SOUVENIR

ORIENTAL UNIVERSITY, INDORE

INTERNATIONAL CONFERENCE ON INNOVATION IN PHARMACEUTICAL, MEDICAL AND BIO SCIENCES

(ICIPMBS: 2020)

5th- 6th, June, 2020

Organized by

Faculty of Pharmacy
Oriental University, Indore (M.P.) - India

CONFERENCE PROCEEDING

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About Oriental University

"ORIENTAL GROUP" the most sought-after name for quality education has one more feather in its cap. It has been given the University status under section 2f of UGC, 1956 Act with effect from May' 2011. Having clinched the University status, the philosophy of Oriental University (OU) is to contribute in a broader sphere, thereby offering diverse courses in energy, civil aviation, refinery, environment, infrastructure sectors. The tenet with which Oriental University is marching forward is to develop responsible professionals who could be easily deployed in the industry.

Oriental Group is one of the top names in education in Madhya Pradesh since 1995. We have a proven education system for training delivery. Education is all about creating an ambiance of academic freedom, where bright minds meet, discover and learn. After having established Nine professional colleges (Five Engineering, One Advanced Computer Application, Two Pharmacy and One Management studies) the ORIENTAL GROUP, recognized as a premier educational group of Central India and enjoying national ranking, the Founders of Devi Shakuntala Thakral Charitable Foundation, have set up ORIENTAL UNIVERSITY, established by an Act of Madhya Pradesh Vidhan Sabha under Section 2f of UGC Act, 1956. Oriental University is the first Private University in Indore.

Oriental University is spread over 77 acres of lush green sprawling campus on Indore-Ujjain highway near the international airport and new proposed railway station. The University is designed by the most eminent contractors of modern India, M/S Hafeez Contractors of Mumbai. Currently, the University's exquisite infrastructure houses spacious classrooms with the latest teaching aids, well-equipped laboratories, and workshops.

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Our Leader's

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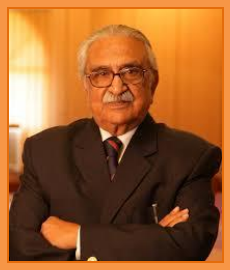

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Dean, Academics
Oriental University, Indore

Mrs. Sonia Thakral
Asst. Director
Oriental University, Indore

About Conference

International Conference 2020; based on the theme "***Innovation in Pharmaceutical, Medical and Bio Sciences***" is conducted by Faculty of Pharmacy, Oriental University, Indore. The conference spanning two days 05th -06th June 2020, includes scientific symposium by renowned international and national speakers which gives us an insight into the latest developments in Pharmaceutical, Medical and Bio Sciences. More delegates are expected to participate from all over globe. The unique event explored the significance of new trends, ideas, research experience, foster collaborations across industry, academia and evaluate emerging pharmaceutical technology across the globe.

The International Conference on Innovation in Pharmaceutical, Medical and Bio Sciences is aimed to provide a unique platform for professionals, researchers, academicians, industry delegates and allied fields of Pharmaceuticals, Medical and Bio Sciences to interact/share their experiences and knowledge on Pharmaceutical, Medical and Bio Sciences. The technical sessions will consists of keynote talks on Quality Risk Management and advancements in Pharmaceutical field followed by e-poster presentation.

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"Innovation in Pharmaceutical, medical and Bio sciences"

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5th- 6th, June, 2020

Organized by: Faculty of Pharmacy, Oriental University, Indore (M.P.) - India

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Prof (Dr.) Neetesh K. Jain
Principal & Professor
Faculty of Pharmacy (UIP)
Oriental University, Indore

CO-CONVERNER

Prof (Dr.) Mahavir Chhajed
Principal & Professor
Faculty of Pharmacy (OCPR)
Oriental University, Indore

ORGANIZING SECRETARY

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Associate Professor
Faculty of Pharmacy (OCPR)
Oriental University, Indore

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(Member)

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Prof. (Dr.) Shailendra Saraf

Vice President, Pharmacy Council of India, India

Professor, Pt. Ravishankar Shukla University, Raipur, (C.G.)

Guest of Honor

Mr. Vipul Doshi

President
Group Quality Assurance and Regulatory
Cadila Healthcare limited

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Keynote Speaker

Mr. Ranjit Barshikar

Quality management consultant &
QbD International, Mumbai, MH

Dr. Manickam Balamurugan

Asst. Dean, School of Pharmacy,
University of Nizwa, Sultanate of Oman

Dr. Ankur Sharma

Senior Scientist, PPDM Quantitative
Pharmacology & Pharmacometrics, Merck,
West points, US

Dr. Piyush Jain

Postdoctoral Scientist
Transitional Research Centre for
Gastrointestinal Disorders
Leuven, Belgium

Prof. (Dr.) Mahendra Singh Rathore

Director
Internal Quality Assurance Cell (IQAC)
MM Deemed to be University
Mullana, Ambala, Haryana

Chancellor's Message

Dr. K.L. Thakral, Chancellor
Oriental University, Indore

I am very happy to know that Faculty of Pharmacy is going to organize the International Conference with the theme "***Innovation in Pharmaceutical, Medical and Bio Sciences***" on 05th -06th June 2020.

Organizing an event does not come without effort. It requires vision, mission and hard work. Conferences of such nature provide a great opportunity to Pharma fraternity, not only to update knowledge and keep abreast of the latest developments in the respective field, but also an occasion for the resource persons, delegates to exchange ideas and interact with each other.

I take this opportunity to congratulate the organizing committee and to extend warm welcome to the resource persons and delegates. I thank all the national and international delegates who have come from various parts of the country and across the globe. We consider it a privilege and honour to have all of you here.

I wish you all for the grand success of this wonderful event.

Chairman's Message

Shri. Praveen Thakral, Chairman

Oriental Group of Institutes, Bhopal

It gives me immense pleasure to write a message for the International Conference on "***Innovation in Pharmaceutical, Medical and Bio Sciences***" on 05th -06th June 2020 hosted by Faculty of Pharmacy, Oriental University, Indore.

Conferences offer wonderful platforms for interaction and exchange of scientific initiatives and ideas. It will provide a great platform to further explore the ever expanding horizons of academic and industrial collaborative research.

I am confident that the conference shall provide an effective platform for innovation, technology transfer and entrepreneurship concurrently meet to share and disseminate the knowledge and the rich experience of the Pharma professionals, and look forward to solutions for challenging problems.

The organizing committee has worked hard to make this conference a memorable one. It has been a good learning experience for the students as well for their endless hard work of months to make this conference a grand success.

I hope this event will motivate everybody. I assure you that we will make your time spent with us in the conference a memorable one.

Vice Chancellor's Message

Prof. (Dr.) Dhruva Ghai
Vice Chancellor
Oriental University, Indore

It is a matter of great pleasure to host the International Conference on "***Innovation in Pharmaceutical, Medical and Bio Sciences***" on 05th -06th June 2020.

This conference aims to develop insights into the national scenario of pharmaceutical industrial and academic research by offering a common platform to pharmaceutical scientists, researchers and students.

The conference will stimulate the scientific temper among students, teachers and industrial leaders for building a bridge between academia and industry. Industrialists across the region will participate as invited speakers to address the current need in the field of Pharmaceutical, Medical and Bio Sciences.

Conferences are meant essentially for scientific exchange and generation of new ideas in the chosen field along with personal interaction and networking. I understand that a number of national speakers are participating to speak on a variety of topics thus enriching the knowledge of all participants.

I wish the conference all the success and my heartiest congratulations to the organizing committee.

Executive Director's Message

Er. Gaurav Thakral

Executive Director

Oriental University, Indore

It is a matter of pride that the Faculty of Pharmacy, Oriental University is organizing International Conference on "***Innovation in Pharmaceutical, Medical and Bio Sciences***" on 05th -06th June 2020.

This conference will be useful to the students, faculties, researcher who are engaged in the work on Pharmaceutical, Medical and Bio Science field.

The conference will focuses on the current research on the mentioned theme and the students, teachers and industrial leaders for building a bridge between academia and industry.

I wish the conference a grand success and my heartiest congratulations to the entire Faculties of Pharmacy for organizing this Conference.

Dean Academics Message

Prof. (Dr.) Garima Ghai
Dean Academics
Oriental University, Indore

I have immense pleasure in writing this message on the occasion of International Conference on Innovation in Pharmaceutical, Medical and Bio Sciences by the Faculty of Pharmacy, Oriental University, Indore on 05th -06th June 2020.

This conference will provide a platform to groom young scientists from all over the country and to bridge the researchers working in academia and other professionals through current technological trends. It is high time to create research activities among the budding professionals.

May this Conference provide greater opportunities for every member of this specialty to learn more and let this learning be of immense help to the community at huge.

I congratulate the organizers for their initiative and wish the Conference all success.

Convener's Message

Prof. (Dr.) Neetesh K. Jain
Professor & Principal
Faculty of Pharmacy (UIP)
Oriental University, Indore

Warm Greeting to All !!!!!

It gives me an immense pleasure that Faculty of Pharmacy is organizing the International Conference with the theme of Innovation in Pharmaceutical, Medical and Bio Sciences on 05th-6th June 2020.

The conference is aimed to provide the platform for industrialists, educationists, researchers and students to debate and discuss on the vital need of research. The unique event will explore the innovation in Pharmaceutical and Bio Sciences. The collective and comparative discussion will established the crucial insights on exciting work happening in the interface of the academic & industrial research.

The entire conference will be in parallel sessions and this conference will be addressed by eminent industrialists and professors as key note/invited speaker while it will also attract young researchers, faculties and students across the country, who will take part as poster presentations.

I extent my warm welcome to the national resource persons young researchers, budding Pharma professionals, eminent scientists, guests, faculties, and industrialists in this splendid conference and wish the conference a great success.

Best Wishes!!!

Co-Convener's Message

Dr. Mahavir Chhajed
Professor & Principal
Faculty of Pharmacy (OCPR)
Oriental University, Indore

On behalf of the Oriental University, Indore, I heartily extend warm welcome to all the National Delegates, Renowned Scientists and participants to this Interational Conference with the theme of Innovation in Pharmaceutical and Bio Sciences on 05th-06th June 2010. The presence of other dignitaries during the two days conference is a further testimony to our sincere pursuits to achieve nothing less than the 'best', they have long trails of success behind them.

I am confident that the conference shall provide an effective platform for innovation, technology transfer and entrepreneurship concurrently meet to share and disseminate the knowledge and the rich experience of the Pharma Professionals, and to look forward solutions to the challenging problems.

The organizing committee has worked hard and in different directions to make this conference a memorable one. It has been a good learning experience of my dear students for their endless hard work of months to make this conference a grander success.

I intend to take this event ahead as an ideal, the motive not only is to generate discussions around contemporary issues, but also to propel the culture of academic exchange, which is the only way to achieve excellence in this field.

I hope this event fruitful for everybody. I assure you that we will make your time spent with us and in the conference a memorable one.

International Conference on

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Programme Schedule

Day 1, 5th June 2020, Inauguration Ceremony		
12:00 PM-12:15 PM	Entry of Participants via Online Virtual Mode	
12:15 PM -12:20 PM	Virtual Saraswati Vandana	
12:20 PM -12:25 PM	Floral Welcome of all Dignitaries and Guest	
12:25 PM -12:30 PM	Welcome Speech	**Dr. Neetesh Kumar Jain** (Convener-ICIPMBS-2020) Professor & Principal, Faculty of Pharmacy (UIP)
12:30 PM -12:35 PM	Keynote Address	**Dr. Garima Ghai** Chairperson, ICIPMBS-2020 Dean Academics, OUI
12:35 PM -12:40 PM	Inaugural Speech	**Dr. Dhruva Ghai** Hon'ble Vice Chancellor Oriental University Indore
12:40 PM -12:45 PM	ICIPMBS-2020 Souvenir Release	**Dr. Sumeet Dwivedi** Organizing Secretary, ICIPMBS-2020 **Dr. Gurdeep Singh** Chairman, Scientific Committee
12:45 PM -01:00 PM	Address by Guest of Honor	**Mr.Vipul Doshi** Hon`ble President Cadila Healthcare Ltd
01:00 PM -01:20 PM	Blessings & keynote address by Chief Guest	**Prof.(Dr.) Shailendra Saraf** Hon'ble Vice President Pharmacy Council of India
01:20 PM -01:25 PM	Blessings of Hon`ble Chancellor, OUI	**Hon`ble Dr. K. L. Thakral** **Chancellor** **Oriental University Indore**
01:25 PM -01:30 PM	Vote of Thanks	**Dr. Mahavir Chhajed** Prof. & Principal, OCPR,OUI (Co-Convener-ICIPMBS-2020)
01:35 PM -02:10PM	Technical Session-I	**Mr. Manickam Balamurugan** Asst. Dean, School Of Pharmacy, University of Nizwa, Oman
02:10 PM -02:50 PM	Technical Session-II	**Mr. Ranjit Barshikar** CEO-QbD International United Nation Advisor
04:00 PM -05:00 PM	e-Poster Presentation by participants	**Dr. Niharika Gokhale** Chairman, Event Management Committee **Dr. Gurdeep Singh** Chairman, Scientific Committee

Day 2, 6th June 2020		
09:45 AM-10:00 AM	Entry of Participants via Online Virtual Mode	
10:00 AM-10:40 AM	Technical Session-III	**Dr. Ankur Sharma** Sr. Scientist PPDM, Merck, West Points, US
10:40 AM-11:20 AM	Technical Session-IV	**Prof.(Dr) Mahindra Singh Rathore** Director (IQAC), Mullana, Ambala, Haryana
12:15 PM-01:00 PM	Technical Session- V	**Dr. Piyush Jain** Post Doctoral Fellow Transitional Research Center for Gastrointestinal Disorders Leuven , Belgium
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01:30 PM-01:35 PM	Vote of Thanks	**Dr. Sumeet Dwivedi** Organizing Secretary, ICIPMBS-2020

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ICIPMBS/2020/01

Need of Development of Quality Control parameters of Anti-fungal Herbal formulations

Deepak Shrivastava[1*] and Sumeet Dwivedi[2]

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2, Department of Pharmacognosy, Oriental College of Pharmacy & Research, Oriental University, Indore, (M.P.) – INDIA

Abstract

Traditional medicine implies knowledge and practice of herbal healing for the prevention, diagnosis, and elimination of physical, mental, or social imbalance. The cost of health care is rising at an alarming rate throughout the world. At the same time, the world market for phytopharmaceuticals is growing steadily. The quality assessment of herbal formulations is of paramount importance in order to justify their acceptability in modern system of medicine . One of the major problems faced by the herbal industry is the unavailability of rigid quality control profiles for herbal materials and their formulations. QC of herbal drugs should meet the standards related to safety, potency and efficacy. The aim of standardization is to evaluate whether the sample of drug complies with the appropriate specifications. These tests involve chemical analysis of active constituents and may vary from single entity or combination of several potent drugs in formulation, finished product etc. Fungal infections have become world's leading cause of infection. In recent years, resistance to human pathogenic organisms has been frequently reported from all over the world. However situation is alarming in both developing as well as developed countries due to indiscriminate use of antibiotics. The treatment of infectious diseases in immune compromised patients has become further complicated due to the resistance of bacterial and fungal pathogens. Most common fungal infections such as candidiasis (caused by yeast like fungus *Candida albicans*), aspergillosis (caused by Aspergillus), blastomycosis (caused by Blastomyces) etc. are now a day's more prone to human and causing majority of diseases. These species grow rapidly at 25- 37^0 C temperature. These fungal infections colonize mucosal surfaces of the oral and vaginal cavities and the digestive tract and are also able to cause variety of infections depending upon the nature of the underlying host defect. Weak or immature immune system or metabolic illness such as diabetes, HIV/AIDS, stress, nutrient deficiency, mononucleosis is important predisposing factors for fungal infections. The present paper highlights the need of development of QC parameters of anti-fungal herbal formulations.

Key words: Quality control, Herbal formulations, Anti-fungal

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ICIPMBS/2020/02

Evaluation of Antigenotoxicity Effects of *Delonix Regia* Plant

S. S. Gautam* and Sumeet Dwivedi

Faculty of pharmacy, Oriental University, Indore, (M.P.) - INDIA

Abstract

A number of plant extracts have been reported to possess hepatoprotective, cardioprotective and neuroprotective activities. Most of the research is being related to the *in vitro* or *in vivo* activity of the extracts. Most of these works lack the evaluation of antigenotoxicity effects of the extracts and considering the relation of genotoxocity with the presence of polyphenolic components in extracts it was envisioned that performing the antimutagenic evaluation of different extracts of a plant would be even beneficial in standardizing the plant for human use.The antimutagenic potential can be easily evaluated using in vitro culture based models using chemical inducers of mutation or genotoxicity. The extracts rich in flavonols would be subjected to evaluation of antioxidant potential using DPPH method and they would be further tested for the antimutagenic potential. The extracts would be subjected to *in vitro* study of their antimutagenic potential using different clastogenic inducers (chemical inducers of gentotoxicity.

