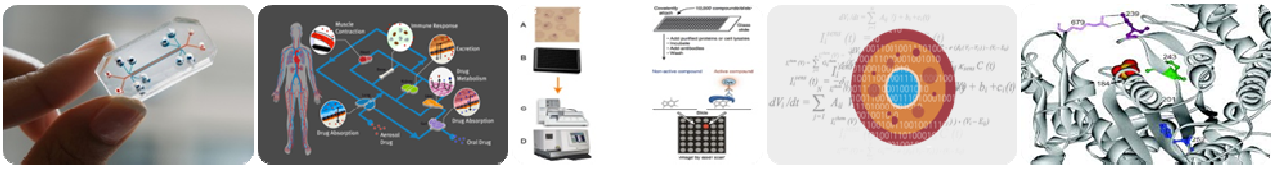
Abstract Book



National Seminar

Recent Trends and Advancement in Alternatives to Animal Experiments

October 01, 2016

Sponsored by

M.P. Council of Science and Technology

Organized by

RKDF Institute of Pharmaceutical Sciences

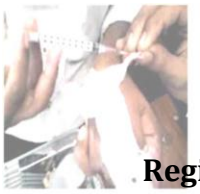
Indore-Dewas By-Pass Arandia Indore (M.P.)

Chief Patron
Dr. Shruti Kapoor

Patron
Mrs. Deepika Pathak
Dr. R.K. Tugnawat
Mr. Gulshan Kapoor

Coordinator and Convener
Dr. Arun Kumar Gupta

Advisory Committee
Dr. Raghvendra Dubey
Dr. Revathi A Gupta
Mr. Rakesh Jatav



Organizing Committee

Co- convener
Mr. Harit Rawal

Registration Committee
Mr.Gaurav Jain
Mr. Mohit Chaturvedi
Mr. Manohar Chauhan
Mrs. Sunita Patidar
Ms. Shweta Shrivas
Mr. Deepak Sen

Scientific Committee
Dr. Sumeet Dwivedi
Mrs. Jaya Sharma
Mr. Atul N. Chandu
Ms. Sweta Kulkarni
Ms Divya Kanungo

Venue Committee
Mr. Ankit Sahu
Ms. Purti Dubey
Ms. Smriti Malviya
Mrs. Nutan Mimrot
Mr. Jagdish Sura

Hospitality Committee
Mrs. Pooja Pancholi
Ms. Neetu Chaudhary
Ms. Laxmi Vishwakarma
Ms. Shuchi Jain
Ms. Pragya Sharma

Presentation Committee
Mr. Paras Bodana
Mr. Shailendra Kumar
Mrs. Shikha Jaiswal

Media and Publicity
Mr. Chintaman Kumawat
Mr. Deepak Gupta
Mr. Sunil Nagar

Discipline Committee
Mr. Rajesh Nagar
Mr. Girvar Singh Kelkar
Ms. Suman Ghelot
Mr. Ghanshyam Nagar
Mr. Shivraj Ahirwar
Ms. Sneha Babele
Mr Hemant Verma

NATIONAL SEMINAR

Saturday, 1st Oct 2016

"Recent Trends and Advancement in Alternatives to Animal Experiments"

Sponsored by
M. P. Council of Science and Technology

Seminar Schedule

Date: 01/10/2016

Time	Event
09:30 AM to 10:30 AM	Registration and Breakfast
10:30 AM to 11:00 AM	Inauguration Ceremony
11:00 AM to 12:00 PM	Scientific Session I (Dr. C.R. Patil)
12:00 PM to 01:00 PM	Scientific Session II (Dr. Arun Khemariya)
01:00 PM to 01: 45 PM	Lunch
01:45 PM to 02:30 PM	Scientific Session III (Dr. Love K. Soni)
02:30 PM to 03:30 PM	Poster Presentation
03.30 PM to 04.30 PM	Open Discussion
04:30 PM to 05:00 PM	Valedictory and High Tea

Venue

Seminar Hall,

RKDF Institute of Pharmaceutical Sciences,
Indore-Dewas Bypass Road, Arandia,
Indore – 452016 (M.P.)

Chancellor message……

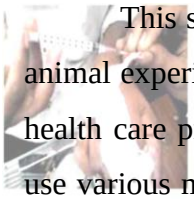
It is inspiring to know that **RKDF Institute of Pharmaceutical Sciences, Indore** is going to organize one day **MPCST sponsored** national seminar with the theme of "**Recent Trends and Advancement in Alternatives to Animal Experiments"** on **01st October 2016**. Today, the development of alternative methods is growing, due to innovations in science; animal tests are being replaced in areas such as toxicity study, neuroscience and drug development. The seminar fosters the better understanding of latest scientific researches by providing a global exposure to its participants where they can associate with relatable professionals. The seminar will provide a good opportunity for those who have a thirst in knowing the present technological developments and also share their ideas. The seminar aims to bridge the researchers working in academia and other professionals through current technological trends. It also provides the platform to get ample of opportunities to widen your knowledge and network.

I exhort you to participate and extend my heartfelt wishes for grand success of this splendid event.

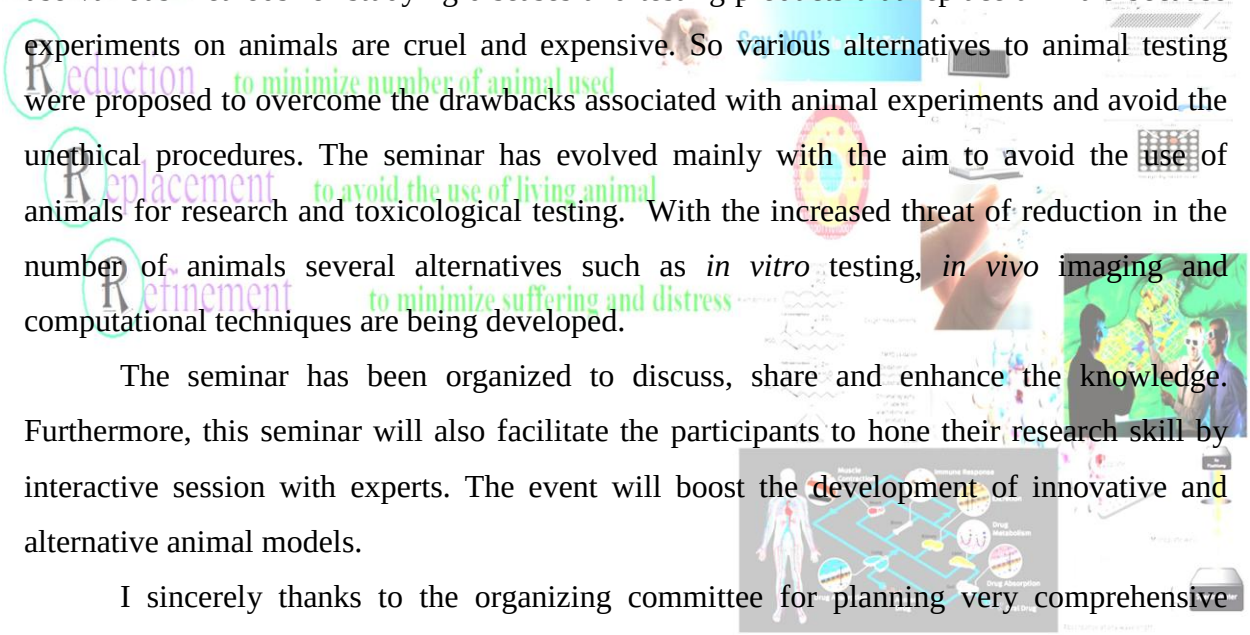
Dr. Shruti Kumari
Dr. A.P.J Abdul Kalam University

Convener message……

It's my immense pleasure to welcome all the academicians, eminent personalities and delegates to **RKDF Institute of Pharmaceutical Sciences, Indore** for the **MPCST sponsored** one day national seminar under the theme of "**Recent Trends and Advancement in Alternatives to Animal Experiments"** on **01st October 2016**. The seminar has been supported by **Dr. A. P. J. Abdul Kalam University**, Indore.



This seminar spotlights the theme of crucial and advanced methods for alternatives to animal experiments in pharmacy and medicine so as to aware our upcoming pharmacists and health care professionals. Today the world's most scientists have moved on to develop and use various methods for studying diseases and testing products that replace animals because experiments on animals are cruel and expensive. So various alternatives to animal testing were proposed to overcome the drawbacks associated with animal experiments and avoid the unethical procedures. The seminar has evolved mainly with the aim to avoid the use of animals for research and toxicological testing. With the increased threat of reduction in the number of animals several alternatives such as *in vitro* testing, *in vivo* imaging and computational techniques are being developed.



The seminar has been organized to discuss, share and enhance the knowledge. Furthermore, this seminar will also facilitate the participants to hone their research skill by interactive session with experts. The event will boost the development of innovative and alternative animal models.

I sincerely thanks to the organizing committee for planning very comprehensive forum for discussions and my students for their cooperation in this event. My special honored gratitude to MPCST grant team and their keen cooperation for the program. I also extend my gratitude to the management and authorities of university.

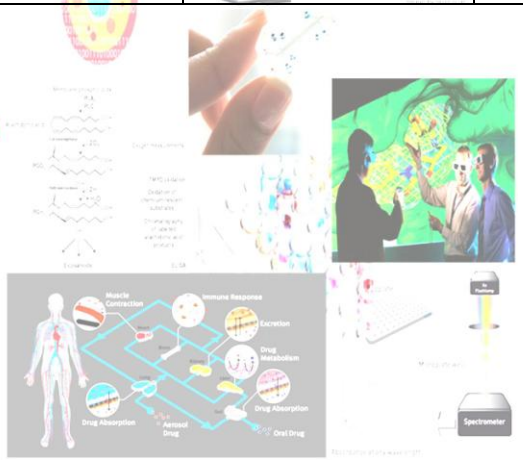
I hope that this event will inspire and productive for everybody.

Dr. Arun Kumar Gupta

ABSTRACT INDEX

RTAAAE/2016/12	DESIGN, DEVELOPMENT AND CHARACTERIZATION OF HERBAL LIPSTICK CONTAINING NATURAL INGTREDIENTS	MAGESH JAIN	15
RTAAAE/2016/13	FORMULATION AND EVALUATION OF GLYCYRRHIZIN ALGINATE BEADS FOR STOMACH-SPECIFIC DELIVERY	MEGHA RATHORE	16
RTAAAE/2016/14	*IN VITRO* ANTI OXIDANT ACTIVITY OF HYDRO-ALCOHOLIC EXTRACT OF *ORIGANUM VULGARE*	SWETA S. KOKA	17
RTAAAE/2016/15	PRELIMINARY PHYTOCHEMICAL SCREENING AND *IN-VITRO* ANTI MICROBIAL EVALUATION OF *BOERHAAVIA DIFFUSA*	SHIKHA JAIN	18
RTAAAE/2016/16	ADVANCEMENT OF ALTERNATIVE TO ANIMAL EXPERIMENT THROUGH FOUR R'S	GURJEET SINGH	19
RTAAAE/2016/17	NON-AQUEOUS PARENTERALS PREPARATION OF AN ANTICANCER AENT	AASTHA SHARMA	20
RTAAAE/2016/18	AN APPROACH FOR FLOATING DRUG DELIVERY SYSTEM	SHAHIL JACOB	21
RTAAAE/2016/19	VILDAGLIPTIN: A NEW ORAL TREATMENT FOR TYPE 2 DIABETES MELLITUS AND ITS MARKET SHARE IN INDIA	MOHIT KASERA	22
RTAAAE/2016/20	BILAYER TABLET: A SUITABLE APPROACH FOR RELEASE AND CO-ADMINISTRATION OF DRUG(S) THROUGH ORAL ROUTE	ABHISHEK SHARMA	23
RTAAAE/2016/21	PREPARATION AND CHARACTERIZATION OF NEBIVOLOL NANOPARTICLES BY USING BIODEGRADABLE POLYMER	MAYHANK SHARMA	24
RTAAAE/2016/22	LUNG CANCER CAN NOW BE TREATED EVEN IN ITS MOST AGGRESSIVE STATE	ARSALAN SHEIKH	25
RTAAAE/2016/23	DEVELOPMENT AND VALIDATION OF UVSPECTROPHOTOMETRICASSAY METHOD FORSIMULTANEOUS ESTIMATION OF GUAIPHENESIN, CHLORPHENIRAMINE MALEATE AND DEXTROMETHORPHAN HYDROBROMIDE IN SOFT GELATIN CAPSULE DOSAGE FORM USING SIMULTANEOUS EQUATION METHOD	TAMANNA NARSINGHANI	26
RTAAAE/2016/24	FORMULATION AND EVALUATION OF GELATIN - CHITOSAN/MMT ACYCLOVIR DRUG CONTAINING MICROSPHERES	PRAGYA SHARMA	27
RTAAAE/2016/25	FORMULATION AND *IN VITRO* EVALUATION OF NELFINAVIR MESYLATE MICROCAPSULES USING HYDROXY PROPYL METHYL CELLULOSE	RAGHVENDRA	28
RTAAAE/2016/26	QSAR STUDIES ON SOME SUBSTITUTED PYRAZOLES DERIVATIVES AS ANGIOTENSIN II RECEPTOR ANTAGONISTS	MUKESH C. SHARMA	29
RTAAAE/2016/27	MOLECULAR MODELING STUDIES FOR SOME SUBSTITUTED BENZIMIDAZOLE DERIVATIVES AS ANGIOTENSIN II AT_1 RECEPTOR ANTAGONISTS	M.C. SHARMA	30
RTAAAE/2016/28	PHARMACOPHORE MODELING, VIRTUAL SCREENING, AND IN SILICO ADMET ANALYSIS FOR THE IDENTIFICATION OF NOVEL APOPTOSIS INDUCER AS ANTICANCER AGENTS	VIVEK K. VYAS	31

RTAAAE/2016/68	A REVIEW ON "DENDRIMERS AND ITS APPLICATIONS IN NOVEL DRUG DELIVERY SYSTEM"	ARTI MAJUMDAR	71
RTAAAE/2016/69	A REVIEW ON "SYNTHETIC AND NATURAL POLYMERS USED IN PHARMACEUTICAL APPLICATIONS"	ARTI MAJUMDAR	72
RTAAAE/2016/70	*IN-VITRO METHODS*: ANALTERNATIVE TO ANIMAL TESTING METHODS IN DRUG DEVELOPMENT	SUMIT PRACHAND	73
RTAAAE/2016/71	VERTEBRATES: AN ALTERNATIVE TO ANIMAL TESTING METHODS	SUMIT PRACHAND	74
RTAAAE/2016/72	*INSILICO* METHODS: AN ALTERNATIVE METHOD TO ANIMAL TESTING	SUMIT PRACHAND	75
RTAAAE/2016/73	DEVELOPMENT AND EVALUATION OF POLYHERBAL ANTICANCER TABLETS	MAHVIR CHHAJED	76
RTAAAE/2016/74	ANTIOXIDANT AND ANTIFUNGAL POTENTIAL OF SOME AROMATIC PLANT EXTRACTS	SACHIN KUMAR JAIN	77
RTAAAE/2016/75	IN-VITRO EVALUATION OF ANTIMICROBIAL ACTIVITY OF THE AERIAL PARTS OF *DESMODIUM SCORPIURUS (SW.) DESV.* EXTRACT	AMIT MODI	78
RTAAAE/2016/76	3D PRINTING TECHNOLOGY: AN ALTERNATIVE OF ANIMAL TESTING	ARCHANA PATIDAR	79
RTAAAE/2016/77	COLLATION OF ACUTE AND FRACTIONATED DOSING OF DOXORUBICIN ON BONE HISTOLOGY	R.L. PATEL	80




Reduction to minimize number of animal used
Replacement to avoid the use of livi
Refinement to minimize suffering and distress
Say 'NO!' to Animal Tests
Muscle Contraction
Immune Response
Excretion
Drug Metabolism
Drug Absorption
Drug Absorption
Aerosol Drug
Oral Drug
Spectrometer

Abstract

RTAAE2016/RP01

ALTERNATIVES TO EXPERIMENTAL ANIMALS IN EDUCATION AND RESEARCH

C. R. Patil
Department of Pharmacology, R. C. Patel Institute of Pharmaceutical Education and Research, Shirpur, Dist: Dhule, Maharashtra -425 405.
pchandragouda@yahoo.com

ABSTRACT

Recent directives from the apex governing bodies like MCI, PCI and UGC have given impetus to the movement of development of alternatives to experimental animals in training and education. The teachers and learners are positively striving at their best to cope with an abrupt ban on the use of animals in routine practical classes. This has given rise to an urgent need of suitable alternatives that can efficiently replace the animals based experiments without sacrificing the subject contents and professional training. Present talk will shed light on the available educational software packages and mannequins which are used in the developed countries in routine teaching-learning process. Emphasis will be given on the advantages of sophisticated, interactive and user friendly alternatives to conventional wet laboratory experiments.

Computer assisted learning (CAL) has rapidly taken over the conventional modes of knowledge reinforcement. Advances in the information technology have contributed to wider acceptability of CAL resources. With modernization of the teaching-learning process, the CAL has significantly contributed to the minimization of use of live animals in education.

Certain researchers, including this speaker and Dr. R. Raveendran (Prof, JIPMER, Pondicherry), have taken initiative in developing software based alternatives to majority of animal based experiments taught at undergraduate level in medical, paramedical and veterinary courses. Their efforts have significantly altered the gloomy scenes of wet laboratory experiments through providing exhaustive subject contents repeatedly accessible with clean hands at any time that too at the discretion of the learner!!!.

Computer assisted mannequins of experimental animals: A step ahead of CAL

Computer Assisted Learning (CAL) has significantly reduced the use of experimental animals in the undergraduate training. However, in the advanced research use of animals has not been totally excluded. Hence, training in the wet lab experiments is still mandatory for those pursuing a career in the biomedical research.

In such situations, a realistic simulation can be obtained by combining the software packages with life-like mannequins of experimental animals to fulfil the objectives of wet lab training.

A mannequin built with an operating software developed to teach, learn, set up and perform invasive rat blood pressure experiment is described herein such situations, a realistic simulation can be obtained by combining the software with life-like mannequins of experimental animals to fulfil the objectives of wet lab training.

A mannequin built with operating software developed to teach, learn, set up and perform invasive rat blood pressure experiment will be described.

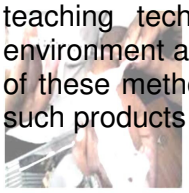
RTAAE2016/RP02

ALTERNATIVE TO ANIMAL EXPERMENTS

Arun Khemariya
Content Strategist, Elsevier Health Sciences

ABSTRACT

Animal experiments has been a cornerstone of Clinical research from the very start, they also form a part of practical illustrations for students learning Pharmacology. The need for sacrificing these animals has always been debated, now the technological advances have created a scenario where Animal sacrifice can be eliminated while not compromising with teaching techniques. Simulation based software products provide the right learning environment and demonstrate the effect of drug without involving a real animal. The success of these methods has led to major bodies like MCI and PCI creating a mandate for use of such products to demonstrate drug actions



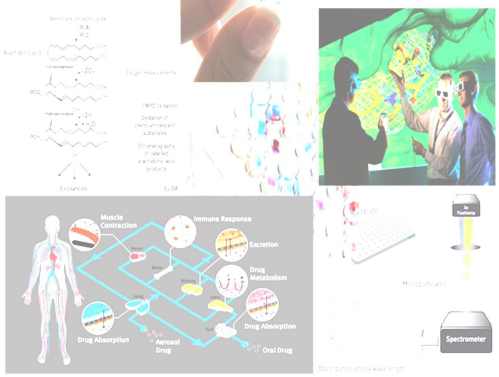
RTAAE2016/RP03

ALTERNATIVE TO ANIMAL SCREENING METHODS IN DRUG RESEARCH: BENEFITS BEYOND MEASURE

Love Kumar Soni
Molecular Modelling Study Group, Computer Aided Drug Design Lab.,
School of Pharmacy, Devi Ahilya University, Indore

ABSTRACT

The increase in the number of animals used in the drug research by CROs and pharmaceutical research organizations alarmed the researchers to find the alternative to the animal screening methods used in drug research. The animal used in drug research suffers from pain and distress which also results in death of the experimental animal. This is also a debatable issue for the animal welfare organizations. In the recent year the understanding of the drug function at cellular and molecular level has increased due to the advances in the biological sciences and medicinal chemistry. The advent of the computer aided drug design techniques makes it easy to get an insight into the structural and molecular requirements influencing the biological activity of the drugs. With the methods like Virtual screening, also known as *in silico* screening, represents a fast and cost effective tool for screening several thousand compounds in search for novel drug leads and to identify the compounds which are most likely to be active so that the structures would be given priority for actual animal screening. Advance techniques like docking to carry out the virtual screening can be seen as complementary to biological screening to identify the molecules from a chemical library that are most likely to bind to the target. These can then be given priority for biological screening making the biological screening more efficient.



MPCST/RTAAAE/2016/01

DEVELOPMENT OF ANTHELMINTIC RESISTANCE DURING THE THERAPEUTIC TREATMENT OF GASTROINTESTINAL NEMATODIASIS AFFECTING THE SMALL RUMINANTS: AN OUTLOOK

Ruchi Sharma[1] and Subha Ganguly[2*]

1, Department of Veterinary Parasitology, 2, Department of Veterinary Microbiology, Arawali Veterinary College (Affiliated with Rajasthan University of Veterinary and Animal Sciences, Bikaner), N.H. – 52 Jaipur Road, V.P.O. Bajor, Sikar – 332001, (Rajasthan), India
ganguly38@gmail.com

ABSTRACT

Small ruminants are important source of income for rural communities whose livelihood is largely based on livestock production (Biffa *et al*., 2006). Sheep is an important livestock species of India. India is a rich source of diverse ovine germplasm with 74 million sheep which is 6.8% of world sheep population (FAOSTAT, 2010). They contribute greatly to the agrarian economy especially where crop and/dairy farming are not economical. They play an important role in the livelihood of a large percentage of small and marginal farmers and landless labours engaged in sheep rearing. However, sheep production is hindered by many factors including animal health constraints, inadequate nutrition and poor husbandry system (Sissay *et al*., 2006).

Out of various diseases affecting sheep, parasitic gastroenteritis caused by gastro-intestinal nematodes, mainly *Haemonchus contortus,* is very important in sheep in India and is responsible for high mortality and morbidity (Yadav, 1997). The gastrointestinal nematodes of sheep include *Haemonchus contortus*, *Telodorsagia circumcinta, Trichostrongylus axei*, *Nematodirus* spp. and *Cooperia* spp. The proportions of each of these nematodes in sheep populations vary according to geographic location. *Haemonchus contortus* and *T. circumcincta* represent most of the parasite burdens seen in sheep, with *H. contortus* being present in highest numbers. Anthelmintic resistance is present in all of these parasites, but the prevalence is highest for *H. contortus*, making it the most economically important gastrointestinal nematodes of sheep (Fleming *et al*., 2006).

The extensive use of anthelmintics for control of gastro-intestinal nematodes has resulted in the development of resistance to one or more of the widely used anthelmintics in many countries. Resistance to anthelmintics by gastro-intestinal nematodes of sheep is a widespread problem (Maroto *et al*., 2011, Qadri *et al*., 2015) and has been reported to affect the health and productivity of sheep globally (Geurden *et al*., 2014). A lack of anthelmintic class rotation and, in some breeding areas, a high drench frequency, which alone or in combination, are likely to increase the risk for anthelmintic resistance. Further, mixed grazing of sheep and goats has been evoked as a possible risk factor for the spread and emergence of anthelmintic resistance. A number of reports on anthelmintic resistance have been documented in many countries (Domke *et al*., 2011). Benzimidazole resistance in sheep was first described in 1964 (Drudge *et al*., 1964). In addition, multiple resistances to most of the anthelmintics against gastro-intestinal nematodes have also been detected in many countries (Acosta *et al*., 2012; Barbara *et al*., 2012) and these are a major concern in sheep industry (Sargison, 2012). Resistance to all classes of broad-spectrum anthelmintics available *viz*., benzimidazoles, imidothiazoles-tetrahydropyrines and macrocyclic lactones has been reported (Ihler, 2010).

MPCST/RTAAAE/2016/02

BIODIVERSITY ASPECTS AND CONSERVATION STRATEGIES OF HERBS AND RELATED PRODUCTS: THE NEED OF PRESENT ERA

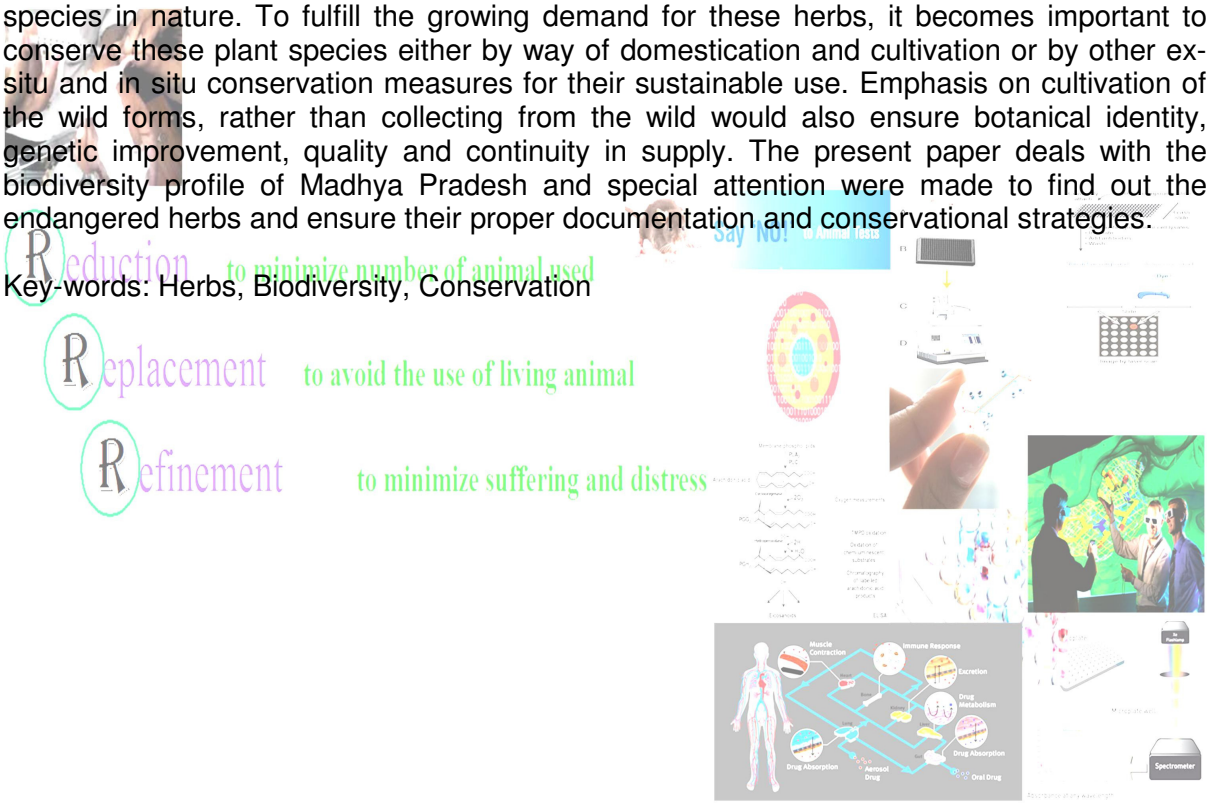
S.N. Dwivedi and Sangeet Dwivedi

Department of Botany, Janata PG College, APS University, Rewa, (MP) – India
drsndwivedi@yahoo.co.on

ABSTRACT

Herbs are valuable natural resources. Unplanned development and overexploitation of herbs by lack of knowledge has resulted in shortage of various herbs and extinction of several species in nature. To fulfill the growing demand for these herbs, it becomes important to conserve these plant species either by way of domestication and cultivation or by other ex-situ and in situ conservation measures for their sustainable use. Emphasis on cultivation of the wild forms, rather than collecting from the wild would also ensure botanical identity, genetic improvement, quality and continuity in supply. The present paper deals with the biodiversity profile of Madhya Pradesh and special attention were made to find out the endangered herbs and ensure their proper documentation and conservational strategies.

