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PRINCIPAL
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YADADRI BHONGIR (DT)

9th Indo-Caribbean International Conferences on 'Recent Updates and Global Challenges in PharmaceuticalSciences'

Dr.Ampati Srinivas
Mr.S.Amarnath
Mr.P.Nagaraju

9th Indo-Caribbean International Conferences on 'Recent Updates and Global Challenges in Pharmaceutical Sciences'

Editors

Dr. Ampati Srinivas
Mr. S. Amarnath
Mr. P. Nagaraju

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1. 3D Printing in Pharmaceutical and Medical Applications

Venkanna, Akhila, Aruna, Sufian Uddin, Zakir, *R Pruthviraj*
UNITY COLLEGE OF PHARMACY, RAIGIR, BHONGIR, YADADHRI, TS, INDIA

Growing demand for customized pharmaceutics and medical devices makes the impact of additive manufacturing increased rapidly in recent years. The 3D printing has become one of the most revolutionary and powerful tool serving as a technology of precise manufacturing of individually developed dosage forms, tissue engineering and disease modeling

2. Artificial intelligence and machine learning in drug discovery and develop.

Afsha ,Vaishnavi, S Priyanka, S Shravani, Aishwarya,.*R. Pruthvi Raj*
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The current rise of artificial intelligence and machine learning has been significant. It has reduced the human workload improved quality of life significantly. This article describes the use of artificial intelligence and machine learning to augment drug discovery and development to make them more efficient and accurate. In this study, a systematic evaluation of studies was carried out; these were selected based on prior knowledge of the authors and a keyword search in publicly available databases which were filtered based on related context, abstract, methodology, and full text.

3. Bioavailability and Bioequivalence in Drug Development

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Bioavailability is referred to as the extent and rate to which the active drug ingredient or active moiety from the drug product is absorbed and becomes available at the site of drug action. The relative bioavailability in terms of the rate and extent of drug absorption is considered predictive of clinical outcomes

4. Community pharmacist and their role in modern healthcare system in india

P.Mery, P.Rupa, M.Shruthi, M.Sindhu, Bhuvaneshwari, A.Priyanka*
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Pharmacist are integral part of our modern healthcare system .they extended their knowledge and skills in prescription processing ,dispensing medicines, monitoring drug interaction and drug therapy ,nutritional and patient conseling

,rational use of drug and auxiliary service. Community pharmacist are the qualified personals who are involved in dispensing prescription correctly and insure safe and judicious use of medicines by the community.
This increase in the use of wide range of new and analogue products in medicine requires special knowledge with regard to their application and management/risk. Community pharmacist have progressively undertaken the ancillary task of ensuring the quality of product and supply.

5. PRESSURIZED PACKAGING

D.Karthik, P.Ashwitha, S.Shirisha, T.Divya ,K.SowmyaA.Priyanka*
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A system depends on the power of a compressed gas or liquefied gas to expel the contents from the container.

1942-Insecticidal Aerosals
1950 –Topical Aerosals
1965 –Respiratory tract(Epinephrine)Aerosals

Pharmaceutical aerosols is obtained as active ingredients which dissolves, suspended or emulsified in a propellant or a mixture of solvent ,intended for oral or tropical administration in to the eye , nose , ear , rectum and vagina. Aerosals concept originated in 1923 when Eric Rothium of Oslo ,Norway ,develop a wax spray for skis and other products using butane and vinyl chloride has propallents and brass containers fitted with needle valves.

KEY WORDS: Internal pressure, Natural rubber, Packaging User,Spray characteristics.

6. SUSPENSIONS AND CLASSIFICATION OF SUSPENSIONS

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Pharmaceutical suspensions are liquid dosage forms containing finely divided insoluble materials (the suspensoid) distributed somewhat uniformly throughout the suspending medium (suspending vehicle) in which the drug exhibits a minimum degree of solubility. This dosage form is used for providing a liquid dosage form for insoluble or poorly soluble drugs. Also, it is an ideal dosage form for drugs that are unstable in an aqueous medium for extended periods of time. Such drugs are most frequently supplied as dry powder for reconstitution at the time of dispensing. Technically, the term suspension describes a dispersion of a solid material (the dispersed phase) in a liquid (the continuous phase) without reference to the particle size of the solid material. However, the particle size of the solid material can affect both its physicochemical behaviour of suspensions. For this reason, a distinction is usually made between a colloid or colloidal suspension with a particle size range of up to about 1 micron, and a 'coarse dispersion' with larger particles. Unfortunately, pharmaceutical suspensions fall across the borderline between colloidal and coarse dispersions, with solid

particles generally in the range of 0.1 to 10 micrometre. Suspensions are not optically clear and will appear cloudy unless the size of the particles is within the colloidal range.

7. MUCO ADHESIVE BUCCAL DRUG DELIVERY SYSTEM

S. Charchitha, G. Naveen nayak, R. Pallavi, V. Navaneetha, J. Chandana, V. Pavani*
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Current innovation in pharmaceuticals determine the merits of mucoadhesive drug delivery system is particularly relevant than oral control release, for getting local systematic drugs distribution in GIT for a prolong period of time at a predetermined rate. The demerits relative with the oral drug delivery system is the extensive presystemic metabolism, degrade in acidic medium as a result insufficient absorption of the drugs. However parental drug delivery system may beat the downside related with oral drug delivery system but parental drug delivery system has significant expense, least patient compliance and supervision is required. By the buccal drug delivery system the medication are directly pass via into systemic circulation, easy administration without pain, brief enzymatic activity, less hepatic metabolism and excessive bioavailability. This review article is an outline of buccal dosage form, mechanism of mucoadhesion, in-vitro and in-vivo mucoadhesion testing technique.

8. DRY SKIN (XEROSIS)

S. Poojasri, N. Anusha, M. Shravanthi, V. Navya, K. Vijayalaxmi, V. Pavani*
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Dry skin (xerosis) is a common dermatosis affecting people of varying skin types and ages and various areas of the body. It is associated with both skin thickening and skin thinning and is triggered by both exogenous (e.g. climate, environment, lifestyle) and endogenous (e.g. medication, hormone fluctuations, organ diseases) factors.Skin requires a water content of 10–15% to remain supple and intact. This water is either ‘static’ (i.e. bound) or ‘dynamic’. The predominance of hydrophobic substances in intercellular constituents is a means of regulating the humidity of the skin. Emollients, highly effective treatment adjuncts in the management of all dry skin disorders, help to restore damaged intercorneocyte lipid structures and increase the water content of the skin, helping to reduce scaling and improving its barrier function.

9. ROLE OF PHARMACISTS IN DISEASE PREVENTION

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This poster provide Role of pharmacist in disease prevention. As the lockdowns are being observed all over the globe and the national level pharmacy professionals are performing frontline roles this editorial highlights the role of pharmacists in the covid 19 Pandemic.Pharmacists globally

are providing service amidst pandemic, including TRIAGE service, seeing patients and reducing the patients burden on health care facilities such as hospitals and GP practices.

KEY WORDS: Pharmacist,Pandemic,Triage services.

10. "FORMULATION AND EVALUATION OF GASTRO RETENTIVE FLOATING MICROBALLONS OF IMIDAPRIL HCL"

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The aim of the present study is to develop floating microballons of Imidapril HCI, an oral anti-hypertensive drug and also used in the treatment of chronic heart failure belongs to ACE inhibitor. It is rapidly and completely absorbed from the gastrointestinal tract but having low bioavailability due to first pass metabolism. Single unit dosage form of drug causes gastric irritation and when converted to multiple unit dosage like microballons causes no gastric irritation and maintains a constant drug concentration in the blood plasma for a longer period of time as drug is rapidly absorbed and eliminated from the body. The Preformulation studies like identification tests, solubility, melting point, compatibility studies and flow properties measured by suitable methods. Floating microballons were prepared by non-aqueous solvent evaporation method by using polymers like ethyl cellulose, HPMC and solvents like ethanol, dichloromethane and tween 80. Floating microballons are evaluated for drug entrapment efficiency, percentage yield, floating buoyancy, particle size, shape and surface morphology by SEM and in vitro drug release studies. Results show that as the concentration of polymer increases, the particle size, percentage yield, in vitro buoyancy and drug release from microballons varies. Percentage drug release at the end of 12 hrs was found to be 99.2 % for formulation F2. Microballons that are prepared by HPMC exhibited excellent drug release when compared with ethyl cellulose due hydrophilicity and viscosity. The SEM photographs revealed that the formulated floating microspheres were spherical in shape, smooth textured and having 500 um sizes.

Key Words: Ethyl Cellulose, Floating Microballons, Hydroxy Propyl Methyl Cellulose (HPMC), Imidapril HCL.

11. Pharmaceutical Emulsions Preparations

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An emulsion is a biphasic liquid dosage form. An emulsion is a mixture of two or more liquids that are normally immiscible to each other but using emulsifying agents one liquid is dispersed into other liquid as droplets.So, there are two phases in an emulsion. One is the dispersed phase and another is the continuous phase. The concept is a dispersed phase (liquid), which is dispersed or spread in the other phase(continuous phase). Emulsions are prepared by

using Trituration Method (Dry Gum Method,Wet Gum Method), Bottle or Forbes Bottle Method, Auxiliary Method, Nascent Method or In Situ Soup Method, Beaker Method.

12. COVID NASAL VACCINE 'WORLD'S FIRST INTRA-NASAL VACCINE

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Two needle-free covid-19 vaccines that are delivered through the nose or mouth have been approved for use in china and India. China's vaccine announced on 4th September is inhaled through the nose and mouth as an aerosolized mist and India's, announced 2days later, is administered as drops. A device called a nebulizer turns the liquid vaccine into an aerosol spray that is inhaled. India's vaccine, developed by Bharath biotech in Hyderabad, is approved as a two dose primary inoculation, rather than a booster. The name of this vaccine has been given as BBV154. These mucosal vaccines target thin mucus membrane that line the nose, mouth and lungs. By prompting immune response where SARS-CoV-2 first enters the body, mucosal vaccines could, in theory, prevent even mild cases of illness and block transmission to others people - something injected COVID-19 vaccines have been unable to do. When given as a booster, the vaccine raised blood serum antibody levels significantly more than did a boost given by injection. It works by narrowing the blood vessels in the nose area, reducing swelling and congestion. A very serious allergic reaction for this drug is very rare as for the information we have received, Bharath Biotech Company, which is the main company of Hyderabad, in its initial trial, conducted a clinical trial of its covid-19 Nasal Vaccine on a total of 4000 volunteers. For this nasal vaccine funding was provided by GLENMARK PHARMACEUTICAL LIMITED. This nasal vaccine is given by two doses by the gap of 28 days.

Key Words: Intra-Nasal Vaccine, BBV154, COVID-19

13. MULTIVITASOL - AN ENERGY DRINK

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Sauropus androgynous L. Merr, also known as Katuk, star gooseberry or sweet leaf. It is a shrub grown in some tropical regions as a leaf vegetable which contains about 6-10% protein content. It is one of the most popular leaf vegetables in South Asia and is notable for high yields and palatability. In India it is also known as Multivitamin plant. An excellent sources of pro vitamin A, Carotenoid, Vitamin B and C. It has highly nutritive value and contains phytochemicals which acts as antioxidant. Sauropus androgynous belonging to the family Phyllanthaceae is such a plant with multiple uses in traditional cuisines and ethno medicinal preparations. S. androgynous can be a supplement to increase breastmilk production and some kinds of beauty products also. The pharmacological activity of Sauropus androgynous leaves as anti-oxidant, anti-diabetic, anti-microbial, anti-fungal, anti-inflammatory, anti-alopecia and anti-anaemia. The extract was formulated to a palatable drink which contains several pharmacological actions. The drink can be used to treat vitamin c deficiencies and it is highly rich in vitamins. This formulation is analysed for accelerated stability in which the formulation is found stable further this formulation is to be proceeded for quantitative and qualitative analysis of vitamins.

