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Evaluation of Hepatoprotective activity in methanolic extract of Aerial parts of *Hibiscus surattensis*

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ABSTRACT:
The model system of liver damage produced by CCl_4 in rats is recognized to be much like viral hepatitis in humans from both morphological and functional points of view. CCl_4-induced liver damage was modeled in monolayer cultures of rat primary hepatocytes with a focus on involvement of covalent binding of CCl_4 metabolites to cell components and/or peroxidative damage as the cause of injury. *Hibiscus surattensis* belonging to the family Malvaceae is a herbaceous, trailing or scrambling, plant of moist waste places from Senegal to W Cameroons and generally widespread throughout the World tropics and in several parts of India. The plant has been used extensively in the traditional medicine as hepatoprotective. In the present study, Methanolic Extract of *Hibiscus surattensis* (MEHS) exhibit strong hepatoprotective activity, afforded protection CCl_4-induced liver damage. Hepatoprotective activity of MEHS may be due to free radical scavenging activity of fatty acids, proteins, lipids etc. The results suggested that methanolic extract of *Hibiscus surattensis* could palliate the liver injuries perhaps by its antioxidative effect, hence eliminating the deleterious effect of toxic metabolites from the CCl_4.

KEYWORDS: CCl_4, Hepatoprotective activity, *Hibiscus surattensis*, Methanolic extract, toxicity

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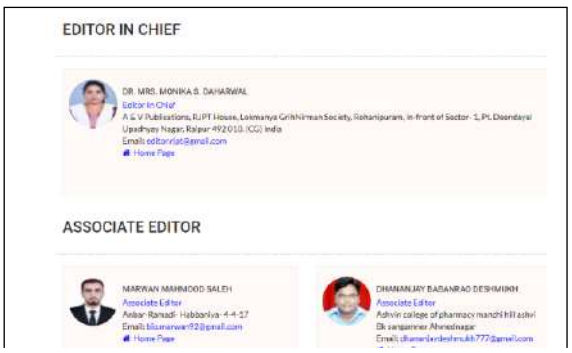
I **f meth:** ***apetal***

ABSTRACT:
The present study was implemented for revealing the antioxidant and anticancer effect of the aerial parts of methanolic extract of *Alangium salvifolium subspecie hexapetalum (Wangerin)*. Preliminary screening of the methanolic extract was carried out to determine the presence of plant secondary metabolites such as alkaloids, glycosides, flavonoids, terpenoids, steroids, and sterols. Free radical scavenging activity was evaluated using DPPH radical scavenging assay, ABTS radical scavenging assay and reducing power assay. Invert phase contrast microscope and MTT assay method was used to analyse the number of viable cells using HT29 cell lines treated with different concentrations of the aerial parts of methanolic extract of *Alangium salvifolium subspecie hexapetalum (Wangerin)*. The preliminary phytochemical analysis of the methanolic extract of *Alangium salvifolium subspecie hexapetalum (Wangerin)* unveil the presence of alkaloids, glycosides, flavonoids, tannins, phenolic compounds, carbohydrates and proteins as secondary metabolites. The free radical scavenging activity also revealed the presence of good antioxidant activity in the extract. A dose dependent growth inhibition of HT29 cell lines were seen when treated with methanolic extract of aerial parts of *Alangium salvifolium subspecie hexapetalum (Wangerin)*. As the concentration of extract increases the percentage of viable cells decreases. The IC50 value for radical scavenging activity of methanolic extract was found to be 173µg/ml (DPPH radical scavenging assay) and 40µg/ml (ABTS scavenging assay). The IC_{50} value for anticancer activity was found to be 30.22µg/ml. The investigational outcome proves that the methanolic extract of aerial parts of *Alangium salvifolium subspecie hexapetalum (Wangerin)* showed promising antioxidant and cytotoxic activities.

KEYWORDS: *Alangium salvifolium subspecie hexapetalum (Wangerin)*, DPPH assay, ABTS assay, Reducing power assay, HT29 cells, MTT assay.



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A CASE SERIES ON GUILLAIN BARRE SYNDROME

Case Report

Kesiya Simon*[1], Anjana Sankar[1], Amina Jabin[1], Nikhil M[1], Parvathy Nandan[1], Iram Naz Anzari[1], Safna N Fazil[1]

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DELIVERY- A REVIEW

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Senthila S[1]*, P. Manojkumar[2], P. Venkatesan[1]

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in Loaded
Delivery

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Evaluation of Hepatoprotective activity in methanolic extract of Aerial parts of *Hibiscus surattensis*

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Characterisation of Preformulation Parameters to Develop and Formulate Silymarin loaded PLGA Nanoparticles for Liver Targeted Drug Delivery

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NANOFORMULATION APPROACHES FOR LIVER TARGETED DRUG DELIVERY- A REVIEW

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[2]The Dale View College of Pharmacy and Research Centre, Trivandrum, Kerala , India
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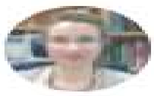

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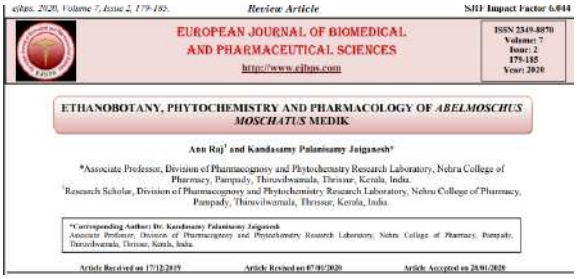

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Enhancement of drug permeability across blood brain barrier using nanoparticles in meningitis

Keerthi G S Nair [1], Velmurugan Ramaiyan [1], Sathesh Kumar Sukumaran [2]

Affiliations + expand

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Docetaxel-loaded chitosan nanoparticles to enhance the chemotherapeutic efficacy in lung cancer

Keerthi G. S. Nair[1]*, Ramaiyan Velmurugan[2]

ABSTRACT

Purpose: The purpose of the research is to prepare an optimized chitosan nanoparticle for Docetaxel. **Method:** Docetaxel-loaded chitosan nanoparticles were prepared by water in oil emulsion cross-linking method. Response surface methodology using the Box–Behnken design was used to optimize the formulations of docetaxel-loaded chitosan nanoparticles. **Results:** The drug entrapment efficiency, drug loading efficiency, particle size, and zeta potential of docetaxel-loaded chitosan nanoparticles were 93.10%, 8.17%, 100 nm, and −24.17 mV, respectively. Transmission electron microscope of the optimized nanoparticles showed spherical particles. Furthermore, docetaxel-loaded chitosan nanoparticles displayed the highest cytotoxicity against lung cancer cells. The result indicated that the docetaxel nanoparticle had sustained release efficacy. The results indicated that the nanoparticles could deliver docetaxel mainly to lung after iv. injection to mice and the concentration of docetaxel in lung (781.4 ng/g. 0.25 h) was significantly higher than those in other tissue and plasma. **Conclusion:** The nanoparticle formulation demonstrated a promising perspective for the targeted delivery of docetaxel for lung cancer.