Key-words: Herbs, Biodiversity, Conservation



MPCST/RTAAAE/2016/03

COMPARATIVE ANTI MICROBIAL STUDIES ON AQUEOUS, METHANOLIC AND SAPONIN EXTRACT OF STEM BARKS OF *ZIZIPHUS NUMMULARIA* ON HUMAN VAGINAL PATHOGENS CAUSING UTI INFECTION

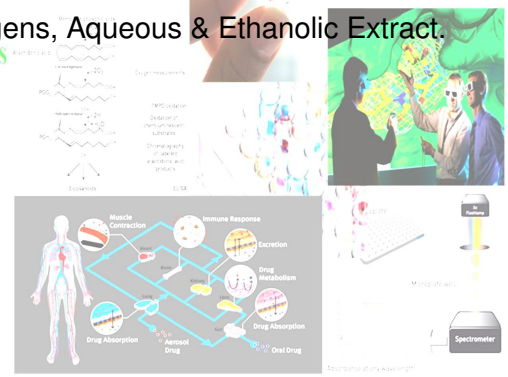
Raghvendra Dubey[1] and Kushagra Dubey[2]

1. COP, Dr. A.P.J.Abdul Kalam University, Indore (M.P.) - India
2. Smriti College of Pharmaceutical Education, Indore (M.P.) - India

ABSTRACT

Urinary tract infections (UTIs) are a leading cause of morbidity and health care expenditures in persons of all ages. An estimated 40 percent of women report having had a UTI at some point in their lives. The aqueous, ethanolic and saponin extracts of *Zizyphus nummularia* (Z. Rotundifolia) stem barks has been screened for antimicrobial activities against some human vaginal pathogens causing UTI. *Staphylococcus aureus*, *Pseudomonas aeruginosa, streptococcus facecalis, klebsiella pneumoniae, Escherichia coli, Enterobacter faecalis*, *Enterobacter faecium* and *Proteus mirabilis* isolated from patient samples were sub-cultured in nutrient broth, nutrient agar, macconky agar and blood agar media. The relative zone of inhibition and minimum inhibitory concentration of different extracts were estimated by disc diffusion assay on Muller Hinton agar media. Extracts were found to produce significant inhibition against all the pathogens which were compared with standard drug. The result clearly indicates that the saponin extract were observed to be more active than ethanol and aqueous fraction.

Key Words: Ziziphus Species, Human Vaginal Pathogens, Aqueous & Ethanolic Extract.



MPCST/RTAAAE/2016/04

ROLE AND IMPLICATIONS OF NANODIAGNOSTICS FOR TUBERCULOSIS: CHANGING THE TRENDS OF CLINICAL DIAGNOSIS

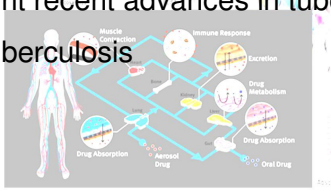
Revathi A Gupta*[1], Arun K Gupta[2]

*[1]Institute of Pharmacy, Dr. A.P.J. Abdul Kalam University, Indore -45200
[2]School of Pharmacy, Dr. A.P.J. Abdul Kalam University, Indore
arunrevathi19@gmail.com

ABSTRACT

Tuberculosis (TB) remains one of the most serious infectious diseases in the world demanding new, fast, reliable and effective diagnostic tools. Nanotechnology has been offer new methods for both diagnosis and treatment of tuberculosis. Nanodiagnostics, i.e. nanotechnology based diagnostics using nanosized materials, devices or systems for diagnostics which may decreasing the time needed for the molecular characterization of the infecting agent, and allowing for miniaturization and portability for point-of-need adapted to remote regions without suitable lab equipment. The diagnostic principle of nanomechanical such as biomicroelectromechanical system (BioMEMS) deflection of the microcantilever due to adsorption of the TB specific antigens on its upper surface is employed for the diagnosis of TB. Recently a nucleic acid sequence-based amplification (NASBA) and gold nanoparticle probes (AuNP probes) nanodiagnostic method was developed for colorimetric detection of *Mycobacterium tuberculosis*. In this method te RNA–DNA hybrids were colorimetrically detected by the accumulation of gold nanoparticles. The apparent advantages are their ability to provide results within hours, with increased sensitivities and specificities at a fraction of a cost. A nanotechnology-based TB diagnostic kit provides for early detection of these pathogens in sputum and stool samples; thus allowing for treatment before the infection spreads throughout the body, especially for those with AIDS who are living longer due to new methods of treatment. The present study reviews the current TB diagnostic assays and treatment by nanotechnologies and highlight recent advances in tuberculosis.

Key words: Nanoparticle probes, Nanodiagnostics, Tuberculosis



MPCST/RTAAAE/2016/05

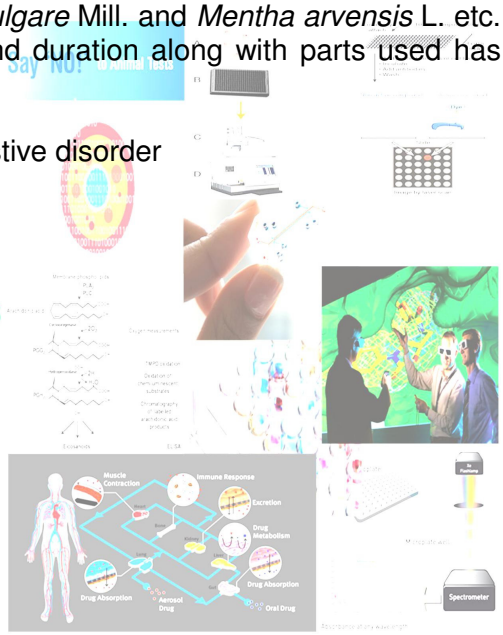
TRADITIONAL PHYTOTHERAPY USED IN THE TREATMENT OF DIGESTIVE DISORDERS AMONG TRIBES OF MALWA REGION (INDORE) OF MADHYA PRADESH

Sumeet Dwivedi* and Shweta Shriwas

College of Pharmacy (COP), Dr. APJ Abdul Kalam University, Indore, (MP) – India
herbal0914@rediffmail.com, sumeet_dwivedi2002@yhaoo.com

ABSTRACT

Malwa region (Indore) of Madhya Pradesh sustains a very rich traditional medicinal plant wealth and inherits unique plant and animal communities. The present paper enumerates traditional phytotherapy used in the very common diseases of tribes i.e., digestive disorders. An exhaustive ethonedicinal survey was made for the collection of the various medicinal plants and their data's in respect were presented in this paper. The herbs viz., *Aegle marmelos* (L.) Corr., *Acorus calamus* L., *Cassia angustifolia* Vahl., *C. fistula* L. *Calonyction muricatum* G. Don., *Curcuma longa* L., *Foeniculum vulgare* Mill. and *Mentha arvensis* L. etc. were identified, their method of preparation, dose and duration along with parts used has been mentioned in the present paper.



Key words: Malwa Region, Traditional, Indore, Digestive disorder

MPCST/RTAAAE/2016/06

FORMULATION AND EVALUATION OF HERBAL GEL CONTAINING *PLUMERIA ALBA* LEAVES EXTRACT

Shweta Shriwas*, Sumeet Dwivedi and Raghvendra Dubey

Department of Pharmaceutics, College of Pharmacy (COP),
Dr. APJ Abdul Kalam University, Indore, (MP) – India
shwetashriwas18@gmail.com

ABSTRACT

The present research has been undertaken with the aim to formulate and evaluate the herbal gel containing *Plumeria alba* extract. The gel formulation was designed by using aqueous extract of *Plumeria alba* leaves in varied concentrations (2.5% and 5%) and evaluated using physiological measurements. The gel was prepared by using various polymer bases (Sodium CMC, Carbopol 934). Among them Carbopol 934 has given better gel formation. The gel was prepared by using Carbopol 934, *Plumeria alba* leaves extract, Propylene glycol 400, Methyl paraban, Propyl paraben and required amount of distilled water. Then skin pH (6.8-7) was maintained by drop wise addition of tri-ethanolamine. The physiochemical parameters of formulations (pH, viscosity, spreadability etc.) were determined. Stability studies have carried out as per ICH guidelines for 3 months at different temperatures and humidity. The results showed that formulation containing 2.5% *Plumeria alba* extract have better stability than other formulation. Further all formulations have studied for skin irritation on animal model (Rabbit) and result showed that there was no skin irritation to animals.

Keywords *Plumeria alba*, Sodium CMC, Carbopol 934, Gel

MPCST/RTAAAE/2016/07

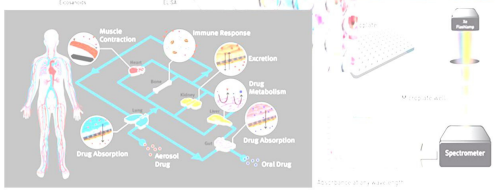
ALDOSE REDUCTASE INHIBITORS: A REMARKABLE APPROACH FOR THE TREATMENT OF DIABETIC ASSOCIATE DISEASES

Kushagra Dubey[*] and Arun Gupta[#]

[*]Smriti College of Pharmaceutical Education, Indore (MP)
[#]School of Pharmacy (SOP), Dr. A.P.J. Abdul Kalam University, Indore (MP)

ABSTRACT

Diabetes mellitus is one of the leading causes of death across the world. Hyperglycemia in diabetic patients results in a diverse range of complications such as diabetic retinopathy, neuropathy, nephropathy and cardiovascular diseases. These complications cause damage to blood vessels and peripheral nerves, greatly increasing the risk of heart attack. A number of mechanistic explanations for the complications have been proposed. The most important is polyol pathway. Aldose reductase, the major rate limiting enzyme in the polyol pathway, plays a critical role in diabetic complications. The polyol pathway is a two-step metabolic pathway in which glucose is reduced to sorbitol, which is then converted to fructose. In both humans and experimental animals, all retinal cell types known to be affected by diabetes contain aldose reductase (AR). AR belongs to the aldo-keto reductase enzyme superfamily. The enzyme is a single polypeptide domain composed of 315 amino acid residues. Research on aldose reductase properties shows that the enzyme is sensitive to organic anions, particularly to long-chain fatty acids, leading to the identification of tetra methylene glutaric acid (TMG) as the first decent Aldose Reductase Inhibitor (ARI). Since then, the more potent and early inhibitor alrestatin was developed. Number of carboxylic acid and spirohydantoin derivatives ARIs such as epalrestat, Tolrestat, zenarestat, zopolrestat, ponalrestat, fidarestat and raniresta for treatment of diabetic neuropathy, retinopathy and cataracts were developed. Although very few ARIs have passed through late stage of clinical trials, and only epalrestat is on the markets.



MPCST/RTAAAE/2016/08

HRBC MEMBRANE STABILIZATION ASSAY FOR EVALUATION OF *IN-VITRO* INFLAMMATORY ACTIVITY

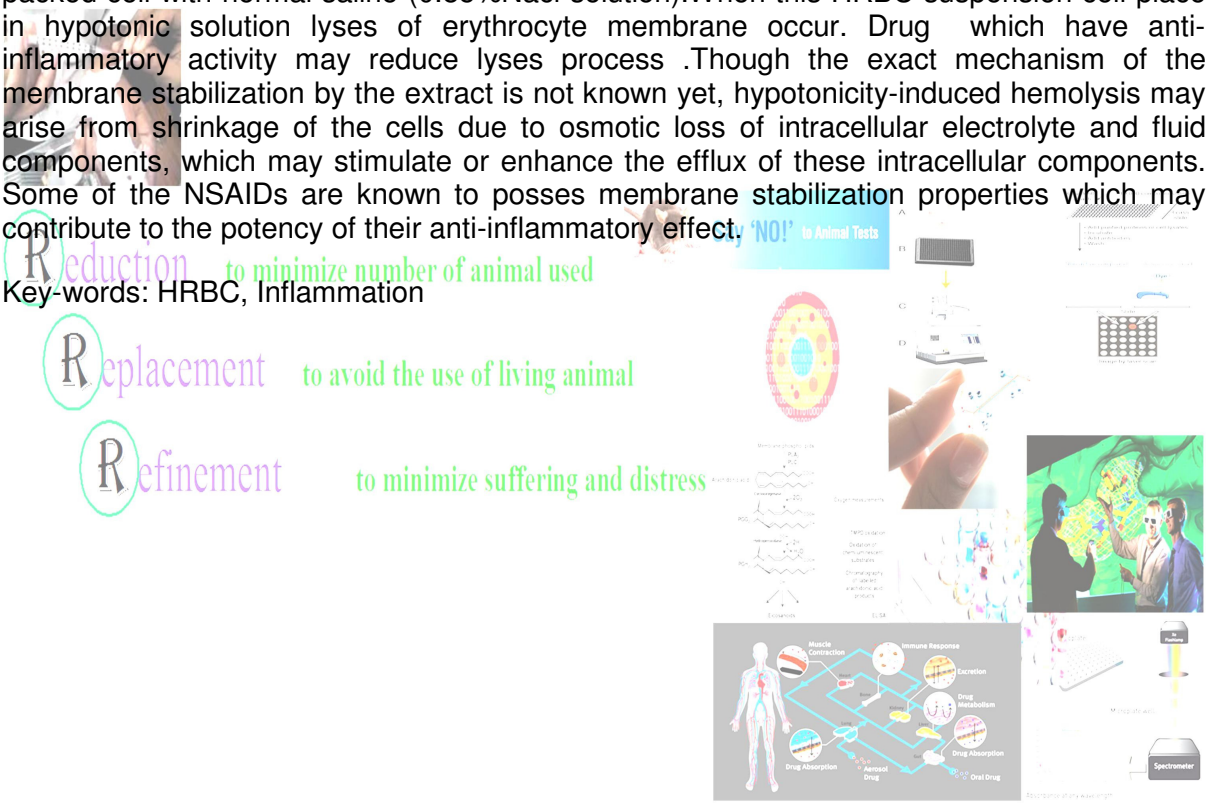
Shailesh Gupta

Department of Pharmaceutics, Oriental College of Pharmacy, Bhopal, (MP)

ABSTRACT

Human RBC (HRBC) membrane stabilizing assay is alternative test for determination of Anti-inflammatory active. The Principal of this assay is based on Osmotic presser on human RBC cell. Human erythrocyte cell suspension (10%w/w) was prepared by centrifuged RBC packed cell with normal saline (0.85%Nacl solution).When this HRBC suspension cell place in hypotonic solution lyses of erythrocyte membrane occur. Drug which have anti-inflammatory activity may reduce lyses process .Though the exact mechanism of the membrane stabilization by the extract is not known yet, hypotonicity-induced hemolysis may arise from shrinkage of the cells due to osmotic loss of intracellular electrolyte and fluid components, which may stimulate or enhance the efflux of these intracellular components. Some of the NSAIDs are known to posses membrane stabilization properties which may contribute to the potency of their anti-inflammatory effect.

Key-words: HRBC, Inflammation



MPCST/RTAAAE/2016/09

GERMINATION STRATEGIES AND SEEDLING GROWTH OF CERTAIN MEDICINAL PLANTS OF AWARPUR (MS)

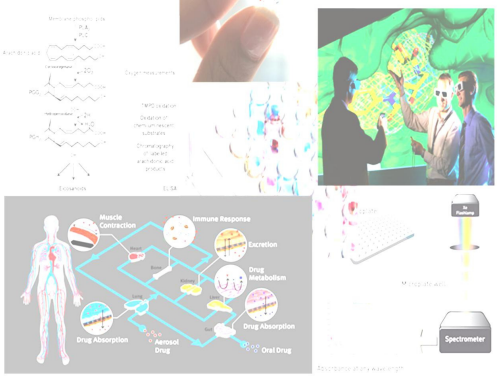
Ratnesh Shrivasta[1*], R.M. Mishra[1] and Arpita Awasthi[2]

1, SOEB, APS University, Rewa, (MP) - India
2, Department of Botany, Govt. TRS College, Rewa, (MP) – India

ABSTRACT

Our country has a rich treasure of medicinal plants due to the diversity of agro-climatic conditions spread over the country. Medicinal plant sector is facing many constrains. So far, there has been no organized research set up to continually recharge scientific inputs in order to make their cultivation not only economically viable but also more profitable, so that they can claim their due share in the cropping systems of the country. The workers have paid attention towards the herbal medicine alleviate the human sickness. The present work was carried out to highlights the germination strategies and seedling growth of 29 selected plant species viz., *Azadirachta indica*, *Albizzia lebbeck*, *Aegle marmelous*, *Acacia catechu,Achyranthu saspera*, *Argemone mexicana*, *Acacia nilotica*, *Bombax ceiba*, *Butea monosperma*, *Bauhinia racemosa*, *Cassia fistula*, *Cassia siamea*, *Cassia tora*, *Carica papaya*, *Cyperus difformis*, *Calotropis procera*, *Dalbergia sisso*, *Eclipta prostrate*, *Eucalyptus oblique*, *Ficus benghalensis*, *Ficus racemosa*, *Ficus religiosa*, *Lantana camara*, *Mangifera indica*, *Madhuca longifolia*, *Pongamia pinnata*, *Ricinus communis*, *Tamarindu sindica* and *Zizphus glaberrima* of Awarpur.

Key-words: Germination, Medicinal plants, Awarpur



MPCST/RTAAAE/2016/10

DESIGN & DEVELOPMENT OF SUSTAIN REALESE MATRIX TYPE TABLET OF CINNARAZINE FOR ANTIHISTAMINICS

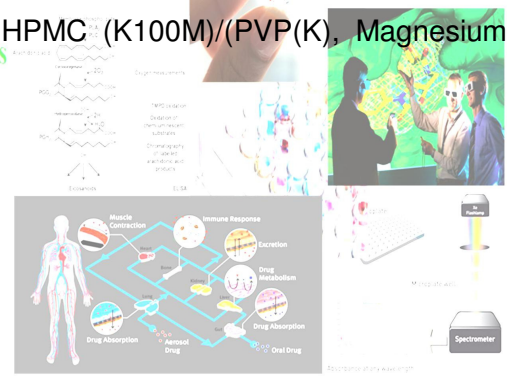
Suman Gehlot*, Sumeet Dwivedi and Raghvendra Dubey

Department of Pharmaceutics, College of Pharmacy (COP),
Dr. APJ Abdul Kalam University, Indore, (MP) - India

ABSTRACT

The objective of this study was to design and evaluate oral sustain release drug delivery system for Cinnarazine using hydrophilic polymers such as and HPMC(K100M), PVP(K) batches. Four batches were prepared by using HPMC (K100M) in drug: Polymer ratio of 1:1, 1:1.5, 1:2, 1:3 and five batches using PVP (K) in ratios of 1:1, 1:1.25, 1:1.5, 1:1.75, 1:2. Further formulation F9 was modified by varying the ratios of diluents i.e F10, F11, F12, F13 to check the effect of diluents on drug release. Matrix tablets were prepared by wet granulation method and were evaluated for weight variation, content uniformity, friability, hardness, thickness, swelling index and in vitro dissolution. Among the formulations studied, formulation F9 containing HPMC K100M(1:2) showed sustained release of drug for 20 h with cumulative percent release of 88% similar to that of the research listed drug. The kinetic treatment showed that the optimized formulation follow first order kinetic with release exponent (n) 0.579 and having good stability as per ICH guidelines. No chemical interaction between drug and gums was seen as confirmed by DSC studies. The matrix formulation F9 showed sustained release of Cinnarazine by the diffusion mechanism.

Key Words: Sustained release, Hydrophilic gums, HPMC (K100M)/(PVP(K), Magnesium stearate, Lactose and drug Cinnarazine



MPCST/RTAAAE/2016/11

FORMULATION AND EVALUATION OF ETHOSOMES OF *PLUMERIA INDICA* LINN. FLOWERS

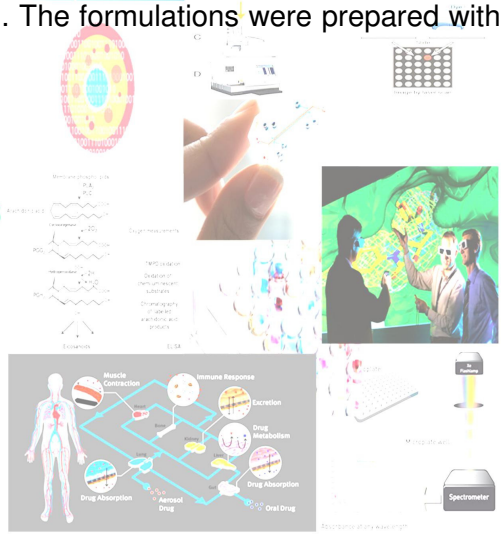
Ankita Rajput, Jitendra Malviya, Sandeep Prajapati, Shweta Shriwas, Sumeet Dwivedi and Raghvendra Dubey

College of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (M.P.) – India
Herbal0914@rediffmail.com

ABSTRACT

The number of products based on new drug delivery systems has significantly increased in the past few years, and this growth is expected to continue in the near future. These biopharmaceuticals present challenges to drug delivery scientists because of their unique nature and difficulty in delivery through conventional routes. Therefore, future research will focus on the delivery of these complex molecules through different routes, including oral, nasal, pulmonary, vaginal, rectal, etc. The aim of present study was to formulate and evaluate ethosomes of Plumeria indica flowers which may deliver the drug to targeted site more efficiently than marketed preparation and also overcome the problems related with oral administration of drug. The formulations were prepared with ethanol, lecithin, propylene glycol and was evaluated.

Key words: Ethosomes, herbal extracts, Lecithin



MPCST/RTAAAE/2016/12

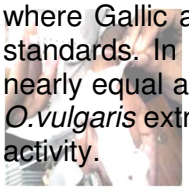
IN VITRO ANTI OXIDANT ACTIVITY OF HYDRO-ALCOHOLIC EXTRACT OF *ORIGANUM VULGARE*

Sweta S. Koka*, Chitra Pillai, Suraj Singh Bhadoriya and R K Nema

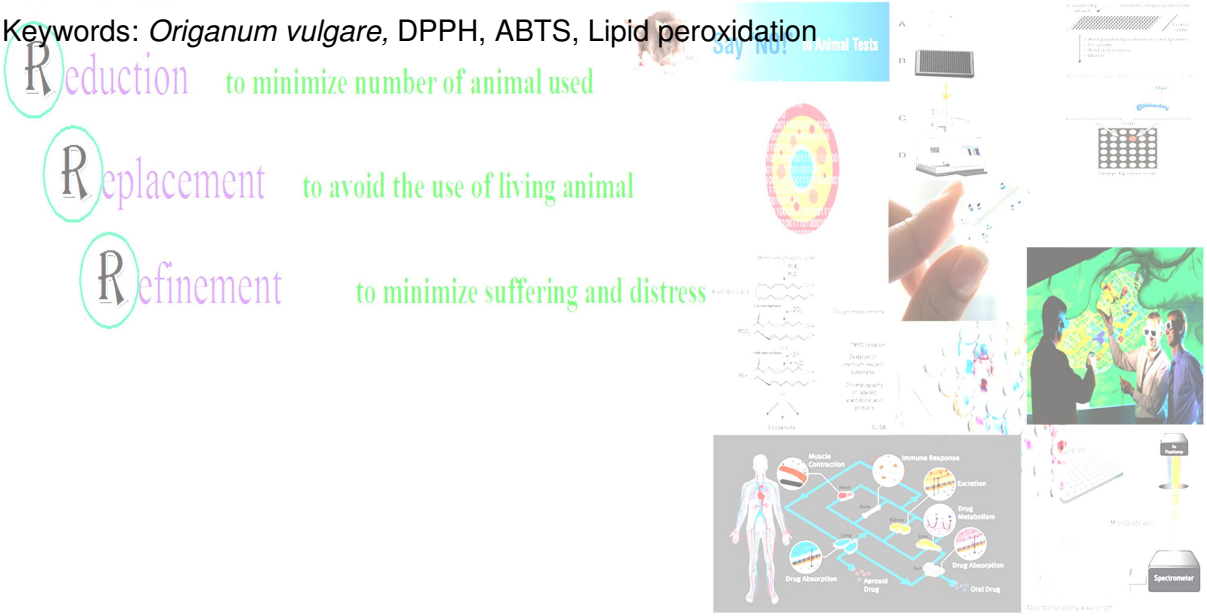
Lakshmi Narain College of Pharmacy (RCP), Indore (MP)

ABSTRACT

Present study deals with the *In vitro* Anti oxidant activity of hydro alcoholic extract of *Origanum vulgare* commonly known as oregano belongs to the family Lamiaceae. Hydro alcoholic extract of *Origanum vulgare* was subjected to *In vitro* antioxidant activity screening models such as DPPH, ABTS radical scavenging activity, inhibition of Lipid peroxidation where Gallic acid, Butylated Hydroxy Toulene (BHT) and Ascorbic acid were used as the standards. In all the models studied, hydro alcoholic extract of *Origanum vulgare* showed nearly equal activities to Standards. used.In conclusion, the present study approved that the *O.vulgaris* extract have promising *In- vitro* antioxidant activity.



