3.3.2 Number of Book chapters in edited volumes/Books published and papers published in National/Internataional Conference proceedings during academic Year 2019-20

The faculty of the institution has contributed to the book/book chapters and conference proceddings for the academic year 2019-20 as mentioned below:

Total number of Book/Bookchapters Published	-	**06**
Total International Conference proceddings Published	-	**49**
Total	-	**55**

3.3.2 Number of Book chapters in edited volumes/Books published and papers published in National/Internataional Conference proceedings during academic Year 2019-20

CHAPTER

Graphene-Based Nanovehicles for Drug Delivery

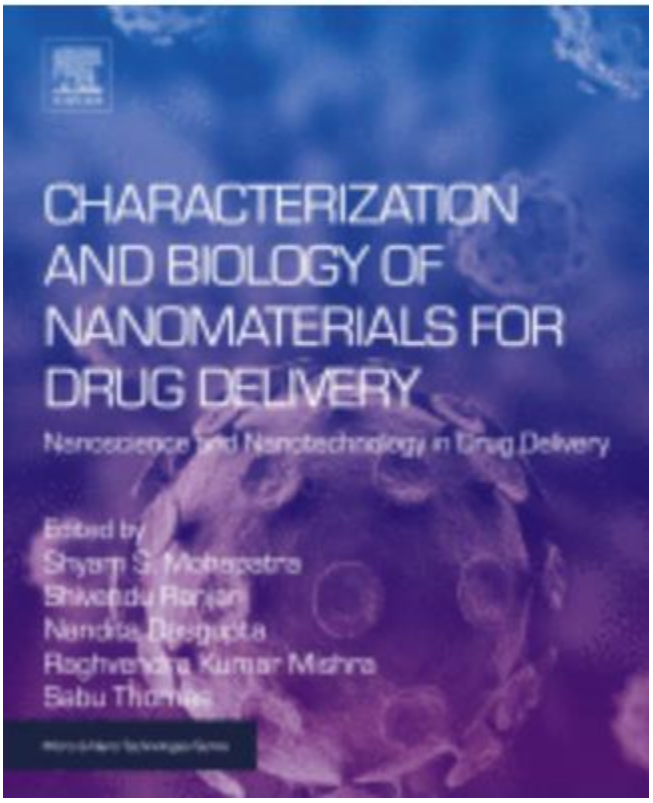
4

Harekrishna Roy[1], Satyabrata Bhanja[2], Uttam Prasad Panigrahy[3], Vinay Kumar Theendra[1]

Nirmala College of Pharmacy, Guntur, India[1]; Malla Reddy College of Pharmacy, Hyderabad, India[2]; KL Deemed to be University, Guntur, India[3]

1. INTRODUCTION

Graphene was first detached in 2004 by utilizing mechanical peeling in the now acclaimed "scotch-tape" technique and is the principal genuinely a two-dimensional material [1–3]. From that point forward the potential employments of the material have extended quickly, and an extensive variety of biomedical applications are currently proposed, incorporating their potential part in therapeutics conveyance, which incorporates drugs, biopharmaceuticals, and hereditary material, making it a sharp perspective in the field of pharmaceuticals and medicinal



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CHAPTER

Nano Drugs: Are They Safe? Their Toxicity and Regulatory Aspects

16

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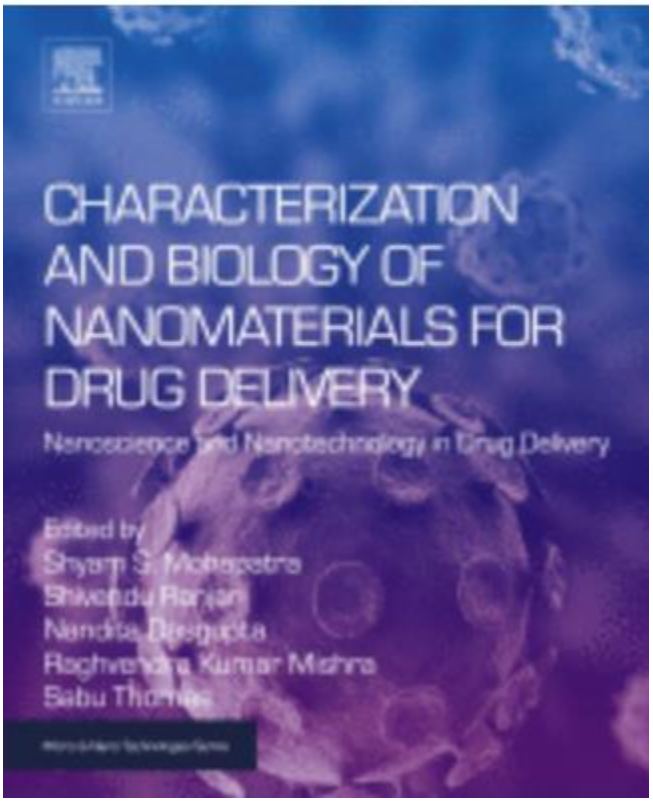
Nirmala College of Pharmacy, Guntur, India[1]; Institute of Pharmacy and Technology, Salipur, India[2]

1. INTRODUCTION

For most of the industry's existence, prescription drugs have primarily consisted of straightforward, fast-acting chemical compounds are distributed orally (as solid pills and liquids) or as injectables. Throughout the past 3 decades, however, formulations that manage the speed and amount of drug delivery (i.e., time-release medications) and target specific areas of the body for treatment have become more and more easy. Owing to researchers' ever-evolving understanding of the chemical structure, together with the explosion of recent and potential treatments arising from discoveries of bioactive molecules and sequence therapies, pharmaceutical analysis hangs on the edge of superior advancement [1,2]. Conventional drug delivery involves the use of a



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3.3.2 Number of Book chapters in edited volumes/Books published and papers published in National/Internataional Conference proceedings during academic Year 2019-20

Book

A Practical approach on Pharmaceutical Microbiology

December 2019

Publisher: Taurus Publishers

Lab: Supriya Chatla's Lab

Dr. Abdul Rahaman Shaik · Supriya Chatla · Prameelarani Avula

Overview | Stats | Comments | Citations | References

Abstract

This manual provides basic microbiology techniques with applications for undergraduate students as per PCI Regulations. It is designed to supplement any microbiology text book to help students see how lab and lecture are integrated. With a strong emphasis on laboratory safety, this laboratory manual encourages students not only to learn but also to practice safety techniques, so that safety becomes part of

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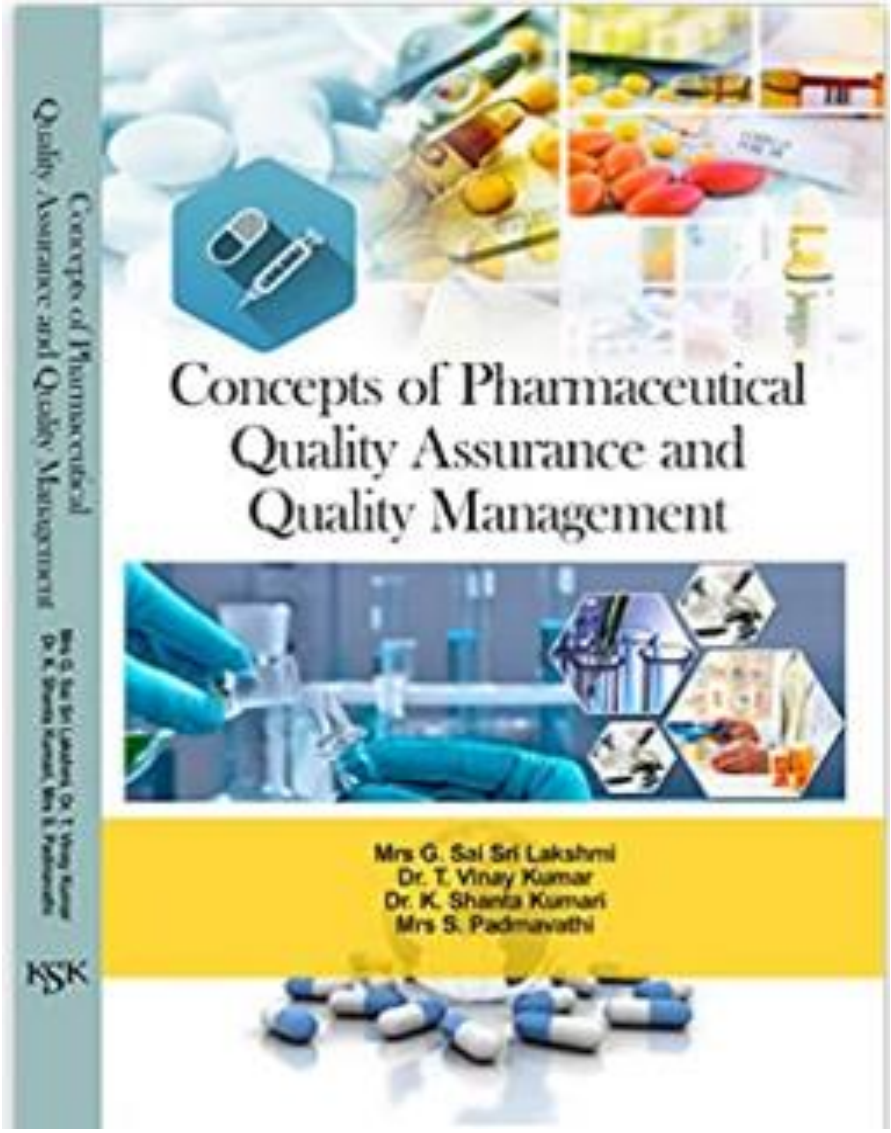

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3.3.2 Number of Book chapters in edited volumes/Books published and papers published in National/Internataional Conference proceedings during academic Year 2019-20

Recent Advances in Pharmaceutical Sciences

Volume – 1

Chief Editor

Dr. Chhavi Singla

Principal and Professor, Ram Gopal College of Pharmacy, Sultanpur, Gurugram, Haryana, India

AkiNik Publications
New Delhi

Chapter – 2
Recent Trends in Cancer Biology

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Chapter - 2

Recent Trends in Cancer Biology

Dr. Chkvlsn Anjana and V. Swathi

Abstract

Disparities in cancer treatment and outcomes mirror socio-economical, racial, ethnic, and academic backgrounds. Recent years have seen an explosion of new discoveries of the diverse molecular and biological changes underlying cancer development and progression. These insights are changing our understanding of the complex pathways that regulate cancer cell biology, the interactions of tumors with their microenvironment, and the mechanisms that normally restrain tumourigenesis. Importantly, researchers are translating these findings into novel approaches towards cancer diagnosis, prognosis, and therapies.