Keywords: Sauropus androgynous, Katuk, Phyllanthaceae.

14. Design, Prepare And *In Vitro* Evaluation OfChronomodulated Pulsatile drug Delivery System of Nefidipine Tablets By Using Polymers

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The present study was aimed at preparing a new time dependent pulsed release system containing „Tablet-in-Capsule‟‟ for the programmed release of Nefidipine for the treatment of hypertention. The core tablets were prepared using direct compression method with suitable superdisintegrant agents. Different polymers were used as pH dependent polymers for coating the core tablet. The results of study showed that, lag time prior to drug release was highly affected by the coating level. The dissolution data revealed that the level of coating and the ratio of polymers are very important to achieve an optimum formulation. The in- vitro release from optimized formulation was found to be independent of paddle speed. Stability study of the optimized formulation indicates no significant difference in release profile after a period of one month.

KEY WORDS: Nefidipine, Pulsatile drug delivery, Circadian rhythm, polymers, Drug release.

15. FACTORS AFFECTING MICROBIALSPOILAGE OF PHARMACEUTICAL PRODUCTS

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The physical and chemical status of a pharmaceutical formulation influences the type and extent of microbial spoilage considerably .A specific combination of conditions within a products may favour its degradation by a particular group of microorganisms .contamination of pharmaceutical products with micro organisms could make changes in physicochemical characteristics as well as toxicity of pharmaceutical preparations .All the contents of the dosage forms (active ingredients and excipients) are susceptible to microbial contamination and spoilage. Strict measures are required to control microbial contamination in the formulation of pharmaceutical preparations. There are many factors affecting microbial spoilage of pharmaceutical products .This include nutritional factors, water. Other factors affecting microbial spoilage of pharmaceutical products include Relative Humidity, Oxygen availability, Osmotic Pressure , Oxidation – Reduction balance ,Surface tension ,Temperature, PH, Redox potential , protective components, size inoculums.

Key Words: Microbial spoilage, Pharmaceutical Products, Dosage forms, Formulation.

16. Formulation and in vitro Evaluation of extended release tablets of sulindac

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Sustained release matrix tablets, pellets, and coated pellets for the delivery of sulindac were prepared using cellulose derivatives at various ratios, and evaluated for the dissolution pattern. The release of sulindac from matrix tablets prepared with low viscosity HPMC was relatively fast, and espe- cially the tablets made of Metolose SM released all of sulindac within 1 hr. The release of drug from ta- blets made of other HPMC derivatives were retarded in the order of the following: Pharmacoat 645)Phar- macoat 606)Pharmacoat 606+HPC-L/HPC-L.

The most sustained release pattem was observed with the preparation of high viscous polymer, Metolose 90SH. While release of sulindac from matrix type pellet containing 10 mg/cap of Metolose 90 SH or 60SH was completed within Ihr. aprolonged release for- mulation (30% in 1 hr) was obtained by the inclusion of EC. Pellets coated with HPMC showed a fast release pattern (≥80% within 2hrs), whereas pellets coated with HPMC and EC (molar ratio 1:1) show- ed a sustained release pattern (≥80% in 12 hrs), with the release from EC pellets being the most sus- tained. Fast (naked) and slow release pellets coated with EC. Metolose 60SH 50cps and propylene glycol, and enteric pellets coated with HPMCP 55 and Myvacet were prepared, and combined at vari- ous ratios for the assessment of dissolution pattem. The result indicates the possibility that the de- velopment of 24 hr sustained release delivery systems containing sulindac for oral administration could be achieved by means of combining sustained and fast release pellets at a proper portion.

Keywords: Sulindac. Sustained release matrix tablet. matrix pellet. Pharmacoat, HPMC. Metolose

17. DISSOLUTION ENHANCEMENT OF A POORLY WATER SOLUBLE DRUG USINGWATER SOLUBLE CARRIERS

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Role of various water-soluble carriers was studied for dissolution enhancement of a poorly soluble drug, famotidine, using solid dispersion approach. Carriers like urea, mannitol and sorbitol were used for this purpose. Characterization of the solid dispersions using FTIR and DSC techniques revealed distinct loss of drug crystallinity in the formulation, accounting for enhancement in dissolution rate. All the prepared solid dispersions showed dissolution improvement when compared with the pure drug to varying degrees. Amongthe carriers used urea showed better improvement in dissolution when compared with mannitol and sorbitol.

Keywords: Famotidine, Carrier, Solid dispersion, Characterization, Dissolution enhancement.

18. Enhanced Intestinal Absorption And Bioavailability of RaloxifeneHydrochlorideVia Lyophilized Solid Lipid Nanoparticles

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The current oral therapy with raloxifene hydrochloride (RXH) is less effective due to its poor bioavailability (only 2%). Henceforth, an attempt was made to investigate the utility of triglyceride (trimyristin, tripalmitin and tristearin) based solid lipid nanoparticles (SLNs) for improved oral delivery of RXH. The SLN formulations prepared were evaluated for particle size, zeta potential and % entrapment and the optimized formulation was lyophilized. Solid state

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characterization studies unravel the transformation of RXH to amorphous or molecular state from the native crystalline form. Further the in situ perfusion studies carried out in rat intestine reveal the potential of SLN for enhanced permeation of raloxifeneHClacrossgastrointestinal barrier. To derive the conclusions, in vivo pharmacokinetic study was conducted in rats to assess the bioavailability of RXH from SLN formulation compared to drug suspension. Overall a twofold increase in bioavailability with SLN formulations confer their potential for improved oral delivery of RXH.

19. FORMULATION DEVELOPMENT AND INVITRO EVALUATION OF ESCITALOPRAM IMMEDIATE RELEASE TABLETS

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The aim of this study is to formulate and significantly improve the bioavailability and reduce the side effects of immediate release tablets Escitalopram. The precompression blends of Escitalopram were characterized with respect to angle of repose, bulk density, tapped density, Carr's index and Hausner's ratio. The precompression blend of all the batches indicates good to fair flowability and compressibility. Immediate release tablets were prepared with various polymers like PEG 6000, Croscarmellose sodium and Sodium-starch glycolate at different concentration ratios and were compressed into tablets. The formulated tablets were evaluated for various quality control parameters. The tablets were passed all tests. Among all the formulations F7 formulation containing, drug and Croscarmellose sodium showed good result that is 98.12 % in 45 min. Hence from the dissolution data it was evident that F7 formulation is the better formulation. By conducting further studies like invitro studies.

Key words: Escitalopram, PEG 6000, Croscarmellose sodium and Sodium-starch glycolate, immediate release.

20. FIXED DOSE COMBINATIONSBANNED IN INDIA

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Fixed-dose combination (FDCs) medicines containing two or more active components in a fixed proportion in a single dosage form. Several medicines in fixed combination to be taken together, presented in composite packaging (co-pack). FDC drugs are important for the public health perspective and commonly used for the treatment of pain, inflammation, hypertension, diabetes, malaria, tuberculosis, HIV/AIDS, etc.., FDCs important in patients suffering from multiple disorders and to reduce the "PILL BURDEN".

In our world we all depend upon medicines to cure and prevent the diseases, it may be single-drug therapy or a combination of drug therapy. The Improvisation

of Fixed-Dose Combinations (FDCs) is becoming more necessary from the public health aspect. In recent years for easy usage and higher efficacy FDC drugs are mostly used. Ministry of Health & Family Welfare (MoHFW) constituted a committee for inspecting the safety and efficacy aspects of FDCs which are unapproved were licensed by State drug Licensing Authorities (SLA) without dueapproval of Drug Control General of India (DCGI), after that committee discussed total 1083 FDCs which considered as irrational under category 'a' based on the report initially 344 FDCs were banned by DCGI. This review discusses about the reasons for ban, FDCs benefits, problems associated, approval process and its impact towards the most reputed companies.

Keywords: Fixed-dose combinations (FDCs), Banned drugs, MoHFW, DCGI, SLA, Approval process.

21. FORMULATION AND EVALUATION OF RAFT FORMING TABLET OF ESOMEPRAZOLE

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In the present study, Esomeprazole[1] "RAFT" formation using sodium alginate, HPMC, Sodium bicarbonate Magnesium stearate, talc and calcium carbonate were formulated to deliver Esomeprazole via oral route. The results of this investigation indicate that direct compression method can be successfully employed to formulate Esomeprazole tablets. The Invitro[3] release studies demonstrated that sodium alginate when combined with acid, precipitates and forms a gel. Bicarbonate containing alginate release carbon dioxide as a reaction to gastric acid and the carbon dioxide is entrapped in the gel precipitate forming a "RAFT". On the other hand, an alginate formulation without gas generation forms a "RAFT" in the stomach. This enables the maximum amount of drug release; hence it is considered as optimizes formulation.The ability of the drug to retain in the stomach is called gastro-retentive drug delivery system(GRDDS)and they are designed to prolong the gastric residence time of dosage form after oral administration .The Esomeprazole exhibits both gastro retentive property and Raft formation nature so that the bioavailability of the drug will be increased.

KEYWORDS

Esomeprazole, Raft formation, Sodium Alginate, Direct compression method, Release kinetics, gastro retentive drug delivery system (GRDDS)

22. ULTRA PERFORMANCE LIQUID CHROMATOGRAPHY- POTENTIAL TOOL FOR PHARMACEUTICAL SEPARATIONS

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Ultra performance liquid chromatography (UPLC) system involves significant technological advances in particle size performance, system optimization, data processing, detector design and control. When all brought together, the specific achievements in each area have created a step-function progress in chromatographic performance. This new technique of analytical separation science uses the principles and practicality of HPLC with increasing the attributes of speed, sensitivity and resolution. Now a day's pharmaceutical industries are in search of new ways to reduce cost and time for analysis of drugs. Analytical laboratories are not exception in this trend. Ultra high performance liquid chromatography (UPLC) with better resolution, assay sensitivity and high sample throughput allows a greater number of analysis to be performed in a shorter period of time and it also impart cost effective advantage over HPLC analysis. So that conventional assay was transferred and optimized for UPLC system.

Key words: UPLC, Chromatography,HPLC and Separation.

23. LC-MS

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Liquid chromatography-mass spectrometry (LC–MS) is a powerful analytical technique used for separation, identification, and quantification of both unknown and known compounds as well as to elucidate the structure and chemical properties of different molecules. It is very useful for analyzing small molecules and offers higher sensitivity and selectivity in the trace analysis of multicomponent containing substances. This chapter deals with several aspects of LC–MS, starting from its basic components like ionization sources, mass analyzer, detectors to statistical methods for data analysis. In addition, some major application of LC–MS in medicinal plant research has been discussed in this chapter.

24. FT-IR

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FTIR stands for “Fourier transform infrared” and it is the most common form of infrared spectroscopy. All infrared spectroscopies act on the principle that when infrared (IR) radiation passes through a sample, some of the radiation is absorbed. The radiation that passes through the sample is recorded. Because different molecules with their different structures produce different spectra, the spectra can be used to identify and distinguish among molecules. In this way, the spectra are like people’s fingerprints or DNA: virtually unique.

FTIR is the preferred method of infrared spectroscopy for several reasons. First, it does not destroy the sample. Second, it is significantly faster than older techniques. Third, it is much more sensitive and precise.

These benefits of FTIR derive from the use of an interferometer, which is the infrared “source” and which allows for the greater speed, and the Fourier transform. The Fourier transform is a mathematical function that takes apart waves and returns the frequency of the wave based on time. The “output” of the interferometer is not the spectroscopy spectrum we use, but a graph known as an “interferogram.” The Fourier transform converts the interferogram into the infrared spectroscopy spectrum graph we recognize and use.