Keywords: *Origanum vulgare,* DPPH, ABTS, Lipid peroxidation



MPCST/RTAAAE/2016/13

PRELIMINARY PHYTOCHEMICAL SCREENING AND *IN-VITRO* ANTI MICROBIAL EVALUATION OF *BOERHAAVIA DIFFUSA*

Shikha Jain, Sourabh D Jain, Narendra Shinde and R.K.Nema

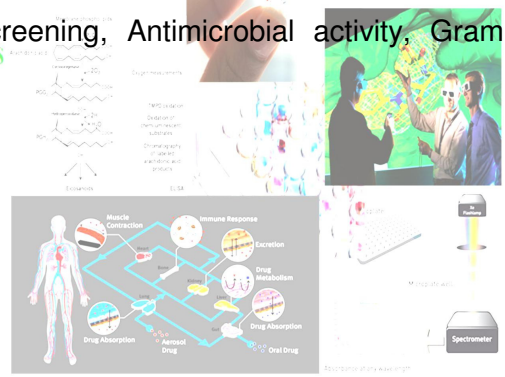
Lakshmi Narain College of Pharmacy (RCP), Indore (MP)

ABSTRACT

Boerhaavia diffusa is a herbal plant, which is common in the tropics in both dry and rainy seasons. It is found in India, Nigeria and many other countries. *Boerhaavia diffusa* is a herbaceous member of the family Nyctaginaceae. It has attracted a lot of attention due to its prevalent uses in Ayurvedic system of medicine. It has a long history of uses by indigenous and tribal people and in natural herbal medicines. Besides, the *Boerhaavia diffusa* plant is reported to posses many pharmacological, clinical, and antimicrobial properties.

The aim of the present study was to evaluate the phytochemicals and antimicrobial activity of various solvent extracts of *Boerhaavia diffusa*. The antimicrobial activity of aqueous extracts of *Boerhaavia diffusa* were tested against the Gram-positive and Gram-negative bacterial strains by observing the zone of inhibition. The Gram-positive organism as *Staphylococcus aureus*, *Bacillus subtilis* and the Gram-negative organism as *Escherichia coli*, *Pseudomonas aeruginosa* were used for the screening of *In-vitro* antimicrobial activity. The result revealed the presence of alkaloid, glycoside, saponins, flavonoids and tannin in the petroleum ether, methanol and aqueous extracts of *Boerhavia diffusa root*. The aqueous extract of *Boerhavia diffusa root* possesses antimicrobial activity as the zone of inhibition was observed for both gram positive as well as gram negative bacterial strains.

Key Words: *Boerhaavia diffusa,* Phytochemical screening, Antimicrobial activity, Gram positive strains, Gram-negative bacterial strains.



MPCST/RTAAAE/2016/14

ADVANCEMENT OF ALTERNATIVE TO ANIMAL EXPERIMENT THROUGH FOUR R'S

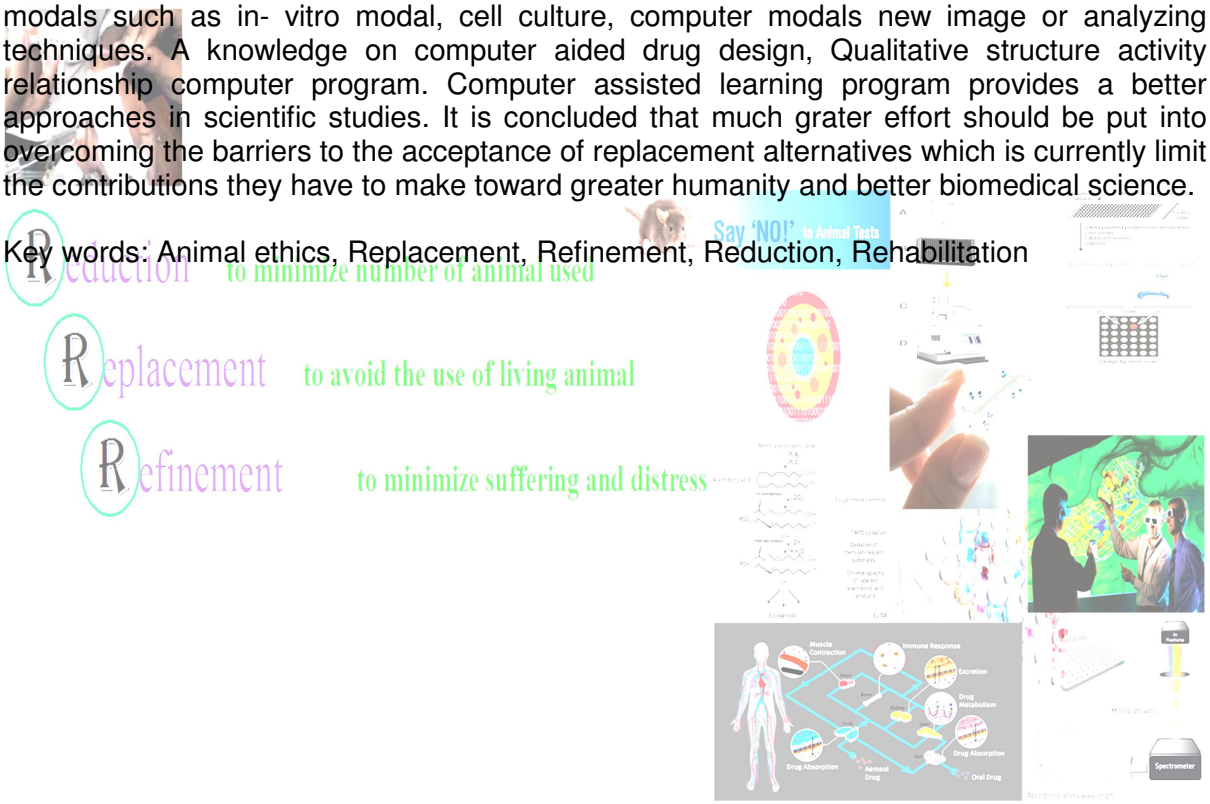
Gurjeet Singh*, Shubham Sharma, Karan Arya and Raghvendra

Department of Pharmaceutics, Aligarh College of Pharmacy, Aligarh, (U.P.) - India, 202001
pharmacy2015@rediffmail.com

ABSTRACT

Animal ethics is as impotent as human welfare. It needs effective implementation of four R's (Refinement, Replacement, Reduction and Rehabilitation). The death and distress of the animal during the scientific study have been a matter of debate. Displacement was first discussed by Charles Hume for animal welfare. Replacement involves usage of alternative modals such as in- vitro modal, cell culture, computer modals new image or analyzing techniques. A knowledge on computer aided drug design, Qualitative structure activity relationship computer program. Computer assisted learning program provides a better approaches in scientific studies. It is concluded that much grater effort should be put into overcoming the barriers to the acceptance of replacement alternatives which is currently limit the contributions they have to make toward greater humanity and better biomedical science.

Key words: Animal ethics, Replacement, Refinement, Reduction, Rehabilitation



MPCST/RTAAAE/2016/15

NON-AQUEOUS PARENTERALS PREPARATION OF AN ANTICANCER AGENT

Aastha Sharma*, Neelu Yadav, Pragya Sharma and Raghvendra

Department of Pharmaceutics, Aligarh College of Pharmacy, Aligarh, (U.P.) - India, 202001
pharmacy2015@rediffmail.com

ABSTRACT

Cancer is second leading cause of death worldwide after heart diseases.. The three proven methods of treating cancer are surgery, radiation therapy and chemotherapy. Chemotherapy uses powerful drugs to kill cancer cells, control their growth, or relieve pain symptoms, it is systemic; it works throughout the body, so the metastatic tumors can also be treated. Antimitotic drugs show a wide spectrum of activity against various cancers. This article comprises reviews of formulation of an antimitotic drug of plant alkaloids which is approved for treating human malignancies mainly breast cancer, non-small cell lung cancer, prostate cancer, gastric cancer, head and neck cancer by inhibiting microtubules, a cell protein helpful in cell division this causes the death of cancer cells or apoptosis. Being non polar the drug causes irritation to gastrointestinal tract when given orally, hence parenteral formulation is suitable for administering the drug substance systemically. The drug is also very sensitive to heat and moisture, so as to avoid the drug degradation by moisture it is formulated as non aqueous formulation utilizing water free solvents. The lipophilic nature makes it difficult to formulate in any formulation. Hence different pharmaceutical methodologies are applied to make the drug suitable for administration. As the drug substance is highly toxic it is given as iv infusion to reduce the toxicity by diluting the drug, to overcome dehydration, to build up depleted blood volumes and to serve as an aid for the administration of medication.

Key word: Non-Aqueous, Parenteral preparation, Anticancer Agent

MPCST/RTAAAE/2016/16

AN APPROACH FOR FLOATING DRUG DELIVERY SYSTEM

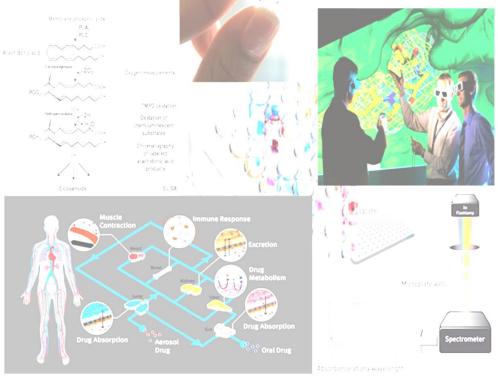
Shahil Jacob*, Rakesh Kumar, Vaibhav Saxena, Kamlendra and Raghvendra

Department of Pharmaceutics, Aligarh College of Pharmacy, Aligarh, (U.P.), India, 202001
rulevreaker6sahil@gmail.com

ABSTRACT

Over the years, oral dosage forms have become increasingly sophisticated with major role being played by control release drug delivery system. CRDDS release drug at a predetermined rate, as determined by drug's pharmacokinetics and desired therapeutic concentration. This help in achieving predictable drug plasma concentration required for therapeutic effect. Gastroretentive drug delivery is an approach to prolong gastric residence time, thereby targeting site-specific drug release in the upper gastrointestinal tract (GIT) for local or systemic effects. Gastroretentive dosage forms can remain in the gastric region for long periods and hence significantly prolong the gastric retention time (GRT) of drugs. Over the last few decades, several gastroretentive drug delivery approaches being designed and developed, including: high density (sinking) systems that is retained in the bottom of the stomach, low density (floating) systems that causes buoyancy in gastric fluid, mucooadhesive systems that causes bioadhesion to stomach mucosa , unfold able, extendible, or swellable systems which limits emptying of the dosage forms through the pyloric sphincter of stomach, superporous hydrogel systems , magnetic systems etc.

Key Words: Gastroretentive, Floating systems, Control release, Site-specific drug release.



MPCST/RTAAAE/2016/17

VILDAGLIPTIN: A NEW ORAL TREATMENT FOR TYPE 2 DIABETES MELLITUS AND ITS MARKET SHARE IN INDIA

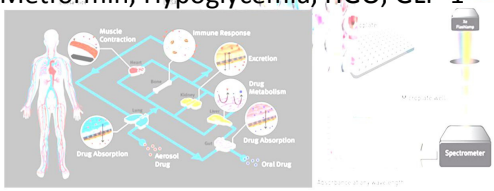
Mohit Kasera* and Sourabh Kasera

*College of Pharmacy, IPS Academy, Indore (M.P.) - 452012
Shri Govindram Seksaria Institute of Technology and Science, Indore (M.P.)

ABSTRACT

Vildagliptine is a new oral antidiabetic agent which enhances the responsiveness of pancreatic islet cell to glucose. An comprehensive clinical Study involving 20 trials, 12-104 weeks duration, more than 22000 Patients till launch; years of exposure to vildagliptine has shown that the agent is well tolerated and efficacious in improving glyciamic control in patients with type two diabetes mellitus (T2DM). Monotheraphy treatment has shown that 1% HbA1c reduction while in combination with other OAD ~0.8-1.8% reduction in HbA1c. Vildagliptin has 40% fewer episode of hypoglycemia when used with insulin and negligible risk of hypoglycemia when used with SU. Studies on vildagliptine as an add-on therapy to metformine have shown significant improvements in glycemic control; with the combination being well tolerated and associated with low risks for hypoglycemia and weight gain. As compare to other DPP-4 inhibitor Vildagliptin provide better circadian glyciemic control compare to Sitagliptine & Metformine combination, have 14 fold lesser hypoglycemic event as compare to Glimipride & Metformin. Sustained blocking of active site of DPP-4 Inhibiters leads to prolonged elevation of intact GLP-1. This caused prolong suppuration of glucagon & HGO during night. This results in 41% reduction in basal hyperglycemia. As on Oct. 15 DPP-4 Inhibitor and combination has market share of 1575.4 Cr. (in Rs). From which vildagliptin has market share of 675.4 Cr. (42.80%). There are four brands of Vildagliptin and Vildagliptin & Metformin: Galvas (7.5%); Galvas Met (16.4%), Jalra (6.6%); Jalra-M (8.9%), Zomelis (1.4%); Zomelis Met (2.1%), Vysov; Vysov-M.

Keywords: DPP-4 inhibiters, OAD, Diabetes, Vildagliptin, Metformin, Hypoglycemia, HGO, GLP-1



MPCST/RTAAAE/2016/18

BILAYER TABLET: A SUITABLE APPROACH FOR RELEASE AND CO-ADMINISTRATION OF DRUG(S) THROUGH ORAL ROUTE

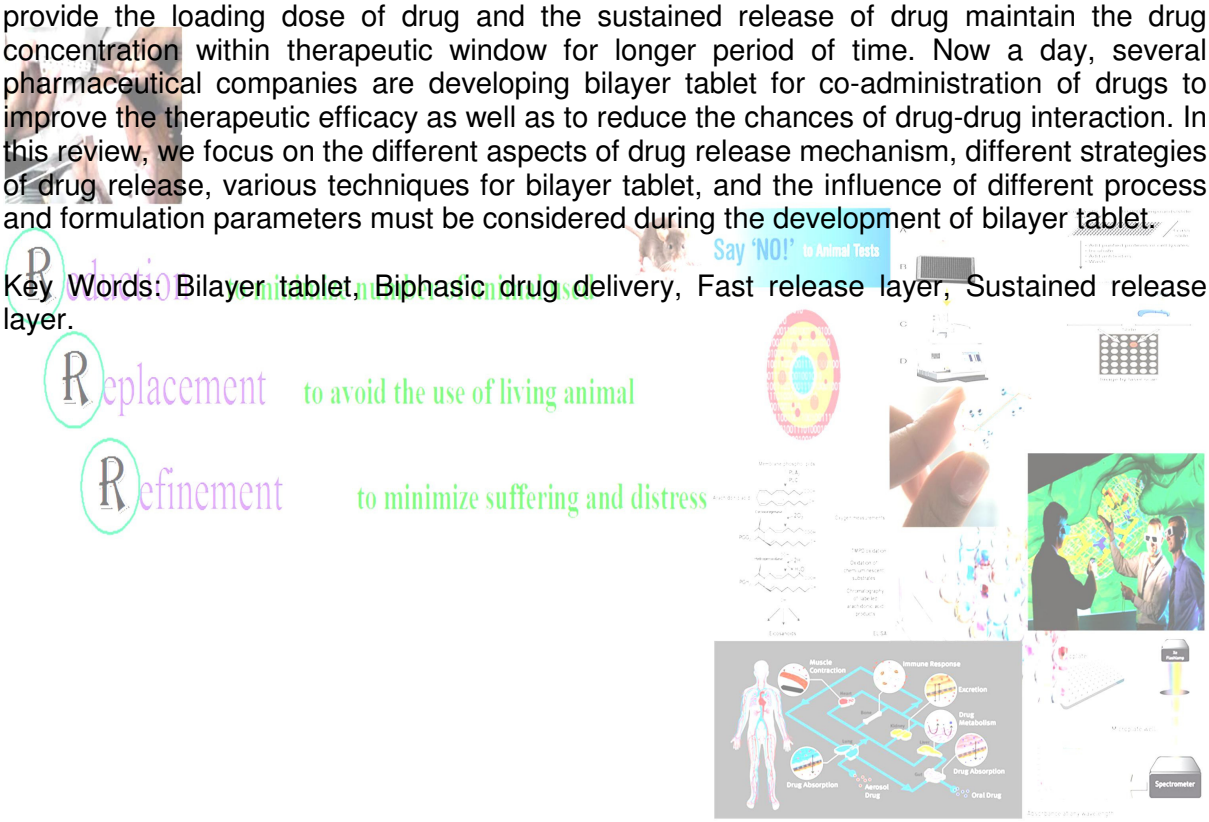
Abhishek Sharma*, Someshwar Chaurasia, Atul Vashishtha and Raghvendra

Department of Pharmaceutics, Aligarh College of Pharmacy, Aligarh, (U.P.), India, 202001
pharmacy2012@rediffmail.com

ABSTRACT

Over the last few decades bilayer tablet technology for bimodal release of drug and co-administration of drugs via oral route has been occupied an important place in the field of drug delivery technology. Pharmacokinetic profile relies on the fact that the fast release layer provide the loading dose of drug and the sustained release of drug maintain the drug concentration within therapeutic window for longer period of time. Now a day, several pharmaceutical companies are developing bilayer tablet for co-administration of drugs to improve the therapeutic efficacy as well as to reduce the chances of drug-drug interaction. In this review, we focus on the different aspects of drug release mechanism, different strategies of drug release, various techniques for bilayer tablet, and the influence of different process and formulation parameters must be considered during the development of bilayer tablet.

Key Words: Bilayer tablet, Biphasic drug delivery, Fast release layer, Sustained release layer.



MPCST/RTAAAE/2016/19

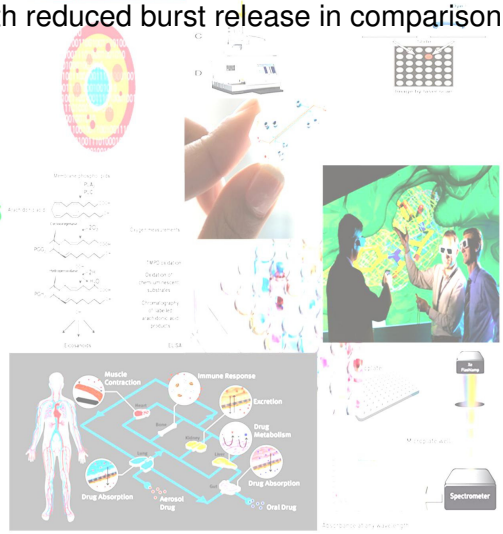
PREPARATION AND CHARACTERIZATION OF NEBIVOLOL NANOPARTICLES BY USING BIODEGRADABLE POLYMER

Mayank Sharma*[1], Rajesh Sharma[1] and D. K. Jain[2]

1, School of Pharmacy, Devi Ahilya Vishwavidhayalaya, Indore, (MP) - India
2, College of Pharmacy, I.P.S. Academy, Indore, (MP) - India

ABSTRACT

Nebivolol, a beta-blocker, has been widely used for the treatment of hypertension and cardiovascular diseases; but has drawbacks like poor solubility and bioavailability requiring frequent dosing. The present study attempts to overcome these issues through nanoparticulate delivery system using widely used carrier PLGA Polymer . The solvent evaporation (single emulsion) technique was used for developing nanoparticles. The impact of formulation and process variables on particle size and entrapment efficiency was studied to optimize the formulation. The physico-chemical characterization confirmed the particle size in nano range with smooth and spherical morphology. Further, Fourier transforms infrared (FTIR) spectroscopy and differential scanning calorimetry (DSC) studies confirm compatibility of drug–polymer combination. The *in vitro* drug release study of the prepared nanoparticles showed prolongation of drug release with reduced burst release in comparison with pure drug powder.



MPCST/RTAAAE/2016/20

LUNG CANCER CAN NOW BE TREATED EVEN IN ITS MOST AGGRESSIVE STATE

Sheikh Arsalan, Kourav Shubham, Patidar RadheShyam and Mahajan S. C.

M.I.P.S., Ujjain, (M.P.)

arsalan.sheikh95@gmail.com

ABSTRACT

Lung cancer, also known as lung carcinoma, is a malignant lung tumor characterized by uncontrolled cell growth in tissues of the lung. If left untreated, this growth can spread beyond the lung by process of metastasis into nearby tissue or other parts of the body. Most cancers that start in the lung, known as primary lung cancers, are carcinomas that derive from epithelial cells. Scientists have found a new drug that could possibly treat small cell lung cancer, the most destructive form of the disease. Currently, this drug is undergoing clinical trials and could potentially be used to treat patients who have tumours that are not affected by chemotherapy treatment. The findings were published in the Clinical Cancer Research and could help in finding out those patients who have greater chances to respond to the treatment. The medication works by analyzing energy production in cancer cells as a means to prohibit tumour growth.

Keywords- Lung Cancer, Tumor Growth, Clinical Trials, AZD3965

MPCST/RTAAAE/2016/21

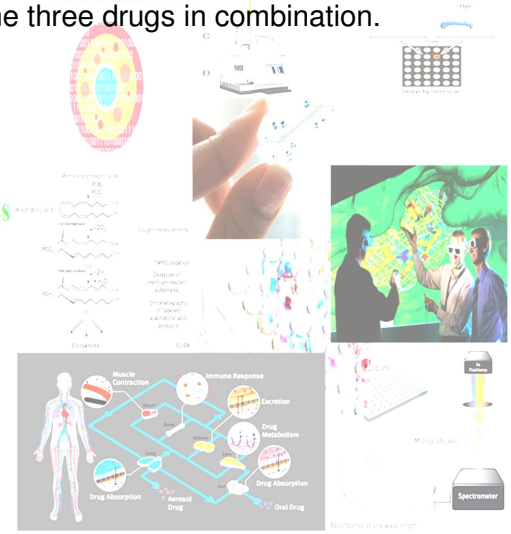
DEVELOPMENT AND VALIDATION OF UVSPECTROPHOTOMETRICASSAY METHOD FORSIMULTANEOUS ESTIMATION OF GUAIPHENESIN, CHLORPHENIRAMINE MALEATE AND DEXTROMETHORPHAN HYDROBROMIDE IN SOFT GELATIN CAPSULE DOSAGE FORM USING SIMULTANEOUS EQUATION METHOD

Mohd. Hussain, Mukesh Chandra Sharma and Tamanna Narsinghani*

School of Pharmacy, Devi Ahilya vishwavidyalaya, Indore, (MP) - India

ABSTRACT

The present work deals with the simultaneous estimation of Guaiphenesin, Chlorpheniramine Maleate and Dextromethorphan Hydrobromide in Soft Gelatin Capsule dosage formby simultaneous equation method. The absorbances were measured at 274 nm, 261.5 nm and at 284.5 nm for Guaiphenesin, Chlorpheniramine Maleate and Dextromethorphan Hydrobromiderespectively. All the three drugs were found to obey Beer-Lambert's law within the range of 0-80 µg/ml. The method was validated according to ICH guidelines with respect to linearity, accuracy, precision and limit of detection/quantitation. The results of analysis were validated statistically. Recovery studies confirmed the accuracy of the proposed method. The proposed procedure is simple, inexpensive, accurate and precise, and can be used for the routine analysis of the three drugs in combination.



MPCST/RTAAAE/2016/22

FORMULATION AND EVALUATION OF GELATIN - CHITOSAN/MMT ACYCLOVIR DRUG CONTAINING MICROSPHERES

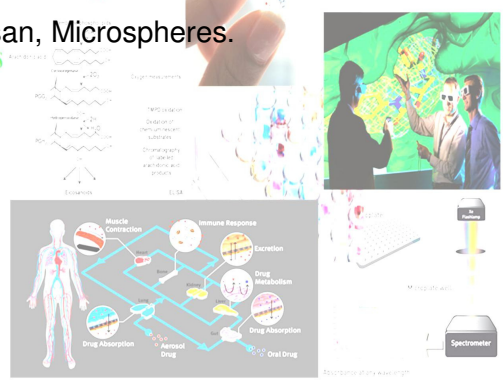
Pragya Sharma* **and Raghvendra**

Department of Pharmaceutics, Aligarh College of Pharmacy, Aligarh, (U.P.), India, 202001
pharmacy2012@rediffmail.com

ABSTRACT

The slow release drug-loaded microspheres were prepared with Gelatin, Chitosan and montmorillonite(MMT) by an emulsification/chemical cross-linking method using glutaraldehyde as cross-linking agent and acyclovir as model drug. The microspheres were characterized by X-ray diffraction (XRD), Fourier transform infrared (FT-IR) and scanning electron microscopy (SEM). The morphology, drug content, encapsulation efficiency and drug-release behavior were investigated with different MMT contents. The results indicated that intercalated microspheres were prepared ,the morphology of microspheres was markedly affected by MMT. The glomeration performance of uncross-linked microspheres was improved because of the physical cross-linking of MMT. Drug content and encapsulation efficiency were decreased when increased the content of MMT, but burst release and the drug release were significantly decreased with the addition of MMT. Effective physical cross-linking could be formed when added MMT, and MMT could reduce the content of toxic chemical cross-linking agents.

Key words: Acyclovir, Montmorillonite, Gelatin, Chitosan, Microspheres.