Keywords: Cancer biology, innovative treatment, gene therapy

Introduction

Cancer has probably been around for as long as people do. But over the years, we have greatly improved our ability to test for the disease and treat it. More people living longer who get cancer. Some are healed. Exciting advances pave the way for better treatments and perhaps more cures.

It is currently clear that bound tumors are sustained by a rare population of cancer stem cells that share one amongst the process properties of traditional stem cells the flexibility to renew themselves. Self-renewal is what permits stem cells to persist throughout the lifespan of the organism and to produce new cells for tissue genesis, maintenance, and regeneration following stress or injury. These properties are precise what cancer stem cells exhibit in initiating and maintaining malignant growth and, sadly, to make a tumor once the cancer stem cells escape treatment.

A key question so is whether or not cancer stem cells are invariably derived from traditional stem cells that run amok, manufacturing cancer cells rather than traditional cells. This idea is actually plausible as a result of several cancer-stem-cell populations' specific cell-surface proteins that are also found on traditional stem cells. However, stem cells won't be the sole

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INTERNATIONAL CONFERENCE PROCEEDINGS

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SP-15

DEVELOPMENT AND VALIDATION OF NEW RP-HPLC METHOD FOR THE ESTIMATION OF IMATINIB MESYLATE IN PHARMACEUTICAL DOSAGE FORM

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ABSTRACT

Imatinib mesylate is a tyrosine kinase inhibitor. It binds to ATP binding site of enzymes and inhibits the binding of the BCR –ALB protein which produces abnormal tyrosine kinase and inhibits cell signalling for stimulation of the cell division. It inhibits tumour growth of cancerous cells. It is used to treat leukemia, tumours. HPLC (High performance liquid chromatography) method is an analytic method used to seperate, identify and quantify the component. HPLC method is important in the quality control of drugs and drug products. The main objective is that to develop a simple, rapid, precise and accurate and sensitive. In HPLC pressure is applied to the column by using the pumping system forcing mobile phase through at much higher rate. The pressure used normally range from 30-200nm depending on the column. This system consists of RP-C18 column and the detection was performed at 260nm. HPLC method for the analysis of imatinib mesylate in pharmaceutical dosage form by using solvent system of buffer: ACN in the ratio 78:22 and Xterra RP-8(150mm ×4.6mm), 5µ stationary phase. The mobile phase consists of tetrabutyl amino ammonium hydroxide and 0.1 M ammonium dihydrogen orthophosphate the chromatographic condition is optamised at flow rate of 1ml/min with UV detection at 230nm. The column temperature should be maintained at 40°C ,the auto sampler temperature is 25°C ,the flow rate is 1.0Ml /minute an cd wave length is 230nm,the injector volume is 10µL.in this method the % of assay should be within range of 98 – 102%. The % of assay of the performed sample was found to be 100.6% and the % value is within the range

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SP-16

DEVELOPMENT AND VALIDATION OF NEW ANALYTICAL RP-HPLC METHOD FOR THE ESTIMATION OF TOPIRAMATE IN BULK AND PHARMACEUTICAL DOSAGE FORMS

SK. ABDUL RAHAMAN*, PIETY CHRISTIANA.ROKKAM, VIGNESHWARI PALADUGU, SRAVYA KOLIPAKULA, TIRUCHUNAPALLI THERESA MANASWI, V.S.R.CHANDRALEKHA

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ABSTRACT

Topiramate,"2,3:4,5 –Bis-0-(1—methylethylidene)-beta-D-fructopyranose sulfamate" is an Antiepileptic drug used for treatment of epilepsy and prevent migranes. Topiramate has also been used in the alcohol dependence. And it is a first line migrane preventive drug. It works by blocking of voltage – dependent sodium and calcium channels and also inhibits the excitatory glutamate pathway while enhancing the inhibitory effect of GABA. Moreover inhibits carbonic anhydrase. Its possible effects a mood stabiliser and inhibits maximal electrical shock and pentylenetetrazol-induced seizures. Its action on mitochondrial permeability transition pores has been proposed as a mechanism. The objective of the present work is to develop simple, accurate, economic, selective and precise High performance Liquid Chromatography (HPLC) method has been developed and validated for rapid and simultaneous quantification of Topiramate in tablet dosage form. Mobile phase contained a mixture of methanol and HPLC grade water is used in the ratio of (40:60), column was Zodiac C_8 100×4.6mm, 5µm, flow rate 1.0ml/min, Band it shows a good linearity in the concentration range of 50-3000µg/ml and correlation coefficient was found to be within the limits i.e 0.999. The developed method has been validated statistically as per ICH guidelines. The method showed good reproducibility and recovery with % RSD should not be more than 2. So, the planned methodology was found to be straight forward, specific, precise, accuracy, linear, and robust. Hence it can be applied for routine analysis of Topiramate in bulk drug and the pharmaceutical formulations.

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SP-33

FORMULATION AND FINDING THE PIROXICAM MICROEMULSION BY TERNARY PHASE DIAGRAM

SUMAIAH BEGUM, SYED KHUDSIYA SULTANA, SHAIK ABDUL RAHAMAN, KOLLURI ROOPA, S BALAIAH, HAREKRISHNA ROY *

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ABSTRACT

The current study deals with the construction of ternary phase diagram by using ProSim software. The ultimate aim is to find the suitable region of microemulsion by considering the mixture of surfactant, co-surfactant and oil phase. Depending on the highest solubility the surfactant (SLS), co-surfactant (PG 5%) were selected and different ratios of surfactant and co-surfactant mixtures were prepared. The different ratios like (S: CS) 1:0, 1:1, 1:2, 1:3, 2:1, 3:1 are prepared. Pseudo ternary phase diagrams were constructed using the software ProSim ternary diagram. The amount of S, CS mixture, oil and weight of water added were entered into the software ProSim ternary diagram. As the range lies between 0-1 the data entered must be normalized. Directly from the software we can convert the values to normalized values. After that from the normalized values of S, CS mixture, oil, water within the range 0-1 total six pseudo ternary phase diagrams were constructed which contains the 3 phases as S, CS mixture, oil, and water. The region was found and a trial batch of 100 ml was prepared and stability study was conducted.

KEYWORDS: Ternary, microemulsion, surfactant, oil phase, Pseudo ternary.

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SP-50

METHOD DEVELOPMENT AND VALIDATION OF NEW ANALYTICAL METHOD FOR THE ESTIMATION OF ROSUVASTATIN CALCIUMAND FENOFIBRATE IN BULK AND PHARMACEUTICAL DOSAGEFORMS

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ABSTRACT

For simultaneous determination of Rosuvastatin Calcium and Fenofibrate in bulk and Pharmaceutical dosage forms an efficient and simple HPLC method has been developed. The objective of the present research work is to devolope a novel, simple, accurate and precise reverse phase High Performance Liquid Chromatography (HPLC) stability indication method for rapid and simultaneous quantification of Rosuvastatin Calcium and Fenofibrate. These two drugs are separated based on HPLC separation the reverse phase mode of Luna C18 column the method is validated for parameters like accuracy, linearity, precision, ruggedness, robustness. Linearity was obtained in the concentration range of 0.5- 15 µg/ml and 8- 240 µg/ml, for Rosuvastatin Calcium and Fenofibrate. Chromatographic method is needed to develop as it is cost effective. This method is developed as it can easily analyse mixture of compound with less retention time and low solvent consumption. The proposed method is suitable for pharmaceutical analysis in analytical laboratory. This method has been successfully applied to Pharmaceutical formulations and was validated according to USP and ICH guidelines. All the parameters validated are in the acceptance range of ICHguidelines.

KEYWORDS: *Rosuvastatin calcium, Fenofibrate, HPLC, Method validation.*

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SP-43

ATOMIC ABSORPTION SPECTROMETRIC DETERMINATION AND VALIDATION OF SODIUM CONTENT IN SUGAMMADEX SODIUM

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ABSTRACT

Sugammadex sodium is the generic drug name for the novel modified gamma cyclodextrin that terminates neuromuscular blockade induced by aminosteroidal neuromuscular blocking agents.[1] This paper describes the sensitive, accurate, and specific method for determination of sodium content in sugammadex sodium drug substance by using Atomic Absorption Spectroscopy method. The developed method was validated as per the ICH guidelines and USP general chapter 232 for the quantification of the sodium content in sugammadex sodium drug substance. A Suitability test was applied to various system suitability parameters and results obtained were within acceptable limits R^2>0.09. The correlation coefficient of sugammadex sodium was found to be >0.999. The % recovery was calculated and was found to be 99.7% to100.4% for sodium content in sugammadex.

KEYWORDS: Sugammadex sodium, gamma-cyclodextrin, ICH guidelines, Atomic Absorption Spectroscopy, USP general chapter 232.

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SP-69

DEVELOPMENT OF VALIDATED RP-HPLC-PDA METHOD FOR THE ANALYSIS OF ALMOTRIPTAN IN BULK AND DIFFERENT DOSAGE FORMS AND IN DISSOLUTION SAMPLES

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ABSTRACT

The aim of the present work is to develop and validate a rapid, efficient and economical RP-HPLC-PDA method for the analysis of Almotriptan (AMT) in bulk and dosage forms like tablets and mouth dissolving films (MDFs). AMT was separated on Agilent Eclipse C_{18} column (150 x 4.6mm, 5µm) with a mobile phase composed of 0.02%v/v formic acid: methanol (70:30% v/v) in isocratic mode and eluents were monitored at 227 nm. AMT was eluted at 3.73min and showed a good linearity in the concentration range of 2-10µg/mL with a correlation coefficient >0.999. The validation parameters like specificity, linearity, accuracy and limit of detection, limit of quantification, precision, robustness are all fulfilled as per regulatory requirements. The developed HPLC method was successfully used for the analysis of AMT in bulk and dosage forms like

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DEVELOPMENT AND VALIDATION OF RP-HPLC-PDA METHOD FOR THE ANALYSIS OF RIZATRIPTAN IN BULK AND DIFFERENT DOSAGE FORMS AND IN DISSOLUTION SAMPLES

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[2]Department of Pharmaceutics and Biotechnology, KVSR Siddhartha College of Pharmaceutical Sciences, Vijayawada-520010, AP, India.
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ABSTRACT

The aim of the present work is to develop and validate a rapid, efficient and economical RP-HPLC-PDA method for the analysis of Rizatriptan (RZT) in bulk and dosage forms like tablets and mouth dissolving films (MDFs). RZT was separated on Agilent Eclipse C_{18} column (150 x 4.6mm, 5µm) with a mobile phase composed of 0.02%v/v formic acid: methanol (78:22% v/v) in isocratic mode and eluents were monitored at 221 nm. RZT was eluted at 3.01min and showed a good linearity in the concentration range of 2-10µg/mL with a correlation coefficient >0.999. The validation parameters like specificity, linearity, accuracy and limit of detection, limit of quantification, precision, robustness are all fulfilled as per regulatory requirements. The developed HPLC method was successfully used for the analysis of RZT in bulk and dosage forms like tablets and mouth dissolving films.