25. A SIMPLE VALIDATED HPLC/UV METHOD FOR THE QUANTIFICATION OF ANTICANCER DRUG: SILODOSIN IN RAT PLASMA: APPLICATION TO PHARMACOKINETICS

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A simple, selective, accurate HPLC-UV method for the estimation of Silodosin in rat plasma was developed and validated. The method employed to extract the drug from rat plasma was a protein precipitation. The estimation was carried out on a C18 column (PhenomenexKinetex 250×4.6mm, 5µ) using a mobile phase composed of Buffer and Acetonitrile (60:40 % v/v) which is adjusted to pH-4.8 using ortho phosphoric acid. Mobile phase was run at a flow rate of 1.0 mL/min. The injection volume used was 20 µL. The eluents were detected at a wavelength of 216 nm. The linearity of the drug was found to be over a concentration range of 10-5000ng/mL with the correlation of coefficient (R^2 = 0.992). The accuracy of the analyte was given as mean % recovery which was found to be 91.8%. Intra-day & inter-day precision values were within the acceptance limits i.e<15%. The limit of quantification was found to be 10ng/ml. Freeze-thaw, short-term, long-term & post-preparative stability studies were performed to indicate the stability of drug in plasma.

Key Words: Silodosin, HPLC/UV, rat plasma, Protein precipitation & pharmacokinetics.

26. CANCER IMMUNOTHERAPY

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Immunotherapy is a new class of cancer treatment that works to harness the innate these therapies powers of the immune system to fight cancer. Because of

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the immune system's unique properties, these therapies may hold greater potential than current treatment approaches to fight cancer more powerfully, to offer longer-term protection against the disease, to come with fewer side effects, and to benefit more patients with more cancer types. cancer immunotherapy – treatments that harness and enhance the innate powers of the immune system to fight cancer. Cancer immunotherapy is powerful it attacks the cancer systemically, throughout the body. It trains the immune system to recognize and target only cancer cells. It has capacity for memory means durability of protection and a treatment approach that can be applied to nearly all cancers. It has few or no side effects. Immunotherapy works by stopping or slowing the growth of cancer cells, stopping cancer from spreading to other parts of the body, helping the immune system work better at destroying cancer cells. There are several types of immunotherapy such monoclonal antibodies, non specific immunotherapies, oncolytic virus therapy, T-cell therapy and cancer vaccines. The goal of immunotherapy is to give the immune system the upper hand in fighting cancer and restore its ability to eliminate cancer cells. The result is complete, long-lasting cures for patients. By mobilizing the immune system's army, we can develop new and better treatments that give our immune defences the upper hand against cancer.

KEYWORDS: T-Cell Theraphy, Cancer vaccines,Immune system.

27. AMYOTROPHIC LATERAL SCLEROSIS

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Amyotrophic lateral sclerosis (ALS) is a devastating neurodegenerative disease that attacks the motor neurons of the brain and spinal cord of a healthy adults. The disease progresses rapidly and is always fatal, living patients paralysed and unable to breath.There is still no known cause of majority of the cases and no effective treatment or cure.

ALS is a disease that causes breath of neurons which control voluntary muscle does not effect conjunction but overall prognosis is difficult to predicit because it varies from person to person there is no cure for ALS at however there are several research studies that are currently in progress exploiting alternative methods of treatment. It may causes muscle stiffness and spams, severe weakness or paralysis typically in legs ,Mood problems such as depression ,Anxiety or mood swings.

Key words: Anxiety,Depression and paralysis.

28. LYMPHATIC SYSTEM & LYMPHATIC DISORDERS.

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Lymphatic system, part of your immune system, it has many functions. They include protecting your body from illness-causing invaders, maintaining body fluid levels, absorbing digestive tract fats and removing cellular waste. Blockages, diseases or infections can affect your lymphatic system's function.

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The lymphatic system is a network of tissues, vessels and organs that work together to move lymph back into your your bloodstream. The lymphatic system is part of your immune system.
Your lymphatic system has many functions. Its key functions include:
Maintains fluid levels in your body:
Absorbs fats from the digestive tract:
Protects your body against foreign invaders:
Transports and removes waste products and abnormal cells from the lymph

29. EVALUATION OF ANTI-ULCER ACTIVITY OF CANTHIUM DICOCCUM EXTRACT IN EXPERIMENTAL ANIMAL MODEL"

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The cause of ulceration in patients is mainly due to hypersecretion of gastric juice and also due to hypersecretion of pepsin. In traditional system of medicine a number of herbal preparations have been used for the treatment of peptic ulcers. There are various medicinal plants has been used for the treatment of gastrointestinal disorders. In view of this, in present study we have to evaluate the anti-ulcer activity of CanthiumDicoccum. Study was carried out, by using three methods ie alcohol, paracetamol and stress induced ulcers in rats pretreated with the doses of 250 mg/kg AQCR and ALCR, 10mg/kg Omeoprazole and 50 mg/kg Ranitidine.

To evaluate the antiulcer activity of aqueous and alcoholic extracts of CanthiumDicoceum leaves (AQCR and ALCR) at 250 doses using different experimentally induced gastric ulcer models in rats

Gastric ulcers were induced in rats by 80% alcohol, paracetamol and forced immersion stress induced methods. In alcohol induced ulcer model, paracetamol induced ulcer model and stress induced model the ulcer index was determined. Where as in stress induced ulcers stress plays an important role in ulcerogenesis

In alcohol-induced ulcers, AQCR and ALCR were effective in reducing lesion index and increasing the gastric mucus content. It was also effective in decreasing ulcer index in paracetamol-induced ulcers. All the results obtained with CanthiumDicoccum were dose dependent. The results suggest that AQCR and ALCR possesses significant and dose dependent antiulcer activity. The antiulcer activity of AQCR and ALCR can be attributed to its cytoprotective and antisecretory action

Key words: CanthiumDicoccum, antisecretory, cytoprotective, gastric ulcer, alcohol induced ulcers, paracetamol-induced ulcers and stress induced ulcers.

30. Anxiolytic and Antidepressant-Like Effects of Conyzacanadensis Aqueous Extract in the Scopolamine Rat Model

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Conyzacanadensis is a plant widely used in traditional medicine in Morocco for the treatment of varied health challenges. However, to the best of our knowledge, there is no scientific study justifying the traditional use of Conyza extract as an anxiolytic and antidepressant agent. Moreover, data regarding the polyphenolic fraction is limited. Therefore, the present study was conducted to investigate the chemical composition of an aqueous extract obtained from the aerial parts of Conyza, its antioxidant potential, and the anxiolytic and antidepressant-like effects of the sample (100 and 200 mg/kg body weight (bw)) in the scopolamine (Sco) (0.7 mg/kg bw) rat model. To achieve this purpose, a variety of antioxidant tests (including free radical-scavenging activity and lipoxygenase-inhibitory potential assays) and behavioral procedures, such as the elevated plus-maze and forced swimming tests, were performed. The results demonstrated that the aqueous extract of Conyzacanadensis is rich in catechins and flavonoids which possess good antioxidant activity. Additionally, concentrations of 100 and 200 mg/kg of the extract exhibited significant anxiolytic and antidepressant-like profiles following scopolamine treatment. Therefore, we propose that the use of Conyzacanadensis could be a new pharmacological target for the amelioration of major depression.

31. PLASTIC CONSUMING BACTERIA

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Ideonellasakaiensis is a bacterium from the genus ideonellaand family comamonadaseae capable of breaking down and consuming the plastic polyethylene terpalate (PET) using it as both a carbon and energy source. The bacterium was originally isolated from a sediment sample taken outside of a plastic bottellingrecyclingfacility in Sakai City, Japandiscovery

Ideonellasakaiensis was first identified in 2016 by a team of researchers led by khoheioda of Kyoto Institute of Technology and Kenji Miyamoto of Keio University after collecting a sample of PET-contaminated sediment at a plastic bottle recycling facility in Sakai, Japan.[2] The bacteria was first isolated from a consortium of microorganisms in the sediment sample, which included protozoaand yeast-like cells. The entire microbial community was shown to mineralize 75% of the degraded PET into carbon dioxide once it had been initially degraded and assimlatedbyIdeonellasakaiensis.

32. DIABETIC NEPHROPATHY

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Diabetic nephropathy is a common complication of type 1 and type 2 diabetes. Over time, poorly controlled diabetes can cause damage to blood vessel clusters in your kidneys that filter waste from your blood. This can lead to kidney damage and cause high blood pressure.

Diabetic nephropathy is a serious complication of type 1 diabetes and type 2 diabetes. It's also called diabetic kidney disease. In the United States, about 1 in 3 people living with diabetes have diabetic nephropathy.Diabetic nephropathy is usually diagnosed during routine testing that's a part of your diabetes management. If you're living with type 1 diabetes, screening for diabetic nephropathy is recommended beginning five years after your diagnosis. If you are diagnosed with type 2 diabetes, screening will begin at the time of diagnosis.Routine screening tests may include:Urinary albumin test. This test can detect the blood protein albumin in your urine. Typically, the kidneys don't filter albumin out of the blood. Too much of the protein in your urine can indicate poor kidney function.Albumin/creatinine ratio. Creatinine is a chemical waste product that healthy kidneys filter out of the blood. The albumin/creatinine ratio — a measure of how much albumin is in a urine sample relative to how much creatinine there is — provides another indication

33. EVALUATION OF SYNERGISTIC ACTIVITY OF TEPHROCIA PURPUREA AND BACOPA MONNIERI ON ULCER INDUCED RATS .

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Objective: To study the antiulcer activity of aqueous extract of roots of TephrosiapurpureaBacopamonniera (AETP) using different models of gastric and duodenal ulceration in rats.
Methods: Antiulcer activity of AETP was studied in rats in which gastric ulcers were induced by oral administration of ethanol or 0.6 M HCl or indomethacin or by pyloric ligation and duodenal ulcers were induced by oral administration of cysteamine HCl. AETP was administered in the dose of 1 to 20 mg/kg orally 30 min prior to ulcer induction. The antiulcer activity was assessed by determining and comparing the ulcer index in the test drug group with that of the vehicle control group. Gastric total acid output and pepsin activity were estimated in the pylorus ligated rats. Omeprazole was used as a reference drug. The ulcer index in the AETP treated animals was found to be significantly less in all the models compared to vehicle control animals. This antiulcer property was more prominent in animals in whom ulcers were induced by HCl, indomethacin and pyloric ligation. Omeprazole (8 mg/kg) produced a significant gastric and duodenal ulcer protection when compared with the control group. The anti-ulcer activity of AETP was however, less than that of omeprazole.
BacopamonnieraWettst. (BM, syn. Herpestismonniera L; Scrophulariaceae), is an Ayurvedic drug used as a rasayana. Its fresh juice was earlier reported to have significant antiulcerogenic activity. In continuation, methanolic extract of BM (BME) standardized to bacoside-A content (percentage-38.0 +/- 0.9), when given in the dose of 10-50 mg/kg, twice daily for 5 days, showed dose-dependent anti-ulcerogenic on various gastric ulcer models induced by ethanol, aspirin, 2 h cold restraint stress and 4 h pylorus ligation. BME in the dose of 20 mg/kg, given for 10 days, twice daily showed healing effects against 50% acetic acid-induced gastric ulcers. Further work was done to investigate the possible mechanisms of its action by studying its effect on various mucosal offensive acid-pepsin secretion and defensive factors like mucin secretion, mucosal cell shedding, cell

proliferation and antioxidant activity in rats. BME 20 mg/kg showed no effect on acid-pepsin secretion, increased mucin secretion, while it decreased cell shedding with no effect on cell proliferation. BME showed significant antioxidant effect per se and in stressed animals. Thus, the gastric prophylactic and curative effects of BME may be due to its predominant effect on mucosal defensive factors.