MPCST/RTAAAE/2016/23

FORMULATION AND *IN VITRO* EVALUATION OF NELFINAVIR MESYLATE MICROCAPSULES USING HYDROXY PROPYL METHYL CELLULOSE

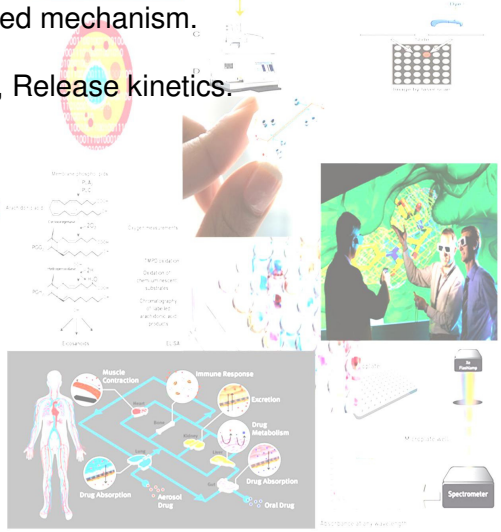
Raghvendra* and Pragya Sharma

Department of Pharmaceutics, Aligarh College of Pharmacy, Aligarh, (U.P.), India, 202001
pharmacy2012@rediffmail.com

ABSTRACT

Nelfinavir Mesylate is a protease inhibitor used in the treatment of human immunodeficiency virus infection. Microcapsules of Nelfinavir Mesylate were developed as sustained release dosage form and release kinetics were studied. The desired microencapsulation was achieved by solvent evaporation method using Hydroxy Propyl Methyl Cellulose in different drug : polymer ratios of 1:1,1:2,1:3,1:4 and 1:5.Characterization of five formulations FH-1, FH -2, FH-3, FH-4, FH-5 was performed by size, shape, entrapment efficiency, infrared spectroscopy and *in vitro* drug release analysis. The prepared microcapsules were free flowing, spherical in shape, with particle size in the range 85-100µm. FH-5 had maximum entrapment efficiency of 94.13%. The *in vitro* release profile of FH-5 was found to give 72.13% release of the drug which was more than the release of drug in FH-1, FH-2, FH-3 and FH-4. Release kinetics showed it followed zero-order kinetics and the correlation coefficient in Higuchi model indicated diffusion controlled mechanism.

Keywords: Nelfinavir Mesylate, HPMC, Microcapsules, Release kinetics.



MPCST/RTAAAE/2016/24

QSAR STUDIES ON SOME SUBSTITUTED PYRAZOLES DERIVATIVES AS ANGIOTENSIN II RECEPTOR ANTAGONISTS

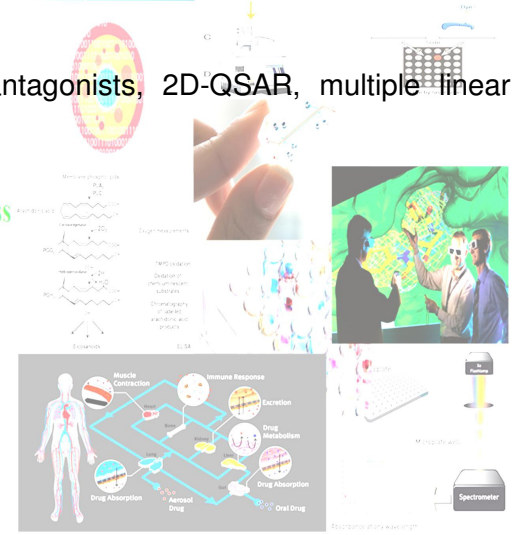
Mukesh C.Sharma* and D.V.Kohli

Department of Pharmaceutical Sciences, Dr. Hari Singh Gour University, Sagar (M.P.) 470 003, India
mukeshcsharma@yahoo.com

ABSTRACT

An attempt has been made to develop the 2D quantitative structure–activity relationship (QSAR) models for a series of Substituted Pyrazoles derivatives to obtain insights to Angiotensin II Receptor Antagonists. Physicochemical parameters were calculated using Chem Office 8.0 descriptor software. Stepwise multiple linear regression analysis was applied to derive QSAR models, which were further evaluated for statistical significance and predictive power by internal and external validation. The best model was selected having a correlation coefficient (r2) of 0.7643, cross-validated correlation coefficient (q2) of 0.7316 and, r2 _pred of 0.6988. The equations selected emphasized the importance of LogP (octanol/water partition coefficient). The QSAR models Pyrazoles structural basis for the angiotensin AT1 receptor antagonists suggest new guidelines for the design of novel molecules.

Keywords: Pyrazoles, angiotensin AT1 receptor antagonists, 2D-QSAR, multiple linear regression



MPCST/RTAAAE/2016/25

MOLECULAR MODELING STUDIES FOR SOME SUBSTITUTED BENZIMIDAZOLE DERIVATIVES AS ANGIOTENSIN II AT_1 RECEPTOR ANTAGONISTS

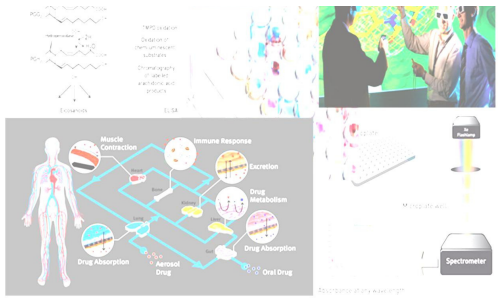
M.C.Sharma* and D.V.Kohli

Department of Pharmaceutical Sciences, Dr. Hari Singh Gour University, Sagar (M.P.) 470 003, India
mukesh2206@rediffmail.com

ABSTRACT

Molecular modeling study was performed on a series of benzimidazole derivatives as Angiotensin II AT1 receptor antagonists. The compound in the selected series was characterized by molecular, steric, electro topological descriptors. Correlation between biological activity and calculated predictors variables were established through multiple linear regressions Method. The good predictive ability of QSAR models observed for the test set of compounds indicated that these models could be successfully used for predicting the pIC50 values. The series was subjected to molecular modelling using CS Chem Office 8.0. The best quantitative structure activity relationship model was selected having a correlation coefficient (r^2) of 0.8541, cross-validated correlation coefficient (q^2) of 0.7954 and, r^2_{pred} of 0.7538. The best QSAR equation showed DPL and Connolly's solvent accessible area suggesting increase in the bulkiness and electron-withdrawing/donating group at benzimidazole moiety of the substituents in the activity. The information derived from the present study may be useful in the design of Angiotensin II AT1 receptor antagonists.

Keywords: Hypertension, benzimidazole, AT1 receptor antagonists, QSAR, multiple linear regression



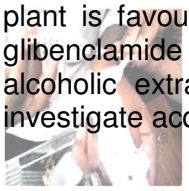
MPCST/RTAAAE/2016/26

ANTI DIABETIC ACTIVITY OF *TRIDAX PROCUMBENS* ON EXPERIMENTALLY INDUCED DIABETIC RAT

Yogesh Patel

ABSTRACT

In this study the diabetic potential is investigated through the use of different chemicals and an exotic plant. This study belongs to the use of typical angiospermic family medicinal plant *Tridax procumbens* which mainly impacted to elicit anti diabetic activity. Increament in the blood glucose level known as diabetic because Islets of lengerhans is not able to produce sufficient insulin which levels the blood glucose barrier. In this study alcoholic extract of *Tridax procumbens* elicit more dynamic activity in compensation with aquous extract. So the plant is favourable to investigate with the levels of therapy produced by marketed drug glibenclamide in this case the levels of affectivity of anti diabetic action produced by alcoholic extracts of *Tridax procumbens* is compared with the glibenclamide drug to investigate acquired action.



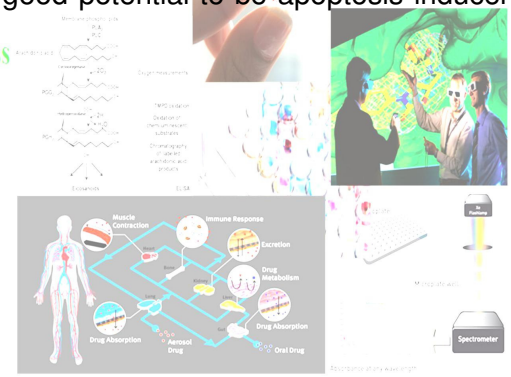
MPCST/RTAAAE/2016/27

PHARMACOPHORE MODELING, VIRTUAL SCREENING, AND IN SILICO ADMET ANALYSIS FOR THE IDENTIFICATION OF NOVEL APOPTOSIS INDUCER AS ANTICANCER AGENTS

Vivek K. Vyas*, Gulamnizami Qureshi, Manjunath Ghate

Department of Pharmaceutical Chemistry, Institute of Pharmacy, Nirma University, Ahmedabad 382 481, Gujarat, India
vivekvyas@nirmauni.ac.in

Apoptosis is a genetically in-built process whereby organisms remove unwanted cells. Induction of the apoptosis manifests the control on the tumour size and number of tumour cells hence establishing the application of apoptotic inducers as vital components in the treatment of cancer. In this design work, pharmacophore models were generated by using DISOTECH module of the Sybyl-X1.2, and best model was refinement with GASP. There were certain criteria for the selection of pharmacophore model among the 20 models which were generated by DISOTECH. The best model has selected the basis of FITNESS, SIZE, HITS and DMEAN, additionally model was select by validation results. Validation of pharmacophore was carried out by GH (Guner Henry) scoring method and ROC (Receiver operating characteristics) curve analysis to check the accuracy and reliability of pharmacophore. Best pharmacophore model as a 3D search query was searched against NCI (National Cancer Institute) database and IBS (Inter bioscreen) for the identification of hits. Several compounds with different structures (scaffolds) were retrieved as hits with a Qfit value of more than 90. Finally in silico pharmacokinetic and toxicities were predicted for active hit molecules. The hits reported here showed good potential to be apoptosis inducer and anticancer agents.



MPCST/RTAAAE/2016/28

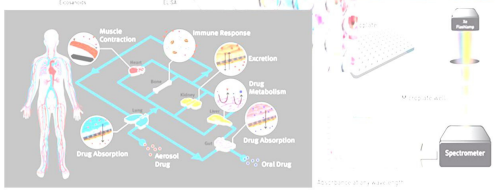
DEVELOPMENT AND EVALUATION OF MULTI UNIT PARTICULATE SYSTEM (MUPS) FOR PARACETAMOL AND RIZATRIPTAN BENZOATE

Girvar Kelkar*, SC Chaturvedi, Arpna Indurkhya, Piyush Khare, Revathi A.Gupta, Laxmi Vishwakarma and Sunita Patidar

Department of Pharmaceutics, Institute of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (MP) - India
girvarkelkar@gmail.com

ABSTRACT

At present time pharmaceutical research and development showing its interest on drug delivery which enhances therapeutic action while minimizing side effect. Use of multi-particulate is the gift of that research which achieves delayed or controlled release with low risk of dose dumping, flexibility of blending to attain different release pattern like sustained release pellets of Rizatriptan benzoate and immediate release pellets of Paracetamol as well as reproducible and short gastric residence time. The present study aimed at development and evaluation of Multi Unit Pellet System (MUPS) of Paracetamol and Rizatriptan benzoate pellets (Immediate and sustained release) for effective treatment of Migraine. To arrive at an optimized formula six different batches with respect to each drug were formulated. It was observed that in case of immediate release pellets of Paracetamol (Batch P6)and sustained release pellets of Rezatriptan Benzoate(Batch R5) formulation were selected out of six batches on the basis of evaluation results i.e. these batches (pellets) are passes good physical parameters (excellent flow properties and %yield 89% and 88% respectively) along with desirable drug release patterns (immediate release pellets of Paracetamol (Batch P6)and sustained release pellets of Rizatriptan benzoate(Batch R5) formulation) were 70.3%DR(Batch P6) in first 1 hour and 79%DR(Batch R5) in 24 hrs.respectively.These could be due to the more amount of Sodium starchglycolate (superdisintegrants) and Ethyl cellulose (matrix forming polymer) respectively.



MPCST/RTAAAE/2016/29

FORMULATION AND EVALUATION OF TRANSDERMAL PATCHES OF BUDESONIDE & SALMETEROL XINAFOATE

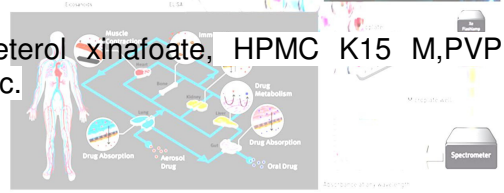
Laxmi Vishwakarma*, Rakesh Sagar, Revathi A. Gupta, Zaheer, Girvar Kelkar and Sunita Patidar

Department of Pharmaceutics, Institute of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (MP) - India
vishwakarmalaxmi@gmail.com

ABSTRACT

Controlled drug delivery system is the one, which delivers the drug at a predominant rate, locally or systematically, for a specific period of time.The aim of work was performed to formulate and evaluate transdermal patches for sustained release of combined antiasthmatic drugs (Budesonide & Salmeterol Xinafoate) using HPMC K15 M,PVP K30,EC & other additives was prepared by solvent casting method. Ethanol was incorporated in the transdermal system because it significantly enhanced the permeation rate of budesonide & salmeterol xinafoate.The main objective of formulating the transdermal system was to prolong the drug release time, reduce the frequency of administration and to improve patient compliance. The prepared films evaluated satisfactory,physicochemical charaters such as thickness,drug content,percentage moisture content,percentage moisture uptake,water vapour permeability,weight uniformity,folding endurance. *In vitro* drug release was determined using rat abdominal skin membrane using franz diffusion cell. The patches were found to be thin and smooth & F3 showed maximum permeation of both drugs after 24 hrs (i.e. 89.75% of budesonide & 88.13% salmeterol xinafoate) .The prepared transdermal drug delivery system of budesonide & salmeterol xinafoate using different polymers such as HPMC, EC had shown good promising results for all the evaluated parameters. Based on the In-vitro drug release and drug content Result, formulation F3 was considered as an optimized formulation, which shows its higher percentage of drug release.

Key Words:Trandermal patches, Budesonide,Salmeterol xinafoate, HPMC K15 M,PVP K30,EC,Solvent casting method,Franz diffusion cell etc.



MPCST/RTAAAE/2016/30

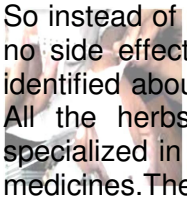
TREATMENT OF DIABETES MELLITUS HERBAL VS ALLOPATHIC SYSTEM OF MEDICINE: AN OVERVIEW

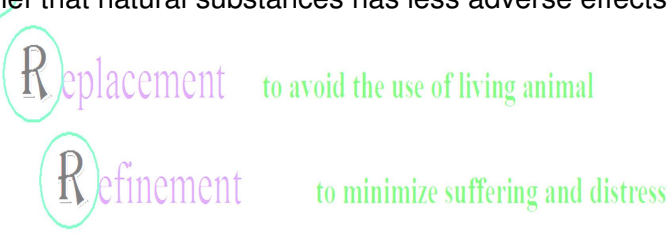
Akanksha Sharma*, Mohit Chaturvedi, Gaurav Jain and Sumeet Dwivedi

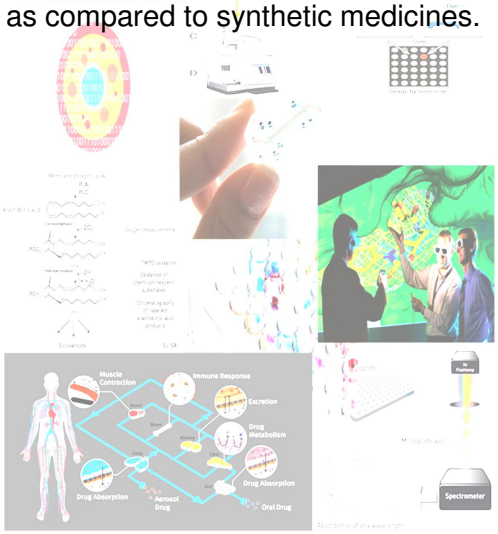
Dr. APJ Abdul Kalam University, Indore, (MP) – India

ABSTRACT

Treatment of diabetes can be done by allopathic and herbal medicines Allopathic drugs used for the treatment of diabetes have their own side effect & adverse effect like hypoglycaemia, nausea, vomiting, hyponatremia, flatulence, diarrhoea or constipation, alcohol flush, headache, weight gain, lactic acidosis, pernicious anaemia, dyspepsia, dizziness, joint pain. So instead of allopathic drugs, herbal drugs are a great choice which is having more or less no side effect & adverse effects (Kokar and Mantha, 1998). Ethno botanical information identified about 800 Indian plants which may have antidiabetic potential (Gupta et al, 1986) All the herbs formulation were procured from local, authentic herbs supplier shops, specialized in sale of medicinal plants & run by the Ayurvedic specialist as OTC Ayurvedic medicines.The utilization of natural substances has increased for various diseases amongst general public over last few years not only because of their easy availability without prescription, cost and appointment to the health care professionals but also owing to the belief that natural substances has less adverse effects as compared to synthetic medicines.







MPCST/RTAAAE/2016/31

FORMULATION AND EVALUATION OF ORODISPERSIBLE TABLET OF PHENIRAMINE MALEATE

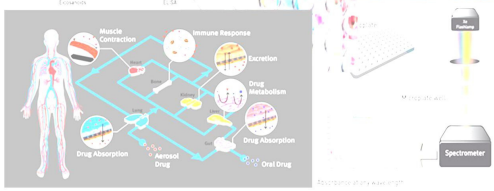
Sunita Patidar*,Govind Soni, Laxmi Vishwakarma, Girvar Kelkar and Revathi A.Gupta

Department of Pharmaceutics, Institute Of Pharmacy,
Dr. APJ Abdul Kalam University, Indore, (MP) - India
sunilsunita20407@gmail.com

ABSTRACT

The present study was aim to develop Orodispersible tablet of Pheniramine Maleate by simple and cost effective direct compression technique. Pheniramine Maleate is selective histamine H_1 – receptor antagonist. Chemically it is Dimethyl [3-phenyl-3-(2-pyridyl)-propyl] amine hydrogen maleate..The onset of action of ODT for Pheniramine Maleate would be less than that of conventional tablet.All the ten formulations were subjected to in-vitro dissolution studies by using 0.1 M HCL as dissolution medium. Formulation F1, F2, F3, F4 and F5 which contain 5% disintegrant concentration releases 99.85%, 99.97%, 100.1%, 99.76%, 100.3% cumulative drug release respectively, at the end of six minutes. An increase in drug release was observed when 10% disintegrant concentration was used in formulations F6 to F10. The drug release was found to be 100.2 %, 99.98%, 99.58%, 99.93%, and 99.49% respectively for the formulations F6, F7, F8, F9, and F10 at the end of six minutes. In all ten formulations the dug release was almost up to 90 – 100 %, after six minutes. Formulation F6 and F7 shows almost 100 % drug release at the end of six minutes while marketed product showed 100% drug release at the end of 45 min. The rough texture after disintegration in the medium was less detectable when tablets were prepared by using mannitol and microcrystalline cellulose pH (70:30). As per the release study and graph , it was observed that 100% drug release of the marketed tablet(Avil) was found to be at the end of 45 minutes, which was quite high than tablet prepared by using superdisintegrant.

Key words: Orodispersible, Pheniramine Maleate, Direct compression, Superdisintegrant, 0.1 M HCL, Antihistaminic, Avil etc.



MPCST/RTAAAE/2016/32

FORMULATION AND EVALUATION OF CONTROL RELESE MATRIX TABLET OF KETOROLAC TROMETHAMINE

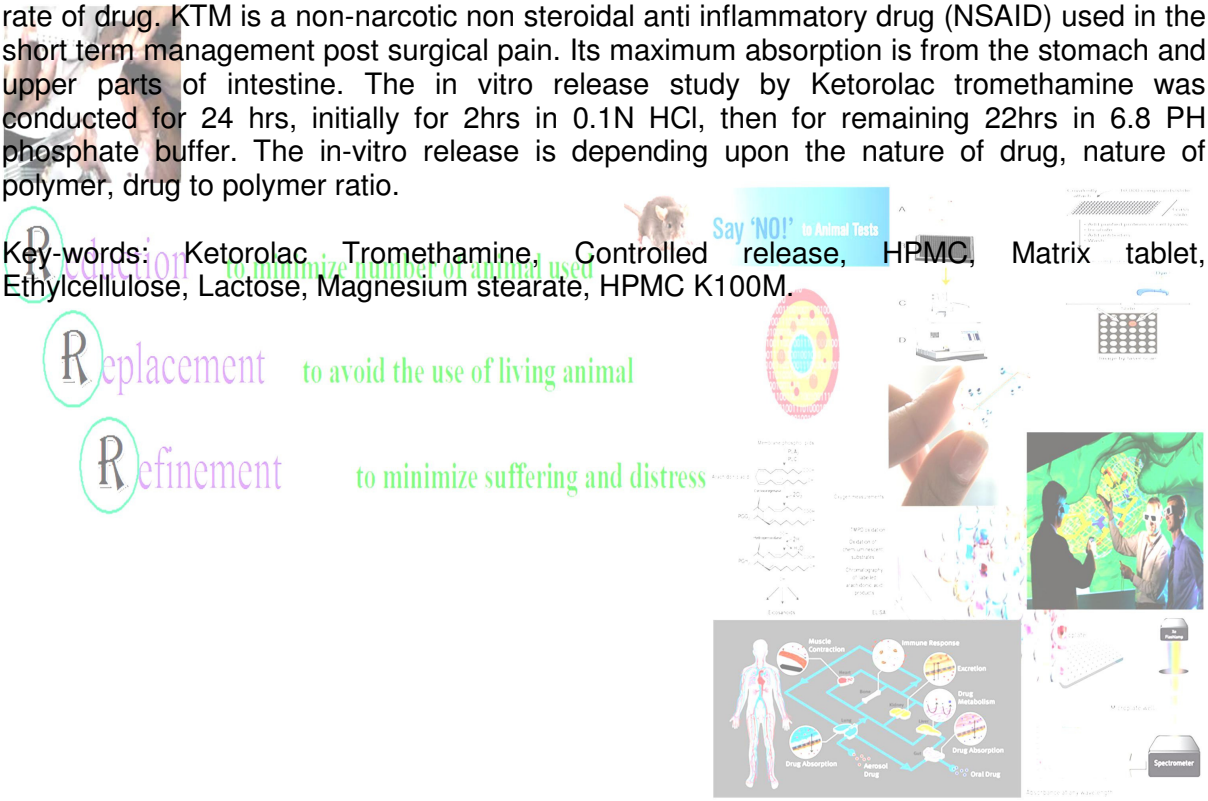
Pooja Pancholi

Dr.A.P.J Abdul Kalam University,Indore, M.P, India
Poojapancholi115@gmail.com

ABSTRACT

The aim of these study is to formulate and evaluate matrix based control release tablets of ketorolac tromethamine using various polymer in order to decrease the side effects like gastric irritation and chance of ulcer which associated with NSAIDS ,and prolong the release rate of drug. KTM is a non-narcotic non steroidal anti inflammatory drug (NSAID) used in the short term management post surgical pain. Its maximum absorption is from the stomach and upper parts of intestine. The in vitro release study by Ketorolac tromethamine was conducted for 24 hrs, initially for 2hrs in 0.1N HCl, then for remaining 22hrs in 6.8 PH phosphate buffer. The in-vitro release is depending upon the nature of drug, nature of polymer, drug to polymer ratio.

Key-words: Ketorolac Tromethamine, Controlled release, HPMC, Matrix tablet, Ethylcellulose, Lactose, Magnesium stearate, HPMC K100M.



MPCST/RTAAAE/2016/33

A COMPREHENSIVE REVIEW: GPCR AND IP_3 RECEPTORS REGULATE INSULIN SECRETIONS IN TYPE- II DIABETES ALONG WITH CA^{2+} RELEASE CHANNELS IN INS-1 CELL LINE

Shelendra Kumar*, Manglavat, Paras Bodana and Arun K.Gupta

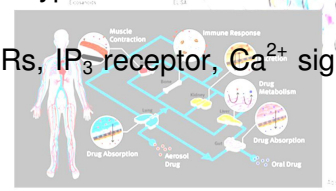
Dr APJ Abdul Kalam University Indore (RKDF IPS), Indore (M.P.) - 452016
smanglavat3@gmail.com

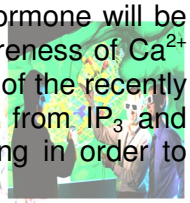
ABSTRACT

Type- II diabetes mellitus is an unrelieved metabolic disorder that consequences from defects in both insulin signaling and insulin secretion. Type-II diabetes widely spread across the world. GPCRs are major course group of receptors, its mediate extracellular signaling pathways to intracellular messages in islets of langerhans and more significantly, have the potential to be drug targets. IP_3 (Inositol-1, 4, 5- triphosphate) and Ca^{2+} are universal intracellular messenger imperative for the opening of IP_3 R (Inositol 1, 4, 5-trisphosphate receptors or intracellular Ca^{2+} release channels). Narrowing the amount of insulin in the pancreatic cells by diminution of Ca^{2+} in cytoplasm is major problem in type-II diabetes. IP_3 acts as a positive constituent to IP_3R and calcium ions, its regulate IP_3R based on the Ca^{2+} concentration in the cytoplasm and the endoplasmic reticulum. In cellular signaling an IP_3R structure plays an imperative role, it binds and assists to form a calcium channel for transfer of calcium ions for surrounded by endoplasmic reticulum to the cytoplasm.

Cloned INS-1E cells was isolated from parental INS-1 cell line, it proficient both their insulin substance and their secretory responses to glucose. INS-1E cells accompanied dose dependent glucose elevations of NADPH and Ca^{2+} ions in cytoplasm. Glucose-induce insulin secretion has dose-allied as similar to rat secretory response. The growth hormone will be stimulate IP_3 follow-on increase of Ca^{2+} level in the cytoplasm pursued by rareness of Ca^{2+} levels in the endoplasmic reticulum. This review call attention to full indication of the recently information present on changes taking place substantiation of IP_3 receptor from IP_3 and control of intracellular Ca^{2+} signaling in cytoplasm and it will be encouraging in order to develop a novel drug for the control of diabetes mellitus type- II.

Key Words: Insulin signaling, Insulin secretion, GPCRs, IP_3 receptor, Ca^{2+} signaling, INS-1 cell line, Diabetes mellitus type- II.





MPCST/RTAAAE/2016/34

VETERINARY HERBAL PRODUCTS: NEED OF HOUR

Mohit Chaturvedi[1]*, Gaurav Jain[1], Abhishek Dwivedi[2] and Sumeet Dwivedi[1]

1, Dr. APJ Abdul Kalam University, Indore, (MP) – India
2, Faculty of Pharmacy, RKDF University, Bhopal, (MP) - India

ABSTRACT

Evidential support concerning use of plant products in veterinary patients is scarce and ranges from effective and safe to ineffective and risky. However, the methodologic quality of primary studies on herbal medicines for many species is generally poor. Trials usually lack firm endpoints, and periods of observation are usually short; the clinical relevance of the observed effects is not always clear. In addition, data that directly compare herbal remedies with well-established pharmaceutical products are often not available. However, as the database on herbs continues to grow, veterinarians seeking to prescribe natural, plant-based compounds should inspect the latest scientific literature for information on the compound or product of interest. All these aspects has been mentioned in the present paper.

