
Lecturer
Diploma in Pharmacy

Ms. Gauri U. Bhivshet
Asst Professor
Dept of Quality Assurance

Ms. Sneha J. Sawant
Lecturer
Integrated Diploma in Pharmacy

Ms. Pranali B. Yeram
Lecturer
Integrated Diploma in Pharmacy

Mr. Mayuresh R. Redkar
Lecturer
Diploma in Pharmacy

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Dept of Pharmaceutical Chemistry

Ms. Prajakta S. Mhaskar
Asst Professor
Dept of Pharmaceutical

Ms. Ekta E. Samant
Asst Professor
Dept of Pharmaceutical Chemistry

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A Special Thanks to

Mr. Tushar G. Rukari
Principal
Yashwantrao Bhonsale College of D. Pharmacy

Mr. Prasad Mahale
Registrar
Yashwantrao Bhonsale Polytechnic

Mr. Nitin V. Sandye
PRO
Bhonsale Knowledge City

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PH-01

EUDRAGIT BASED NANOPARTICULATE SYSTEM OF KETOROLAC TROMETHAMINE FOR OPTHALMIC APPLICATION: OPTIMIZATION, *IN VITRO/ EX VIVO* EVALUATION AND STABILITY ASSESSMENT.

Kajal Pawar*, Pravin K. Pawar.

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Abstract:

The purpose of present investigation was to formulate Eudragit RL100 and Eudragit RLPO based Ketorolac tromethamine (KT) nanosuspension for ophthalmic application. KT loaded nanosuspensions were prepared by using solvent evaporation technique with varying drug-polymer ratio and the formulations were characterized by determining the particle size, Zeta potential, drug entrapment efficiency (%) and *in vitro* drug release study. Moreover, the drug polymer interaction was determined by performing FTIR, DSC and XRD studies. The particle size and % entrapment efficiency of all nanosuspension batches were increased with increasing drug-polymer ratio. The value of zeta potential was higher in optimized batch i.e. + 30mV confirm the better stability of nanosuspension. The PDI of all batches was below 0.5 indicate uniform size of the nanoparticles. The percent entrapment efficiency was found in range between 79.52±0.47to 84.44±0.76. The FTIR and DSC studies were suggested that the absence of drug polymer interaction. The *in vitro release* studies of KT from nanosuspension were obtained in sustained manner as compare to marketed formulation (eye drop). The optimized formulation produced drug release (87.89±2.82) up to 10 hrs. All the formulation showed sustained in vitro drug release followed zero order release kinetics. The results indicate that the formulation of KT nanoparticles could be a promising drug delivery for ophthalmic application.

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PH-02

FORMULATION & EVALUATION OF VORICONAZOLE LOADED MUCOADHESIVE NANOSUSPENSION FOR OPHTHALMIC APPLICATION: EFFECT OF FORMULATION VARIABLES, *IN-VITRO*, *EX-VIVO* AND ANTIFUNGAL ASSESSMENT

Varsha Gharge*, Pravin Pawar
Gourishankar Institute of Pharmaceutical Education and Research, Limb, Satara, Maharashtra, India, 415020
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Abstract-
PLGA nanoparticles appear to be a suitable carrier for ophthalmic drug delivery due to their capability to form nanodispersion with smaller particle size, good stability, biocompatibility and absence of any irritant effect on the cornea, iris and conjunctiva. Voriconazole loaded polymeric nanosuspension was prepared from polymer (PLGA) with aim of improving the availability of voriconazole at the intra ocular level and there by reducing the frequency of dosing for fungal infection in the eye. The voriconazole loaded nanosuspension was prepared by using PLGA (75:25). The nanosuspension was characterized physically by using different techniques like particle size, zeta potential, PDI, entrapment efficiency analysis. The *in-vitro* and *ex-vivo* studies of nanosuspension were carried out using a modified USP I dissolution apparatus and all glass Franz diffusion cell, respectively. The voriconazole loaded PLGA nanosuspension showed particle size, ranging between 136-211nm with negative zeta potential for all batches. The % entrapment efficiency of the voriconazole loaded nanosuspension was found to be 79.10-84.39%. *In vitro* drug release showed maximum sustained release of voriconazole from nanosuspension than marketed formulation. Conclusions-The result concluded that mucoadhesive formulation of voriconazole in PLGA (75:25) nanosuspension could be utilized as a potential delivery system for treating ocular fungal infection.

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PH-03

VORICONAZOLE LOADED ACRYLATE POLYMERS BASED NANOSUSPENSION FOR THE TREATMENT OF OCULAR KERATITIS: FORMULATION, *IN-VITRO* EVALUATION & ANTIFUNGAL ASSESSMENT

Rutuja Gadhave*, Pravin Pawar.
Department of Pharmaceutics (PG), Gourishankar Institute of Pharmaceutical Education & Research, Limb, Satara, MS, India. 415015.
Email: rutuja2194@gmail.com

Abstract:

The main purpose of present investigation was to prepare & evaluate Eudragit RL 100 and Eudragit RLPO based voriconazole nanosuspension for the treatment of ocular keratitis. The method used for the preparation of nanosuspension was solvent displacement method. The positively charged Eudragit RL 100 and Eudragit RLPO polymers were used to prepare different formulations by considering varying ratios of drug & polymer. Characterizations of nanosuspension were carried out in terms of particle size, PDI, zeta potential, FTIR, DSC measurements. Drug entrapment and *in vitro* drug release properties were also examined. All formulations show size range within 92 to 142 nm with positive zeta potential (+27 to +40 mV) which was suitable for ophthalmic application. The PDI of drug loaded formulations varied from 0.234 to 0.326 showing narrow sized distribution. The % drug entrapment efficiency of nanosuspension was found to be in range of 74.8% to 81.2%. Varying drug polymer ratio in formulation was not affected significantly on particle size and % drug entrapment efficiency. No significant chemical interaction between drug and polymer were observed. The *in vitro* release profile shows sustained release property of drug which follows zero order kinetics. The formulation was optimized on the basis of sustained release of formulation with uniform size & drug entrapment. The study concludes that solvent evaporation method have potential to formulate poorly water soluble drug loaded nanosuspension with uniform size particles and optimum zeta potential as per stability concern.

PH-04

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ELECTRON PARAMAGNETIC RESONANCE IN PHARMA

Vaibhavi Choudhari*, Nikita Samant, Chaitali Kavathanakar, Shraddha Kanekar, Gayatri Shetgaonkar.

Yashwantrao Bhonsale College of Pharmacy, Sawantwadi.

vaibhavic98@gmail.com

Abstract:

NMR Spectroscopy. Sensitivity of EPR detection is very much higher than in NMR. EPR is an electron paramagnetic resonance spectroscopy.EPR is used to study molecules or atoms with an unpaired electron. EPR is non-destructive method for understanding drug delivery system through the measurement of important characteristic that affect drug potency and distribution. It is only technique used for identification, quantification, and control of impurities in Active Pharmaceutical Ingredient and drug product are critical in drug development. Impurities which causes decrease in therapeutic effect, lowering shelf life and produce toxicity. EPR permits direct measurement of micro viscosity micro polarity in drug delivery system used in study of the effects of gamma radiation, sterilization of parentral excipient L-histidine. This process is significant for the improved design of parentral pharmaceutical formulations. The EMXnano package is solution to challenge of reactive impurities. The instrument EMXnano used for the EPR has many features such as no prior EPR experiment is needed, accurate results, superior sensitivity, ease of use, compact foot print, low cost of ownership. E.g. Trace analysis of Manganese and Iron present at trace level in bentonite, commonly used as filler in tablets.

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INTRA-ARTERIAL DRUG DELIVERY IN RETINOBLASTOMA

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Abstract:
Intra-arterial chemotherapy involves single agent injection into the ophthalmic artery under careful neurointerventional guidance. This therapy can be useful for an eye that fail standard treatment or for some eyes as a primary treatment short term result are favorable but longer follow up is warranted. Intra-arterial chemotherapy is used as primary therapy in selected cases for non germline mutation (unilateral) retinoblastoma with excellent control and also used as secondary therapy for recurrent solid retinoblastoma subretinal seed and vitreous seeds. Progressive advances in the understanding of retinoblastoma pathogenesis continue to lead treatment strategies. Tumor hypoxia has been identified as a significant step in tumors progration and novel target for future treatment. Here in summarize the treatment of 12 eyes of 10 children with advanced intraocular retinoblastoma with intra ophthalmic artery infusion of melphalan. All attempts at super selective intra arterial drug delivery were successful. There was no severe systemic complication including fever, infection, red blood cell or platelet transfusion or death.

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DEVELOPMENT AND CHARACTERIZATION OF KETOROLAC TROMETHAMINE NANOSUSPENSION LOADED MUCOADHESIVE *IN SITU* GELLING SYSTEM FOR OPHTHALMIC APPLICATION

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Abstract:

To formulate, optimize and characterize Eudragit RL-100 (ERL-100) and Eudragit RS-100 (ERS-100) based ketorolac tromethamine (KT) loaded nanosuspension landed into *in situ* gelling system using suitable polymer. The ERL-100 & ERS-100 based ketorolac tromethamine nanosuspensions were successfully prepared by solvent evaporation method. Physicochemical characteristics of nanosuspension in terms of particle size, zeta potential and entrapment efficiency (%), in vitro drug release were carried out. The drug polymer compatibility was determined using FTIR, DSC & P-XRD. The prepared *in situ* gels were further characterized by viscosity, total drug content and pH determination. Among all the formulation the optimized nanosuspension (KNS6) provide higher entrapment efficiency (93.38 ± 0.37), positive zeta potential (32.5±0.78mV) and maximum *in vitro* drug release (79.99±0.64% within 12 hrs). The compatibility studies were suggested that no significant drug polymer interaction was observed during preparation of lyophilized formulation of KT nanosupension. The SEM results were concluded that the particles of nanosuspensions were found to be irregular in size and smooth in surface. From all the formulations of *in situ* gel optimized formulation (KNSG3) shows optimum viscosity (318.07 ±2.22), pH (6.90) and higher drug content (84.27 ± 0.77 %). This study concluded that this formulation might be, considered as a potential ophthalmic drug delivery system for treatment of postoperative inflammation, which would improve patient compliance due to the less frequent administration.

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MINIATURE MAGNETIC SWIMMING DEVICES TO REVOLUTIONIZE DIAGNOSIS AND DRUG DELIVERY

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Abstract:

Miniature magnetic swimming devices measures as small as one mm long, consist of magnetic head and flexible tail that allows them to swim to specific location when activated by magnetic field. These nanoswimmers could be functionalized to delivery drug and magnetically control to swim through blood stream to target the affected area. Their motion precisely controlled by small magnetic field and they transport multiple drug particles to desired locations. These microrobots are powerful enough to propel themselves against flowing stream with the speed of ~160 µm/s when free of drug. This advance technology allow both the real time biosensing of relevant target and process even at single cell level, and delivery of different cargo's (drugs, functional proteins, oligonucleotides and cells) for therapeutics, gene silencing/transfection and assisted fertilization, while overcoming challenges faced by current affinity biosensor and delivery vehicle. This could revolutionize medicine, being potentially cheaper, less painful and more flexible than surgery and enabling diseases to be precisely and locally targeted for diagnosis and treatment.

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DEVELOPMENT OF GRAFTED PHYTO-POLYMER FOR DELIVERY OF CARVEDILOL

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Abstract

Natural polymers are more preferable than synthetic polymers because of their biodegradability, low cost, easy availability and non-toxicity. However natural polymers also possess certain drawbacks like uncontrolled hydration, microbial contamination, and drop in viscosity during storage etc. Development of acrylamide grafted xylan gum was carried via green synthesis using microwave-assisted free radical. 06 grafted xylan polymers were prepared varying acrylamide, initiator concentration and microwave radiation time. Modified xylan gum structure was further optimized via extraction by methanol to remove unreacted acrylamide structure. The graft copolymers was further characterized via FTIR,1H NMR, 13C NMR, DSC studies. Optimized grafted copolymer was utilized to check drug release of carvedilol. In this research work, we found that Grafted polymer SP6 had significant grafting efficiency (GE %) than other grafted polymer. Selected grafted polymer SP6 modified drug of selected cardiovascular drugs. Further optimization of grafted xylan is necessary for development of potential pharmaceutical excipient.

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3D PRINTERS IN DRUG DELIVERY SYSTEM

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Abstract:

A new technology in the field of pharmaceutical manufacturing has been developed which facilitate the optimizing dose of drug which improves drug efficacy and minimises side effects. At present ,the conventional medicines (tablets,capsules) has been given to all patient irrespective of their age ,gender and physiology, but by introduction of this technology personalized dosage form can be manufactured. It is layer by layer process capable of producing 3D drug product from digital design. Because of high degree of flexibility & control 3D printing achieves the preparation of dosage forms which contains many active ingredients and complex release profile. Spritam is a reformulation of the anti-epileptic seizure drug levetiracetum developed by APRECIA PHARMACEUTICALS, based in Cincinnati, US. This technique has unique properties like fabrication of patient specific drug delivery system, through its versatility, speed of production and precision. This review summarizes 3D printing potential about drug and product development

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FAST DISSOLVING TABLETS: A NOVEL APPROACH IN ORAL DRUG DELIVERY SYSTEM

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Abstract:
Novel drug delivery system is a wide term which split into different areas. Among them Fast dissolving tablets (FDT's) have become more preferable oral drug delivery due to better patient compliance and preferred over conventional dosage forms like capsules and tablets. After oral administration, FDT disintegrates rapidly (in seconds) without chewing or water. From recent studies it was found that FDT now becoming a novel oral delivery system possessing several advantages like convenient dosing in patients suffering with dysphagia, vomiting, allergic reactions, Parkinson's disease, schizophrenia, migraine, nausea, pain, Alzheimer, diarrhea, etc. FDT's remain solid till administration and possess dose accuracy and stability during storage which transform into liquid form within few seconds after its administration for easy swallowing. FDT is a growing technology, offering considerable benefits both local as well as systemic effects. This review article will focus on desired characteristics, suitable drug candidate, formulation challenges, preparation methods and their evaluation. FDT can be prepared by using different techniques and performance of product depends on the drug suitability and selection of excipients in the delivery systems.

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GOLD NANOPARTICLES IN CANCER THERAPY: AN OVERVIEW

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Abstract:
Cancer is the third leading cause of death in developed countries and the second leading cause of death in United States. For the treatment of cancer generally therapies are employed which involves surgery, chemotherapy and radiation therapy, while these methods have been accepted and practiced by decades they have their drawbacks and side effects. At present, there seems to be high interest in the application of Gold nanoparticles to management of cancer encompassing diagnosis, monitoring and treatment of the disease. Some of the properties that gold nanoparticles possess, such as small size, non-toxicity and non-immunogenicity make there molecules useful candidates for targeted drug delivery system. These efforts are undertaken in the hope of revolutionizing current methods of treatment and treatment strategies for a multifactorial disease such as cancer. The aim of this review to study the field of nanotechnology with a focus on applications of gold nanoparticle in cancer management.

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MESOPOROUS SILICA NANOPARTICLES: PROMISING CARRIER MEDIATED DRUG DELIVERY SYSTEM

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Abstract:

Due to lack of specification and solubility of drug molecules, patients have to take high doses of the drug to achieve the desired therapeutic effects for the treatment of diseases. To solve these problems, there are various drug carriers present in the pharmaceuticals, which can used to deliver therapeutic agents to the target site in the body. Mesoporous silica materials become known as a promising candidate that can overcome above problems and produce effects in a controllable and sustainable manner. In particular, mesoporous silica nanoparticles (MSNs) are widely used as a delivery reagent because silica possesses favorable chemical properties, thermal stability, and biocompatibility. The unique mesoporous structure of silica facilitates effective loading of drugs and their subsequent controlled release of the target site. The properties of mesoporous, including pore size, high drug loading, and porosity as well as the surface properties, can be altered depending on additives used to prepare MSNs. Active surface enables functionalization to changed surface properties and link therapeutic molecules. They are used as widely in the field of diagnosis, target drug delivery, bio-sensing, cellular uptake, etc., in the bio-medical field. This review aims to present the state of knowledge of silica containing mesoporous nanoparticles and specific application in various biomedical fields.

PH-13

ORGANCHIP THE FUTURE OF DRUG DISCOVERY

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Rashmi R. Desai*, Vishakha A. Kumbhar
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Abstract:
The current drug discovery process is costly, and a majority of the drug candidates entering clinical trials fail to achieve the marketplace. The standard static well culture approaches, although useful, do not fully capture the intricate in vivo conditions. By merging the advances in microfluidics with microfabrication technologies, novel drug system are being introduced that lead to the creation of organ functions on a single chip. Within these system, the precise control over the cellular microenvironment can be achieve by microengineering , whereas an ability to perfuse the constructs on a chip and to connect individual sections with each other will be provided by microfluidics. This approach results in microsystems that may better represent the in vivo environment. These organ-on-a-chip platforms can be utilized for conducting drug testing studies by developing disease models. In poster, we focus several key developments in these microscale platforms for drug discovery applications.

PH-14

PHYTOSOME: NOVEL DELIVERY SYSTEM FOR NEUTRACEUTICALS

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Abstract:
Novel drug delivery system (NDDS) is an innovative approach to drug delivery that addresses the limitation of the traditional drug delivery system. Neutraceutical material usually shows less bioactivity than optimal state. Phytosomes are some better absorbed and improve bioavailability of bioingredients. The term 'phyto' means plant while 'some' means cell-like. Phytosome is advanced forms of Neutraceutical material which contains the bioactive phytoconstituents of herb extract surrounds and bound by a lipid. Phytosomes loaded are created from the reaction of the phospholipids like phosphotidylcholine and polymer with the standardized plant extract or polyphenolic phytoconstituents or flavonoids of herbal extract like gingko, grape seed, hawthorn, milk thistle, green tea and ginseng in aprotic solvent. Numerous methods for preparation of phytosomes loaded drug delivery are solvent evaporation method, Rotary evaporation technique, Antisolvent precipitation technique. Phytosomes has ability for easily across from cell membrane and enter cell. Phytosome show good stability. Phytosomes found superior to liposome in topical delivery and skin permeation enhancement. It reduces the dose due to high bioavailability. Phytoconstituents from phytosomes rapidly eliminated so; the duration of action is short. Phytosomes used in treatment of various diseases since antiquity. Phytosomes are potential drug delivery system in various ailments & it acts as carrier for drug in anti-tumor, anti-obesity, anti-inflammatory, cardioprotective, ant-asthmatic, anti-diabetic, anti-oxidant, hepatoprotecive etc.

PH-15

RECENT TRENDS IN COSMECEUTICALS! AN OVERVIEW

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Abstract:
Today's cosmeceuticals are serving as a bridge between personal care products and pharmaceuticals. The term "Cosmeceuticals" was introduced by Albert Kligman in 1984 to refer to substances that exerted both cosmetics and therapeutic benefits. The overview briefly expands the knowledge about Cosmeceuticals and the recent advancements made in Cosmeceuticals. Recently various trends are introduced in cosmeceuticals such as use of nanotechnology, utilization of herbal ingredients, cosmeceuticals from marine resources and use of disposable by-products for preparation of cosmeceuticals. Nanotechnology reveals the progression in research and development of cosmeceuticals. Traditional products have certain demerits like photoaging, hyperpigmentation etc. which are overcome by application of nanotechnology in the field of cosmeceuticals. Using herbs for beautification is traditionally originated in India from Ayurveda. The relation between Ayurveda and cosmeceuticals is gaining importance in beauty as well as health. Marine resources having great potential and are efficiently used as cosmetics. Algae-based active ingredients from marine resources are used to protect against harmful effects of UV radiation. Some disposable by-products obtained from industrial waste which are rich in valuable compounds are used in cosmeceuticals.

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ADVANCEMENTS IN "MICROBUBBLES" AS DRUG DELIVERY SYSTEM

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Rashmi Sawant*, Gauravi Kinjawadekar, Mona Mohite, Sharvari Waingankar, Gayatri Shetgaonkar.
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Abstract:
Microbubbles are small, spherical type of bubbles which comprise of a gaseous core encapsulated and stabilized by shell comprised of lipid, proteins or polymers. They range in size between 1-4 micrometer (smaller than size of RBCs). This allows their free circulation in vasculature and they are capable of penetrating into small blood capillaries. Microbubbling is rapid and cheap method, it is a versatile tool for preclinical and clinical use. The mechanism behind this advanced delivery of drugs is sonoporation i.e. cavitation of bubbles in ultrasound field which induces cell permeability. The ability of microbubbles to respond ultrasound makes them useful as contrast agent in ultrasound imaging, molecular imaging, carriers for targeted drug release and gene delivery. Ultrasound mediated microbubbles can transiently increase permeability of blood brain barrier and have offered promising approaches for cancer theranostics, they also offer diagnosis for signs of blood clotting. This review summarizes the therapeutic properties and recent advancements in ultrasound microbubbles as drug delivery system.

PH-17

REVIEW ON FORMULATION AND CHARACTERIZATION OF ORAL FILMS

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Abstract:

Over the past few decades, tendency toward innovative drug delivery systems hasmajorly increased attempts to ensure efficacy, safety and patient acceptability. As discovery anddevelopment of new chemical agents is a complex, expensive and time consuming process, so recenttrends are shifting toward designing and developing innovative drug delivery systems for existingdrugs. Out of those, drug delivery system being very eminent among pediatrics and geriatrics isorally disintegrating films (ODFs). These fast disintegrating films have superiority over fast disintegratingtablets as the latter are associated with the risks of choking and friability. This drug deliverysystem has numerous advantages over conventional fast disintegrating tablets as they can be usedfor dysphasic and schizophrenic patients and are taken without water due to their ability to disintegratewithin a few seconds releasing medication in mouth. Various approaches are employed forformulating ODFs and among which solvent casting and spraying methods are frequently used.Generally, hydrophilic polymers along with other excipients are used for preparing ODFs whichallow films to disintegrate quickly releasing incorporated active pharmaceutical ingredient (API)within seconds. Orally disintegrating films have potential for business.

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NYCTANTHES ARBORTRISTIS: AS A NATURAL COLORANT IN DRUG PRODUCTS

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Abstract:
Pharmaceutical excipients are the backbones of pharmaceutical industries. Colorants are used mainly to impart a distinctive appearance to a pharmaceutical dosage form like tablets, hard or soft gelatin capsules, liquid orals, topical creams and ointments and cosmetics. Unattractive medication can be made more attractive and acceptable to patient by use of color

Preparation of two types of extracts i.e. chloroform and aqueous extract, comparing between them as a coloring agent. Use of *Nyctanthes* flowering stalk extract as a coloring agent in syrup and granules. Collection and authentication of plant, *Nyctanthes* flowering stalk extract solvent extraction method using solvents aqueous and alcoholic extract ,then its characterized. *Nyctanthes* flowering stalk by solvent extraction method using distilled water,chloroform. Physical characterization of the coloring matter was done like determination of solubility which showed that it is soluble in distilled water. Two extract were studied to identify the presence of specific phytoconstituent in them. It can be concluded from the present work that aqueous extract of Nyctanthes flowering stalk shows significantly colorant property when compared with chloroform extract .Thus it can be use as coloring agent in pharmaceutical dosage formulation.