Keywords: Gentotoxicity, hepatoprotective, cardioprotective, neuroprotective.

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ICIPMBS/2020/03

Qualification of Ganscoater according to Various Regulatory Guidelines

Minkashi Malviya*, Deepika Bairagee and Mahavir Chhajed

Oriental College of Pharmacy and Research, Oriental University, Indore, (M.P.) - INDIA

Abstract

The main objective of this project is to define the qualification requirements and acceptance criteria supported various regulatory guidelines to gather sufficient data to make sure that Ganscoater Machine is installed, qualified and use as intended within the processing environment. Tablet coating may be a process by which an essentially dry, outer layer of coating material is applied to the surface of a dosage form so as to confer specific benefits over uncoated variety. It comprises function of a sugar or polymeric coat on the tablet. The benefits of tablet coating are taste masking, odor masking, physical and chemical protection, protects the drug within the stomach, and to regulate its release profile. Various sorts of coating machine is employed to coat the tablets, in our project we have used Ganscoater Coating machine, which is one among the simplest coating machine and widely used across pharmaceutical industries. To use any coating machine qualification of the machine and validation of its process is usually required before put it into operational exercise.

Keywords: Ganscoater; Coating Machine; Qualification; Installation; Regulatory Guidelines

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ICIPMBS/2020/04

Formulation and Evaluation of Oro-Dispersible Tablets of Ondansetron Hydrochloride by Direct Compression Method

Rakhi Soni*, Rahul Sisodiya, Deepika Bairagee, Neetesh K. Jain and Mahavir Chajjed

Oriental College of Pharmacy and Research, Oriental University, Indore, (M.P.) - INDIA

Abstract

The main aim of this research paper is to formulate and evaluate Oro-dispersible tablets of Ondasetron HCl by direct compression method. The oral route of drug administration is that the most vital method for administering drugs for systemic effects. For rapid dissolution of dosage, water must rapidly penetrate into the tablet matrix to cause quick disintegration and instantaneous dissolution may be a fundamental to formulate ODT. Oro-dispersible tablets of ondansetron hydrochloride are prepared by direct compression method. The formulation 10% of super disintegrate (i.e) Croscarmellose sodium has shown best release with 99.46% at the top of 30 min. the bubbling mixture further assists in taste masking of Ondansetron hydrochloride. Consistent with IR studies there's no incompatibility shown. The formulation found stable at 40°C±2ºC and 75%RH±5%RH.

Keywords: Ondasetron HCl; Oro-dispersible; Direct compression method; Disintegration; dissolution.

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ICIPMBS/2020/05

Molecular Docking Studies: 1, 3 Thiazine Derivatives

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Abstract

Some novel derivatives of 1, 3 thiazines have been synthesized by the condensation of 2-hydroxy-3-nitro5-chlorochalcones with thiourea and phenylthiourea in ethanol containing aqueous KOH solution. The synthesized ten 1,3 thiazines derivatives were subjected to molecular docking studies against E.colie Glucosamine -6 P Synthase in Complex with Fructose -6 P (4 AMV) and Crystal structure of Peptide deformylase from Staphylococcus Aureus Complex with Actinonin (1Q1Y) using Molegro Virtual Docker software . The results indicated that all the synthesized 1,3 thiazine derivatives shows considerable antimicrobial activity on gram negative (E.Coli) bacteria This study suggested that 1,3-thiazines derivatives possess more antmicrobial acivity on gram negative (E.Coli) bacteria than gram positive bacteria (S.aureus).

Keywords: 1, 3 Thiazines, antimicrobial activities, thiourea, phenyl thiourea

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ICIPMBS/2020/06

Nanoparticles in the Treatment of Cancer

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Abstract

Cancer is the primordial diseases that cause a high rate of mortality worldwide.Classical cancer therapies that are still clinically used include chemotherapy, radiotherapy and surgery. The disadvantages that come with traditional cancer treatments such as chemotherapy and radiotherapy, generated a reserch shifted towards nanotechnology.Nanotechnology has the potential to overcome the disadvantages of conventional drug delivery by adjusting pharmacokinetics and delivery , resulting in diminishing side effects and therefore improving efficiency. Their small size and high surface area allow nanoparticles, to penetrate biofilms as well as bacteria cell walls, influencing intracellular mechanisms. On the other handnano-particles can be used for cancer treatment through the incorporation of hydrophilic polymers that create stealth surface for optimization. However,a different feature of nanoparticles that needs to close attention is their impressive property of acting as a drug by themselves.Nanoparticles can interrupt the mitochondrial respirational chain, which makes the generation of reactive oxygen speciesROS), and ATP synthesis, which can induce DNA damage of the cancer cells.By selectively using the unique pathophysiology of tumours such as their enhanchedpermeablity and retention effect nanoparticles are able to carry loaded active drugs to the cancer cells. This review mainly focuses on how nanoparticles act on cancer cells and its advantages over other traditional therapy in cancer treatments.

Keywords: nanoparticles, cancer treatment, chemotherapy

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ICIPMBS/2020/07

Natural Drug Solubility Enhancer: An Overview

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Abstract

Bioenhancers are substance entities that promote and augment the bioavailability of the drugs which are mixed with them and do not exhibit a synergistic effect with the drug. The need for bio-enhancers arises due to drugs that are poorly available, administered for long periods, toxic and expensive. Bioenhancers can be classified based on their natural origin as well as based on the various mechanisms elicited by them when in combination with drugs to improve their bioavailability. The various bio-enhancers available are piperine, garlic, Carum carvi, cyminum, naringin, lysergol, quercetin, are the potential bio-enhancers of future. Therefore, the need of the hour is to carry out extensive research on these bio-enhancers so that they could be utilized in the drug formulations.

Keywords: Bioenhancers, Piperine, curcumin, drug molecule

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ICIPMBS/2020/08

Thirst Inhibitor Medicinal Agents

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Abstract

Thirst is a subjective perception that provides the urge for humans and animals to drink fluids; it is a component of the regulation mechanisms that maintain body fluids homeostasis and ultimately is essential for survival.A range of compensatory responses are engaged when depletion of either the intra- or extracellular compartment occurs. These responses (e.g., vasopressin secretion, stimulation of the renin-angiotensin-aldosterone system, sympathetic activation, and reduced renal solute and water excretion) have the effect of minimizing changes in body fluid volume and composition. The cerebral mechanisms that subserve the water drinking responses that are associated with 1) Hypertonicity, cellular dehydration and osmoreceptors stimulation(when the plasma osmolarity(usually in the range of 280-295 mosmol/kgH2O)is increased experimentally as a result of increasing the concentration of solutes such as NaCl or sucrose that do not readily pass across cell membranes, thirst is stimulated), Hypervolemia and extracellular dehydration, including the role of circulation angiotensin (ANG) ll as a dipsogenic hormone and the afferent neural inflow that also provides stimuli to the thirst mechanism; and other hormonal signals that stimulate or inhibit thirst. Inhibition of thirst arises not only from arterial baroreceptors but also from volume receptors on the low pressure side of the circulation. Inhibition of thirst is necessary in many cases such as diabetes insipidus,constipation,In appendix operation and in other severe accident cases where fluids are not allowed to drink because that will increase the chances of getting a situation which is hard to handel.

Keywords:

Thirst, Homeostasis, Hypertonicity, Osmoreceptors, Baroreceptors, Angiotensin, Dipsogenic hormone, diabetes insipidus.

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ICIPMBS/2020/09

A Review on medicinal plants used in Diabetic Neuropathy

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Abstract

Diabetic neuropathy (DN) is a chronic complication of diabetes mellitus affecting about 50% of patients. Its symptoms include decreased motility and sever pain in peripheral parts. It is a late finding in type 1 diabetes, but can be an early finding in type 2 diabetes. Diabetic neuropathy is one of the Diabetic complications with damaged to the largest nervous (sciatic nerves) of the body here in this topic role of herbals for complications of nervous system in diabetes is discussed as a new therapeutic horizon. All the conventional therapies for the diabetic neuropathy with neurodegeneration do have disadvantages from the point of view of efficacy and side effects. Since last few descades herbals getting more attraction in complications of diabetes, further more studies are going on herbals for neuroprotection in diabetes. In the treatment of diabetic neuropathy (DN) herbals and phytoconstituents were proved, better options, because excellent efficacy and cost effectiveness compared to conventional treatment. The medicinal plants, besides having natural therapeutic values against various considerable works have been done on these plants to treat Diabetic neuropathy. The aim of present study is to discuss the role of medicinal plants in the treatment of Diabetic Neuropathy(DN).

Keywords: Diabetic Neuropathy (DN), Pathophysiology and Medicinal plants

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ICIPMBS/2020/10

A Concise Outline on Herbal Medications and Natural Remedies for Tourette Syndrome

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Abstract

Tourette syndrome is a convoluted childhood neurological disorder that instigates distressed individual to perform abrupt nonrhythmic, repetitive and noncyclic movements or unwanted vocal sounds known as tics which cannot be restricted. The tic disorder initiates between the age group of 2 to 21 and generally persists throughout lifetime. Usually officially approved antipsychotic medications namely pimozide and haloperidol are not employed as first-line choice for pharmacotherapy due to their prospective adverse effects. The side effects of typical, atypical and non neuroleptics differ for every category, but may result in faintness, headache, gain in weight, disturbance in sleeping pattern and gastrointestinal problems. Henceforth, complementary and alternative medications (CAM) along with behavioral treatment are generally preferred for treatment of tic disorder patients. The tics occur due to provocation of Prana Vata, a sub-category of Vata Dosha as per Ayurvedic medicine. Herbal medications of Planet Ayurveda obtained from herbs are generally harmless to utilize, devoid of serious adverse effects and can be safely employed for cure of tourette syndrome. Various ayurvedic herbs can be utilized such as Ashwagandha for alleviating body aches and stress, Brahmi for enhancing memory and lessening stress, Tagar for fighting anxiety and stress, Jatamansi for controlling negative perceptions and inducing sleep, Gotu kola for augmenting memory and managing depression. Nutritional changes can be additionally employed for therapy of tics namely consuming omega-3 fatty acids for psychological trouble, administering food enriched in magnesium and vitamin B6 for resulting positive thoughts in children and adults, avoiding artificial sweeteners, soda and caffeine in black tea, coffee due to their influence on levels of dopamine in brain. Lifestyle modifications along with relaxation exercises namely visual imagery and deep breathing can assist children and adults in diminishing stress and thereby ensuring their better outlook by developing more control on their symptoms that aggravate tics.

Keywords: Tics; herbal medicine; haloperidol; nutritional changes; neuroleptics; ayurvedic herbs

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ICIPMBS/2020/11

Smart Hydrogels as Intelligent Biomaterials

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Abstract

During the past years, the Hydrogels products had been used widely in clinical field. The Hydrogels are the three dimensional structures interconnected through polymeric networks. Due to advent in the personalized medicine it becomes necessary to prepare tailor made drug delivery products. The smart hydrogels is answer to such problem. The Smart hydrogels has materials that are sensitive to body/environment temperature, pH sensitive, pH/Temperature dual sensitive, photo-responsive, salt responsive and can be used for hydrogel wound repair, drug delivery applications, bone repair, cancer therapy etc. The smart hydrogels are mainly controlled via polymer-polymer and polymer-solvent interactions. The swelling deswelling process is managed by ionic interactions, hydrophobic interactions, hydrogen bonding as well as van der Waals forces. These interactions all together helps smart hydrogels for their stimulus based nature and smart recognition of biological systems.

Keywords: Hydrogels, photo-responsive, polymer-solvent interactions, swelling deswelling process

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ICIPMBS/2020/12

Phytosomes: Novel Drug Delivery System of Herbal Extract for Better Therapeutic Efficacy and Bioavailabilty

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Abstract

Novel drug delivery system is a novel approach to drug delivery that addresses the limitations of the traditional drug delivery systems. If the novel drug delivery technology is applied in herbal medicine, it may help in increasing the efficacy and reducing the side effects of various herbal compounds and herbs. The problem associated with the use of herbal preparation is of their poor bioavailability. The vesicle system composed of phospholipids can increase the therapeutic value, reduce toxicity and can increase the bioavailability of the phytomedicines. The phospholipid-based vesicle system, mainly phytosomes, has been applied recently to many popular herbal extracts including *Ginkgo biloba*, grape seed, hawthorn, milk thistle, green tea and ginseng.Phytosomes are complexes prepared by mixing polyphenolic phytoconstituent and phosphophatidylcholine in molar ratio.It is a patented technology that involves chemical interaction between phosphohlipid and water soluble herbal compounds ,suitable as drug delivery systems for topical and oral administration.Plant extracts can bind easily to phosphatidylcholine due to presence of terpenoids and flavonoids .As novel drug delivery system they are found to be more superior to liposomes as they exhibit better pharmacokinetic and pharmacodynamics profiles than both liposomes and free plant extract.Phytosomal delivery of extracts of Ginseng,Silybin,Gingko etc have been profitably used. With the help of Phytosomes preparations, the amount of herbal extracts administered in body through several routes are required in fewer amounts and between more duration as well in phyosomal forms drugs can be administered in uniform dosage form for better therapeutic activity and less side effect.

Keywords: Phytosomes,novel drug delivery,phospholipids,vesicle,phosphotidycholine,efficacy

Bioavailabilty

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ICIPMBS/2020/13

Management of diabetic activity and safety profile of novel polyherbal formulation

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Abstract

Polyherbal formulation has been used all around the earth due to its medicinal and therapeutic application. It has also recognized as polyherbal therapy or herb-herb combination. The active phytochemical constituents of individual plants are inadequate to attain the desirable therapeutic effects. When polyherbal formulations combining the multiple herbs in a meticulous ratio, it will give an enhanced therapeutic effect and decrease the toxicity. The active constituents used from individual plant are inadequate to provide attractive pharmacological action. There are evidences that crude plant extracts often have greater potency rather than isolated constituents. In traditional medicine whole plants or mixtures of plants are used rather than isolated compounds. Due to synergism, polyherbalism confers some benefits which are not accessible in single herbal formulations. Polyherbal formulations express high effectiveness in numerous diseases with safe high dose. Based on the nature of the interaction, there are 2 mechanisms on how synergism acts (i.e., pharmacodynamics and pharmacokinetic). In words of pharmacokinetic synergism, the capacity of herb to ease the absorption, distribution, metabolism and elimination of the other herbs is focused. Pharmacodynamics synergism on the other hand, studies the synergistic effect when active constituents with similar therapeutic activity are targeted by diverse mechanism of action.we have taken four plants ie. *Phyllanthus amarus, Tinospora cordifolia, Momordica charantia,* and *Vinca rosea*. Hence it is assumed that similar findings will be obtained from present study.

Keywords: Polyherbal formulation , phytochemical constituents , synergism , Antidiabetic

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ICIPMBS/2020/14

The Effect of Herbs to Formulate the Rejunavating Facial Scrub

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Abstract

In order to get healthy looking skin, skin must be clean regularly to remove all the dirt, sebum, dead cells, etc. This will protect our skin primarily and help to make it beautiful. For this cleaning, several marketed products are already available that will clean the skin but also having some adverse effects due to its chemical usage. The addition of herbal extracts to these products will gives us beautiful nourishment of our skin and overcome the adverse effects caused by the chemicals and overcome the environmental contamination to our skin. Our study tried to overcome this problem by the addition of natural ingredients into the facial scrub. The method incorporated into this study was simple mixing of the natural ingredients like neem, tulsi, aloevera, almond oil, mixed with the gelling agent carbopol of grade 934. Further additions of preservatives, flavouring agents are incorporated to form a homogeneous mixture. This cream was then formulated and further evaluated as per the investigations like organoleptic properties and other characterizations like spreadability, irritability, extrudability, etc. All these parameters are found satisfactory and tend to reformulate the facial scrub at the boosting level on our skin as compared to the other marketed chemical products. This scrub shows promising challenging effect that imparts a glow and overcome the blemishes, darkness, and acne type problems of skin.