MPCST/RTAAAE/2016/35

A REVIEW ON ADVERSE EVENT STUDY ON ANTI-TUBERCULAR DRUGS

Pragya Sharma[1*], Rashmi Arora[2] and Raghvendra Dubey[1]

1, College of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (MP) - India
2, Shri Aurbindo Institute of Pharmacy, Indore, (MP) – India
pragya.sharma@saip.ac.in

ABSTRACT

Tuberculosis (TB) is a major global health problem. TB is an infectious disease caused by the bacillus Mycobacterium tuberculosis. It typically affects the lungs (pulmonary TB) but can affect other sites as well (extra pulmonary TB). Tuberculosis can be cured with combinations of first line anti-tuberculosis drugs like Isoniazid, Rifampin, Pyrazinamide, Ethambutol & Streptomycin and in multi drug resistant with second line anti TB drugs. The TB patient on treatment is taking more than one anti-TB medicine simultaneously and regimens last from many months to 2 years or more. Pharmacovigilance (PV) needs to be an integral accompaniment to treatment programmes .This increases the likelihood of ADRs, some of which are severe. Most patients on treatment for drug-resistant TB experience at least one side-effect and two thirds of such patients have had at least one medicine stopped temporarily or permanently as a result of ADRs. These events may damage public confidence and affect patient adherence. Appropriate measures need to be put in place to ensure that harm is reduced and symptoms relieved. Several PV methods can be used to collect safety information in Pharmacovigilance. Statistical analysis and study designs are two methods to collect safety information. Naranjo's and Hartwig's Scale can be used to estimate potential risk of anti- TB drugs. Comparative Observational Studies like Cohort event monitoring and cross sectional studies are also used to design the protocol of adverse event study.

Key words: Adverse drug reaction, Cohort study, Hartwig's scale, Naranjo's scale, Pharmacovigilance.

MPCST/RTAAAE/2016/36

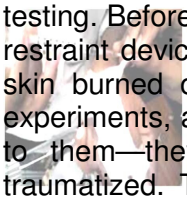
NEED TO PROHIBIT THE USE OF ANIMAL IN EXPERIMENTS: AN OVERVIEW

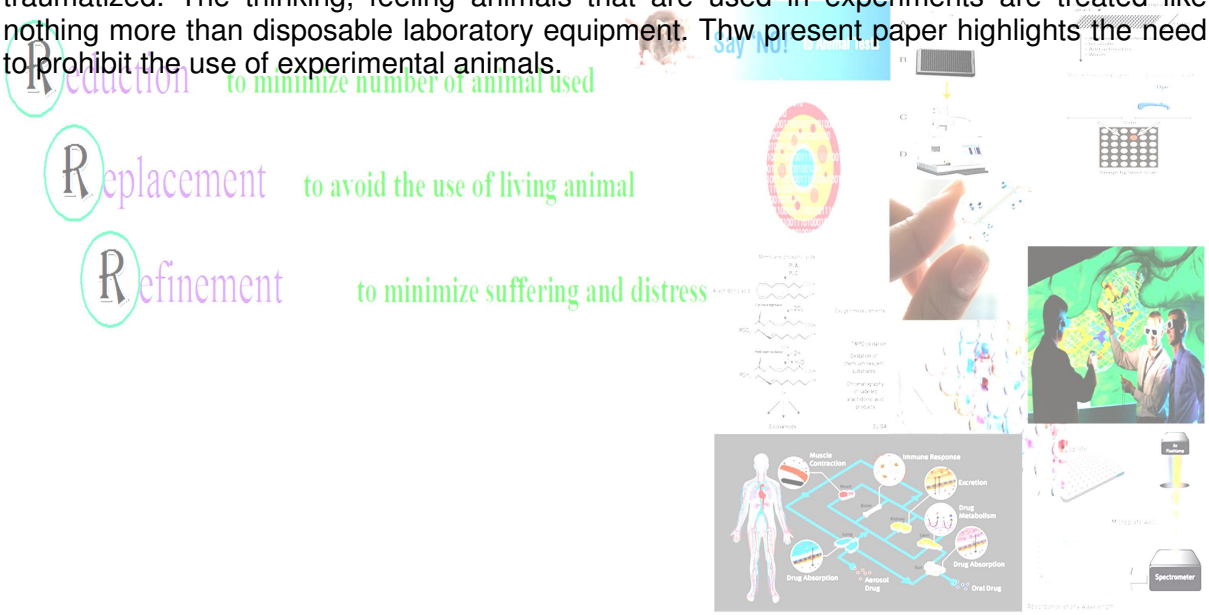
Gaurav Jain[1]*, Mohit Chaturvedi[1], Abhishek Dwivedi[2] and Sumeet Dwivedi[1]

1, Dr. APJ Abdul Kalam University, Indore, (MP) – India
2, Faculty of Pharmacy, RKDF University, Bhopal, (MP) - India

ABSTRACT

Each year, more than 100 million animals—including mice, rats, frogs, dogs, cats, rabbits, hamsters, guinea pigs, monkeys, fish, and birds—are killed laboratories for biology lessons, medical training, curiosity-driven experimentation, and chemical, drug, food, and cosmetics testing. Before their deaths, some are forced to inhale toxic fumes, others are immobilized in restraint devices for hours, some have holes drilled into their skulls, and others have their skin burned off or their spinal cords crushed. In addition to the torment of the actual experiments, animals in laboratories are deprived of everything that is natural and important to them—they are confined to barren cages, socially isolated, and psychologically traumatized. The thinking, feeling animals that are used in experiments are treated like nothing more than disposable laboratory equipment. Thw present paper highlights the need to prohibit the use of experimental animals.





MPCST/RTAAAE/2016/37

IN-VITRO ANTACID EVALUATION OF *CORCHORU DEPRESSUS* LINN. (HARANKHURI)

Mohammed Rageeb Mohammed Usman[*] and Deenanath Jhade[1]

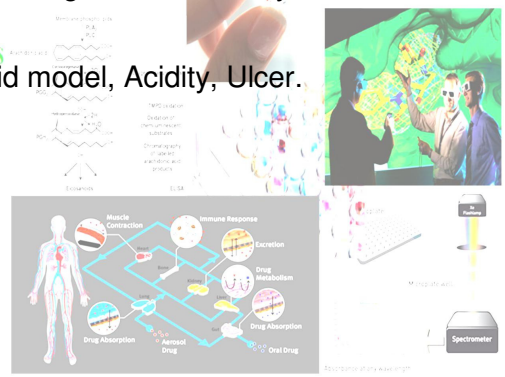
*Smt. S. S. Patil College of Pharmacy, Chopda, Maharashtra, India
1, Sri Satya Sai, University of Technology and Medical Sciences, Sehore (M.P.)
rageebshaikh@gmail.com

ABSTRACT

Corchorus depressus L. plant had property of showing action on digestive system The evaluation of these extracts was done with the help of in-vitro antacid model. The aim of this study is to scientifically look for antacid properties of extracts of Harankhuri root (*Corchorus depressus*) L. by simple antacid modal.

Corchorus depressus (Linn.) is a member of the family Tiliaceae distributed in almost all parts of the world and abundantly occurs in Tropical Africa, Afghanistan, Pakistan, India Plant Material Collection and Authentication.The dried uniform leaves & root powder was used for the maceration of constituents of the plant, determination of in-vitro antacid investigation. The present investigation deals with preliminary phytochemical investigation of leaves & root of *Corchorus depressus* L. which includes pharmacological significance as ANTACID. This in-vitro study is done by simple maceration procedure, water use as solvent in it. Leaves of plant *Corchorus depressus L.* are reported to possess good medicinal values in traditional system of medicine. It has significantly shown antacid activity. The result & data shows 71.33% antacid activity of drug. So, it concluded that the water extracts of Hirtankhuri root possesses biologically active constituent(s) that have antacid activity which supports the ethno-medicinal claims of the use of the plant in the management of Acidity as well as ulcer activity by in-vitro.

Key words: ANC, *Corchorus depressus, In-vitro* antacid model, Acidity, Ulcer.



MPCST/RTAAAE/2016/38

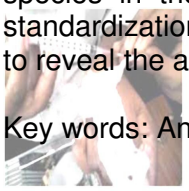
STANDARDIZATION PARAMETERS OF LEAVES OF *CLITORIA TERNATEA* LINN.

Hitesh Kumar Parmar* sarika Tiwari and Sumeet Dwivedi

College of Pharmacy, Dr. APJ Abdul Kalam University Indore-452016, (MP) – India
hkparmar7@rediffmail.com

ABSTRACT

Indian traditional herb *Clitoria ternate* is widely used for the coloring agent but this investigation provides evidence that may support the ethno medical applications of the species in the treatment of neurological disorders. The present paper enumerates the standardization parameters such as FOM, LOD, EV, SI, TAS. Special attentions were made to reveal the anatomical profile of the leaves.



Key words: Antidepressant, Sedative, Cliotides

MPCST/RTAAAE/2016/39

FORMULATION, DEVELOPMENT AND EVALUATION OF SUSTAINED RELEASE MATRIX TABLETS OF LAMIVUDINE BY USING GUM ROSIN

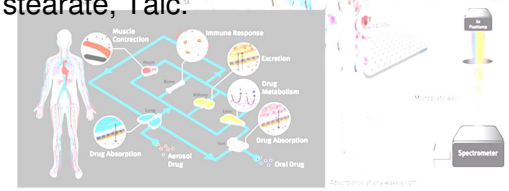
Shikha Jaiswal[1]*, Laxmi Bhumarkar[2] and S.C.chaturvedi[3]

1, College of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (MP) - India
2, Department of Pharmaceutics, Sri Aurobindo Institute of Pharmacy, Indore, (M) – India
caip@caimonline.com

ABSTRACT

Rosin is a natural polymer was used as a hydrophobic matrix forming agent for sustained release. In this formulation lamivudine was used, which is hydrophilic in nature. The present investigation was aimed at formulation, development and evaluation of natural rosin gum based sustained release matrix tablets of lamivudine by direct compression method. In this formulation was also consisted by different natural polymers such as Ethylcellulose, Microcrystalline Cellulose, Magnesium Stearate, Talc. Their are different formulation was prepared with drug and polymer-polymer ratio are as- Rosin [1:0.2,1:0.3,1:0.4] namely F1,F2,F3,andEthylcellulose [1:0.2,1:0.3,1:0.4] namely F4,F5,F6. The prepared matrix tablets were evaluated for their physicochemical properties such as Physical appearance, hardness, weight variation, friability, drug dissolution. In vitro drug release studies performed by Dissolution test apparatus IP (paddle type) with using phosphate buffer PH-6.8 at 100 rpm for 24 hours. Also studied kinetic release and stability study of tablets. In the study of kinetic F2 formulation was optimized and followed Higuchi model. In case of stability study of F2 formulation kept for 60 days than FTIR spectrum shows the bands are no interact with each other as compared drug polymer mixtures. It was found that the percent drug release decreased with increasing the concentration of natural gums. Rosin has a good potential as a pharmaceutical excipients in term of biodegradability, ease of availability, matrix forming agent, binding agent, anti-inflammatory and non-carcinogenic in nature.

Keywords: Natural Rosin gum, Sustained release matrix tablets, lamivudine [drug], Ethylcellulose, Microcrystalline cellulose, Magnesium stearate, Talc.



MPCST/RTAAAE/2016/40

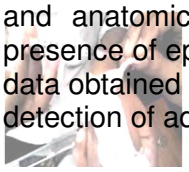
MORPHOLOGICAL AND ANATOMICAL STUDIES OF THE MEDICINAL LEAVES OF *ABELMOSCHUS MOSCHATUS* MEDIK.

Abhishek Dwivedi and Ameeta Argal

1, Bhagwant University, Ajmer, (RJ) – India
2, TIT College of Pharmacy, Bhopal, (MP) - India

ABSTRACT

Abelmoschus moschatus Medik syn. Hibiscus abelmoschus Linn belonging to family Malvaceae, commonly known kasturibhendi (H), muskmallow, ambrette (E) is an aromatic and medicinal plant. The present investigation was aimed to determine the morphological and anatomical characters of leaves. Anatomical studies of the leaves revealed the presence of epidermis, calcium oxalate crystals, starch grains, stomata and oil globules. The data obtained in present study will serve as valuable tool for identification, authentication and detection of adulterants, standardization and quality control of the selected plant.



Key- words: Standardization, Leaves, *Abelmoschus moschatus*

MPCST/RTAAAE/2016/41

DEVELOPMENT OF HPTLC METHOD FOR ESTIMATION OF EMBELIN IN VIDANGA (EMBELIA TSJERIAM-COTTAM) AND DETERMINATION OF ITS ANTIBACTERIAL ACTIVITY

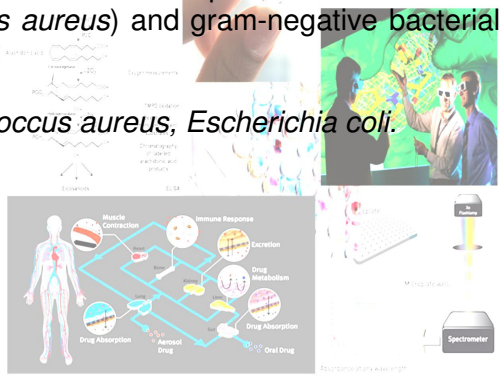
Sweta Kulkarni

Dr.A.P.J Abdul Kalam University,Indore, M.P, India
sweket@gmail.com

ABSTRACT

Vidanga (Embelia tsjeriam-cottam) is a promising medicinal plant of high medicinal value documented in Ayurvedic classics and traditional Indian medicines. It is said to be the best medicine against human pathogens. Embelin (2,5-dihydroxy-3-undecyl-2,5-cyclohexadiene-1,4-benzoquinone) is a phenolic compound found in the fruits of Embelia tsjeriam-cottam and is responsible for the medicinal properties of the plant. A new simple, accurate, precise High Performance Thin Layer Chromatographic (HPTLC) method was developed and validated for determination of Embelin. The method employed aluminium precoated silica gel 60 F_{254} using Toluene: Ethyl Acetate:Formic acid (6:3.5:0.5 v/v) as mobile phase. Detection wavelength chosen was 291nm. The Rf value of Embelin was found to be 0.59 ± 0.02. The calibration curve was found to be linear over a range of 200 - 1000 ng/ band. Developed HPTLC method showed good regression (r^2 = 0.999 ± 0.0020).The %recovery was found to be 99.4-101.6%.The method showed a good percentage purity of the formulation. This method can be used for quantification of Embelin in marketed formulation. The antibacterial activity of Embelin and ethanolic extracts of this plant was determined against gram-positive bacterial strain (*Staphylococcus aureus*) and gram-negative bacterial strains (*Escherichia coli*).

Keywords: Vidanga, Antibacterial, Embelin, *Staphylococcus aureus, Escherichia coli.*



MPCST/RTAAAE/2016/42

FORMULATION AND EVALUATION OF CONTROLLED RELEASE LIPOSOMAL DRUG DELIVERY SYSTEMS OF IODINE FOR ANTIMICROBIAL ACTIVITY

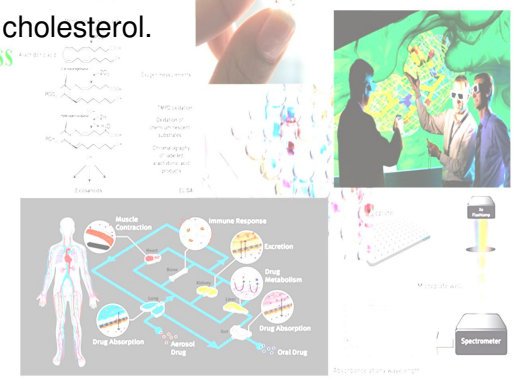
Divya Kanungo*, Rampal Mandloi[1] and Mohit Bhawsar[1]

1, Department of Pharmaceutics, College of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (MP) – India
2, G.R.Y Institute of Pharmacy, Borawan, Khargone, (M.P) - Indore
kanungodivya24@gmail.com

ABSTRACT

Iodine should no longer be regarded as an old fashioned antiseptic. Formulations of iodine in earlier wound care products had serious limitations, but the newer formulations have reduced those disadvantages The present research has been undertaken with the aim to formulate and evaluate the Iodine liposome .Iodine liposome was successfully prepared by Rotary flash evaporator method using iodine in Soya lecithin: Cholesterol and tocopheryl acetate in different combination. The optimized formulated show good yield with spherical shape and multilamillar, small lamellar liposome. Drug entrapment efficiency was found to 40%. The. The surface morphology of the liposome indicated by SEM analysis indicated that liposome fine and smooth surface texture and the optical microscopic studies indicated narrow size range of particles. This narrow range of particles size can be attributed to the effect of stirring time, stirring speed. Liposome show sustains drug release drug delivery system for 60% for 8 hours. Zero order and higuchi kinetics were more suitable release pattern and the diameter zone of inhibition of antimicrobial efficacy liposome contain range between 32mm to 33mm.

Key words: drug entrapment efficiency, soya lecithin, cholesterol.



MPCST/RTAAAE/2016/43

ISOLATION AND CHARACTERIZATION OF MICROORGANISMS FROM DETERIORATED TOMATO: *LYCOPERSICUM ESCULENTUM*

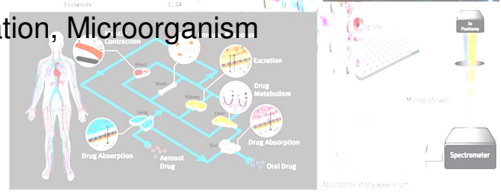
Atul N Chandu* and Arun Gupta

Dr. APJ Abdul Kalam University, Indore-Dewas Bypass Road, Arandia. Indore, (M.P.) - India

ABSTRACT

For a long period of time, plants have been a valuable source of natural products for maintaining human health, especially in the last decade, with more intensive studies for natural therapies. According to World Health Organization (WHO) medicinal plants would be the best source to obtain a variety of drugs. About 80% of individuals from developed countries use traditional medicine, which has compounds derived from medicinal plants [1]. Natural products are chemical compounds or substance produced by a living organism or found in nature that has pharmacological or biological activity [2]. The present research work accomplish with spoiled tomatoes occur naturally. After 14 days of storage the spoiled tomato were taken to the laboratory, by using a sterile forcep the scar portion was picked and were grinded using a sterile mortar and pestle.The micro organisms present in samples of spoiled tomato fruits were identified based on their morphological, staining and biochemical characteristics. In this study, Rhizopus sp. was the most prevalent fungal isolate with 55.7% while Sacharomyces cerevisiae was the least prevalent with 9.7%. Different culture media (Saburoaud Dextrose Agar, Nutrient Agar and Potato Dextrose Agar) were prepared aspectically for the growth of microorganisms (bacteria and fungus). Tomato fruit samples from the tomato field recorded the highest bacterial count of 54.0 x 104 and the fungal count of 45 × 104. The isolation of soil bacteria Bacillus substilis and fungi Aspergillus niger, from the fruit samples, was an evidence of opportunistic contamination from human activity. The potential of microorganisms to provide solutions to food, health, environmental and poverty issues is enormous. It is essential that India has a specialized database on microbial genetic diversity integrating morphological, nutritional, and serological and biochemical characteristics.

Key words: *Lycopersicum esculentus*, Antibiotic, Isolation, Microorganism



MPCST/RTAAAE/2016/44

MEDICINAL PLANTS USED IN TREATMENT OF SKIN DISORDERS

Sen Deepak*, Chaturvedi Mohit[1], Sahu Ankit[2], Jain Gaurav[3], Gupta Revathi A.[4]

[*, 4] Institute of Pharmacy, Dr. APJ Abdul Kalam University, Indore (M.P.)- India
[1]Central India Institute of Pharmacy, Indore (M.P.)- India
[2, 3] School of Pharmacy, Dr. APJ Abdul Kalam University, Indore (M.P.)- India

ABSTRACT

Any of the diseases or disorders that affect the human skin is known as skin disease or skin disorder. Skin disorders are common in most of the tribal inhabitants due to lack of sanitation, potable water and awareness of hygienic food habits. Skin diseases like wounds, furuncles, sepsis, atopic dermatitis, cellulitis, scabies, warts, chilblains, vitilgo, gas gangrene, acne, candidiasis etc. can be caused by a variety of the microbes. Plants are the rich sources of different types of medicine because they produce a diverse range of bioactive molecules. Natural treatment is cheap and safe so production of new synthetic drugs through raw material is suitable. Medicinal Plants used in skin disorders are given in this article.

MPCST/RTAAAE/2016/45

FORMULATION AND EVALUATION OF LIPOSOMAL FORMULATIONS OF TRAMADOL HYDROCHLORIDE FOR PAIN MANAGEMENT

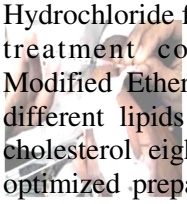
Divya Kanungo* and Rampal Mandloi[1]

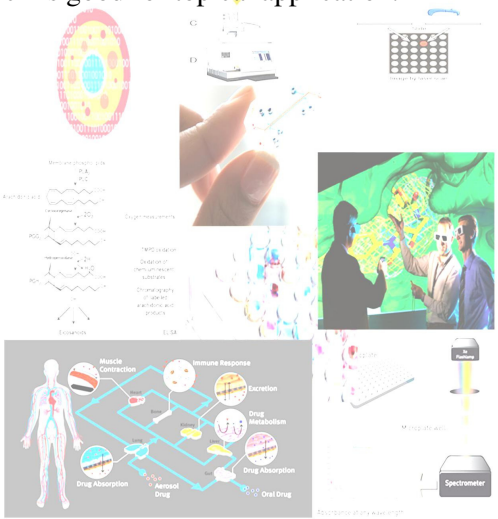
1, Department of Pharmaceutics, College of Pharmacy, Dr. APJ Abdul Kalam University, Indore, (MP) – India
2, G.R.Y Institute of Pharmacy, Borawan, Khargone, (M.P) - Indore
kanungodivya24@gmail.com

ABSTRACT

The present study is based on Formulation and Evaluation of Liposomal Formulations of Tramadol Hydrochloride for Pain Management was selected using different combination of lipid to reduce the treatment complexity and pill burden frequently for moderate to severe chronic pain. Modified Ether Injection method was used. In the formulation two different surfactant and two different lipids are used in different combinations span60, ant tween 80 and soya lecithin and cholesterol eight formulation prepared for getting better drug effiency and diffusion rate. The optimized preparation was Particle size of 15 µm, and drug percent entrapment was 48.96%. And release 77% in 12 hrs, follows zero order kinetics by utilizing diffusion as a controlled release mechanism. In which drug, tween 80 and soya lecithin was in ration of 1:1:1, the pH of the optimum formulation was found to be 7.5 which is approx neutral which is good for topical application.

Keywords: Soya lecithin, Tween 80, Span 60





MPCST/RTAAAE/2016/46

FORMULATION AND EVALUATION OF FLOATING BIOADHESIVE TABLET OF GLIPIZIDE

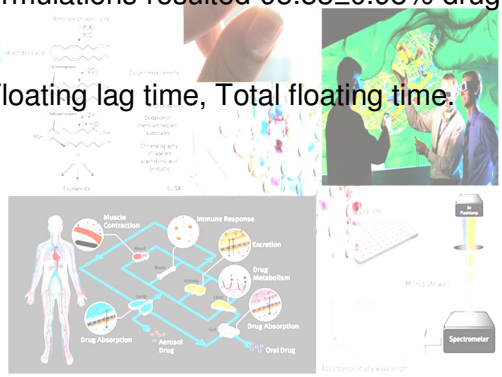
Gujrathi S., Hardenia. A., Chaturvedi S. C. and Khare P.

Sri Aurobindo Institute of Pharmacy, Indore (M. P.) India

ABSTRACT

The current study entail successful formulation and evaluation of floating Bioadhesive tablet of Glipizide for prolongation of gastric residence time using the floating-Bioadhesive potential of natural gum and effervescent agent. Floating Bioadhesive tablets were formulated with various materials at varying concentrations was used for release controlling properties. The tablets were prepared by Direct Compression Technique and the prepared tablets remained buoyant for more than 12 h in the release medium and showed good bioadhesion strength. The variant concentration of Xanthan gum, Guar gum and Chiotsan showed significant difference in the release rate, buoyancy, Bioadhesive strength and lag of tablet. The prepared Floating Bioadhesive tablets were evaluated for their physiochemical properties such as Physical appearance, hardness, weight variation, friability, floating lag time, total floating time, swelling index drug content. *In vitro* dissolution studies were carried out by using dissolution apparatus USP (basket type) by using phosphate buffer pH 6.8 as dissolution media. On increasing the hardness of the tablets results in increased floating lag time. On the basis of combined result of *in vitro* dissolution, drug content and *ex vivo* bioadhesion, weight variation, hardness, swelling index, buoyancy lag time and total floating time. The formulation F1 is the best among all nine formulations resulted 95.53±0.98% drug release spread over 15 h.

Keywords: Floating bioadhesive tablet, Natural gum, Floating lag time, Total floating time.