KEYWORDS: ***Rizatriptan, PDA detection, Mouth dissolving films, Dissolution studies, Method validation.***

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ENHANCEMENT OF DISSOLUTION PROPERTIES OF VALSARTAN BY SOLVENT DEPOSITED SYSTEMS

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ABSTRACT

The aim of the present investigation is to prepare and evaluate solvent deposited systems (SDS) of valsartan (VAL) and to find out the effect of various formulation variables like polymers and solubilizing agents on drug release properties of VAL. Microcrystalline cellulose (MCC) and sucrose were used as polymeric carriers and sodium lauryl sulfate (SLS) and polyvinyl pyrrolidone (PVP) as solubilizing agents. The prepared SDS were characterized for hardness, weight variation, disintegration time, FTIR and drug release behavior for tablets. FTIR studies confirm the compatibility of VAL with excipients used in the formulation. In-vitro drug release studies indicate that the formulations containing MCC as carrier showed slower VAL release compared to formulations containing sucrose as carrier. Addition of SLS and PVP brought a significant increase in VAL release compared to formulations without them. The formulation F6 showed quicker disintegration (within 32 sec) and VAL release rates (complete release was obtained within 180 sec) along with good physico-mechanical properties.

KEYWORDS: ***Valsartan, solvent deposited systems, formulation variables, and compatibility.***

1. INTRODUCTION

Recent developments in combinatorial chemistry and high throughput screening used in drug discovery resulted in increased number of drugs with poor aqueous solubility. Approximately 90% of the new

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FORMULATION AND EVALUATION OF ACECLOFENAC BILAYER TABLETS

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ABSTRACT

The objective of the present research was to develop a bilayer tablet of aceclofenac using sodium starch glycolate (SSG) and croscarmellose sodium (CCS) as super disintegrants for the formulation of immediate release layer whereas polymers such as methocel K15M, Lubrizol 971P were used for the formulation of sustaining layer. The tablets were prepared by direct compression method. The prepared tablets were evaluated for pre-compressed parameters like micromeritic properties and post compressed parameters like weight variation, aceclofenac content and in-vitro dissolution studies. The in-vitro dissolution studies showed about 86.78 % of aceclofenac release from the bilayer tablet indicating that an initial burst release of aceclofenac followed by sustaining action up to 12 h from the sustained layer of the tablets. In-Vitro kinetic data revealed that all the formulations followed the Higuchi model via fickian diffusion as release mechanism after the initial burst release. FT-IR studies revealed that there was no interaction between the drug and polymers used in the study.

KEYWORDS: *Aceclofenac, super disintegrants, sustaining layer, fickian diffusion*

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3.3.2 Number of Book chapters in edited volumes/Books published and papers published in National/Internataional Conference proceedings during academic Year 2019-20

ENHANCEMENT OF DISSOLUTION PROPERTIES OF IBUPROFEN BY LIQUISOLID COMPACT TECHNIQUE

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ABSTRACT

The present investigation was aimed to prepare and evaluate ibuprofen (IBU) liquid solid compacts (LSC) to enhance the dissolution properties of IBU and thereby its bioavailability. IBU LSC were prepared by using microcrystalline cellulose (MCC) and lactose as carriers in different ratios, aerosol 200 as coating material, propylene glycol (PG) as vehicle and sodium starch glycolate (SSG) and croscarmellose sodium (CCS) as superdisintegrants. The LSC prepared were evaluated for flow properties and then compressed into tablets by direct compression method. The tablets prepared were evaluated for weight variation, friability, hardness and in-vitro dissolution. The FTIR studies reveal that there is no interaction between IBU and the excipients used in the formulation. The flow properties of the prepared LSC indicate a good flow property and the post compressed parameters of IBU LSC were all within the acceptable limits. The in-vitro dissolution studies showed that a 1.3 fold increase in dissolution was observed in IBU LSC containing MCC as carrier than the formulations containing lactose as carrier. The addition of SSG, CCS, and inulin resulted in 1.47, 1.25, and 1.19 fold increase in IBU release than the formulations without superdisintegrants. Overall the formulation F6 showed faster dissolution of IBU along with good physico mechanical and flow properties.

KEYWORDS: ***Ibuprofen, dissolution properties, LSC, and superdisintegrants.***

1. INTRODUCTION

Among the different routes of drug administration oral route is the most preferred and widely accepted route

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FORMULATION AND EVALUATION OF PRAVASTATIN ORAL THIN FILMS

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ABSTRACT

In the present study oral thin films of Pravastatin were developed to have a faster on set of action. The oral thin films were developed by using polymers HPMC E5, HPMC E 15 and PVP K90.Oral thin films were prepared by employing solvent casting method. Propylene glycol was selected as permeation enhancer and plasticizer.FTIR was used to perform drug excipient compatability studies, it was observed that there were no interactions. Varying concentrations of polymers ranging from F1-F6 were used for preparing the formulations. Among all the 6 formulations F1 formulation which contain HPMC E15 200mg and shown 97.2. % cumulative drug release within 30 min. And compared to HPMC E15, HPMC E5 and PVP K90, HPMC E 15 showed better drug release profile.

KEYWORDS: ***Pravastatin, oral thin films, solvent casting, HPMC E15, HPMC E5, PVPK90.***

INTRODUCTION

Oral thin films for oral administration are used for the patients who experience difficulty in swallowing tablets and capsules. Geriatric and pediatric patients find it difficult to swallow solid formulations. For such patients to overcome this problem oral thin films are of major use. Formulation of oral thin films started in

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Formulation and Evaluation of Glipizide Fast Dissolving Tablets

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Abstract:

Glipizide is an oral drug that is used for treating type 2 diabetes. It belongs to the class of sulfonylurea acts by stimulating insulin secretion from beta cells of pancreatic islet tissue and is thus depend on functioning beta cells in the pancreatic islets.The present research work was aimed to develop the Fast dissolving tablet of Glipizide using Super disintegrats like Sodium starch glycolate and Croscarmellose sodium. Glipizide is a BCS II drug which is insoluble in water is complexed with different ratios of β cyclodextrin to enhance its solubility properties.The optimised drug : polymer (1:3)ratio was selected to formulate the fast dissolvimg tablets and were evaluated for physical appearance, weight variation, hardness, friability, content uniformity test, disintegration test and in vitro release studies. It was observed that formulation with 7.5 mg of sodium starch glycolate (F6) show faster drug release i.e; 98.5%in 30 min. The FTIR studies revealed that there was no interaction between the drug and excipients.

Keywords : Glipizide, β cyclodextrin, Super disintegrats, Fast dissolvimg tablets, FTIR studies.

INTRODUCTION:

Fast dissolving tablets are gaining importance in the recent past, as it is most conveniently administered with rapid dissolution and quicker absorption providing faster onset of action. The major advantage of this dosage form is that it can be administered without water. Fast dissolving tablets when placed in the oral cavity melts in it as the

Preparation of solid dispersion method:

The solid dispersion method was prepared by kneading method. Required amount of drug and the polymer were added in motor and to this add required amount of methanol and triturate thoroughly with the help of pestle until a clear solution is obtained. The solvent was evaporated in a hot air oven temperature at 50°c[5].

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PRONIOSOMAL GEL THERAPY

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ABSTRACT

Proniosomes are one of the novel prove secular drug system which are dry formulations coated with carrier such as non-ionic surfactants. Proniosomes are formulated in such a manner that they can overcome the drawbacks of niosomes such as physical instabilities, fusion and aggregation. Proniosomes can be administered by various routes like oral, intravenous, buccal, topical, transdermal etc. in which Proniosomes are formulated as gels for topical drug delivery. Proniosomal gels are translucent gels and liquid lamellar crystals of vesicular bilayers which can be formed by the addition of small quantity of gelling agent or water to the dry Proniosomes (mixture of non-ionic surfactant, lecithin and cholesterol). Proniosomal gels offer better resistance towards stress caused by skin flexion; mucocilliary movement and better percutaneous absorption due to non-ionic surfactants are used. Because of their high stability, ease of application and better percutaneous absorption they are widely used for various category of drugs such as antifungals, NSAIDS, antihypertensive etc. As Proniosomal gels offer good attention towards the topical drug delivery, present review focuses on its preparation methods, applications and recent developments.

KEYWORDS: ***Coacervation phase separation; Non-ionic surfactants; Proniosomal gel; Topical drug delivery.***

INTRODUCTION

Proniosomesare[1] the prove secular drug delivery systems which are defined as the dry formulations coated with carriers such as non-ionic surfactants. Proniosomes can be converted into niosomes upon hydrating

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FORMULATION AND EVALUATION OF ROSUVASTATIN (ORAL DISINTEGRATING) TABLETS BY USING NATURAL POLYMER

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ABSTRACT

Hyperlipidemia involves an imbalance of cholesterol levels, including low-density lipoprotein cholesterol (LDL-C) and high-density lipoprotein cholesterol (HDL-C) in the blood. Rosuvastatin is used to decrease the amount of cholesterol such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood. Mouth disintegrating tablets of rosuvastatin were prepared by using the natural banana powder.Mouth disintegrating tablets are most accepted and exploited for the drug delivery for patients who are having difficulty with swallowing that is mainly in paediatrics and geriatrics. Rosuvastatin is an anti hyperlipidemic agent, which acts by inhibition of HMG-CoA reductase. In the present study mouth disintegrating tablets of Rosuvastatin were prepared by direct compression method. A total of 8 different formulations have been prepared and among them the 4 formulations have been prepared using the Croscarmellose sodium and another 4 formulations have been prepared using the natural banana powder. The Banana powder used formulations have shown better release profile than compared with other formulations. F-6 was known because the best formulation among all the opposite formulations.

KEYWORDS: ***Anti hyperlipidemic agent, Croscarmellose sodium, triglycerides, Hyperlipidemia, banana powder.***

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SP-32

ANTIBACTERIAL ACTIVITY OF SYZYGIUM CUMINI IN HERBAL TOOTHPASTE

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ABSTRACT

The objective of the present research work is to study the antibacterial activity of Syzygium cumini in herbal toothpaste. The herbal toothpaste is formulated by using natural ingredients and it is free from artificial ingredients like parabens, fluoride source and chlorine source. Formulations containing natural ingredients are more acceptable in belief that they are safer than synthetic drugs. The herbal toothpaste can satisfy all required conditions to keep the mouth fresh and prevent tooth decay by bacteria. In the present work Syzygium cumini powder is the active pharmaceutical ingredient. The antibacterial activity of Syzygium cumini is evaluated by performing the micro biological assay. The microbiological assay against staphylococcus aureus reveals that formulated herbal tooth paste exhibited notable antimicrobial activity. Syzygium cumini has antimicrobial property and also used as dental analgesic. Other ingredients used are clove it is a dental analgesic, soap nut powder acts as foaming detergent, stevia leaves are used as sweeteners, eucalyptus oil acts as flavouring agent and also acts as dental antimicrobial agent. Sodium benzoate is used as preservative. Calciumcarbonate and chalk are used as abrasives and are responsible for whitening of teeth; microcrystalline cellulose is used as polymer. Titanium dioxide is used as opacifier. The results of the evaluating parameters show better results as compared to marketed formulations. Hence the lab made herbal toothpastes was found to be of good quality.