Keywords: Skin, Nourishment, Contamination, Facial Scrub, Blemishes, Acne

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ICIPMBS/2020/15

Androgenetic Alopecia: An Overview, Phases & Treatment

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Abstract

Androgentic Alopecia is a genetic disorder which affects mainly males and females. The cause of this disease is in males is due to the decrease in hormone dihydrotestosterone and the cause of this disease in females is still unclear. The classification system used to measure the baldness in males is norwood scales which has seven stages which can help with the effective treatment options. This genetic disease is common in causcasian males approximately 80% although it affects the men with different ethnic background but it is common in causcasian males. Nowadays various therapies are introduces like drugs which are 5 alpha reductase inhibitor and minoxidil. Several other therapies include laser therapy, microneedling, mesotherapy, hair transplant. New research is being conducted by using janus kinase inhibitor and platelet rich plasma injections.(PRP). Clinician consider finasteride, minoxidil, and dutasteride,as treatment options which have provided positive outcomes and considered as first-line therapies. PRP and microneedling are less common options to give positive outcomes.

Keywords: Microneedling, Mesotherapy, Janus kinase, Dutasteride, PRP

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ICIPMBS/2020/16

Phytopharmacology / Herbal Medicine

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Abstract

Herbal medicinal products have never lost its value. The use of phytomedicine or herbal medicine are rapidly expanding worldwide, from small to big they keep on appearing and appealing. Usually the phytomedicines are the combination of plants part in which each part having different medicinal use with presence of different active ingredients. These passed decade has obviously witnessed a tremendous surge in acceptance and public interest in natural therapies in both developed and developing countries. There are many valuable advantages of these products which enable them to find their place in today's rapid growing market. Effectiveness of these herbal medicines have an eye catching properties. The uses of herbal medicines are expanding rapidly across the globe. It is estimated that up to 80% of world's population living in developing world use herbal medicinal product as a primary source of healthcare. Herbal medicines are therefore often, viewed as a balanced and moderate approach to healing an individual who use them as a home remedies. Now a day a huge amount of money is being spent on herbal medicine by manufacturers. This explains the reason, why the sales of herbal medicine are booming and represents a substantial proportion of the global drug market.

Keywords: Phytomedicines, Herbal medicines, global drug market

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ICIPMBS/2020/17

Spectrophotometric Method for Determination Ofsaxagliptine in Bulk and Pharmaceutical Dosage Forms using Ion Pair Complexation Method

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Abstract

Two simple, accurate, precise and sensitive spectrophotometric methods have been developed and validated for determination of saxagliptine in bulk and pharmaceutical dosage form. Method A and B involves the formation of a colored chloroform extractable ion pair complex of drug with bromothymol blue and Bromocresol green absorbing maximally at 425nm and 415nm. Beer's law is obeyed in the concentration range of 6-24µg/ml for methods A and B. Molar absorptivity, Sandell's sensitivity, association constant, Limit of Quantification and Limit of Detection were calculated. The proposed methods were successfully applied for the determination of saxagliptine in pharmaceutical formulation.

Keywords

Saxagliptine, Spectrophotometry, Bromothymol blue, Bromocresol green, ion-pair complex, Validation.

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ICIPMBS/2020/18

Asseessment of Antidiarrhoeal Activity of *Plumbago Zeylanica* Bark Extract

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Abstract

The aim of this work was to investigate the anti-diarrhoeal potential of the alcoholic and aqueous extracts of bark of *Plumbago Zeylanica* castor oil- induced diarrhea and small intestinal transit in Wistar albino rats. The alcoholic and aqueous extract of bark of *Plumbago Zeylanica* were prepared. The anti-diarrhoeal activities of alcoholic and aqueous were investigated in rats. Both the extract of different doses (200 mg/kg and 400 mg/kg body weight) inhibited castor oil induced diarrhea; along with reduced the mean weight of faeces. It also significantly inhibited the small intestinal transit in rats, after charcoal meal administration. The results obtained establish the efficacy and substantiate the use of the herbal remedy as a non- specific treatment for diarrhea in folk medicine.

Keywords: anti-diarrhoeal, *Plumbago Zeylanica* , castor oil, folk medicine

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ICIPMBS/2020/19

Development and Validation of Stability Indicating RP-HPLC Method for Estimation of Metformnin HCl and Linagliptin in Pharmaceutical Dosage Form

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Abstract

The objective of present work was to develop and validate a simple, accurate, precise stability indicating RP- HPLC method for the estimation of Metformin HCl and Linagliptin in pharmaceutical dosage form. The chromatographic separation was achieved on a Column C_{18} Inertsil ODS 3V (4.6×250 mm, particle size 5 µ). Different mobile phase systems in different proportions were tried. For HPLC method a mobile phase Acetonitrile and phosphate buffer (pH 4.6) in the ratio of 35:65% v/v. The detection was carried out using DAD detector set at a wavelength of 230 nm. Flow rate was 1.0 ml/min. The retention time was found to be 2.206 min and 4.487 min for Metformin and Linagliptin respectively. The proposed method was found to be excellent linearity in the concentration range of 100-600 µg/ml and 0.5- 3 µg/ml with correlation coefficient r^2= 0.999 and 0.999 for Metformin and Linagliptin. The method validated for accuracy, precision, linearity, LOD,LQD and robustness. The proposed method optimized and validated as per ICH guidelines.

Keywords: RP-HPLC, Metformin HCl , Linagliptin,Validation

ICIPMBS/2020/20

Activity of Phytochemical Constituents of *Curcuma longa* (Turmeric) Against SARS-CoV-2 Main Protease (Covid19): An*in-Silico* Approach

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Abstract

In early 2020, many scientists are rushing to discover novel drugs and vaccines against the coronavirus, and treatments for COVID-19, because, Coronavirus Disease 2019 (COVID-19), a life-threatening viral disease which is caused by SARS-CoV2, affected first in china and quickly spread throughout the world. According to the WHO data, as on May 2020, there are more than 60 lakhs peoples in the world affected by COVID19, out of these more than 3.7 lakhs peoples are died.So in this emergency situation, it is very difficult to discover novel drugs with all clinical trials and also determine the side effects, adverse effects etc. So, It is important to treat with some natural remedies which are using regularly in our diet like Curcuma longa (Turmeric)for COVID19. In this article, i*n-silico* studies have been performed to explore the binding modes of chemical constituents for natural remedies like Curcuma longa (Turmeric)against COVID19 main protease (PDB id - 5R82) targeting corona virususing Schrodinger suit 2019-4. The molecular docking studies are performed by Glide module, *in-silico* ADMET screening was performed by qik prop module and, binding energy of ligands was calculated using PRIME MM-GB/SA module. The chemical constituents from turmeric like Cyclocurcumin, Curcumin are significantly active against COVID19 with Glide score more than -6 when compared to currently used drug Hydroxychloroquine (-5.47). The docking results of the compounds exhibited similar mode of interactions with COVID19 and the residues THR24, THR25, THR26, LEU27, SER46, MET49, HIE41, GLN189, ARG188, ASP187, MET165, HIE164, PHE181 and THR54 play a crucial role in binding with ligands.**In conclusion,**the chemical constituents from turmeric like Cyclocurcumin, Curcumin are significantly active against COVID19 and used for further development.

Keywords: Corona virus (COVID19), SARS CoV-2, Curcuma longa (Turmeric), Docking studies, MMGBSA

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ICIPMBS/2019/21

Phytotherapeutic Approaches- A New Hope for Emerging Cancer Cases: A Review

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Abstract

Cancer is one of the major non communicable diseases posing severe health crisis worldwide. Development of a cell into cancerous type undergoes several transformation phases and the anticancer agent has to able to conquer through multiple pathways. Various invitro, in vivo and engineered tumor models are now available to understand the effects of the drug in the biology of cancer cell. Multienzyme DNA repair exists in cancerous cell. The major problem is anticancer drug resistance causes by certain evolutionary genes like; XPD, XPB, ERCC-1 etc. hypoxia, physiological PH/acidosis, free radicals, microenvironment with limited access to nutrients, reduced oxygen/hypoxia. Though mortality rate has decreased, Morbidity is still the drawback of anticancer. Mother Nature is the huge reservoir for biomolecules or inorganic chemicals having wide range of promising therapeutics. Natural products are vital for the discovery of cancer chemotherapeutics and chemo preventive agents. For over 40 years small organic molecules derived from microbes and plants have provided a number of useful novel cancer agents. Out of 174 anticancer agents 97 belonged to plant origin and many under clinical trials. However, the traditional process of drug discovery and development is lengthy and expensive. Application of in silico techniques, optimization of algorithms like, microarray techniques, HTS screen etc. can provide the solution.

The objective of present review is to highlight the usage of herbal natural products in cancer remediation. A multitargeted approach is needed to face the complex cancer biology which can be achieved by combined natural and synthetic agents specifically and synergistically quenchoring the invasive and metastatic phases of cancer.

Keywords: Carcinogenesis, anticancer drug screening, phytotherapeutics, non-communicable diseases (NCDs).

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ICIPMBS/2020/22

An Overview of COVID 19 Pandemic

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Abstract

The worldwide outbreak of COVID 19 is associated with novel coronavirus termed as SARS-CoV-2 by the international Committee on Taxonomy of Viruses(ICTV). As already World Health Organization had declared COVID 19 as international emergency as the disease spreading at alarming levels. This international emergency has triggered governments of various countries to take emergency measures to protect the public. As The virus spreading faster than its two ancestors the SARS-CoV and Middle East respiratory syndrome coronavirus (MERS-CoV), but it has lower fatality. Since information about this virus is rapidly increasing, it is necessary to remain updated. So in this context we present an overview of presently obtained information on replication cycle, clinical characteristics and diagnosis, current potential therapeutics and preventive measures of this novel coronavirus.

Keywords: Novel Coronavirus, COVID 19 disease, SARS CoV-2, Outbreak

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ICIPMBS/2020/23

To Study the Pattern of PM2.5 Level in Delhi Over A Period of 90 Days

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Abstract

Smog is a type of air pollutant. The word "smog" was coined in the early 20th century. The burning of fossil fuels like gasoline can create another atmospheric pollution problem known as photochemical smog. We have discussed the sources of photochemical smog, chemistry of formation of photochemical smog, its adverse effects on the health as well as on the environment.Smog is a complex atmospheric pollutant mixture consisting of ozone, a pollutant with adverse effects on human health, vegetation, and materials; other eye-irritant and phytotoxic pollutants (such as aldehydes and peroxyacetyl nitrates); nitrogen dioxide (cause of the "whiskey-brown" color in the Los-Angeles atmosphere); and fine particles that cause adverse health effects, reduce visibility, and cause the "brown cloud" phenomenon.Feeding the sensor data in a spreadsheet from 24 to 35 different locations for the purpose of studying the data and finding patterns. Analyzed the air quality data for 90 days i.e. for months January, February and March 2019. By organizing the databases of each area and region into spreadsheet. The data is concluded by plotting graph.

Keywords: Photochemical smog, air pollutant, ozone, PAN, Hydrocarbons

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ICIPMBS/2020/24

Preparation and Evaluation of Sustained Release Floating Granules of Furosemide

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Abstract

The objective of study was to design and optimize a controlled release system of Furosemide. to increase its bioavailability by increasing the residence time in the stomach without contact with the mucosa, and was achieved through the preparation of floating granules by melt granulation techniques. Furosemide; a loop diuretic used in the treatment of congestive heart failure and edema was chosen as the drug candidate to be formulated as gastro retentive multiparticulate system as it is a weakly basic drug with a short half life of 2-3 hrs. Gelucire 43/01 was selected as a lipid carrier in different ratio (1:0.5, 1:1, 1:1.5) along with drug. The formulation F_1 to F_6 were prepared and evaluated for dependent variable (in vitro floating ability) and formulations F_4 to F_6 were selected as preliminary optimized formulation. The preliminary optimized formulation F_4 to F_6 were evaluated for micromeritic properties, drug content and percentage yield, *in-vitro* drug release, percentage *in-vitro* floating ability and formulation F_4 was selected as optimized formulation that exhibited good floating ability and zero order drug release (85.95 %) at the end of 8 hours. Aging effect on storage was evaluated using *In-vitro* drug release. The *In-vitro* drug release study of the aged sample showed increase in release behaviour, it may be due to phase transformation of Gelucire. In conclusion, hydrophobic lipid, Gelucire 43/01 can be considered as an effective carrier for design of a multi-unit floating drug delivery system of Furosemide.

Keywords: Furosemide, Floating granules, Gelucire, In-vitro release study , drug identification test.

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ICIPMBS/2020/25

Drug Repurposing as a Weapon to Combat Covid-19 Pandemic: The *In-Silico* Drug Design Approach

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Abstract

Drug repurposing, also known as drug repositioning or drug reprofiling, involves the establishment of new medical uses for already known drugs, including approved, discontinued, shelved and experimental drugs. While with standard Drug Discovery path an investigational molecule may take 10 to 15 years to come to the market (by going through different stages starting from understanding disease followed by target identification, assay development, High Throughput Screening, Lead identification, pre-clinical trials, FDA approval, clinical trials and finally introduction to the market after FDA review), drug repurposing may reduce the time to 2 to 5 years by bypassing the steps of pre-clinical and clinical trials and FDA formalities as the drug is already in use for some other disease. Although this strategy has been known since long, it has gained considerable momentum in the current scenario of COVID-19 pandemic where a quick solution is needed to combat the disease as we enter a phase beyond containment. For targeting SARS COV-2 proteins with drugs, the Non Structural Proteins (NSP) which include Replication Complex (NSP6), SS RNA Binding (NSP9), Helicase (NSP13), 3'-5' exonuclease (NSP14), Protease (NSP5) and RNA dependent RNA Polymerase (NSP12) have been identified. As the later two targets are specific to SARS COV-2, inhibition of these would not affect the human cells and be specifically effective against the virus. Ritonavir/ Lopinavir that inhibit protease and Ramdasivir which inhibits RNA dependent RNA Polymerase are the drugs that are being used in some cases. The problem is, these drugs are so expensive and a more effective alternate is urgently required; Computational or *in-silico* approach towards finding the new alternative is the solution. From a library of about 1.2 million compounds active against SARS COV-2 NSP-12, one can identify the best lead molecule though computational studies and after virtual screening and observing clinical effects, the better may come to the clinic via the shortest route.

Keywords: Drug Repurposing, COVID-19, SARS COV-2 proteins, RNA dependent RNA Polymerase, In-Silico drug Design.

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ICIPMBS/2020/26

Good Manufacturing Practices of Ayurvedic Drugs

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Abstract

Ayurvedic medicines have an extended therapeutic history and are still serving many of the health needs of an oversizedpopulation of the planet. However, the quality control and quality assurance still remains a challenge becauseof the high variability of chemical components involved. Herbal drugs, as one drug and in combinations,contain numerous compounds in complex matrices during which no single active constituent is chargeable for theoverall efficacy. This creates a challenge in establishing internal control standards and standardization ofherbal drugs. Good manufacturing practice (GMP) may be a system for ensuring that products are consistentlyproduced and controlled in keeping with quality standards. it's designed to reduce the risks specially twocross contamination and blend up (unexpected contamination of products, causing damage to health or maybedeath; incorrect labels on containers, which could mean that patients receive the incorrect medicine) involved inany pharmaceutical production that can't be eliminated through testing the ultimate product. GMP covers allaspects of production: - from the starting materials, premises and equipment to the training and privatehygiene of staff. GMP is that the guidelines which, - governs the assembly, distribution and provide of the drug.So, if we wish blunder growth of Ayurveda in International market then proper emphasis should tend onstandardization and internal control of medicines.

Keywords: GMP,Quality internal control, Quality assurance

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ICIPMBS/2020/27

Molecular Docking Studiesand Antihyperglycemic Activity of Potent and Selective (5-Imidazol-2-Yl-4-Phenylpyrimidin-2-Yl)[2-(2- Pyridylamino) Ethyl] Amine Inhibitors of Glycogen Synthase Kinase 3

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Abstract

In an effort to identify new antidiabetic agents Molecular docking studies and antihyperglycemic activity of potent and selective (5-imidazol-2-yl-4-phenylpyrimidin-2-yl)[2-(2- pyridylamino) ethyl] amine inhibitors of glycogen synthase kinase 3. A novel derivative of (5-imidazol-2-yl-4-phenylpyrimidin-2-yl)[2-(2- pyridylamino) ethyl] amine was selected from the literature for antihyperglycemic activity as glycogen synthase kinase 3 inhibitors. *In-silico* studies using molecular docking methodology. The all selected compounds were sketched and energy minimized using Chem Draw ultra and Chem 3D ultra respectively. Further, the compounds were docked into glycogen synthase kinase 3 inhibitor (3F7Z) using Molegro Virtual Docker Platform. One hundred thirty compounds were docked into the active site of glycogen kinase 3 inhibitor cavity and all of them found to have similar binding interactions of a co-crystallized ligand with**2-(1,3-benzodioxol-5-yl)-5-[(3-fluoro-4-methoxybenzyl) sulfanyl]-1,3,4-oxadiazole.** The binding interaction information derived from these molecules will be useful in future antidiabetic agent design.**Conclusion:**From the docking study, it was observed that ligands bind to the electrostatic, hydrophobic clamp formed by the residues Asp 76(B), Tyr 190(B), Tyr 80(B) and Lys 72(B) which play an important role for *glycogen synthase kinase 3* inhibition. The binding affinity, grid calculation and RMSD percentage lower and upper parameters were calculated. Hence, the observable data indicated that, above compounds can serve as good leads for further modification and optimization in the of treatment of NIDDM.