MPCST/RTAAAE/2016/47

SILVER NANOPARTICLES AS DRUG DELIVERY SYSTEMS

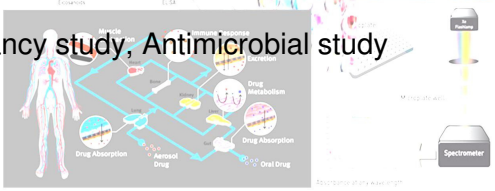
Deepak Kumar Gupta*, Atul N Chandu and Manohar Chouhan

Dr. APJ Abdul Kalam University, Indore, (M.P) - India
deepak_gupta20072008@yahoo.com

ABSTRACT

Advancement of treatment of diseases in pharmaceutical and medical field is the result of nanotechnology which is a burgeoning arena with myriad of prospects and possibilities. The amalgamation of this nanotechnology with biotechnology into controlled design of functional nanomaterials became possible, by mimicking nature, assuming that biological system is an organized network framed naturally with nanomaterials, and hence man-made nanostructures can become biocompatible. in our advanced research we have synthesized bio-shell-metal core nanoparticles using different microorganisms, plant extract and bio-excretories as reducing agents. The morphological studies of the biosynthesized nanoparticles are done using UV-vis, TEM, FESEM, & AFM techniques. The nanoparticles formation takes place within short time as the reaction is completed few minutes. The EDAX and XRD confirm the crystallinity of the particles. This green-clean synthetic process is conducted in natural environmental conditions. Possible mechanism of the biosynthesis is studied by FTIR and TGA. The stability studies of the colloidal nanoparticles solution are done using x zeta potential analyzers which confirm that the solution is stable for many weeks. Study of bio-functionalized AgNP is done for in-vitro free radical scavenging activity using DPPH method and antimicrobial studies are carried out on both gram positive and negative microbes. In vitro anti- malignant activity on four different cell lines is studied using functionalized AuNP. Both the microscopic and XTT study infer that the functionalized AuNP synthesized with aqueous clove bud extract showed a satisfactory anti-cancer effect on all the cell lines. Looking to the beneficial effect of cow urine as an anti-malignant agent, the preliminary studies with respect to it is submitted for potentization.

Key words: Nanobiotec1hnology, Cancer, Anti malignancy study, Antimicrobial study



MPCST/RTAAAE/2016/48

ALTERNATIVES TO ANIMAL EXPERIMENT: A BIG APPROACH

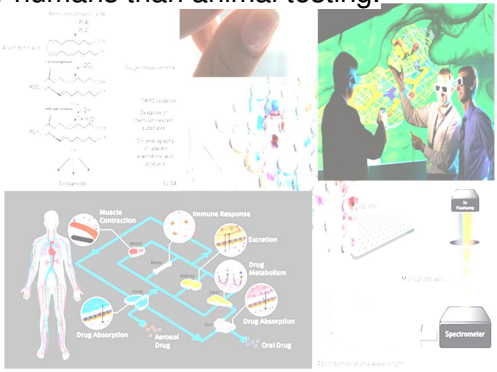
Girendra Kumar Gautam

Bhagwant Institute of Pharmacy, Bhagwantpuram, Muzaffarnagar, Uttar Pradesh, India
dr.girendra@gmail.com

ABSTRACT

Experiments on animals are cruel, expensive, and generally inapplicable to humans. So, now days we have moved on to develop and use methods for studying diseases and testing products that replace animals and are actually relevant to human health. These modern methods include in vitro test methods and models based on human cell and tissue cultures, computerized patient-drug databases and virtual drug trials, computer models and simulations, stem cell and genetic testing methods, non-invasive imaging techniques such as MRIs and CT Scans, micro dosing (in which humans are given very low quantities of a drug to test the effects on the body on the cellular level, without affecting the whole body system) etc. Non-animal methods are not hindered by species differences that make applying animal test results to humans difficult or impossible, and they usually take less time and money to complete. No doubt that the best test species for humans are humans and it is not possible to extrapolate animal data directly to humans due to interspecies variation in anatomy, physiology and biochemistry and then to predict toxicity, corrosive city, and other safety variables as well as the effectiveness of a new product for humans, traditional testing of chemicals, consumer products, medical devices, and new drugs has involved the use of animals. But now, scientists have developed and validated alternative methods shown to lead to safer and more effective products and drugs for humans than animal testing.

Refinement to minimize suffering and distress



MPCST/RTAAAE/2016/49

RECENT TRENDS AND ADVANCEMENT IN ALTERNATIVES TO ANIMAL EXPERIMENTS

Neetu Choudhary *, Monti Dayma and Arun K. Gupta

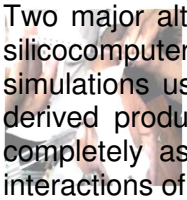
RKDF Institute of Pharmaceutical Science, Indore, (MP) – India

ABSTRACT

Alternatives to animal testing are the development and implementation of test methods that avoid the use of live animals. There is widespread agreement that a reduction in the number of animals used and the refinement of testing to reduce suffering should be important goals for the industries involved.

Two major alternatives to in vivo animal testing are in vitro cell culture techniques and in silicocomputer simulation. However, some claim they are not true alternatives because simulations use data from prior animal experiments and cell cultures often require animal derived products, such as serum or cells. Others say that they cannot replace animals completely as they are unlikely to ever provide enough information about the complex interactions of living systems.

Other alternatives include the use of humans for skin irritancy tests and donated human blood for pyrogenicity studies. Another alternative is so-called micro dosing, in which the basic behavior of drugs is assessed using human volunteers receiving doses well below those expected to produce whole-body effects. While micro dosing produces important information about pharmacokinetics and pharmacodynamics it does not reveal information about toxicity ortoxicology. Furthermore, it was noted by the Fund for the Replacement of Animals in Medical Experiments that despite the use of micro dosing, "animal studies will still be required".



MPCST/RTAAAE/2016/50

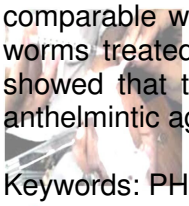
INVESTIGATION OF *IN-VITRO* ANTHELMINTIC ACTIVITY OF PHF

Paras Gupta*, Sumeet Dwivedi and Abhishek Dwivedi

1, United College of Pharmacy, Allahabad, (UP) – India
2, COP, Dr. APJ Abdul Kalam University, Indore, (MP) – India
3, Faculty of Pharmacy, RKDF University, Bhopal, (MP) – India

ABSTRACT

The aqueous and ethanolic extracts of PHF were evaluated for anthelmintic activity using adult earthworms. The PHF extract exhibited a dose-dependent inhibition of spontaneous motility (paralysis) and evoked responses to pin-prick. With lower doses the effects were comparable with that of albendazole. However, there was no final recovery in the case of worms treated with aqueous extract of seeds and ethanolic extract of leaves. The result showed that these extract possessed wormicidal activity and thus, may be useful as an anthelmintic agents.



Keywords: PHF, Anthelmintic activity

MPCST/RTAAAE/2016/51

FORMULATION AND EVALUATION OF MICROCAPSULE OF LORNOXICAM BY USING NON SOLVENT ADDITION METHOD

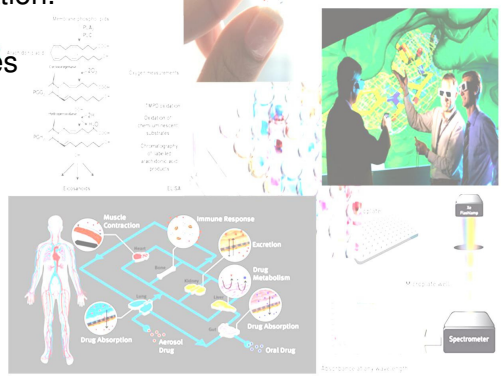
Abhilasha Solanki*, Manohar Chouhan and Arun K Gupta

(Department of Pharmaceutics)
RKDF Institute of Pharmaceutical Sciences, Indore, (M.P) - India

ABSTRACT

Microencapsulation is processes through which very tiny droplets or particles of liquid or solid material are surrounded or coated with continuous film of polymeric Loroxicam were prepared by non solvent addition method employing n-hexane as non-solvent. Particle size usually ranges from 1-2000 micro meters. Lornoxicam is widely used non-steroidal anti-inflammatory agent. lornoxicam has half life of 3-5 hours so it has to be taken frequently in day to achieve desired therapeutic concentration in plasma. F3 found to be best formulation as its release profile is better then other, it may be due to correct ratio of drug and polymers. The use of particular manufacturing technique in the manufacturing of microcapsule depends on the nature of the polymer employed, nature of drug to be encapsulated, intended use of the system & intended duration of the therapy. The various parameter that can be externally controlled to yield micro particle of desired physicochemical characteristics, drug entrapment efficiency and drug release rate properties including the nature and solubility of the drug to be encapsulated, polymer type and concentration, its molecular weight, composition of the copolymers, drug loading concentration , type and volume of the organic solvent, the water phase volume, pH, temperature, concentration, types of surfactant, and the mechanical speed of agitation.

Key word: Organic solvent, Copolymers, Micro particles



MPCST/RTAAAE/2016/52

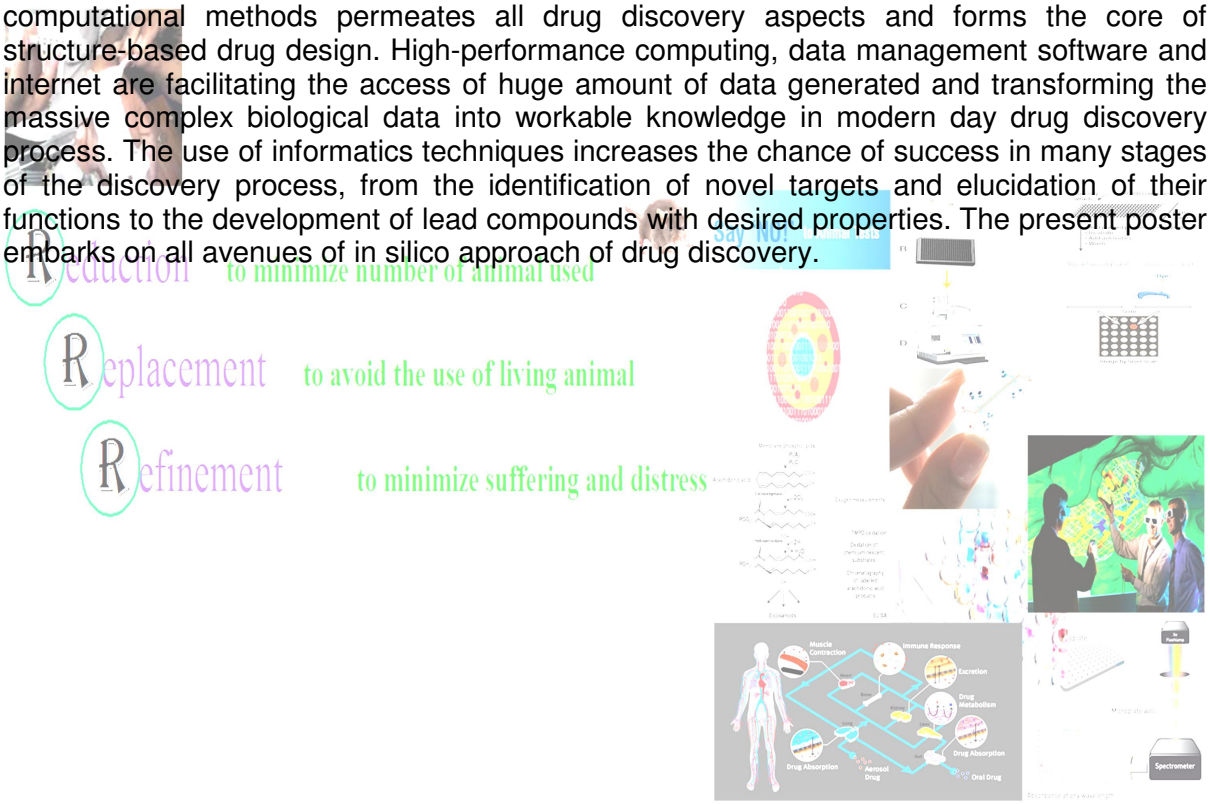
IN SILICO APPROACH: A NOVEL TOOL IN DRUG DESIGN

Arun K Mishra*, Jagdeesh Sahu, Amrita Mishra

Central Facility of Instrumentation, Faculty of Pharmacy, IFTM University, Moradabad, 244102, India.

ABSTRACT

In silico approach help in identifying drug targets via bioinformatics tools. In silico tool is used to analyze the target structures for possible binding sites, generate molecules, check for their drug likeness, dock the molecules with the target, rank them according to their binding affinites, and further optimize the molecules to improve binding characteristics. The use of computational methods permeates all drug discovery aspects and forms the core of structure-based drug design. High-performance computing, data management software and internet are facilitating the access of huge amount of data generated and transforming the massive complex biological data into workable knowledge in modern day drug discovery process. The use of informatics techniques increases the chance of success in many stages of the discovery process, from the identification of novel targets and elucidation of their functions to the development of lead compounds with desired properties. The present poster embarks on all avenues of in silico approach of drug discovery.



MPCST/RTAAAE/2016/53

EVALUATION OF WOUND HEALING POTENTIAL OF POLYHERBAL GEL ON EXPERIMENTAL ANIMALS

Harit K Rawal* and Ritesh Karare[1]

*SOP, Dr. APJ Abdul Kalam University, Indore, (MP) - India
[1]COP, Dr. APJ Abdul Kalam University, Indore, (MP) – India

ABSTRACT

The present work was to investigate wound healing activity of *Aloe, Turmeric, Garlic,* Neem oil, Honey in combination with different concentration of gel formulation. Herbal gel formulated and evaluated on excision wound model and incision wound model. Excision wound measuring about 500 $mm^2$was created on the albino rats placed in group (n=5) and the gel applied topically on the wounded area which was measured at interval of 4 days until epithelization and complete wound closure. Blank gel base and Povidine iodine ointment 5% w/w served as the control and standard treatment respectively. Topical application of Herbal gel on excision wound in rats caused a significant (P<0.001) higher rate of wound healing (98.72%) and reduced epithelization period. In incision wound model, Herbal gel significantly (P<0.001) increased the breaking strength (516.56±3.63) as compared to control. The result suggest that treatment with Herbal gel may have beneficial influence on the various phases of wound healing like wound contraction and resulting in faster healing than aqueous extract. In conclusion, the observation and results obtained in this study indicated that the Herbal gel of significantly stimulated wound contraction. These findings could justify, role of this natural material in the management of wound healing.

Key words- *Aloe, Turmeric, Garlic,* Neem oil, Honey, Wound, Excision, Incision models

MPCST/RTAAAE/2016/54

COMPUTER AIDED DRUG DESIGN: AN EMERGING TOOL IN DRUG DISCOVERY

Mohit Chaturvedi [1]*, Sumeet Dwivedi [1], Harit Rawal [2] and Raghvendra Dubey [3]

[1,3]College of Pharmacy, Dr. APJ Abdul Kalam University, Indore (M.P.) - India
[2]School of Pharmacy, Dr. APJ Abdul Kalam University, Indore (M.P.) - India

ABSTRACT

It is well known that drug discovery is time, resources and cost consuming process. Several new technologies have been developed and applied in drug research and development to shorten the research time and to reduce the resourcesand expenses. Computer-aided drug design (CADD) is an exciting and diverse discipline where various aspects of applied and basic research merge and stimulate each other. In computer aided drug design process, so many computational tools are used such as over viewing tools, homology modeling, and homology modeling programs, molecular dynamics, molecular docking and QSAR descriptors. This article provides a brief idea on computer aided drug design process.

MPCST/RTAAAE/2016/55

A REVIEW: SOFTWARES USED IN PHARMACEUTICAL SCIENCES AND THEIR RESOURCES

Smriti Malviya*, Mohit Chaturvedi, Chintaman Kumawat, Rajesh Nagar and Raghvendra Dubey

College of Pharmacy, Dr. APJ Abdul Kalam University, Indore (M.P.) - India

ABSTRACT

Now days, technology has become a very important, useful and indispensable part of the life. Software is a general term used for the various kinds of programs used to operate computers and related devices. These programs are designed to address general and special purposes. Softwares used in pharmaceutical sciences cover various subjective areas such as pharmaceutical chemistry, pharmaceutics, pharmacology, pharmacognosy, pharmaceutical biotechnology etc. It is very typicalto get proper information without proper resources or knowing a specific web address. In this article, subject wise different software names, web addresses and their features are given.

MPCST/RTAAAE/2016/56

COENZYME Q_{10} – A VITAL MOLECULE

Neelam Khan*, Arun K. Gupta

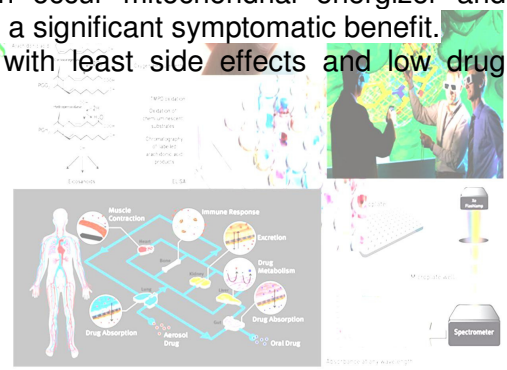
Dr. A.P.J.Abdul Kalam University, Indore, (MP) – India

ABSTRACT

Coenzyme Q_{10} (Co Q_{10}) also known as ubiquinone, is a fat soluble vitamin-like substance produced in the human body. It is one of the vital key to the process which produces most of cellular energy. Coenzyme Q_{10} is identical to the naturally occurring molecule. It is necessary for the proper function of many organs and also for basic functioning of cells, the first recognized role of Coenzyme Q_{10} was in mitochondrial bioenergetics, where it plays a main role in the production of ATP. Moreover it is present in other subcellular organelles, both in its oxidized and in its reduced form ubiquinol-10. It acts as chain-breaking antioxidant. Moreover it is capable of regenerating alpha-tocopherol, the active form of vitamin E. It protects lipoproteins from oxidation in preventing atherosclerosis.

Coenzyme Q_{10} levels are reported to decrease with the age and to be low in cardiac conditions, Parkinson's disease, cancer, diabetes, muscular dystrophies, HIV/AIDs etc. It is not only used as an important nutritional supplement but also used in number of clinical conditions namely CHF, diabetes, gum disease, Huntington's disease, Parkinson's disease, etc. by millions of people all over world. Coenzyme Q_{10} is safe and well tolerated, recently become available.

Coenzyme Q_{10} treatment does not cause serious adverse effects in humans. Furthermore new formulations have been developed that increases Coenzyme Q_{10} absorption and tissue distribution. The oral Coenzyme Q_{10} administration occur mitochondrial energizer and antioxidant effect in many diseases, which may cause a significant symptomatic benefit. Coenzyme Q_{10} appears to be a safe supplement with least side effects and low drug interaction potential.



MPCST/RTAAAE/2016/57

THE RECENT DEVELOPMENT OF DENGUE VACCINATION

Pawan Goud*, Javed Khan Pathan, Sapna Malviya and Anil Kharia

Modern Institute of Pharmaceutical Sciences,Indore (M.P.) - India
javedcology@gmail.com

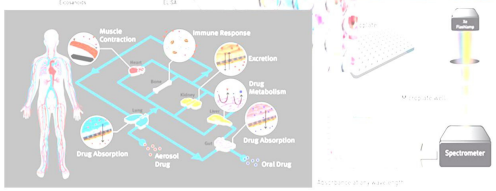
ABSTRACT

Dengue has a vital health problem across the globe, approximately half of the world's population. The expanding burden of dengue has highlighted the need for new drugs and vaccines, to prevent dengue. Today it is the world's most crucial arboviral disease as number of people affected over the past 50years. There were approximately 390 million infections in 2010. Due to globalization, trade, travel, demographic trends and warming temperatures it causes spreading of the primary vectors Aedes aegypti and Aedes albopictus, responsible to cause dengue.

A tetravalent dengue vaccine demonstrated its protective efficacy in phase III studies. Results of studies were used to derive vaccination in the five Asian countries, wis-to-wis Indonesia, Malaysia, Philippines, Thailand, Vietnam .Moreover five Latin American countries were also involved wis-to-wis Brazil, Colombia, Honduras, Mexico and Puerto Rico. Dengue transmission were estimated, using data collection during the phase III studies, its parameters related to vaccine efficacy and levels of the disease.

All vaccination programs explored significant reductions in dengue cases at the population level over the first 10 years followed by vaccination. The most efficient age for vaccination varied according to transmission intensity and 9 years was close to the most efficient age. The combinations of routine vaccination and large campaigns were organised so that a rapid reduction of dengue has been found after vaccine administration.

Recently, the first dengue vaccine candidate was undergone in Phase 3 clinical trials and other vaccine candidates are under the clinical investigation. Lot of candidates are evaluated in preclinical development, based on diverse technologies, with satisfactory results in animal models. There is tremendous opportunity in clinical trials and eventually could results in be next-generation dengue vaccines.



MPCST/RTAAAE/2016/58

A REVIEW ON CHRONIC DISORDER – SCHIZOPHRENIA

Aashruti Agrawal*, Javed Khan Pathan, Sapna Malviya and Anil Kharia

Modern Institute of Pharmaceutical Sciences,Indore (M.P.) - India
javedcology@gmail.com

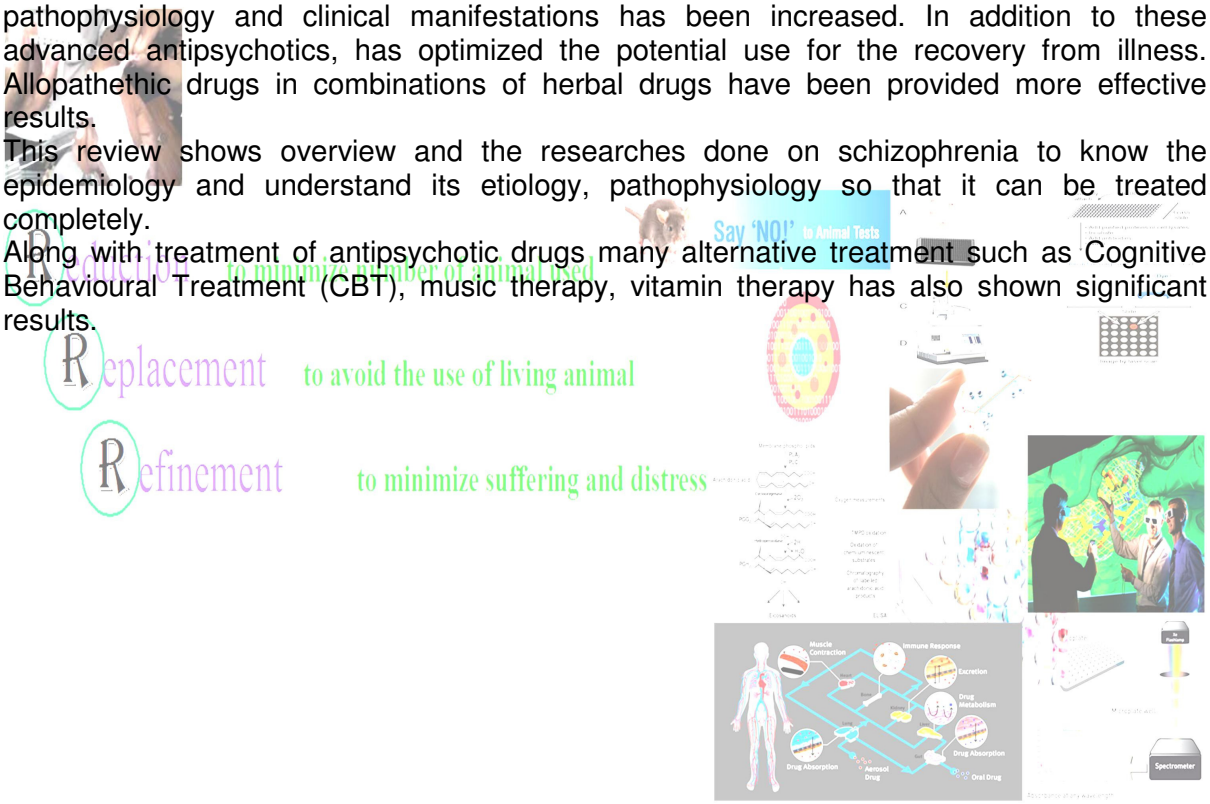
ABSTRACT

Schizophrenia also known as split-personality disorder, a chronic psychological disorder, characterized by perturbations in cognition, delusion, hallucinations, thought and behaviour disorder. The original name for Schizophrenia is dementia praecox.

During the last three decades, understanding level of the etiology, psychopathology, pathophysiology and clinical manifestations has been increased. In addition to these advanced antipsychotics, has optimized the potential use for the recovery from illness. Allopathethic drugs in combinations of herbal drugs have been provided more effective results.

This review shows overview and the researches done on schizophrenia to know the epidemiology and understand its etiology, pathophysiology so that it can be treated completely.

Along with treatment of antipsychotic drugs many alternative treatment such as Cognitive Behavioural Treatment (CBT), music therapy, vitamin therapy has also shown significant results.



MPCST/RTAAAE/2016/59

THE RECENT ALLOPATHIC AND HERBAL APPROACHES FOR ZIKA VIRUS

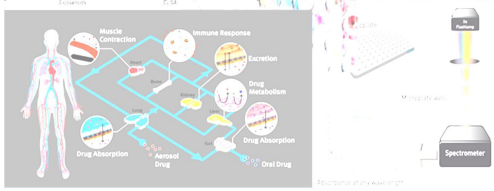
Deepanshu Gupta*, Javed Khan Pathan, Sapna Malviya and Anil Kharia

Modern Institute of Pharmaceutical Sciences,Indore (M.P.) - India
javedcology@gmail.com

ABSTRACT

The World Health Organization declared on February 1, 2016, the cluster of microcephaly cases and other neurological disorders. The geographical distribution of Zika virus has been expanded so tremendously since 2007. Its threat is real due to constant increase in the volume of international travel, difficulties in controlling Aedes populations, invasion of Aedes species to more temperate countries and global climate change. This may increases the geographical extents which are favourable to the breeding of mosquitoes.

Zika virus (ZIKV) initially discovered in east Africa about 70 years ago. It came into the limelight in 2007 in Micronesia. It widely spread in Pacific islands then to Brazil in 2015. During ZIKV it was observed an increase of almost 20 times the number of reported cases of microcephaly in new born babies in Brazil. There is not any vaccine or approved drug available for the treatment and prevention of infections by this virus. EGCG, a polyphenol presenting green tea has been shown to have an antiviral activity for many viruses. The effect of EGCG on ZIKV entry in Vero E6 cells were assessed for the development of a drug against a Brazilians train of ZIKV. The drug was capable of inhibiting the virus entry by at least 1-log (>90%) at higher concentrations (4100 μM). The pre-treatment of cells with EGCG did not show any effect on virus attachment. This was the first study to demonstrate the effect of EGCG on ZIKV indicating the drug might be possible to use for prevention of Zika virus infections. Although, few studies demonstrated that there was an increased evidence of causal relationship of Zika virus (ZIKAV) infection and microcephaly, birth abnormalities and neurological disorders such as Guillain–Barr´e syndrome. ZIKAV transmission occurs mainly by the bite of infected mosquitos (Aedes species), but some reports reveals that infections may occur via placenta, breast milk, saliva, blood transfusion and sex.