KEYWORDS: *Antibacterial, opacifier, Abrasive, Dental analgesic, Microbiological assay.*

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SP-55

AWOMEN WHO GAINED PERMANENT HYPOPARATHYROIDISM AND HYPOTHYROIDISM FOR NOTHING: A TOTAL THYROIDECTOMY CASE REPORT

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ABSTRACT

The term non-invasive follicular thyroid neoplasm with papillary like nuclear features (NIFTP) was recently introduced to recognize the indolent behavior of thyroid neoplasms, previously classified as non-invasive follicular variant of papillary thyroid carcinoma. Total thyroidectomy is a surgical procedure that involves the removal of all or a part of thyroid gland. The thyroidectomy is usually performed in the conditions of thyroid cancer, toxic thyroid nodule, multi nodular goiter and grave's disease. Papillary carcinoma appears as an irregular solid or cystic mass or nodule in a normal thyroid parenchyma. These papillary carcinoma tumors are well differentiating despite spread easily to the other organs. The present case study reports how a 29years old female patient who had been misdiagnosed as papillary carcinoma initially and

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ASSESSMENT OF PRESCRIBING PATTERN AND PREVALENCE OF VASCULAR COMPLICATIONS IN TYPE II DIABETIC PATIENTS AT SOUTH INDIAN TERTIARY CARE HOSPITAL: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Diabetes mellitus (DM) is a common metabolic disorder. It is associated with complications which will effects the quality of life. Failure to control elevated blood sugar or inadequate treatment of diabetes could cause many complications. A prospective observational study is used to assess the prevalence of diabetic vascular complications in 105 type II diabetic patients. Date was collected regarding patient's demographic and clinical characteristics. Based on our study criteria, males were more when compared to females in getting vascular complications & also Complications were more prominent in the age group of 50-65years. Of all micro-vascular complications, Nephropathy was major whereas in macro-vascular complications, CAD was prominent. Poor glycemic control and a long duration of illness seem to be the most important risk factors for these complications. Physicians play a major role to prescribe anti diabetic medications and Pharmacist plays a keen job to evaluate the prescription pattern in order to achieve successful therapy. The currently anti-diabetic drugs are effective, but a lot of factors such as patient adherence, education related to diabetes, lifestyle modification, cost and type of medication have an association with glycemic control. Commonly prescribed anti-diabetic drug was Insulin. Metformin was mostly preferred drug both as mono-therapy and combination therapy. Although poly pharmacy was observed, drug utilization pattern can be rational owing to higher prevalence of complications. Minimization of the occurrence of complications should be encouraged by early diagnosis, intensive blood glucose control and rational drug selections.

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DESIGN, SYNTHESIS CHARACTERISATION AND LOCALANAESTHETIC ACTIVITY OF NOVEL SUBSTITUTED BENZANILIDE DERIVATIVES

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ABSTRACT

Present aim of the study is to design novel bezanilide derivatives with potent local anaesthetic activity. Novel benzanilides derivatives were synthesized by the condensation reaction of aniline with para substituted benzoyl chlorides. The prepared derivatives are subjected to the M.P, I.R, NMR, MASS spectroscopy. The test compounds were showed characteristic IR peaks amide 1640-1650 cm^{-1} , aromatic c=c peak at 2230 cm-1. H^1NMR values for aromatic, -NH and other substitutions were in the proper positions. All are showed characteristic molecular ion peaks in Mass spectroscopy. The test compounds were subjected to the local anaethetic activity on frog. Among all the compounds test compound 6,8 were showed optimum activity, test compound 5,6 were showed good activity. All these compounds were having electron donating groups and making the ring active. All the four compounds can be taken as a lead compounds for further investigation.

KEYWORDS: ***Bezanilide derivatives, Synthesis, Characterisation, Local anaestheticactivity***

INTRODUCTION

Chemistry is the scientific discipline involved with compounds composed of atoms, i.e. elements and molecules, i.e. combinations of atoms their composition, structure, properties, behavior and the changes that occurduring the reaction with other compounds. Characterisation of the bindingbehavior plays an vital role

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DEVELOPMENT AND VALIDATION OF STABILITY INDICATING ASSAY FOR SIMULTANEOUS DETERMINATION OF EMTRICITABINE, BICTEGRAVIR AND TENOFOVIR ALAFENAMIDE IN PHARMACEUTICAL DOSAGE FORM BY USING RP-HPLC.

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ABSTRACT

A simple, accurate, quick, economical, precise method was developed for the simultaneous estimation of the Emtricitabine, Bictegravir and Tenofovir Alafenamide in solid dosage form by using RP-HPLC. Chromatogram was run through BDS C8 150x4.6mm, 5µ. Mobile phase was composed with Buffer and Acetonitrile in the ratio of 60:40 v/v was pumped through column at a flow rate of 1ml/min. Buffer used in this method was 0.01N KH2PO4 buffer at PH adjusted to 3.5 with dil. Orthophosphoric acid solution.. Temperature was maintained at 30°C. Optimized wavelength for Emtricitabine, Bictegravir, and Tenofovir Alafenamide was 272.0 nm. Retention time of Emtricitabine, Bictegravir and Tenofovir Alafenamide were found to be 2.396 min, 3.426min and 4.263 min. %RSD of method precision for Emtricitabine, Bictegravir and Tenofovir Alafenamide were found to be 0.5 , 0.6 and 0.6 respectively. % recovery was Obtained they were 99.97%, 100.03% and 99.89% for Emtricitabine, Bictegravir and Tenofovir Alafenamide respectively. LOD, LOQ values are obtained from regression equations of Emtricitabine, Bictegravir and Tenofovir Alafenamide were 0.21ppm, 0.24ppm, 0.47ppm and 1.43ppm, 0.42ppm, 1.28 ppm respectively. Regression equation of Emtricitabine was y = 8064.x + 1063, Bictegravir was y = 8047x + 2253 and of Tenofovir Alafenamide was y = 8145.x + 2172. The developed method was optimum, precise, economical and it can

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DEVELOPMENT AND VALIDATION OF STABILITY INDICATING UPLC METHOD FOR THE SIMULTANEOUS ESTIMATION OFBENZOIC ACID,SALICYLIC ACID,TRIAMCINOLONE ACETONIDE, ICHTHAMOL IN BULK AND PHARMACEUTICAL DOSAGE FORM

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ABSTRACT

ASimple, accurate, rapid and precise Ultra performance liquid chromatographic method has been developed and validated for the determination of Benzoic acid, Salicylic acid, Triamcinolone acetonide and Ichthammol. The chromatographic separation was done on isocratic elution using pentafluorophenylcolumn (150x4.6mm, 3µ). Flow rate is 1mL/min and UV detection was carried out at 278nm. The mobile phase consisted by Octane Sulphonic acid with addition of 1ml triehtyl amine and adjusts pH7.0 with ortho phosphoric acid: Acetonitrile in 70:30 % V/V. The retention time for Benzoic acid, Salicylic acid, Triamcinolone acetonide and Ichthammol were found to be 2.54, 5.24, 8.62, 7.77 min respectively. The detector was showed linear response over the concentration range of 60-900µg/ml of Benzoic acid, 30-450µg/ml of Salicylic acid, 20-300µg/ml of Ichthammol and 0.1-1.5µg/ml of Triamcinolone acetonide for the drugs by showing a good correlation coefficient of 0.999. This proposed method is highly sensitive, precise and accurate which reduces cost of analysis, hence recommended for routine quality analysis in laboratories.

KEYWORDS: ***Benzoic acid, Salicylic acid, Triamcinolone acetonide, Ichthammol, UPLC.***

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NOVEL RP- HPLC METHOD DEVELOPMENT AND VALIDATION OF DARUNAVIR AND RITONAVIRIN BULK AND PHARMACEUTICAL FORMULATION USING HUMAN PLASMA

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ABSTRACT

A simple, precised, accurate method was developed for the estimation of Ritonavir and Darunavir and in human plasma using the Lamivudine as internal standard by RP-HPLC (Reverse phase-High performance Liquid Chromatographic) technique. Chromatographic conditions used are stationary phase Symmetry c18 (250 x 4.6 mm, 5 µ), Mobile phase 0.01N potassium di hydrogen phosphate (pH: 3.0): Acetonitrile in the ratio of 55:45(v/v) and flow rate was maintained at 1.0ml/min, detection wave length was 278nm, column temperature was set to 30°C and diluent was mobile phase Conditions were finalized as optimized method. Retention time of Ritonavir and Darunavir, were found to be 3.256min and 4.240min. % CV of the Ritonavir and Darunavir were found to be 0.22% and 0.6%. % Recovery was obtained as 98.28% and 98.11%. The linearity concentration is in the range of 0.0375 to 1.5µg /m of Ritonavir, 0.25 to 10 µg /ml of Darunavir. The lower limits of quantification were 0.0375µg/mL of Ritonavir and 0.25µg/mL of Darunavir which reach the level of both drugs possibly found in human plasma.

KEYWORDS: Ritonavir, Darunavir, Lamivudine, RP-HPLC, Method development, ICH Guidelines, validation.

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IDENTIFICATION AND DETERMINATION OF FLAVONOID IN CARICA PAPAYA, PUNARNAVA AND ABUTILON INDICUM BY ULTRA HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

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ABSTRACT

Flavonoids (Rotenoids) present incarica papaya, punarnava (Boerhaavia diffusa) and abutilon indium.Is known for its completely different biological activities suchas antioxidant, anti-diabetic, anti-stress, anticonvulsant, antibacterial, hypoglycemic, anti-nociceptive, hepato-protective, anti-proliferative and anti-estrogenic, anti-inflammatory. The following work constitutes the enrichment of iso-flavonoids present in the methanolic extract of carica papaya, punarnava (Boerhaavia diffusa) and abutilon indicumby spike technique using various solvents such as acetone, water, Butanol, ethyl acetate, hexane, chloroform and methanol. Enrichment was determined by uplc, Column Luna C18, 250mm x 4.6mm, 5µm.Buffer: Dissolve 1ml Ortho Phospharic acid in 1000ml of water.Mobile phase: Mixed Buffer and Acetonitrile in the ratio of 60:40% v/v. Flow rate 1.0 ml/ min. Wave length 255 nm. Retention time of Quercetin is about 5.6 min.The development method was validated according to the ICH guidelines for specificity, precision, accuracy and linearity. The method showed good reproducibility and recovery with %RSD less than 2.So the proposed method was found to be simple, specific, precise, accurate and linear. Hence it can be applied for the analysis of carica papaya, punarnava and abutilon indium.