KEY WORDS: Box–Behnken design, Chitosan nanoparticles, Docetaxel, Lung cancer, Target delivery

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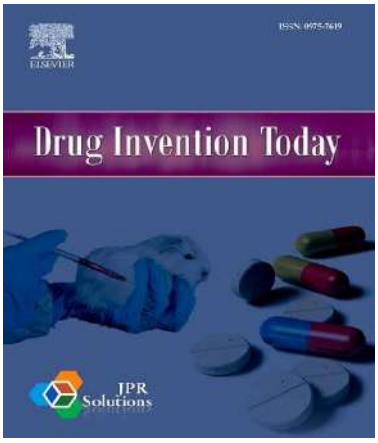

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Toxicity evaluation of ifosfamide nanostructured lipid carriers designed for oral delivery in Wistar albino rats

Ramaiyan Velmurugan*, Keerthi G. S. Nair

ABSTRACT

Aim: Ifosfamide nephrotoxicity is a serious adverse effect for one who undergoes cancer chemotherapy. Ifosfamide when administered orally as nanoparticles expected to minimize the ifosfamide-induced nephrotoxicity at a clinically relevant concentration. To further validate this expectation, an animal model of ifosfamide-induced nephrotoxicity was used to determine the protective effect of ifosfamide-loaded nanostructured lipid carriers when administered orally. **Materials and Methods:** Adult male and female Wistar albino rats were subjected to acute and subacute toxicity studies administering orally with ifosfamide-loaded nanostructured lipid carrier. Wistar albino rats of either sex were administered with 0.5 ml of the vehicle, ifosfamide injection at a dose of 50 mg/kg body weight, and ifosfamide NLC orally at doses of 50 and 100 mg/kg body weight. Toxic manifestations and mortality were monitored daily. Both the serum and urine biochemical parameters and hematological parameters were determined using standardized laboratory method. **Results:** There was no mortality, or any signs of behavioral changes or toxicity observed after oral administration of ifosfamide NLC up to the dose level of 150 mg/kg body weight in rats. Ifosfamide NLCs, when administered orally, markedly reduce the severity of renal dysfunction induced by ifosfamide with a significant decrease in elevations of serum creatinine (47.82 ± 2.25 vs. 32.64 ± 1.28 mmol l^{-1}) as well as a reduced elevation of β2-microglobulin excretion (25.34 ± 1.22 vs. 19.86 ± 1.22 mmol l^{-1}) and magnesium excretion (19.62 ± 1.56 vs. 16.12 ± 1.22 mmol l^{-1}). **Conclusion:** Our results suggest a potential therapeutic role for ifosfamide when administered [illegible]

KEY WORDS: Oral delivery, Ac[illegible] carrier, Nephrotoxicity

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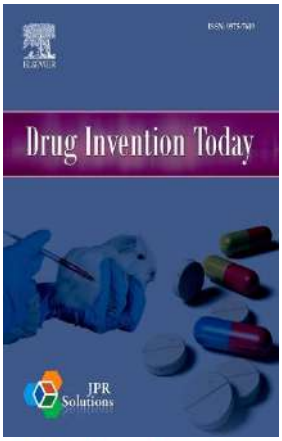
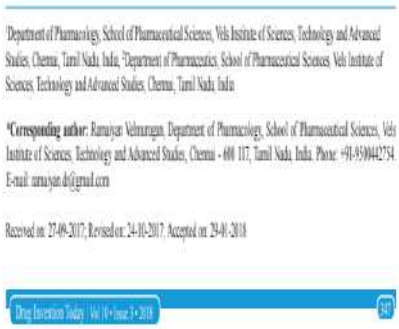
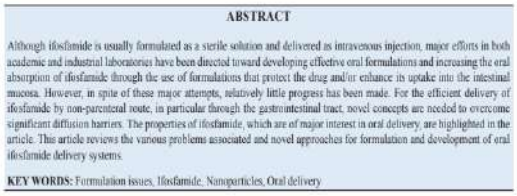




Ifosfamide drug stability: A formulation challenge

Ramaiyan Velmurugan[1]*, Keerthi G. S. Nair[2]


ABSTRACT

Although ifosfamide is usually formulated as a sterile solution and delivered as intravenous injection, major efforts in both academic and industrial laboratories have been directed toward developing effective oral formulations and increasing the oral absorption of ifosfamide through the use of formulations that protect the drug and/or enhance its uptake into the intestinal mucosa. However, in spite of these major attempts, relatively little progress has been made. For the efficient delivery of ifosfamide by non-parenteral route, in particular through the gastrointestinal tract, novel concepts are needed to overcome significant diffusion barriers. The properties of ifosfamide, which are of major interest in oral delivery, are highlighted in the article. This article reviews the various problems associated and novel approaches for formulation and development of oral ifosfamide delivery systems.

KEY WORDS: Formulation issues, Ifosfamide, Nanoparticles, Oral delivery

17.

Oral Controlled Drug Delivery System – A Review

Jeganath. S[1]*, Asha. D[2], Sathesh Kumar. S[1], Keerthi S Nair[1], SenthilKumaran. K[2]

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ABSTRACT:
The new generation of oral controlled release drug delivery system technologies brings valuable benefits to patients. Oral route is the most convenient and commonly route of drug delivery. Oral controlled release formulations are designed to deliver a drug at a pre determined rate by achieving a constant drug level for a specified period of time with lower side effects. Controlled release drug delivery have become a significant priority worldwide, it may be possible to achieve rapid absorption of drug and increased bio availability, reduced toxicity and improved patient compliance. This article mainly focuses the requirement of controlled drug delivery system, their advantages, disadvantages, formulation, various methods and use of controlled release system.

KEYWORDS: Controlled release drug delivery system, prolonged release, Zero-order, Half life Diffusion controlled.

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BRAIN STROKE - AN OVERVIEW OF THEIR CAUSATIVE FACTORS AND CURRENT TREATMENT STRATEGIES

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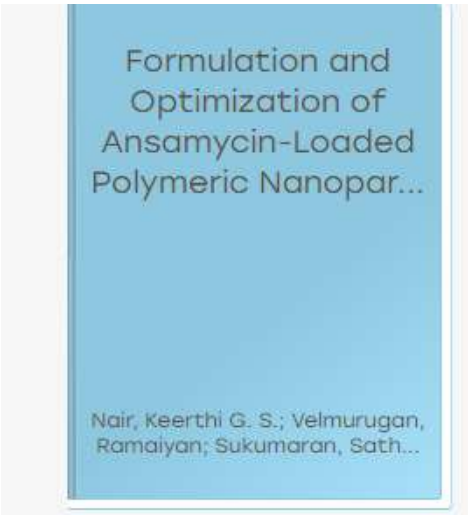

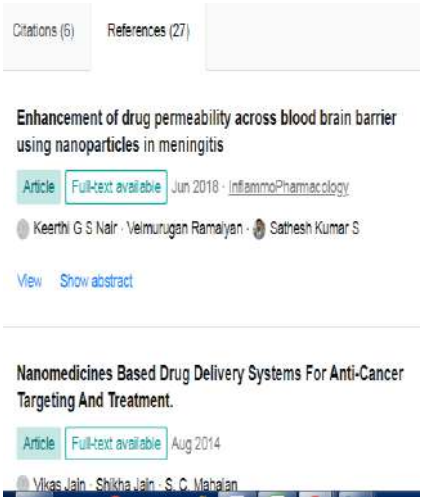

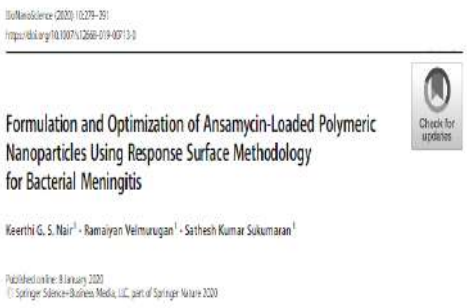

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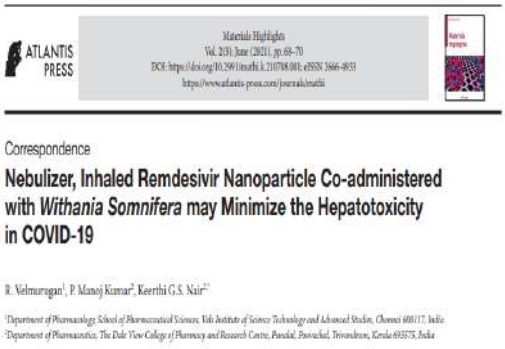