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EUDRAGIT RL100 BASED COMBINATION NANOPARTICULATE SYSTEM OF MOXIFLOXACIN HCL AND KETOROLAC TROMETHAMINE FOR THE TREATMENT OF OCULAR COMPLICATIONS.

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Abstract

The purpose of this investigation was to develop and evaluate moxifloxacin hydrochloride and ketoroalc tromethamine loaded Eudragit RL 100 nanosuspension for the treatment of ocular therapy. Nanoprecipitation method was employed for the preparation of nanosuspension. Developed formulations were characterized for particle size, PDI, zeta potential, FTIR studies and *in vitro* drug release. The mean particle size of drug combination nanosuspension batches varied from 74.60 to 115.1 nm, which was suitable for ophthalmic application. PDI was observed below 0.4 indicated the narrow particle size distribution. Zeta potential was observed in the range of 12.5 to 16.7mV which was sufficient for stabilization of nanoparticles within nanosuspension. Entrapment efficiency of moxifloxacin hydrochloride and ketorolac tromethamine was observed in the range of 79.34to 81.89 and 81.25to 82.25, respectively. There was non-significant difference observed in the entrapment of both the drugs. Drugs and polymer did not show chemical interactions. *In vitro* drug release profile of moxifloxacin hydrochloride and ketorolac tromethamine showed sustained release from nanosuspension conducted for 10 hours as compared to commercial eyedrop preparation. MKNS 4 formulation having higher viscosity of 4.40cps showed sustained release of both drugs and followed zero order kinetics with anomalous mechanism of drug release. Water soluble drugs were successfully formulated as a combination nanosuspension using nanoprecipitation technique. Due to their sustained release and positive surface charge required for precorneal retention, this will be a promising ocular drug delivery.

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MONOCLONAL ANTIBODIES AS A DRUG CARRIER: AN OVERVIEW

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Abstract:-

The objective of drug targeting is to deliver drugs to specific site of action through a carrier system. Monoclonal Antibodies (MAbs) are antibodies that are identical as they are produced by one type of immune cell, all clones of a single parent cell (Hybridomas). This hybridoma is clonned so that single species antibody is obtained in large quantity. MAbs kills the target cell by several mechanisms including direct-signalling of apoptosis or antibody-dependent-cellular cytotoxicity (ADCC) or complement-dependent cytotoxicity. Application of Monoclonal antibodies in cancer therapy has increased tremendously. In cancer chemotherapy, cytotoxic drugs kill cancerous cells by damaging the normal cells, wherein MAbs has specificity, which deliver drugs to cancer cell by minimizing damage to normal cells. This article is emphasize on mechanism and advantages of monoclonal antibodies as novel drug delivery system using with different targeted clinical approaches are reviewed.

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FORMULATION AND EVALUATION OF PACLITAXEL EMULGEL FOR TOPICAL DRUG DELIVERY IN CANCER

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Abstract:
The aim of the present research work is to decrease the systemic side effects and to create a more pronounced effect of paclitaxel emulgel with lower doses of the drug. Emulgel emerged as one of the most interesting topical drug delivery system as it has dual release control system. Also the stability of emulsion is increased when it is incorporated into gel. The emulgel was developed using polymers like carbopol 934 and HPMC of gel and emulsion in (1:1) ratio. Drug-excipients interaction was characterized by FTIR studies. The topical emulgel was prepared by preparing emulsion and gel separately and incorporation emulsion into the gel. The emulgel was evaluated for their physical appearance, pH evaluation, Spreadability, rheological study, drug content, in vitro permeation study and stability study. After all evaluation it can be concluded that paclitaxel emulgel could increase the drug permeability across the membrane and fast release of the drug could be achieved successfully. The aim of present study was to develop an emulgel formulation of Paclitaxel gel using Carbopol 934 and HPMC as a gelling agent. The influence of the type of gelling agent and the concentration of both the oil phase and emulsifying agent on the release of the drug were investigate in addition, rheological properties were also evaluated. The present work is to develop Paclitaxel emulgel adaptable topical drug delivery systems which provide protection against breast cancer, cervical cancer, head and neck cancer, ovarian cancer, Kaposi's sarcoma and other topical carcinomas, and also enhances the absorption rate, and prolonged release and enables reduction in dose as well as systemic toxicities of drug.

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REVIEW ON COMPUTERISED MINIATURE DRUG IN DIABETES

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Abstract:

The diabetes is one of the major leading metabolic disorder and its incidence increasing year by year more in India. For the treatment of diabetes many therapies are available but some are more effective and some are less effective. So the computerised miniature pump is one the best tool by which we can administer insulin by controlled observation of blood glucose level through insulin pump is an effective drug delivery in diabetics. In routine procedure antidiabetic drug therapy requires multiple doses of drug per day but comparatively this approach of insulin pump one single drug dose is require in every three days. This technique has great importance as it is more effective onset of action than routine therapy. This insulin pump increased flexibility in lifestyle, reducing episodes of severe hypoglycaemia, reducing wide fluctuations in blood glucose. This review article focussed on a novel approach of effective computerized miniature pump in the prevention and treatment of diabetes and its complications.

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COLOR CHANGING CONTACT LENS

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Abstract
The ophthalmic drug isformulated in ointment or eye drop form. In research it's seen that the ophthalmic drug device has more than 50% bio-availability in comparison to eye drops formulation. Hence the new generation color changing contact lens are invented. It treats the ocular disorders and also controls the ophthalmic drug release in large number. They are designed to correct the refractive errors and maintain ocular health .The molecularimprinting technology is used for treatment and the silicon dioxide nanoparticles are identically arranged in lens. They float on the tears film layers on surface of cornea. This reports the color changing ophthalmic drug release.

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BUCCAL PATCHES

Akshay Prabhune, Shailesh Kulkarni, Viraj Kate, Aniket Melawane
Pranita K. Pawar
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Abstract:
Oral route is most ancient as well as preferred by the patient being convenient to take. However , per oral administration of drugs has short comings such as hepatic first- pass metabolism and enzymatic degradation within the GI tract which comprehend a hindrance to the contrary as per oral route mucosal layer (nasal , rectal , vaginal) as often considered as potential site for drug administration and having distinct advantages for a systematic drug delivery . These advantages include possible liver bypass effect, avoidance of pre systematic elimination within GI tract with improved absorption and hence better bioavailability. Although, the mucosal surface as a site for drug delivery has certain drawbacks too as the lack of dosage form retention at the site of absorption consequently, the concept of bio-adhesive polymers has extensively been employed in the development of trans-mucosal drug delivery systems. If these polymers are then incorporated into buccal formulations, drug absorption by buckle mucosa layers may be enhanced or the drug may be released for extended period of time as per the formulations design. This review describes historical background of mucoadhesive system , different polymers used permeations enhancers , in-vitro and in-vivo methods of bio-adhesion.

PH-25

MICRO ALGAE POWERED DRUG DELIVERY

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NOVEL TRENDS IN DRUG DESIGN AND NATURAL PRODUCT CHEMISTRY
Saturday, 02nd February 2019

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Abstract:
Target transport of particular or certain restoative drug efficiently in cell is one of the principle question experienced during remedy of disease such as cancer.In recent tenner,many drug transport system made up of biocompatible material been evolved to manage target to release remedial treatment.Though there are still hurdle in fruitful conveying of medicine since such transportation system are inferior in active movability and drivability.Biohybrid microswimmers with sizes down to a few micrometers can function individually by harvesting energy from regional environment and offer further profit over current remedies in penetrating hard to-reach interrogation.Transport of micrometer scale synthetic drugs in light controlled way using a unicellular photosynthetic microalgae,Chlamydomonas reinhardtii inhibits release of drugs, which were adhered to the microalgae.This application is used to treat cervical cancer,ovarian cancer cells and healthy cells.Straightforward administration methods can be used to achieve and treat interrogation such as reproductive gastrointestinal tract by injection or catheter distribution at the close proximity of the site of action.

PH-26

NANOFIBERS IN DRUG DELIVERY SYSTEM

Divekar O.P*,Mhapsekar H.P, Kudalkar G.S, AnavkarS.S, Teli S.S, Gandhi S.M.

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Saturday, 02nd February 2019

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Abstract:

Nanofiber's technology is a branch of nanotechnology whose primary objective is to create the materials in order to achieve superior function.It has many applications ranging from tissue engineering wound dressing artificial organs to reinforcements for aerospace structure. The nanofibers have diameter less than 100 nanometre. Nanofibers are basically used for Drug delivery system. Different methods are used to prepare nanofobreslike 1) Electrospinningprocess2) Solution blow spinning apparatus3) Nanofibers produced by cellulose. Nanofibersare applicable in drug deliver such as A) Anticancertherapy – The doxorubicin/magnetic nanoparticles nanofibers induced the apoptosis of cancer cells due to the synergistic effect of chemotherapy and hyperthermia. Nanofibers have potential for use as manipulative material that combines hyperthermia and drug release treatments that can control with simple switching on or off of an alternating magnetic field. B) Wound Healing – Large surface area of nanofiber mats allows for increased interaction with compounds and provides mechanism for sustained release of antibiotics, analgesics in wounds; high porosity allows diffusion of nutrients and waste. C) Nanoparticle-HIV interactions D) Tissue engineering a)Bone tissue engineering b)Barrier textiles

Future Scope- Further enhancement in cell differentiation and drug encapsulation and drug release rate control could be achieved.

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MOUTH DISSOLVING TABLET

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Sayli Mane, Nikita Gurav
Miss. Pranita Pawar

Abstract:
There are many recent advances in Novel Drug Delivery Systems (NDDS) aim for preparing dosages forms, convenient to be manufactured and administered, offers immediate release and enhance bioavailability, to achieve a better patient compliance. Though tablet is a oral dosages form, it is in compact form, offers uniform dosages and painless delivery. Mostly 35% of population face dysphagia and also some other disease. To overcome this problem certain innovative drug delivery system like mouth dissolving tablet has been developed. This is the drugs that dissolve in saliva within few seconds, when it is put on tongue. Administration without water, anywhere and anytime so it is beneficial for travelling patients. Occasionally it is useful for pediatric and geriatric patients. The Aim of this is to review the properties of mouth dissolving tablets, preparations, characteristics, significance, limitations, challenges in formulation, approaches for preparation of MDTs, marketed products of MDTs and evaluation test of MDTs.

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NANOFLUIDS- A CUTTING EDGE TECHNOLOGY FOR COLLOIDAL DRUG DELIVERY.

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Abstract:

Over the last few decades, colloidal drug delivery systems have been developed in order to improve the efficiency and the specificity of drug action. Pharmaceutical nanotechnology is evolved as a powerful tool for pharmaceutical chemist and formulation scientists. It has given a new direction to pharmaceutical and drug discovery research. The small size, customized surface, improved solubility and multi-functionality of nanoparticles open many doors and create new biomedical applications. The novel properties of nanoparticles offer the ability to interact with complex cellular functions in new ways. Nanofluids are engineered colloidal suspensions of nanoparticles in a base fluid. The nanomaterialsused in nanofluids are typically made up of stable metals, metal oxides, carbides or carbon (e.g. Al_2O_3, ZrO_2, SiO_2, Fe_3O_4, Cu, Au, carbon, diamond, fullerene, polymer -teflon etc.)These materials can be in any of following nanostructured form- nanoparticles, nanofibers, nanotubes, nanowires, nanorods, nanosheet which are suspended in Common base fluids such as water, ethylene glycol and oil. Preparation of nanofluids may be done by one step, two step method, chemical approach or laser ablation. The stability of nanofluids can be enhanced by different means such as addition surfactants, surface modification technique, pH control and ultrasonic agitation. Nanofluids are charactrised by SEM, TEM, XRD, FT-IR, DLS,TGA and zeta potential analysis. Nanofluid technology which deals with nanofluids has provided an ultimate engineering solution for heat transfer application and automotive application in different industries. The highlighting features of nanofluids include- High specific surface area and therefore more heat transfer surface between particles and fluids, High dispersion stability with predominant Brownian motion of particles, Reduced pumping power as compared to pure liquid to achieve equivalent heat transfer intensification, Reduced particle clogging as compared to conventional slurries, thus promoting system miniaturization, Adjustable properties, including thermal conductivity and surface wet ability, by varying particle concentrations to suit different applications.

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Nanofluids are well known for their applications in engineering field, many researchers have also reported their use for different biological, medical and biomedical applications. Considering the tremendous growth of pharmaceutical nanotechnology with respect to drug discovery, formulation and development of nanoparticulate novel drug delivery systems, it is expected in coming years that high performance drug nanoparticle fluid suspensions (nanofluids) will begin a new era of formulation research. The proposed poster summarises method of preparation, characterization, stability, recent research and applications of nanofluids.

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SOLID DISPERSION: THE DRUG SOLUBILITY ENHANCEMENT TECHNIQUE

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Abstract:
The term solid dispersion means a group of solid products which consist of at least two different components which are hydrophilic matrix and a hydrophobic drug. Solubility is a significant factor which will affects absorption of a drug and its therapeutic action. In pharmaceutical industries during formulation of dosage form,if there is a drug which having poor aqueous solubility so there will be failure in drug. The low dissolution rate and low solubility of drug substances in water in aqueous gastro-intestinal tract fluids, frequently leads to inadequate bioavailability. When the solid dispersion comes in contact with the aqueous medium,the inert carriers dissolves and the drug is release. The increase surface area produces the higher dissolution rate.Thus increasing the bioavailability of poor soluble drug. The commonly used hydrophilic carriers for solid dispersion include polyvinyl pyrrolidone(povidone,PVP),polyethylene glycols (PEGs), plasdone S630.surfactants like tween 80,pluronic-F68 and sodium lauryl sulphate (SLS) as well used in the formulation of solid dispersion.

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DESIGN AND DEVELOPMENT OF QUERCUS INFECTORIA ANTIMICROBIAL GEL

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***Presenting Authors**: Miss. Yogita Appasaheb Kamble.

To design and develop antimicrobial activity of gel of *Quercus infectoria* extract. The gel was formulated using water extract of *Quercus infectoria* using soxhelation and evaluated for various parameters. The gel was formulated using accurately weighed amount of extract along with other additives like sodium CMC, propylene glycol, glycerin, triethanolamine are used. Poured into the fixed amount of glycerol dispersion with frequent heating and constant stirring. The gel formulations prepared were subjected to preliminary evaluation such as pH, drug content uniformity, and spreadability and antimicrobial study. The parameters were found to be satisfactory. The gel was evaluated for organoleptic characters such as colour, odour and taste. The pH of the gel was 6.8, complying with the pH of skin. The spreadability of gel was 1.33 g cm/sec. The gel was found to be clear and homogenous and free from skin irritation on application. The result of antimicrobial activity of gel was positive when tested using *S. muton*. The results of this study revealed great acceptability of gel formulation of *Quercus infectoria*. Quercus infectoria, gel, antimicrobial, mouth ulcer

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PROCESS VALIDATION FOR DEVELOPMENT OF GARCINI HERBAL TABLET

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Abstract:
Validation is a concept that is fundamental to GMP and any quality assurance programme. Validation of the individual steps of the process is called process validation. Process is developed in such way that the required parameters achieved and it ensures that the output of process will consistently meet the required parameters during routing production. This concept is applied in pharmaceutical industry, but not that much deeply methodologically studied in herbal industry. The use of herbal medicine is the oldest form of healthcare. As growing public interest in use of herbal medicines, it is necessary to development of modern and objective standards for evaluating quality of herbal medicines. So that it is a need process validation in manufacturing of herbal drugs for control the quality of herbal drugs. The reasons for doing process validation in herbal manufacturing industry are manufacturers are required by law to confirm to GMP regulations, good business dictates that a manufacturer avoids the possibility of rejected or recalled batches, process validation helps to ensure product uniformity, reproducibility, quality and to make process economical. Hence objective of present study was to ensure drug product quality, consistency of the manufacturing operation and reproducibility of the process, to confirm the product, manufactured with the present method, consistently meet the predetermined specification and quality attributes and to make the process economical.

PH-32

SCREENING OF SERICIN FOR STABILIZATION OF DRUG NANOCRYSTALS

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To stabilize nanocrystals by Sericin to enhance solubility and bioavailability of poorly soluble drug. To prepare and develop nanocrystals of poorly soluble drug
Silk cocoons were collected and dried. Extraction of silk sericin protein is carried out by various methods. The degummed silk Sericin was purified/dialyzed by aeration method and sericin powder was prepared by lyophilization. The characterization and evaluation of nanocrystal formulation was carried out by different physical and chemical spectral analysis techniques. Silk sericin was extracted from cocoons of B. mori by alkali salt method and purified by centrifugation, filtration and dialysis. Preliminary chemical investigation of purified sericin showed the presence of proteins, amino acids etc. The isoelectric pH of sericin was found to be at 3.9. Spectroscopic characterization of sericin by ATR-FTIR indicated presence of amide I (C =O stretching), amide II (N-H bending), amide III (C-N stretching) and amide IV. PXRD spectra of sericin showed its amorphous nature. Silk sericin nanocrystals containing hydrochlorothiazide were prepared by antisolvent precipitation technique. ATR-FTIR analysis showed no drug polymer interactions. DSC and XRD studies revealed entrapment of Hydrochlorothiazide in Silk sericin Nanocrystals.

PH-33

SOLID LIQUID NANOPARTICLE

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Abstract:
Solid lipid nanoparticles are at the forefront of the rapidly developing field of nanotechnology with several potential applications in drug delivery, clinical medicine and research as well as in othervaried sciences.
Solid lipid nanoparticle (SLN) dispersions have been proposed as a new type of colloidal drug carrier system suitable for intravenous administration. The system consists of spherical solid lipid particles in the nanometer ranges, which are dispersed in water or in aqueous surfactant solution. It is identical to an oil-in-water emulsion for parenteral nutrition but the liquid lipid (oil) of the emulsion has been replaced by a solid lipid, i.e., yielding Solid Lipid Nanoparticles. Different production methods which are suitable for large scaleproduction and applications of solid lipid nanoparticles are described. Appropriate analytical techniques for characterization of solid lipid nanoparticles like photon correlation spectroscopy, scanning electron microscopy, differential scanning calorimetry are highlighted. Aspects of solid lipid nanoparticles route of administration and their biodistribution are also incorporated. If appropriately investigated, solid lipid nanoparticles may open new vistas in therapy of complex diseases.

PH-34

DERMOJETS: A NOVEL APPROACH IN DRUG DELIVERY SYSTEM

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Abstract:
Dermojet is a subcutaneous needleless injection of a drug by means of high velocity jet protected through a microfiber orifice. Needle free injection technology to reduce the number of needle stick accidents such as skin puncture, skin destruction and bleeding. It imparts fast drug delivery and enhance bioavailability. Dermojet injection has advantages like elimination of needle phobia, self-administration is feasible with needle free injection. Needle free injection is the very effective injections a wide range of drugs and bioequivalent to syringe and needle. It results in less pain, and is strongly preferred by patients. Immunisation of influenza, tetanus, typhoid, diphtheria, pertussis and hepatitis A vaccine can be deliver by needle free injection. Dermojet injection are administered by intradermal, subcutaneous and intramuscular route intended for local anaesthesia, corticosteroids injection, micro hair transplant and medical treatment for scars. Dermojet is used for in dermic injection and tests, intradermic vaccination, Dermatology, urology, proctology, minor surgery, gynaecology. The newly designed jet injectors can overcome most of these difficulties by introducing adjustable parameters selected according to the skin-site properties and thickness. This review article focussed on current potential of dermojet injection their advantages, therapeutic benefits in drug therapy over other route of administration.

PH-35

DESIGN, DEVELOPMENT AND EVALUATION OF SELF NANOEMULSIFYING DRUG DELIVERY SYSTEM OF GARLIC OIL USING CAPRYOL PGMC

Radhika Subhedar*, Sardar Shelake, Shitalkumar Patil

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Abstract:
The aim of present work was to formulate and evaluate self nano-emulsifying drug delivery system of garlic oil for atherosclerosis. Atherosclerosis is a multi-factorial disease and many different approaches have been attempted for its prevention and treatment. The SNEDDS of garlic oil was prepared using oleic acid as oil, capryol PGMC as a surfactant and ethanol as a co-surfactant, as the garlic oil shows better solubility in these excipients by constructing pseudo-ternary phase diagram. The Km=3 was selected for the preparation of SNEDDS of garlic oil because it shows best nanoemulsion region as compared to Km=1 and 2. The formulated SNEDDS of garlic oil was evaluated for physical characterization, thermodynamic stability, rheology study, globule size and zeta potential, dispersibility study, cloud point determination, % transmittance, drug content, FTIR study and In vitro drug release study. Three batches of SNEDDS of garlic oil was formulated using Km value 3 which cover maximum nanoemulsion region, containing oleic acid (solubility 57.53± 0.45), Capryol PGMC (solubility 59.80±0.82) and ethanol (solubility 49.83± 0.30). Based on the compatibility study, optimum globule size (177.2 nm), minimum polydispersity (0.386), higher drug content (90.89 ± 0.68) and higher drug release (98.85%). The bioavailability problem can be overcome by the Self nano- emulsifying drug delivery system, which presents the more drugs in solubilized form in the body as compared with other conventional drug delivery systems.

PH-36

PREPARATION AND EVALUATION OF FENOFIBRATE LOADED NANOPARTICLES BY PRECIPITATION METHOD

Sardar Shelake*, Sachinkumar Patil, Shitalkumar Patil

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Abstracts:
Nanoparticles formation is done by most powerful technology known as Nanotechnology and this technology is used for the formulation of poorly water soluble drugs. Preparation and evaluationof BCS class II drug loaded nanoparticles by precipitation method for solubility and bioavailability enhancement is the primary aim of this present research work. As per biopharmaceutical classification system the poorly water soluble drugs are categorized under class II (Low solubility and high permeability). Fenofibrate (BCS Class II drug) was selected for this study. The Fenofibrate nanoparticles were prepared by precipitation technique and characterized by FTIR, DSC, PXRD, SEM, Zeta potential and *In-vitro* drug release. The DSC, PXRD, and FTIR data showed that no any interaction between drug and polymer. The nanoparticles showedimproved dissolution profile. SEM image indicated that nanoparticles are spherical in shape. The water solubility of drug loaded nanoparticles was increased as compared with the pure drug. The Nanoprecipitation method is simple and easy at lab level; this approach had a general applicability for many poorly water-soluble drug entities.