34. RHEUMATOID ARTHRITIS

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Therapy reduction in rheumatoid arthritis (RA) is still a challenge for physicians as well as for patients. Effective therapy with subsequent achievement of low disease activity or even remission is achievable for numerous patients using currently available treatment options. Therapy discontinuation has therefore become a hot topic and the risk of exacerbation of well-controlled RA must be weighed against the medical and economic benefits of reducing or even discontinuing therapy. This article gives a review of data regarding tapering of therapy in RA, focusing on conventional disease-modifying antirheumatic drug (DMARD) monotherapy, reduction of conventional therapy under continuing therapy with biologics and discontinuation of biologics. Important influencing factors for a safe and successful tapering procedure appear to be disease activity, disease duration and the tapering process itself (i.e. gradual dose reduction vs. abrupt discontinuation). Additionally, the so-called nocebo effect should also be taken into consideration for interpretation of drug tapering studies.

35. ALCHOLIC LIVER DISEASE

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Excessive alcohol consumption is a global healthcare problem. The liver sustains the greatest degree of tissue injury by heavy drinking because it is the primary site of ethanol metabolism. Chronic and excessive alcohol consumption produces a wide spectrum of hepatic lesions, the most characteristic of which are steatosis, hepatitis, and fibrosis/cirrhosis. Steatosis is the earliest response to heavy drinking and is characterized by the deposition of fat in hepatocytes. Steatosis can progress to steatohepatitis, which is a more severe, inflammatory type of liver injury. This stage of liver disease can lead to the development of fibrosis, during which there is excessive deposition of extracellular matrix proteins. The fibrotic response begins with active pericellular fibrosis, which may progress to cirrhosis, characterized by excessive liver scarring, vascular alterations, and eventual liver failure. Among problem drinkers, about 35 percent develop advanced liver disease because a number of disease modifiers exacerbate, slow, or prevent

alcoholic liver disease progression. There are still no FDA-approved pharmacological or nutritional therapies for treating patients with alcoholic liver disease. Cessation of drinking (i.e., abstinence) is an integral part of therapy. Liver transplantation remains the life-saving strategy for patients with end-stage alcoholic liver disease.

36. Diabetes mellitus

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Diabetes mellitus is a chronic heterogeneous metabolic disorder with complex pathogenesis. It is characterized by elevated blood glucose levels or hyperglycemia, which results from abnormalities in either insulin secretion or insulin action or both. Hyperglycemia manifests in various forms with a varied presentation and results in carbohydrate, fat, and protein metabolic dysfunctions. Long-term hyperglycemia often leads to various microvascular and macrovascular diabetic complications, which are mainly responsible for diabetes-associated morbidity and mortality. Hyperglycemia serves as the primary biomarker for the diagnosis of diabetes as well. In this review, we would be focusing on the classification of diabetes and its pathophysiology including that of its various types

KEY WORDS: Pathogenesis,Insulin,Diabetis.

37. INVESTIGATION OF ANTIMICROBIAL AND LIPID PERTURBING PROPERTIES OF ACYLATED LACTOFERRIN PEPTIDES

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The purpose of this research is to study the antimicrobial capabilities of peptides by assaying the growth inhibition of the gram positive bacteria Staphalococcus aureus caused by the addition of acrylate lactoferin peptides. Lactoferrin peptides are thought to destroy microbial organisms by physically perturbing their cellular membranes. The exact mechanism by which lactoferricin interacts with the cellular membrane of the microbe is not known, but it is believed to vary depending on the lipid composition.

To investigate the lipid perturbing effects of acylated and non- acylated and non-acylatedlactoferricin peptides, oriented samples composed of deuterium labeled lipids mimicking bctrial cell membranes will be prepared. The lipid spectra will be

monitored, With and without peptide, by nuclear magnetic resonance(NMR) spectroscopy.

38. LIGNANS AS PREVENTOR OF CARCINOGENS

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Cancer is the second leading cause of death worldwide. Although great advancements have been made in the treatment and control of cancer progression, significant deficiencies and room for improvement remains. A number of undesired side effects sometimes occur during chemotherapy Natural therapies, such as the use of plant derived products in cancer treatment, may reduce adverse side effects. This review will focus on plant derived chemical compounds that is used as anticancer agents and will outline its potential mechanism of action.

39. BIPOLAR DISORDER

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Bipolar disorder, formely called manic depression, is a mental health condition that causes extreme mood swings that include emotional highs as mania or hypomania and lose interest or pleasure in most activities. When your mood shifts to mania or hypomania, less extreme than mania, you may feel euphoric, full of energy or unusually irritable. These mood swings can affect sleep, energy, activity, judgment, behaviour and the ability to think clearly. The symptoms include, unpredictable changes in mood and behaviour, resulting in significant distress and difficulty in life causes for bipolar disorder are run in families and there appears to be a genetic part of this mood disorder. There is also growing evidence that environment and lifestyle issues have an effect on the disorder's severity. Stressful life events or alcohol or drug abuse can make bipolar disorder more difficult to treat.

Keywords: Mania, Hypomania, Mood disorder, Depression.

40. HRT PROS AND CONS

Supriyakulkarni

Hormone replacement therapy (HRT) is the most effective treatment for symptoms of estrogen deficiency. HRT should be recommended in women with premature ovarian insufficiency with advice to continue until the average age of the menopause at 51.4 years.

The main benefit of HRT is that it can help relieve most menopausal symptoms, such as: hot flushes. night sweats. mood swings. So in summary, the safest types of HRT are the oestrogen applied through the skin as a patch, gel or spray with body identical micronised progesterone. a generally consistent reduced risk of gastrointestinal cancers, including colorectal cancers.

While HRT can help manage hot flashes and other menopause symptoms, it can also have adverse effects.

Depending on the type of treatment, these may include:
acne, bloating, indigestion, breast tenderness, abdominal or back pain leg cramps, headaches, migraine, nausea, vaginal bleeding, mood changes depression

41. MANIFESTATIONS AND PATHOPHYSIOLOGY OF JAPANESE ENCEPHALITIS VIRUS

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Japanese encephalitis virus (JEV) is the most important cause of viral encephalitis in Asia. It is a mosquito-borne flavivirus, and belongs to the same genus as dengue, yellow fever and west Nile viruses. The first case of Japanese encephalitis virus disease (JE) was documented in 1871 in japan. JEV is the transmitted to human through bites from infected mosquitoes of the culex species. Humans once infected do not develop sufficient uncontrolled virus to infect feeding mosquitoes. The virus exists in a transmission cycle between mosquitoes, pigs and or water birds i.e. enzootic cycle .The disease is predominantly found in rural and pre urban settings, where humans live in closer proximately to these vertebrate hosts. JEV is transmitted mainly during the warm season, when large epidemics can occur. Most JEV infections are milled (fever, headache, neck stiffness, disorientation, coma, and ultimately death spastic paralysis).The incubation period is between 4- 14 days. JE one of the leading forms of viral encephalitis worldwide. Around 30,000 - 50,000 cases of JE and up to 5,000 deaths are reported annually. At present, India has reported 251 cases of Japanese encephalitis in Assam in the first three weeks of July 2022. There is no anti-viral treatment for patients with JE. Treatment is supportive to relieve symptoms and stabilise the patient. To reduce the risk for JE, all travellers to Japanese encephalitis endemics area should take precautions to avoid mosquito bites. Personal preventive measures include the use of mosquito repellents, long sleeved clothes, Coils and vaporizers. There are four main types of JE vaccines currently in use, inactive mouse brain-derived vaccines, inactive Vero cells-derived vaccine live attenuated vaccines and live recombinant vaccines.

Keywords: Japanese encephalitis virus, live recombinant vaccines.

42. NEUROTROPHORIN

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Neurotrophins or neurotrophic factors are the protein substances, which play an important role in growth and functioning of nervous tissue. Neurotrophins are secreted by many tissues in the body, particularly muscles, neuroglia cells called astrocytes and neurons. Facilitate initial growth and development of nerve cells in central and peripheral nervous system. Promote survival and repair of the nerve cells. Play an important role in the maintenance of nervous tissue and neural transmission. Recently, it is found that neurotrophins are capable of making the damaged neurons regrow their processes in vitro and in animal models. This indicates the possibilities of reversing the devastating symptoms of nervous disorders like Parkinson disease and Alzheimer disease. Neurotrophins act via neurotrophin receptors, which are situated at the nerve terminals and nerve cell body. Neurotrophins bind with receptors and initiate the phosphorylation of tyrosine kinase .The discovery of the capability of neurotrophic factors to protect these neurons lead numerous research groups to focus their efforts in developing therapies aiming at promoting the control of Parkinson´s disease through the delivery of neurotrophic factors to the brain or by boosting their endogenous levels. Both strategies were successful in inducing protection of dopaminergic neurons and motor recovery in preclinical models of the disease. Contrariwise, very limited success was obtained in clinical studies, where glial cell line-derived neurotrophic factor and neurturin were the neurotrophic factors of choice for Parkinson's disease therapy.

Key words: Parkinson's disease, neuroprotection, neurotrophic factors, devastating symptoms

43. Synthesis of Piperonal based Dihydropyrimidinones and evaluation for possible Anticonvulsant and Antibacterial activities

Alekhya A, Nandini K, Akhila B, Soumya J, Swananditha M, KaveriGayathri, Amar Nath S*

UNITY COLLEGE OF PHARMACY, RAIGIR, BHONGIR, YADADRI, TS, INDIA.

A new series of piperonal based DHPMs substituted diaryl urea derivatives were synthesized and their anticonvulsant effects on the activity and antibacterial were evaluated. 4-Aminopyridine is a known potassium channel blocker (Yamaguchi and Rogawski, 1992) The presence of anticonvulsant activity against 4-AP induced seizures suggests that the test drugs may have activity against potassium channels. The result of the investigation suggests that the test compounds does possess significant anticonvulsant property in mice, and this supports the ethnomedical use of the plant in the treatment of epilepsy. From our findings, the synthesized drugs may be valuable for the treatment of petitmal generalized seizures (absence or myoclonic).

The antibacterial activity of the test compounds was assayed systematically against four different strains of bacteria. It was observed that few compounds were shown better inhibitory activities when compared to the standard drug Streptomycin.

44. Synthesis, Characterization and Anti Inflammatory activity ofsome novel 5-((6-(methylthio)benzo[d]oxazol-2-yl)methyl)-3-((4-substituted piperazin-1-yl)methyl)-1,3,4-oxadiazole-2(3*H*)-thione derivatives

DrT. PrathimaM.Pharm (Ph.D), Associate Professor, Department of Pharmaceutical Chemistry
Care College of Pharmacy
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The design, synthesis, spectral and biological activities of some new benzo[d]oxazole derivatives are studied in this work. The acid hydrazides 2-(6-(methylthio)-benzo[d]oxazol-2-yl) acetohydrazide (II) was subjected to cyclization with carbon disulphide under basic conditions to yield 5-((6-(methylthio)-benzo[d]oxazol-2-yl) methyl)-1,3,4-oxadiazole-2(3H)-thione (III) which on aminomethylation with formaldehyde and substituted1-phenylpiperazine afforded a series of Mannich bases (P1-P15). Purity of the compounds has been confirmed by TLC. The structures of these newly synthesized compounds were established on the basis of their IR, ^{1}H-NMR, and Mass spectral data. All the title compounds have been screened for their anti-inflammatory activity. It's worth noting that title compounds (P1-P15) were shown to have anti-inflammatory efficacy as compared to the normal medication, diclofenac at 10 mg/kg p.o, in a carrageenin-induced paw oedema test in rats. The tested compounds showed anti-inflammatory activity ranging from 26.23 % (P7) to 75.63 % (P13) whereas standard drug diclofenac sodium showed 73.66 % inhibition after 3h. The highest activity (78.71 %) was found for the Mannich base, P13.