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Nebulizer, Inhaled Remdesivir Nanoparticle Co-administered with *Withania Somnifera* may Minimize the Hepatotoxicity in COVID-19

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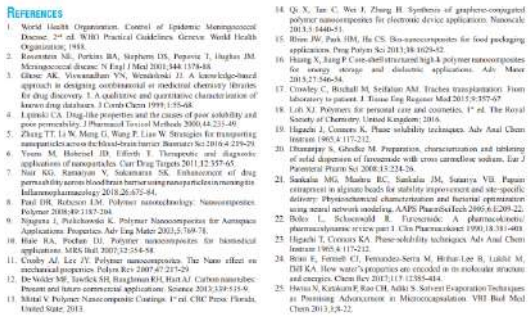

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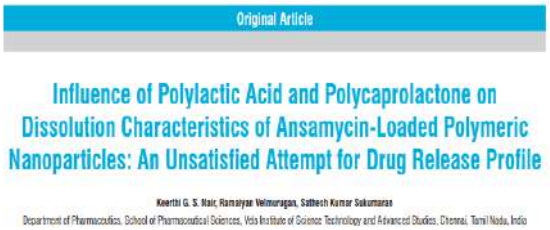

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Influence of Polylactic Acid and Polycaprolactone on Dissolution Characteristics of Ansamycin-Loaded Polymeric Nanoparticles: An Unsatisfied Attempt for Drug Release Profile

Keerthi G. S. Nair, Ramaiyar Velmurugan, Sathech Kumar Sukumaran
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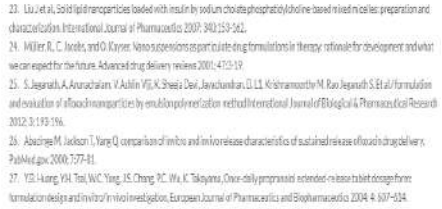

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Paclitaxel and spirulina co-loaded polymeric nanoparticles: in-vitro and in-vivo anticancer study

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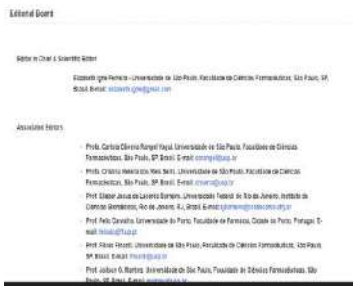
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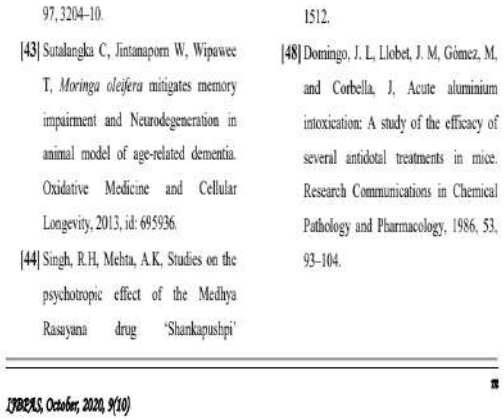
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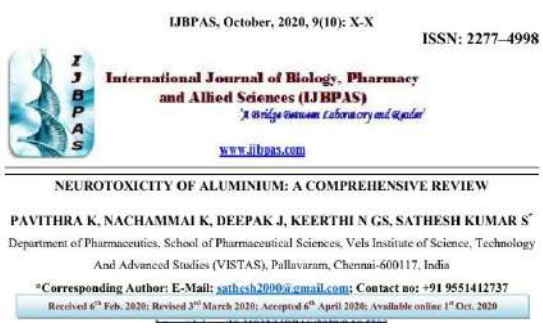
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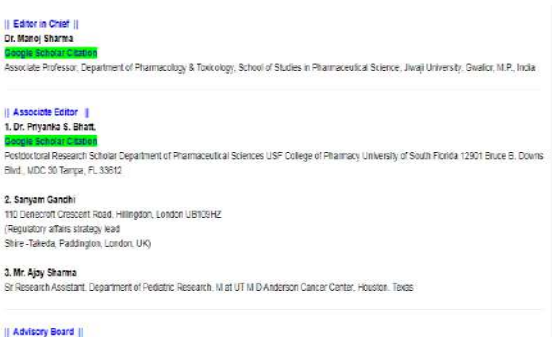
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Polymeric nanoparticles for Anti-cancer treatment-A review of its mechanisms

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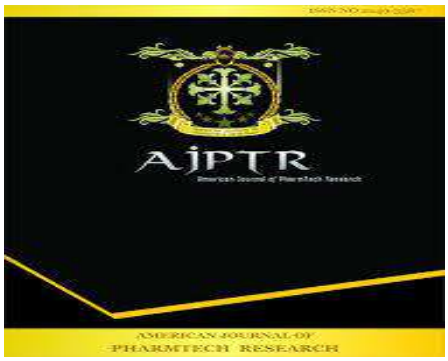
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A Review on Drug Utilization Trends in Coronary Artery Diseases

Neenu Babu[1], Shamna c[1], Sreelekshmi vs[1], Philip John Sebastian[1], Nithin Manohar R[1]*, William Arputha Sundar AS[1], John Wesly F[1]

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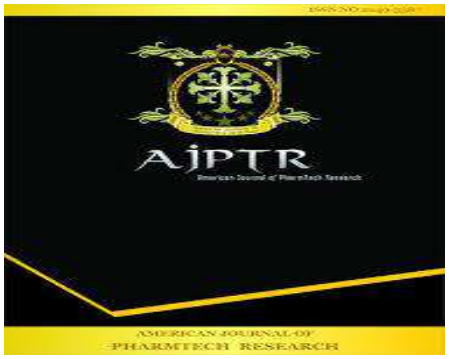
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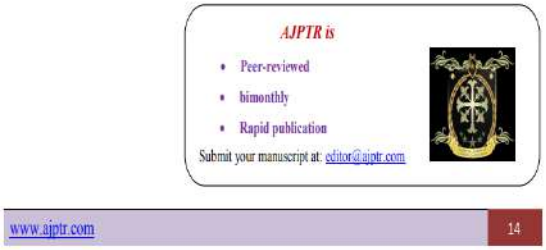
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A Systematic Review on Risk Factors Based on Gender and Management of Coronary Heart Disease
Philip John Sebastian[1], Sreelekshmi vs[1], Shamna c[1], Neenu Babu[1], Nithin Manohar R[1*], William Arputha Sundar a s[1], John Wesly I[1]
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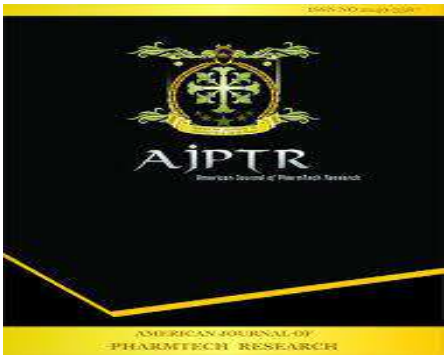
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Tigecycline : First Member of the Novel Glycylcycline Class of Extended-Spectrum Antibiotics