KEYWORDS: *Flavanoids, carica papaya, punarnava, abutilon indium, uplc*

INTRODUCTION

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NOVEL METHOD DEVELOPMENT AND VALIDATION BY RP-HPLC OF TEZACAFTOR, IVACAFTOR IN HUMAN PLASMA

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ABSTRACT

A simple, precised, accurate method was developed for the estimation of Tezacaftor, Ivacaftorin human plasma using the Stavudine as internal standard by RP-HPLC (Reverse phase-High performance Liquid Chromatographic) technique. Chromatographic conditions used are stationary phase Kromasil c18 (250 x 4.6 mm x 5µm), Mobile phase 0.01N Di Sodium hydrogen phosphate (pH: 3.0): Acetonitrile in the ratio of 65:35(v/v) and flow rate was maintained at 1.0ml/min, detection wave length was 255nm, column temperature was set to 30°C and Diluent used is water: Acetonitrile (50:50). Conditions were finalized as optimized Conditions. Retention time of Ivacaftor and Tezacaftor were found to be 4.83min and 7.88min. %CV of the Tezacaftor and Ivacaftor were found to be 0.19% and 1.14%. % Recovery was obtained as 99.19% and 96.91%. The linearity concentration is in the range of 0.3-12µg/mL of Tezacaftor, 0.06-2.4µg/mL of Ivacaftor. The lower limits of quantification were 0.3µg/mL of Tezacaftor and 0.06µg/mL of Ivacaftor which reach the level of both drugs possibly found in human plasma.

KEYWORDS: ***Stavudine, Tezacaftor, Ivacaftor, RP-HPLC, Method development, ICH Guidelines, validation.***

INTRODUCTION

Tezacaftor is chemically known as 1-(2,2-difluoro-2h-1,3-benzodioxol-5-yl)-n-{1-[(2r)-2,3-dihydroxypropyl]-6-fluoro-2-(1-hydroxy-2-methylpropan-2-yl)-1h-indol-5-yl}cyclopropane-1-

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DEVELOPMENT AND VALIDATION OF STABILITY INDICATING UPLC METHOD FOR GRAMICIDIN, NEOMYCIN AND TRIAMCINOLONE ACETONIDE IN BULK AND PHARMACEUTICAL FORMULATION

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ABSTRACT

A simple, rapid, economical, precise and accurate reverse phase high performance liquid chromatography method for estimation of Gramicidin, Neomycin and Triamcinolone acetonide has been developed. Chromatographic conditions used are stationary phase waters symmetry C_{18} column with dimensions 150x4.6mm, 3.5µ. Use buffer as 2.5ml Hexane Sulphonic acid in 1lt water and adjust pH = 2.5 with OPA. The mobile phase is Hexane sulphonic acid: Acetonitrile in 40:60. The flow rate was 1ml/min., and the detection wavelength 232nm. Retention time of Gramicidin, Neomycin and Triamcinolone acetonide was 2.49, 5.15 and 6.22 min respectively. The method has been validated for linearity, accuracy, precision, stability studies and forced degradation studies including acid, base, hydrolysis, peroxide and thermal degradation were successfully applied for the estimation of Gramicidin, Neomycin and Triamcinolone acetonide.

KEYWORDS: *Gramicidin, Neomycin, Triamcinolone acetonide and RP-HPLC.*

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BIOANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF EPALRESTAT AND PREGABALIN IN RAT PLASMA AND ITS APPLICATION TO PHARMACOKINETICS

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ABSTRACT

A novel, simple, rapid and accurate RP-HPLC Bioanalytical method was developed for the simultaneous estimation of Epalrestat and Pregabalin in bulk and dosage form. The chromatographic separation was performed on Discovery column (250 x4.6 mm, 5 µ particle size) the optimized mobile phase consists of 0.01M potassium dihydrogenphosphatebuffer: Methanol (25:75v/v) with a flow rate of 1.0 ml/min and UV detection at 226nm. The Retention time was 2.2min for pregabalin, 2.8min for Epalrestat. Linearity range was 0.125, 0.250, 0.500, 1, 2, 4 and 8 mcg/mL. Accuracy was in the range of 98.14-100.43% for both the drugs. Limit of detection and Limit of quantification are 0.21mcg and 0.65mcg for epalrestat and 0.08mcg and 0.25mcg for pregabalin. The method was validated by determining its accuracy, precision, and system suitability.

KEYWORDS: *RP-HPLC, Bio analytical method, Epalrestat, Pregabalin,Validation.*

INTRODUCTION

Epalrestat is a carboxylic acid derivative and a noncompetitive and reversible aldose reductase inhibitor used

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ABSTRACT

ASimple, accurate, rapid and precise Ultra performance liquid chromatographic method has been developed and validated for the determination of Benzoic acid, Salicylic acid, Triamcinolone acetonide and Ichthammol. The chromatographic separation was done on isocratic elution using pentafluorophenylcolumn (150x4.6mm, 3µ). Flow rate is 1mL/min and UV detection was carried out at 278nm. The mobile phase consisted by Octane Sulphonic acid with addition of 1ml triehtyl amine and adjusts pH7.0 with ortho phosphoric acid: Acetonitrile in 70:30 % V/V. The retention time for Benzoic acid, Salicylic acid, Triamcinolone acetonide and Ichthammol were found to be 2.54, 5.24, 8.62, 7.77 min respectively. The detector was showed linear response over the concentration range of 60-900µg/ml of Benzoic acid, 30-450µg/ml of Salicylic acid, 20-300µg/ml of Ichthammol and 0.1-1.5µg/ml of Triamcinolone acetonide for the drugs by showing a good correlation coefficient of 0.999. This proposed method is highly sensitive, precise and accurate which reduces cost of analysis, hence recommended for routine quality analysis in laboratories.

KEYWORDS: *Benzoic acid, Salicylic acid, Triamcinolone acetonide, Ichthammol, UPLC.*

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ARTIFICIAL INTELLIGENCE IN PHARMACEUTICAL INDUSTRY: THE FUTURE IS HERE

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ABSTRACT

Artificial Intelligence (AI) is the simulation of human behavior in relation to the processes of intelligence involved in problem solving. Such mechanisms include human cognitive science reading, observation, preparation, interpretation, reasoning, correction, speech recognition, linguistics, and other sources. AI simplifies tasks by making machines learn from past experiences, mapping efforts and actions to results, identifying errors, correcting them, adjusting to new and random input values, and effortlessly performing human-like tasks through in-depth scenario analysis. AI simplifies work by analyzing, filtering, sorting, predicting, scoping, and determining large data volumes to follow the best implementation procedures for producing an optimal solution. The major pharmaceutical industry applications of AI as on 2019 are; Discovery and development of new drugs; AI is helping big pharma create cures for complex and rare diseases such as Alzheimer's and Parkinson, Drug-Adherence and Dosage; Using AI to make sense of clinical data and to produce better analytics; Finding more reliable patients faster for clinical trials; Introducing automated robot pharmacies to fill prescriptions and dispensing; and marketing, logistics and supply chain. AI is the future of pharma but the technology is available now. Artificial Intelligence can cut costs down, create new, effective treatments and above all else, help save lives. So biotech companies should start making use of the advantages of AI at the earliest. The industry therefore has a lot to gain from

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CHEMOMETRIC ASSISTED NEW STABILITY INDICATING RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF PARACETAMOL, DICLOFENAC POTASSIUM AND SERRATIOPEPTIDASE IN COMBINED DOSAGE FORM ACCORDING TO ICH GUIDELINES.

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ABSTRACT

A new chemometric assisted by high-performance liquid chromatography (HPLC) with UV- Visible detection was implemented forthe coincidental determination oftablet dosage form. Two chemometric calibration techniques, principle least squares analysis (PCA) and partial least squares (PLS) were applied to the peak area at 226nm of pda detector responses. The method was carried out on a luna C18, 250mm x 4.6mm, 5µm. column with a mobile phase consisting of Acetonitrile and Buffer in the ratio of (10 :90v/v) and flow rate of one.0 ml/ min.The retention time for Paracetmol, nonsteroidal anti-inflammatory drug, and Serratiopeptidase were found to be three. 02, 7.16 and 13.45min severally. The strategy was valid per the ICH pointers for specificity, LOD, LOQ, precision, accuracy, dimensionality and robustness. The method showed smart reproducibility and recovery with %RSD less than 2. Therefore the proposed method was found to be simple, specific, precise, accurate and linear. The 'UNSCRAMBLER (camo)'software was used for the numerical calculations. All of the two-chemometric analysis methods in this study in this satisfactorily applied for the measurement of Paracetmol, diclofenac potassium, and Serratiopeptidasein pharmaceutical tablet dosage form.

KEYWORDS: ***Paracetmol, Diclofenacpotassium, Serratiopeptidase, RP-HPLC, unscramble software, PLS, PCA.***

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STABILITY INDICATING METHOD FOR SIMULTANEOUS DETERMINATION OF PARACETAMOL AND ACECLOFENAC USING ATR-FTIR ASSISTED BY CHEMOMETRICS

By: Adiki, Shanta Kumari (Adiki, Shanta Kumari) ; Kovi, Santoshi Sravya (Kovi, Santoshi Sravya) ; Madambhisheri, Tejasree (Madambhisheri, Tejasree) ; Pala, Uma Rakshita (Pala, Uma Rakshita)

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Abstract

An attenuated total reflectance-fourier transform infrared (ATR-FTIR) spectroscopy method was developed for the simultaneous estimation of paracetamol and aceclofenac in Pharmaceutical tablets. The method involves the direct determination in the drug through peak measurement in the 3502 cm-1 for paracetamol and 1436 cm(-1) for aceclofenac using a baseline correction between 3800 and 1000 cm(-1). For standardization an external calibration line established from standard solutions of pure paracetamol and aceclofenac were used. The method provides a limit of detection for paracetamol is 9.18 and for aceclofenac is 7.95 for per mg tablet and Limit of Quantification for paracetamol is 27.84 and for aceclofenac is 24.11583 for per mg tablet. The accuracy of the sample was found to be 0.816% for paracetamol and 1.32% for aceclofenac. A relative standard deviation (RSD) for 3 independent measurement of standard and test solution at a concentration level of 1.5 mg/mL for paracetamol and aceclofenac is 0.000577%. Range for the tablet was 10 mu g/mL to 250 mu g/mL for paracetamol and 10 mu g/mL to 300 mu g/mL for aceclofenac. The assay of the marketed tablet was found to be 149% and 142% for aceclofenac and paracetamol, the purity of the tablet was 65%. Result obtained by FTIR shows the developed procedure and offers a good alternative for