Keywords: benzo[d]oxazole, Anti-inflammatory, paw edema

45. Design, Synthesis And Biological Evaluation Of 5-[2(3)-DialkylaminoAlkoxy] Indole 2,3-Diones As New Antihistamine Agents

S. Amarnath, P. Nagaraju, Dr.Ampati Srinivas*
UNITY COLLEGE OF PHARMACY, RAIGIR, BHONGIR, YADADRI, TS, INDIA.

In the present work, some new 5-[2(3)-dialkylaminoalkoxy] Indole 2, 3-diones were prepared from 5-hydroxy isatin. A mixture of 5-hydroxy isatin, dialkylaminoalkylhalide in alcoholic potassium hydroxide was stirred at room temperature for 6 hours to get the 5-[2(3)-dialkylaminoalkoxy] Indole 2,3-diones. The structures of the products were characterized by IR, NMR, MASS Spectral studies. All the compounds were evaluated for Antihistaminic activity by Histamine chamber method.

Key words: Synthesis, 5-[2(3)-dialky amino alkoxy] indole 2, 3-diones, antihistaminic activity.

46. Synthesis And In Vivo Anti-Inflammatory Activity Of A Novel Series Of Benzoxazole Derivatives

S. Amarnath, P. Nagaraju, Dr.Ampati Srinivas*
UNITY COLLEGE OF PHARMACY, RAIGIR, BHONGIR, YADADRI, TS, INDIA.

Novel series of benzoxazole derivatives were prepared by the condensation of methyl-2-(2-aminothiazol-5-ylamino) benzo[d]oxazole-5-carboxylate with various aromatic aldehydes. Thestructures of the synthesized compounds were VI1-VI15 assigned on the basis of elementalanalysis, IR, 1H NMR and mass spectroscopy. These compounds were also screened for anti-inflammatory activity. The recorded percentage of inhibition showed a significant anti-inflammatory activity when compared to the reference anti-inflammatory drug diclofenacsodium.

Key words: Benzoxazole, Carrageenan - induced rat paw edema, Anti-inflammatory activity.

47. SYNTHESIS AND ANTIBACTERIAL EVALUATION OF NOVEL AZAINDOLE DERIVATIVES

Dr.Ampatisrinivas, S.Amarnath, P.Nagaraju*

Azaindoles are an important class of nitrogen containing heterocyclics and were identified as the most active and potent classes of compounds with wide range of biological and pharmacological activities. They were extensively used as pharmaceuticals. Although the number of drugs are available in the market even though the search for new molecules is ever demanding. In present work various Azaindoles were synthesized and characterized using physical and spectral data. Finally, the Azaindole derivatives were screened for their In vitro antibacterial activity. Some of the molecules exhibited very good potency when compared with respective standards. The approach is very challenging and was found difficult to get a molecule with potency. Even though, the present molecules were provided novel leads against gram +ve and gram –ve bacteria.

Keywords: Azaindoles, antibacterial, gram +ve, gram –ve, heterocyclics, potent.

48. DRUG FOOD INTERACTIONS AND ROLE OF PHARMACIST

Salim After, R.RaviTeja ,B.Yogeshwari , G,Shravani , M.pooja , M.Nandini*
UNITY COLLEGE OF PHARMACY, RAIGIR, BHONGIR, YADADRI, TS, INDIA.

Interaction between foods and drugs can have profound influence on the success of drug treatment and on the side effect profiles of many drugs. The clinical significance of drug-food interactions can be variable. The effect of drug on a person may be different than expected because that drug interacts with another drug, food,beverages, dietary supplements the person is consuming(drug-nutrient/food interaction) or another disease the person has. Clinically significant drug interactions, which pose potential harm to the patient may result from changes in pharmaceutical, pharmacodynamic properties. Some interactions may be taken as beneficial effect by increasing drug efficacy or diminishing potential side effects .pharmacists in every practice setting need to

be vigilant in monitory for potential drug food interactions and advising patient regarding food or beverages to avoid while taking certain medications. It is imperative for pharmacist to keep up date on potential drug food interactions of medications, especially today new drugs, so that they may counsel properly to the patients.

KEYWORDS: Drug food interactions,pharmacist.

49. Stoneman Syndrome (Or) FibrodysplasiaOssificansProgressiva

MeghanaPendem,
Vision College of Pharmaceutical Sciences and Research

FibrodysplasiaOssificansProgressiva (FOP), or the Stoneman Syndrome, is a rare condition wherein the body's connective tissues slowly turns into bones. It affects 1 in 2 million people and is caused by a gene mutation. The condition usually starts from the shoulders and neck, making its way down to the legs.

Nearly 90% of patients with fibrodysplasiaossificansprogressiva are misdiagnosed and mismanaged and thus undergo unnecessarily interventions. So far, the number of reported existing cases worldwide is about 700. Clinical examination, radiological evaluation, and genetic analysis for mutation of the ACVR1 gene are considered confirmatory tools for early diagnosis of the disease. Association of fibrodysplasiaossificansprogressiva with heterotopic ossification is well documented; however, postsurgical exaggerated response has never been reported previously, to the best of our knowledge.

50. ROSEMARY OIL IS AS EFFECTIVE AS MINOXIDIL FOR ANDROGENETIC ALOPECIA”

Sufianuddinchowdhury, P. Manitrisharth, S. Umadevi, P.sandeep, K.Divya, RathodSonika, Y.Sairam,SalehaNayeem*
UNITY COLLEGE OF PHARMACY, RAIGIR, BHONGIR, YADADRI, TS, INDIA.

Rosmarinusofficinalis L. is a medicinal plant with diverse activities including enhancement microcapillary perfusion. The present study aimed to investigate the clinical efficacy of rosemary oil in the treatment of androgenetic alopecia (AGA) and compare its effects with minoxidil 2%. Patients with AGA were randomly assigned to rosemary oil (n = 50) or minoxidil 2% (n = 50) for a period of 6 months. After a baseline visit, patients returned to the clinic for efficacy and safety evaluations every 3 months. A standardized professional microphotographic assessment of each volunteer was taken at the initial interview and after 3 and 6 months of the trial. No significant change was observed in the mean hair count at the 3-month endpoint, neither in the rosemary nor in the minoxidil group ($P > .05$). In contrast, both groups experienced a significant increase in hair count at the 6-month endpoint compared with the baseline and 3- month endpoint ($P < 0.05$). No significant difference was found between the study groups regarding hair count either at month 3 or month 6 (> .05). The frequencies of dry hair, greasy hair, and dandruff were not found to be significantly different from baseline at either month 3 or month 6 trial in the groups ($P > 0.05$) Theminoxidil 2%. Patients with

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AGA were randomly assigned to rosemary oil (n = 50) or minoxidil 2% (n = 50) for a period of 6 months. After a baseline visit, patients returned to the clinic for efficacy and safety evaluations every 3 months. A standardized professional microphotographic assessment of each volunteer was taken at the initial interview and after 3 and 6 months of the trial. No significant change was observed in the mean hair count at the 3- month endpoint, neither in the rosemary nor in the minoxidil group (P > .05). In contrast, both groups experienced a significant increase in hair count at the 6-month endpoint compared with the baseline and 3- month endpoint (P < .05). No significant difference was found between the study groups regarding hair count either at month 3 or month 6 (> .05). The frequencies of dry hair, greasy hair, and dandruff were not found to be significantly different from baseline at either month 3 or month 6 trial in the groups (P > .05). The frequency of scalp itching at the 3- and 6- month trial points was significantly higher compared with baseline in both groups (P < .05). Scalp itching, however, was more frequent in the minoxidil group at both assessed endpoints (P < .05). The findings of the present trial provided evidence with respect to the efficacy of rosemary oil in the treatment of AGA.

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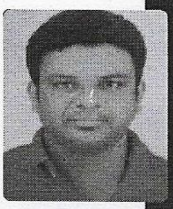

About the Writer: Dr. Ampati Srinivas is a respected academician and researcher in the field of Pharmaceutical Chemistry. Dr. Ampati has over 18 years of teaching experience and having administrative experience in the field of Pharmacy Institution. He has completed his B.Pharmacy from Kakatiya University, Warangal, India, M.Pharmacy from Andhra University, Vishakapatnam, India with Pharmaceutical Chemistry specialization. He has completed his PhD from Kakatiya University, Warangal, India. His efforts in research have generated more than 50 original research papers in National and International Journals. He is examiner to More than Five Universities in India.

About the Book: The present book entitled "A Text Book of Pharmaceutical Organic Chemistry-III" is a result of very honest and sincere efforts. This book provides complete concise concepts of Stereo Isomerism, geometrical Isomerism, Heterocyclic compounds and finally Named reaction of Organic chemistry along with their synthetic applications. These topics have been selected as per the syllabus prescribed by the esteemed Pharmacy Council of India (PCI) applicable to all the B.Pharmacy IV Semester students in the India. This book will be helpful to all the first bench as well as Last bench students and budding teachers too.

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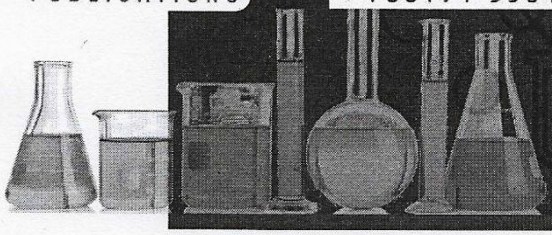

A TEXT BOOK OF PHARMACEUTICAL ORGANIC CHEMISTRY-III - DR. AMPATI SRINIVAS

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Dr. Ampati Srinivas

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Dedicated to the

All my students

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PREFACE

The present book entitled "**A Text Book of Pharmaceutical Organic Chemistry-III**" is a result of very honest and sincere efforts. This book provides complete concise concepts of Stereo Isomerism, geometrical Isomerism, Heterocyclic compounds and finally Named reaction of Organic chemistry along with their synthetic applications. These topics have been selected as per the syllabus prescribed by the esteemed Pharmacy Council of India (PCI) applicable to all the B.Pharmacy IV Semester students in the India. This book will be helpful to all the first bench as well as Last bench students and budding teachers too.

I wish to place on record the encouragement of my parents, all my family members all my friends, students and my well wishers. I really feel very wonder with my lovable children **Anurag** and **Chaithra** for their constant encouragement.

I shall appreciate receiving comments and valuable suggestions so as to make the book more useful to all my lovable students.