Keywords: Molegro, Chemdraw, 3F7Z, moldock score. antihyperglycemic.

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ICIPMBS/2020/28

Chemical composition and antibacterial activity of *Croton bonplandianum* Baill. Leaves

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Abstract

The plant *Croton bonplandianum* Baill. (Euphorbiaceae) commonly known as 'Bantulasi' is used to treat liver disorders, skin diseases including ring worm infection, to cure the swelling of body, bronchitis and asthma. *Croton bonplandianum* Baill extract was investigated for chemical composition by Gas Chromatography-Mass spectroscopy (GC-MS) method and antibacterial activity was studied by Minimum Inhibitory Concentration (MIC) method. GC-MS analysis of extract shown presence of four terpenoids constituents. Methanolic fraction obtained from ethanolic extract of *C. bonplandianum* leaves shown antibacterial activity against various microorganisms.

Key words: *Croton bonplandianum* B.; GC-MS; Antibacterial

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ICIPMBS/2020/29

A review article on recent advancement in pharmaceutics with special reference to nanotechnology: nanocarriers and nanomedicines

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Abstract

The blood brain barrier is very complicated structure of which provides protection to the CNS, it also play a very important role to maintain internal environment of the body. However, it limits the crossing of various drugs which are used to treat central nervous system to show desired therapeutic effect. To overcome this limitations, Nanomedicines are the best suitable approach with perfect Nanocarriers. This article reflects the importance and limitations of Nanodiamonds, Nanogold particles, Dendritic cells with novel approach in the field of surgical tumor imaging techniques for the identification of malignant brain tumor. Nanodiamonds are basic building block of carbon and suitable chemical moiety for the use of biomedical application with some limitations related to surface modification and toxicity issues. Nanoparticles are very important as optical contrast agents during image-guided surgery (IGS), residual tumor left behind after resection. Surgical tumor imaging techniques have emerged as an important method to decrease positive surgical margin (PSM) rates. This article is based on suitable approach to overcome the above mentioned limitations.

Keywords: Blood Brain Barrier, Nanomedicines, Nanocarriers, Nanodiamonds, Positive Surgical Margin.

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ICIPMBS/2020/30

Antioxidant, Antimicrobial and Antiproliferative Activity of wrightia tinctoria R. Br.

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Abstract

Wrightia tinctoria is an important medicnl plant belonging to Apocynaceae family. It has claimed tradional and conventional medicinal uses. The present research evaluates the antioxidant, antimicrobial and antiproliferative potential of aerial part extract of W. tinctoria. The aerial parts together were extracted in ethanol (1), 60% ethanol (2) and distilled water (3) were screened for phytoconstituents, Total phenolic content (Folin Ciocalteu's reagent expressed as gallic acid equivalents, mg/g GAE), Total Flavonoid contents (Aluminium chloride (2%) method expressed as Rutin equivalents RE/g). In vitro antioxidant assays (using; 2, 2-diphenyl-1-picrylhydrazil (DPPH), hydrogen peroxide (H2O2) and reducing power assay (RPA) used to screen antioxidant activity. Ascorbic acid, Rutin and Gallic acid were used as standards. Sulphorhodamine B assay was performed for antiproliferative activity. Study was reported for human cancer lines HepG2, HT 29 and SKOV3. Disc diffusion and Minimum inhibition concentration methods used for antimicrobial activity. The results obtained showed GAE mg/g in the range of order of 537.0 to 240.933 and Rutin Equivalent (RE)/g from 113.6333 to 1049.7.The order of DPPH and H2O2 were found as (IC50 values):aqueous> ethanolic>Hydroethanolic. Mild to moderate antibacterial and antifungal in clinical isolates of microorganisms was also found.
Thus, it is concluded that aerial part extract of W.tinctoria can be an important lead as an anticancer and immunomodulatory and antinfective agents. These effects are surely produced due to the prominent phytoconstituents and their synergistic actions.

Keywords: Free radical scavenging assay, SRB assay, Disc diffusion assay, MIC, *W. tinctoria.*

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ICIPMBS/2020/31

Structure Based Drug Design, Synthesis of (E)-4(Benzylideneamino)-6- Phenyl-3-Thioxo-3,4-Dihydro -1,2,4-Triazin-5(2h)-One Derivatives as Clk1a Inhibitors

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Abstract

A sharp increase in the incident of Alzheimer's disease (AD) especially in developed and developing countries is a matter of serious concern. It is predicted that 26 million people are affected by Alzheimer's disease worldwide and it will be triple by the year 2050. There are two groups of drugs available on the market, which are classified according to their mechanism of action Inhibitors of acetyl cholinesterase and NMDA receptor inhibitors have beneficial effects on cognitive, functional, and behavioral symptoms of the disease, but their role in AD pathogenesis is unknown. Current treatments for AD provide only modest symptomatic relief. There is an urgent need for 'disease modifying' agents that slow the course of the disease and prevent or delay the disease in susceptible individuals. Protein phosphorylation, the most common post-translational mechanism used by cells to regulate enzymes and structural proteins, is controlled by ≈520 protein kinases and ≈80 protein phosphatases.

Keywords: Alzheimer's disease, acetyl cholinesterase, NMDA, pathogenesis

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ICIPMBS/2020/32

Synthesis, Characterization and Biological Evaluation of Novel Aryl Piperazine Derivatives

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Abstract

In the present scenario the aryl piperzine ring have very important role in the drug discovery so that in the present research work aryl piperazine ring derivatives will be synthesized with heterocyclic skeletons due to the important role of heterocyclic ring in many of the biological activities. A succession series of some novel N-(4-(benzo[d]thiazol-2-yl)phenyl)-2-[4-(arylsubstituted)piperazines-1-yl]acetamide and N-(4-(benzo[d]oxazol-2-yl)phenyl)-2-[4-(arylsubstituted)piperazines-1-yl]acetamide will be synthesized with different aryl piperzine substituent's. After synthesizing of the derivatives, the characterization will be done like melting point determination and Thin layer chromatography (TLC). In the spectroscopic determination IR spectroscopy (infra red spectroscopy), NMR spectroscopy (nuclear magnetic resonance spectroscopy) and Mass spectroscopy also performed. After conformation of structural characterization, biological activity will be performed for all the novel synthesized compounds. In the biological determination antipsychotic activity will be performed by behaviour symptoms, Inhibition of 5-hydoxytryptophan (5-HTP) induced head twitches behavior and Induction of catalepsy.

Keywords: Aryl piperazine, heterocyclic, IR spectroscopy, NMR spectroscopy,5-hydoxytryptophan (5-HTP), Induction of catalepsy

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ICIPMBS/2020/33

Evaluation of Antianxiety Activity of Polyherbal Formulation

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Abstract

Anxiety is type of psychiatric illness. Anxiety refers to the experience of fear, restlessness, nervousness, tension, apprehensiveness, panic, and agitation. Most common symptoms of anxiety are irritability, nervousness, rapid or irregular heartbeat, jumpiness, feelings of apprehension, nausea, dizziness, stomach ache and breathing problems. Pathophysiology of anxiety is multifactorial, involving oxidative neuroinflammation, stress, and glutamatergic dysfunction. Treatment of anxiety disorders involves lifestyle interventions, such as physical exercise, psychological interventions, such as cognitive behavioral therapy, which are difficult to implement and mindfulness-based stress reduction. In allopathic medicine drug contain benzodiazepines nucleus are generally used for the treatment of anxiety. However BZDs have causes unnecessary side effects or exhibit tolerance upon continual use. Therefore nowadays Herbal therapies are considered as alternative or complementary medicines. Worldwide medicinal plant research has continued in search for new molecules useful for the treatment of neurological disorder with fewer or no side effects. Previous studies have revealed that Aegle marmelos, Azadirachta indica, Murraya koenigii, and Ocimum sanctum individually exhibited anxiolytic like activity. In earlier studies Many of individual ingredients of this polyherbal product (combined extract aegle marmelos, azadirachta indica, murraya koenigii, and ocimum sanctum) have been shown anxiolytic activity. These study have shown that these polyherbal extract may be benifical and effective in treatment of anxiety disorder.

Keywords – Anti anxiety, Polyherbal Product, Apprehension, Nausea, Dizziness

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ICIPMBS/2020/34

A Review on Novel Vesicular Drug Delivery System: Transferosomes

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Abstract

In novel drug delivery systems, transdermal route is considered most safe and effective due to several advantages such as predictable and extended duration of action, avoidance of first pass metabolism, lesser side effects etc. However it has also got certain limitations like incompetence to overcome barriers of stratum corneum, unable to transport larger molecules and many more. To overcome all these problems, transferosomes came into existence as they possess the quality of other transdermal drug delivery systems but at the same time can also cross the barrier with ease. These transferosomes being an ultradeformable vesicle and elastic in nature can squeeze itself through a pore which is many times smaller than its size owing to its elasticity. Hence among various vesicular systems, transferosomes have gained enormous importance in the last decade for sustained and targeted drug delivery. Knowing the potentiality of this novel vesicular drug delivery system, main focus has been given in this article towards reviewing all key aspects of a transfersomes through various literatures, along with its applications for delivery of various substances such as herbal drugs, proteins, NSAID's etc.

Keywords: Novel Drug Delivery Systems, Stratum Corneum, Transferosomes, Ultradeformable vesicle.

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A Review on Pharmaceutical Dosage Forms

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Abstract

In last two decade, several drug dosage forms came into existence for the patient's welfare and care. In general terms, the dosage form denotes the methods of entry or delivery of pharmaceutical products into a human beings or any other biological system. It may also known as the forms in which the pharmaceutical products are being made available in the markets for their therapeutic effects. However the dosage form has broad range but specific delivery methods includes oral drugs, injectables or "parenteral" drugs, topical drugs, inhaled drugs, and mucosal drugs, as classified in the United States Pharmacopeia (USP). Apart from conventional dosage form, several novel drug delivery systems are also getting people's interest because of their additional benefits such as targeting potential and controlled drug release etc. This main emphasis of this review article is on several types of traditional models of dosage form and their types and importance, along with basic introduction of novel drug delivery systems like implants, microspheres, transdermal drug delivery system, etc.

Keywords: Dosage forms, Oral Drugs, Injectables, Novel Drug Delivery Systems, Transdermal Drug Delivery System

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Herbal Drug for Treatment of Various Infections: A Review of Effective Herbs

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Abstract

Infectious diseases, also known as communicable diseases comprise clinically evident illness resulting from the infection, presence and growth of pathogenicbiological agents in an individual host organism prevention of infectious diseases caused by pathogenic microorganisms, and identify global trends that have the potential to result in major epidemics. Phytochemical are useful for infection control and, until the advent of antibiotic were the only remedies available. Herbal plants, plant preparations and phytoconstituents have proved useful in attenuating infectious conditions and were the only remedies available, till the advent of antibiotics (many being of plant origin themselves). herbal medicine has an important role in enhancing the immune function of aquatic animals and effectively promotes antiviral, antibacterial, antiparasitic activities of the immune system.this review study focus on to the effective herb used in herbal preparation for infectious drug.

Keyword: - Infectious diseases, immune function, herbs, antiparasitic

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ICIPMBS/2020/37

Quantitative Structure Activity Relationships (QSAR)

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Abstract

QSAR (Quantitative Structure Activity Relationship) models are classification models used in the chemical and biological sciences and engineering. It is a mathematical relationship between a biological activity of a molecular system and its chemical characteristics. A QSAR has the form of mathematical model.

Activity = f (physiochemical properties or structural properties)+error.

The error includes model error (bias). Typically QSAR models derived from non-linear machine such as "Blackbox". New concept of Matched Molecular Pair of Analysis (MMPS). which is coupled with QSAR model in order to identify activity cliffs. The important concept in quantitative structure activity relationship that allows one to estimate the uncertainity in the prediction of a particular molecule based on how similar it is to the compounds used to build the model. 2D QSAR model is powerful tool for explaining the relationship between chemical structure and experimental observation. 3D is an extension of classical QSAR which exploits the 3 dimensional properties of ligands to predict their biological activity. QSAR is a technique that tries to predict the activity, reactivity, and properties of an unknown set of molecules based on analysis of an equation connecting the structures of molecules to their respective measured activity and property. Hansch analysis is the investigation of quantitative relationship between the biological activity of a series of compounds and their global parameters.The Hansch equation is a key mathematical relationship and a conceptual guiding principle (QSAR) in the practice of modern medicinal chemistry. The Hansch equation leads to a parabolic relationship between drug activity and hydrophobicity. QSAR models have been used for risk management. QSAR are suggested by regulatory authorities in the European union. QSAR'S are suggested by REACH regulation i.e Registeration, Evaluation, Authorization, Restriction of chemicals. The QSAR equation used to predict biological activities of newer molecules before synthesis.

Keywords:- QSAR, MMPS, REACH, Hansch, Blackbox

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Synthesis and Pharmacological Evaluation of Substituted Thiazolopyrimidine Derivatives

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Abstract

Thiazolopyrimidine considered as thia-analogues of the natural purine bases such as adenine and guanine. Six different kinds of thiazolo-pyrimidine can be possible, with [4,5-d], [3,2-a], [3,4-a], [3,2-c], [3,4-c], and [5,4-d] ring fusion with different biological activities. A series of novel thiazolo[3,2-a]pyrimidine derivatives were synthesized using various substituted benzaldehydes and acetophenone as a starting materials followed by condensation reaction with thiourea and cyclization reaction with chloroacetic acid. The structures of these newly synthesized compounds were confirmed by TLC, melting point, IR and ^{1}H NMR spectral data. All the synthesized compounds were evaluated for their antioxidant, anti-inflammatory, analgesic, ulcerogenic and antibacterial activity. DPPH free radical scavenging method was used to assess the antioxidant activity and it was found that compounds **K_1, K_4, K_5, K_8, K_9, K_{10}, K_{12}, K_{13} and K_{16}** exhibited 50-60% radical scavenging activity at a concentration of 100 µg/ml. Compound 7-(2,4-dichlorophenyl)-5-phenyl-2H-thiazolo[3,2-a]pyrimidin-3(7H)-one (**K_9**) has shown potent anti-inflammatory activity carried out by carrageenan-induced paw edema model, Acetic acid induced writhing method was used for analgesic activity and it revealed that compound 7-(3,4,5-trimethoxyphenyl)-5-phenyl-2H-thiazolo[3,2-a]pyrimidin-3(7H)-one **(K_5)** was found to be potent analgesic agent. Ulcerogenic activity was investigated as a side effect of oral administration of test compounds and it evaluated that the compound 7-(2,4-dichlorophenyl)-5-phenyl-2H-thiazolo[3,2-a]pyrimidin-3(7H)-one **(K_9)** produce lesser ulcerogenic effects.

Keywords: Thiazolopyrimidine, Antioxidant, Anti-inflammatory, DPPH, Ulcerogenic

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Versatile Activity of Pyrazoline Nucleus

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Abstract

At present, there is a lot of research about the pyrazoline heterocyclic compound, its ring structure is being changed and new derivatives are being made, many of which have antimicrobial activity over the derivatives. Pyrazoline is five-member heterocyclic ring which have two N atoms in nearby position and contain two endocyclic double bonds..Pyrazolines have been showed important pharmacological actions such as antimicrobial, antifungal, antineoplastic, antidepressant, insecticidal, anticonvulsant, anti-inflammatory, antioxidant, antibacterial and antitumor activities. The history of pyrazoline shows that it attracted many chemists to explore pyrazoline as a biologically active molecule. The study of biological evaluation of pyrazoline derivatives has been an interesting field of pharmaceutical chemistry.