PH-37

TRANSDERMAL PATCHES

Shubham Patil, Nikita Sawant
Name of guide: Pranita K. Pawar

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Abstract
Throughout the past 2 decades, the transdermal patch has become a proven technology that offers a variety of significant clinical benefits over other dosage forms. It constitutes a new trend in controlled delivery system and has opened new scientific horizon in innovations. The delivery of drugs transdermally (through the skin) provides several important advantages over traditional oral and intravenous delivery routes. Transdermally delivered drugs avoid the risk and inconvenience of intravenous therapy, usually provide less chance of an overdose or underdose, allow easy termination, and permit both local and systemic treatment effects. Transdermal drug delivery offers controlled release of the drug into the patient, it enables a steady blood level profile, resulting in reduced systemic side effects and, sometimes, improved efficacy over other dosage forms. A transdermal patch is a medicated adhesive patch that is placed on the skin to deliver a specific dose of medication through the skin and into the bloodstream. Often, this promotes healing to an injured area of the body.

PH-38

BUCCAL PATCHES

Miss Akanksha Chikhale , Miss Akshata Kadam , Miss Harshada Samjiskar
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ABSTRACT:

A small, flat lozenge intended to be inserted in buccal pouch(cheek), where the active ingredients is absorbed through the oral mucosa; such a tablet dissolved or erodes slowly. Buccal delivery of the desired drug using mucoadhesive polymers has been the subject of interest since the early 1980's. Advantages associated with buccal drug delivery have rendered this route of administration useful for a variety of drugs. This review highlights the use of the mucoadhesive polymers in buccal drug delivery. Starting with the review of the oral mucosa mechanism of drug permeation and characteristics of desired polymers, this article then proceeds to cover the theories behind the adhesion of bio-adhesive polymers to the mucosal epithelium. Additionally, we focus on the new generation of mucoadhesive polymers such as thiolated polymers, followed by the recent mucoadhesive formulations for buccal drug delivery.

PH-39

DEVELOPMENT OF PRESS COATED FLOATING PULSATILE RELEASE TABLET OF CARVEDILOL USING SEDEM EXPERT SYSTEM

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Abstract:
Objective of present study was to develop press coated floating pulsatile release tablet of carvedilol using SeDeM expert system. A successful attempt was made to develop floating pulsatile release tablet by using Primellose sodium as a disintegrants and HPMC E50 for coating of the core tablets in order to impart pulsatile release characteristics. For the preparation of floating pulsatile release tablets HPMC K4M and sodium bicarbonate were used. All these excipient were selected by applying SeDeM expert system. The optimized pulsatile release tablet coated with 280 mg of HPMC E50 showed release lag time of 6 h. The optimized formulation (F3) containing higher concentration of HPMC K4M (70 mg) and sodium bicarbonate (20 mg) showed 58 sec floating lag time and more than 12 h of floating time. The present study concluded that floating pulsatile release tablets of Carvedilol (F3) showed rapid drug release after 6 h. In addition, it can be concluded that prepared formulation has the advantages over conventional formulation that, it reduces dosing frequency and provide efficient chronotherapy by releasing drug at particular time only when there is greatest risk of disease or increased intensity of symptoms.

PH-40

GLYCOSYLATED CARRIERS: POTENTIAL APPROACH FOR TARGETED DRUG DELIVERY

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Abstract:
Carbohydrates not only represent a vast potential as structure building blocks of living cells but also have proved as a promising candidate for drug delivery. Glycosylation of nanocarriers instructs some gratifying characteristic, which leads to the evolution of promising delivery systems. Some path-breaking advantages of glycosylated carriers include the engineered release profile of bioactives when introduced into biological system. Being natural product of living system these carriers also upshots as a multifaceted drug delivery vehicle and reduces the toxicity associated with unmodified drug carrier and therapeutic agent. An additional attribute of these carriers is to alter the pharmacokinetic profile of drugs positively with stabilization of drug carrier. The presence of lectin receptors on different cell surfaces makes the glycosylated carrier appreciable for targeted delivery of drugs to improve their therapeutic index. Active participation of some lectin receptors in immune responses to antigen overlaid the application of glycosylated carriers in delivery of antigen and immunotherapy for treatment of ailments like cancer. These advantages revealed the promising potential of glycosylated carriers in each perspective of drug delivery. Collectively this review presents an overview of different applications of glycosylated carriers, with a focus on their applicability in development of a nanoconstruct with GRAS status.

PH-41

DESIGN AND ITS EVALUATION OF NOVEL SUSTAINED RELEASE MATRIX TABLETS OF SALBUTAMOL SULPHATE BY APPLYING TAMARIND SEED GUM

V. C. Gurumukhi[1], S. B. Bari[2]

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2. H. R. Patel Pharmaceutical Education and Research, Shirpur.

Abstract:-
The aim of this work was to develop sustained release tablet formulations of Salbutamol Sulfate(SS)by applying tamarind seed gum in their formulation. The drug, SS categorized in antiashtmatic drug, first selective A2-receptor agonist. All pre- and post-compression tests met the pharmacopoeia specifications. Various formulations of sustain release matrix tablets of SS were formulated using different proportion of TSP by direct compression method. The tablets were evaluated for physical characterization, in vitro release study. Observation of all formulations for physical characterization had shown that, all of them comply with the specification of official pharmacopoeias and standard references. The results obtained in-vitro release profile indicate that among all the formulations, F5 and F6 was found to be better formulations as it showed 92.89 % and 85.59 % drug release within 12 hours by using Tamarind seed polysaccharide (TSG) and study effects of TSG concentration on release pattern. The in-vitro release data was plotted for various kinetic models and indicating zero order for formulations no 5 and 6 with R^2 value 0.983 and 0.952 respectively. The slope of peppas model was found to be 0.769 for F5 and 0.704 for F6 which indicate that drug was released by non-fickian diffusion mechanism. In Stability study it observed that the drug loss on storage was found to be normal. Thus, formulation of SS can result in a significant improvement in bioavailability since the first pass metabolism will be avoided.

PH-42

DEVELOPMENT AND EVALUATION OF SOLID SMEDDS OF EPROSARTAN MESYLATE FOR IMPROVEMENT OF SOLUBILITY AND STABILITY

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NOVEL TRENDS IN DRUG DESIGN AND NATURAL PRODUCT CHEMISTRY
Saturday, 02nd February 2019

Abstract

EM is an antihypertensive agent belongs to Biopharmaceutics classification system (BCS)-II category having poor water solubility. The bioavailability of EM is approximately 13%. The SMEDDS formulation was developed using Capmul MCM, Tween 80 and Transcutol-H. The optimized SMEDDS formulation was transferred on to the inert adsorbent i.e. Neusilin US2, to formed a solid self emulsifying drug delivery system (SSMEDDS). Solid SMEDDS with 1:1 ratio (adsorbent: SMEDDS) showed excellent oil adsorption capacity, low bulk density and good flow properties. The work focused on the development of self micro-emulsifying drug delivery system (SMEDDS) for EM. The solubility studies were carried out using various oils and surfactants/cosurfactant. Amongst the various oils screened, Capmul MCM indicated highest solubilization of both the drugs. Tween 80 a hydrophilic nonionic surfactant (HLB 15) was found to have the maximum drug solubility. Transcutol H and PEG 400 were selected as cosurfactant for designing of SMEDDS containing EM.

PH-43

EMULGEL: A NOVEL TOPICAL DRUG DELIVERY

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Saturday, 02nd February 2019

Abstract:

Topical drug delivery of drugs throughout the skin is attending broad acceptance among patients. It is a possible route of administration for potent, low molecular weight therapeutic drugs prone to first pass metabolism. Benefits of TDDS include non-invasiveness, extended drug levels in systemic blood circulation, reduced side effects, enhanced bioavailability, better patient acceptance and easy treatment termination. Transdermal delivery system considered two criteria one is attaining enough flux across the skin and the second is lowering the lag time of skin permeation. Strategy employed to overcoming this constraint is the inclusion of various skin permeation enhancers into the vehicle. Another strategy is a choice of an appropriate vehicle that corresponds to the drug being used for the dermal route of administration. When gel and emulsion are used in combination form the dosage forms is known as emulgel. As the name indicate they are the combination of emulsion and gel.

PH-44

PHOSPHOLIPIDS AS VERSATILE POLYMER IN DRUG DELIVERY SYSTEMS

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Abstract:
Phospholipids are a group of lipids which are a major component of all cell membranes. They can form lipid bilayers because of their amphiphilic nature. The structure of the phospholipid molecule consists of hydrophobic fatty acid "tails" and a hydrophilic "head" consisting of a phosphate group. Phospholipids are act as pharmaceutical excipients. This study summarizes scrupulous features of phospholipids and their application in a variety of drug delivery systems and elucidates various techniques to enhance the bioavailability and disposition of drugs administered through various routes. The benefits of phospholipid based drug delivery systems are not only enhance the bioavailability of drugs with poor aqueous solubility, membrane penetration, but also improvement or alteration of drug uptake and release, protection of sensitive drugs from deprivation in the gastrointestinal tract, reduction of gastrointestinal side effects and also masking of bitter taste of orally administered drugs. This study reveals formulation aspects of phospholipids in liposomes, lipid nanoparticles, micelles, nanoemulsions.

PH-45

NUTRACEUTICALS: NEW ERA OF MEDICINE AND HEALTH

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Nutraceutical combines two words the term 'nutrition/nutrients' (a nourishing food component) and 'pharmaceutical' (medicine or a substance used as a medication) applied to food or food component products sometimes with active principle from plants that can provide health and medical benefits, including the prevention and treatment of disease. The name of nutraceuticals was originated in 1989 by Stephen De Felice, founder and chairman of the Foundation for Innovation in Medicine. Risk of toxicity or adverse effect of drugs led us to consider safer nutraceutical and functional food based approaches for the health management. This resulted in a worldwide nutraceutical revolution. The nutraceutical revolution will lead us into a new era of medicine and health, in which the food industry will become a research, oriented one similar to the pharmaceutical industry.

PH-46

NANOPARTICLES: A VERSATILE DRUG DELIVERY SYSTEM

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Nanotechnology refers to the creation and utilization of materials whose constituents exist at the nanoscale; and, by convention, be up to 100 nm in size. Nanoparticles are solid particles extending from 10 nm to 1000 nm in size. They have many of the physiognomies and benefits of microspheres and they are made from different materials depending on the type of nanoparticles and types of drugs, including proteins, peptides, small molecules, and genetic material, that are loaded into the particles. Nanoparticles are effective for drug delivery, many people do not recognize that there are numerous types of nanoparticle formulations that vary depending on formulation procedure, materials used, type of drug encapsulated, drug distribution in the particle, morphology and size of the particles. In this review we discuss the key properties of nanoparticles and their preparation and then discuss how these factors can play a role in determining their fate and behaviour in the natural environment.

PH-47

IN VITRO–IN VIVO CORRELATION: IMPORTANCE OF DISSOLUTION IN IVIVC

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Abstract:

In Vitro–In Vivo Correlation plays a crucial part in pharmaceutical development of dosage forms. This tool accelerates the drug development process and leads to increase the quality of product. It is an fundamental part of the immediate release as well as modified release dosage forms development process. *In Vitro–In Vivo* Correlation is a tool used in quality control for scale up and post-approval changes e.g. to advance preparations design or to modification of production processes, in the end to lessen the quantity of human studies during development of novel pharmaceuticals and also to support the biowaivers. The present article delivers the information on the numerous guidelines of FDA, authentication, evaluation, application of BCSin*In Vitro–In Vivo* Correlation, IVIVC levels, mapping, with novel drug delivery systems and prediction of IVIVC from and the dissolution profile of preparation.To decide Therapeutic efficiency in vitro is not adequate so the concept of In vitro-In vivo correlation (IVIVC) is playing as a definite relationship with this for concept of pharmaceutical dosage forms designing in the pharmaceutical industry, academeand also regulatory segments. Invention, Expansion and optimization of dosage form is a vital part of investigation directed by technology transfer to scale up the manufacturing and then simultaneous authentication overseen from the marketing of any therapeutic entity which is indeed a costly process and also the time consuming. The main objective of an IVIVC is it can be used for development of innovative pharmaceutical product in order to cut-off the number of human studies during the formulation and development helps in In vivo bioavailability and to support biowaivers.

PH-48

A REVIEW ON – COSMECEUTICAL, FUTURE TREND IN COSMETICS

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Abstract:

Cosmeceuticals means combination of cosmetic and pharmaceuticals. Cosmeceuticals are the latest addition to the health industry and are described as cosmetic product with drug-like activity. Cosmeceuticals used to improve and nourish the skin appearance and known to treat different dermatological condition. Cosmeceutical effortlessly claim to decrease wrinkle and to preserve the texture, tone and glow of the skin. Cosmeceuticals are cosmetic-pharmaceutical fusion of products proposed to increase the healthiness as well as prettiness of the skin by providing a exact result. They are applied topically as cosmetics but contain ingredient that influence the skin biological function. In cosmeceutical product does not produce placebo effect because applied on the skin there is no effect. The cosmeceuticals are more beneficial than cosmetic because it provide beauty as well as therapeutic effect.

PH-49

NAIL DRUG DELIVERY SYSTEM

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Abstract:

The purpose of this review is to explore the difficulties in penetration of drug across nail plate& enhancement of bioavailability of antifungal drug. The existing clinical evidence suggests that a key to successful treatment of fungal diseases by topical antifungal product lies in ineffectively overcoming the nail barrier. Current topical treatments have limited therapeutic effectiveness possibly because they cannot sufficiently penetrate in the nail plate to transport a therapeutically sufficient quantity of antifungal drug to the target sites to eradicate the protection. Also the analysis of the drug's penetration is a difficult task. Here in the present article a method to analyze the drug permeated across nail barrier is suggested.

PH-50

THE EMERGING TECHNOLOGIES TOWARDS PHARMACEUTICAL PACKAGING

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Pharmaceutical packaging is one market across the globe which is advancing at constant pace. Packaging is a key for sale, safety and success. Like other packaged goods, pharmaceuticals packaging need to be in such a manner that it will provide speedy packaging, protection, identification, product quality, patient comfort, display and needs of security. Advancement in research of pharmaceuticals development had always being dependent on the packaging technology. Maintaining integrity of pharmaceuticals during storage, shipment, and delivery is assured by quality of packaging available. This study reviewing current pharmaceutical packaging trends and predicting the packaging outcomes in future.

PH-51

FORMULATION AND EVALUATION OF MOUTH DISSOLVING TABLETS OF GRANISETRON HYDROCHLORIDE BY SUBLIMATION METHOD.

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Saturday, 02nd February 2019

Abstract:
The present study deals with formulation of a Granisteron Hydrochloride mouth dissolving tablet by sublimation method. Granisetron is an anti emetic, generally prescribed in cancer chemotherapy to control nausea and vomiting. It is a selective 5 HT-3 antagonist and binds to receptor and stops vomiting.
Cancer chemotherapy causes lot of adverse effects, of which nausea and vomiting is prime one. This can be clearly seen with model anticancer drug cisplatin, which is first line drug in many types of cancers.
The present work describes mouth dissolving tablet of Granisteron Hydrochloride by sublimation method using volatile component such as Ammonium Bicarbonate and Camphor. As tablets and capsules is difficulty in swallowing, leading to patient's incompliance particularly in case of pediatric and geriatric patients, the main objective of study was to formulate mouth dissolving tablet of Granisteron Hydrochloride in order to achieve a better patient compliance. Total two formulations using various subliming agents were prepared. Both formulations showed flat, smooth tablets with 10 mm diameter. Hardness, friability, weight variation and drug content were within limits. Disintegration time of both formulations was within 60s. The formulation containing Ammonium bicarbonate release drug faster than the formulation containing camphor at the end of 12 mins. Overall the lag time for disintegration of tablet is reduced, thereby aiding pregastric absorption of granisetron. Hence first pass metabolism is minimized and oral bioavailability may be enhanced.

PH-52

SYNTHESIS AND CHARACTERIZATION OF CHITOSAN-POLYVINYL ALCOHOL BLENDED WITH GMO FOR CONTROLLED RELEASE OF ANTICANCER DRUG QUERCETIN

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Nanoparticles (NPs) have been proven to be an effective delivery system with few side effects for anticancer therapy. In this study, quercetin-loaded nanoparticles have been prepared by multiple emulsion solvent evaporation method by using Chitosan, PVA and Sodium TPP as carriers to deliver quercetin to the target cancer cells. Prepared NPs were characterized using particle size, Zeta sizer, Scanning electron microscopy (SEM). Our results showed that the encapsulation efficiency of quercetin was approximately 87%. The average size of quercetin - loaded PVA/Chitosan NPs was 180.8 nm, while the zeta potential was 28.1 mV. The quercetin-carrying combinations of Chitosan and PVA offer promising combinations by modifying the controlled drug release profile using GMO with protection and transfection-enhancing effects.

PH-53

TASTE ABATEMENT OF AN ANTHELMINTIC DRUG USING ION EXCHANGE RESINS

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Abstract:

The thrust of present research work was to masking the taste of Levamisole Hydrochloride with strong cation exchange resin i.e Tulsion 343. The complex formation of drug with Tulsion 343 was carried out using batch method to block the functional group responsible for causing bitter taste. DSC analysis, FTIR spectra, X-RD spectra and decomplexation studies gave evidences of complex formation. Drug release from drug: resin complex was obtained at salivary pH (6.8) and gastric pH (1.2). Accelerated stability study (AST) on drug: resin complexes were performed by keeping sample of complexes at 40° C for period of 1 month. The efficient drug loading was evident in batch process using Tulsion-343 with a drug: resin ratios 1:1, 1:1.5, and 1:2 (% w/w). Drug release from selected drug: resin complex at salivary pH was insufficient to impart bitter taste. Drug release has no significant effect using different media at same pH: salivary pH (phosphate buffer pH 6.8 and simulated salivary fluid) and at gastric pH (0.1 N HCl and simulated gastric fluid). Drug: resin complexes were found stable at elevated temperature. Depending upon percent complexation, release study at different pH, Levamisole Hydrochloride: Tulsion-343 complex of ratio 1:1 (%w/w) was gives good results.

PH-54

DEVELOPMENT AND EVALUATION OF FAST DISINTEGRATING EXTENDED RELEASE TABLETS OF MELOXICAM

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ABSTRACT

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The aim of this work was preparing once daily fast disintegrating tablets to handle easily for adult patients who have difficulty in swallowing. Solid dispersions Meloxicam (SD-MX) was prepared by using EC and HPMC in different ratios. A 3* 22 full factorial design was used to investigate the main formulation parameters (different fillers, binder differ in the molecular weight and different coat type). Disintegration time, wetting properties, friability, and hardness of FDTs were evaluated. Percent drug dissolved was determined. Furthermore, the bioavailability was compared with commercial market product. The mean production yield of BH-MXs was 93.50 ± 0.39 %. The tablets demonstrated a hardness of 2-5 N, friability 0.04-0.56% and disintegration time of 67 ± 1.54 sec. The formulations were subjected to accelerated stability study as per ICH guidelines and were found to be stable after three weeks at 60 °C and 75 % R.H. Based on The present study; the suggested FDTs which delivers a solid dispersions' 50 mg MX using HPMC and EC in 1:1 ratio showed an extended effect and decrease the disintegrating time lesser than commercial oral tablets.

PH-55

DEVELOPMENT OF SOLID SELF-NANOEMULSIFYING DRUG DELIVERY SYSTEM OF ATOVAQUONE FOR ENHANCED DISSOLUTION

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Abstract

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Atovaquone (ATQ) is antimalarial, antiprotozoal drug which is widely used in treatment of malaria. It is extremely lipophilic (log P 5.1) and suffers from poor aqueous solubility (less than 0.2 µg/ml). ATQ is available as MEPRON® oral suspension and tablet which shows poor absolute bioavailability of 47 ± 15 % and 23 ± 11 % respectively. Hence it is necessary to improve solubility, dissolution and thereby bioavailability of ATQ. Liquid SNEDDS was prepared using Ethyl oleate, Twenn 80 and PEG 200 as oil, surfactant and co-surfactant and was converted to S-SNEDDS by adsorbing it on Fujicalin. Prepared S-SNEDDS was evaluated for flow properties, drug content, reconstitution properties, DSC, SEM, and *in-vitro* drug release. Results showed that prepared S-SNEDDS have good flow property with 98.36±0.243 % drug content. Droplet size was found to be 15.94 nm with polydispersity index of 0.364. DSC thermogram showed that small endothermic peak of ATQ at 166-167^{0}C, it may be due to solubilization of ATQ in to SNEDDS. SEM photograph showed that no any crystalline needle shaped structure of ATQ in S-SNEDDS. Drug releases from S-SNEDDS were found to be significantly higher as compared with that of plain ATQ. Study concluded that S-SNEDDS can effectively formulated by adsorption technique with enhanced dissolution rate and concomitantly bioavailability.

PCHEM-01

SYNTHESIS, EVALUATION AND ANTIMICROBIAL ACTIVITY OF PIPERINE DERIVATIVES OF CHALCONE

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Abstract:

The present need of mankind to find new antimicrobial derivatives to fight against the resistance developed is the main objective to screen antimicrobial activity of piperine derivative of chalcone. Possibility of possessing antimicrobial activity is based on NCI database browser and its predictions. The study was performed by well diffusion method and minimum inhibitory concentrations of potentially active compound were determined. Seventeen (E)-1-(8-hydroxyquinolin-7-yl)-3-phenylprop-2-en-1 one derivatives were synthesized via aldol condensation of substituted benzaldehydes with quinoline chalcones starting from 8-hydroxy quinoline. The compound were evaluated for antibacterial activity was against Xanthomanas citri., Ervina carotovora, and E.Coli ,Bacilllus subtilis.

PCHEM-02

DETERMINATION OF MERCURY IN AYURVEDIC MEDICATION

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Abstract:

Ayurveda is a traditional form a medicine that is originated on the indian subcontinent during vedic period. This medicine can be divided into two disciplines :- Herbal and Rasashastra in which metals, including mercury are added. In the survey of ayurvedic medicine in the bosten area, 20% where found to contain lead, mercury and arsenic when analysed by x-ray fluorescence. The range of mercury found was 28 to 104000 microgram/gram. Rasashastra products contained mercury, ranging from 13 to 28 mg/g. There are also metallic- herb prepartion called bhasmas. One of the siddha makaradhwaja was found to contain 85.3% mercury as HgS. Standard range of mercury in ayurvedic preparation is 0.002 to 56 microgram/gram. Mercury has been determined in ayurvedic dietary supplements by inductively coupled plasma-mass spectrometry (ICP-MS) and direct mercury analysis using Hydra -C direct mercury anyalyzer. ICP- MS involves generation of high temperature plasma source ie. 10000 degree Celesius through which sample is passed because of high temp. element ionized & detected to electron multiplier tube detector. Hydra -C is fully automated mercury analyzer that permite the direct analysis of solid or liquid sample withought need of acid digestion.Ayurvedic preparation Aarogyavardhini Vati and Maha Sudarshan Churna that contain mercury in minute quantity .As per WHO, 2005 limit for mercury in medicinal product in india is 1 ppm.