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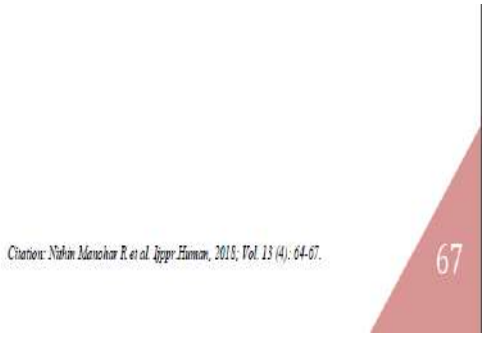
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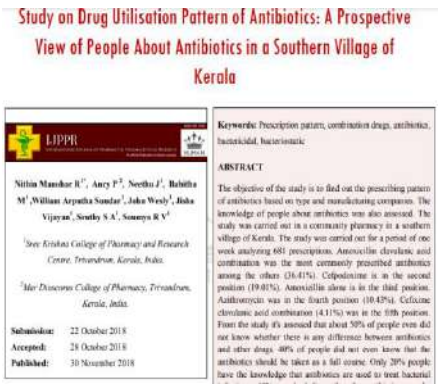
Study on Drug Utilisation Pattern of Antibiotics: A Prospective View of People About Antibiotics in a Southern Village of Kerala

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Nithin Manohar R[1*], Ancy P[2], Neethu J[1], Rohitha M[1],William Arputha Sundar[1], John Wesly[1], Jisha Vijayan[1], Swathy S A[1], Soumya R V[1]

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ABSTRACT

The objective of the study is to find out the prescribing pattern of antibiotics based on type and manufacturing companies. The knowledge of people about antibiotics was also assessed. The study was carried out in a community pharmacy in a southern village of Kerala. The study was carried out for a period of one week analyzing 681 prescriptions. Amoxicillin clavulanic acid combination was the most commonly prescribed antibiotics among the others (36.41%). Cefpodoxime is in the second position (19.01%). Amoxicillin alone is in the third position. Azithromycin was in the fourth position (10.43%). Cefixime clavulanic acid combination (4.11%) was in the fifth position. From the study it's assessed that about 50% of people even did not know whether there is any difference between antibiotics and other drugs. 40% of people did not even know that the antibiotics should be taken as a full course. Only 20% people have the knowledge that antibiotics are used to treat bacterial

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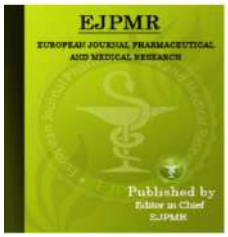

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A REVIEW ON COSMETIC SURGERY

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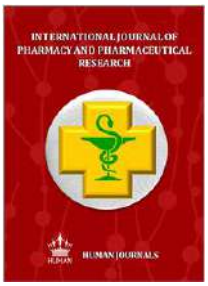

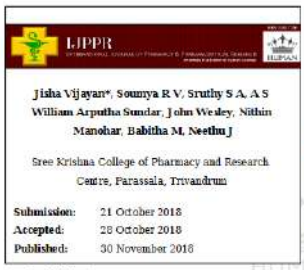

Keywords: Vilazodone, Safety, Efficacy, Major Depressive Disorder, Antidepressant

ABSTRACT

Selective serotonin reuptake inhibitors (SSRIs) are often recommended as first-line therapies in patients with major depressive disorder. It has been postulated, that the acute and long-term effects of these drugs may be limited due to autoregulatory feedback mechanisms involving the 5-HT1 class of serotonergic receptors. One approach to this drawback has been the investigation of augmentation therapies, such as the addition of 5-HT1A or 5-HT1B agonists to SSRIs in patients with MDD. Another approach has been the development of medications with additional mechanisms of action, such as Vilazodone, an SSRI and partial 5-HT1A receptor agonist that is currently approved for the treatment of Depression. Vilazodone a novel Serotonin Reuptake Inhibitor and 5-HT_{1A}-Partial Agonist that is recently developed for the treatment of Major Depressive Disorder.

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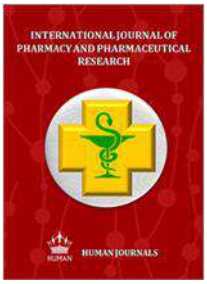

Rezum: A New Non Invasive Promise for Benign Prostate Hyperplasia Treatment

IJPPR

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Keywords: BPH, LUTS, MIT, Rezum systems, Thermal ablation, cost-effectiveness.

ABSTRACT

BPH (Benign Prostate Hyperplasia) is a disease commonly seen in elderly males and is a condition of the enlarged prostate that causes voiding difficulties and other LUTS (Lower Urinary Tract Symptoms). Many treatment options are available for treating BPH. Minimally invasive procedures are now being used including RF thermal therapies (Rezum and Prostiva systems) and Prostatic urethral lift. The aim of this review is to show the efficacy and safety of thermal ablation using Rezum system. FDA approved Rezum system in 2015 to treat symptomatic BPH. It has been demonstrated to have substantial, prolonged symptomatic relief, with positive outcomes in IPSS (International prostatic symptom score), Qmax (maximum urine flow rate), PVR (Post-void residual volume) and QoL(quality of life), without causing erectile and ejaculatory dysfunctions. There is relative cost-effectiveness of Rezum compared to other

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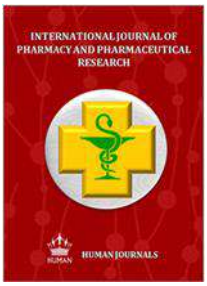
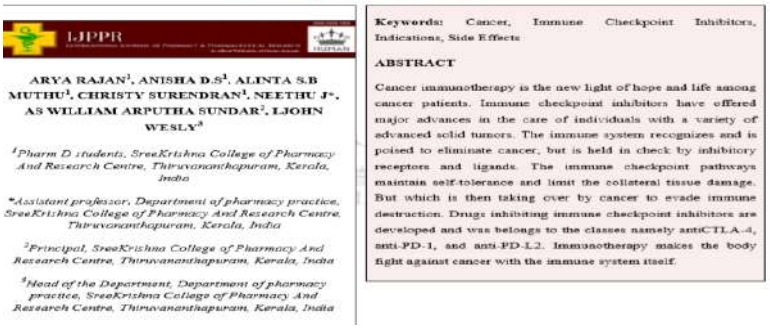


Immune Checkpoint Inhibitors: New Horizon in the Management of Cancer



IJPPR

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Keywords: Cancer, Immune Checkpoint Inhibitors, Indications, Side Effects

ABSTRACT

Cancer immunotherapy is the new light of hope and life among cancer patients. Immune checkpoint inhibitors have offered major advances in the care of individuals with a variety of advanced solid tumors. The immune system recognizes and is poised to eliminate cancer, but is held in check by inhibitory receptors and ligands. The immune checkpoint pathways maintain self-tolerance and limit the collateral tissue damage. But which is then taking over by cancer to evade immune destruction. Drugs inhibiting immune checkpoint inhibitors are developed and was belongs to the classes namely antiCTLA-4, anti-PD-1, and anti-PD-L2. Immunotherapy makes the body fight against cancer with the immune system itself.

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35.

A REVIEW ON FREE RADICALS AND ANTIOXIDANTS

Running title: A review on free radicals and antioxidants

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Sreekrishna College of Pharmacy and Research Centre, Trivandrum-695502, India.