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ICIPMBS/2020/40

Drug discovery in Nano technology:cFormulation and Evaluation of Niosome: A review

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Abstract

Niosome are non -ionic surfactant vesicles obtained on hydration of synthetic non ionic surfactant with or without incorporation of cholesterol or lipids. Niosome play important roles in drug delivery systems, reduced toxicity and modify pharmacokinetics and bio-availability. These are specific features biocompatible, biodegradable, nontoxic, non immunogenic and non carcinogenic.Niosome are very small microscope in size prepare nano chip incorporated in direct targeted cell in drug delivery systum. Drug delivery systems are defined as formulations aiming for transportation of a drug to the desired area of action within the body. The basic component of drug delivery systems is an appropriate carrier that protects the drug from rapid degradation or clearance and thereby enhances drug concentration in target tissues. Based on their biodegradable, biocompatible, and nonimmunogenic structure, niosomes are promising drug carriers that are formed by self-association of nonionic surfactants and cholesterol in an aqueous phase. In recent years, numerous research articles have been published in scientific journals reporting the potential of niosomes to serve as a carrier for the delivery of different types of drugs. The present review describes preparation methods, characterization techniques, and recent studies on niosomal drug delivery systems and also gives up to date information regarding recent applications of niosomes in drug delivery.

Keywords: Niosome, biodegradable, nonimmunogenic, non immunogenic, biocompatible

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ICIPMBS/2020/41

A Comprehensive Review on Antimicrobial Potential of Bioactive Amides

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Abstract

The discovery of substituted molecules, structure elucidation, elaboration of effective therapeutics and describing the mechanism of action of newer molecules are some of the significant roles of medicinal chemistry. The treatment of infectious disease still abides a salient and challenging problem due to an alliance of aggravating factors like increasing number of multi-drug resistant microbial pathogens and emergence of various infectious diseases etc. The development of potential anti-infective agents having low incidence of side effects, toxicity and emergence of drug resistance, the involvement of amides is highly supported in medicinal compounds. The amide bond is a vital component and most important functional group of various natural products and synthetic drugs. Amide group possess diverse key structural features which assists in alteration of certain physicochemical properties like increases the solubility in comparison to their parent sulphonic/carboxylic acid and assemble the compound resourceful enough to overcome the hindrance of biological system and improves their binding interactions with active site residues of target receptor. The present study compiles a number of available literature reports on development of amide molecules as antimicrobial agents.

Keywords: Benzamides, Sulphonamides, Heterocyclic amides, Antimicrobial Activity, Bioactive molecules

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ICIPMBS/2020/42

Formulation and Evaluation of Fluconazole Gel for Treatment of Common Skin Infections

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Abstract

Thedevelopmentoftopicalgelformulationisneededbecauseitoffersaninterestingalternativefororalroutetoachievingsystemiceffectofdrug.Topicalgelishavingimportantadvantageslikeavoid GIirritation,avoidfirstpassmetabolismandincreasethebioavailabilityofthedrug.Topicaldrugadministrationisalocalizeddrugdelivery systemanywhereinthebodythroughophthalmic,rectal,vaginalandskinastopicalroutes.Fluconazoleisasynthetictriazoleantifungaldrugusedinthetreatmentandpreventionofsuperficialandsystemicfungalinfection.Adverseeffectsreportedwithfluconazolemostcommonlyaffectthegastrointestinaltractandincludeabdominalpain,diarrhoea,flatulence,nauseaandvomiting,andtastedisturbanceafteroraladministration.Inordertobypassthesedisadvantages,thegelformulationshavebeenproposedastopicalapplication.Evaluationofthetopicalgeloffluconazolewascarriedoutforphysicalappearance,pH,Spreadability,Extrudability,Rheologicalstudies,Drugcontent,antifungalactivity,invitrorelease,Exvivopermeationstudyandskinirritationstudy.Drugcontentwasfoundtobeuniforminalltheformulations.Theresultsdemonstratethatthereleaseofthedrugisdependentonviscosityofthepolymerused.ThepHrangeofwerefoundtobesuitablefortopicalapplication.Theacceleratedstabilitystudieswereperformedaccordingto ICHguidelinesfor3monthsandtheresultswerefoundtobestableinvaryingtemperature.

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ICIPMBS/2020/43

Multisystem Inflammatory Syndrome in Children (Mis-C): Addition of another Apprehension in Sars-CoV-2 Pandemic

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Abstract

Amidst the SARS-CoV-2 pandemic throughout the world with millions of active infections and deaths, few unprecedented cluster reports on children related to coronavirus infection are emerging as serious issue of concern. World Health Organization has termed this condition as Multisystem Inflammatory Syndrome in Children (MIS-C). MIS-C is a condition where different body parts or vital organs become inflamed and in children's the condition is prominently associated with inflamed blood vessel or Kawasaki diseases, toxic shock syndrome or toxins produced in body due to overgrowth of a microbe leading to shock, fever, conjunctivitis, abdominal pain, multi organ failure. The present day data confirms that SARS-CoV-2 has mild effect on children or infants. But few incidences have been reported from United Kingdom, United States, Italy, Spain, India and few other countries, that children's with median age group of 11 years were admitted to hospitals with multisystem inflammatory conditions during this pandemic period from the beginning. Different observational studies suggested that such conditions developed in children are mediated by the development of acquired immunity of post infection rather than the direct viral infection. But the first MIS-C patient from India, a eight-year old boy from Tamilnadu is having confirmed coronavirus infection. Furthermore, during SARS in 2005, it was evidenced that HCoV-NL63 has been also associated with Kawasaki disease. Thus relationship of MIS-C with SARS-CoV-2 cannot be disregard. Although, the numbers of reporting of MIS-C is very less but it may become serious matter of concern in upcoming days. Considering the severity of situation, the World Health Organization has constituted a working group of experts from different part of the world. They will generate protocol of collection, collation and analysis of data from around the world where India is likely to be selected as surveillance site for MIS-C data.

Keywords: Multisystem Inflammatory Syndrome, Kawasaki, SARS-CoV-2, coronavirus, pandemic, MIS-C, toxic shock syndrome

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ICIPMBS/2020/44

A Study of Antihyperglycemic Activity of Alternanthera Pungens Kunth on Alloxan Induced Diabetic Rats

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Abstract

Diabetes mellitus is a metabolic disorder characterized by high blood glucose level. The traditional healers have used this plant as remedy to control blood glucose level. The present study was carried out to investigate hypoglycemic effect of the whole plant of *Alternanthera Pungens Kunth* against Alloxan induced hyperglycemia in rats. Hyperglycemia was induced by an injection of Alloxan Monohydrate 150 mg/kg (i.p.). After 72 hr, the rats having Blood Glucose Level (BGL) above 150 mg/dl were selected for the investigation. The two different doses of aqueous and ethanolic extracts (200 mg/kg and 400 mg/kg b.w.) were observed for antidiabetic effect. BGL was monitored and compared with Metformin (250 mg/kg). Oral administration of both extracts showed significant ($P < 0.05$) antihyperglycemic activity in a dose-dependent manner in alloxan-induced diabetic rats. After 21 days of treatment with ethanolic extract at dose of 400 mg/kg, the Blood Glucose Level (BGL) decrease from 268.34 to 104.68 mg/dl while the reduction in BGL by aqueous extract at same dose from 269.46 to 114.38 mg/dl was observed. The ethanolic and aqueous extract reveals the reduction in the blood glucose level, this may be due to the presence of flavonoids constituents. The present study supports the traditional use of this plant in the treatment of diabetes and contributes as evidence for their use in traditional medicine.

Key Words: Antihyperglycemia, Blood Glucose Level (BGL), Diabetes mellitus, Metformin, Alternanthera Pungens Kunth etc.

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ICIPMBS/2020/45

Herbal Medicine Kumaryasava for Its Better Antioxidant Activity

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Abstract

Aloe vera is gaining popularity as its production profit is much greater than conventionalcrops using lesser water and efforts. From around 400 species of it just 2 species; *Aloe barbadensis* and *Aloe aborescens* are used for trade in the world. It has great commercial importance and health potentials. Due to worldwide healthcare crises, the heath care needs are beyond the reach of common people. Because of this unbalancing economy, there is negligence of the typical diseases in the low social community. Ayurveda plays important role in new drug development of poly herbal drugs and formulations to treat various diseases. It includes various types of medicines such as some fermented forms-asavas and arishta. Asavasare self-generated herbal fermented formulations of traditional medicinal system. They are formulated by keeping the herbal juices or their decoctions for fermentation with the sugars or jaggery. Kumaryasvais recommended as general tonicfor the people in all ages and used in liver, urinary and respiratory disorder. This study is aimed to set the standard operational procedure and effect of its preparation method on antioxidant activity of Kumaryasava. The evaluation of the formulations of Kumaryasvawasdone by various physico-chemical standards including pH, viscosity, specific gravity, total solid, total alcohol, reducing sugar and non-reducing sugar, phenolic content as well as heavy metal and mineral content. Also the formulation is evaluated for its in vitro antioxidant activity by DPPH assay Present study provides quality control standards as per pharmacopoeial monograph for the better utility and safe use of this formulation. It was found that preparation of Kumaryasava with minimum selective ingredients has shown improved antioxidant activity and it will be cost effective at industrial level.

Key words: Aloe Vera, Kumaryasva, Asava and Arishta, DPPH, Antioxidant

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ICIPMBS/2020/46

Review on Alternative therapy for respiratory syndrome coronavirus infection

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Abstract

Currently, the expansion of the novel human respiratory coronavirus (known as SARS-CoV-2 [severe acute respiratory syndrome coronavirus 2], COVID-2019[coronavirus disease 2019], and MERS) hasstressed the need for therapeutic alternatives to alleviate and stop this newepidemic.More than 300 Indian medicinal herb extracts were studies for antiviral activities against. A web and manual based literature survey were conducted to assess the amount of information available on the herbal products for anti-corona viral herbal agents or any alternative approaches. Traditional literature, PubMed, Scopus, Google scholar databases were screened up to march2020. The search words were "SARS-CoV-2", "herbalmedicine/products/extracts", "medicinal plants", "traditional medicine", "Ayurvedic medicine" and alternative therapy without narrowing/limiting searching words or elements. Publications only with abstracts/full articles and books were reviewed in the search. Based on the available literature, for many of the herbal and antiviralagents, The novel coronavirus uses the same receptor, angiotensin-converting enzyme 2 (ACE2) as that for SARS-CoV, and mainly spreads through the respiratory tract there is little published information and there have been no clinical trials or the level of evidence is limited. Our literature survey also indicated that these herbal substances fall under an acceptable level of evidence or with no scientific background at all, or they have a scientific rational but not to an acceptance level.The clinical symptoms of COVID-19 patients include fever, cough, fatigue, and a small population of patients appeared gastrointestinal infection symptoms. The elderly and people with underlying diseases are susceptible to infection and prone to serious outcomes, which may be associated with acute respiratory distress syndrome (ARDS) and cytokine storm and alternative therapy not only improve immune system of human body but also help to suppress symptoms associate with viral infection

Keyword: SARS-CoV-2, herbal treatment, antiviral agents,COVID-19,phytochemicals

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ICIPMBS/2020/47

Development and evaluation of silver nanoparticle incorporated herbal antimicrobial ointment

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Abstract

Propose: Silver based topical dressings are mostly use in the treatment of burns and open wounds. As the pathogenic organisms are getting resistance to existing medicines. Nowadays researchers are focussing a novel drug delivery system against this pathogen.as we know that nanoparticle is much smaller than that of most of the pathogenic organisms so silver nanoparticle could have better antimicrobial activity. The purpose of the current research is that to develop and evaluate anti-microbial activity of the silver nano particle incorporated herbal ointments. The present study included the bio-reduction of silver ions through medicinal plants extract and formulation of silver nano antimicrobial ointment.

Method:plant mediated eco-friendly method is used to synthesis the silver nanoparticle. The aqueous silver ions exposed to the aqueous extracts of *Chromolaena odarata(CO)* for the synthesis of silver nanoparticle. The green synthesised silver nanoparticles were further characterized by using UV-VIS spectroscopy.XRD, FTIR and Zeta potential**.** The optimized green synthesized AgNPs were incorporated to two different ointment bases .The formulations was evaluated for various physico-chemical studies such as colour and odour, pH ,extrudability, microbiological study and stability analysis. The antimicrobial activity of the synthesized nanoparticles and the standard was analysed using disc diffusion method.

Results :The physico-chemical parameters are within the acceptable range. Synthesized nanoparticles showed antibacterial activity comparable to the standard used against the two bacteria (*E Coli* and *Staphylococcus epidermidis*). The zone of inhibition of AgNP was observed and was found to be comparable against both the bacteria. That may be due to combined effect of plant extract as well as Nano sized Ag. They showed significant antimicrobial strengths to that of the commercial antibiotic. The current study concluded that green synthesised silver nanoparticles incorporated herbal ointment have significant antimicrobial activity against different microorganisms such as both gram negative and positive bacteria.

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ICIPMBS/2020/48

Anti-tumor and apoptosis studies of plant extract derived from *Cynanchum-callialatum Ham. Ex Wight* in breast cancer cell lines and *in vivo* animal models

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Abstract

Cynanchum is a genus of about 300 species including some small climbers; Herbs twining to 4 m. Stems pubescent along 1 side , belongs to the family Asclepiadaceae (Milk weed family). Antiproliferative, apoptosis induction studies, anti-inflammatory studies and invivo anticancer studies has been studied by various methods and models with CCEE. The *Cynanchumcallialatum*ethyl acetate extracts (CCEE) showed potential cyctoxicity against MCF-7 cell lines. The results showed that MCF-7 cell proliferation was significantly inhibited by CCEE with the IC50 value 300 µg/ml. The standard drug doxorubicin with the IC50 value of 2.38 µg/ml.The effect CCEE on cell cycle was studied using flow cytometry in MCF-7 cell lines. The percentage of cell in various phases like G0/G1,S and G2/M phase of the cell were calculated. The results shows that the CCEE inhibited cells in the G0/G1 phase in the MCF-7 cells. Doxorubicin arrested the G2/M phase of the cell in MCF-7 cells. Apoptotic changes in cells may be studied using AO/EB fluorescent staining. The apoptotic effect of CCEE was studied in MCF-7cell lines and the percentage of apoptotic cells were calculated.The levels of p-53, phospho-p53, Bad, phospho-Bad ,cleaved caspase 3 and cleaved PARP in MCF-7cell lines were studied by ELISA method. There was a slight decrease in p53 in doxorubicin. The markers were significantly increased by all the treatments when compared to the normal control cells. Lifespan of ascites tumor bearing animals induced by EAC cells was found to be increased by CCEE in 200mg/kg and 400mg/kg treatment. In CCEE 400mg/kg group there was a significant increase in lifespan ($p<0.001$) of 72.38%compared to EAC control. Similar findings was reported in DLA solid tumor model. Therefore, the effect of PCEE on the inhibition of IL-1β and TNF-α was investigated. The IL-1β and TNF-α levels in supernatants of cells treated with CCEE were significantly decreased compared with the LPS group, in a dose-dependent manner. Our research indicates that these this plants possess anticancer and anti-inflammatory activities which may be due to the presence of active phytoconstituents flavonoids and phenolic compounds. It can be concluded that the plant extracts may be a source of new compounds for anticancer and anti-inflammatory.

Keywords:*Cynanchumcallialatum*,Anticancer, apoptosis induction studies.

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ICIPMBS/2020/49

Investigation of the Effect of Agomelatine on Cellular and Humoral Immunity in Mice

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Abstract

Agomelatine has primarily been described as an antidepressant drug in laborartory animals. In the present study Agomelatine showed an overall stimulatory effect on the specific as well as non-specific immune functions in mice. Stimulatory effects were observed at 25 mg/kg. Administration of *Agomelatine*in humans is simple as it is readily available as dosage form. Its reported immunomodulatory effects warrant further investigation for its use in the cases of clinical immunostimulation.The present result suggests that*Agomelatine* may stimulate both the cellular and humoral immunity. Further experimentation is needed in order to understand the precise mechanism of action for the stimulatory effect of the drug. Effects were evaluated at different doses of 1, 5 and 25mg/kg using various parameters like effect on hematological parameters. And the results were further utilized to evaluate the activity on the cellular and humoral branches of immunity.