MPCST/RTAAAE/2016/60

DEVELOPMENT OF QUALITY CONTROL PARAMETER FOR BHRINGRAJAADI CHURNA- AN AYURVEDIC FORMULATION

[1]Gotwal Mimrot Nutan, [2]Sharma Manish and [3]Mahajan SC

[1]Department of Pharmacy ,Dr. APJ Abdul Kalam University, Indore, (MP) - India
[2]Mahakal Institute of Pharmaceutical Studies, Ujjain, (MP) - India
newmimrot@gmail.com

ABSTRACT

Churna are important solid dosage foam which is used by Ayurvedic system of medicine to treat disease. The Bhingrajaadichurna is an solid dosage form which is described in the Bhaisajyaratnavali.Bhingrajaadichurna it is a polyherbal formulation consist of bhringraj (*Eclipta alba*), amla (*emblicaofficinalis*) and black seasame seeds (*Sesamumindicum*) the regular consumption of this churna helps to get rid of disease, lessen the impact of old age premature death attain hairs as the black clouds and it rejuvenates pale and worn out teeth.
This study was aimed to development of quality control parameter for churna like organoleptic, phytochemical, physical evaluation and monograph analysis of crude drug and formulation as per WHO guidelines and it were found the following results i.e. foreign matter is not exist, extractable matter 48.75±0.11, alcohol soluble extractable matter 27.37±0.22, total ash 07.31±0.24, acid insoluble ash 4.16±0.10, foaming index is nil. The phytochemical test shows the presence of alkaloid, protein, carbohydrates flavonoids and tannins, it has poor flowability the qualitative estimation of gallic acid is also done with the help of HPLC mobile mobile phase is water: acetonitrile (80:20%v/v) and stationary phase C18 250x4.65 µmm at wavelength 272 nm.
The results obtained may be considered as tools for assistance to the regulatory authorities scientific organization & manufacturer for developing standard formulation & great efficacy.

MPCST/RTAAAE/2016/61

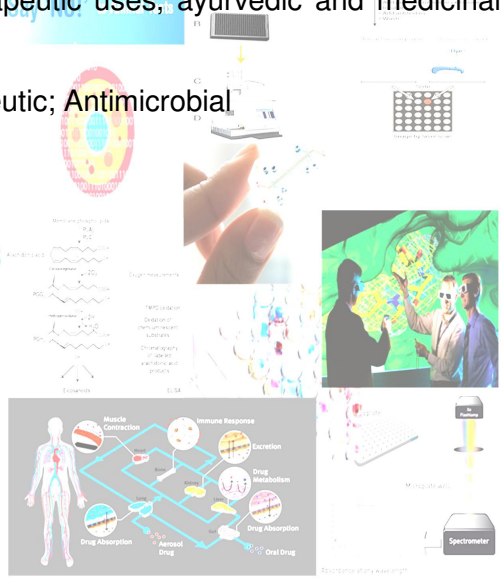
MEDICINAL AND THERAPEUTIC USES OF *OCIMUM SANCTUM* LINN: A SHORT REVIEW

Pankaj Kumar Sahu[1], S. Vinodia[1], Hari Shanker Prasad[3] and Antu Kurrey[4]

[1]Department of Life Science, Guru Ghasidas University, Bilaspur, CG
[2]Department of Botany, Pt. Ravi Shanker University Raipur, CG
[3]Department of Botany, Dr. C V Raman University Kota Bilaspur, CG
sahu.pankaj1@gmail.com

ABSTRACT

Ocimum sanctum (Holy basil or Tulsi) belongs to family Lamiaceae is undoubtedly the best perennial herbs ever known medicinal plant and indigenous to tropical areas especially India. In traditional system of medicine, different parts of *Ocimum sanctum* i.e. leaves, stem, flowers, root and even whole plant are used in different ailments such as wound healing, fever, cough, cold, kidney stone, insect bites and headache. *Ocimum sanctum* contains numerous secondary metabolites and phytochemical constituents. Tulsi have potential to antidote to snake bites, antimicrobial properties and anti cancer agent also. The present work will provides future update mainly on the therapeutic uses, ayurvedic and medicinal properties of *Tulsi*.



Keywords: *Ocimum*; Antimicrobial; Medicinal; Therapeutic; Antimicrobial

MPCST/RTAAAE/2016/62

PLANTS USED IN TREATMENT OF SKIN DISEASES BY LOCAL PEOPLES OF BALOD DISTRICT

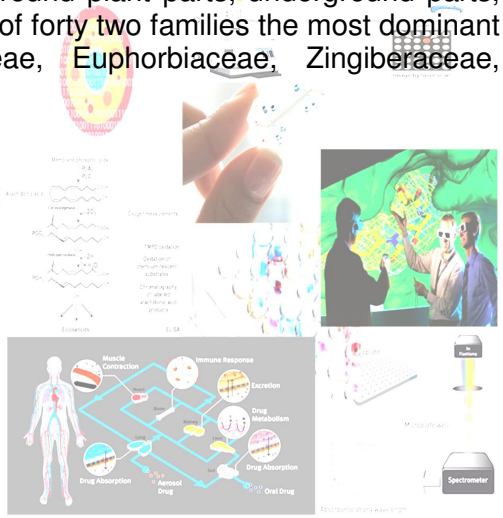
Sohan Lal[1], Maheshwar Singh Sahu[2], Sunanda Kumari[3] and Pankaj Kumar Sahu[4]

[1]Department of Botany Govt G.S.G.PG. College Balod CG
[2]Department of Botany, Govt.P.G.College Dalli rajhra CG
[3]Botany Govt G.S.G.PG. College Balod C.G.
[4]Department of Botany, Guru Ghasidas University Bilaspur, CG
sahu.pankaj1@gmail.com

ABSTRACT

The Ayurveda system of medicines is the part of cultural life and heritage of tribal people. Tribal people since ancient times using these herbs against various ailments and serving a lot to the mankind in a big way in the Balod. A survey has been done for treatment of skin diseases, study revealed that tribal have great wisdom of the various uses of healing herbs. The present study was focused on traditional knowledge for treatment of skin diseases in Balod district through structured questionnaires in consultation with the tribal peoples/ ladies. It's was observed that total of 81 medicinal plant species belonging to 42 families for used skin diseases medicine. These plants are used in the form of powder, decoction, paste and juice for curing the skin disease. The use of aboveground plant parts, underground parts, leaves, as roots, rhizomes, and whole plants. The out of forty two families the most dominant families were reported as Fabaceae, Solanaceae, Euphorbiaceae, Zingiberaceae, Cucurbitaceae, and Moraceae.

Key-Words: Medicinal; Ethno-botany; Balod; Tribes



MPCST/RTAAAE/2016/63

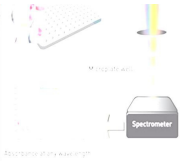
NANOTECHNOLOGY: BOON FOR PHARMACEUTICAL INDUSTRIES AND FRANCHISES

Savita Goswami and Neha Kamalpuriya

Dept. of Pharmaceutics Indore Institute of Pharmacy, Indore (M.P)
savita.dhir@indoreinstitute.com

ABSTRACT

Nanotechnology is the technology of manipulating materials, devices or systems at the nanometer scale. Nanotechnology can be applied to diverse areas from cosmetics to computing and from textiles to targeted drugs. Currently the pharmaceuticals industries are facing pressures to decrease their expenditures to develop new molecular entities in the market. In that respect the use of nanotechnology can help bring product discovery and development costs down by improving efficiency and decrease the risk of product failure. As healthcare is improved, the world population is aging. This is leading to increase the downward pressure on spending in healthcare services. The various areas where nanotechnology can be applied are drug discovery/screening, drug delivery and formulation, diagnostics, imaging. The field of bio nanotechnology is also moving forward rapidly. Nanotechnology is helping resolve some of the pharmaceutical and biotechnology industries "significant problems". This technology has enabled new formulations for drugs that are commercially available and there are also numbers of drugs in the R & D pipeline. In the future, nanotechnology will also enhance the drug discovery process, through miniaturization, automation, speed & reliability of assays. It will also helps for the correct selection of right drug for the right patient & also enables the tests to support this decision process to be done in doctor clinic. Thus, the role of nanotechnology in expanding pharmaceutical market is developing now days to increase the patient compliance, to support the pharmaceutical industries in an economic way and to increase efficiency of pharmaceutical product. This novel drug delivery system provides strength to pharmaceutical industries to get reliable results. Pharmaceutical nanotechnology is now well-established as specialized area for drug delivery, diagnostics, prognostic and treatment of diseases through its nano-engineered tools.



MPCST/RTAAAE/2016/64

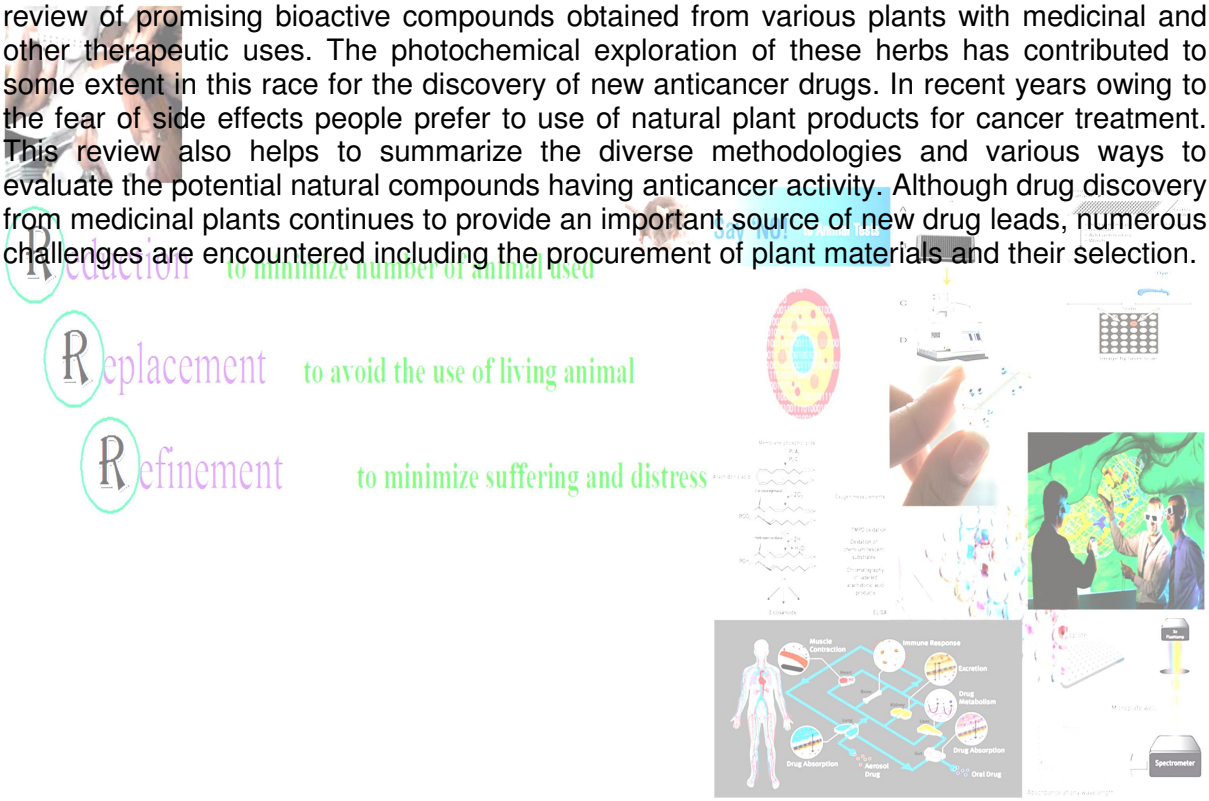
MEDICINAL PLANTS USED IN CANCER TREATMENT: AN OVERVIEW

Sneha Babele*, Sachin Verma, Sumeet Dwivedi and Raghvendra Dubey

COP, Dr. APJ Abdul Kalam University, Indore, (MP) - India

ABSTRACT

This article has been made to review some medicinal plants used for the treating cancer disease .The plant sources of India are likely to provide effective anticancer agents. Herbs have a vital role in the prevention and treatment of cancer. Examples are provided in this review of promising bioactive compounds obtained from various plants with medicinal and other therapeutic uses. The photochemical exploration of these herbs has contributed to some extent in this race for the discovery of new anticancer drugs. In recent years owing to the fear of side effects people prefer to use of natural plant products for cancer treatment. This review also helps to summarize the diverse methodologies and various ways to evaluate the potential natural compounds having anticancer activity. Although drug discovery from medicinal plants continues to provide an important source of new drug leads, numerous challenges are encountered including the procurement of plant materials and their selection.



MPCST/RTAAAE/2016/65

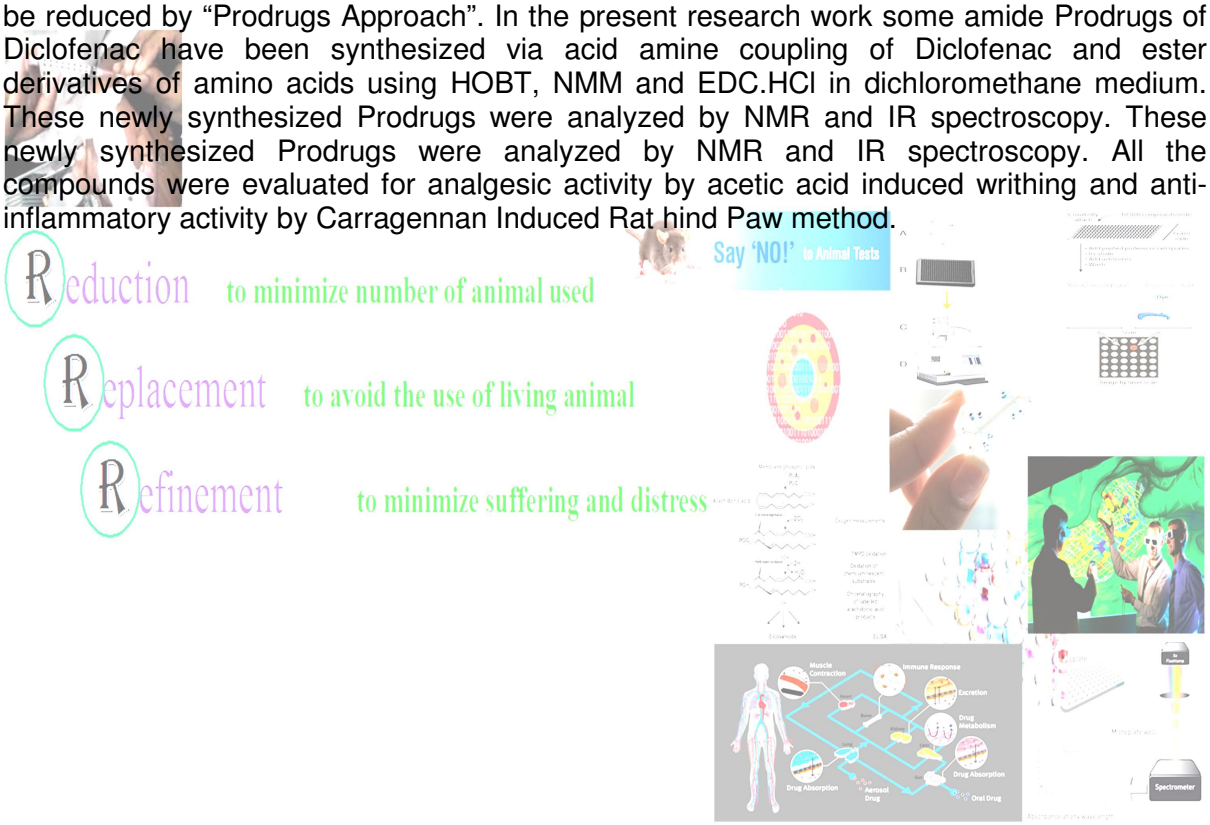
PRODRUG APPROACH: AN OVERVIEW

Shuchi Jain*, Smriti Malviya and Raghvendra Dubey

COP, Dr. APJ Abdul Kalam University, Indore, (MP) - India

ABSTRACT

"Prodrugs Approach" is a versatile approach in solving the problems associated with drug molecules. Diclofenac is a pain reliever in variety of painful conditions but it has some side effects i.e. absorption, toxicity, distribution, instability, formulation etc. These side effects can be reduced by "Prodrugs Approach". In the present research work some amide Prodrugs of Diclofenac have been synthesized via acid amine coupling of Diclofenac and ester derivatives of amino acids using HOBT, NMM and EDC.HCl in dichloromethane medium. These newly synthesized Prodrugs were analyzed by NMR and IR spectroscopy. These newly synthesized Prodrugs were analyzed by NMR and IR spectroscopy. All the compounds were evaluated for analgesic activity by acetic acid induced writhing and anti-inflammatory activity by Carragennan Induced Rat hind Paw method.



MPCST/RTAAAE/2016/66

HERBAL MEDICINE USED IN THE TREATMENT OF MALARIA BY RURAL PEOPLE OF INDORE, DISTRICT OF MADHYA PRADESH, INDIA

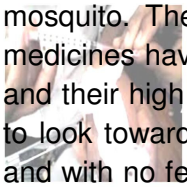
Aayushi Yadav*, Diksha Sen, Suman Gehlot, Sumeet Dwivedi and Raghvendra Dubey

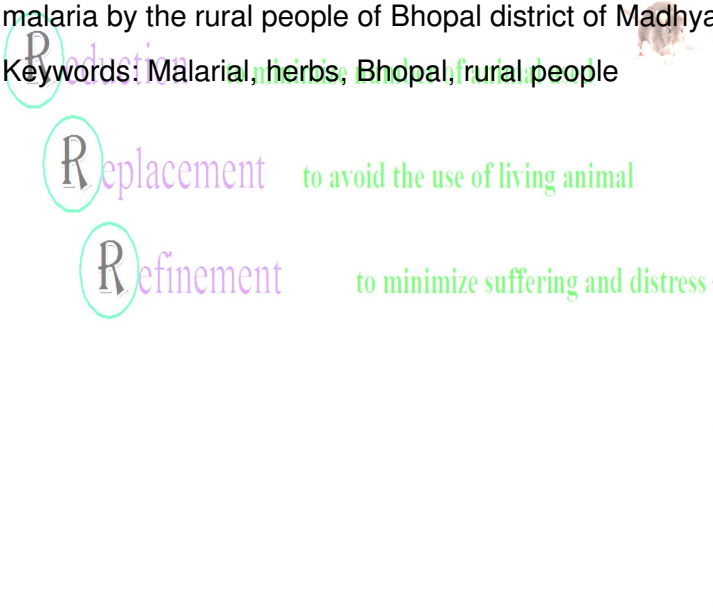
COP, Dr. APJ Abdul Kalam University, Indore, (MP) - India

ABSTRACT

Malaria is caused by *Plasmodium* and transmitted through female *Anopheles* mosquito. The disease is common in rural areas. Although a number of synthetic medicines have been used for the treatment of malaria, but they have adverse effects and their high cost is beyond the reach of common people. It is, therefore, worthwhile to look towards antimalarial herbal drugs. Herbal drugs are cheaper, easily available and with no fear of any side effects. The present paper enumerates the herbs used in malaria by the rural people of Bhopal district of Madhya Pradesh, India.

Keywords: Malarial, herbs, Bhopal, rural people





MPCST/RTAAAE/2016/67

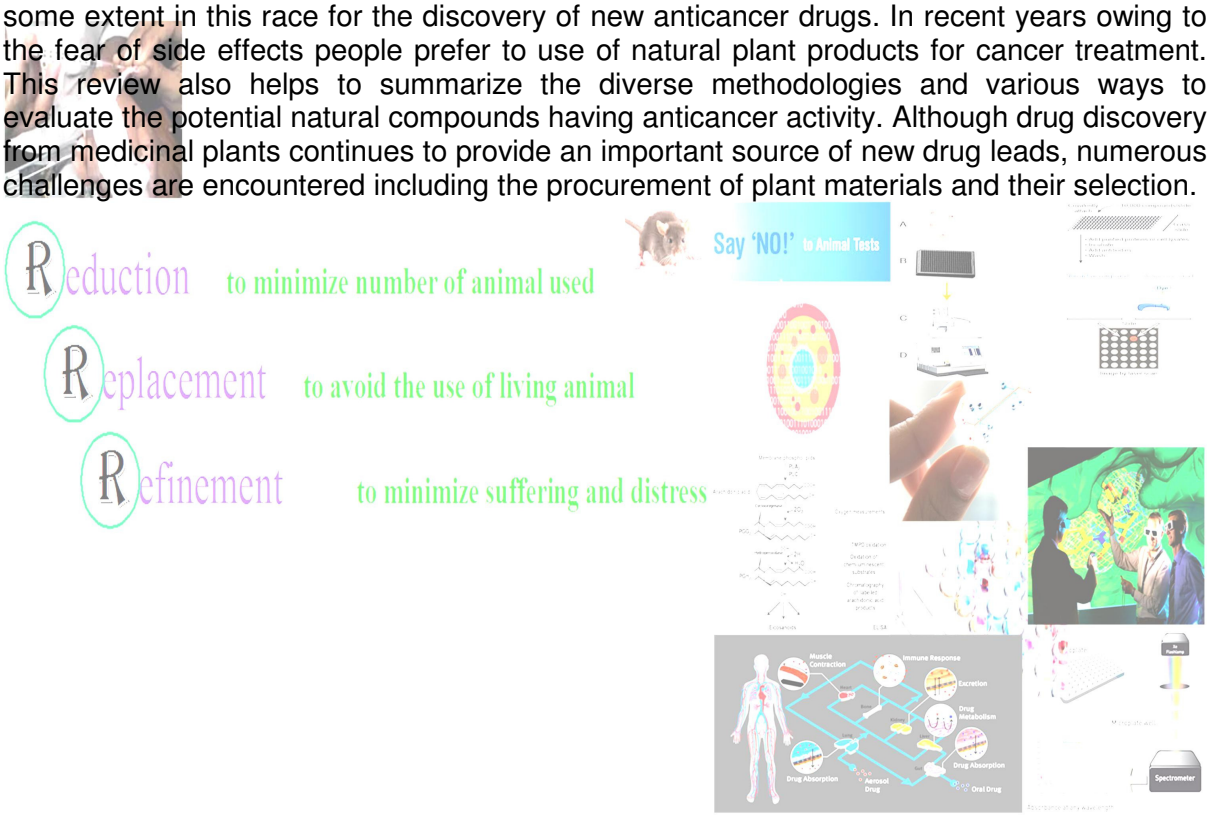
HERBAL COSMETICS: AN OVERVIEW

Jagdish Sura*, Chintaman Kumawat and Raghvendra Dubey

COP, Dr. APJ Abdul Kalam University, Indore, (MP) - India

ABSTRACT

This article has been made to review some medicinal plants used for the treating cancer disease .The plant sources of India are likely to provide effective anticancer agents. Herbs have a vital role in the prevention and treatment of cancer. Examples are provided in this review of promising bioactive compounds obtained from various plants with medicinal and other therapeutic uses. The photochemical exploration of these herbs has contributed to some extent in this race for the discovery of new anticancer drugs. In recent years owing to the fear of side effects people prefer to use of natural plant products for cancer treatment. This review also helps to summarize the diverse methodologies and various ways to evaluate the potential natural compounds having anticancer activity. Although drug discovery from medicinal plants continues to provide an important source of new drug leads, numerous challenges are encountered including the procurement of plant materials and their selection.



MPCST/RTAAAE/2016/68

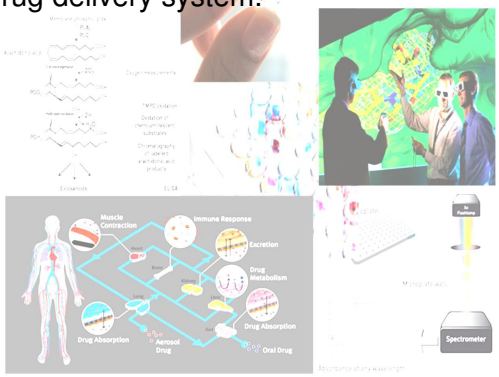
A REVIEW ON "DENDRIMERS AND ITS APPLICATIONS IN NOVEL DRUG DELIVERY SYSTEM"

Arti Majumdar[*] and R. K. Nema[1]

[*, 1] Lakshmi Narain College of Pharmacy, Indore (M.P.) – India

ABSTRACT

Dendrimers are a new class of polymeric materials. A dendrimer is typically symmetrical around the core and often adopts a spherical three dimensional architecture that provides a high degree of surface functionality and versatility.Dendrimers have a well defined size, shape, molecular weight and monodispersity. These are compatible with drug moieties as well as bioactive molecules like DNA, heparin and other polyanions. The nanoscopic size and recognition abilities make dendrimers as ideal building blocks for self-assembly and self-organization systems. The cavities inside the dendritic structure can be modified to incorporate hydrophobic and hydrophilic drugs. The terminal groups are modified to attach antibodies and bioactive substances for targeting purpose along with providing miscibility, reactivity and solubility. Currently, dendrimers are of great interest for delivering drug molecules via different routes as a nanocarrier. Toxicity problems associated with cationic dendrimers are overcome by PEGylation, which neutralizes the charge on them. Dendrimers possess suitable properties to establish itself as a potential carrier for delivery of therapeutic agents irrespective of certain synthetic and regulatory constraints. Applications of dendrimers in a large variety of fields have been explored. This review contains various pharmaceutical applications of dendrimers in a novel drug delivery system.