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ENTERIC COATED CAPSULES FOR EXTENDED RELEASE OF LANSOPRAZOLEMUCOADHESIVE MULTIPLE-UNIT MINI PATCHES

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ABSTRACT

The present study aims to the formulation and evaluation of novel oral mucoadhesive multiple-unit mini patches (MMMP) of lansoprazole (LAN) for extended release. MMMP of LAN in enteric coated capsules were prepared and evaluated using chitosan in combination with xanthan gum, guar gum, tragacanth or acacia in the ratios of 19:1, 9:1, 4:1, 1.5:1 and 0.66:1 employing 2% acetic acid as solvent for chitosan, purified water as solvent for natural gum polymers and glycerin 0.12 mL as plasticizer. The prepared films (0.5 mm dia) were filled into hard gelatin capsules which were enteric coated. The prepared MMMP were characterized for surface texture, thickness, folding endurance, moisture content, moisture uptake, mucoadhesive strength, drug content uniformity, *In vitro* drug release and accelerated stabiliity studies. The SEM photographs showed the rough to smooth pattern of surfaces of patches. The thickness of MMMP found between 43.62±0.27 and 49.53±0.11 µm; mean weight was between 13.81±0.14 and 14.94±0.15 mg; percentage of swelling was between 215±5.39 and 473±6.72; moisture content was between 1.04±0.06 and 2.67±0.24; mucoadhesion was found between 5.5±0.2 and 12.3±0.6 h and the drug content was found between 95.08±3.42% and 99.16±4.73% for all formulations. The FTIR and DSC spectra indicated no drug-polymer interactions. The *in vitro* dissolution studies showed extended release of LAN from MMMP in pH 6.8 phosphate buffer where as no significant drug release found in acidic environment showing that MMMP

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QUANTIFICATION OF PERMETHRIN & DIAFENTHIURON PESTICIDES BY ATTENUATED TOTAL REFLECTENCE - FOURIER TRANSFORM INFRARED SPECTROSCOPY

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1.ABSTRACT

A Fourier transform infrared (FTIR) method was developed for simultaneous estimation of Permethrin and Diafenthiuron in agricultural crops. The method involves the direct determination of the drug through peak measurement in the 1538cm^{-1}for Permethrin and Diafenthiuron in 1045cm^{-1} using a base line correction between 1020cm^{-1} to 1650cm^{-1} . The method provides a limit of detection for Permethrin is 4.8µg/ml and for Diafenthiuron is 2.3µg/ml for 1 gm of sample. The result obtained by Fourier Transform Infrared Spectroscopy shows the developed procedure and offers a good alternative for simultaneous determination of Permethrin and Diafenthiuron in agricultural crops.

KEYWORDS: ***Permethrin diafenthiuron, Fouriertransform infrared spectroscopy***

2.INTRODUCTION

Fourier transform infrared (FTIR) spectrometry was developed in order to overcome the limitations encountered with dispersive instruments. The FTIR can measure the sample without its further preparation. The signal can be measured very quickly, usually on the order of one second or so. Thus, the time element per sample is reduced to a matter of a few seconds rather than several minutes. Permethrin anddiafenthiuron

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ROLE OF MICROBES IN DNA AMPLIFICATION

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ABSTRACT

DNA enzyme is Associate in nursing protein that synthesizes polymer molecules from deoxyribonucleotides, the building blocks of polymer. These enzymes are essential for polymer replication and frequently add pairs to form 2 identical DNA strands from one original DNA molecule. Throughout this method, polymer enzyme & quot; reads & quot; the present DNA strands to form 2 new strands that match the existing ones. Polymerase chain reaction (PCR) could be a methodology wide utilized in biological science to form many copies of a selected DNA section. Using PCR, copies of DNA sequences are exponentially amplified to get thousands too voluminous a lot of copies of that individual DNA section. PCR is currently a standard and infrequently indispensable technique utilized in medical laboratory and clinical laboratory analysis for a broad type of applications together with medical specialty research and criminal forensics. PCR was developed by the yank chemist Kary Mullis in 1983. PCR needs a deoxyribonucleic acid enzyme protein that creates new strands of DNA, victimization existing strands as templates. The deoxyribonucleic acid enzyme usually utilized in PCR is termed Taq polymerase, once the heat tolerant bacteria from that it absolutely was isolated (Thermusaquaticus). Most DNA polymerases may be active even at temperature, the mix of reaction elements throughout PCR setup will result in nonspecific primers hardening to every alternative or to the guide.

KEY WORDS: ***DNA polymerase, Thermos aquaticus, Polymerase Chain Reaction, Topoisomerase.***

1. INTRODUCTION

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A SAFE APPROACH FOR IMMUNIZATION-EDIBLE VACCINES

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ABSTRACT

Edible vaccines hold nice promise as a cheap, easy-to-administer, easy-to-store, fail-safe and socioculturally promptly acceptable vaccine delivery system, particularly for the poor developing countries. It involves introduction of hand-picked desired genes into plants and so inducement these altered plants to manufacture the encoded proteins. Introduced as an idea concerning a decade agone, it's become a reality nowadays. a range of delivery systems are developed. At first thought to be helpful only for preventing infectious diseases, it's additionally found application in hindrance of response diseases, contraception, cancer medical aid, etc. Edible vaccines are presently being developed for variety of human and animal diseases. There is growing acceptance of transgenic crops in each industrial and developing countries. Resistance to genetically modify dysfunction foods could have an effect on the long run of edible vaccines. They need passed the most important hurdles within the path of associate degree rising vaccinum technology. Numerous technical obstacles, restrictive and non-scientific challenges, although all appear surmountable, need to be overcome. This review tries to debate the present standing and way forward for this new preventive modality.

KEYWORDS: *Chimeric viruses, Norwalk virus, transgenic.*

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A REVIEW ON BIO-PHARMACEUTICAL CLASSIFICATION SYSTEM CLASS IV DRUG: ACETAZOLAMIDE

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ABSTRACT

Biopharmaceutical classification system provides the concept of bio-availability, permeability and solubility of the drugs and it also reduces the study of bioequivalence by utilisation of in-vitro dissolution tests. Class IV drugs according to BCS (amphotericin B, acetazolamide, furosemide, retonavir and paclitaxel) exhibits low permeability and low solubility. Thus these drugs want more compatibility and effective delivery. Acetazolamide is a carbonic anhydrase inhibitor used for high altitude sickness, diuretics and as adjunct treatment of glaucoma and epilepsy. It is approved by FDA on 16/1/2019(ORIG-1) and it has been using from 1952 by WHO. This review article is focused mainly on treatment of central serous retinopathy by acetazolamide and its pharmacokinetic and pharmacodynamic information.

KEYWORDS: ***BCS classification parameters, mechanism of action, pharmacokinetics, acetazolamide***

1. INTRODUCTION

1.1. Definitions

Drugs are classified in BCS on the basis of permeability, solubility and dissolution.BCS class IV drugs exhibits many problems characteristically for the effective oral and per oral delivery. Low solubility and low permeability, poor absorption and low aqueous soluble drugs are classified under class IV. Almost all the

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CHEMOMETRICS ASSISTED DETECTION OF ADULTERANTS IN CLARIFIED INDIAN COW GHEE USING ATR-FTIR

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ABSTRACT

Fourier Transform Infrared Spectroscopy (FTIR) is one of the most modern techniques used in the field of analytical chemistry for the identification of the constituents of the substance by determination of the functional groups. Along with the determination of active components of clarified butter (Indian cow pure ghee), the Trans fatty acids by FT-IR spectroscopy, the adulteration in ghee can also be detected by studying the spectrogram. Ghee forms as one of the major components of the diet of human beings due to its rich flavor and high nutrition. As they are high priced fat is prone to adulteration with cheaper fats. Attenuated Total Reflectance FTIR (ATR-FTIR) spectroscopy coupled with chemometrics was applied for determining the presence of goat body fat in ghee at 1%, 3%, 5%, 10%, 15% and 20% w/w levels in the laboratory made samples. The spectra of pure ghee, goat body fat and spiked samples were taken inthe wavenumber range of 4000–500 cm^{-1}. The value of R^2 was found to be 0.99 for calibration and validation sets using partial least square method at all the selected wavenumber range which indicate that the model was well developed. The study revealed that the spiked samples of goat body fat could be detected even at 1% w/w level in ghee.

KEYWORDS: ***Indian cow ghee, goat body fat, ATR-FTIR, principle component analysis, partial least square***

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BIOANALYTICALTECHNIQUE FOR ESTIMATION OF FENOFIBRIC ACID BY LC-MS/MS: A REVIEW

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ABSTRACT

A simple, selective and rugged quantitative method for the determination of Fenofibric acid the active and metabolite of fenofibrate in human plasma (Na2EDTA) using liquid chromatography–tandem mass spectrometric (LC-MS/MS) method has been developed and validated with 200µL human plasma. Carbamazepine was used as an internal standard. Analyte and the internal standards were extracted from human plasma by liquid-liquid extraction using ethyl acetate as extraction solvent and HPLC grade Acetonitrile: 0.1% Formic acid (80:20, V/V) as extraction buffer. The reconstituted samples were chromatographed on a C18 column Hypersil (BDS-4.6×100mm, 5µm) by using isocratic mobile phase. The method was validated over the concentration range of 100.0ng/mL to 20004.2 ng/mL, the API 3000 MDS SCIEX mass spectrometer was operated under the multiple reaction –monitoring mode (MRM) using the electro spray ionization technique for quantification of ion transition at m/z – 319.20 (parent) and 233.10 (product) and m/z -237.20 (parent) and 194.10(product) for the drug and the internal standard respectively. The method was validated for precision, accuracy, stability, matrix effect, dilution integrity, ruggedness, selectivity and extraction efficiency and method developed has been proved to be simple, sensitive, selective, rugged and reproducible. A run time of 2.00 min for each sample made it possible to analyze more than 400 plasma samples per day. The proposed method can be applied for the estimation of the Fenofibric acid in real time plasma samples for pharmacokinetic, drug-drug interaction and toxicological studies.

than 400 plasma samples per day. The proposed method can be applied for the estimation of the Fenofibric acid in real time plasma samples for pharmacokinetic, drug-drug interaction and toxicological studies.