-Dr.Ampati Srinivas

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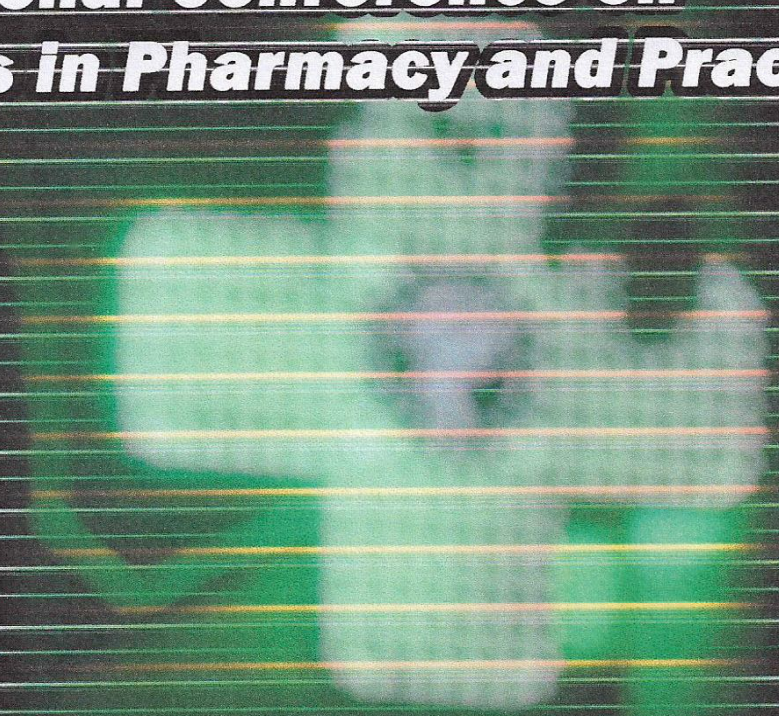

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45. Design, synthesis and biological evaluation of 5-[2(3)-dialkylamino alkoxy] indole 2,3-diones as new antihistamine agents

T.Soujanya, S.Amarnath, Ampati Srinivas
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, India

46. Antihyperglycemic Effects of *Bombax malabaricum* Extracts in Alloxan-Induced Diabetic Rats

R.Pruthvi,, Ampati Srinivas, Immadi Rajeev
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, India

47. DISSOLUTION ENHANCEMENT OF A POORLY WATER SOLUBLE DRUG USING WATER SOLUBLE CARRIERS

Md.Ismail, G.Prasad
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, India

48. Design, Synthesis and Biological Evaluation of Methyl-2-(2-(Arylideneamino) Oxazol-4- Ylamino) Benzoxazole-5-Carboxylate Derivatives as New Antiinflammatory Agents

T.Soujanya, S.Amarnath, Ampati Srinivas
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, India

49. Synthesis and Anti-Inflammatory Activity of a Novel Series of Diphenyl-1,2,4-triazoles and Related Derivatives

T.Soujanya, S.Amarnath
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, India

50. EVALUATION OF FLOWERS OF *JASMINUM OFFICINALE* FOR ANTIBACTERIAL ACTIVITY

I.Rajeev, S.Amarnath, Ampati Srinivas
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, India

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1. GREEN BLOOD THERAPY

B ARUNA, ANNAPURNA, AKHILA, CHANDHANA, AND S AMARNATH*
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Abstract

Juice of wheat (Triticum aestivum L., Poaceae) grass is termed as green blood. Wheatgrass is a variety of grass that is used like a herbal medicine for its therapeutic and nutritional properties. The aim of this study is to concise the health benefits of green blood therapy

2. PLASTIC POLLUTION

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Abstract

Plastic pollution is a growing threat to the world's oceans, as well as our food, health and climate. Plastic pollution permeates every corner of our world and now is cemented in our fossil record. As plastics continue to flood into our oceans, the list of marine species affected by plastic debris expands.

3. ARTIFICIAL MEAT

B ARUNA, ANNAPURNA, AKHILA, CHANDHANA, AND S AMARNATH*
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Abstract

Cultured meat involves producing meat from animal cells, not from slaughtered animals. This innovation has the potential to revolutionize the meat industry, with wide implications for the environment, health and animal welfare.

4. LYMPHATIC SYSTEM AND THEIR DISORDERS

TAJHEEN,SUJATHA,M.NANDINI*
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ABSTRACT:

Lymphatic System

lymphatic system, part of your immune system, it has many functions. They include protecting your body from illness-causing invaders, maintaining body fluid levels, absorbing digestive tract fats and removing cellular waste. Blockages, diseases or infections can affect your lymphatic system's function

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The lymphatic system is a network of tissues, vessels and organs that work together to move lymph back into your your bloodstream. The lymphatic system is part of your immune system

5. STRATEGIES IN PHARMACEUTICAL MARKETING

G.Sahithi, Ampati Srinivas*
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ABSTRACT

The main objective of ethical criteria for medicinal drug promotion is to support and encourage the improvement of health care through the rational use of medicinal drugs. WHO expanded its scope to people in all walks of life: governments; the pharmaceutical industry (manufacturers and distributors); the promotion industry (advertising agencies, market research organizations and the like); health personnel involved in the prescription, dispensing, supply and distribution of drugs; universities and other teaching institutions; professional associations; patients and consumer groups; and the professional and general media including publishers and editors of medical journals and related publication of the drug itself.According to WHO, Promotional materials for pharmaceutical products should be accurate, fair and objective and presented in such a way as to confirm not only to legal requirements but also to high ethical standards .

6. Development and Validation of RP-HPLC Method for Simultaneous Estimation of Levofloxacin Andambroxol Hydrochloride in Bulk and Pharmaceutical Dosage Form

M.Nandini, Ampati Srinivas*
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A B S T R A C T

A new, precise, rapid, accurate RP-HPLC method was developed for the Simultaneous Estimation of Levofloxacin andAmbroxol HCl in pharmaceutical dosage forms. After optimization the good chromatographic separation was achieved byIsocratic mode with a Mixed phosphate buffer: ACN: methanol (40:40:20v/v%) pH4.5.as the mobile phase with Inertsil ODSC18-250X4.6mm, 5µ,column as stationary phase at flow rate of 1 mL/min and detection wavelength of 223nm.The retentiontimes for Levofloxacin and Ambroxol HCl found to be 2.737min and 4.793min respectively. The linearity of this method wasfound in the concentration range of 60 µg/mL to 140 µg/mL for Levofloxacin and 9-21 (µg/mL)for Ambroxol HCl. Thecorrelation coefficient *R2*value is found to be0.997 for Levofloxacin and 0.995 for Ambroxol HCl. The LOD and LOQ forLevofloxacin were found to be 2.66 mcg µg/mL and 15.69 µg/mL respectively. The LOD and LOQ for Ambroxol HCl werefound to be 8.05 µg/mL and 47.55µg/mL respectively. This method was found to be good percentage recovery

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forLevofloxacin AndAmbroxol HCl were found to be 101.28 and 99.32 respectively indicates that the proposed method ishighly accurate. The specificity of the method shows good correlation between retention times of standard with the sampleso, the method specifically determines the analyte in the sample without interference from excipients of tablet dosage form.
The method was extensively validated according to ICH guidelines for Linearity, Range, Accuracy, Precision, specificity andRobustness.
Keywords: UV spectrophotometer, Levofloxacin and Ambroxol HCl, High performance liquid chromatography.

7. Design and Characterization of Mouth Dissolving Tablets of Zolmitriptan Using Novel Super Disintegrants

A.Priyanka, Md.Ismail*

A B S T R A C T

The present study was carried out on Zolmitriptan Mouth dissolving tablets were prepared bydifferent concentration super disintegrants like croscarmellose sodium, polyplasdone XL and Explotab were used in mouthdissolving tablets. A total of 9 formulations were prepared and evaluated for various pre and post compression parameterslike angle of repose, bulk density, tapped density, carr's index, hausner's ratio, weight variation, hardness, friability,thickness, wetting time, water absorption ratiodisintegration time of the optimized formulation (F4) of Zolmitriptan was found to be 7 sec. Release rate of drug was 97.54%within 10 minutes. FTIR studies showed good compatibility between drug and excipients.

Keywords: Zolmitriptan, croscarmellose sodium, polyplasdone XL, Explotab

8. INSULIN PLANT AID IN DIABETIS

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ABSTRACT

Costus igneus, commonly known as insulin plant in India, belongs to the family Costaceae. Consumption of the leaves are believed to lower blood glucose levels, and diabetics who consumed the leaves of this plant did report a fall in their blood glucose levels. Objectives: The present study was planned to evaluate the effect of the leaves of Costus igeus on dexamethasone-induced hyperglycemia in male Wistar rats. Four groups of male Wistar rats (n= 6) were treated with 10 mg/kg/day of dexamethasone subcutaneously for 20 days. From day 11 to day 20, different groups received 100, 250 or 500 mg/kg/day of powdered leaves of Costus igeus in distilled water orally or Glibenclamide 500 µg/kg orally. On the 20th day, after overnight fasting, a retro-orbital puncture was performed for obtaining blood samples to estimate the fasting blood glucose level, and the same procedure was followed on the other eye 1 hour after a glucose load of 2.5 g/kg orally for estimation of post-glucose load blood glucose levels. Fasting blood sugar and postglucose load blood sugar levels were raised in the group that

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received dexamethasone when compared to normal controls (P < 0.001), whereas 250 and 500 mg/kg powdered leaf of Costus igeus and Glibenclamide 500 µg/kg decreased the dexamethasone-induced hyperglycemia (P < 0.01). The leaves of Costus igeus reduced the fasting and postprandial blood sugar levels, bringing them towards normal, in dexamethasone-induced hyperglycemia in rats.

KEYWORDS :Costus igeus, hyperglycemia, insulin plant

9. Design and Development of Modified Release Solid Oral Dosage Form (Entacapone)

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A B S T R A C T

The present research work focuses on design and development of modified Release solid oral dosage form.entacapone: basedon assessment of various parameters, in vitro drug dissolution profile and drug kinetics, hf14 was found to be optimizedformulation.FT-IR & DSC studies revealed that there was no interaction between the drug and polymers used in theformulations. The drug release from hf14 was found to fit zero order of concentration independent and best fitted to higuchiemodel confirming to be diffusion assisted mechanism. Based on the mucoadhesive study, the optimized dosage formadhesive to gastro intestinal tract more than 12 hours. The marketed product released by first order kinetics by concentrationdependent. In vivo bioavailability studies were conducted for optimized entacapone trilayer tablets and marketed product, theresults were indicating that the optimized entacapone formulation was shown sustained release patterns where marketedproduct was shown immediate release

Keywords: Entacapone, modified drug release, trilayer

10. CORD BLOOD AS A SOURCE OF MEDICINE

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ABSTRACT:

Cordbloodisa sample ofbloodtaken fromanewborn baby'sumbilicalcord.Itisarichsourceofhematopoietic stem cells, which are precursors to body cells. Umbilical cord blood is a rich source of special blood cells called stem cells. These cells are the body's building blocks for blood, organs, tissue, and the immune system and are genetically unique to each baby. As such, they have been used to treat certain diseases of the blood and immune system. The next largest group is inherited diseases (of red blood cells, the immune system and certain metabolic abnormalities) Patients with lymphoma, myelodysplasia and severe aplastic anemia have also been successfully transplanted with cord blood.After the baby is born and before the placenta is delivered, the umbilical cord is clamped and cut, the same as it would be for any normal delivery. The cord is rigorously cleaned to ensure a sterile collection, and then the cord blood is collected by your healthcare professional. Preserving them

"stops the clock" and protects the cells from aging and being exposed to environmental factors and common viruses that can decrease their function. Today, cord blood stem cells are used in the treatment of nearly 80 diseases, including a wide range of cancers, genetic diseases and blood disorders. When you bank your baby‘s cord blood, you preserve a unique biological resource that is like a self-repair kit‘ for your child and other possible family members

KEYWORDS: Bone marrow ,Cord blood , Hematopoietic stem cell transplantation ,Human leukocyte antigen,,Mesenchymal stem cells , Peripheral blood .

11. Manufacturing defects of tablets

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ABSTRACT

Tablet defects can come from any of the unit operation upstream and from the tablet press. The raw materials may be of poor quality or do not meet specification, causing excessive fines that lead to a host of defects. The formulation may be the source of defects if the material do not compress well or the processing step specified within the formulation fail to produce a powder a good flow, compressibility, and ejection properties. The processing and granulation of powder is often the source of defect. Every product behaves differently on a tablet press, even if it’s the same product run on a different day. The variation often stems from changes in the properties of the raw materials—active ingredients and excipients- from batch to batch. Naturally, the goal is to minimize these changes. Tablet press operators, however, don’t have any control over formulation and granulation. Tablet specifications are tight, and the list of possible defects is long: Variable weight, sticking, picking, capping, lamination, variable hardness, among others. This article focuses on these variations. It pinpoints the possible causes of these defects and offers advice on preventing and fixing the source of the problems. Key words: capping, mixing, granules, punches, compression, cracking

12. DISSOLUTION AND TYPES OF APPARATUS

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ABSTRACT

In the pharmaceutical industry, dissolution study is one of the vital tests for the evaluation of the pharmaceutical dosage form. Dissolution test is the most important tool for the testing of drug release profile of solid dosage form in the pharmaceutical preparation. Dissolution studies provide the knowledge about the efficacy of the dosage form. Dissolution tests are major for performing a various kind of investigations like drug degradation profiles, stability and shelf life studies, chemical stability and so on. Dissolution test can be easily performed in both the small and large scale with the proper techniques and it is also used for the comparison between the graph profile of the similar and different dosage form. Hence, it can be considered as the most qualitative and convenient test for the evaluation of the pharmaceutical solid dosage form.