PCHEM-03

ISOLATION, PURIFICATION AND CHARACTERISATION OF VINBLASTINE AND VINCRISTINE FROM ENDOPHYTIC FUNGUS *FUSARIUM OXYSPORUM* ISOLATED FROM *CATHARANTHUS ROSEUS*

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Abstract:

Endophytic fungi reside in symbiotic fashion inside their host plants mimics their chemistry and interestingly produces the same natural product as their host and are thus being screened for the production of valuable compounds like taxol ,camptothecin ,podophyllotoxin etc. Vinblastine and vincristine are excellent anticancer drugs but their current production using plant is non abundant and expensive .In order to make this drug radially available to the patients at affordable prices we have isolated the fungi from "catharanthus roseus "plant and formed a fungus which produces vincristine and vinblastine .the drugs were purified by HPLC and TLC and solid phase extraction and characterised by using UV spectroscopy . 1 Liter of cultural filtrates yielded 50 microgram to 52 microgram of vinblastine and vincristine respectively .This endophytic fungi stain was identified as Fusarium oxysporum based upon its cultural and morphological characteristics and conditions .

PCHEM-04

DESIGN AND DEVELOPMENT OF NOVEL FACTOTR IXA INHIBITORS USING STRUCTURE BASED DRUG DESIGN APPAROACH

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Saturday, 02nd February 2019

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Abstract:

Thromboembolism and inappropriate clotting is now become major cause of mortality in recent years in developed countries. Factor IX is also known as also known as Christmas factor playing important role in both pathways of coagulation. Factor IXA is become first choice target for anticoagulation drug discovery due its involvement in last stage of thrombus formation. The structure based drug design is drug design methodology where novel molecules were designed using shape and size of the binding pocket. Here we report development of novel factor IXA inhibitors using structure based drug design, 10 different pyridyl imine derivatives were developed using integration of pocket and pharmacophore modeling methods.

PCHEM-05

Design, Synthesis, QSAR Studies and Biological Evaluation of Novel Triazolopiperazine based β-Amino amides as Dipeptidyl Peptidase- IV (DPP-IV) Inhibitors

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Abstract:
Diabetes mellitus (DM) is one of the most common chronic disorder with increasing prevalence worldwide. Different classes of oral anti-hyperglycemic agents with nearly equipotent efficacy are now available; however, almost all of them are associated with one or more adverse effects. The new approaches in management of type 2 DM (T2DM) are based upon the effects of incretin hormones; Glucagon-Like Peptide-1 (GLP-1), Glucose-dependent insulinotropic peptide (GIP) and dipeptidyl peptidase (DPP-IV) inhibitors, which act via enhancing the incretin secretion. QSAR is the computer-based mathematical model which establishes correlation between structure and its biological activity. In present studies, QSAR of one of the reported triazolopiperazine based β-aminoamides have been studied. Based on the conclusions of the regression analysis, two compounds with higher predicted potency and selectivity for DPP-IV inhibition have been designed. The novelty of the designed compounds has been established by patent and literature search. The main objective of the present work is to find out the minimum structural requirements for DPP-IV inhibitors with better IC50 values containing triazolopiperazines. The details of the regressional analysis, QSAR, rationale behind design, synthesis, structural characterisation and DPP- IV enzyme inhibitory activity are presented.

PCHEM-06

DRUG DESIGN AND DISCOVERY OF NOVEL ANTIMYCOBACTERIAL AGENTS USING PHYTOCHEMICAL FRAGMENTS

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Saturday, 02nd February 2019

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Abstract:

Tuberculosis (TB) is one of most oldest and lethal human infections and still having highest mortality rate in the recent decade. The tuberculosis majorly contributes death rate of HIV. Emergence of resistance from of tuberculosis like MDR, XDR and TDR tuberculosis severity of the tuberculosis is increased. Identification of novel targets and development of agents against these novel targets is urgent need of time. Phytochemicals are the major source of the number of utilizable NCE, which can be further developed as potential drugs. In traditional literature number plants were described which are having antitubercular potentials but the exact mode of action of these compounds is major hurdle in their use. Fragment based drug discovery has been recent technique, in which active phyto-fragments have been identified and integrated in the newer active molecule. In this research project, we reported novel molecules on the basis molecular docking of the phytochemicals and their screening as antimycobacterial.

PCHEM-07

Design and deveopment of phosphodiestearse inhibitors as antiasthamatic agents

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Saturday, 02nd February 2019
Bharati Vidyapeeth College of Pharmacy, Kolhapur.

ABSTRACT

Asthma is a common and chronic inflammatory condition of the airways whose root cause is not clearly is not completely understood. In recent years, attention is shifted towards development of anti-asthmatic targets focusing on Phosphodiesterase system, which is playing key role in smooth relaxation. PDE3 was identified as a potential therapeutic target in cardiovascular disease and asthma, PDE3 inhibitors have subsequently been shown to relax vascular and airway smooth muscle. Specific PDE3 inhibitors promote smooth muscle relaxation, stimulate myocardial contractility, and inhibit platelet aggregation. We report development of nitrogen containing hereocyclic systems as vasodilators. Twelve imidazole derivatives were prepared targeting PDE3 enzyme and evaluated for their smooth muscle relaxants property using goat tracheal muscle model. The tested compounds produced tracheal smooth muscle relaxant activity ranging from 2×10^{-4} M to 9×10^{-4} M.

PCHEM-08

MOLECULAR MODELLING FOR HIT IDENTIFICATION FROM NATURAL PRODUCTS TARGETING ESTROGEN RECEPTOR ALPHA (ERA) FOR BREAST CANCER THERAPY

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Shri.Yashwantrao Bhonsale Education Society's
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[1] Department of Pharmaceutical Quality Assurance.

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Abstract: In India, the women suffering from breast cancers are mostly estrogen receptor positive. The steroidal homone estrogen is responsible for stimulating the cancer growth of breast primarily mediated via the steroidal estrogen receptor-α (ER-α). Hence, targeting the inhibition of estrogen or its production would be an effective therapy for breast cancer treatment. Literature shows that natural compounds with quinone and steroidal nucleus have potential to treat breast cancer. In this pursuit, 20 bioactive natural compounds were virtually screened containing terpenoids, alkaloids, flavonoids and steroids for ER-α binding affinity. The ER-α with PDB code 1A52 with 1.5 A^0 resolution was used for *in silico* studies. The molecular docking studies were performed using Biopredicta module of VLife MDS ver 4.6. The docking scores and protein–ligand interactions of the obtained hits were emulated with the clinically used selective estrogen modulator and ER-antagonist (Fulvestrant) to confirm the affinity towards receptor. The results revealed that compounds like rhein, delphinidin, thorectandrol A showed good binding affinity similar to selective estrogen receptor modulators having remarkable charge interaction with ASP351. The results signify that these compounds with structural modification could serve as potential leads in the drug discovery process for the treatment of breast cancer.

PCHEM-09

CARBOXYLIC ACID AS THE MOST DOMINATING FUNCTIONAL GROUP

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ABSTRACT:

Carboxylic acids are the organic compounds containing one or more carboxyl group(s). Being highest priority functional group, prepared by oxidation of alcohols or alkylbenzenes, hydrolysis of nitriles or amides, carbonation of Grignard reagent and hydrolysis of acid chlorides, acid anhydrides or esters. Carboxylic acids are more acidic than water, alcohols and phenols & much weaker than mineral acids like HCl, H_2SO_4 and sulphonic acids. Carboxylic acids when heated with thionyl chloride, phosphorus trichloride and phosphorus pentachloride gives corresponding acyl chlorides and on fusion with alcohols in the presence of sulphuric acid, gives corresponding esters. This reaction is called as Fischer Esterification. Carboxylic acids serve a wide industrial application such as formic acid is used in rubber, textile, dyeing, leather and electroplating industries; acetic acid, a solvent & acylating agent, is chief constituent of vinegar. Adipic acid is used in the preparation of Nylon- 6, 6. Esters of benzoic acid are used in the perfumery.

PCHEM-10

DEVELOPMENT OF CHROMATOGRAPHIC METHOD FOR ASSESSMENT OF *EX- VIVO* METABOLIC PROFILE OF TRAMADOL

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2- Department of Pharmaceutical Chemistry, Bharati Vidyapeeth College of Pharmacy Kolhapur

ABSTRACT

Ensuring safety of therapy is a very essential step in development of any new drug. Toxicity is due to formation of toxic metabolites of substance under investigation. Since information on drug metabolism of a drug plays a significant role in selection and characterization of drug, this imposes an enormous burden on analytical chemist to design faster and more sensitive assay techniques for identification of metabolism pattern. Metabolic toxicity is one of the main safety reasons for the discontinuation of development and market withdrawal of drug compounds. Microsomal fraction was isolated from goat liver obtained from slaughter house. Microsomal fraction was isolated from goat liver using centrifugation technique. Sample was incubated with Tramadol and also in the presence of microsomal enzyme inducer and inhibitor. Ex –vivo protocol for metabolic assessment was developed after collecting the appropriate enzymatic fraction. RPHPLC method was developed and validated for quantitation of tramadol in the presence of metabolizing enzymes. These samples were analyzed using developed HPLC method for detection of possibly formed metabolites. The developed chromatographic method will be a handy tool for assessment of the quantitative formation of such metabolites and will help in metabolic stability estimations for selected opioid analgesic drug.

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PCHEM-11

NOVEL TRENDS IN DRUG DESIGN

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Abstract-

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The severity of the disease is giving rise to the need to develop new ideas for the discovery of drugs. Traditional drug development methods have been very costly and time consuming and that is why computer assisted method have taken a center stage, they help in accelerating the whole process of drug development. Novel drugs are designed according to the specific protein target that plays a important role in particular biological activity. Model drug designing is based on receptor ligand interactions according to which the drug binds inside the receptors binding pocket and modulates its function. New drugs can also be synthesized inside the binding pockets of the receptor called de novo drug design. The current presentation gives an update on recent developments in the field of drug designing paving the way for novel drug discoveries.

PCHEM-12

IN- SILICO SCREENING OF SPICES OF INDIAN ORIGIN FOR BREAST CANCER TARGETING HORMONE DEPENDANT RECEPTORS

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Abstract:

In India, 70% of breast cancers (BC) are due to ER, PR, HER2 hormonal imbalance. Traditional Knowledge of using herbs and spices for medicinal purposes could prove to be a natural way of treating breast cancer. Thus systemic exploration of traditional knowledge of spices with new drug discovery methods will led to development of new leads for breast cancer. *In-silico* screening of some spices for hormone dependent anti breast cancer activity. In this perspective, 30 spices were virtually screened including turmeric, ginger, garlic, clove, Star anise, etc. The *in-silico* studies were performed using Biopredicta module of software VLife MDS ver 4.6. The chemical actives of these spices were docked with PR, ER and HER2 with PDB codes-4OAR, 3ERT and 3RCD respectively in comparison with clinically used molecules for specific target. Interaction analysis showed that the ARG129,SER137, LEU866 (H Bond), TRP52,PHE228 (Pi stacking) amino acids were responsible for anticancer activity as compared with standard drugs. 6-gingerol, Curcumin, Piperidine were found to be involved in these interactions with distance below 2.5A0 (H bond) and < 5 (Pi stacking). Hence, these analyses putatively could lead to the further formulation development using dietary spices for the treatment of hormone based breast cancer using mechanistic studies.

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PCHEM-13

SYNTHESIS OF COUMARIN ANALOGUES AND STUDIES OF THEIR ANTIMICROBIAL AND ANTIOXIDANT ACTIVITY.

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Abstract

A series of conjugation of heterocycle 7-chloroacetoxy-4-methyl-coumarin with various amines in the presence of dimethyl sulfoxide were synthesized and screened for antimicrobial as well as antioxidant activity. Compound 7-chloro-acetoxy-4-methyl-coumarin **2** on reaction with different amines in presence of dimethyl sulfoxide and triethylamine give different 4-methyl-2-oxo-2-H-chromen-7-yl-acetate **3** derivatives. Structural assignments of these compounds have been made on basis of elemental analysis, UV, IR, ^{1}HNMR and mass spectral data. Synthesized compounds were screened for their in-vitro growth inhibiting activity against different strains of bacteria and fungi viz., *Escherichia coli, Pseudomonas aeruginosa , Klebsiella pneumoniae, Staphylococcus aureus Candida albicans* and *Aspergillus niger* were compared with standard antibiotics such as ciprofloxacin (200 and 300 µg/ml) and fluconazole (100 and 200 µg/ml) using cup plate method.. Compounds 3b, 3g and 3h exhibit better antibacterial activity and compounds 3a, 3d and 3f exhibit better antifungal activity as compared to other derivatives. Compounds were also screened for antioxidant activity by using diphenylpicrylhydrazyl (DPPH) radical scavenging assay method. All the compounds showed good antioxidant activity.

PCHEM-14

OPTIMIZATION OF HETEROCYCLIC SYSTEMS TARGETING SECRETORY SYSTEM OF *MYCOBACTERIUM TUBERCULOSIS*"

Anupam Yaltwar, Sachin Mulgir, Aniket Gosavi, Prafulla Choudhari, Manish Bhatia

Drug Design and development group

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ABSTRACT

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The emergence of the MDR, XDR and TDR stains of *Mycobacterium tuberculosis* making problem of tuberculosis more and more critical. Protein export systems are exporter of the virulent proteins important for virulence and bacterial viability, so these protein export systems can be considered utilisable drug targets. *M. tuberculosis* have specialized protein export systems like SecA2 export pathway and ESX pathways. In this research work, rational development of antimycobacterial agent's targetting protein export system has been carried out by integrating the pocket modeling protocols. We have identified potential 20 lead structures were synthesized and screened for antimycobacterial activity using isoniazid as standard. All the designed molecules have shown profound antimycobacterial activity.

PCHEM-15

DRUG REPOSITIONING: TIME TO BOOST EXISTING DRUGS FOR NEW TARGETS

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Drug repositioning involves exploring possibility of effective use of existing drugs for new targets. The process of finding new uses outside the scope of the original medical indication for existing drugs is also known as redirecting, repurposing, repositioning and reprofiling. It is no secret that drug discovery and development is a costly, complex, and time-consuming process, often taking 14 years and $1 billion plus in R&D costs, with no guarantee of success. We can improve the system, if the odds of extending the usefulness of an approved drug, or finding a useful indication for a failed drug. Different approaches are used for drug repositioning, depending on whether the desired outcome is drug-centric or disease-centric. There area variety of different approaches to drug repositioning, including knowledge-based, signature based, pathway or network based and targeted mechanism based. It is time to boost, drug-repositioning-related activities which could lead to increase the number of new therapeutic uses that actually reach clinical practice more quickly.

PCHEM-16

IN SILICO ANALYSIS OF PHYTO LEADS IN THE TREATMENT OF MYCOBACTERIUM TUBERCULOSIS FROM *CELOSIA ARGENTEA* L.

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ABSTRACT

Tuberculosis is a chronic granulomatous infectious disease which is caused by the bacillus Mycobacterium tuberculosis (Mtb).There is an urgent need for the development of newer anti-TB agents as situation is worsened by the presence of multidrug resistant (MDR) strains of Mycobacterium tuberculosisand the adverse effects associated with the first-line and second-line anti-TB drugs. The renewed research interest in natural products is the hope of discovering new and novel anti-TB leads. The *Celosia argentea* is a plant having anti-tuburcular potential. Hydro-alcoholic and chloroform extracts of seeds of *Celosia argentea* have shown potential anti-TB activity. Chemical constituents reported to be present in seeds of *Celosia argentea* were screened for *in silico anti*-TB activity against possible targets of first line and second line anti-TB drugs in market using Vlife MDS 4.4 software. Chemical entities showing considerable interactions with selected target were optimized and have shown more interactions than selected native ligands. The results of these studies have revealed that identified phytochemical leads would be effective in treatment of drug resistance strains of Mycobacterium tuberculosis. Further*in silico* exploration, *in vivo* bioactivity confirmation and pharmacokinetic optimization of identified lead would yield new API in treatment of TB.

PCHEM-17

RP-HPLC METHOD FOR DEGRADATION STUDY OF LORNOXICAM

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ABSTRCT

The main objective of this work is to develop simple, precise, accurate stress degradation assay method for lornoxicam. For present work ACN: Water (70:30) was used as mobile phase .It showed sharp peaks and good resolution (column-Grace smart RP 80 (250×4.5Mm) 5µm), (HPLC PU – 2080 Plus, Jasco). The retention time was found to be 2.3 min. The drug showed λmax at 382 nm. The method obeys Beers-Lamberts law in the concentration range of 5-30 µg/ml for HPLC analysis. From the degradation studies Lornoxicam showed sufficient degradation in acidic and alkaline degradation. Lornoxicam was found to be less susceptible to oxidative degradation. No degradation was observed in photolytic and thermal degradation. There was no significant difference observed in degradation pattern of bulk drug and pharmaceutical formulation. ICH guidelines were followed throughout the degradation studies and the proposed method found accurate stress degradation assay method. The proposed method is precise, accurate and stability indicating, resolving the entire degradation product from the drug. Thus the proposed method can have its application in the determination, of Lornoxicam in bulk drug, as well as in presence of its degradation products.

PCHEM-18

DESIGN AND SCREENING OF INHIBITORS FOR IN-VITRO ANTICANCER ACTIVITY USING ISOLATED CYSTEINE PROTEASE

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3. Dept. of Pharm. Quality Assurance, Bharati Vidyapeeth College of Pharmacy, Kolhapur.

Abstract:

Isolation and purification of papain from latex of unripe papaya fruit. Comparative characterization of the isolated cysteine protease with respect to targeted proteases from human cancer cells. Development of *in-vitro* enzyme assay for assessment of anticancer protease inhibitors. The latex was collected early morning from unripe papaya fruit (*Carica papaya*) in a beaker and stored at -20°C. The papain was isolated from latex and partially purified by ammonium sulphate precipitation. Protein content was determined by Lowry assay method. Purified papain was characterized by spectral analysis. Cystein protease inhibitors virtually were designed and screened for its interactions and binding efficiency with cysteine protease using VLife MDS 4.4.2. The identified leads were synthesized and characterized by spectral analysis. The protease inhibitory activity of synthesized molecules were checked using the isolated enzyme. Based on the virtual screening results which were obtained by molecular docking studies compound Q1E, compound Q1F, and compound Q1H were identified due to similar interactions with that of standard ritonavir. The results states that these compounds interact in same fashion with receptor as that of the standards. The developed cysteine protease based *invitro* bioassay for evaluation of cysteine protease inhibitor anticancer drugs has been validated by virtual screening based analysis and also using standard drugs.

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PCHEM-19

DEVELOPMENT AND VALIDATION OF ANALYTICAL METHOD FOR DETERMINATION OF ANDROGRAPHOLIDE IN BULK

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Abstract:

Andrographolide is an important active constituent having potential biological activities, obtained from the herb *Andrographis paniculata* and it is available in the form of many ayurvedic dosage formulations. In the present research work an attempt has been made to develop and validate a suitable analytical technique for determination of Andrographolide in its bulk powder form. UV-Spectrophotometric technique was developed employing the use of methanol: water (50:50v/v) as solvent. The analysis was performed at 321 nm. Developed technique was validated as per ICH guidelines in terms of specificity, selectivity, linearity, range, limit of detection, limit of quantification, precision, ruggedness, robustness and solution stability. Analyte showed linear response between the concentration range of 50-250 µg/mL. The newly developed and validated technique for determination of Andrographolide in bulk was found to be simple, economical, specific, selective, linear, precise, rugged, robust and stable with % RSD values less than 2%. The technique can be used for the quality control testing of Andrographolide.

PCHEM-20

APPLICATION OF ANALYTICAL TECHNIQUE FOR DETERMINATION CIPROFLOXACIN AND CURCUMIN IN BULK COMBINATION

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Abstract:
Ciprofloxacin is a class of broad spectrum fluoroquinolone antibiotic used as antibacterial agent and its antibacterial effect found to be enhance in presence of Curcumin. In the present research an attempt has been to develop a new analytical method for determination of Ciprofloxacin and Curcumin in its bulk combination. Analytical technique was developed for simultaneous determination of Ciprofloxacin and Curcumin in bulk drug combination. UV-spectrophotometric method was developed by utilizing solvent system composed of Methanol: Water (50:50%v/v). Ciprofloxacin and Curcumin showed maximum absorbance wavelength at 275 nm and 430 nm respectively. The method was optimized and validated in terms of specificity, selectivity, linear range, precision, robustness, ruggedness, reproducibility and solutions stability as per ICH guidelines. Analytes showed linear response between the concentration ranges of 1- 6 µg/mL. Method was found to be precise, robust, rugged and reproducible with %RSD values less than 2%. Hence newly developed, optimized and validated UV-Spectrophotometric method was found to be simple, selective, specific, linear, precise, robust, rugged, reproducible and economical. Hence it can be used for simultaneous determination of Ciprofloxacin and Curcumin in bulk drug combination.

PCHEM-21

SYNTHESIS OF STABLE ANALOGS OF ORGANOSULPHUR COMPOUND (ALLIIN) FROM *ALLIUM SATIVUM L* AS POTENT ANTI-MICROBIAL

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ABSTRACT

Introduction

Natural products continue to provide unique structural diversity in comparison to standard combinatorial chemistry, which presents opportunities for discovering mainly novel low molecular weight lead compounds. Since less than 10% of the world's biodiversity has been evaluated for potential biological activity, many more useful natural lead compounds await discovery with the challenge being how to access this natural chemical diversity. Constituents of *Allium Sativum L* like alliin are organosulphur compounds and are known to show antimicrobial activity, but isolation is tried get inactivated due to decomposition. If derivatized may be converted into more stable form, and may show increase pharmacological activity. Antimicrobial resistance (AMR) threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi. New resistance mechanisms are emerging and spreading globally, threatening our ability to treat common infectious diseases, resulting in prolonged illness, disability, and death. Without effective antimicrobials for prevention and treatment of infections, is going to be challenging task, hence there is continuous and urgent need for discovery of new potent antimicrobials. In present research work we have focused on derivatization of alliin an organosulphur compound from *Allium sativum L.* (Garlic). If isolation is tried the compound get decompose, hence in the form of synthesis of mannich base derivatives of alliin we have tried to converted it into stable derivatives. In first step synthesis of mannich bases is done and in second step the synthesized mannich bases are condensed with alliin. As mannich bases and alliin individually show anti-microbial activity, our hypothesis was combination of two together should result in synergistic

anti-microbial activity. The expected hypothesis is found to be true in the form of results of antimicrobial activity done. The concept of derivatization of more and more naturally occurring compounds may be helpful in development of analogs having greater activity with lesser side effects and help in better management of infectious diseases.