Abstract:

Antioxidants are used in food to protect it from deleterious effects of oxidation and are also employed as dietary supplements to neutralize the adverse effects of oxidative stress. Many of the natural antioxidants of interest are of plant origin and belong to the phenolic and polyphenolic class of compounds as well as carotenoids and antioxidant vitamins, among others. The activity of antioxidants and their mechanism of action is dictated by the structural features of the molecules involved, the system in which they are present as well as processing and storage conditions, among others. While much research has been carried out on natural sources of antioxidants, their widespread use is hindered by regulations, which only permits the use of those that have an RDI (required daily intake) such as vitamins. However, green tea, rosemary and other spices or their extracts thereof, and mixed tocopherols are often used in foods as flavouring agents or under other disguised forms to bypass these unwarranted regulatory issues.

Keywords: *Antioxidants, free radicals, enzymatic antioxidants*

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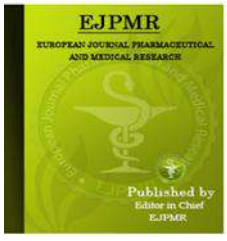

A CONCISE REVIEW ON PYRAZOLINE DERIVATIVE FOR DIABETES MELLITUS

E. Ajila*[1], R. Anir K. Roy[2], S. M. Sandhya[1], A. S. William Arputha Sundar[1], M. S. Padmaja Devi[2] and Lakshmi Gopal R.[1]

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ABSTRACT

The N-phenyl Pyrazoline ring with aryl substitution at third and fifth position exhibits better biological activities. The most common procedure for the synthesis of 2-pyrazolines is the reaction of an aliphatic or aromatic hydrazine with α,β-unsaturated carbonyl compounds. 2-Pyrazolines synthesized by the cycloaddition of diazomethane with substituted chalcones. 2-Pyrazolines can also be prepared by the condensation of chalcone dibromide with hydrazine. A number of diarylidene cycloalkanones on reaction with hydrazine hydrate produce pyrazolines. Dipolar cyclo addition of nitrilimines to dimethyl fumarate, fumaro nitrile and the N-aryl maleimides yields the corresponding pyrazolines. Reaction of Et 2-(phenylazo)-3-exobutanoates with nicotinic acid hydrazide using glacial acetic acid gives pyrazoline derivatives. Diabetes mellitus is a common and very prevalent disease affecting the citizens of both developed and developing countries. It is estimated that 25% of the world population is affected by this disease. Most patients can be classified clinically as having either Type 1 diabetes mellitus. Historically, different substituted pyrazoles were known for their hypoglycemic activity, but in a search for novel structural classes of drugs inhibiting the activity of the ATP-K + channel of the beta cell pancreatic membrane, inducing the production of insulin we turned our attention to substituted pyrazoline derivatives.

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HEALTH BENEFITS OF POLYPHENOLIC COMPOUNDS

Anu.S*, E.Ajila, Nishad V.M, Sandhya S.M, A.S William Arputha Sundar
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Abstract:
"Plant phenolics" and "polyphenols" are secondary natural metabolites arising biogenetically from either the shikimate/phenylpropanoid pathway. Higher plants synthesize several thousand known different phenolic compounds. The ability to synthesize phenolic compounds has been selected throughout the course of evolution in different plant lineages, thus permitting plants to cope with the constantly changing environmental challenges over evolutionary time. Plant phenolics are considered to have a key role as defense compounds when environmental stresses, such as high light, low temperatures, pathogen infection, herbivores, and nutrient deficiency, can lead to an increased production of free radicals and other oxidative species in plants. Both biotic and abiotic stresses stimulate carbon fluxes from the primary to the secondary metabolic pathways, thus including a shift of the available resources in favour of the synthesis of secondary products. An increasing link between primary and secondary metabolism couples the accumulation of the stress metabolite proline with the energy transfer toward phenylpropanoid biosynthesis via the oxidative pentose phosphate pathway. The alternating oxidation of NADPH by proline synthesis and reduction of NADP+ by the two oxidative steps of the oxidative pentose phosphate pathway lead to the simultaneous accumulation of phenolic compounds.
Key words: *Phenol, resveratrol,acetophenones, Xanthones, Stilbenes*

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A REVIEW ON FULLERENE EARTH

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Abstract:
A fullerene is an allotrope of carbon in the form of a hollow sphere or in many other shapes. Spherical fullerenes are also referred to as buckminster fullerenes or buckyballs. Cylindrical fullerenes are also called as buckey tubes. Fullerenes composed of less than 100 carbon atoms, or enclosheded fullerenes, are commonly known as "buckyballs" and include the most common fullerene, buckminsterfullerene, C_{60}. Giant fullerenes, or fullerenes with more than 300 carbon atoms, include single-shelled or multi-shelled carbon structures, onions, and nanotubes. The first buckminster-fullerene C_{60} was actually discovered in 1985. It seems to be that the history of fullerenes research is very short. However it now has become clear that fullerenes exist much longer than mankind. They have been found in interstellar dust and meteor rocks and seem to be present everywhere in the universe. So one might be astonished that their discovery took that long. But since then fullerene research skyrocketed in a way that may only be compared with the field of high temperature superconductivity.

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REVIEW OF VANCOMYCIN ANTIBIOTIC IN CANCER THERAPY

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Abstract:
Vancomycin is an antibiotic used to treat a number of bacterial infections. It is used for treatment of complicated skin infections, bloodstream infections, endocarditis, bone and joint infections, and meningitis caused by methicillin-resistantStaphylococcus aureus.Vancomycin is also used as oral dosage form for severe Clostridium difficilecolitis. Gram-positive organisms predominate as the bacterial pathogens identified in episodes of febrile neutropenia. This has led to increased use of antibiotics with efficacy against gram positive organisms (often vancomycin) as part of empirical antibiotic regimens for treating febrile neutropenia. Among 103 children randomized to receive ceftazidime, azactam, and vancomycin or ceftazidimeclavulanate and amikacin along with vancomycin placebo, treatment success in those treated with vancomycin was higher (85% vs. 62%). Results from another study and a retrospective review of a large clinical trial also support the previous conclusion.

Key words: *Vancomycin, febrile neutropenia and endocarditis*

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A REVIEW ON PHARMACOLOGICAL ACTIVITY OF PERGULARIA DAEMIA

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ABSTRACT
The plant *Pergularia daemia* has been traditionally used as anthelmintic, laxative, antipyretic expectorant and also used to treat infantile diarrhea and malarial intermittent fevers. It is widely distributed in the tropical and sub tropical regions of the world. Various phytochemical including terpenoid, flavonoids, sterols and cardenolids have been isolated and identified from the various parts of the plant (leaves, stems, shoots, roots, seeds and fruits). *P. daemia* widely used by various tribal communities in Western Ghats of India for the treatment of variety of ailments, while predominantly the roots of the plant have been used to treat liver disease and jaundice. The present review article aims towards medicinal properties, chemical

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A REVIEW ON NATURAL PRODUCTS IN DRUG DISCOVERY

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Abstract:
Drug discovery from medicinal plants has evolved to include numerous fields of inquiry and various methods of analysis. The process typically begins with a botanist, ethnobotanist, ethnopharmacologist, or plant ecologist who collects and identifies the plant(s) of interest. Collection may involve species with known biological activity for which active compound(s) have not been isolated (e.g., traditionally used herbal remedies) or may involve taxa collected randomly for a large screening program. It is necessary to respect the intellectual property rights of a given country where plant(s) of interest are collected (14). Phytochemists (natural product chemists) prepare extracts from the plant materials, subject these extracts to biological screening in pharmacologically relevant assays, and commence the process of isolation and characterization of the active component(s) through bioassay-guided fractionation. Molecular biology has become essential to medicinal plant drug discovery through the determination and implementation of appropriate screening assays directed towards physiologically relevant molecular targets. Pharmacognosy encapsulates all of these fields into a distinct interdisciplinary science. Pharmacognosy includes both the study of botanical dietary supplements, including herbal remedies (15; 16), as well as the search for single compound drug leads that may proceed through further development into Food and Drug Administration (FDA)- approved medicines.