Keywords: Agomelatine; Cellular Immunity; Humoral Immunity

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ICIPMBS/2020/50

Heterocyclic and Pharmacophoric Fragment Based Anticancer Drug Development

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Abstract

Cancer has scrolled up to the second position and has become the leading cause of deaths worldwide responsible for 9.6 million of deaths in 2018 across the globe. Cancer is the uncontrolled cell growth which starts as a benign tumour and spread towards causing malignancy. Colon cancer is the cancer of alimentary canal that starts with the development of abnormal projection of tissue or mucous membrane surrounding the inner lining of the colon and rectum called as polyps. These polyps may be malignant or benign and over time can develop into cancers, which further invade to inner layers resulting in cancerous lesions. The designed methodology is proposed for the design and synthesis to of anti-cancer agents to target colon cancer with the help of heterocyclic fragments to design a clubbed pharmacophoric lead molecule. The two heterocycles reported for anti-cancer activity: thioquinazolinone and benzothiazole were clubbed together to form a new lead molecule which were decorated with different substituents. The designed set of molecules were virtually screened for drug-like properties, toxicity and docking. The synthesized compounds were tested for pharmacological activity with cell viability testing assay with Trypan Blue Exclusion method against Colon Cancer HT29 cell lines of which the compounds P2, P3 and P4 showed highest inhibitory activity compared to others and standard ant-cancer drug. Thus, the study involves design and development of ligands targeting colon cancer parallel with in-silico computational approaches to tackle cancer with fragment-based drug design methodology which gave a rational way towards drug design and development with promising results.

Keywords:

Fragment-based drug design, anti-cancer, in-silico methods, CADD, colon cancer

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ICIPMBS/2020/51

Role of Bioenhancers in Drug Discovery

Neha Pathak

Abstract

Bioenhancers are such agents, which by themselves are not therapeutic entities but when combined with an active drug lead to the potentiation of the pharmacologic effect of the drug. They act through several mechanisms which may affect mainly drug metabolism, absorption process, or action on drug target. The need for bioenhancers arises due to drugs which are poorly available, administered for long periods, toxic and expensive. Bioenhancers can be herbal and animal origin. Herbal bioenhancers have been shown to enhance bio-availability and bio-efficiency of different class of drugs such as anti-tubercular drugs, antibiotics, antiviral, antifungal and anticancer drugs. The various bioenhancers available are piperine, garlic, *Carumcarvi, Cuminumcynimum,* lysergol, naringin, quercetin, niaziridin, glycyrrhizin, stevia, cow urine distillate ginger. Out of these, *Cuminumcynimum* and niaziridin are the potential bioenhancers of future. Therefore, the need of the hour is to carry out extensive research on these bioenhancers so that they could be utilised in the drug formulations.

Key Words: Bioenhancers,Herbal bioenhancers, Bioavailability, Bio-efficiency, Drug Formulations,

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ICIPMBS/2020/52

Corona V/S Immunity

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Abstract

As coronavirus or COVID-19 is declared as a global pandemic by the World Health Organization (WHO) and while the countries are fighting with following hazards that this virus poses to humanity, there are few key measures that individuals can take to confront this pandemic. While it is crucial to mention hygiene measures like washing your hands periodically, especially if you have travelled by public transport. Using an alcohol sanitizer, in case you are traveling to sanitize your hands, wearing a mask (cover your nose and mouth) and avoiding touching your hand or mouth. The current COVID-19 pandemic is an unprecedented challenge for the Government and the general public. Doctors and researchers are desperately seeking a proven cure for it. When conventional drugs such as lopinavir, ritonavir, chloroquine, and hydroxychloroquine are not as effective as expected, screening potential active components from traditional herbal medicine is a viable strategy that should not be dismissed. Given the impressive morbidity and mortality of COVID-19, it is obvious to see emergency use of unproven drugs, but the approval of a new indication for herbal drugs without sufficient scientific data should be alerted against. There are certain methods to improve our immunity which is supreme at this position. This review article examines 5 popular herbal immune drugs that improve our immunity on the basis of sufficient scientific data, which are vitamin C, vitamin D, zinc, elderberry, turmeric, and garlic. Apart from maintaining a healthy lifestyle and taking supplements, several organic and natural ways to practice as defensive measures to fight COVID-19. While the struggle against the COVID -19 pandemic is fought by our health care workers, we can do our bit by defining our exposure to the virus by staying inside, social distancing, eating healthy, hydrating, and following basic hygiene rules.

Key words: COVID-19, Sanitizer, Virus, Pandemic, Immunity, Herbal medicines.

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ICIPMBS/2020/53

Battel against COVID-19

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Abstract

A new Coronavirus strain, named SARS-CoV-2, suddenly emerged in early December 2019. SARS-CoV-2 resulted in being dramatically infectious, usually transmitted by airborne droplets to the nasal mucosa, with thousands of people infected. Virus replicates locally in cells of the ciliated epithelium, causing cell damage and inflammation. Coronaviruses are classified as a family within the Nidovirales order, viruses that replicate using a nested set of mRNAs ("nido-" for "nest"). The coronavirus subfamily is further classified into four genera: alpha, beta, gamma, and delta coronaviruses. The human coronaviruses (HCoVs) are in two of these genera: alpha coronaviruses and beta coronaviruses (E.g MERS-CoV, SARS-CoV etc).

Keywords: Covid 19 , people's , SARA cov 2 , disease

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ICIPMBS/2020/54

Role of Pharmacy Professionals in Covid-19 Crisis

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Abstract:
As the lockdowns are being observed all over the globe and the national level pharmacy professionals are performing frontline roles, this editorial highlights the role of pharmacists in the COVID −19 pandemic. Pharmacists globally are providing services amidst pandemic, including TRIAGE services, seeing patients and reducing the patients' burden on health care facilities such as hospitals and GP practices. Pharmacists are also working to providing home deliveries, as well as dealing with the increasing number of patients coming through to pharmacies with the other ailments. Pharmacists also have a crucial system-level role in planning and leading medication safety programs and improvement initiatives within health care organizations. These initiatives may include developing risk-specific protocols for high-alert medications; identifying and evaluating high-risk processes (e.g., total parenteral nutrition, compounding, pediatric dose preparation) that require special attention, protocols, and training; evaluating medication error data; evaluating and implementing new medication technologies; and fostering robust error reporting processes. Clinical trials are another area in which pharmacist leadership in designing safe protocols is critical; as there are fewer standardized safeguards in place to ensure correct medications and doses are delivered to patients. Pharmacists have a central role in ensuring medication safety across the continuum of care. The complexity of the medication prescribing and delivery processes can make it difficult to prove the beneficial effect of pharmacists on adverse outcomes directly, but pharmacist involvement has been shown to reduce errors, improve prescribing practices, and enhance patient monitoring across settings. For example, a cluster-randomized trial of pharmacist involvement in medication management planning on hospital admission showed a dramatic reduction in medication errors within the first 24 hours of hospitalization.

Keywords- Role of pharmacist, Covid-19, Pandemic, Clinical trial, Medications.

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ICIPMBS/2020/55

Intradermal Anti-Rabies Vaccine-The New Armament

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Abstract:

Rabies is acute viral encephalitis produced by an RNA virus belong to Family of Rhabdoviridae. The genus name of this virus arises from Lyssa, the Greek goddess of frenzy. This virus is bullet in shape and seen through only the electron microscopy. It is a zoonotic disease that affects all mammals and is endemic in India around 17 million animal bite cases are estimated and 20,000 human deaths occur due to rabies every year in India and also be kill 59,000 peoples in countries of Africa and Asia in each year. Earlier in India, nervous tissue vaccines (NTV) were most commonly used for treatment of rabies but this was replaced by modern, safe and effective cell culture vaccines (CCVs), because of inherent neuroparalytic side effects of NTV. Still, the role of rabies virus specific cell mediated immune antigen encounter during viral infections, the naive CD4 T cells may either separate into a type 1 cytokine making Th1 cells or type 2 cytokine producing Th2 cells, interleukin (IL)-17 secreting Th17 cells or follicular helper T (TFH) cells responses are not yet visibly understood and may play an important role in clearing the virus from the CNS. The disease of rabies is 100% fatal at the same time or 100% preventable if managed correctly and timely. Although, Rabies vaccines typically injected intramuscularly but nowadays it is administered by intradermal (ID) route. WHO encourages the use of intradermal administration of modern cell culture rabies vaccines (>2.5IU per intramuscular dose) for PEP that suggest a likewise same quality, safety and efficacy specifications as vaccines for intramuscular (IM) use. Intradermal vaccination decreases the volume (60-80%) of vaccine, is less costly and has probable to lessen vaccine shortages which involves only 1–2 vials of vaccine to complete a full course of PEP. Thus, the certain types of purified Chick Embryo Cell Vaccine (PCECV), Rabipur®/RabAvert®, Novartis Vaccines and Diagnostics is acceptable and registered for pre and post-exposure prophylaxis, also administered by intradermal or intramuscular route.

Keywords: Rabies, Lyssa, Nervous Tissue Vaccine, Neuroparalytic, Virus, Intradermal and Intramuscular Route, WHO, Pre and Post Exposure Prophylaxis.

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ICIPMBS/2020/56

An Overview of Biomarkers for Drug-Induced Toxicity

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Abstract

Minimizing toxicity remains one of the major barriers to bringing a drug to market. Approximately 91% of all developed compounds fail because of adverse or toxic effects of the candidate during clinical development. In addition, drug induced kidney injury, especially of patients in intensive care units, is very often a cause of Acute Kidney Injury. The need for diagnostic tools to identify drug-induced toxicity has been emphasized by the ICH regulated agencies. This has lead to multiple national and international projects focusing on the identification of novel biomarkers to enhance drug development. Several parameters related to cellular toxicity are known and have been used for several decades like serum creatinine, body weight, superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx), glutathione (GSH), glutathione disulfide (GSSG), nicotinamide adenine dinucleotide phosphate (NADPH) and malondialdehyde (MDA). These biomarkers were mainly identified and qualified in rat but also for humans, several biomarkers have been described and now have to be validated. This review will give an overview of traditional and novel tools for the detection of drug induced cellular damage.

Key Words: Toxicogenomics, Adverse drug reaction, Drug induced toxicity.

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ICIPMBS/2020/57

Synthesis and Antimalarial Evaluation of Arylidene Derivatives of Quinolinylthiazolidin - one as Lactate Dehydrogenase Inhibitors

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Abstract

Quinoline based thiazolidinone derivatives, **5 a-r,** were synthesized in multistep reactions in significant yield. The progression of reactions were monitored by TLC and further structures were elucidated by spectroscopic methods like IR, NMR, MS and also by elemental analysis. The series was firstly evaluated by Schizont Maturation essay for *in vitro* antimalarial potential, out of which top five active compounds were screened for *in vivo* antiparasitic action by 4-day suppression test. During *in vivo* evaluation, **5g** exhibited significant suppression of parasitemia at a dose of 200 mg/kg in *P. berghei* infected mice. Further *in silico* molecular docking simulation were performed to check the binding of compound **5g** to the active site of *Plasmodium falciparum* Lactate dehydrogenase receptor.

Keywords: Antimalarial, Thiazolidinone, Quinoline, Lactate Dehydrogenase, Molecular Docking

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ICIPMBS/2020/58

Apigenin: Health Promoting Bioactive Compound

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Abstract

Plants are containing several bioactive compounds which play a vital role in preventing a wide range of diseases. Apigenine is one of the most renowned secondary metabolite with countless nutritional and organoleptic characteristics, belonging to the glycoside of flavone class. It is chemically identified as 4',5,7-trihydroxyflavone, yellow crystalline powder which is insoluble in water but soluble in organic solvents. It is found in common fruits and vegetables such as apple, parsley, celery, rosemary, oregano, thyme, basil, coriander, chamomile, clove, lemon balm, artichokes and spinach. Various pharmacological activity of apigenin has been reported such as antibacterial, antiviral, anticancer, anti-hyperglycemic and protective effects in hypertension etc. The major interest of apigenin is related to its anti-inflammatory effect due to inhibiting the expression of inflammatory mediators and Activator protein-1 factors involved in inflammation. Apigenine has been reported as good antioxidant due to scavenges the free radicals ions and also enhance the expression of antioxidant enzymes such as GSH synthase, catalase and Superoxide dismutase enzyme. Apigenine is good health promoting nutraceutical flavonoid with lots of pharmacological benefits; further studies need to be performed to re-evaluate its biological functions and roles.

Key words: Apigenin, Flavone, Nutraceutical, Antioxidant, Anti-inflammatory

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ICIPMBS/2020/59

Phytochemical and Pharmacological Evaluation of the Root Part of *Cassia Uniflora Mill*

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Abstract

The Medicinal plants play an important role for the treatment of inflammation in human. The herbal medicinal products represent a fast growth area of health care product for both human and companion animals; their use in humans appears to predate recorded history. Qualitative phytochemical analysis of this plant confirms the presence of various photochemical compounds like alkaloids, flavonoids, quinines, saponins, sterols, terpenoids, tri terpenoids etc in ethanol, pet ether and aqueous extracts carried out by extraction method. This abstract represents the profiles of plants with anti-inflammatory and analgesic properties. Hence, in the present study pet ether, ethanolic and aqueous extracts of cassia uniflora mill was studied for their anti-inflammatory activity using carrageenan induced paw edema and for analgesic activity, eddy hot plate method is used. The anti inflammatory and analgesic activity of the above three extracts was studied by using these two method. Ethanol and Pet ether extracts have good anti inflammatory activity against carrageenam induced paw edema in rat but aqueous extract was more effective than Pet.ether and ethanolic extract Same as for analgesic activity all three extract having analgesic activity but aqueous fraction has more analgesic activity in camparision of Pet ether and ethanol extract . In conclusion every that this plant extracts possess anti-anti inflammatory and analgesic properties and lead to the isolation of novel compounds.

Keywords: Cassia Uniflora, Extraction, Phytochemical, Screening, Edema Carrageenan

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ICIPMBS/2020/60

A Review on: Herbal Mosquito Repellent

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Abstract

Mosquito is a common flying insect that is found around the world having about 3,500 species. Mosquitoes spread dengue, malaria, yellow fever, filarial and other diseases. Mosquito repellents play a key role in prevention of mosquito bite. Different types of mosquito repellents such as synthetic compounds, herbs, aromatic oils are used against mosquitoes. Chemical mosquito repellents have extraordinary protection profile, but are noxious as compared to the plant based mosquito repellents.Mainly DEET (N,N-Diethyl-3methyl benzamide) is the most widely used chemical mosquito repellent. DEET gives faster action but is hazardous.Instead of using DEET which is fully chemically based, one can utilize aromatic essential oils for keeping mosquitoes away. Aromatic essential oils provide health benefits. Essential oils obtained from lavender, basil, pine, peppermint, lemon grass, lemon, eucalyptus, thyme, tea tree, camphor,neem, etc, have mosquito repellent property, also promote health benefits. Natural repellents are found to be safe and better for the skin. Plant based repellents are chemical free and have many advantages over the chemical based repellents. Varieties of plant based mosquito repellents are available in the market. As well as, one can easily prepare mosquito repellent formulations with the natural ingredients available at home. Ingredients like garlic, neem, cloves, camphor, cinnamon, bay leaves, lavender are easily available at home, which are utilized to prepare mosquito repellents which are totally safe and effective and are chemical free. The home made formulations are found to be effective as well as promote a good safety profile.

Keywords: Chemical mosquito repellent, Natural mosquito repellent, mosquitoes, formulation, essential oils.

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ICIPMBS/2020/61

A Comparative *In-Vitro* Study for Evaluation of Different Marketed Brands of Metformin Hydrochloride (500 Mg) Tablets

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Abstract

Metformin hydrochloride is an first line anti-diabetic drug used for the treatment of type II diabetes mellitus especially in obese patients. Various brands of metformin are available in the market which makes it challenging to select, effective and economic one. The aim of the present research work was designed to examine, compare and evaluate the different marketed brands of metformin tablets for their performance. Four brands of metformin tablets (500 mg) were selected and evaluated comparatively for their physical and chemical parameters as per official method. The physicochemical equivalence of all brands of metformin hydrochloride tablets were determined through the evaluation of official standards according to the Indian Pharmacopoeia including uniformity of weight, friability, hardness, disintegration time, dissolution profile and drug content. Weight variation and friability test of all brands was within the specified limit. Disintegration time for all brands was within 15 minutes prescribed by official compendium. All the four brands of Metformin hydrochloride tablets fulfilled the official in – vitro dissolution rate test specification more than 70 % of the drug is released within 30 minutes. UV analysis of different sample shows that the percentage content of active ingredients of four brands of metformin hydrochloride tablets was within the monograph specification (95 – 105 %). All the four brands of metformin hydrochloride tablets taken for comparative evaluation gives different result from each other but meet the I.P. specification for quality control analysis. The result indicated that all the selected brand fulfilled the required specification and thus if one brand is not available in the market then any of the other brands can be used freely as a substitute of that unavailable brand.