PCHEM-22

UV-SPECTROPHOTOMETRIC METHOD FOR ESTIMATION OF GALLIC ACID IN BULK

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Abstract

Gallic acid is active chemical substance obtained from various herbs such as Blueberries, walnuts, Apples, flax seed. It showed various biological activities such as anti-oxidant, anti-bacterial, anti-fungal, anti-cancer activities. In the present research work UV-spectrophotometric method was developed by using methanol as solvent. Gallic Acid was showed maximum absorbance wavelength at 273 nm. Newly developed method was validated as per ICH guidelines using specificity, selectivity, linear range, precision, robustness, ruggedness, reproducibility and solutions stability. Gallic Acid showed linear response between concentration range of 1-7 µg/mL. Newly developed and validated UV-Spectrophotometric method was found to be precise, robust, rugged, reproducible and stable with %RSD values less than 2%. Hence newly developed, optimized and validated UV-Spectrophotometric method was found to be simple, selective, specific, linear, precise, robust, rugged, reproducible and stable. Hence newly developed technique can be used for estimation of Gallic Acid in bulk powder form.

PCHEM-23

SYNTHESIS, CHARACTERIZATION AND BIOLOGICAL ACTIVITIES OF SOME NOVEL SUBSTITUTED 3,4-DIHYDROPYRIMIDINE DERIVATIVES FROM CINNAMALDEHYDE

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Abstract:

In the present investigation, three component cyclocondensation of ethylcyanoacetate, thiourea and cinnamaldehyde afforded 6-styryl-5-cyano-2-thioxo-1,2,3,4-tetrahydropyrimidine-4-one **(1)** .This compound on further treatment with iodomethane gives 6-styryl-5-cyano-2-(methylthio)-3,4-dihydropyrimidine-4-one **(2)**.The S-methyl group of methylated compound **(2)** was good leaving group and can be easily replaced by nucleophiles. In the present study our interest is to introduce hydrazide, substituted hydrazides and aliphatic alicyclic amines into pyrimidine ring of **(2)** to get various substituted 3,4-dihydropyrimidines **(2a-k)**. All the synthesized compounds were confirmed by elemental FTIR, ^{1}H NMR, Mass QSAR and were tested *in-vitro* anti-microbial activity by cup plate method against Gram-positive bacterial strains *(Bacillus subtilis, Staphylococcus aureus*) and Gram-negative bacterial strains *(Pseudomonas aeruginosa, Escherichia coli)* and fungal strains *(Aspergillus niger, Candida albicans).* Some of the synthesized compounds are also screened for their anti-tubercular activity. The analogues 2c ,2i and 2k showed promising antimicrobial activity against gram-negative *Escherichia coli*; whereas analogues 2c, 2d, 2e, 2g and 2k showed promising antifungal activity against *Candida albicans* respectively.

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PCHEM-24

SYNTHESIS OF 3-ALKYL INDOLES, ITS CHARACTERIZATION AND ITS BIOLOGICAL EVALUATION.

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T.Venkatachalam*, P.Kalaiselvi, A.Chitra, M.Chitra, P.Satheesh Kumar, N.Senthilkumar.

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Abstract:

Camphor sulfonic acid catalyzed addition of indoles to electron deficient olefins in water generated the corresponding Michael adducts in good to excellent yield. The Michael addition of indole occurred regioselectively at position 3 and the N-alkylated products have not been observed. The synthesized compounds were tested for their antibacterial activity against four microorganisms namely, *E. coli* NCIM 2931, *S. aureus* NCIM 5021, *P. vulgaris* NCIM 2813, *P.aeroginosa* NCIM 5029 by micro dilution method. These compounds showed MIC (Minimum Inhibitory Concentration) values in the range of 0.16-2.67 µM.

PCHEM-25

SYNTHESIS OF CERTAIN 2-AMINO PYRIMIDINE DERIVATIVES AND THEIR POSSIBLE BIOLOGICAL ACTIVITIES.

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Abstract:

The pyrimidine nucleus is generally constructed from heterocyclic fused ring system. Chalcone is first prepared and after that chalcone react with the Guanedine a catalyzed to NaOH/ EtOH to form a 2-amino pyrimidines derivative. the newly synthesized compound have been stucturally conformed by the physicochemical properties and spectral analysis (UV, IR, NMR). The biological activity was carried out the various stain of bacteria, viz. *V.Cholerae, B.Subtilis, S.Flexneri* and *V.Parahaemolyticus.* The synthesized compounds exhibit moderate to good antibacterial activity. The result compared with standard drug antibacterial activity. The result compared with standard drug trimethoprim with the same condition.

PCHEM-26

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ANTIPYRETIC PROPERTIES OF METHANOL STEM BARK EXTRACTS OF *ACACIA HOCKII* DE WILD AND *KIGELIA AFRICANA* (LAM) BENTH IN WISTAR RATS

Kamau JK*, Nthiga PM, Safari VC, Njagi SM, Mwonjoria JK, Ngugi MP and Ngeranwa JJN
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Abstract

Synthetic antipyretic drugs are not readily accessible and have adverse side effects. Herbal medicines possess bioactive compounds that are safer and efficient in the management of various diseases and disorders. *Acacia hockii* and *Kigelia africana* are traditionally used to manage pyrexia among the Embu and Mbeere communities in Kenya but lack scientific data to validate their use. The present study evaluated for the antipyretic activity of the *A. hockii* and *K. africana* in rat models to scientifically validate their traditional use. The plant samples were collected with the help of local herbalists in Embu County, Kenya and transported to Kenyatta University for cleaning, air drying, milling, and extraction. Adult male Wistar rats were randomly divided into six groups of 5 animals each; normal control, positive control, negative control, and three experimental groups. The antipyretic effect was assessed using turpentine-induced pyrexia method. The antipyretic activities of the extracts were compared to reference drug aspirin. The stem bark extract of *A. hockii* reduced the raised rectal temperature by between 0.62-3.88% while the stem bark extract of *K. africana* reduced the elevated rectal temperature by between 0.06-3.07%. The reference drug aspirin reduced the rectal temperature of pyretic rats by between 0.63-3.1%. The qualitative phytochemical screening of the two

extracts indicated the presence of flavonoid, alkaloids, steroids, saponins, terpenoids which are associated with the antipyretic activity. The present study demonstrated potent antipyretic activities of methanolic extracts of *A. hockii* and *K. africana* in a dose-dependent manner after the second hour of the treatment period, which supports their traditional use. The present study, therefore, recommends the ethnomedicinal use of *K. africana* and *A. hockii* in the management of pyrexia.

PCOL-01

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EBOLA OUTBREAK AND RECENT PROFECTIBUS

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Abstract:

In 2014, an outbreak of Ebola virus spread rapidly in West Africa. The epidemic killedmore than 10,000 people and resulted in transmissions outside the endemic countries. The Ebola virus belongs to the family of Filoviridae. The virus is responsible forhemorrhagic fever disease characterized by fever, diarrhea, vomiting, fatigue, muscle pain and in the most serious cases of internal bleedingcan cause death by cardiopulmonary shock. The mortality rate is 25–90% according to the type of virus detected, inoculum, Time to identify the infection and the quality and availability of health. In August 2014, WHO declared the Ebola virus epidemic, a public health emergency of international concern and called for the development of vaccine to be priority. Consequently, nearly a dozen Ebola vaccines candidates are currently in various stages of development and are entering efficacy trials in humans. At present, WHO is focusing on production of three vaccine candidates that have advanced enough to move into Phase II trials: r-VSV-ZEBOV, an attenuated vesicular stomatitis virus vaccine from NewLink Genetics; ChAd3-ZEBOV from GlaxoSmithKline; andAdenovirus 26 vectored glycoprotein / MVA-BN (Ad26.ZEBOV/ MVA-BN) from Johnson & Johnson. Out of which ChAd3-ZEBOV from GlaxoSmithKline; is in phase 3.Reactogenicity and immune responses to cAd3-EBO vaccine were dose-dependent.Ad26.ZEBOV/MVA-BN-Filo has completed phase 1from Johnson & Johnson.In December 2016, a study found the VSV-EBOV vaccine to be 95-100% effective against the Ebola virus, making it the first proven vaccine against the disease.

PCOL-02

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SYNDROME X IN HYPERTENSION AND DIABETES

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Abstract:

Metabolic syndrome is a condition that happens when the body can't make enough protein, it needs for the brain to grow and develope. Metabolic syndrome also known as syndrome X, Fatigue syndrome. Metabolic syndrome is cluster of conditions-Increased blood pressure, high blood sugar, excess body fat around the waist and abnormal cholesterol or triglycerides level that occurstogether increasing your risk heart disease like Hypertensions, stroke and diabetes Type 2. Some factors increase chances of having metabolic syndrome: Age, obesity, Diabetes, Race and other cardiovascular disease, Nonalcoholic fatty liver disease or polycystic syndrome. Now the great for the syndrome X is (1) Treatment of obesity. (2) Pharmacological therapy included orlistat, Sibutramine,metforming, phentermine, Chlorphentermine and combination of drug. (3) Bariatrics surgery. (4) Promising new drugs.

PCOL-03

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REVIEW ON MALARIA… DIAGNOSIS AND TREATMENT

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Abstract:

Malaria is a major cause of death in tropical and sub-tropical countries. Although effective ways to manage malaria now exist, the number of malaria cases is still increasing due to several factors. In this emergency situation, effective diagnostic methods are essential for the management and control of malaria. Traditional methods (Clinical diagnosis, *Molecular diagnostic method*) for diagnosis of malaria remain problematic therefore, new technologies (Anti - malarial drugs) have been developed and introduced to overcome the limitation. This review details life cycle of *Plasmodium vivax* and the currently available diagnostic methods & marketed preparations employed for malaria.

PCOL-04

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ZIKA VIRUS

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Abstract:

At present, one of greatest concerns of medical personnel is Zika virus. Though it has been reported for quite a long time, its rapid emergence, new modes of transmission, and more importantly, the congenital anomalies associated with it have made the situation worse. It was first detected in 1947. After that, this infection was found in the countries of Africa as well as Asia. At present, it has been reported from Brazil. Microcephaly and intracranial calcification have been postulated to be related to maternal infection with this virus. Though it is asymptomatic in maximum number of cases, the serious complications of infection should be prevented at the earliest. No specific treatment and vaccine are available till now. But research continues and hopefully, success is not far off. The right information about this infection should reach patients as well as physicians. It will prevent unnecessary panic. The data was gathered after searching for relevant articles published in PubMed, WHO website, Centres for Disease control and Preventions website, and other related websites on the Internet.

PCOL-05

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NIGELLA SATIVA: A MIRACULOUS HERB AS ANTI-RETROVIRAL AGENT

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Abstract:

Nigella sativa is widely used medicinal plant throughout the world. Seeds and oil of *Nigella sativa* are used for sero-reversion in HIV infection which is very rare despite extensive therapy with highly active anti-retroviral therapy [HAART].CD4 cells in a human body get reduced because of HIV infected cells which is cured by seeds & oil of N.sativa which increases the normal count of CD4 cells. Due to its miraculous power of healing, N.Sativa has got the place amount the top ranked evidence based herbal medicine for HIV/AIDS.

PCOL-06

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REVIEW ON GENE EDITING TOOL-CRISPR-Cas9

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Abstract:

Gene editing is the insertion , deletion or replacement of DNA at a specific site of genome. Some editing tools are ZFNs, TALEN, CRISPR-Cas9, TUNR, Mega nuclease. By inserting a functional gene into an organism and targeting it to replace the defective one, it's possible to cure certain genetic diseases such as HIV, cystic fibrosis, Huntington's disease, Alzheimer's disease, Parkinson's disease, Hemophilia, sickle cell anemia, etc. This abstract basically deals with an application of CRISPR because of its advantage over other editing tools that it doesn't cut the DNA and can activate gene expression without mutating the genome. CRISPR-Cas9 based gene activation is an attractive tool for cellular reprogramming applications due to its high multiplexing capacity anddirect targeting on endogenous loci. The capability of lentiviral vectors to transducer non-dividing cells, including resting CD4+T cells, and maintain stable, long term Cas9 transgene expression supports their potential use in eradicating infected cells constituting the latent reservoir.

PCOL-07

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A REVIEW ON MODERN TRENDS IN DRUG DELIVERY TO THE BRAIN ACROSS BLOOD BRAIN BARRIER (BBB) AND MECHANISM HIGHLIGHTS

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Abstract:

The brain is master organ having blood–brain barrier (BBB) which is highly regulated and efficient barrier that provides a sanctuary to the brain. It regulates brain homeostasis and to permit selective transport of molecules that are essential for brain function. BBB allows a specific entry of essential matter across it and limits the entry of foreign substances like drugs as well as neuropharmaceutical agents. This makes the CNS treatment very challenging. Treatment of CNS diseases has challenges from anatomical and physiological aspects of BBB are convinced with some new trends of drug delivery to the brain. Though considerable efforts were made in convincing those barriers, still designing a suitable delivery for brain remains a major challenge with some regards. For having a glance of these new trends in drug delivery to brain, this review comes with an objective of focusing on the new strategies developed to enhance drug delivery to brain in recent years. It includes methods like Nanoparticles, Viral vectors, Exosomes, Delivery through active transporters in the BBB etc. discussed here on the basis of limited studies literature captured regarding the same.

PCOL-08

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USE OF HERBS ON DIABETES

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Abstract:

Diabetes is a metabolic disorder of carbohydrates , fats and proteins ,affecting large number of population in the world .Diabetes mellitus is not a single disorder but it is a group of metabolic disorder characterised by chronic hyperglycaemia , resulting from defects in insulin secreation , insulin action or both. There are lots of chemical agents available to control and to treat diabetic patients but total recovery from diabetes has not been reported up to this date. Alternative to these synthetic agents, plants provide a potential source of hypoglycemic drugs and are widely used in several traditional system of medicine to prevent diabetes .WHO has recommended the evaluation of tradition plant treatment for diabetes as they are effective, non-toxic with less or no side effect and are considered to be excellent aspirants for oral therapy. A list of medicinal plants with proven antidiabetic and related benefical effects used in treatment of diabetes is compiled. These include *Acacia arabica, Allium cepa ,Allium sativum , Aloe vera and Aloe barbadensis , Azadirachta indica ,Tinospora crispa* .The effect of these plants may delay the development of diabetic complications and correct the metabolic abnormailites using variety of mechanism . Moreover during the past few years many phytoconstituentes responsible for antidiabetic effects have isolated from hypoglycamic plants.

PCOL-09

NURSING GLAUCOMA

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Abstract:

Glaucoma is a medical term describing a group of progressive optic neuropathies characterized by degeneration of retinal ganglion cells and retinal nerve fibre layer; resulting in changes in the optic nerve head. Despite recent advances in imaging and visual field testing techniques that allow establishment of earlier diagnosis and treatment initiation, significant numbers of glaucoma patients are undiagnosed and present late in the course of their disease. This can lead to irreversible vision loss, reduced quality of life and a higher socioeconomic burden. This article provides an overview of recent developments and practice trends in the medical management of glaucoma. When dealing with such cases, a holistic, individualized approach taking into account the '*biopsychosociospiritual*' (BPSS) profile of each patient is suggested. The BPSS model takes into account relevant ocular as well as systemic biology (factors such as the mechanism of glaucoma, level of intraocular pressure [IOP], rate of progression, life expectancy, general health), psychological considerations (fear, depression), socio-economic factors and spiritual/cultural values and beliefs before being able to decide with the patient and their care partner(s) what treatment goals should be and how they can best be approached. This can be achieved safely and effectively in most cases with trabeculectomy and in some cases with medical and/or laser therapy. In most cases, despite maximum medical and laser therapy, glaucoma filtration procedures are required for further IOP reduction and the prevention of Visual Field loss. Trabeculectomy surgery appears to be a long-term solution having the best outcome for IOP control. Vision rehabilitation and psychosocial support should also be considered in order to optimize remaining vision, replace fear with hope as appropriate; thus improve the overall quality of life.

PCOL-10

AN OVERVIEW ON FOOD AND DRUG INTERACTION

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Rakesh Barbole*, Shraddha Juvekar, Rasika Chaughule, Vaishnavi Rasam, Tanmay Patwardhan

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Abstract:

Food and drug interactions results from medicine, reacting with food or beverages in the diet. Some drugs do not give expected effect if taken with particular food. The other food alters the pharmacokinetics, pharmacodynamics and therapeutic activity of the drug. Drug-food interaction can lead to loss of therapeutic efficacy or toxic effect of drug therapy. In clinical practice patient safety is improve through the identification of frequently occurring food-drug interaction. Adequate knowledge of food-drug interaction will enable the health care professionals to individualize the patient's treatment in order to get maximum therapeutic benefit Drug interactions include drug-drug interactions, food-drug interactions, chemical-drug interactions, disease-drug interactions and adverse effects of food-drug interaction on human body. Most people have the mistaken belief that being natural, all herbs and foods are safe. It cannot be said that it's always true. There are four stages of drug actions for medicines administered orally. The impact of food-drug interactions depends on a variety of intervening factors. Food may influence drug bioavailability by different mechanisms. Clinical significance of Drug-food interactions can be variable. The effect of food on drug results in reduction of bioavailability of drug. Some foods greatly affect drug therapy, results in serious side effects and toxicity, therapeutic failure.

PCOL-11

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ROLE OF TGF-BETA SMAD SIGNALING PATHWAY IN AUTOIMMUNE DISEASES

Madhavi S.Surve*, Shruti U. Dhawale, Rucha S. Tambe, Sneha B. Sawant, Sneha D. Sutar.

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Abstract

Transforming Growth Factor-Beta is the prototype for a large family of pleiotropic factors that signal via heterotetrameric complexes of type I and type II serine/threonine kinase receptors. Important intracellular mediators of TGF-Beta signaling are members of the SMAD family. SMAD 2 and 3 are activated by C-terminal receptor-mediated phosphorylation, whereafter they form complexes with SMAD 4 and are translocated to the nucleus where they, in cooperation with other transcription factor, co-activators and co-repressor, regulate the transcription of specific genes. SMADs have key roles in exerting TGF-Beta inducing programs leading to cell growth arrest and epithelial-mesenchymal transition. The activity and stability of SMAD molecules are carefully regulated by a plethora of post-translational modifications, including phosphorylation, sumoylation, acetylation and poly (ADP)-ribosylation. The SMAD function has been shown to be perturbed in certain autoimmune disease. Autoimmune disease is the phenomenon in which our immune system attacks our body tissue. TGF-Beta is also a key regulator of extacellular matrix (ECM). Excessive ECM deposition results in scarring and thickening of the affected tissue, and interferes with tissue and organ homeostasis- mimicking an exaggerated "wound healing" response. Many TGF-Beta ligands are potent drivers of ECM deposition, and additionally, have a natural affinity for the ECM, creating a concentrated pool of pro- fibrotic factors at the site of injury. Consequently, TGF- Beta ligands are upregulated in many human fibrotic conditions and, as such, are attractive targets for fibrosis therapy.

PCOL-12

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STRATEGIES IN THE DESIGN OF NANOPARTICLES FOR THERAPEUTIC APPLICATION

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Abstract:

Engineered nanoparticles have the potential to revolutionize the diagnosis and treatment of many diseases; an example by allowing the targeted delivery of a drug to particular subsets of cells.However so far, such nanoparticles have not proved capable of surmounting all of biological barrier required to achieve this goal.Neverthless, advances in nanoparticles engineering,as well as advances in understanding the importance of nanoparticles characteristics such as size, shape and surface properties for biological interactions, are creating new opportunities for the development of nanoparticles for therapeutic application. Nanoparticles have been used in-vivo to protect the drug / proteins molecules in the systemic circulation, targeting of the drug to the chosen sites and to deliver the drug at a controlled and sustained rate to the site of action.This Review focuses on recent progress important for the rational design of such nanoparticles and dicusses the challenges to realizing the potential of nanoparticles.

PCOL-13

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TARGETING THE UBIQUITIN PATHWAY FOR TREATMENT OF CANCER

Chaurasiya V.K*, Gosavi S.R, Bhogate V.V, Borges S.A, T.L. Patwardan

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Abstract:

Ubiquitin is a small protein that is found in eukaryotic organisms which is involved in degradation of defective proteins by proteasomes.To maintain protein homeostasis proteasome degradation mechanism is an important mechanism by which cells renew their intracellular protein. Proteasome degradation mechanism is mediated by Ubiqutination pathway. The pathway include ubiquitin, a small protein which undergoes cascade of mechanism through three enzymes, E1(ubiquitin activating enzyme), E2(Ubiquitin conjugating enzyme), E3 (Ubiquitin ligase). In the cancer cell, the cells are proliferating at various rate and contain various oncoprotiens. Proteasome degradation mechanism is common pathway in which damaged protein get degraded , But in cancer cell the stability and balance between oncoprotein and tumor suppressor protein are been not maintained by ubiquitin protein. This ubiquitin protein get binds to the tumor suppressor protein and degrades it due to which the oncoprotein level is increased and it lead to the proliferation of cancerous cell. For the treatment of cancer the Ubiqutination pathway can be targeted. Proteasome inhibition in cancer cells leads to accumulation of pro-apoptotic target proteins followed by induction of cell death.

PCOL-14

VINEGAR: MANUFACTURE AND VERSALISITY AS A MEDICAL AGENT

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Neha Mayekar, Namita Narvekar

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Abstract:

Vinegar is one of nature's great gifts to mankind. It is truly a natural food condiment product. vinegar fermentation was essentially a two step process comprising the anaerobic conversion of sugar to ethanol and the aerobic oxidation of ethanol to acetic acid. The vinegar word is from the French *vin* (wine) and *aigre* (sour). Vinegar contains high amount of acetic acid. Vinegar production can be done by using three methods that are orlean process, generator fermentation and submerged fermentation method. There are several types of vinegar but most commonly used types are apple cider vinegar, balsamic vinegar, rice, malt, fruit, coconut, sherry and white vinegar. From the ancient time vinegar is used as effective food preservative or pickling agent and also energy drink. It is also used as cleaning agent. Vinegar is also important in medicine and according to the Unani classical literature it is having many medicinal properties such as anti-tumor, antioxidant, anti-diabetic, anti-obesity, anti-hypertensive activity etc. This proves that vinegar is miracle that ever happened to mankind.

PCOL-15

PREGNANCY COMPLICATIONS AND CHANGE IN LIFESTYLE OF WOMEN WITH POLYCYSTIC OVARY SYNDROME (PCOD)

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Afiya Baig*, Shruti Gad, Neha Ghadigaonkar, Rucha Kambli, Ms. Prajakta Mhaskar, Mrs. Rashmi Mahabal

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Abstract:

Polycystic ovarian disease (PCOD) is still an ill-defines and poorly understood condition, characterized by multi-cystic, enlarged ovaries, signs of hyperandrogenism in combination with ovarian failure. It affects 6-12% of reproductive aged women. The condition may be exacerbated by environmental and lifestyle influences in peripubertal timeframe. The primary features of PCOS including androgen excess, menstrual irregularities and infertility, cardiovascular diseases and mainly occurs in patients with prior history of diabetes mellitus in their family generations. Induction of ovulation by clomiphene citrate (CC) and gonadotropins alone or with in combination with dexamethasone or bromocriptine improved significantly the reproductive performance of patients. As PCOD contains no cure till date, it should be preceded by improvement of metabolic status, through appropriate lifestyle that includes intake in reduction of fast food in large amount, clothing style, hygienic practices, and decrease exposure to radiation (if any). It also found that mainly patients with BMI>30 mainly suffer through such disease. As per our survey, PCOD is a recently upgrowing disease within the women's in their reproductive age. We also found that 40% of women suffer from this disease. So, here is future scope for researchers to find out remedies of this disease.