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AN OVERVIEW OF METHEMOGLOBINEMIA: AN UNCOMMON BLOOD DISORDER

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ABSTRACT

Methemoglobinis a bluish chocolate brown coloured metalloprotein in which Iron in the heme is oxidized to ferric state and leads to the decreased O2 carrying capacity of the blood to the body parts and its normal level in the blood ranges from 0.14-0.175 g/dl. When the range exceeds the normal range, the condition is called as Methemoglobinemia which is a serious, uncommon blood disorder. Due to decreased O2 saturation in the blood, skin turns blue and thus this condition can also be referred as BLOOD BLUES. It is mainly of two types: Hereditary which is caused due to NADH Cytochrome b5 reductase enzyme deficiency and acquired condition, major etiological factors include exposure of skin/mucous membrane to the oxidizing agents like Acetanilide, Arsine, Benzene, Benzocaine, Chlorates, Chloroquines, Dapsone etc. Till date there is no exact treatment for hereditary methemoglobinemia, more research is yet to be carried out. In case of acquired methemoglobinemia, Methylene blue therapy is used as first line where ascorbic acid follows. Physicians should be aware while prescribing drugs that induce methemoglobinemia in normal/ high doses. Proper monitoring should be done in case of presence of any signs & symptoms as earlier diagnosis provides better relief to the patients.

KEY WORDS: ***Methemoglobin, Methemoglobinemia, Blood blues, Cyanosis***

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A COMPREHENSIVE REVIEW ON GENE MUTATIONS LEADING TO DIFFERENT TYPES OF CANCERS

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ABSTRACT

Cancer is the uncontrolled growth of abnormal cells in the body. Cancer develops when the body's normal control mechanism stops working. Old cells do not die and instead grow out of control, forming new, abnormal cells. In skin cancer CDKN2A, located on chromosome 9p21, encodes a low-molecular-weight protein, p16, that inhibits the activity of the cyclin D1-cyclin-dependent kinase 4 (CDK4) complexes. This complex phosphorylates the retinoblastoma protein, allowing the cell to progress through the G_1 cell-cycle checkpoint. Thus, p16 acts as a tumor suppressor and negatively regulates cell growth by arresting cells at G_1. In lung cancer, Mutant p53 is inactive for transcriptional transactivation. Cancer cells therefore accumulate mutant p53 (in the absence of MDM2) and fail to induce p53-dependent growth arrest, DNA repair or apoptosis. The mutant protein is a target for rescue by drugs that bind to the core domain to reverse the effects of mutation. The prostate cancer- HOXB13 suppresses the growth of AR-negative PC3 prostate cancer cells by the down-regulation of T-cell factor 4 (TCF-4). HOXB13-expressing PC3 cells exhibited significant inhibition of *in vitro* and *in vivo* cell growth with G_1 cell cycle arrest mediated by the suppression of cyclin D1 expression. *BRCA1* may normally serve as a negative regulator of mammary epithelial cell growth whose function is compromised in breast cancer either by direct mutation or alterations in gene expression can cause breast cancer. Colorectal cancer is caused by Mutations of mismatch repair proteins (i.e., MSH2, MSH6, MLH1,or PMS2) contribute to microsatellite instability and increased mutation rate in cancer cells. Kidney cancer is caused by mutations in the tumor suppressor gene *VHL*, MET, FLCN. VHL it is the substrate recognition component of the E3 ligase complex, it is composed of Cullin-2, Rbx1, Elongin B, Elongin C, that participates in the oxygen-sensing system that drives Hypoxia inducible factors alpha (HIF) degradation.

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EVALUATION OF WOUND HEALING ACTIVITY OF HESPERIDIN ISOLATED FROM CITRUS FRUITS PEEL

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1.ABSTRACT

Hesperidin is a flavanone-on glycoside found in citrus fruits used traditionally for treatment of wounds. However, there are no scientific reports documented so far on the wound healing activities of this isolated compound. Thus, the present study provides a scientific evaluation for the wound healing potential of hesperidin. The compound was prepared in 5%(w/w) and 10% (w/w) ointment and evaluated for wound healing activity using excision, infected, and incision wound models in Swiss albino mice. Both5% and 10% (w/w) ointments significantly reduced period of epithelialization and increased wound contraction rate and tensile strength compared to the negative control group ($P<0.05$). The wound healing activity of 10% (w/w) ointment treated groups was greater than 5% (w/w) and nitrofurazone ointment treated groups in S.aureus infected wound model. These results demonstrate that hesperidin possesses wound healing activities.This justifies the traditional claimed use of the hesperidin for treating uninfected and infected wounds caused by S.aureus.

KEYWORDS: ***Hesperidin, nitrofurazone ointment, S.aureus.***

2. INTRODUCTION

Wound defined as the cellular and anatomic disruption of a tissue may be caused by chemical, physical, microbial, thermal, or immunological damage to the tissue.[1]Wound healing is restoration of structure and function of an injured tissue in order to approximate prewound characteristics. The genus citrus includes sweet oranges (Citrus sinensis), grapefruits (Citrus paradisi), limes (Citrus aurantifolia), lemons (Citrus aurantium).[8] These fruits have been cultivated since ancient times.They have probably originated from Australia, New Caledonia and New Guinea, although some research points to them originating in southeast Asia.Many of the species are hybrids and there is speculation that even the wild true-breeding species are actually hybrids originally. Rutaceae ,the rue family of flowering plants (order Sapindales), composed of 160 genera and about 2,070 species.[11]Rutaceae includes woody shrubs and trees(and a few herbaceous perennials) and is distributed through the world, especially in warm temperature and tropical regions.[12] Citrus fruit peel contains carbohydrates, pectin and fiber, that giving it to better functional properties. Thus

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CLINICAL PROFILE AND OUTCOMES OF ORGAN DYSFUNCTION AMONG SEPSIS PATIENTS: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Sepsis is outlined as life-threatening organ dysfunction caused by a dysregulated host response to infection. It's become the foremost necessary explanation for Multiple Organ dysfunction Syndrome (MODS). The present study was an attempt to analyze the clinical characteristics of the sepsis patients, their symptoms, and the origin of infection, co-morbidities and outcomes of sepsis with organ dysfunction. It was a prospective observational study conducted for about 6 months. Data was collected from the ICU and analysed using SPSS software version20.0. In the present study a total of 51 cases were enrolled. Mean age of patients was 59.74 years. Male and females were 37and 14 respectively. Most common symptom was found as dyspnoea and fever. Cellulitis was found as the most common cause of infection with incidence rate of 32% followed by pneumonia 24%. All the cases some kind of organ dysfunction present among which respiratory, CVS and renal dysfunction were predominant. Diabetes mellitus was the most common comorbid condition in these cases. Sepsis is a vulnerable disease can affect any age group but it is found to be more mortal in elders with less significance value and more comorbidity. The overall mortality of sepsis was found to be 29%.

KEYWORDS: ***Sepsis, Organ dysfunction, Mortality rate, SOFA score.***

Arti

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SP-163

A STUDY OF MEDICATION ERRORS IN HOSPITALIZED PATIENTS AT A SOUTH INDIAN TERTIARY CARE HOSPITAL

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ABSTRACT

The ultimate goal of medication use is to attain the optimum therapeutic benefits or outcomes for the improvement of the patient's quality of life. About 30% of medical problems that are occurring in hospitals are related to medication errors which are preventable and harming at least 1.5 million people every year. To evaluate and categorize the medication errors that occurred in hospitalized patients of tertiary care hospital, Vijayawada, Andhra Pradesh to improve the patient treatment outcomes. The prospective observational study was carried out in the in-hospitalized patients of tertiary care hospitalsfrom June 2018 to November 2018. Out of 400 prescriptions, medication errors were found in 66 cases, which counted to a total of 80 medication errors, the most frequently occurring medication error was wrong dose error (36, 40%), wrong drug error (14, 17.5%), wrong frequency error (10, 12.5%),omission error (4, 5%)dispensing error(4,5%),wrong route of administration (2,2.5%),wrong dosage form error(2,2.5%)monitoring error(2,2.5%)High incidence of medication error falls under the category Prescribing error(58,72.5%). Out of 80 ME'S high incidence of medication errors falls under the Category C(47.5%) followed by Category A(15%),Category E(15%),Category F(10%),Category B(7.5%),Category D(5%).This may be due to an environment that is susceptible to medication errors. The study concluded that the high incidence of medication error occurred in the Neurology department (25%), followed by the Gastroenterology department (22.5%). The majority of errors that occurred to the patients did not cause any harm. There is a need to set up a ME detailing framework by Clinical Pharmacists to diminish its frequency and improve tolerant of patient

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SP-53

ESTIMATION OF ANTI-ULCER ACTIVITY OF AQUEOUS EXTRACTS FROM THE LEAVES OF *Nyctanthes arbortristis ON ALBINO RATS*

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ABSTRACT

Peptic ulcer disease (PUD) is one of the prevalent pathogenic conditions. Helicobacter pylori and the use of Non Steroidal Anti Inflammatory Drugs (NSAIDS) are two of the most common etiological causes in the peptic ulcer disease. Recent years have shown significant increase in NSAIDS consumption though they have side effects. To reduce some of these effects and protect gastro intestinal tract, herbal treatment can be given instead. The objective of the present study is to investigate and determine the gastro protective (anti – ulcer) activity of aqueous and hydro-alcoholic extract of leaves of *Nyctanthes arbortristis* in NSAID induced ulcerated rats. The extracts were studied in two dose levels (200 mg / 400 mg) in rats against Aspirin (NSAID – 500 mg /Kg body weight). Ranitidine (50mg / Kg body weight) was used as a standard drug. The therapeutic efficacy of the extracts of leaves in two doses was compared with standard. The leaf extracts has shown promising results by decreasing the aspirin induced ulcers in rat models. This shows that the leaf extracts have significant anti ulcer activity. This study can help in further studies for their anti-ulcer efficacy and in future works for the development of new formulations.

KEYWORDS: *Anti-ulcer, Nyctanthes arbortristis, Aspirin, Ranitidine & Aqueous extract*

1. INTRODUCTION

1.1. Ulcer

An inflamed breach in the skin or the mucous membrane of the alimentary track lining is considered as an ulcer[1]. Peptic ulcer disease is one of the most prevalent gastro intestinal disorders [2]. In homeostatic conditions, a physiologic equilibrium is maintained between gastric acid secretion and gastric & mucosal defence systems[3]. Gastric ulcer is an imbalance between the offensive and defensive factors[4]. The development of ulcers is also enhanced by poor digestion, decreased excretion, improper metabolism and physical stress etc[5]. In Ayurvedha, gastric disorders are classified as Sula, Parinamasula which corresponds to the clinical conditions called peptic ulcer and functional dyspepsia respectively[6& 7]. In current allopathic

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SP-10

EVALUATION OF ANTIDEPRESSANT ACTIVITY OF NEOLAMARCKIA CADAMBA FRUIT EXTRACT

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ABSTRACT

Neolamarckia cadamba has strong Anti -oxidant, Anti-fungal, Anti-helminthic, Anti-bacterial properties it plays a vital role in migrating mental disorders like depression. To evaluate invivo anti depressant activity of ethanolic extract of *Neolamarckia cadamba* fruit in swiss albino rats. For this *N.cadamba* was chopped, shade dried, pulverized with the help of electric mixer and were extracted by a continuous hot percolation method by using soxhalation apparatus. And for invivo anthelmintic activity, ethanolic and aqueous extract were prepared by soxhalation apparatus with dried powder of *N. cadamba.* The extract was subjected to phytochemical screening followed by acute oral toxicity studies in rats. In vitro experiments were done to determine anti oxidant properties *N. cadamba* extracts, the anti depressant activities of aqueous and ethanolic extract of *N.cadamba* were evaluated in rat models of depressions. Animals were divided into four groups (6 animals per group). Group 1 is served as a control group, Group 2 served as a standard drug (fluoxetine 4 mg/ml) respectively. Group 3 was given ethanolic friut extract of *N.cadamba* orally at low dose of 40 mg/kg respectively. Group 4 were given fruit extracting of *N. cadamba* orally at high dose 80 mg/kg respectively. Following 14 days dilute dosing, all animals were tested using behavioural of depression on 15th day by using locomotor activity test, pole climbing apparatus, and tail suspension tests. And for invivo anthelmintic activity, ethanolic and aqueous extract of *Neolamarckia cadamba* were given to 9 groups of *pheretima posthuma* earthworms with different concentrations. In Locomotar activity,the low dose ethanolic extract gives the efficient therapeutic activity when compared to high dose. In Pole climbimg test and tail suspension test, high dose of ethanolic fruit extract of *N.cadamba* shows efficient activity. In Anthelmintic activity, ethanolic extract of *N.cadamba* shows better therapeutic activity than the aqueous.