Key Words: Pharmacognosy, phytochemicals, extraction, structural elucidation, biological screening.

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42.

PULSATILE DRUG DELIVERY SYSTEM – A REVIEW

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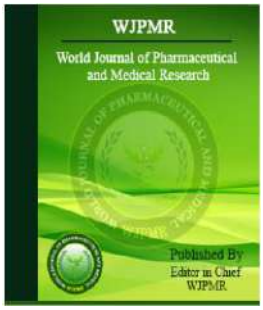
ABSTRACT

Controlled drug delivery systems have acquired a center stage in the arena of pharmaceutical R&D business. Such systems offer temporal or spatial control over the release of drug and grant a new lease on life to a drug molecule in terms of patentability. Controlled drug delivery systems release the drug with constant or variable rates. However, there are certain conditions for which such a release pattern is not suitable. These conditions demand release of drug after a lag time. In other words, it is required that the drug should not be released at all during the initial phase of dosage form administration. Such a release pattern is known as pulsatile release. There are certain conditions which demands such systems they include; many body functions that follow circadian rhythm. A number of hormones like rennin etc shows daily fluctuations in the blood stream. Then the same is observed in certain diseases like the bronchial asthma, ulcer , etc display time dependence. This system is also preferable for the drug which produces biological tolerance and the drugs which undergo extensive first pass metabolism. All these conditions demand for a time programmed therapeutic scheme releasing the right amount of drug at the right time. This requirement is fulfilled by pulsatile drug delivery system only. Thus such systems is characterized by a lag time that is an interval of no drug release followed by rapid drug release.

KEYWORDS: spatial control, bronchial asthma, ulcer, metabolism.



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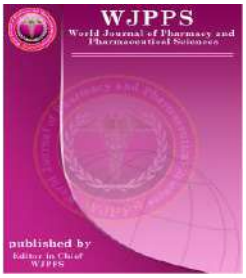

A REVIEW ON MESENCHYMAL STEM CELLS BASED ANTI PARKINSONS TREATMENT

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ABSTRACT

Parkinson's disease (PD) is a degenerative neurological disorder characterized by the cardinal motor features of tremor, bradykinesia and rigidity. It is associated with the extended loss of dopaminergic (DA) neurons in the substantia nigra pars compacta (SNc) resulting in a severe deficiency of DA in the striatum required for motor control. There is currently no cure for PD and the majority of treatments available aim to reverse dopamine deficiency and the relief of the symptoms. Based on promising findings from early trials, the transplantation of stem cells or stem cell derived progenitors has raised the possibility of using cell-based therapy to replace lost cells in the

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44.

EPAC-targeted therapies in cardiovascular system - a review

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ABSTRACT

Exchange proteins directly activated by cyclic AMP (Epac) were discovered 10 years ago as new sensors for the second messenger cyclic AMP (cAMP). Epac family, including Epac1 and Epac2, are guanine nucleotide exchange factors for the Ras-like small GTPases Rap1 and Rap2 and function independently of protein kinase A. Given the importance of cAMP in the cardiovascular system, numerous molecular and cellular studies using specific Epac agonists have analyzed the role and the regulation of Epac proteins in cardiovascular physiology and pathophysiology. Epac contains an evolutionally conserved cAMP-binding domain that acts as a molecular switch for sensing intracellular second messenger cAMP levels to control diverse biological functions. Developing the ability to regulate cAMP-mediated signaling through Epac may lead to remarkable new therapies for the treatment of cardiac diseases.

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45.

SOFOSBUVIR, THE NUCLEOTIDE ANALOGUE AGAINST HEPATITIS C VIRUS – A REVIEW

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ABSTRACT

Infectious liver disease caused by the hepatitis C virus. There is no vaccine and it commonly becomes chronic. Traditional treatment is limited by frequent adverse effects and low efficacy. The current therapy for HCV infection, includes one of the two protease inhibitors, telaprevir or boceprevir, for 12-32 weeks with pegylated interferone interferon alfa-2a (PEG-IFN-α) and ribavirin for 48 weeks. Sofosbuvir, a recently approved nucleotide analog, is a highly potent inhibitor of the NS5B polymerase in the Hepatitis C virus (HCV), and has shown efficacy in combination with several other drugs, with and without PEG-INF, against HCV. It offers many advantages due to its high potency, low side effects, oral administration, and high barrier to resistance.

KEYWORDS: Telaprevir, boceprevir, pegylated, Sofosbuvir.

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46.

A BRIEF REVIEW ON HUTCHINSON-GILFORD PROGERIA SYNDROME

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Abstarct:
Hutchinson-Gilford Progeria Syndrome (HGPS) was first documented in 1886 in the medical literature. A HGPS patient has the physical characteristics and appearances of an elderly individual. It is now clear that the syndrome results from the accumulation of a metabolite formed during processing of the mutated pre-lamin A protein. The purpose of this review is to increase the awareness of Hutchinson-Gilford Progeria Syndrome and its conditions and discuss the new therapeutic approaches among worldwide.

Key words: *Hutchinson-Gilford Progeria Syndrome, bone deformation, pre-lamin A, Progeroid syndromes.*

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47.

Comparative Study on the Effect of Ranitidine and Its Combination with Antioxidant in Experimentally Induced Gastric Ulcer on Mice

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ABSTRACT

Ranitidine, a H2 receptor antagonist, one of the major drugs which are used currently for ulcer disorders, but reoccurrence was reported in Ranitidine therapy. It may be due to free radicals which interact with other etiological factors of ulcer. So scavenging of these free radicals may prevent the reoccurrence. The combined effect of anti-oxidants with Ranitidine may overcome the above mentioned problem which was evaluated in this study by Modified pylorus ligated SHAY rat ulcer model. The effect of Allopurinol a, well known antioxidant with Ranitidine was selected for the evaluation. Parameters such as ulcer score and gastric volume of ranitidine and its combination with Allopurinol were evaluated in experimentally induced gastric ulcer on the rat. The results showed that the combined effect of Ranitidine and Allopurinol significantly reduces the ulcer score and gastric volume comparing with the effect of Ranitidine alone. From these results, it was clear that Ranitidine with Allopurinol provides a better anti-ulcer activity when compared to Ranitidine alone in pylorus ligated SHAY rat ulcer method. Further detail pharmacological screening may give more valuable results.

Keywords: Anti ulcer activity, Ranitidine, Allopurinol, Modified pylorus ligated SHAY rat ulcer model.

48.

A REVIEW ON NEW APPROACH FOR ENHANCED TOPICAL DRUG DELIVERYOF HYDROPHOBIC DRUGS: EMULGEL

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ABSTRACT

In comparison with the other semisolid preparations, the use of gels has been emerged both in cosmetics and pharmaceutical preparations. When gel and emulsion used in the combined form, they are referred as Emulgel. Emulgel is the promising drug delivery system for the delivery of hydrophobic drugs. Emulgel is an emulsion which is gelled by mixing it with gelling agents. Emulgel is used to treat aches and pains caused by colds, headaches, muscle aches, backaches, arthritis and other conditions and injuries. Many advantages of gels have the major limitation of delivery of hydrophobic drugs. Hence, to overcome this limitation, the emulsion based approach is being used. Emulgel is an interesting topical drug delivery system as it has dual release control

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49.