PCOL-16

A REVIEW: DIABETES TREATMENT THROUGH TRADITIONAL WAY

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Saturday, 02nd February 2019

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Abstract -

Traditional medicines derived from medicinal plants are used by about 60% of the world's population. This review focuses on Indian Herbal drugs and plants used in the treatment of diabetes, especially in India. Diabetes is a widespread disorder affecting the blood sugar and insulin levels in the body and it is essential to understand that diabetes is a condition where in the level of sugar is increased in the blood stream. Though there are various approaches to reduce the ill effects of diabetes and its secondary complications herbal formulations are preferred due to lesser side effects and low cost. A list of medicinal plants with proven anti diabetic and related beneficial effects and of herbal drugs used in management of diabetes in traditional medicines .These spices are easily available in the cabinets of yours kitchen and surrounding .Thus, we are here mentioning ayurvedic remedies, that will be beneficial in maintaining diabetes .They are as follow: Kadu kirayata, Vinca, Bitter gourd, Fenugreek, Heart-leaved Moonseed (guduchi), Aloevera, Cinnamon, Ginger, Rui plant, Basil plant . One of the etiologic factors implicated in the development of diabetes and its complication is the damage include by free radicals and hence an anti-diabetic compound with antioxidant properties would be more beneficial.

PCOL-17

STEM CELL THERAPY A NOVEL THERAPEUTIC APPROACH: AN OVERVIEW

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Abstract:

Stem cells are primary cell and undifferentiated cells with the ability of proliferation, regeneration, conversion to differentiated cells and producing various tissues. These cell serve as a repair system of body and are present in all multicellular organisms. These stem cells can be obtained from umbilical cord, bone marrow, placenta, menstrual fluid, etc and used to treat more than 80 disorders, like Parkinson's disease, spinal cord, autism, cerebral palsy, muscular dystrophy, etc. Organs could be grown in a lab from stem cell and then used in organ transplant. Embryonic stem cell can developed into any cell type of body. Self-renewal capacity and pluripotent nature embryonic stem cells used therapeutically for regeneration or replacement of diseased or destroyed tissues. Embryonic pluripotent stem cells are now cultured and lot of research is going to explore the possibility of using these cells in curing disorder like diabetes mellitus by cell replacement technique. Replacing defective with healthy one offers hope of life long treatment. This review article more emphasized on use of stem cell therapy in the treatment of various disorder like cancer, renal failure, Alzheimer disease.

PCOL-18

OBSESSIVE COMPULSIVE DISORDER (OCD)

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Abstract:

Obsessive-compulsive disorder is a condition characterized by uncontrollable thoughts, obsessions, and compulsions. It includes symptoms such as obsessions, compulsions orderliness, perfectness highly dedicated ethics, morality, keeping unusable things, parameters of working, miser, stubborn. Causes of OCD are genetic causes, auto immune causes, behavioral causes, cognitive causes, neurological causes, environmental causes. It can be cured by first line treatment-cognitive behavioral therapy (CBT) combination of SSRI and CBT and other treatment such as Deep Brain Stimulation (DBS). The results were clear in the brain region associated with OCD, individual with disorder had 32% more inflammation when compared with people without conditions. This findings represent one of the biggest breakthroughs in understanding the biology of OCD, and may lead to development of new treatments. Another interesting finging was that individual who reported the highest levels of stress and trying to stop themselves from acting on compulsions also had the highest levels of inflammation in particular brain region. This survey looks at what obsessive compulsive disorder (OCD) is, and the standard therapies and medications that are used to treat OCD. It also looks at the risks and side effects of treatment, and tips on how to live with condition.

PCOL-19

ROLE OF CISPLATIN AS AN ALKYLATING ANTINEOPLASTIC AGENT

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Abstract:

The simplest of the organometallic antineoplastic agent, cisplatin has square planar geometry. Cisplatin has an electron deficient metal atom that acts as a magnet for electron rich DNA nucleophiles. Cisplatin complexes the bifunctional and accept the electron from two DNA nucleophiles. Inter-strand crosslinks most frequently occur between adjacent guanine residues refers to as diguansoine dinucleotide or adjacent guanine and adenine. Cisplatin is used in the therapy of lung, breast and ovarian cancer. It is rapidly hydrating resulting in short plasma half life of less than 30 mins. It is eliminated predominantly through the kidney, but approximately 10 % of given dose undergoes billary exertion

PCOL-20

THERAPEUTIC INITIATIVES FOR THE AVOIDANCE OF AMINOGLYCOSIDE TOXICITY

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ABSTRACT

Aminoglycosides continue to be indispensable in the management of serious and life-threatening aerobic gram - negative infections. Despite their clinical utility, they continue to manifest a high profile of toxic side effects such as nephrotoxicity and ototoxicity with a rare occurrence of neuromuscular toxicity. Animal experimental models have been invaluable in elucidating the pathophysiologic mechanisms by which aminoglycosides damage the kidney and the inner ear. However, it is from clinical therapeutic experience and prospective clinical trials that we have been able to solidly define the risk factors that accentuate the development of aminoglycoside-related toxicity. The clinical toxicity of these agents can be kept to a minimum by ensuring the use of an appropriate dose, for periods of time not exceeding nine to ten days, in a well-hydrated, normokalemic patient. Special subpopulation groups such as the elderly, obese, those with pre-existing renal disease, or patients who need the concurrent use of other nephrotoxins, require special care in the monitoring of their aminoglycoside therapy to ensure a safe and effective clinical outcome.

PCOL-21

THE NOVEL APPROACHES IN THE TREATMENT OF DIABETIC CATARACT

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Abstract:

Diabetes is one of the major health problems that affect a large number of human population. Diabetic cataract is one of the most frequent ocular complication rising secondarily to the diabetics. Cataract is one of the leading cause of blindness according to the Global Burden of Disease, Injuries and Risk Factors Study. As per the World Health Organization estimates that the number of cases of blindness from cataract will increase to 40 million in 2025 as a result of aging population and longer life expectancies. In diabetic cataract aspirin and its various co-ordination metal complex used significantly in reduction of diabetes as well as cataract. Epidemiological study indicated that regular use of aspirin and aspirin like analgesics decrease the incidence of cataract. India as considered to be a diabetic capital of the world. Diabetes produces number of chronic complication in the body and the Eye. As per National survey on blindness age related cataract is one of the common cause of blindness world-wide. This review article summarizes the recent developments of aspirin zinc complex goat models in diabetic cataract.

PCOL-22

HEPATOPROTECTIVE POTENTIALS OF *BUTEA MONOSPERMA* (LAM) TAUB LEAVES EXTRACT AGAINST PARACETAMOL INDUCED HEPATOTOXICITY IN RATS

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ABSTRACT

Butea Monosperma (Lam) Taub (Fabeceae) has been used in variety of diseases in traditional system of medicine in India and its use for hepatic ailments is also documented. In the present study an attempt has been made to validate its Hepatoprotective activity. The methanolic and aqueous extract of *Butea Monosperma* (Lam) Taub (Fabeceae) leaves was screened for its hepatoprotective activities against Paracetamol induced Hepatotoxicity in albino rats. Paracetamol, a widely used analgesic and antipyretic drug is known to cause hepatotoxicity in experimental animals and humans at high doses. Overdoses of Paracetamol deplete glutathione stores, leading to accumulation of NAPQI, mitochondrial dysfunction and the development of acute hepatic necrosis. Silymarin and extract of *Butea monosperma* (Lam) Taub prevented the Paracetamol induced hepatotoxicity. The results indicate that silymarin, Aqueous and Methanolic Extracts of leaves of *Butea monosperma* (Lam) Taub reduced the hepatic damage caused by oral administration of Paracetamol as compared to control.

PCOL-23

PHARMACOGNOSTICAL EVALUATION AND SCREENING OF *LEEA CRISPA LINN* LEAF EXTRACTS FOR WOUND HEALING ACTIVITY.

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Abstract:

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Objectives: In the present study leaf of *leea crispa* linn were subjected to morphological, microscopical and phytochemical investigations. Also to evaluate the wound healing activity of potential crude fractions from *leea crispa* leaf using animal models. In the present study, the ethanolic extract (ETLC) and aqueous extracts (AQLC) of *leea crispa* leaf has been screened for the wound healing activity in animal models such as excision model, incision model and estimation of hydroxyproline assay. Preliminary phytochemical investigations have revealed the presence of tannins, flavonoids and Glycosides as major phytoconstituents. The ethanolic and aqueous extracts of *leea crispa has* shown promising wound healing activity. Significant increase in the weight of the granulation tissue and hydroxyproline content was observed in animals treated with the ethanolic and aqueous extract of Leea *crispa when* compared to the control group of animals. The Present study was carried out to evaluate morphological, microscopical, phytochemical investigations and wound healing activity of the leaf of Leea crispa linn. In wound healing activity, complete epithelization in the excision method, tensile strength and hydroxyproline were estimated.

PCOL-24

RECENT ADVANCES IN PHARMACOTHEROPY OF PARKINSON'S DISEASE

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ABSTRACT:

Parkinson's disease (PD) is a devastating disorder which is related to human nervous system. It is the second most common progressive chronic neurodegenerative disease. The disease is caused due to selective degeneration of dopaminergic neurons in the substantia nigra pars compacta part of the brain. This poster presents some of the most promising advancements in the treatment of Parkinson's disease. Up to 2019, we have some treatment to slow down the progression of the disease. Available therapy is under development and thus offer hope for the patient and the treating physician. The disease is not curable but currently available treatments reduces symptom; improve the quality of life and prolong survival of patients.

PCOL-25

ANTIUROLITHIATIC EFFECT OF CANNA INDICA L. (ROOTS)

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Abstract:

Urolithiasis is the third most common disorder of the urinary tract, is the formation of sediment in the urinary tract consisting of one or more of the poorly soluble crystalloids of urine. It is a worldwide problem particularly common in parts of United States, South Africa, India and South East Asia. Approximately 2% of the world population experiences renal stone disease with a male-female ratio of 2:1. The main aim of the present study was to evaluate antiurolithic activity of root extract of Canna indica in 2% Ammonium chloride (AC) and 0.75% Ethylene glycol (EG) induced urolithiasis in albino rats. Results showed that alcoholic extract of roots of C. indica has exhibited a significant protective (antiurolithic) effect against urolithiasis producing agents. The rats treated with alcoholic extract of roots of C. indica at doses 100 mg/kg, 200 mg/kg and 400 mg/ kg significantly ($p \leq 0.05$) reduced serum calcium and creatinine but increased magnesium. Thus the present study supports and justifies the basis for folklore use of roots of C. indica for antiurolithic activity.

PCOL-26

HEPATOPROTECTIVE ACTIVITY OF METHANOLIC & N-HEPTANE EXTRACT OF *CASSIA FISTULA & EUCALYPTUS GLOBULUS LEAVES.*

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1. Sagar Institute of Research Technology and Science-Pharmacy, Bhopal, (Madhya Pradesh)
2. Laxmi Nnarayan College of Pharmacy, Bhopal, (Madhya Pradesh)
3. Patanjali Research Institute, Haridwar (Utrakhand)

Abstract

Hepatoprotective activity of the Methanolic & n-heptane extract of *Cassia fistula* and *Eucalyptus Globulus* leaves was investigated by inducing hepatotoxicity with paracetamol in rats. The extract at a dose of 400 mg/kg body wt. exhibited orally, significant protective effect by lowering the serum levels of transaminases (SGOT and SGPT), bilirubin and alkaline phosphatase (ALP). The effects produced were comparable to that of a standard hepatoprotective agent.

PCOL-27

A REVIEW ON ANTIBIOTICS IN THE TREATMENT OF ACNE VULGARIS

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Abstract:

Current treatment of acne vulgaris relies heavily on systemic antimicrobial agents. In many patients, acne is a disorder in which symptoms typically recur over years. Consequently, identifying a sustainable treatment regimen is an important component of acne management. Isotretinoin is extremely efficacious and has long-term benefits after use. It has also been the source of controversy due to its alleged and real connection to severe side effects and teratogenicity. The American Academy of Dermatology recommends their use in treatment of moderate to severe inflammatory lesions for duration of 3months. Antibiotics should not be used as a monotherapy or for duration longer than 3 months, but they frequently are. Side effects of antimicrobial treatment persist after discontinuation. The purpose of this review is to evaluate the use of antibiotics and isotretinoin in the treatment of acne vulgaris.

PCOL-28

CURRENT TRENDS IN TREATMENT AND MANAGEMENT OF PSORIASIS

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Abstract

Psoriasis is a long-lasting autoimmune disease associated by patches on abnormal skin. These skin patches are typically red, dry, itchy, and scaly. On people with darker skin the patches may be purple in colour. Psoriasis varies in severity from small, localized patches to complete body coverage. Injury to the skin can trigger psoriatic skin changes at that spot, which is known as the Koebner phenomenon.Psoriasis is generally thought to be a genetic disease that is triggered by environmental factors. Symptoms often worsen during winter and with certain medications, such as beta blockers or NSAIDs. Infections and psychological stress can also play a role. Psoriasis is not contagious. The underlying mechanism involves the immune system reacting to skin cells.Diagnosis is typically based on the signs and symptoms.There is no cure for psoriasis; however, various treatments can help control the symptoms. These treatments include steroid creams, vitamin D3 cream, ultraviolet light and immune system suppressing medications, such as methotrexate. Based on the type of psoriasis, its location, extent and severity there are various treatment regimens available for psoriasis such as topical agents, phototherapy, systemic agents, and homeopathic approach which can help to control the symptoms. This study intended to cover all aspect of the disorder Psoriasis.

PCOL-29

STEM CELL: RECREATION OF NEW LIFE

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Abstract:

Stem Cell Therapy (SCT) is used in treatment of various disorders used to treat such as, Leukaemia, Thalassemia, Aplastic anaemia, Sickle cell anaemia neuromuscular disorders, degenerative disorder, genetic disorders, for example Autism, Cerebral Palsy, Muscular Dystrophy, etc.stem cell is mainly focus to repair damaged and diseased body-parts with healthy new cells provided by stem cell transplants. Stem cells are different and naturally ability to generate new cell types. Transplants Stem cell also known as bone marrow transplants. It has been demonstrated in the United States since the late 1960s. These transplants use adult stem cells and being tested in other applications, including a number of degenerative diseases. Stem cells from umbilical cord blood used in clinical trials to treat cancer and blood-related diseases. Use of umbilical cord blood as a source of hematopoietic stem cells for transplantation in the treatment of various diseases. The main objective is to elaborate stem cell to maximize stem cell efficacy (i.e. the proper selection of a stem cell) and the efficacy (maximum effect) and safety of stem cell derived drugs. These papers involved information regarding stem cells obtained from embryonic and non-embryonic tissues. However, Stem cell research represents ethical, scientific questions future challenges.

PCOL-30

HYPERLIPIDEMIA AN ALARMING ISSUE TO SELF-INTEGRITY

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Abstract:

Hyperlipidemia is a condition that is indicated by abnormally increase levels of lipid in the blood. It includes irregularities of cholesterol, triglyceride, low density lipoprotein and decrease in high density lipoprotein in blood stream. Hyperlipidemia is a primary reason of atherosclerosis like coronary heart disease, ischemic cerebrovascular disease, peripheral vascular disease and pancreatitis. Other major cause of Hyperlipidemia is variety of genetic abnormalities and other environmental factor. Hyperlipidemia in Pharmacologic treatment with therapeutic lifestyle changes used for bothprimary and secondary remedies of cardiovascular disease.Statins is Anti-hyperlipidemic agent used to reduce low-density lipoprotein cholesterol. Statin is good evidence for secondary prevention of stroke and peripheral arterial disease. Lipidsare affiliated with blood plasma proteins and dissolved in the blood. Hyperlipidemia elevated morbidity and mortality when combined with other diseases including diabetes mellitus, hypertension, and cardiovascular diseases.Cardiovascular disease is indicated with globally problem of death, which is accountingfor more than 17.3 million deaths per year. In India, there is rapid transition state in heart disease and burden over the past couple of decades. 30 million heart patients in India, 14 million in urban areas and 16 million in rural areas. This study showed the relationship between dietary, blood lipid level, prevalence and incidence of CHD as well as focus on risk factor and causes of hyperlipidemia.

PCOL-31

GLOBAL HEALTH SECURITY REGARDING NIPAH VIRUS

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Abstract:

Nipah Virus Infection (NiV) is an infectious and zoonotic disease of public health that causes very harmful and severe in animals and humans. Nipah virus was first identified as a zoonotic pathogen after an outbreak involving severe respiratory illness in pigs and encephalitic disease in humans in Malaysia and Singapore in 1998 and 1999. This virus along with Hendra virus constitute a new genus designated Henipavirus in the subfamily Paramyxovirinae. The primary reservoir of NiV is fruit bats of the genus Pteropus. Nipahvirus (NiV) are emerging zoonotic viruses that cause severe and often lethal respiratory illness and encephalitis in humans. Nipah virusSpread through direct contact with infected bats, pigs, or from other NiV-infected people. The virus is detected by ELISA, PCR, immunofluoroscent assay and isolation by cell culture. NiV suggest that endothelial cells are an important target during the terminal stage of infection; however, it is unknown where these viruses initially establish infection and how the virus transmit from the respiratory tract to the central nervous system and other organs. Here we review the current concepts in Nipah virus pathogenesis in humans.

PCOL-32

REVIEW ON SUB- HARMONAL THERAPY FOR BREAST CANCER

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ABSTRACT

Breast cancer is as complex disease with many different types and many different treatments. The specific treatment recommended for your particular type of breast cancer will depend on your age, the pathology of the breast cancer, any other illness you may have and your personal preferences. Harmon therapies are used to treat breast cancer. If you have hormone receptor positive breast cancer, it means that oestrogen can stimulate the growth of the cancer. Hormone therapies aim to block these stimulations. In effect, these treatments are more accurately describe as anti-hormone therapy. Hormonal therapy is done to control the growth of cancerous cells in the body. There are two types of hormone treatments commonly used for breast cancer- Tomoxifen (Tamoxifen and Nolvadex) and Aromatase inhibitors, which include anastrozole (Arimidex), Letrozole (Femara) and Exemestane (Aromasin) . If patient is premenopausal, it is most likely that doctors will suggest tamoxifen, as aromatase inhibitors are generally not suitable for premenopausal women. If patient is young premenopausal women, she may be given the option of taking an ovarian suppressant alongside your Harmon treatment. Taking a drug every day for five years or more can be daunting, particularly if patient experience side effect early on when considering whether or not to take hormone therapy, it may helpful to know that these drug are very good for reducing this cancer. This poster is intended to help you understand how this medication works. It also discusses the benefits and side effect that some women are experienced.

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PCOL-33

ROLE OF ANTIOXIDANTS IN CANCER TREATMENT

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Abstract

Cancer is uncontrolled growth of abnormal cells in the body. Old cells do not die and instead grow out of control, forming new, abnormal cells. Surgery, chemotherapy, radiation therapy are the main treatments of cancer. This treatment induces arange of side effects such as hair loss, nausea or vomiting and cardiotoxicity. Use of antioxidants during cancer treatment can reduce these side effects. Antioxidants are substances that may protect cells from the damage caused by unstable molecules known as free radicals. Free radical damage may lead to cancer. Antioxidants interact with and stabilize free radicals and may prevent some of the damage free radicals. Examples of antioxidants include Quercetin, Curcumin, Beta-carotene, Lycopene, Vitamin C, E and A and other substances. Antioxidants are available as dietary supplements, pills etc. Excess antioxidants are harmful but this therapy is very effective for cancer treatment.

PCOL-34

REVIEW ON APPLICATIONS OF EMBRYONIC STEM CELLS

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Abstract:

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Embryonic stem cells are pluripotent stem cells which can give rise to the entire cell types that make up to the body; embryonic stem cells are derived from the inner cell mass of the blastocyst, an early-stage preimplantation embryo. Adult stem cells have demonstrated tremendous human therapeutic potential. Currently, human embryonic stem cells are used principally for understanding growth and disease development but also hold enormous medicinal potential. The capability to preserve stem cells is difficult for their use in medicinal application. Preservation of cells allows the movement of cells between sites, as well as completion of safety and quality testing. Preservation allows the development of a 'manufacturing paradigm' for cell therapies; thereby maximizing the number of product that can be produced at a given facility. Different modes of preservation and the current status of preservation of hematopoietic, mesenchymal and human embryonic stem cells can be studied in this poster. Present and upcoming issues in the area of stem cell preservation will be discussed here.

PCOL-35

A REVIEW ON IMPORTANCE OF KIDNEY DIALYSIS

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Abstract:

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Dialysis is needed when kidneys stop working properly. Dialysis is one form of renal replacement therapy (RRT) and transplantation is the other. Dialysis will make your child feel better but it does not make them feel normal or return the blood test results to normal as we hope will happen transplantation. Dialysis is a type of treatment that replicates many of the functions of the kidneys. It is often used to treat cases of kidney failure, which is also known as end stage renal disease.

PCOL-36

ANTIBIOTICS RESISTANCE

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ABSTRACT

This review poster reiterates the optimal use of antimicrobial medicines in human and animal health to reduce antibiotic resistance. Antibiotics are the 'wonder drugs 'to combat microbes. "It's defined as micro – organisms that are not inhibited by usually achievable systemic concentration of antimicrobial agent agents with normal dosage schedule or fall in the minimum inhibitory concentration range". The aim of this poster is to be exploring the origin, development, and the current state of antibiotic resistance, regulations and challenges by examining available literature. We found that antibiotic resistance increasing at an alarming rate. A growing list of infections i.e. pneumonia, tuberculosis are becoming harder and at times impossible to treat while antibiotics are becoming less effective. Therefore, the need of educating patients and the public is essential to fight against the antimicrobial resistance battle.

PCOL-37

EFFECT OF LH /FSH RATIO AND CORRELATION WITH INSULIN RESISTANCE IN PCOS OBESE WOMAN OF REPRODUCTIVE AGE GROUP

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Abstract: To study the effect of LH/FSH ratio and it's correlation with insulin resistance in PCOS obese woman. The study includes 100 PCOS obese females of age 18-45yrs. Further analysis revealed that the majority of obese PCOS woman shows abnormal LH/FSH ratio which correlates with insulin resistance compared to normal control subjects. In PCOS women, normal gonadotropin ovarian axis is disturbed. This is reflected by the higher levels of LH/FSH level and reversal of LH/FSH ratio. Further insulin resistance perceived as the main cause for development of PCOS.