13. Diabetes mellitus

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ABSTRACT:
Diabetes mellitus is a chronic heterogeneous metabolic disorder with complex pathogenesis. It is characterized by elevated blood glucose levels or hyperglycemia, which results from abnormalities in either insulin secretion or insulin action or both. Hyperglycemia manifests in various forms with a varied presentation and results in carbohydrate, fat, and protein metabolic dysfunctions. Long-term hyperglycemia often leads to various microvascular and macrovascular diabetic complications, which are mainly responsible for diabetes-associated morbidity and mortality. Hyperglycemia serves as the primary biomarker for the diagnosis of diabetes as well. In this review, we would be focusing on the classification of diabetes and its pathophysiology including that of its various types
KEY WORDS: Pathogenesis,Insulin,Diabetes

14. PREPATELLAR BURSITIS

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Abstract

Bursitis is the swelling or inflammation of a synovium-lined sac-like structure called a bursa. These are found throughout the body near bony prominences and between bones, muscles, tendons, and ligaments. They function to reduce friction between these structures. Inflammation of the bursa around large joints like the shoulder, knee, hip, and elbow may prompt patient visits to healthcare providers. There are four major bursae associated with the knee joint: suprapatellar, infrapatellar, pes anserine, and prepatellar. This article will focus on the prepatellar bursa and, specifically, prepatellar bursitis. This bursa is present between the patella and the overlying subcutaneous tissue. It represents the most commonly affected bursae of the knee and the second most commonly affected bursa overall, following the olecranon bursa. The location makes it a target during repetitive kneeling and has led to it being colloquially referred to as housemaids, carpet layers, and carpenters knee.

15. ELECTROPHORESIS

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Abstract

Electrophoresis is a technique that enables separation and analysis of charged molecules in an electric field. Gel electrophoresis is most commonly used for separation and purification of proteins and nucleic acids that differ in size, charge, or conformation. The gel is composed of polyacrylamide or agarose. Agarose is appropriate for separating DNA fragments ranging in size from a few hundred base pairs to about 20 kb. Polyacrylamide is preferred for proteins and smaller DNA fragments. The mobility of DNA is constant under defined electrophoretic conditions. These conditions are characterized by the electrical parameters (current and voltage) and factors such as buffer composition, agarose concentration, and temperature.

16. TYPHOID

RAKESH, UDAYKIRAN, PALLAVI, TEJASWINI,P.NAGARAJU*,
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Typhoid fever is a life-threatening infection of the intestinal tract and bloodstream, caused by the highly virulent bacteria *Salmonella Typhi*. It only lives in humans and is usually spread between humans through food or water which is contaminated with faeces. The incubation period ranges from 7-14 days on average, but can range from 3 days to two months. Symptoms include prolonged high fever, fatigue, headache, nausea, abdominal pain, constipation or diarrhea, and in some cases a rash. Severe cases may lead to serious complications or even death.

Typhoid fever is an important public health problem in many low and middle income countries, causing between 11 and 21 million cases and between 128,000 to 161,000 deaths each year. The majority of cases occur in South Asia, South-East Asia, and sub-Saharan Africa. The actual burden of typhoid fever in the Eastern Mediterranean Region of WHO remains unknown. In recent time, Pakistan experienced an extensive drug resistant typhoid fever outbreak

17. GASCHROMATOGRAPHY - MASS SPECTROSCOPHY

POOJA, SARITHA, MADHAVI AND S AMAR NATH*
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ABSTRACT

GC –MS is an integrated composite analysis instrument combiningGC which is excellent in its separation with Mass spectroscopy ideal in identification and elucidate structure of separated component.

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Gas chromatography leads to separation of volatile organic compounds.
Separation occurs as a result of unique equilibrium established between the solutes and the stationary phase. An inert carrier gas carries the solutes through the column. Mass spectrometry is a technique used for measuring the molecular weight and determining the molecular formula of an organic compound.

18. GREEN CHEMISTRY

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ABSTRACT

Meeting the needs of the present without compromising the ability of future generations to meet their own needs. The principles cover such concepts as: The design of processes to maximize the amount of raw material that ends up in the product, benign substances, including solvents. The design of energy efficient processes. The best from the waste disposal: not to create it in the first place.

19. PARKINSON'S DISEASE

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ABSTRACT

The disease first described by jamesparkinson in 1987.
Parkinson syndrome, idiopathic or primary Parkinson syndrome. Parkinsons disease is a chronic neurodegenerative disease associated with substantial morbidity, increased mortality, and high economic burden. Primary Motor Symptoms include: Primary motor symptoms, Secondary motor symptoms, Non motor symptoms. Pathogenesis involves Free Radicals and deflects in emergency, Programed cell death, Genetic factors. Environental factors. Protein aggregation, Aging, Drug induced Parkinsonism.

20. AMYOTROPHIC LATERAL SCLEROSIS – A REVIEW

A.PRIYANAKA

Abstract:

Amyotrophic Lateral Sclerosis (ALS) is a devastating neurodegenerative disease that attacks the motor neurons of the brain and spinal cord of a healthy adult. The disease progresses rapidly and is always fatal, leaving patients paralyzed and unable to breathe. There is still np known cause for the majority of the cases and no effective treatment or cure.

21. Reverse Phase High Performance Liquid Chromatographic Technique for the Determination of Pantoprazole in Pure and Its Dosage Forms

M.Chaithanya, Ampati Srinivas*
Unity College of Pharmacy

A B S T R A C T

A rapid and precise reverse phase high performance liquid chromatographic method has been developed for the validated ofPantoprazole, in its pure form as well as in tablet dosage form. Chromatography was carried out on a Phenomenex GeminiC18 (4.6×250mm) 5µ column using a mixture of Methanol: TEA Buffer pH 4.0 (70:30 v/v) as the mobile phase at a flow rateof 1.0ml/min, the detection was carried out at 280nm. The retention time of the Pantoprazole was 2.302 ±0.02min respectively. The method produce linear responses in the concentration range of 10-50mg/ml of Pantoprazole.The methodprecision for the determination of assay was below 2.0%RSD. The method is useful in the quality control of bulk andpharmaceutical formulations.

Keywords: Pantoprazole, RP-HPLC, validation

22. FORMULATION AND EVALUATION OF NASAL INSITU GEL OF FLUOXETINE HYDROCHLORIDE

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Abstract:

Purpose of this study was to formulate and evaluate in-situ gel of Fluoxetine Hydrochloride for nasal delivery using polymers possessing in-situ gelling properties.Formulations containing carbopol and sodium alginate were prepared using poloxomer as copolymer.Formulations were liquid before administration and underwent rapid gelation upon oral administration.FT-IR studies of drug, polymer and their physical mixture were carried out. The result of these studies revealed that there are no definite changes obtained in the bands of drug with respect to pure drug. Hence it was confirmed that formulations do not have any drug polymer interactions.In order to evaluate rheological behavior, viscosity of the formulations was evaluated using Brookfield viscometer. It showed that viscosity was found to be decreased at increasing rpm exhibiting shear thinning behaviour and increase in viscosity was observed with increase in concentration of polymer indicating that it obeys Newtonian system.Invitro release of fluoxetine from formulations was carried out which will indicate the effects of the variables on the mechanism and kinetics of drug release from dosage form. For the present work, in-vitro diffusion studies were carried out in simulated nasal fluid.
Release kinetic studies showed that insitu gels followed zero order drug release mechanism. Korsmeyer-peppas 'n' value 0.96 indicated that the formulation followed non-fickian diffusion controlled release mechanism.
Keywords: insitu gel systems,Nasal drug delivery,Fluoxetine Hydrochloride.

23. DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR THE ESTIMATION OF AGOMELATINE IN BULK AND TABLET DOSAGE FORM

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ABSTRACT

Development an accurate, simple, precise and rapid method for theestimation of Agomelatine in bulk and Tablet dosage form. Themethod uses Reverse phase High performance Liquid Chromatography(RP-HPLC). PHENOMENEX Luna C18, (5µm, 250 x 4.6mm) columnoperated with a mixture of mixed phosphate buffer of pH 6 with orthophosphoric acid and Acetonitrile(55:45) as mobile phase was found tobe suitable for the estimation. The flow rate was maintained at1ml/min. Detection was carried out at 230nm using a UV detector. Thetotal run time was less than 10min the retention time of 2.7min forAgomelatine. Validation of the method was performed for precision,accuracy, linearty, ruggedness, specificity and sensitivity to confirm tothe ICH guidelines for validation of an analytical method.

KEYWORDS: Agomelatine, RP-HPLC, Method development, Validation.

24. SYNTHESIS AND DEVELOPMENT OF 1,2,4-TRIAZOLYL-BENZOXAZOLE DERIVATIVES AS NOVEL COX-2 INHIBITORS

S.Amarnath, Amapti Srinivas,
Unity College of Pharmacy, Raigir, Bhongir, Yadadhri Bhuvanagiri, TS, 508116

ABSTRACT

In the present research investigations we have synthesized a series of 2-(dialkylamino)-N-(5-(5-aryl-4-ureido-4H-1,2,4-triazol-3-yl)benzoxazol-2-yl)acetamides (Xa1-16).The newly synthesised derivatives were characterized byusing the data of IR, 1 H NMR and Mass Spectral analysis. Thus synthesized and characterized targetedcompounds were further screened for their *in vitro* COX-2 inhibition activity by using TMPD Assay method. TheIC50 values of Compounds Xa 13, 14, 15 and 16 were found to be more potent COX-2 inhibitors comparable tothat of standard refecoxib, remaining compounds were shown mild to moderate COX-2 inhibitory activity. Thus,this class of compounds apart from the ease of synthesis and higher yield may serve as excellent candidates forselective COX-2 inhibition analysis.

KEYWORDS: Novel benzoxazoles, COX-2 inhibitory activity, 1H NMR, Mass.

25. METHOD DEVELOPMENT AND VALIDATION OF DABIGATRAN ETEXILATE MESYLATE BY RP-HPLC METHOD AND ITS DEGRADATION STUDIES

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ABSTRACT

A simple, precise, accurate, economical and reproducible RP-HPLC method for estimation ofDabigatran Etexilate Mesylate in capsule dosage form has been developed. Quantitative HPLC wasperformed with SHIMADZU LC 20ATwith Spin chrome Software with UV-Visible Detector (SPD-20A),PHENOMENEX Luna C18, 5µm, 250 x 4.6mm (size) column was used in the study. The mobile phase ofMethanol: Water (70:30) used in this study. The conditions optimized were: flow rate (1.2 ml/minute),wavelength (230 nm) and run time was 10 min, column temperature was maintained at 500C. Retention timewas found to be 4.60 min. The linearity was found to be in the concentration range of 0-25 □g/ml. Thedeveloped method was evaluated in the assay of commercially available capsules Paradaxa containingDabigatran Etexilate Mesylate. The amount of drug in capsule was found to be 75mg. Results of analysiswere validated statistically and by recovery studies. The recovery studies 96.67 % was indicative of theaccuracy of proposed method. The precision was calculated as repeatability, inter and intraday variation(%RSD) for the drug. By using method, stability of the drug has been studied.