KEYWORDS: ***Anti-depressant activity, Cadamba fruit, Neurological disorder, Locomotive activity, pole climbing test, tail suspension test.***

INTRODUCTION[1]

*N.cadamba*is one of the most valuable plants in traditional system of the medicine from ancient time. It is a

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SP-102

EVALUATION OF BIOEFFECIENCY OF POLY-HERBAL FORMULATION WITH EMU OIL FOR ANALGESIC AND ANTI-INFLAMMATORY ACTIVITY

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ABSTRACT

The polyherbal formulation containing Moringa oliefera (leaves), Bellis perennis (flowers / seed), Tamarindus Indica (seeds) is used in the treatment of inflammatory and analgesic based on the long term experience of the ayurvedic physicians. But no scientific study has been carried out so far we have evaluated the Analgesic and Anti-inflammatory activities of poly herbal formulation using different animal models like (rats and mice) such as Hot-plate method, Tail immersion for analgesic activity and anti-inflammatory activity by Histamine induced paw oedema significant analgesic activity of poly herbal preparation was found after 2 hours as compared to the Diclofenac P<0.295 was considered as statistical extremely significant. The preparation also showed sufficient Anti-inflammatory activity chocked against Histamine induced paw oedema. The poly-herbal formulation was tested at dose of 10, 100, 100, 100, and 100, mg/ml per kg body weight and 2 ml per kg body weight. This article contains pharmacognostical evaluation and pharmacological evaluation.

KEY WORDS: ***Poly herbal formulation, Anti-inflammatory action, Analgesic action.***

INTRODUCTION

Poly herbal formulation is the use of more than one herb in a medical preparation the concept is found in Ayurvedic and other traditional medicinal systems where multiple herbs in a particular ratio may be used in the treatment of illness. Historically, the Ayurvedic literature "sorangdhar samhitha " dated centuries ago in 1300 A.D has highlighted the concept of polyherbalism in this ancient medicinal system. In this traditional system of Indian medicine, plant formulations and combined extracts of plants are chosen rather than individual ones. It is known that Ayurvedic herbals are prepared in a number of dosage forms, in which mostly all of them are poly herbal formulations. Due to synergism, polyherbalism confers some benefits

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HERBAL PRODUCTS USED TO TREAT PSORIASIS WHICH IS THE MOST COMMON DISEASE IN THE WORLD SKIN DISEASE

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ABSTRACT

In-day-to-day life, because the pollution will increase there are a unit possibilities of increase of skin diseases. There are units many sorts of skin diseases like skin condition, eczema, herpes simplex, lupus, acne, and acne rosacea and carcinoma. Among all the illness disease of the skinPsoriasis is that the most typical skin disease in the world. By using steroidal drug min Psoriasis treatment there are many side effects like nasophraryngitis, upper respiratory tract infection, headache, fatigue, back pain, dizziness, pharyngolaryngealpain, pruritus, skin rashes etc.

KEYWORDS: *skin condition, skin sensation illness, and sorts of skin eruptions.*

INTRODUCTION

PSORIASIS DEFINATION

Psoriasis could be a common skin condition that changes the life cycle of skin cells. This cause cells to make up chop-chop on the surface of the skin. The additional skin cells type thick, silvery scales and fidgety, dry, red Patches that area unit generally painful.

1.PLAQUE PSORIASIS

80%-90% of Patients area unit affected by Plaque skin condition [4] in Plaque skin condition fast cell growth creates silvery scale, on the highest of the irregular formed spots of red .These silvery scales area unit found on scalp, knees, elbows and lower back that will crack and bleed [4-5]

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ARTEMISIA NILAGIRICA

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ABSTRACT

A medicinal plant is a plant that has similar properties to conventional pharmaceutical drugs. Major population in countries of Africa and Asia depends on traditional herbal treatments for their primary healthcare needs. *Artemisia nilagirica*is a potent medicinal plant widely found in India and has been used to treat human disease for centuries. The review article gives information about the different chemical constituents and medicinal uses of *Artemisia nilagirica*. *Artemisia nilagirica* which is locally called as Indian wormwood belongs to Asteraceae family. The plant has been used since centuries in Anti- microbial, Anti- bacterial, Anti-asthamatic, Anti-filarial, insecticidal, Anti-cancer, Anti-oxidant activity. This plant contains various chemical constituents like alkaloids, amino acids, carbohydrates, flavonoids, glycosides, phenol, phlobatannins, quinines, tannins, saponins, terpinoids, volatile oils.Presence of wide range of chemical compounds imply that the plant may want to function apotent material for the improvement of novel Sellers having good efficacyin diverse disorders inside the coming year.

KEY WORDS: ***Medicinal plants, Indian wormwood, diseases, Phytophthoracapsici, Sesquiterpenoids, bronchial congestion.***

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NEPHROPROTECTOR ACTIVITY OF ETHANOLIC EXTRACT OF PODS OF*CANAVALIAGLADIATA*

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ABSTRACT

Nephrotoxicity is a major limiting factor in cisplatin treatment. In the present study, hydro-ethanolic pod extract of *canavliagladiata*was investigated for its protective role in cisplatin induced nephrotoxicity. The experiment was designed for 15 days and healthy adult albino rats were divided into 5 groups. Group 1 received 1% carboxy methyl cellulose(CMC), in distilled water for 15 days, group 2 received cisplatin (6mg/kg b.w) on 5th day, group 3 received the low dose of *C.gladiata* (200mg/kg b. w) suspended in the vehicle for 15 days, group 4 received the high dose of *C.gladiata* (400mg/kg b. w) suspended in the vehicle for 15 days, group 5 received only *C.gladiata* suspended in the vehicle for 15 days, and animals belongs to group 3 and 4 were received cisplatin (6mg/kg b. w)on the day 5. At the end of the experiment urine samples and blood samples were collected from all the groups and were sacrificed to study renal functional parameters. Treatment with the *C.gladiata*pod extract significantly (0.05) attenuates renal damage by decreasing serum creatinine and blood urea nitrogen(BUN), enhanced the activities of catalase,GSH, LPO,UTP, CLcr, levels compared with cisplatin treatment group. Our results suggest that, pod extract of *C.gladiata* may ameliorate renal damage caused by cisplatin.

KEYWORDS: *Nephrotoxicity, cisplatin implication, Canavaliagladiata, anti-oxidant parameters.*

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IMPACT OF NANOPARTICLES ON PLANTS

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ABSTRACT

An increasing would like of applied science in varied industries might cause an enormous atmosphere dispersion of nanoparticles in returning years. A concern regarding nanoparticles interaction with flora and fauna is raised thanks to a growing load of it impact of nanoparticle on plant in relevance its size, concentration, and exposure methodology. This review, focuses on the role of nanoparticles in plant growth and development and also an plant mechanism. Hence, it is necessary to minimize nutrient losses in fertilization, and to increase the crop yield through the exploitation of new applications with the help of nanotechnology and nanomaterials. This review summarizes this understanding and also the future prospects of plant nanoparticle analysis.

KEYWORDS: ***nanoparticles, plant growth and development, photosynthesis.***

Abbreviations: ISO- International standards of organisation, SiO_2- Silicon dioxide nanoparticles, AgNp – Silver nanoparticles, AuNp- Gold nanoparticles,

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SP-80

ANTI-INFLAMMATORY ACTIVITYOFMETHANOLIC EXTRACT OF HORDEUM VULGARE

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ABSTRACT

Hordeumvulgare has various medicinal uses belonging to the poaceae family and it is also a member of the grass family. Barley is used as the source of fermentable material for beer. The objective of the present work was to assess the anti inflammatory effect of hordeumvulgare (EEHV) by sub dermal injection of carrageenan-induced hind paw edema model. Wistar rats (190–210 g) were randomly divided into five groups six of each and each rat was treated with oral administration for 6 days. Thyegroups are taken as follows Group I Received 10% of DMSO solution; Group II Received diclofenac 10 mg/kg bd.wt; Groups III Received EEHV (50 mg/kg bd.wt.); Group IV Received EEHV (150 mg/kg bd.wt.); Group V Received EEHV (300 mg/kg bd.wt.). The final results show that the possible mechanism of action of MEHP is involved with inactivation of COX in carrageenan-induced paw edema.

KEYWORDS: ***Hordeumvulgare, Anti-inflammatory effect, sub dermal injection, wistar rats***

INTRODUCTION

Inflammation (from latin; inflammatio) is part of the complex biological response of body tissues to harmful stimuli, such as pathogens, damaged cells, or irritants [1]. It is a protective response involving immune cells, blood vessels, and molecular mediators. The function of inflammation is to eliminate the initial cause of cell injury, clear out necrotic cells and tissues damaged from the original insult and the inflammatory process, and initiate tissue repair[1] . Inflammation is the immune system's response to harmful stimuli, such as pathogens, damaged cells, toxic compounds, or irradiation[2] .Inflammation is a protective immunovascular response that involves immune cells, blood vessels, and molecular mediators. The purpose of inflammation is to eliminate the initial cause of cell injury, clear out necrotic cells and tissues damaged from the original insult and the inflammatory process, and to initiate tissue repair[3]. Acute inflammation is a short-term process, usually appearing within a few minutes or hours and begins to cease upon the removal of the injurious stimulus[4]. Inflammatory pathways impact the pathogenesis of a number of chronic diseases, and involve common inflammatory mediators and regulatory pathways. Inflammatory stimuli activate

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