Keywords: Metformin hydrochloride, In–vitro study, Physicochemical equivalency, dissolution rate, comparative evaluation

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ICIPMBS/2020/62

A Review on Corona Virus Disease - 2019

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Abstract

In late December 2019, Chinese health authorities reported an outbreak of pneumonia of unknown origin in Wuhan, Hubei Province. Later it was detected and named as Covid-19 that occurred due to a newly found strain of Coronavirus and declared as global pandemic by WHO on 11th February 2020 . The outbreak of Coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome (SARS) coronavirus 2 (SARS-CoV-2), has killedapprox 371857 peoples so far in all over the world, resulting in catastrophe for humans.Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered coronavirus causes coronavirus disease COVID-19 common symptoms of which are fever, dry cough, and tiredness. Other symptoms that are less common and may affect some patients include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell or a rash on skin or discoloration of fingers or toes. These symptoms are usually mild and begin gradually. Some people become infected but only have very mild symptoms.In response to the rapidly increasing number of emerging infected peoples due to theCovid-19, this article attempts to provide a timely and comprehensive review of the swiftly developing research which subject to make people more aware along with providing some precautions that may help them to remain safe.

Keywords: Coronavirus, Covid-19, Middle East Respiratory Syndrome, Severe Acute Respiratory Syndrome.

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ICIPMBS/2020/63

Evalution of Analgesic, Antipyretic and Anti-inflammatory Activities of the Leaves Extract of *Militaria heterophylla* (Lour.) Cogn.

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Abstract

The leaves of *Melothria heterophylla* (Lour.) was traditional use in Mizoram. The biological evaluation and validation of this leaves extractshowsan anti-inflammatory, analgesic, and antipyretic activities. The alcoholic extract such as methanolic leaves extract of *Melothria heterophylla* (MMH) was evaluated for its anti-inflammatory, analgesic and antipyretic potential and for acute toxicity in animal models at different doses at a time interval. The leaves of *Melothria heterophylla* has been found to be safe up to a dose of 3 g/kg when administered orally to the mice. *Melothria heterophylla* exhibited a significant acute anti-inflammatory effect in the carrageenan-induced rat paw edema test. A significant analgesic effect has been observed in rats when tested by chemical as well as thermal methods using tail flick method, hot plate method and acetic acid-induced writhing test. *Melothria heterophylla is* also exhibited antipyretic activity in diptheria, tetanus and pertussis (DPT) vaccine - induced pyrexia model and yeast- induced pyrexia model. Pharmacological activities of plant were observed and provide the scientific basis for the folkloric use of the plant in treating inflammation, fever, and pain. The current results proved that the leaves of*Melothria heterophylla* (Lour.) Cogn traditionally used and having a good potential activity such as anti-inflammatory, analgesic, and antipyretic activities.

Keywords: Biological Validation, pyrexia model, Analgesic, Antipyretic, Toxicity, Acid – induced writhing test, Cucurbitaceae.

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ICIPMBS/2020/64

Present Scenario on Vaccines And Treatments for Covid-19

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Abstract

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow). At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments. Scientists around the world are working on potential treatments and vaccines for the new corona virus disease known as COVID-19. Several companies are working on antiviral drugs, some of which are already in use against other illnesses, to treat people who already have COVID-19. Other companies are working on vaccines that could be used as a preventive measure against the disease.

Key words: Covid-19, vaccines, clinical trial, anti-viral, prevention.

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Synthesis, Evaluation and QSAR Study of Substituted 1, 2, 4 Triazole Nucleus: A Review

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Abstract

Heterocyclic chemistry has now become a separate field of chemistry with long history, present society and future prospects. Synthesis of new chemical entities is major bottleneck in drug discovery. The earliest compounds known to mankind were of heterocyclic origin. Life, like ours, is totally dependent on the heterocyclic compounds heterocyclic chemistry delivers reagents and synthetic methods of its own traditional activity in synthesis of drugs, pesticides and detergents as well as into the related fields such as biochemistry, polymers and material sciences Five-membered nitrogen heterocycle compounds are important structural fragments and considered as biologically active compounds ,corrosion inhibitors , pesticides , dyes , acid-base indicator , and other industrial chemicals. This review article covers the latest information over active triazole derivatives having different pharmacological action such as, antiviral, anticonvulsant, anti-inflammatory, antibacterial, antifungal and antituberculosis anxiolytics, anti-convulsants, antimigraine, antihistaminics, CNS stimulants It can act as an important tool for medicinal chemists to develop newer compounds possessing triazole moiety that could be better agents in terms of efficacy and safety. QSAR relies on the basic assumption that molecules with similar physicochemical properties or structures. QSAR is a statistical model that relates a set of structural descriptor of a chemical compound to its biological compound. QSAR studies predict the biological activity, physiochemical properties of the molecules and explain the target of the molecules, which part of synthesized molecule is responsible for the activity. Prediction could reduce the requirement for lengthy and expensive animal tests QSAR study is use full for the large amount of biological target information is the available in the microbiology. Automation of chemical synthesis and pharmacological screening has also provided a vast amount of experimental data.

Key word: Antifungal ,QSAR, Antibacterial activity. Einhorn–Brunner reaction Dimroth Reaction . Pellizzari Reaction.

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ICIPMBS/2020/66

Nanoparticles as Carriers for Drug Delivery in Cancer

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Abstract

Cancer nanoparticles are swiftly progressing and are being applied to solve several limitation of conventional drug delivery system such as non-specific biodistribution and targeting, lack of water solubility and poor oral bioavailability. Advances in protein engineering and materials science have contributed to novel nanoscale targeting approaches that may bring new hope to cancer patients. Several therapeutic nanocarries have been approved for clinical use. Nanoparticles have been designed for optimal size and surface characteristic to improve their biodistribution and to increase their circulation time in the bloodstream. By selectively using the unique pathophysiology of tumours , such as their enhanced permeability and retention effect nanotherapeutics arew able to carry loaded active drug to cancer cells. In addition to this passive targeting mechanism, active targeting stratigies using ligards or antibodies directed against selected tumour targets magnify the specific of these therapeutic nanoparticles. Multifunctional nanoparticles are now being actively investigated and are on the horizon as the nexty generation of nanoparticles and tailored cancer treatment.

Keywords: Nanoparticles, biodistribution, nanocarries, bloodstream, ligards

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CIPMBS/2020/67

Pharmacovigilance Monitoring and Reporting of Adverse Drug Reactions In Community Pharmacy

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Abstract

Pharmacovigilance is one of the priority programs of World Health Organisation(WHO),aims at detection,assessment,prevention of Adverse Drug Reactions of Drugs in post marketing scenario.In India under National Pharmacovigilance program initiated by Central Drug Standard Control Organisation (CDSCO) and Indian Pharmacopoeia Commission (IPC) functioning as National Coordination Centre (NCC) under which various Zonal,Regional, and Peripheral Pharmacovigilance centres (ZPC,RPC,PPC) along with Adverse Monitoring Centres (AMC) are engaged in Pharmacovigilance program of Adverse Drug Reactions reporting process.Still Adverse Drug Reactions reporting percentage in India is very less as compared to European countries due to various reasons. To bridge the gap between Pharmacovigilance Centres and the patients facing various adverse drug reactions going unreported ,the Community Pharmacist is primary Health Care Professional who can play a vital role in this process.It is very important to evaluate and increase the Knowledge,Awareness, Attitude Practice (KAP) among Community Pharmacist regarding expected ADR reporting standard operating procedures. Every district should have atleast one Peripheral Pharmacovigilance Centre monitored by Food and Drug Administration and every Community Pharmacy should be provided Adverse Drug Reporting forms for reporting which could be submitted monthly to PPC. All State Pharmacy Councils, conducting various refresher courses for Pharmacist like Patient Counseling Courses, Drug information activities should conduct seminars, workshops on Adverse Drug Reactions Reporting Procedures and use of PVPI software for ADR online reporting. India is a country with very large population consuming big percentage of medicines, Pharmacist along with upgradation of his dispensing pharmacy by providing cognitive pharmaceutical services should necessarily provide services in Pharmacovigilance process for Drug Safety use and Excellent Patient Care

Key Words: Pharmacovigilance, Adverse Drug Reactions, Community Pharmacist, World Health Organisation, Health Care Professional, CDSCO, KAP

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ICIPMBS/2020/68

Hyaluronic Acid Anchored Nanoparticles for Multifunctional Delivery of Anticancer siRNA

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Abstract

The objective of the present study was to synthesize multifunctional nanoparticles of small interfering RNA (siRNA) loaded thiolated Hyaluronic acid–Polyethyleneglycol–Polycaprolactone (HA–PEG–PCL) co-polymer for breast cancer targeting. Targeting efficiency of thiolated HA–PEG–PCL nanoparticles was compared with non thiolated HA-PEG-PCL nanoparticles. The copolymers were chemically synthesized and characterized by IR and NMR spectroscopies. The nanoparticles were characterized for shape and morphology by Atomic Force Microscopy (AFM), particle size, percentage of drug entrapment, and in vitro drug release profile.An increasing in particle size could be observed with increasing the polymer concentration from 10 to 20 mg. While increasing the siRNA concentration (10-20 µl)), the particle size increased from 422.7±0.5 to 521.7±0.8 nm, and the drug encapsulation efficiency of NPs reduced (73.3±1.6% to 53.3 ± 1.3%). The data obtained from particle size it can be determined that, the larger size of particle having smaller surface area and do not have competence to loaded large amount of drug. The amount of siRNA released studies showed at different pH initially burst release during followed by sustained release over 120 hr. The cumulative percent of siRNA release was about found to be 43.3 ± 3.4% and 73.7 ±3.8% respectively for thiolated siRNA-HA-PEG-PCL and non thiolated siRNA-HA-PEG-PCL NPs in 120**.** While 73, 62 and 54% of siRNA was released from thiolated siRNA-HA-PEG-PCL within the 120 hours at pH 4.5, 5.5, and 7.4, respectively; 43, 36, and 32% of siRNA was released from non thiolated siRNA-HA-PEG-PCL at 120 hour, siRNA release continued from both nanoparticles at pH 7.4 and 5.5, while siRNA was released completely at pH 4.5. These release profiles of siRNA presented that the release of siRNA from NPs was slow, sustained, and pH dependent, which was contributed to extending the efficacy of siRNA and rapidly releasing of siRNA by pH-change.

Keyword: Nanoparticles, Breast cancer, siRNA, Hyaluronic acid

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ICIPMBS/2020/69

Anesthetic Potential of Herbal Plants

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Abstract

Medicinal plants and herbs have been used since ancient times for relieving pain caused by disease, injury and surgery, some of them contributed to the development of modern anesthesia. Herbs show anesthetic activity due to presence of phytochemicals like phenols, linolool, terepenoidal principles etc. Chewing ***Piper betel (Piperaceae)*** leaves,are known to numb the mouth and dull the taste. The plain extracts from betel leaves showed both infiltration and surface anesthetic effects that were almost comparable to those of lidocaine. ***Spilanthes acmella (Asteraceae)***, is anherb growing throughout the tropics, is used for rheumatism, sore throat and toothache. Eating these leaves and flowers is known to cause numbnessto the tongue. Injections of 10% and 20% extracts produced 70% and 87% local anesthesia, respectively, while 2% lidocaine showed 97% local anesthesia. Fenchone a variety of monoterpenoids have been suggested to modulate the activity of voltage- and ligand-gated ion channel. Clove oil has been used for centuries to relieve toothaches and now studies show that it's basically as effective as benzocaine for topically numbing pain. Capsaicin is the chemical in peppers that makes them hot but when used topically, it causes body to release a chemical called Substance P. This is the chemical that carries pain messages from the nerves to the brain. In addition to capsaicin, cayenne also contains salicylates, the same compounds found in aspirin. These are some of the herbal plants having the anesthetic potential, there are more variety of plants yet to be discovered with the same potential. Herbal anesthesia can open a new path for minor surgeries to be done with minimal adverse effects.

Key words: Anesthesia, phytochemicals, herbal plants, lidocaine, potential

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ICIPMBS/2020/70

Formulation, Development and Characterization of Ethosomal Gel of Atorvastatin

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Abstract

The current study was conducted to develop vesicular ethosomal gel system for antihypertensive drug atorvastatin. Atorvastatin, a HMG-CoA reductase inhibitor used in the treatment of congestive heart failure (CHF). Atorvastatin was formulated in to ethosomal gel formulation to reduce the first pass metabolism and increase the systemic bioavailability. Ethosomes composed of phospholipids oya lecithin, ethanol and cholesterol were prepared by cold method followed by ultrasonication. The atorvastatin ethosomes were then characterized for their particle size, zeta potential followed by *invitro* drug release profile. The optimized ethosoml formulation was then incorporated in to gellinga gent, carbopol 934 to prepare ethosomal gel formulation. The ethosomal gel formulation was then subjected to physicochemical characterization, spreadibility and *invitro* drug release profile. The ethosomal gel formulation showed 15.69g.cm spreadibility and 98.13% *invitro* drug release with in 48 hours as compared to plan drug ethosomal formulation which shows 52.37 % in 48hours. Hence ethosomal gel delivery system provide a good design for topical delivery of drug with enhanced bioavailability and patient compliance.

Keywords: Ethosomes, Metabolism, Bioavailability, Spreadibility, Sonication.

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Formulation and Evaluation of Transdermal Patch of Glibenclamide

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Abstract

The purpose of the present investigation was to prepare Glibenclamide transdermal patches and to study the effect of different polymer combination and polymer ratios on physiochemical parameters including in-vitro drug release profile. Matrix type Glibenclamide transdermal patches were prepared using Chitosan and Hydroxy propyl methyl cellulose (HPMC) in different ratios. Dibutylphthalate was used as a plasticizer and oleic acid used as permeation enhancers which were prepared by solvent casting method. The prepared formulations were evaluated for various parameters like Thickness, Weight variation, Folding endurance, Moisture absorption, Moisture loss, Drug content, Drug permeation, Drug–polymer interactions. In-vitro drug release studies were performed by using Franz diffusion cells. Variations in drug release profile were observed among various formulations. The FT-IR studies revealed no interaction between drug and polymers. The present work also concentrates on comparision between the effect of hydrophillic and hydrophobic polymers on the physicochemical parameters of the transdermal patches.Keywords:Glibenclamide, ethyl cellulose, HPMC, Transdermal patches.

Keyword: Transermal Patch, Glibenclamide,

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ICIPMBS/2020/72

Formulation and Evaluation of Herbal Chocolate in the Treatment of hormonal imbalance

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Abstract

The objective of this study is to design and fabricate chocolate. It is also called as chocolate drug delivery. The essential target of this study was to formulate and evaluate natural nutritious chocolate containing women hormonal imbalance that will have the additional work in infertility, ovulation, menopause, and pcos.present study was to make to get ready chocolate plan of Vitex agnus-castus and holy basil which enhance the ovulation, hormonal function and also used in stress and insulin management. Chocolate is a range of products derived from cocoa (cacao), mixed with fat and finely powdered coconut sugar to produce a solid confectionery The medicated chocolate formulation is widely used for hormonal imbalance and increases patient compliance. The prepared chocolate formulations were evaluated for general appearance, drug content, *In vitro* drug release and DSC and FTIR, moisture content and blooming tests and also shows good drug release properties within 60 min.

Keywords: Hormonal imbalance, infertility, ovulation, menopause, blooming tests

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ICIPMBS/2020/73

Toll on Global Mental Health during COVID-19 Pandemic: A Review

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Abstract

The era of COVID-19 will be etched in the fabric of history of human kind, this being a major curvature in the behavioural and social dynamics of humans. This zoonotic virus has disrupted the basic activities that were evolved through time that made us humans in the form we all recognise ourselves. This swaying has impacted the mental health in a negative manner irrespective of age, gender, social, economic, demographic and professional status. To plan and implement damage control and recovery itsfirst necessary to quantify the extent of damage. Various health organizations laid out recommendations to cope with humanity's largest psychological pressure yet – COVID-19. World Health Organization recommended protocols like Recent Traumatic Episode Protocol and Group Traumatic Episode Protocol (R-TEP & G-TEP respectively). Identification and quantification of Mental toll of this pandemic on approximately 2.6 Billionpeople; out which approximately1/3rd are in strict restrictions; is a detached task. Ministry of Health and Family Welfare (MoHFW) released an advisory, indicating activities and diet that may be helpful in regulating the mental state amongst the population. The advisory as well mentioned a helpline number to request assistance in dealing with any psychological stress. These clearly point towards the extent of effect this pandemic has made on people. Though human being -a social animal- has developed an ability to interact and connect with others virtually, the importance and role of physical interaction cannot be ignored but at the same time necessarily be avoided to contain the spread of the virus. Cases of child abuse, increased domestic violence and increased substance abuse are reported day in and out. Since COVID-19's exit is uncertain; branch of telemedicine i.e. Telepsychiatry should be the answer to regulate mental peace amongst population.