PCOL-38

CLINICAL PRESENTATION OF AUTOIMMUNE DISORDER IN PREGNANCY

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ABSTRACT

In pre-eclampsia, the prevalence of autoimmune disorder in the general population is around 3%-7%.The prevalence of this group of disorder is probably underestimated and is more common in females. Autoimmune disorders have a significant impact over the health of an individual. This heterogeneous group of disorder affects pregnancy in multitude of ways. Pregnancies with autoimmune disorders are usually cared for by a multidisciplinary team of doctors. Pregnancies with autoimmune disorder were studied over a one year period in one unit of a medical college teaching hospital set up. Obstetric and neonatal outcomes were studied. Ten patients were studied. Average age was 29.9 years. Majority presented in early second trimester. Eight patients were ANA positive. Two patients had antiphospholipid antibody syndrome, for which low molecular weight heparin was helpful. Hypothyroidism was seen in two patients. Bad obstetric history was seen in most patients. Successful neonatal outcome was seen in six patients. One patient had Evans syndrome. There were no maternal mortalities. There was one perinatal mortality. Autoimmune disorder in pregnancy when manage in tertiary care center with multidisciplinary approach can result in good obstetric and neonatal outcomes.

PCOG-01

METHOD FOR OPTIMIZATION OF INHIBITORY EFFECT OF HERBAL EXTRACT ON CLINICALLY IMPORTANT ANTIBIOTIC RESISTANT BACTERIA

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Abstract:

In the past 60 years, antibiotics have been critical to fight against infectious disease caused by bacteria and other microbes. The emergence of antibiotic resistant microorganisms over a period has decreased potential of antibiotics for further use. Increasing multidrug resistance in pathogens forces development of alternative compounds for treatment of infectious diseases. The aim of this study was to screen antibacterial and antioxidant activity of spices extracts along with phytochemical constituents. The ginger & garlic had promising antibacterial and antioxidant activity against free radicals. The constituents present in these extracts are going to be more useful in therapeutic of bacterial infections and possible replacement of synthetic antioxidants. Computer assisted drug designing of probable potential antimicrobial leads can overcome the resistance.

PCOG-02

COMPARATIVE SUDY OF MORPHOLOGICAL AND HISTOLOGICAL CHARACTERISTICS OF UMBELLIFEROUS FRUITS

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ABSTRACT:

Umbelliferae is a large and widely distributed family to be recognized first by taxonomists due to its characteristics inflorescence and fruits. According to chemotaxonomic classification this family consists of 240 – 300 genera and over 3000 species and is of immense ethnobotanical importance. Umbelliferous fruits usually are chemocarp either entire or separated into its mericarp showing variable surface feature. The mericarp encloses seed derived from anatropous ovule showing different histological parameter. Also vascular and secretory structures are observed with slight variation in different umbelliferous fruit. The umbelliferous fruit contain essential oil present in oil tubes called as vittae. Extensive review conducted on umbelliferous fruit wherein it was observed that a comparative study of morphology and histology is not evident, hence on attempt was made to carry out comparative study of umbelliferous fruit, namely Ajowan, Anise, Caraway, Coriander, Cumin, Dill, Fennel with respect of their morphological and histological characteristic for further scientific investigations.

PCOG-03

REVIEW ON CARDIAC GLYCOSIDE OCCURRING FROM NATURAL SOURCE

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Abstract:

Cardiac glycosides are the phytochemicals known to increase the force of contraction of heart muscles and to regulate heartbeats. They can be chemically categorized in the class of steroidal glycosides acting as cardiotonic agents and synonymously called as Cardenolides. These glycosides are usually from plant origin extensively found in families such as Liliaceae, Scrophulariaceae, Apocynaceae. These may include Digitalis, Squill, Ouabain, Strophanthus, Thevetia, Nerium, Brahmi etc. Phytochemicals showing Cardiotonic effects include digitoxigenin, digoxigenin, gitoxigenin, Oouabagenin, Strophanthidin, Acetyldigoxin, Lanatosides, Thevetin, Scillaren. This review attempt to encompass the available literature on cardiac glycoside with respect to its ethnobotanical information, summary of active phytoconstituents, mechanism of action as well as the chemistry of phytochemicals showing cardioprotective activity for further investigation.

PCOG-04

A REVIEW ON MEDICINAL PLANTS USED AS ANTICANCER DRUGS

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Abstract:

Cancer is a major public health burden in both developed and developing countries. More than half of cancer cases and 60% of deaths from cancer occur in less developed countries.. An attempt has been made to review some medical plants used for the prevention and treatment of cancer. They contain various secondary metabolites which include alkaloids, flavanoids, phenolics, carotenoids are being investigated for their anticancer activities leading to the development of new clinical drugs.Herbal medicines have a vital role in the prevention and treatment of cancer .With advanced knowledge of molecular science and refinement in isolation and structure elucidation techniques various anticancer herbs has been identified, which execute their therapeutic effect by inhabiting cancer –activity enzymes and hormones .several anticancer agents including taxol, vinblastine, vincristine the camptothecin derivatives, topotecan and irinotecan, and etoposide derived from epipodophyllotoxin are in clinical use all over the world. A number of promising agents such as flavopiridol , roscovitine ,compretastatin A-4,betulinic acid and silverstrol are in clinical or preclinical development.

PCOG-05

OVERVIEW ON RECENT TREND IN MEDICINAL USE OF CARICA PAPAYA

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Carica papaya belongs to caricaceae family and it is commonly known as "papaya".Papaya has wide medicinal importance in human life which commonly included in daily diet as a fruit. It has beneficial effect of leaf extracts in treating patients with dengue and malarial infection. It has been found that papaya leaf boasts of great anticancer properties because of its compound "acetogenin". The enzymes in papaya leaf can fight liver cancer, lungcancer, pancreatic cancer and breast cancer. Leaf of papaya contain "karpain"compound and it is used in antidandruff shampoos. The anti-flammatory properties of papaya leaf also be helpful in reducing inflammation and chemotherapy side effect. It has been shown protective effects against many diseases such as intestinal worm infection and different type of wounds and also showed positive effect when used as antiseptic, antiparastic, antihyperlipidemic, antimicrobial, anti-diabetic. Papaya isowed due to high content of vitamin A,B andC,proteolysis enzymes like papain and chymopapain which have antiviral, antifungal and antibacterial properties. Recentlynow a days anti-sickling agent in leaf extract of papaya prevent polymerization of sickle haemoglobin. Thisreview article of *Carica papaya*will provide information about novel medicinal importance which can be helpful and useful in prevention of many disease.

PCOG-06

REVIEW ON CRUDE DRUGS DERIVED FROM MEDICINAL INSECTS

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The Insects have been used for the extraction of various drugs in ancient times to treat over human diseases. Ancient Chinese as well as many other countries have used many insects to derive crude drugs from many insects and using them in the treatment of many diseases. It is estimated that 1700 traditional Chinese medicines are the prescriptions that include medicinal insects or insect-derived crude drugs. Chinese consider the insects not only for the medicinal purpose but also they use insects as their nutritional source. From many centuries the insects have a major role play in medicinal history. There are approximately 300 medicinal insect's species. They are widely distributed in 70 genera, 63 families and 14 orders are present. Medicinal insect are been cultivated for the extraction of drugs. There are researches going on various insects and they have proved very effective over certain diseases. It is assumed that the use of medicinal insects will be main resource for the future discovery of new drugs.

PCOG-07

REVIEW ON TRADITIONAL MEDICINES: A HIDDEN TREASURE

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Traditional medicines for over a period of century, has played an essential role in human health care service and welfare from its inception. Likewise, all traditional medicines are of its own regional effects and dominant in the west Asian nations; India, Pakistan, Tibet and so forth, East Asian nations; China, Korea, Japan, Vietnam etc. Integrating 'traditional medicines' into mainstream health care would require research to understand the efficiency, safety, and mechanism of action of traditional medicine system but this require the proper information about traditional medicines. This information we can get from the Local people.. The desired effect of the traditional medicines can be achieved by designing novel drug delivery system (NDDS) for herbal constituents. One such novel approach is nanotechnology. It increases the bioavailability and reduces toxicity. If we pursue this knowledge, then the combination of traditional medicines and use of modern techniques will be the great invention for human wellbeing. Also some of knowledge about the traditional medicines have been orally transmitted but there is no record of such unknown medicines. If such vast knowledge gets researched, then many of incurable disease can be cured.

PCOG-08

SPICES AS ANTICANCER AGENT: AN OVERVIEW

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Cancer is the second leading cause of death worldwide. Although great advancements have been made in the treatment and control of cancer progression, significantly deficiencies and room for improvement remains. A number of undesired side effects sometimes occur during chemotherapy, natural therapies, such as the use of the plant-derived products in cancer treatment may reduce the adverse effect. Currently, a few plant- derived products are being used to treat cancer. It seems necessary to identify new strategies to prevent and such a deadly disease. Central survival and death of cancerous cells are important strategies in the management and therapy of cancer. Spices have a vital role in prevention and treatment of cancer. Numerous studies have documented the anti-oxidant, anti-inflammatory and immmunomodulatory effect of spices, which might be related to prevention and treatment of several cancers, including lung, liver, breast, stomach and cervix cancer. Moreover, enthomedicinal spices used to treat cancer are considerably cheap. Herbal drug treatment can be given to the treat different types of cancers effectively at an affordable cost. There are some spices used in regular use that can be used to treat cancer .i.e. turmeric, garlic, ginger, pepper, oregano, cayenne pepper, etc.

PCOG-09

SCREENING OF *SONCHUS ASPER* EXTRACTS FOR BLOOD RELATED DISORDERS

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ABSTRACT:

Sonchus asper is an important medicinal plant belonging to family *Asteraceae.* It is one of the traditionally used plant in South Asian countries like India and Pakistan in the treatment of anticancer, antioxidant, antianemic, anti-inflammatory properties. The present research has been undertaken with the aim to screen the *Sonchus asper* extract for blood related disorders. The *Sonchus asper* plant was extracted using soxhlet extraction technique using solvents and evaluated for various parameters. The characterization has carried out by using physical, chemical and spectral aspects. The SAHE (*Sonchus asper* hexane extract).was studied for iron content and antioxidant studies. Antianemic study was carried out by estimating hematoprotective effects of *Sonchus asper* extracts on heamatotoxicity induced Sprague dawley rats. The result of study shows presence of Alkaloid, tannin, phenolic compounds, protein, flavonoids in extracts. The iron content of extract was found to be 1.644mg, antioxidant potential of SAME (*Sonchus asper* methanol extract). was 91.54% in comparison to ascorbic acid. The SAHE (*Sonchus asper* hexane extract). studies for antianemic potential was found to be significantly increased for HgB, RBC and HCT Levels from animal studies.

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PCOG-10

A REVIEW ON MEDICINAL BENEFITS OF MANGOSTEEN (KOKUM)

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Abstract

Garcinia mangostana is also known as kokum and belonging to *Guttiferae* family. It is cultivated in the tropical rainforest of some Southeast Asian nations like Indonesia, Maleysia, Srilanka, Philippines and Thailand. Mangosteen known as queen of tropical fruit because of its powerful medicinal properties.These day's mangosteen juice is becoming popular "Health Drink". It provides huge health benefits for every organ in our body. In traditional Indian systems of medicine the Ayurveda and in various folk system of medicines the fruits rinds and leaves are used to treat inflammatory elementary rheumatic pain and bowel complaints.Its peel powder is one of the most important bioantioxidant and have antimicrobial properties. Mangosteen contains more than 40 biologically active natural chemical compounds called Xanthones. Prenylated xanthones isolated from mangosteen have antioxidant, antitumoral, antibacterial, anticancer and antiviral activities.

PCOG-11

APPLICATION OF DIFFERENT FRUIT PEELS AS A NATURAL FERTILIZER FOR PLANT GROWTH

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Abstract:

Fruit peels of Pomegranate, neem and orange are highly rich in potash, ion, zinc etc. Above fruit peels powder were formulated for Formulation 1,2,3.These formulations were applied for plant growth in two methods such as fruit peel powder , fruit peel powder extract as a natural fertilizer. Fenugreek seeds were used.After 45 days of application of fertilizer, plant growth was measured and the yield was counted. Among the three formulations of fruit peel powder and fruit peel extract, Formulation1 was found more suitable for plant growth. Fertilizers are any organic or inorganic material of natural or synthetic origin that is added to a soil to supply one or more plant nutrients essential to the growth of the plants. Fruit contains a high amount of antioxidants that are beneficial to our health in many ways Collection and processing of soil Sample then completed Soil Quality Test further Collection and processing of fruit peels and Preparation of fruit peel powder then cultivating seeds. After 45 days of application of fertilizer, plant growth was measured & the yield of fenugreek vegetables was counted. Among the three formulations of fruit peel powder, formulation 1was found more suitable for growth.Pomegranate peels was highly rich in phenol. Phenol inhibited the growth of the plant.Orange peel contains iron, zinc copper phosphorous were mainly used for the growth of the plant.Neem powder used as an alternate to plant fertilizer. It reduces pollution, improves fertilizer's efficacy & soil health.

PCOG-12

PHYTOCHEMICAL (HPTLC) STUDIES OF BRAHMI

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Abstract:

Bacopa monnieri Linn.,Brahmi, an important medicinal plant of Scrophulariaceae family and is distributed in the wet and marshy lands throughout India, Nepal, Sri Lanka, China, Taiwan, and Hawaii. It is endangered species so it is necessary to preserve germplasm. The objective of this research work is the comparative phytochemical evaluation of natural and micro-propagated plants of *Bacopa monnieri* (BM). It shows the presence of various phytoconstituents namely, alkaloids, saponins, phenolics, and flavonoids. These phytoconstituents are responsible for anti-oxidant and various other activity of the plant. The protocols for tissue culture has been developed for regeneration of the BM plant from small part (nodal segment). The regenerated plant having the similar potential in terms of phytoconstituents. The protocols of Murashige and Skoog medium can be used for the clonal regeneration of plant on the large scale through which it can be protected and preserved for the long duration in small space. From the comparative phytochemical investigation by HPTLC, the phytoconstituents which occur in the micro propagated plant are similar to that of the natural plant of *B. monnieri*.

PCOG-13

A REVIEW ON CHEMISTRY AND BIOLOGICAL ACTIVITIES OF *ACHYRANTHES ASPERA* LINN.

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Abstract

The plant kingdom have a potential pharmacological and biological activities, many of which have been used as a source of food, flavours, fragrances, beverages, colourants, fibres, insecticides, poisons, pharmaceuticals etc. Among the plant kingdom *Achyranthes Aspera Linn.* Have many biological activities due to presence of various primary and secondary metabolites. *Achyranthes Aspera Linn,* produces many phytochemicals, one of the important secondary metabolite is triterpenoid. It showed a broad range of pharmacological activities like anticancer, anti-inflammatory, hepatoprotective, antimicrobial and immune stimulant property. Many research work have been performed on *Achyranthes Aspera Linn,* which includes extraction, isolation, characterization and biological activities. In the present study, systematic review on Achyranthes Aspera Linn. Has been carried out through various sources likes, research articles, journals and books and presented.

PCOG-14

MARINE PHARMACY

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Abstract:-

Some micro-organisms are present into the oceans these marine organisms provide vast sources of various compounds with diverse biological properties and bioactivities. Marine microbes are sources of novel bioactive compounds that have many applications as pharmaceuticals. The marine environment is proving to be a valuable sources of novel bioactive compounds with antibacterial ,antiviral, anticancer properties. Oceans are the unique resources that provides a diverse array of natural products primarily from invertebrates such a seaweeds tunicates bryozoans and molluscs as well as from marine bacteria and cyanobacteria.Several marine natural products, including dolastatin 10,ecteinascidin-743 ,kahalalide f and aplidine although many marine products clinical trials have been conducted for cancer chemotherapy factors. Objectives:-Marine micro-organisms are important and promising resources for biomolecules capable of giving various biochemical activities. So investigation of such bioactive molecule from available resources and its identification is our prime aim.

PCOG-15

OKRA AND ITS PHARMACOLOGICAL PROFILE OVERVIEW

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Abstract:

Okra commercial vegetable crop belong to family Malvaceae. It originates from Ethopia and is widely spread all over tropical, subtropical and warm temperate regions of the world. It play an important role in the human diet and is a good source of protein, carbohydrates ,vitasssmins, calcium, potassium, enzymes. The various part of these plant used for medicinal pupose.It has various reported pharmacological properties like antidabetic, antioxidant ,nootropic, eye, heart disease and neurological disorders etc. This effort is towards providing the evidence in support to encourage more scientific research to find out more pharmacological and neutritional potential of Abelmoschusesculantus that may be suggestive of new drug discovary.

PCOG-16

GINGER EXTRACT FOR ANTIBACTERIAL ASSESSMENT ON SOME CLINICAL ISOLATES

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NOVEL TRENDS IN DRUG DESIGN AND NATURAL PRODUCT CHEMISTRY
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The antibacterial activity of honey, methanol and ethanol extracts of ginger (*Zingiber officinale*) were investigated against some selected bacteria using the agar diffusion technique. Two Gram positive and four Gram negative bacteria were assessed for possible inhibition by the extract samples. The inhibitory potency of the extracts on the test organisms varied in the halos as inhibition effects. Though all the test organisms were susceptible to the antibacterial samples with inhibition measure between 6-3mm, *E. coli* was the most inhibited where an inhibitory measure of 20mm was recorded with honey, 18mm with ginger ethanol extract and 32mm with the mixture of honey and ginger ethanol extract. The pasture honey, the ethanol and methanol extracts of ginger were both positive for saponin and cardiac glycosides among the phytochemicals identified. While some of the commercial antibiotics (positive control) were not effective on the test organisms, gentamycin and streptomycin were effective with inhibitory halos ranging between 8-25mm. However, the antibacterial test samples were higher in inhibition values than the reference drugs (positive control).

PCOG-17

PHYTOCHEMICAL SCREENING ON MICHELIA CHAMPACA

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Abstract:-

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Saturday, 02nd February 2019

Michelia Champaca Linn. Known as Champaca is Belonging to family of Magnoliaceae. It Consists of 12 genera and 220 species of evergreen trees and shrubs. In rescent times there are several reports of medical specialty roles and activities of micheliachampaca and its active principles on the circulatory system, antipyretic, diuretic. Flowers and the fruit in combination with other drugs are recommended as an antidote to snake and scorpion venoms.The Smell of flowers is a good stimulant. The flowers is are expectorant and useful in cough and rheumatism.[22] The Phytochemical analysis of the leaves and flowers of the plant showed the presence of alkaloids, tannins, glycosides,carbohydrates,amino acids ,flavonoids and sterol in different solvent system.The petroleum ether extract of the dried flower contained n-alkane hydrocarbons, unsaturated aliphatic ketones, beta sistosterol and quercetin. The quercetin forms the first report of its occurance in the genus Michelia (Shalini and Jaggi 2004) Lago et al (2009) reported that volatile oils contained six sesquiterpene hydrocarbons, four oxygenated sesquiterpenes and two aliphatic alcohols from water using dichloromethane solvent in leaves of M.champaca L.

PCOG-18

ETHNO-MEDICINAL PLANTS USED FOR THE SNAKEBITE IN INDIA: A REVIEW WITH SCIENTIFIC JUSTIFICATION

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Saturday, 02nd February 2019

Abstract:

The effect of human interface and variety of the most desirable, important, and effective plant species found in the surrounding environment at an accurate condition is attributable to indigenous information of plant species. India has a rich diversity of therapeutic plants growing under diverse geographical and ecological circumstances; 1500 out of 15,000 fortunate plant species have been documented for their various medicinal uses. Snakes have fascinated civilisation for eras. Snakebites are a serious medical, social and economic problem that is experienced globally; however, they are most serious in tropical and subtropical nations. In India, a variety of medicinal plants are utilised for the for snakebites, used either individually or in combination with other agents. The objective of this study was to gather information concerning infrequent, less exploited, and less considered medicinal plants. Over 100 plants were found to have potential to be employed as antidote for snakebite across India. Facts collected from a diversity of literature sources revealed valuable plant families, the parts of plants used, how to utilize them as well as their scientific validation. In India, there are more than 500 plant species, belonging to approximately 122 families, which could be beneficial in the treatment of snakebites. This study was conducted to encourage investigators to generate herbal antidotes, which will counteract snake venom. These may demonstrate to be an inexpensive and effortlessly assessable alternative, which would be of massive importance to civilization. We believe, this study of herbal antidotes against snake venom is of considerable significance to humanity.

PCOG-19

MORINGA OLIEFERA: MULTIPURPOSE AND GOLDEN LEAF WITH MEDICINAL VALUES

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Abstract:

Moringaoleifera is also called as "Mugna" in Hindi, "Drumstick" in English. This plant is one of the miracle tree which include another name is "Moringapterygosperma" This plant is widely cultivated in India and used as nutritive herb and shows the pharmacological activity. Moringaoleifera belonging to family Moringaceae. Benefits of Moringaoleifera is malnutrition, weakness**,** lactating mothers, menopause**,** depression and osteoporosis in the world. This plant rich in combination of Zeatin, Quercetin, Sitosterol, Caffeoylquinic acid and Kaempferol. It is effective and essential in water purifying powers, high nutritional value and medicinal value. In Moringa, vital minerals are present containing Calcium, Copper, Iron, Potassium, Magnesium, Manganese and Zinc. Moringa is very important as a food source in the tropics because the tree is in full leaf at the end of the dry season. Parts of this plant such as the leaves, roots, seed, bark, fruit, flowers and immature pods produces and act as cardiac, circulatory stimulants, antipyretic, antitumor, anti-inflammatory, antiepileptic, diuretic, antiulcer, antispasmodic antihypertensive, cholesterol lowering, antidiabetic, antioxidant, antibacterial, hepatoprotective, and antifungal activities,. Each section has some beneficial properties that can consider whole plant can be study for future research aspect. This study provides a brief overview about multipurpose of *Moringaoleifera tree*, phytochemical composition, medicinal uses, their benefits & pharmacological activity of this plant.

PCOG-20

AYURVEDA: FUTURE OF MEDICINE

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Ayurveda is the Indian traditional system of medicine deals with pharmaceutical science.The Sanskrit mean of Ayu is life and Veda is knowledge or science.Originally, it was developed through ancient wisdom, clinical experiences and experimentation in scientific manner. Chikitsa is not only treating the disease, it also keeps in healthy condition and treating the disease relating to physically, mentally and spiritually. Validationof Ayurvedic principles (by using modern parameters) will make it more acceptable to society.Thebioactive compounds and the role of medicinal plants in Ayurvedic systems of medicine in India.It has been increase in demand for the Phytopharmaceutical products of Ayurveda in Western countries, because of the fact that the allopathic drugs have more side effects.Allopathic means which brings different effects not related with the pathology of the disease. This system made a "conventional system of medicine" allopathic is a disease care system and manages the disease. Many pharmaceutical companies are now concentrating on manufacturing of Ayurvĕdic, Phytopharmaceutical products. Different type of plant parts used for the Ayurvedic formulation; overall out line of those herbal scenario and its future prospects for the scientific evaluation of medicinal plants. In India Ayurvedic treatment is frequently used and their ailments and provides instructions to local people how to prepare medicine from the herbs. In this review, we have explored the importance and integrated approaches for pharmacokinetics in ayurvedic system of medicine.