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A REVIW ON ECTATIC CORNEAL DISEASE-KERATOCONUS

Authors	S Amitha, Subash MP Chandran, William Arputha Sundar
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Issue	11
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Publisher	SSJ COLL PHARMACY-SSJCP
Description	Normally, the cornea has a dome shape, like a ball. Sometimes the structure of the cornea is just not strong enough to hold this round shape and the cornea bulges outward like a cone. This condition is called keratoconus.(1,2) This abnormal shape prevents the light entering the eye from being focused correctly on the retina and causes distortion of vision. This is occur in one or both eyes and often begins during a person's teens or early 20s. Treatment for keratoconus depends on the severity of your condition and how quickly the condition is progressing. Mild to moderate keratoconus can be treated with eye glasses or contact lenses. In some people the cornea becomes scarred or wearing contact lenses becomes difficult.(2,4) In these cases, surgery might be necessary. Keratoconus also is associated with over exposure to ultraviolet rays from the sun, excessive eye rubbing, a history of poorly fitted contact lenses ....
Scholar articles	A REVIW ON ECTATIC CORNEAL DISEASE-KERATOCONUS S Amitha, SMP Chandran, WA Sundar - INDO AMERICAN JOURNAL OF PHARMACEUTICAL ..., 2018

50.

AN OVERVIEW OF SILVER NANOPARTICLES

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Abstract:
Nanotechnology refers to the branch of science and engineering dedicated to materials, having dimensions in the order of 100th of nm or less. Cancer in general is a disease which is characterized by the uncontrolled growth and multiplication of cancerous cells, conventional cancer chemotherapy has the therapeutic agents that distribute non-specifically in different tissues of the human body, thus affecting both cancerous as well as normal cells. This non-specific distribution of drugs to normal cells, tissues, and organs causes excessive toxicities; and thereby causing numerous adverse drug reactions including alopecia, weakness, organ dysfunction causing poor quality of life for cancer patients. The pharmaceutical sciences are using nanoparticles to decrease the toxicity and side effects of drugs. Nanoparticles used in the field of nanotechnology range in particle size between 10 and 300 nm, seldom exceeding 500 nm. The narrative of these particles allows various communications with biomolecules on the cell surfaces and within the cells in way that can be decoded and designated to various biochemical and physiochemical properties of these cell. Nanotechnology has emerged as an exciting strategy in the drug development process and among the different nanoparticles: silver nanoparticles were explored for its various medical applications.

Keywords: *Nanotechnology; Nanoparticles, Silver nanoparticles*

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51.

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SUPERBUGS: A THREAT TO ANTIBIOTICS

Authors	SB Remya, Subash MP Chandran, William Arputha Sundar
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Description	Antibiotic resistance has led to the development of so-called "superbugs" that no longer respond to the current treatment modalities. Multidrug-resistant (MDR) bacteria have become a severe threat to community wellbeing. Conventional antibiotics are getting progressively more ineffective as a consequence of resistance, making it imperative to realize improved antimicrobial options. This review emphasizes the microorganisms primarily reported of being resistance, has placed in their urgent category: Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumanii, Pseudomonas aeruginosa, and Enterobacteriaceae accentuating their capacity to "escape" from routine antimicrobial regimens. The upcoming antimicrobial agents showing great potential and can serve as alternative therapeutic options were discussed.
Scholar articles	SUPERBUGS: A THREAT TO ANTIBIOTICS SB Remya, SMP Chandran, WA Sundar - INDO AMERICAN JOURNAL OF PHARMACEUTICAL ..., 2018

52.

ROLE OF NANOTECHNOLOGY IN HERBAL MEDICINE

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Abstract:
Herbal medicines have been used for several years throughout the world. The developments of novel herbal formulations were reported to have several advantages over respective crude drug formulations. Nanophytomedicines were prepared from active phytoconstituents or standardized extracts. Delivering therapeutic compound to the desirable site is a major problem in treatment of many diseases. Novel drug delivery system is advantageous in delivering the herbal drug at the site of action which minimize the toxic effects with the increase of bioavailability. Conventional utilization of drugs is characterized by poor bio distribution, limited effectiveness, undesirable side effects, and lack of selectivity. Recent advancement in nanotechnology has proven that nanoparticles acquire a great potential as drug carriers. Size reduction methods and technologies yields different types of nanostructures that exhibit unique physicochemical and biological properties. Incorporation of herbal drugs or extracts with nanocarriers shows increased solubility, bioavailability, decreased toxicity, increased pharmacological activity, decreased dose and increased stability. This review article will provide a brief discussion of Nanoparticles synthesis, characterization by various techniques for production and its impact on herbal medicines.
Keywords: *Nanotechnology, Novel drug delivery systems, Synthesis, Characterization, Herbal nanoparticles.*

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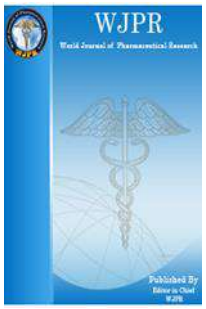

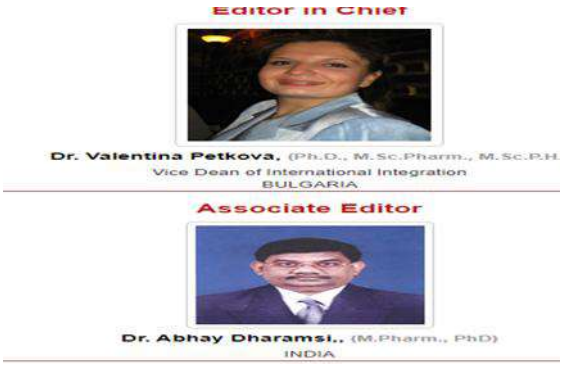

DESIGN, DEVELOPMENT AND EVALUATION OF SUSTAINED RELEASE TABLETS OF METOPROLOL SUCCINATE USING EUDRAGIT POLYMERS.

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ABSTRACT

The objective of the study was to develop sustained release tablets of Metoprolol Succinate (MS) using two different grades of EUDRAGIT polymers called Drugcoat RLPO and Drugcoat RSPO and to evaluate pharmacokinetic parameters of the optimized product. Sustained release tablets of Metoprolol Succinate were prepared using combination of different ratios of Drugcoat RLPO and Drugcoat RSPO. Study of pre compression and post compression parameters facilitated the screening of a formulation with best characteristics. The granules were prepared by wet granulation method using non-aqueous vehicles. The granules were coated with coating solution containing EUDRAGIT polymers. *In-vitro* drug release studies were performed

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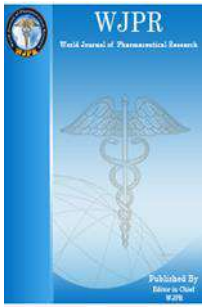