MPCST/RTAAAE/2016/69

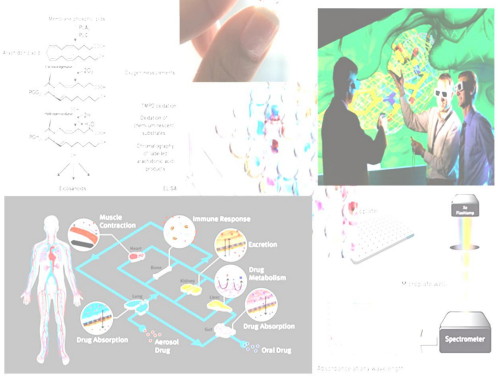
A REVIEW ON "SYNTHETIC AND NATURAL POLYMERS USED IN PHARMACEUTICAL APPLICATIONS"

Arti Majumdar[*] and R. K. Nema[1]

[*, 1] Lakshmi Narain College of Pharmacy, Indore (M.P.) - India

ABSTRACT

The word "polymer" means "many parts" (from the Greek *poly,* meaning "many," and *mero*, meaning "parts"). A polymer is synthesized by chemically joining together many small molecules into one giant molecule. Just as nature has used biological polymers as the material of choice, mankind will chose polymeric materials as the choice material. Humans have progressed from the Stone Age, through the Bronze, Iron, and Steel Ages into its current age, the Age of Polymers. An age in which synthetic polymers are and will be the material of choice. Polymeric materials have a vast potential for exciting new applications in the foreseeable future. Polymer uses are being developed in such diverse areas as: conduction and storage of electricity, heat and light, molecular based information storage and processing, molecular composites, unique separation membranes, revolutionary new forms of food processing and packaging, health, housing, and transportation. Indeed, polymers will play an increasingly important role in all aspects of your life. The large number of current and future applications of polymeric materials has created a great national need for persons specifically trained to carry out research and development in polymer science and engineering. A person choosing a career in this field can expect to achieve both financial reward and personal fulfillment. This article consists of pharmaceutical applications based on natural and synthetic polymers.



MPCST/RTAAAE/2016/70

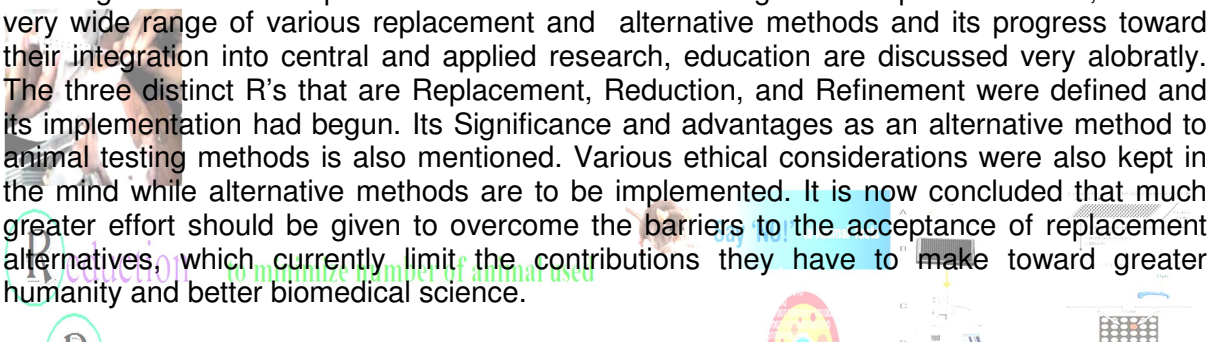
IN-VITRO METHODS: AN ALTERNATIVE TO ANIMAL TESTING METHODS IN DRUG DEVELOPMENT

[1,2]Sumeet Prachand, [2]Sanjay Jain, [2]Hemant Khambete, [3]Amit Modi, [2]Bhuvnesh Kadam

[1]Suresh Gyan Vihar University, Jaipur, (RJ) - India
[2]Indore Institute of Pharmacy, (MP) - India
[3] Mathura Devi Institute of Pharmacy, (MP) - India

ABSTRACT

The origins of the concept of alternatives to animal testing was setup in the 1950s, and the very wide range of various replacement and alternative methods and its progress toward their integration into central and applied research, education are discussed very alobratly. The three distinct R's that are Replacement, Reduction, and Refinement were defined and its implementation had begun. Its Significance and advantages as an alternative method to animal testing methods is also mentioned. Various ethical considerations were also kept in the mind while alternative methods are to be implemented. It is now concluded that much greater effort should be given to overcome the barriers to the acceptance of replacement alternatives, which currently limit the contributions they have to make toward greater humanity and better biomedical science.



Keywords: Replacement, Reduction, and Refinement, animal testing

MPCST/RTAAAE/2016/71

VERTEBRATES: AN ALTERNATIVE TO ANIMAL TESTING METHODS

[1,2]Sumeet Prachand,[2]Mahavir Chhajed,[2]Rohit Solanki,[2]Samsher Singh Thakur, [2]Rudraksh Chouhan

[1]Suresh Gyan Vihar University, Jaipur, (RJ) - India
[2]Indore Institute of Pharmacy, (MP) - India
[3] Mathura Devi Institute of Pharmacy, (MP) - India

ABSTRACT

The increasing number of animals which are used now days in research has reached to the alarming level with the progress of research and development in medical technology. In recent years, Billions of animals are used in experimentsthroughout the world. The suffering, agony, and demiseveteran by the animals during experiments have been a concern and debating issue from a long time. Despite of all the major concern of ethics, there are few drawbacks of animal experimentation like it requires skilled manpower, protocols which are very time consuming and high cost. Various alternatives to animal testing were proposed to overcome the drawbacks associated with animal experiments and avoid the unethical procedures. A brief account of these alternatives and advantages associated is discussed in this review with examples. An integrated application of these approaches would give an insight into minimum use of animals in scientific experiments.

Keywords: Alternative organism; Model organism;Laboratory animal; Animal ethics

MPCST/RTAAAE/2016/72

INSILICO METHODS: AN ALTERNATIVE METHOD TO ANIMAL TESTING

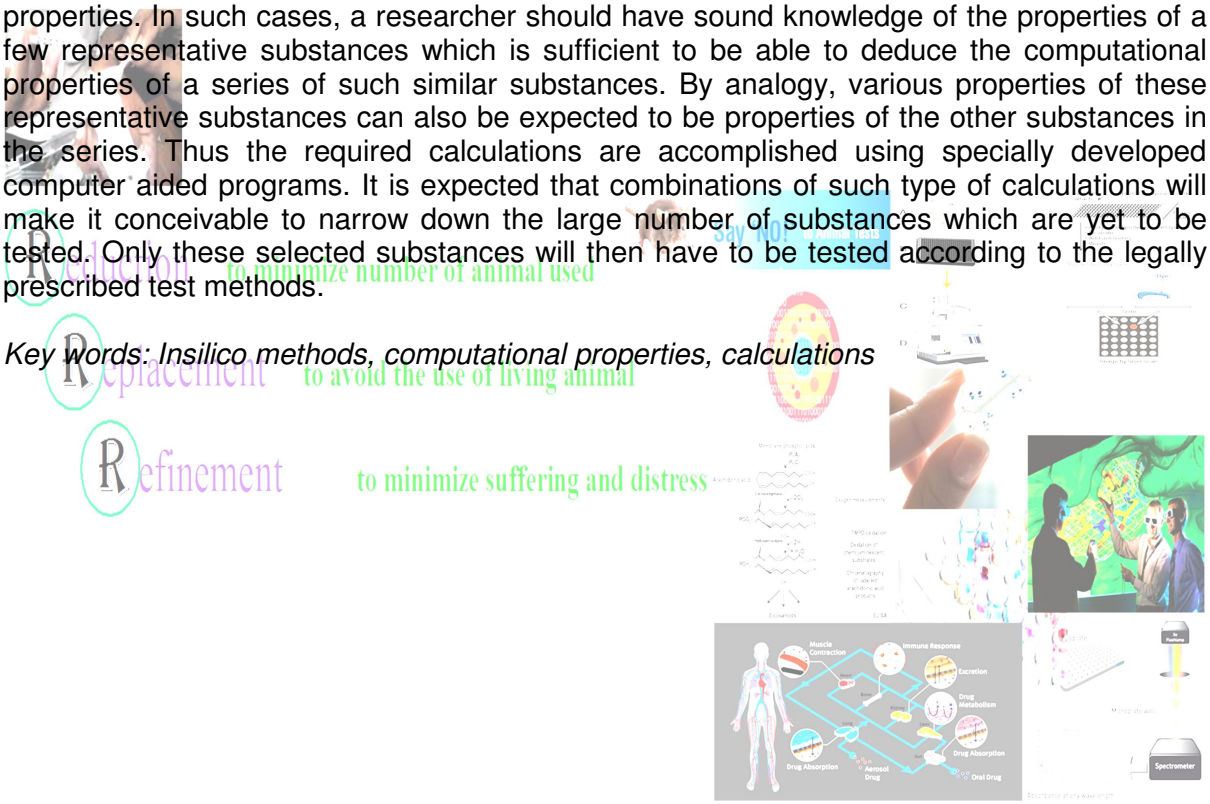
[1,2]Sumeet Prachand, [2]Pooja Patidar, [2]Pankaj Thagele, [2] Mehzabeen

[1] Suresh Gyan Vihar University, Jaipur, (RJ) - India
[2] Indore Institute of Pharmacy

ABSTRACT

The increasing number of animals which are used now days in research has reached to the alarming level with the progress of research and development in medical technology. In recent years, Billions of animals are used in experiments throughout the world.Substances which are having similar chemical structures thus frequently have similar structure properties. In such cases, a researcher should have sound knowledge of the properties of a few representative substances which is sufficient to be able to deduce the computational properties of a series of such similar substances. By analogy, various properties of these representative substances can also be expected to be properties of the other substances in the series. Thus the required calculations are accomplished using specially developed computer aided programs. It is expected that combinations of such type of calculations will make it conceivable to narrow down the large number of substances which are yet to be tested. Only these selected substances will then have to be tested according to the legally prescribed test methods.

Key words: Insilico methods, computational properties, calculations



MPCST/RTAAAE/2016/73

DEVELOPMENT AND EVALUATION OF POLYHERBAL ANTICANCER TABLETS

Ishan Dubey[1], Manmeet Singh Saluja[2], Nakuleshwar Dut Jasuja[1], Mahavir Chhajed[3*]

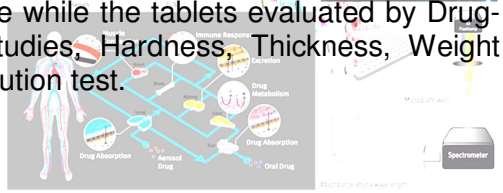
1, Suresh Gyan Vihar University, Jaipur, Rajasthan
2, Sarvapalli Radha Krishnan University, Bhopal, M.P.
3, Indore Institute of Pharmacy, Indore, MP
ishandby@yahoo.com, mahavirchhajed@rediffmail.com

ABSTRACT

Cancer, is an malignant abnormal growth of cells, one of the most dreaded and complex diseases involving numerous tempospatial changes in cell physiology, which ultimately lead to malignant tumors, Neoplasia. More than 100 types of cancers have been reported, symptoms vary depending on the type and treatment may include chemotherapy, radiation, and/or surgery.

Herbal remedies are assumed to be safe, cause less complications and are less likely to cause dependency. It is well known and reported that the anticancer activity of medicinal plants is due to antioxidant compositions. Thus, the various standardized combinations and preparation of dose and dosage regimen of the active components assessed for their synergistic effects, which could play a critical role in cancer treatment.

Some of the medicinal plants like *Cinnamomum tamala, Madhuca longifolia, Adina cordifolia, Sida Veronicaefolia, Terminalia arjuna, Catharanthus roseus, Zingiber Officinalis, Alium cepa, Aloe barbadensis, Citrus medica, Nicotiana tabacum, Allium sativam, Emblica officinalis, Glucyrrhiza glabra, Ocimum sanctum, Curcuma longa* etc., evaluated and showed prominant anticancer activity. Evaluation parameters to assess the *in vitro* anticancer activity includes Caspase-3, Caspase-9, Chromosomal Aberration Assay, Alamar Blue Resazurin Reduction assay, LAD assay, XTT assay, Sulforhodamine-B assay, MTT assay, DNA Fragmentation assay, ELISA assay, Neutral Red Uptake Cytotoxic assay, SRB assay, Tryphan Blue assay. Evaluation of dried extract or granules includes Bulk density, Tapped density, Carr's index, Hausner's ratio, Angle of repose while the tablets evaluated by Drug-Excipient Compatibility Study by FT-IR, Stability studies, Hardness, Thickness, Weight Variation, Friability, Disintegration Time, *In vitro* Dissolution test.



MPCST/RTAAAE/2016/74

ANTIOXIDANT AND ANTIFUNGAL POTENTIAL OF SOME AROMATIC PLANT EXTRACTS

Sachin Kumar Jain[1] Dheeraj Jain[2], Priya Jain[1]
[1]College of Pharmacy, IPS Academy, Rajendra Nagar, AB Road, Indore MP INDIA 452012
[2]NMT Gujarati College of Pharmacy, Indore

ABSTRACT

In this research work, the antioxidant and antifungal activities of extracts of nilgiri, basil pickling herb were established. Total yields, radical scavenging activity and the antioxidant potential of the extracts were investigated. The free radical scavenging activities of extract was recognized as 41.3±2.1 to 76.9±6.1%, correspondingly. The antioxidant measurements of extracts were established between 153.4±10.1 to 336.7±24.2 mg/g extract. This extract was explored for antifungal activity by using paper disc method against 5 fungi (*Aspergillus niger*, *Alternaria alternate* and *Aspergillus parasiticus* NRRL 2999). The 0.5% level of nilgiri extract exhibited 100% inhibition till the 7th day of incubation. Statistical variances within fungi were important at $p<0.05$. The extract was somewhat effective against all the fungi used in experiment.

Key words: Antioxidant activity, radical scavenging activity, antifungal effect, extracts.

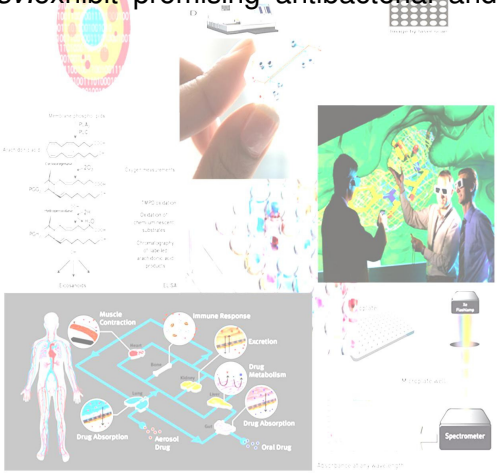
MPCST/RTAAAE/2016/75

IN-VITRO EVALUATION OF ANTIMICROBIAL ACTIVITY OF THE AERIAL PARTS OF *DESMODIUM SCORPIURUS (SW.) DESV.* EXTRACT

Modi Amit[1]*, Gupta Arun[2], Prachand Sumit[3], Jain Dheeraj[4]
[1]Mathuradevi Institute of Pharmacy, Indore (M.P.) India
[2]RKDF Institute of Pharmaceutical Sciences, Indore (M.P.) India
[3]Indore Institute of Pharmacy, Indore (M.P.) India
[4] NMT Gujarati College of Pharmacy, Indore (M.P.) India
amitmodi.pharma@gmail.com

ABSTRACT

The plant *Desmodium scorpiurus (Sw.) Desv.(Fabaceae)* is known locally for its medicinal value in all over India. In the present study, we determined the antimicrobial activity of the aerial part of *Desmodium scorpiurus (Sw.) Desv.* extract. The dried and powdered aerial parts of *Desmodium scorpiurus (Sw.) Desv.* were extracted with ethanol. Antimicrobial activity of the ethanolic extract of *Desmodium scorpiurus (Sw.) Desv.* with different concentration are evaluated against gram positive organism (B. substillis, S. Aureus), gram negative organism (E.coli, P. aeruginosa) and fingi (S.cerevisiae). Streptomycin and flucanazole is considered as standard for antimicrobial and antifungal activity respectively. Based on the data's of zone of inhibition of the different concentration, the result revealed that the extract of *Desmodium scorpiurus (Sw.) Desv.*exhibit promising antibacterial and antifungal activities.



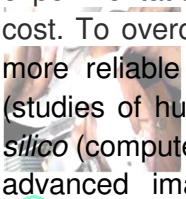
MPCST/RTAAAE/2016/76

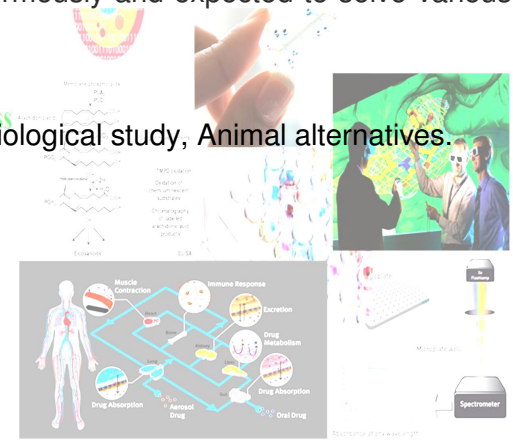
3D PRINTING TECHNOLOGY: AN ALTERNATIVE OF ANIMAL TESTING

Archana Patidar, Ramlakhan Patel, Khushbu Jain
Oriental College of Pharmacy and Research, Oriental University, Indore

ABSTRACT

The number of animals used in research has increased with the advancement and expansion of research and development in medical sciences. Every year, sea full of experimental animals is used all over the world. The tenderness, grief and death experienced by the animals during experiments have been a debating issue for a long time. Besides the major concern of ethics, there are few more disadvantages of animal experimentation like requirement of skilled manpower, time consuming protocols and high cost. To overcome from above disadvantages there are many humane, cost-effective, and more reliable Alternatives to using animals in research include epidemiological studies (studies of human populations), clinical research, *in vitro (*e.g., in a test tube) research, *in silico* (computer-based) techniques, human cell and tissue cultures, stem cell methods, advanced imaging methods, and safe human-based studies. Apart from all above alternatives available here we are focusing on 3D Printing Technology which can be found more promising in near future than others because of its incredible contribution. The aim of this review to focus usage of 3D Printing Technology in various medical technology field as alternative of animal testing, which is expanding anormously and expected to solve various ailments in near future.





Key words: 3D Printing Technology, In silico, Epidemiological study, Animal alternatives.

MPCST/RTAAAE/2016/77

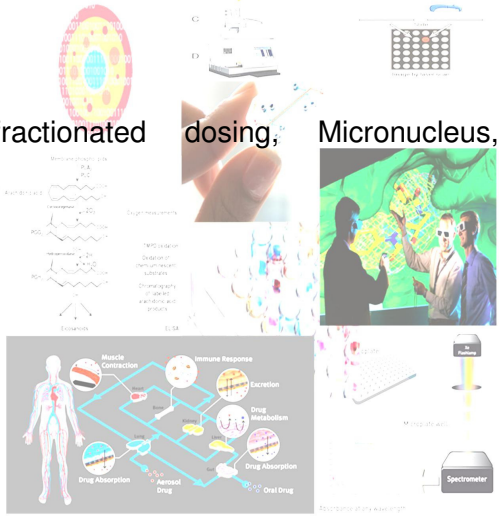
COLLATION OF ACUTE AND FRACTIONATED DOSING OF DOXORUBICIN ON BONE HISTOLOGY

R.L. Patel[1], G.B. Jena[2], M.K. Gupta[1]
1. Oriental College of Pharmacy and Research, Oriental University, Indore
2. National institute of Pharmaceutical Education and Research, SAS Nagar

ABSTRACT

Doxorubicin is known to us since decades as anthracyclin antibiotic for the treatment of wide range of cancers, including hematological malignancies, carcinomas and sarcomas. Though it is very useful neoplastic and cytotoxic agents it is not deprive of side effects (Myelosuppression, oral mucositis and localised swelling and redness along the vein in which the drug is delivered) at its acute dose. So we have designed this study to analogize upshots of fractionated and acute dose of Doxorubicin. In this study we analyze that fractionated dosing was found to be less unusual cytotoxic (reason for side effects of acute dosing of doxorubicin) as compared to acute dosing and that was confirmed by histological sections of bone and Micronucleus formation study of bone-marrow. From the above study we concluded that fractionated dosing of doxorubicin is more beneficial for the treatment of cancer than acute one.

Key words: Doxorubicin, acute dosing, fractionated dosing, Micronucleus, Myelosuppression.



Dr. A.P.J. Abdul Kalam University, Indore

Courses Offer

ACADMIC PROGRAMS

Engineering:

❑ *Bachelor of Engineering (B.E.):-*

- ✓CIVIL ENGINEERING
- ✓MECHANICAL ENGINEERING
- ✓ELECTRICAL AND ELECTRONICS ENGINEERING
- ✓COMPUTER SCIENCE ENGINEERING
- ✓ELECTRONICS AND COMMUNICATIONS ENGINEERING
- ✓INFORMATION TECHNOLOGY

❑ *Master of Technology(M. TECH.):-*

- ✓COMPUTER SCIENCE ENGINEERING
- ✓DIGITAL COMMUNICATION
- ✓POWER SYSTEM
- ✓THERMAL ENGINEERING
- ✓STRUCTURAL ENGINEERING
- ✓CYBER SECURITY
- ✓COMPUTER TECH. APPLICATION

POLYTECHNIC DIPLOMA:

- ✓CIVIL ENGINEERING
- ✓MECHANICAL ENGINEERING
- ✓ELECTRICAL ENGINEERING
- ✓COMPUTER SCIENCE ENGINEERING
- ✓ELECTRONICS AND TELE COMMUNICATIONS
- ✓AUTOMOBILE ENGINEERING

Management :

- ✓Master of Business Administration (MBA)
- ✓Bachelor of Business Administration (BBA)

Computer Application :

- ✓Master of Computer Application (MCA)
- ✓Bachelor of Computer Application (BCA)

Pharmacy :

- ✓Diploma in Pharmacy (D. Pharm)
- ✓Bachelor of Pharmacy (B. Pharm)
- ✓Master of Pharmacy (M. Pharm)
  - •Pharmaceutics
  - •Pharmacology
  - •Quality Assurance

Other Course

B.Sc.(Plain, CS, Ph. Chem., AG)
B.A.(Plain, Hons., CA)
B. Com (Plain, Taxation, CS)
PGDCA, DCA,
M.A., M.Com, M.Sc

Sakun Publishing House

Sakun Publishing House (SPH)

INTERNATIONAL JOURNAL OF PHARMACY & LIFE SCIENCES

(A Peer-reviewed Monthly Online International Journal (ISSN 0976-7126), Index in e-google; Index Copernicus, Europe; EBSCO, USA; POSAR; Open J-Gate; Research Gate; MAPA, India; ISA, India; ISI, Chemical Abstract Services, USA, Ulrich's International Periodical Directory, USA & CABI, London, UK)

Impact Factor: 4.256 (Cosmos Indexing); IC-V-3.75; CODEN (USA): IJPLCP

Dear Sir / Madam,

International Journal of Pharmacy and Life Science (IJPLS) is an e-journal, published monthly. It is a peer reviewed journal aiming to communicate high quality original research work, reviews, short communications, case report, Ethics Forum, Education Forum and Letter to editor that contribute significantly to further the Scientific Knowledge related to the field of Pharmacy i.e. Pharmaceutics, Pharmacology, Pharmaceutical Chemistry, Pharmacognosy, Pharmaceutical Analysis, Pharmaceutical Microbiology, Pharmaceutical Biotechnology, Clinical Pharmacy, Bioinformatics, Pharmaceutical Management, Health Care Management, Hospital Management, Biochemistry, Regulatory Affairs, Pharmacovigilance, Clinical Research, Hospital Pharmacy, Community Pharmacy, Quality Assurance, Pharmacy Practice, Life Sciences, (Botany, Zoology, Microbiology, Biochemistry, Biotechnology, Agronomy, Agriculture etc.) and other related fields. Articles with timely interest and newer research concepts will be given more preference.

IJPLS has successfully indexed with well renowned databases such as Google, Google scholar, Chemical Abstract, Pharmaceutical Sciences Open Access Resources (PSOAR), Index Copernicus -Journals Master List (Poland), Research Gate (Germany), Open-J-Gate, MAPA, ISA, CABI and EBSCO Publishing, Inc., USA., Research Bib, Tokyo, Japan; Ulrich's International Periodical Directory, USA and Many More

IJPLS is available online and wishes to receive your support all through the course of its journey. Your valuable suggestions, critical comments and support are vital for the growth.

For more details visit www.ijplsjournal.com or mail to us at ijplsjournal@gmail.com

With Regards,
Sincerely Yours,

Dr. Sumeet Dwivedi, Executive Editor, IJPLS
Mob. +91-9893478497, +91-9993218521,

Sakun Publishing House (SPH)

INTERNATIONAL JOURNAL OF PHARMACY & LIFE SCIENCES

(A Peer-reviewed Monthly Online International Journal (ISSN 0976-7126), Index in e-google; Index Copernicus, Europe; EBSCO, USA; POSAR; Open J-Gate; Research Gate; MAPA, India; ISA, India; ISI, Chemical Abstract Services, USA, Ulrich's International Periodical Directory, USA & CABI, London, UK)

Impact Factor: 4.256 (Cosmos Indexing); IC-V-3.75; CODEN (USA): IJPLCP

SPH covers the publication in all fields. Our Partners of Publications include following Journals:

- **International Journal of Pharmacy and Life Sciences**
- **International Journal of Drug Discovery and Herbal Research**
- **International Journal of Engineering Sciences and Management**
- **Journal of Herbal and Biological Research**

Apart from publication we also offered the services of project handling and carrier guidance.

Services Offered

Project	Ph.D	M.Pharm	B.Pharm	M.Sc.
Publications	Books	Research Papers	Review Papers	Short Communication
Carrier Guidance & Placement	Academics	Industry	Marketing	Research

Contact Person

For Journals & Project
Dr. Sumeet Dwivedi
M.Pharm (Hons/Gold Medal), Ph.D, FLSL
Mob. +91-9893478497

For Books, Carrier Guidance & Placement

Dr. Abhishek Dwivedi
M.Pharm, Ph.D, FLSL
Mob. +91-9893077870

Mr. Mohit Chaturvedi
M.Pharm, Ph.D*
Mob. +91-9630270986

Mail to us your queries to ijplsjournal@gmail.com, herbal0914@rediffmail.com

Reduction to minimize number of animal used

Replacement to avoid the use of living animal

Refinement to minimize suffering and distress

Organized by

RKDF INSTITUTE OF PHARMACEUTICAL SCIENCES

Approved by AICTE, PCI & DTE, M.P.

Affiliated to RGPV, Bhopal

Indore-Dewas Bypass Road, Village Arandiya, Indore (M.P.) 452016,

www.rkdfgroupindore.org,

0731-6502390, 9630451510 **rkdfips840@gmail.com**