PCOG-21

PHARMACOLOGICAL AND THERAPEUTIC POTENTIAL OF NEEM

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Abstract

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Azadirachtaindica, is commonly known as neem and its role in disease cure has been documented. Different parts of this tree contain numerous types of ingredients such as azadirachtin and quercetin and limonoids such as nimbin, nimbidin, and nimbinin with diverse pharmacological activities. Neem tree parts have also been used as a general folk medicine, and more recently, its constituents have been purified and found to possess greater antioxidant, hepatoprotective, antimicrobial, and anticancerous activities. The extracts are also beneficial for heart diseases, hepatitis, fungal infection, malaria, psoriasis, and ulcers. Moreover, neem and its ingredient might be a potential candidate in prevention and treatment of tumor due to its broader pharmacological activities. This study gives a study on the biological activities of the neem and some of their compounds isolated, pharmacological actions of the neem extracts, clinical studies and plausible medicinal applications of neem along with their safety evaluation.This study presents an overview of the health-promoting effects of neem and its ingredients through modulation of biological activities.

PCOG-22

PHARMACOVIGILANCE FOR AYURVEDA SIDDHA AND UNANI DRUGS

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Medicinal plants based Traditional Systems of Medicine (TSM) are playing important role in providing healthcare to large section of population, especially in developing countries. Nowadays in developed countries interest is increasing in utilization of herbal products based on TSM. ASU drugs used in TSM pose threat if not prepared and administered properly. In the era of modern technology, scientific advancements, consumer awareness and the advent of evidence based medicine, there is inadequate genuine clinical trial evidence supporting the efficacy and safety of many ASU drugs. Further, a common misconception prevails among the people and practitioners that these drugs are without any side effects and safe to use. Self-medication and misuse of over-the counter (OTC) medicines and traditional and complementary medicines are widespread, adding to the potential risk of Adverse Drug Reactions (ADRs) and drug-drug interactions. These and other factors are likely to increase. It seems clear from the available evidence that ADRs have become a major global public health problem that needs to be addressed at all levels of health care. The lack of awareness and appreciation of the size and severity of the problem as well as the misclassification of ADRs as other diseases or the underlying condition are partially to blame for this silent epidemic. Pharmacovigilance is an important tool to analyse the drug particularly its side effects, if any. The present study discusses in brief the concept of Pharmacovigilance for ASU drugs.

PCOG-23

MARKETED MARINE NATURAL PRODUCT IN THE PHARMACEUTICAL INDUSTRIES: TIPS FOR SUCCESS.

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Saturday, 02nd February 2019

Abstract

In the domain of drugs and medicines it is somewhat contradictory to note that most of them are obtained either by synthesis or from terrestrial organisms. Even though about 70% of the earth surface is covered by oceans and seas rich in fauna and flora, it has been properly explored for the search of biomedicines. It is necessary to tap the marine source for commercial utility of novel ailments. About 5 Lacks species of marine organisms have been reported from the oceans from various part of world.The production of specific secondary metabolites is an important adaption mechanism of marine organisms to survive in the sea. These metabolites possess biological activities which make them interesting as possible drugs for human. Some of these organisms are antimicrobial, antiviral, antibiotic, anticancer, enzymes inhibitors, anti-inflammatory, prostaglandins, neurophysiological and cardiovascular agents.The aim of this review is to outline the paths of marine natural products discovery and development, with a special focus on the compounds that successfully reached the market and particularly looking at the pharmaceutical and cosmetic companies that succeeded in marketing those products.This study describes the challenges in the drug development in the marine sources.

PCOG-24

ROLE OF VINCA AS ANTI-CANCER DRUG

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Plant has been used in the treatment of many diseases and now it has shown large potential in the treatment of cancer. Various parts of the plant including whole plant, leaves, barks, roots, and fruits yield compound which shows prospective of treating cancer cellin the biological system. Vinca alkaloids are obtained from periwinkle plant. They have been used to treat diabetes, high blood pressure and have been used as disinfectants. The vinca alkaloids are also important for being cancer fighters. There are four major vinca alkaloids in clinical use: Vinblastine (VBL), vinorelbine (VRL), vincristine (VCR) and vindesine (VDS).This study also suggest that which drug is effective against the type of cancer. This study gives idea about the anti-cancer compound isolated from the plants and its parts. This study also concluded with the future prospect of these compounds which could be marketed for the better health of the patients.

PCOG-25

AYURVEDIC PHARMACOLOGY AND HERBAL MEDICINE

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Ayurveda is regarded as ancient science of life and based on principle of "Maintaining the health of healthy person and relieving the patient from the diseased condition". Ayurveda is the science of health and healing practiced by ancient Aryans which is based on atharvaveda, one of the oldest scriptures of Hindus, about 3000 years old. The object of Ayurveda is to counteract the imbalance of three essential elements, vaata, pitta, and kapha which constituent the Tridosh from which the body originates. It is the Tridosh which regularize the normal working of human body. An Ayurveda medicine, as defined in the Drugs and cosmetic Act 1940, includes all medicines intended for internal and external use, for or in the diagnosis, treatment, mitigation or prevention of disease or disorder in human beings or animals and manufactured exclusively in accordance with the formulae described in the authoritative books of Ayurveda system of medicine specified in the First schedule of the act. This study gives information about the various dosage form of Ayurveda intended for the use of better health of the patient.

PCOG-26

NUTRACEUTICALS: NEW ERA OF MEDICINE AND HEALTH

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Saturday, 02nd February 2019

Abstract:

Nutraceutical combines two words the term 'nutrition/nutrients' (a nourishing food component) and 'pharmaceutical' (medicine or a substance used as a medication) applied to food or food component products sometimes with active principle from plants that can provide health and medical benefits, including the prevention and treatment of disease. The name of nutraceuticals was originated in 1989 by Stephen De Felice, founder and chairman of the Foundation for Innovation in Medicine. Risk of toxicity or adverse effect of drugs led us to consider safer nutraceutical and functional food based approaches for the health management. This resulted in a worldwide nutraceutical revolution. The nutraceutical revolution will lead us into a new era of medicine and health, in which the food industry will become a research oriented one similar to the pharmaceutical industry.

PCOG-27

SKIN BENEFITS OF KOKUM BUTTER AND PUMICE STONE

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Saturday, 02nd February 2019

Abstract:

Moisturizing and exfoliating is very important for naturally healthy skin. We got naturally healthy skin with the help of kokum butter and pumice Stone. Kokum butter is made from seeds of kokum fruit. It generates new cells and work as anti-aging. Another remedy of healthy skin is pumice stone. Pumice is made from volcanic irruption. It is natural cleanser and exfoliators. We can make one powerful product with this ingredients that is moisturizing and exfoliating soap which clean our skin and give proper moisture. This soap having properties to repair cracked skin naturally.

PCOG-28

AYURVEDIC CURE OF BRONCHITIS

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ABSTRACT

This poster aims to provide comprehensive review on ayurvedic cure for bronchitis. Bronchitis occurs due to disturbance in tridosha (vata, pitta, kapha).Bronchitis is a common breathing disorder during winter. This is overview on bronchitis with its ayurvedic management. This poster mentioned causes and symptoms related to bronchitis. Types of bronchitis, additional symptoms of chronic and acute bronchitis. Some herbal remedies are mentioned like Tulsi, Vasaka, Adrak, Laung, Elaichi, Long Pepper are useful to eliminate the kapha, vata, and pitta produced diseases. It is also useful in cough, bronchitis. It has mentioned diet, life style, ayurvedic supplements about bronchitis. Also give the information about yoga to cure bronchitis.

OTH-01

A SURVEY STUDY ON USE OF OVER THE COUNTER (OTC) DRUGS

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Abstract:

Over-the-counter medicine is also known as OTC or nonprescription medicine. All these terms refer to medicine that you can buy without a prescription. They are safe and effective when you follow the directions on the label and as directed by your health care professional. The survey study on use of over the counter (OTC) drugs among the rural peoples, pharmacist and physician to create the awareness on use of OTC drugs. A survey was conducted to get a feedback to questionnaire covering various aspects on usage of OTC drugs. A feedback was obtained from 50 pharmacy students, 40 rural peoples, 20 Pharmacist and 10 physicians. Usage of OTC was highest amongst rural peoples. It was analyzed that some of the pharmacist were aware of the drug, dose, frequency of administration and adverse reactions and some were unaware of the same. While very little awareness of medication was found even among pharmacy students.

OTH-02

SURVEY ON IMPACT OF CELL PHONE APPLICATION AND ONLINE GAMES ADDICTION ON HUMAN PHYSIOLOGY AND PSYCHOLOGY

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Abstract:

Cell phone has made human life very fast and technosavy. It has made revolutionary changes in human life. Each field of life from ticket booking to grocery buying is now fingertip. But at another side of the coin cell phone has gifted a lot of bad impacts on human life. Especially mobile apps and online games which has a vast economical market acting as black side for mobile users. Addiction to this games and apps not only wasting valuable time but also changing emotional environment. Initially the games were used to improve concentration. But now it is impacting human health and affecting different organ badly. To check this impact a survey is carried out in different age group of regular mobile users in area around a small developing town Sawantwadi, which mostly includes primary, highschool, and college going students and their parents. Analysis of the data showed that percentage of addicted people is increasing in age of 15 to 18 with predominant psychological and physiological disorders like mania, depression, blurred vision, tinnitus etc.

OTH-03

PHARMACIST: WARRIOR IN COMBATING ANTIBIOTIC RESISTANCE

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Abstract:

"Antibiotics are substance which are derived from micro-organism and are used to kill another microorganism." Antibiotics are major class of drug which combats many of infectious diseases. It is great achievement in history of medication which raises heath standard of society by treating infectious diseases. But As rule of nature overuse of anything make that thing vulnerable and same the case presently happening with use of antibiotics. Overuse of antibiotics makes bacteria resistant and not gets killed even after completion of dosage regimen. Resistant microbes are more difficult to treat, requiring alternative medications or higher doses of antimicrobial. Resistance arises through various mechanisms such as Natural resistance, genetic mutation, acquiring resistance from another or by random mutations. Out of possible reasons major reasons for antibiotics resistance are of Patients not finishing the entire antibiotic course, over prescription of antibiotics, Unnecessary administering the antibiotics. Ultimately this adversely affected treatment of infectious diseases which result into need of higher dose or new antibiotics to treat common diseases and which is not practical. But alternatively we can avoid such conditions by effective use of antibiotics when needed, thereby stopping misuse of antibiotics. Pharmacist have responsibility to assist in the war on Antibiotic Resistance.

OTH-04

SURVEY OF GOVERNMENT HOSPITAL: THE PERSPECTIVE TO RURAL HEALTH CARE

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Abstract:

The ethical hospital pharmacy and health care practices emerging a new level of civilization in India. It gives many challenges to pharmacists and physicians towards their responsibilities and authorities. To understand that and act accordingly there is need to analyze the existing hospital agenda and deactivities towards the patient care. The survey has been conducted by sense of responsible curiosity as being a part of health care system .It has provided direct approach of students to real working field as aspect of pharmacy in hospital sector.The common venue to the survey was nearest government hospital Sawantwadi .The applicability of survey is to understand the provision in health care system, public interest and identify the necessities for betterment existing process. We have knew that rural health care is increasing at highest level.

OTH-05

SURVEY ON MEDICATED DEVICE: ARTIFICIAL KNEE

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Abstract:

CDSCO has classified medicated devices under four categories. Artificial Knee is a medicated device which comes under category c. This knee replacement is common surgical procedure to replace the weight bearing surface of knee joint. This reduces the pain and disability of patients. It is mainly done in patients with disorders like osteoarthritis and Rheumatoid arthritis.Analysis of factors involved in recovery after knee replacement surgery. Changes felt by patient before and after surgery. Advantages and disadvantages of surgery. After the surgery the recovery of patients depend on different factors like age, weight, sex etc.

OTH-06

A COMPREHENSIVE SURVEY ON "KNOW-HOW AND PRESENT SCENARIO OF UMBILICAL CORD BLOOD PRESERVATION"

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ABSTRACT

Cord blood has been used as transplant medicine for nearly 30 years and can be used in treatment of nearly 80 diseases, including certain types of cancers, genetic diseases and blood disorders. Currently, "Haematopoietic Stem cells" of preserved Umbilical Cord Blood has emerged as an upcoming alternative for treating life threatening chronic diseases. Still it's use in medical field is limited, reason for the same may be lack of awareness. So it is necessary to find a current status, know-how and awareness of umbilical cord blood preservation. Hence a survey entitled "Know-How and Present Scenario of Umbilical Cord Blood Preservation" was conducted with a goal to know from people about umbilical cord blood preservation. In-line with the predetermined objectives we had conducted a questionnaire survey. The survey was conducted through offline and online mode. Survey population was decided to be people above 18 years of age irrespective of their gender. The targeted segment includes health care professionals, pharma students, common citizen and pregnant women. In total 783 people were surveyed, during survey they interacted with survey team members and shared their opinions, few participated in online survey. Surveyed population includes 695 general people, 57 healthcare professionals and 31 pregnant women of Thane, Navi Mumbai and Mumbai region. After statistical analysis of survey results we found that Out of 695 common citizen more than 50% of population is unaware about what is done with umbilical cord in hospitals. According to 30% of health care professionals the present scenario of umbilical cord blood preservation is still in developing stage. 19% pregnant women are interested in preserving umbilical cord but do not have adequate information about the process of preservation.

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OTH-07

ARTIFICIAL INTELLIGENCE: TECHNOLOGY FOR BETTER TOMORROW

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NOVEL TRENDS IN DRUG DESIGN AND NATURAL PRODUCT CHEMISTRY

Saturday, 02nd February 2019

Artificial intelligence is an area of computerscience that emphasize the creation of intelligent machines that work and react like humans. Huge amounts of data in the relevant field of medical diagnosis and treatment are matched with language and cultural information that could offer reliable and safe system of healthcare delivery. Reduced mortality rates fast and accurate diagnostic,therapeutic robots, reduced errors related to human fatigue decrease in medical cost, movement assistance,minimally invasive surgery advances. Improved radiology,Virtual presence,automated cancer screeningprediction of cardio logical disease such as improper dichotomization, detectionskin cancer, corti identifies heart attack by listening, medical diagnosis made by chatbot, machine learning based medical system, medical signal and image processing technique;these are advantages of AI, which can be preferable for future disease prediction.

OTH-08

A SURVEY ON IMPACT OF ONLINE PHARMACY ON DIFFERENT MEDICAL STAKEHOLDERS

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Abstract:

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&
Indian Pharmaceutical Association Maharashtra State Branch
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Online pharmacies provides an easy opportunity to purchase large variety of medicines. It has various advantages like lower costs, easy accessibility, doorstep delivery etc. Online pharmacies has disadvantages like lack of interaction with physician, dispensing of drugs without prescriptions, selling of substandard medicines, lack of consumer awareness etc.. The innovations in drug design would provide a vehicle for layperson to educate them and guide the direction of their health. Consumers need to be educated about the risks and benefits. To increase health literacy required for making appropriate health choice and recognizing the risk of online pharmacy.Data were obtained from the pharmacists, patients, and physicians. Cross sectional, questionnaire based study was conducted to assess consumer's behavior and awareness towards the use of online pharmacy services. There is an increase risk of patients buying product from illegal sites.There must be improved patient counselling to inform the public about the safe use of online pharmacy.

OTH-09

GO FOR SAFE ANION SANITARY NAPKINS

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ABSTRACT

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Menstruation is a natural process in women's life. Women are bound to keep their body hygienic; else leads to infectious diseases. According to study, 62% of vaginal diseases occur on account of infected napkins. Traditional sanitary napkinsare made from petroleum products and bleached by chlorine or dioxin; having high risk of health issues. Anion napkins are revolutionary invention providing alkaline atmosphere and revitalizing all body functions. The sanitary pads contain seven layers aiming at leakage protection, antibacterial dry feel, energy booster, pain relief& being environment friendly; they are biodegradable.

OTH-10

ORGANCHIP THE FUTURE OF DRUG DISCOVERY

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Abstract:

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The current drug discovery process is costly, and a majority of the drug candidates entering clinical trials fail to achieve the marketplace. The standard static well culture approaches, although useful, do not fully capture the intricate in vivo conditions. By merging the advances in microfluidics with microfabrication technologies, novel drug system are being introduced that lead to the creation of organ functions on a single chip. Within these system, the precise control over the cellular microenvironment can be achieve by microengineering, whereas an ability to perfuse the constructs on a chip and to connect individual sections with each other will be provided by microfluidics. This approach results in microsystems that may better represent the in vivo environment. These organ-on-a-chip platforms can be utilized for conducting drug testing studies by developing disease models. In poster, we focus several key developments in these microscale platforms for drug discovery applications.

OTH-11

ADVERSE DRUG REACTION REPORTING & PHARMACOVIGILENCE: A TOOL FOR DRUG SAFETY

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Abstract:

An adverse drug reaction (ADR) is an unwanted or harmful reaction experienced following the administration of a drug or combination of drugs under normal conditions of use, which is suspected to be related to the drug. The reaction may be a known side effect of the drug or it may be new and previously unrecognized. Rapid detection and recording of adverse drug reactions is vital so that hazards are identified promptly and appropriate regulatory action is taken to ensure that medicines are used safely. Suspected ADRs to any therapeutic agent should be reported, including drugs (self-medication as well as those prescribed), blood products, vaccines, radiographic contrast media, complementary and herbal products.

OTH-12

PHARMACEUTICAL ETHICS- THE NEED OF TODAY'S ERA

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Abstract:

It is said that a man without ethics is an uncivilised man in civilised situation. The development of Code of Ethics is an indication of the evaluation and growth of moral consciousness. A code of ethics is a carefully formulated system of principles or rules of practise for the guidance of a particular group of individuals such as members of profession. Pharmacist as one of health-care providers face ethical Issues in terms of pharmaceutical care, relationship with patients and cooperation with the health care team. Pharmacy council of India, prepared and code of conducts called as pharmaceutical ethics which helps to maintain the healthy and ethical relation of pharmacist with respect to his job, trade as well as with medical profession and his profession.Apart from the retail, wholesale and community pharmacy, there are numerous fields like industrial, importing or distributing have their personal ethical issues hence pharmacy practice is susceptible to ethical challenges and requests special code of conducts. The assembling the code of ethics for the countrywide pharmaceutical organisations is the primary phase in executing ethics in pharmacy practice and in addition tothat efforts have to be take in teaching the professionalism is the necessary and balancing work to fulfil the need of Pharmaceutical Ethics in today's era.

OTH-13

ROLE OF CLINICAL PHARMACIST IN DEVELOPMENT OF INNOVATIVE STRATEGIES FOR EFFECTIVE MANAGEMENT OF HYPERTENSION: A COMMUNITY BASED STUDY

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Abstract:

Hypertension is a global public health issue and contributes to the burden of heart disease, stroke, kidney failure and premature mortality and disability. Hypertension rarely causes symptoms in the early stages and many people go undiagnosed. Treatment of hypertension lowers cardiovascular morbidity and mortality, but studies have shown that only 29% of patients with hypertension have adequately controlled blood pressure as recommended by the Joint National Committee on the Prevention, Detection, Evaluation and Treatment of High Blood Pressure. The effective patient education during early and middle age can effectively reduce the burden of hypertension in community. It is proved that patient education was effective in age group of 18-60 years, but it was ineffective in age group of more than 60 years, due to various factors like comorbidities, poly-pharmacy and memory related illnesses. This study helps for the effective management of Hypertension.

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SELF MEDICATION OF OTC DRUGS IN RURAL AREAS

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Abstract:

Medication, when it is used properly, it may cure the problem, but when it is misused it may create a new problem. Prevalence rate of Drug related problems are more common in our country. Due to many reasons, this Drug related problems create excess burden on patient's health. Adherence to OTC medication has gained momentum in our community, which is the major concern to health care. Lack of Proper awareness on medication & its use is a causative factor, which affects an individual's quality living. It is the duty of pharmacist as a health care provider to create awareness on these issues for a better health. This study helps to assess the medication taking behavior & prevalence of OTC medication in rural areas.

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QUALITY IMPROVEMENT BY STANDARDIZING THE PATIENT MEDICATION RECONCILIATION

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Abstract:

Medication reconciliation was developed to reduce medication errors and injuries through a process of creating and comparing a current medication list from independent patient information sources, and resolving discrepancies. The structure and clinician assignment of medication reconciliation varies between institutions, but usually includes physicians, nurses and pharmacists. It is recognized as an important tool for the prevention of medication discrepancies and subsequent patient harm at care transitions.It is a part of the medication management process and facilitates improved patient safety during care transitions. Although preventing adverse drug events or harm from medications is a top priority across the continuum of patient care, it is reported that an average hospitalized patient is subject to at least one medication error per day.The aim of the study is to evaluate how medication reconciliation has been conducted and useful for better patient care.

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THE ETHICS & TECHNIQUES AROUND ORGAN TRANSPLANT & DONATION

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Abstract

Organ donation is very important role in medical science. It's a kind of donation that having different organ in human body. There are many different types of donation e.g. Living donation, Deceased donation, Vascularised Composite Allograft (VCA), Pediatric donation, Organs and tissues for transplant. The entire different donation having their part to be donates. Each organ of human body is very useful before as well as after human death. So we now see the details about organ donation in this poster& some modern tools & techniques used in this.

OTH-17

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INNOVATIVE CARE DELIVERY MODULES: PHARMACY & HEALTH SYSTEM COLLABORATION

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ABSTRACT:

The healthcare industry has experienced a proliferation of innovations aimed at enhancing life expectancy, quality of life, diagnostic and treatment options, the efficiency and cost effectiveness of the healthcare system. Information technology has played a vital role in the innovation of healthcare systems. A diabetes self-management support appropriate patient education materials with brief counseling suitable for use in primary care. It results in important short term health-related psychological and behavioral changes for patients. Brief counseling in primary care center is an effective and efficient strategy for imparting skills necessary for diabetes self management.

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OTH-18

GENETIC ENGINEERING AND ITS IMPORTANT

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Abstract

Genetic engineering also called genetic modification or genetic manipulation is the direct manipulation of an organisms genes using biotechnology. It is a set of technologies used to change the genetic makeup of cells, including the transfer of genes within and across species boundaries to produce improved or novel organisms. New DNA is obtained by either isolating or copying the genetic material of interest using recombinant DNA methods or by artificially synthesizing the DNA. A construct is usually created and used to insert this DNA into the host organism. The first recombinant DNA molecule was made by Paul Berg in 1972 by combining DNA from the monkey virus SV40 with the lambda virus. As well as inserting genes the process can be used to remove, or knock out genes. The new DNA can be inserted randomly, or targeted specific part of the genome. Genetic engineering has been applied in numerous fields including research, medicine, industrial biotechnology, agriculture.