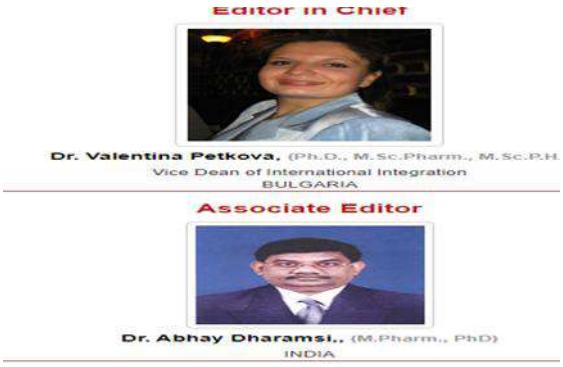

FORMULATION AND EVALUATION OF STABILIZED VITAMIN A PALMITATE IN MULTIVITAMIN SYRUP

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ABSTRACT

In liquid oral formulations, the stability of the active and inactive ingredients is of major issue for the formulator. Usually active ingredients are less stable in aqueous formulations than in solid dosage forms. Hence it is important to stabilize and preserve the liquid oral formulations which contains water. This work was aimed to develop and stabilize Vitamin A Palmitate in a multivitamin syrup form. Three formulations (V1, V2 and V3) of Vitamin A Palmitate syrups were developed. All the formulated syrups were evaluated for appearance, colour, taste, pH, w/v/ml, viscosity and drug content. Formulation V2 showed good results in terms of general, physical and chemical

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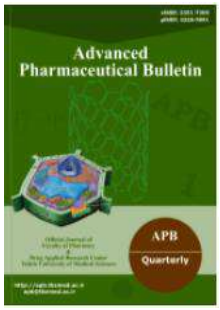

Ethosomal Gel Formulation of Alpha Phellandrene for the Transdermal Delivery in Gout

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Affiliations + expand

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Abstract

Purpose: Purpose was to improve the skin compatibility and permeability of alpha phellandrene through an ethosomal gel formulation for the treatment of gout; as the oral use of the drug is reported to cause gastrointestinal disturbances and toxicities. ***Methods:*** Alpha phellandrene loaded ethosomal formulation (APES) was prepared by cold method for the treatment of gout. APES were loaded into carbopol gel (APEG) by dispersion method. Physico-chemical characterizations of the APES were done by dynamic light scattering (DLS), transmission electron microscopy (TEM), Fourier-transform infrared spectroscopy (FTIR) etc. *In vitro* release, permeation, haemo-compatibility and anti-inflammatory studies were conducted. ***Results:*** APES showed a particle size of 364.83 ± 45.84 nm. The entrapment efficiency of the optimized formulation is found as 95.06 ± 2.51%. Hemolysis data indicated that APES does not cause any significant hemolysis. *In vitro* drug release studies were

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Comparative Study on Antimicrobial Activity of *Wedelia chinesis* and *Wedelia calendulaceae*

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Abstract— *The present study is aimed at preliminary phytochemical screening of the leaf extracts of Wedelia chinesis and Wedelia calendulaceae and evaluation of the same for potential antimicrobial activity. The ethanolic extracts of these plants were found to possess alkaloids, glycosides and flavanoids. The antimicrobial activity was evaluated against Staphylococcus aureus, Micrococcus luteus, Bacillus subtilis, Escherichia coli, Pseudomonas aeruginosa, Candida albicans and Aspergillus niger. These plant extracts have great potential antimicrobial compounds that can be used in treatment of infectious diseases caused by a range of resistant microorganisms.*

Keywords— *Wedelia chinesis; Wedelia calendulaceae; antimicrobial activity; phytochemical screening.*

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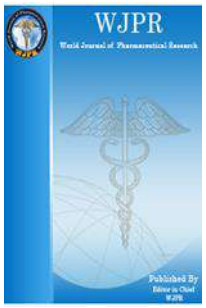

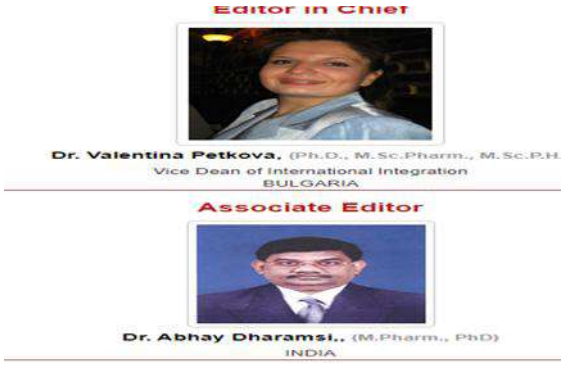

MUEHLENBECKIA PLATYCLADA (POLYGONACEAE) AN OVERVIEW

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ABSTRACT

The plant *Muehlenbeckia platyclada* belonging to Polygonaceae family has great importance in traditional medicine. It is popular remedy in various ethnic groups. Extensive studies show the presence of flavanoid glycosides in it. *Muehlenbeckia platyclada* is found to possess antinociceptive and analgesic activity. This work gives an overview of phytochemical and pharmacological evidence of *Muehlenbeckia platyclada*. Although more studies are necessary to explore therapeutic potential of the plant as it has more therapeutic

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Research Article

In vivo Evaluation of Antiproliferative Activity of a Novel Benzimidazole Derivative Against Daltons Lymphoma Ascitic in Swiss Albino Mice

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zimidazole derivative [N-[3-chloro-2-oxo-4-(2-hydroxyphenyl)-4-oxoazetidin-1yl]-2-(2-methyl-1H-benzimidazol-1-yl)acetamide] against cancer induced female Swiss albino mice.

Keywords: Antiproliferative activity, Benzimidazole DAL, Haematological parameters.

Introduction

Benzimidazole is a heterocyclic aromatic compound. It is bicyclic in nature and consists of the fusion of benzene and imidazole [1]. Compounds that contain Benzimidazole nucleus possess a lot of medical and biological activities, such as anthelmintic [2-3], antibacterial [4-5], antiviral [6-12], antifungal [13], anti- inflammatory [14], analgesic [15] and anticonvulsant properties [16].

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59.

Preparation of Silymarin–quercetin Loaded Nanoparticles by Spontaneous Emulsification Solvent Diffusion Method Using D-alpha-tocopheryl Poly (Ethylene Glycol) 1000 Succinate

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Authors' contributions

This work was carried out in collaboration among all authors. Authors SS designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors PMK and PV managed the analyses of the study. Author PV managed the literature searches. All authors read and approved the final manuscript.

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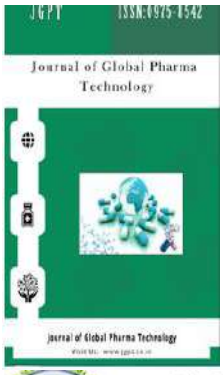

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RESEARCH ARTICLE

Fabrication and Characterisation of Silymarin-Quercetin Loaded Polymeric Nanoparticles Using TPGS for Hepatic Drug Delivery

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Abstract

Objective: The aim of the present investigation was to enhance the hepatoprotective activity of silymarin and Quercetin by incorporating it in TPGS-PLGA nanoparticles (TPs) for passive targeted delivery, thereby prolonging its retention time. *Method:* Poly lactide-co-glycolide (PLGA) nanoparticles were prepared by modified spontaneous emulsification solvent diffusion (SESD) method. TPGS as an emulsifier and further as a matrix material blended with PLGA was used to enhance the encapsulation efficiency and improve the drug release profile of nanoparticles. Silymarin and Quercetin were used as model drugs which are having poor water solubility. *Result:* The surface morphology and size of the nanoparticles were studied by scanning electron microscopy (SEM). Drug encapsulation efficiency and in vitro drug release pattern of nanoparticles were determined using High Performance Liquid Chromatography (HPLC).The nanoparticles prepared in this study were spherical, with size ranges of 150–250 nm. It was shown that TPGS was a good emulsifier for producing nanoparticles of hydrophobic drugs like Silymarin and Quercetin and improving the encapsulation efficiency, drug loading and drug release profile of nanoparticles. *Conclusion:* This research suggests that the combined therapy system of Silymarin and Quercetin could be a better approach for liver targeted drug delivery.

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