Keywords: Mental health, Psychological stress, COVID-19

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ICIPMBS/2020/74

Validated UV-Spectrophotometric Methods for Simultaneous Estimation of Rabeprazole and Ondansetron in Bulk Drug and Tablet Formulation

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Abstract

Three simple, accurate and precise spectrophotometric methods have been developed for simultaneous determination of Rabeprazole (RAB) and Ondansetron (OND) in a laboratory mixture. Simultaneous equation method (Method I) shows absorbance at 284.5 nm (λ1) and 307 nm (λ2) corresponding to the absorbance maxima of RAB and OND respectively. In absorbance ratio method (Method II) isobestic point is observed at 291 nm. Isobestic point 291 nm is considered as (λ1) and absorbance maxima of OND at 307 nm is considered as (λ2). In First order derivative zero crossing method (Method III) (λ1) 247nm (for RAB) and (λ2) 320.5 nm (for OND) was carried out. All dilutions were prepared in distilled water and methanol (50:50). Linearity range was observed in the concentration range of solution 2.5-12.5 µg/ml for RAB and 4-12 µg/ml for OND. The methods were validated statistically and recovery study was performed to confirm the accuracy of both drugs. The developed methods are simple, economic, accurate, precise and reproducible. They can be adopted for routine quality control analysis of these drugs in pharmaceutical combined dosage form.

Keywords: RAB, OND, Ultraviolet spectroscopy, Simultaneous equation method, Absorption ratio method, First order derivative zero crossing method.

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ICIPMBS/2020/75

Design, Development and Characterization of Chlorogenic acid solid lipid nanoparticles isolated from coffee on DMH-induced colorectal cancer

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Abstract

The present study was designed to investigate the effect of Chlorogenic acid solid lipid nanoparticles isolated from coffee on DMH-induced colon carcinogenesis in Wistar rats with respect to evaluate the antioxidant property. From coffee Chlorogenic acid extracted, separated by column chromatography and further characterized by Flash, NMR, LC-MS, HPLC and HPTLC. *In- vitro* anticancer activity of herbal nanoparticles carried out HCT 116 cell lines. Isolated Chlorogenic acid formulated into SLN's by using PVA, Chitosan and GMO with high pressure homogenizer method. Prepared nanoparticles were characterized by using particle size, zeta potential, DSC, XRD, IR and SEM. Our results showed that the encapsulation efficiency of nanoparticles was approximately 85% with in vitro drug release at 82.21% till 24 hr. The average size of chlorogenic acid loaded nanoparticles was found to be 186 nm; with zeta potential was 24.2 mV. This research tries to put formulation of herbal nanoparticles on colorectal cancer, consideration with toxicity or resistance of cisplatin in health. The protective effect of chitosan nanoparticles (at doses 80 and 100 mg/kg) on DMH induced hepatotoxicity was studied in albino Wistar rats.

Keywords: Chlorogenic acid, Chitosan**,** Herbal nanoparticles, colorectal cancer

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ICIPMBS/2020/76

In Vitro Alpha Glucosidase and Aldolase Reductase Inhibitory Activity of *holoptelea integrifolia*

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Abstract

Diabetes mellitus has been known as in India for centuries as a disease if rich man but now spread among all masses.it is a major public health problem currently affecting 284.6 million people worldwide and according to the latest international diabetes federation estimates it is expected to affect 438.4 million person by 2030 becoming one of the world's main disabler and killer. Inhibitory activity of Holoptelea Integrifolia was well known in the ayurvedic medicines. The % Yield of more fractions of selected plant parts is depicted were identified by different chemical tests, which showed the presence of various phytoconstituents in 50% Methanol, Chloroform, and purified water of H.Integrifolia. on the basis of the assay were identified the concentration of maltose generated during the starch **α**-amylase reaction by measure the absorbance at 570nm. At all of the absorbance measurement were assimilated it seemed most appropriate to calculate the data of inhibitory effects by. Correction the test of absorbances due to the presence of extracts.

Keywords: Holoptelea Integrifolia, Glucosidase, Inhibitory

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ICIPMBS/2020/77

Acute Toxicity Study on Reproductive Organ of Female Albino Rat Using Ethanol Extract of Different Herbal Plants

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Abstract

Most of the plant parts used in fertility regulation include leaves (27%), roots (25%), fruits (12%), seeds (12%), stem/stem bark (38%), and flowers (5%). Some active compounds, isolated from various plant species, have been reported to possess significant antifertility potential. Assessment of herbal products for antifertility effects has been in wide worldwide for several decades to identify effective and safe substances for control of population. Most of availability of internationally accepted guidelines for the assessment of reproductive toxicity/antifertility potential of test substances, many published articles, on critical review, seem to lack reproducibility and are thus likely to mislead both the scientific community and the general public. In recent days the herbal medicine uses are increase their trends in our entire developing countries. A garden plant in tropical countries has been used as a traditional medicine. The unconditional growth of the world's population stands as one of the several events of the modern time to think over. The current world population is around 6.46 billion and especially that of India is around 1.1 billion. One of the critical problems of the developing countries like in India is the geometrical increase in human population.

Keywords: Acute Toxicity, Fertility, Population

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ICIPMBS/2020/78

Pharmacological and Toxicological Effect of *Tephrosia vogelii* on Reproductive Organs of Female Albino Rat

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Abstract

Population explosion is a one of the most serious problem in developing countries like India. In India the population growth increased about 9.5 billion by the year 2050. The census of 2017 showed that the growth rate of population in India during the previous 10 years was about 1.13%. Annually around 17 million people are adding to our total population which leads an extra burden on the community.Population escaping has responsible for various harm and damage effects in life live resources on the earth. At present scenario various chemical methods are available for contraception but these methods are having several side effects. Thus fertility regulation is necessary for the exchange of life supporting resources as well as good reproductive life of both males and females. Herbal medicines have been used safe alternative of the chemical medicines. The evaluations of herbal plants have been in progress for several decades to identify and safe products for regulation of fertility.Various plant parts used in fertility regulation include leaves (25%), roots (22%), fruits (15%), seeds (12%), stem/stem bark (37%), and flowers (4%). Some active compounds, isolated from various plant species, have been reported to possess significant antifertility potential.

Keywords: Tephrosia Vogelli, Albino Rat, Reproductive Organ, Antifertility

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ICIPMBS/2020/79

Sustained Release Polyhedral Formulation and Antidiabetic Herbal Drugs: Novel Approaches for Management of Diabetes

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Abstract

Diabetes mellitus was known to ancient Indian physicians as 'madumeha'. Diabetes is defined as a state in which homeostasis of carbohydrate, protein and lipid metabolism is improperly regulated as a consequence of a relative or absolute deficiency of insulin secretion, resistance to insulin action or both at one or more points in the complex pathways of hormone action. Traditional Medicines derived from medicinal plants are used by about 60% of the world's population. Traditional plant-based medicines still exert great deal of importance to people living in developing countries and also serve as source to discovery of new drug candidates for a variety of diseases that threaten human health. In the last few years there has been an exponential growth in the field of herbal medicine and these drugs are gaining popularity both in developing and developed countries because of their natural origin and less side effects. There is an urgent need in scientifically establishing Sustained Release Polyhedral Formulation and Antidiabetic Herbal Drugs for the management of Diabetes, so that we are able to come up with a more effective and potent bioactive phytoconstituents or active fraction with fewer side effects in comparison with existing synthetic drugs.

Keywords: Diabetes mellitus, bioactive phytoconstituents, lipid metabolism, Sustained Release

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ICIPMBS/2020/80

Natural Products and Their Bioactive Compounds: A Role in Prevention and Management of Neurodegenerative Diseases

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Abstract

Cognitive dysfunction, a major health problem in 21st century one of the most functionally demoralizing aspect of many neuropsychiatric disorders and neurodegenerative disorder such as Schizophrenia, AD dementia, cerebrovascular impairment, head injury, and parkinsonism are characterized by the progressive dysfunction and loss of neuronal structure and function that resulted in the neuronal cell death. Memory is the process by which organisms are able to record their experiences and retain them over short or long periods of time and recall the same at a later time when needed. Memory plays a vital role in human life, as without it, one cannot lead a normal life. The process of memory formation involves the binding of neurotransmitter to the receptor (NMDA, AMPA) which triggers the cascade of molecular events including activation of CREB and PKc pathways, results in the formation of new proteins i.e. receptors and some structural proteins that cement the synaptic connection between two repeatedly communicating neurons which ultimately results in development of long term memory. Bioactive compounds like Flavonoids, tannins and other phenolic constituents from plant origin are potential antioxidants and they play an essential role in the prevention of neurodegenerative diseases, including Parkinson's and Alzheimer's diseases. Natural products have arisesd as potential neuroprotective agents for the treatment of neurodegenerative diseases.

Keywords: Cognitive dysfunction, Schizophrenia, Parkinsonism, Neurotransmitter

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ICIPMBS/2020/81

Current Scenario of Automation and Robotics in Pharmaceutical Technology

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Abstract

Pharmaceutical and industrial use of automation and robots has been growing and gaining varied applications in the pharmacy field. Pharmacy automation is the automation of tasks performed in pharmacy or other health care procedures. A number of task may be involved including measuring and mixing powders and liquids for compounding; counting small objects (e.g., tablets, capsules); tracking and updating customer information in databases (e.g., personally identifiable information, medical history, drug interaction risk detection); and inventory management etc. Automation is gaining use in pharmaceutical industries in drug screening, drug discovery, chemical synthesis, compound purification, data management, dosage form sample preparation, dissolution testing, bio-analytical technology, chemical analysis, solid phase extraction, validation, product formulation and combinatorial chemistry. Presently the structure evaluation is computer – automated, and its recognize structures of molecules, which is a linear coding routine of the molecules automatically and then further identifies, tabulates, which are substructures for the biological activity of molecules, statistically. Robots are capable of performing various tasks in laboratory, life science with higher accuracy and precision. Robots can function with the least exposure to the hazardous situations with relative less harm as compared with humans. Since the high number of samples that need analysis and the amount of data collection required, the process and costs are easily validated.

Key words: Robotic, automation and pharmaceutical industry

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Qualification of Autosampler Dissolution Test Apparatus Type I & Type II

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Abstract

Historically, the dissolution testing has been used primarily as a quality control (QC) test for solid oral drug products performance. Dissolution testing is a basic technique used as a qualitative test to provide the measurement of the bioavailability of a drug as well as to demonstrate bioequivalence from batch-to-batch. The bioavailability and bioequivalence data obtained as a result of dissolution testing can be used in the development of a new formulation and product development processes toward product optimization, as well as to ensure continuing product quality and performance of the manufacturing process. In addition, dissolution is a requirement for regulatory approval for product marketing and is a vital component of the overall quality control program. Dissolution testing is conducted using a dissolution apparatus that conforms to the specifications outlined in the United States Pharmacopeia. In order to have a high degree of assurance that the dissolution apparatus is consistent and accurate in its performance, validation is required. Validation is defined as documented evidence that provides a high degree of assurance that a specific instrument performs consistently according to manufacturer's specifications, user requirements meeting Good manufacturing practices (GMP) and Good laboratory practices (GLP). Validation is achieved by performing a series of validation activities; for a newly installed dissolution apparatus, validation is obtained through installation qualification (IQ), operational qualification (OQ) and performance qualification (PQ) through respective stages protocols. During different stages of qualification, it is ensured that dissolution tester was effectively installed, operated as per user manual & performed according to given programed operation as per feeding instructions. During performance qualification the calibration results of installed dissolution tester were obtained within limit. Various physical parameters were tested like Spirit level test, Rotation per minute test, Temperature of water bath & each jar, Timer, Wobbling test & in Chemical test performance verification test with Prednisone tablet.

Keywords: Qualification, Autosampler, Dissolution Apparatus.

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Wound Healing Potential of Transdermal Patches Containing Bioactive Fraction: A Novel Approach

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Abstract

Wound healing involves a complex interaction between cells, mediators, growth factors, and cytokines. The cascade of events starts with activation of the procoagulant pathway and recruitment of inflammatory cells and is followed by a phase of cellular proliferation and tissue repair/resolution of the injury. Many biocompatible biomaterials have been extensively investigated to deliver drugs into wound beds and to improve wound healing. Transdermal Drug Delivery System (TDDS) is the most innovative and Novel drug delivery systems by penetrating through the skin by increasing the scope of molecules that can be delivered. TDDS that traditionally uses a patch containing loaded drug substances pressed on to the skin is convenient, painless and non-invasive, to avoid gastro intestinal (GI) tract toxicity (peptic ulcer disease). Chronic wounds and infected wounds currently pose a significant burden worldwide. Drug delivery systems (DDS) in wound healing that release antimicrobial and anti-inflammatory drugs represent a great opportunity to prevent infections or enhance the effectiveness of current commercial drugs. Several phytoconstituents like alkaloids, flavonoids and tannins are known to promote wound healing process due to their antioxidant and antimicrobial activities. Hence the the transdermal patches containing alkaloid fraction, flavonoid fraction and tannin fraction of plant extracts may shows significant wound healing activity in experimentally induced excision and incision wound model.

Keywords: Wound, procoagulant pathway, Transdermal Drug Delivery System, antimicrobial.

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In Vitro Evaluation of the Anthelmintic Activity of *Bauhinia Purpurea* Leaves Extract

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Abstract

This paper reviews anthelmintic activity of *Bauhinia purpurea leaves* extract. The extract of Bauhinia purpurea leaf was isolated from water, methanol and chloroform. Albendazole, methanol, chloroform and water were used during experimental protocol Extraction of plant leaves are carried out by using soxhlet apparatus and aqueous extraction is done by using maceration technique .It was evaluated for anthelmintic activity on Earthworm .The result obtained from experimental data, showed significant anthelmintic activity against Earthworms. Screening of plant extract was performed for complete death and paralysis of worms. The result shows a dose dependent increase in activity of the extract at 5, 10 and 20 mg/ml concentration. Results were comparable along the standard drug albendazole. The Bauhinia purpurea leaf shows the potent anthelmintic activity and has good action on worms. By experimentation, it is concluded that it has potential to paralyze and kill the parasitic worm.

Keywords: Anthelmintic activity, Bauhinia purpurea, Parasite

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Polyherbal formulation: hair loss solution with fewer side effects

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Abstract

Hair loss is a dermatological condition or disorder. Hair loss is a great universal problem has affected both sexes of all races to different extents for as long as mankind has existed. Recent data shows hair loss trend Increased over the last 2 decades.Unlike many other areas of medicine, pharmacological treatments for alopecia are relatively new. There are only two treatments which are approved by the Food and Drug Administration (FDA); minoxidil and finasteride, the rest are drugs developed for other indications which have gained popular off-label use to promote hair growth. Therefore it is of great importance, to develop new therapies for the treatmentof hair loss.The traditional system of medicine in India acclaims a number of herbal drugs for hair growth promotion.Ayurveda has described hair diseases in three words: Khalitya means loss of hairs, Palitya means premature hair graying, Indralupta means Alopecia areata.Herbal cosmetics have burgeoning demand and in the world market and are an inestimable gift of nature. There are wide spans of herbal cosmetic products to satisfy beauty regime. The presence of number of phytochemicals and botanicals in the herbal products have dual stuff, one that they are used as cosmetics for body care and another that phytochemicals amend the biological functions of human body naturally results in healthy skin and hairs with less side effects. Present study was focussed on envisage formulating in-house polyherbal formulations using different herbs in varying ratios and formulations to evaluate for their hair growth initiating and hair growth promoting activity.

Key words: Hair loss, Polyherbal formulation, Minoxidil, Finasteride

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In-Vivo Anticancer Activity of Leaves Extract of *Madhuca longifolia*

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Abstract

This study was done to examine the anticancer activity of hydroalcoholic extract from the leaves of *Madhuca longifolia ie*MLHA against Breast Carcinoma in mice. The activity was evaluated usingtumor size, tumor weight, mean survival time, body weightof tumor bearing mice and haematological parameters. Results found that oral administration of extract would significantly increase the life span and restored the altered haematological parameters. Tumor size and tumor weight were also considerably reduced.

Keywords: Anticancer Activity, Breast Carcinoma and *Madhuca longifolia*

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