Key Words: HPLC, method validation, Dabigatran Etexilate Mesylate, precision, stability studies

26. Comparative Studies for Enhancement of the Dissolution Profile ofPitavastatin

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Abstract:

The main objective of the present study is to enhance the solubility, dissolution rate, bioavailability of waterinsoluble drug pitavastatin by liquisolid technology and solid dispersions. The liquisolid compacts were preparedby different ratios of polyethylene glycol 400 as a non volatile liquid vehicle, micro crystalline cellulose used ascarrier material and colloidal silicon dioxide as coating material. Solid dispersions were prepared by differentratios (1:2, 1:4, 1:6, 1:8) of poly ethylene glycol 6000 as carrier. All these formulations were characterized fordifferent physical parameters to comply with pharmacopoeial limits. *Invitro* dissolution profiles of liquisolidformulation, solid dispersions were studied and compared with that of pure pitavastatin tablet formulation in0.1N HCL. It was found that liquisolid formulation tablets formulated with microcrystalline cellulose showedpercentage drug release 63±2.42 at 5min and they showed significant higher drug release rates than pure drug13±1.44 due to increase in wetting

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properties and surface of drug available for dissolution. FTIR spectral studiesshowed that there is no interaction between the drug and excipients.

Key words:
Liquisolid technologies, solid dispersions, pitavastatin, PEG6000.

27. Formulation and Development of Modified Released Tablets Containing Metronidazole Loaded Microspheres

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The main objective of present study is to formulate and evaluate Metronidazole colon specific tablets with the helpof natural polysaccharides. To develop suitable formulation by optimizing the lag time of drug release in stomachand small intestine by formulating with suitable natural polysaccharides. To study the drug release pattern.Applying of kinetic models to the optimized formulation. Disssolution studies without caecum content forformulations F1-F11 were represented in tables ,they revealed that formulations (F1-F3) containing tamarind
gum in different ratios showed drug release upto 95% in 12 hours. And formulations containing gum karaya (F4-F6) showed drug release upto 97% in 10 hours. Formulations containing locust bean gum (F7-F9), showed drugrelease 95% within 8 hours. And combination of both gums (tamarind gum and gum karaya) containingformulations showed drug release upto 97.8% within 20hrs. The same studies were conducted in dissolutionmedium containing rat caecum, they revealed that formulations (F1-F3) containing tamarind gum in differentratios showed drug release upto 93 to 96% within 11 hours.And formulations containing gum karaya (F4-F6)showed drug release upto 94 to 97% within 9 hours. formulations containing locust bean gum (F7-F9), showeddrug release 92% to 98% within 7 hours and combination of both gums (tamarind gum and gum karaya)containing formulations showed drug release up to 97.8% within 12hrs(1:2), 96.5% within 16hrs(2:1). Theoptimized formulation F11 was subjected to various kinetic models such as Zero-order, First order, Higuchi order,Peppas model and Hixson-Crowell model.And drug release follows zero order according to their R^2 value (0.9093).

Key words:Disssolution, Peppas model, HPβCD and TPD-Z .

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28. Formulation and Development of Fast Dissolving Tablets (FDTS) ofSumatriptan Succinate Using Simple and Cost Effective Technique

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Abstract:

The basic need of this study is to develop an fast dissolving tablet of sumatriptan succinate used in the treatmentof migrain ,with an aim of reduces the lag time and providing faster onset of action. Present investigation is toformulate fast dissolving tablets (FDTs) of sumatriptan using simple and cost effective technique. The tablets wereprepared by direct compression method using superdisintegrants such as poly plasdone XL, polacrilin potassium,primogel,L-HPC and pregelatinized starch, with pearlitol SD 200 and Spraydried lactose as diluent. Improve thepalatability of the drug with sweetening agent and flavor. Find out the suitable diluent and disintegrantcombination, to formulate the fast dissolving tablets of sumatriptan succinate. Formulation (F14) withpolyplasdone 5% was considered as the optimized fast dissolving tablets. It shows drug release of 92.00% of drugin 5 min and 98.17% in 10min. These results were comparable with the marketed product suminat-25. Based onthe optimization results it is concluded that the objective of formulating fast dissolving tablets containingsumatriptan succinate was achieved by simple and cost effective technique.

Key words:Sumatriptan succinate, Primogel,L-HPC, Pearlitol SD 200 and Polacrilin potassium

29. Formulation and Development of Modified Released Tablets Containing Antibiotic Loaded Microspheres

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The main objective of this work is to develop and explore a new formulation to enhance the bioavailability of ahighly permeable and a poorly soluble antipsychotic drug Ziprasidone and NSAID Flurbiprofen InclusionComplexes. From the literature, it was found that carrier like microcrystallinecellulose (Avicel101), disintegratingagents like sodiumstarchglycolate, Croscarmelose sodium, Cross povidone were used to prepare Drug cyclodextinInclusion Complexed tablets. Ziprasidone and Flurbiprofen are being poorly water insoluble drugs can be made toimprove bioavailability, if drug is released effectively and this is achieved by formulating drug as inlusioncomplexed tablets which was the rationale of the present study. Complexation technology is one of the promisingapproaches to increase drug release and is confirmed by the experimental results. When compared to TPD-Z , F11and TPD-F , F23 showed greater than two times of % Drug Release in Inclusion complexed system. This may bedue to the presence of HPβCD,As the drug complexed with HPβCD ,the surface of the drug exposed to thedissolution media was more, this is because

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the Inclusion complexed formulations after disintegrating in themedia the drug molecules were suspended as a molecular dispersion,thus the formulation might be showing thebetter drug release, due to the complexation of drug with HPβCD.

Key words:Microspheres, microcrystalline cellulose, HPβCD and TPD-Z .

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30. Antibacterial activity of *Jasminum grandiflorum* Linn leaves

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Extracts of *Jasminum grandiflorum* Linn (Oleaceae) were screened for their *in vitro* antibacterial activity by agar diffusion method incomparison with standard antibiotic penicillin. The antibacterial activity of petroleum ether, chloroform, acetone, methanol and aqueousextract of leaves of the plant were studied using *Staphylococcus aureus*, *Bacillus subtilis, Escherichia coli* and *Pseudomonas aeruginosa*as test organism. Out of all extracts tested, petroleum ether, methanol and aqueous extracts were effective against all the four microorganisms.
Chloroform extract was only effective against *Bacillus subtilis* and *Pseudomonas aeruginosa.* Acetone extract was most effective against*Pseudomonas aeruginosa* and *Escherichia coli*.Keywords: *Jasminum grandiflorum* Linn, *Staphylococcus aureus, Bacillus subtilis, Escherichia coli, Pseudomonas aeruginosa, invitro* antibacterial activity.

31. JASMINUM GRANDIFLORUM LINN

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ABSTRACT:
Plants form the basis of human and animal life. Plants are better choice for medicinal applications when compared to synthetic chemicals and the nature has provided various types of medicinal plants. *Jasminum grandiflorum* Linn. (family Oleaceae) is a night bloomy flowering plant and is an important source of methyl jasmonates which find utility in plant defense, fruit ripening, plant growth senescence and other physical processes. The aroma plant *Jasminum grandiflorum* Linn. is native to tropical and warm temperate regions and the plant is observed to have favorable properties which can be used to treat numerous ailments. The leaves of the plant find clinical use in Ayurveda for wound management. The flowers of the plant are used to adorn the women coiffure. In this article, an attempt has been made to provide an updated review on this plant with focus on the isolation and quantification of chemical constituents, medicinal potential and patents on the medicinal and cosmetic formulations comprising *Jasminum grandiflorum* Linn.

32. DEVELOPMENT AND VALIDATION OF A RP-HPLC METHOD FOR ESTIMATION OF LAMOTRIGINE IN A TABLET DOSAGE FORM

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ABSTRACT
A simple, sensitive, and precise high performance liquid chromatographic method for the analysis of Lamotrigine has been developed and validated for the determination of compound in commercial pharmaceutical products. The compounds were well separated on BDS Hypersil C18 reverse phase column by the use of a mobile phase of mixed phosphate buffer and acetonitrile in a ratio of 40:60 v/v, at a flow rate of 1.0 ml/min with detection wavelength at 248nm. The method was validated in terms of linearity, precision, accuracy, and specificity, robustness and solution stability. The method does require only 10 minutes as runtime for analysis which prove the adoptability of the method for the routine quality control analysis of the drug.

Key words: Lamotrigine , RP-HPLC.

33. A New Rp-Hplc Method Develop A New Rp-Hplc Method Development And Validation For Simultaneous Estimation Of Pyridoxine Hydrochloride And Doxylamine Succinate In Bulk Drug And Pharmaceutical Tablet Dosage Form.

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Abstract:
The Present work was to develop a simple, fast, accurate, precise, reproducible, reverse phase high performance liquid chromatographic method for simultaneous estimation of pyridoxine hydrochloride and doxylamine succinate in pharmaceutical tablet dosage form marketed as doxinate. Chromatographic separation was done using Inertsil ODS RP C18 column having dimension of 4.6×250mm having particle size of 5µm, with mobile phase consisting of phosphate buffer pH 3 ±0.02 pH adjusted with ortho phosphoric acid and acetonitril (50:50 %v/v), flow rate was adjusted to 1.0 ml/min and detection wavelength at 263nm. The retention times of pyridoxine hydrochloride and doxylamine succinate was found to be 2.35 and 4.80min. The Proposed method has been validated for accuracy, precision, linearity, range and robustness were within the acceptance limit according to ICH guidelines. Linearity for pyridoxine hydrochloride and doxylamine succinate was found in range of 25µg-150µg and correlation coefficient was found to be 0.999 and 0.999, %RSD for method precision was found to be 0.76, 0.82 and for system precision was 0.80 and 0.71 respectively, % mean recovery for pyridoxine hydrochloride and doxylamine succinate was found to be 99.18% to 99.48%. The method was found to be robust even by change in the mobile phase ±5% and in less flow condition. The developed method can be successfully employed for the routine analysis of

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pyridoxine hydrochloride and doxylamine succinate in API and Pharmaceutical dosage forms.

Keywords: Pyridoxine hydrochloride and Doxylamine succinate, RP-HPLC, Method development, Method validation.

34. METHOD DEVELOPMENT AND VALIDATION OF CAPTOPRIL BY USING RP-HPLC

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ABSTRACT

An isocratic reversed phase high-performance liquid chromatographic (RP-HPLC) method has been developed for the determination ofcaptopril in API, dosage formulations and human serum. Chromatographic separation was achieved on SYMMETRY C18 150X4.6mm,3.7µm andcolumns using mobile phase, methanol: water (70:30 v/v) adjusted to pH 3.0 via phosphoric acid 85% having flow rate of 1.0 mL min -1 at ambienttemperature with detector set at 272 nm. Calibration curves were linear over range of 5-25 µg mL -1 with a correlation coefficient ± 0.999. LOD andLOQ were in the ranges of 0.4-2.3 µg mL -1. Intra and inter-run precision and accuracy results were 98.0 to 102%.

KEYWORDS: Captopril, Diuretics, RP-HPLC.

35. Formulation Development and *in vitro* Evaluation of Escitalopram Immediate Release Tablets

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Abstract

The aim of this study is to formulate and significantly improve the bioavailability and reduce the side effects of immediate release tablets Escitalopram. The precompression blends of Escitalopram were characterized with respect to angle of repose, bulk density, tapped density, Carr's index and Hausner's ratio. The precompression blend of all the batches indicates good to fair flow ability and compressibility. Immediate release tablets were prepared with various polymers like PEG 6000, Croscarmellose sodium and Sodium-starch glycolate at different concentration ratios and were compressed into tablets. The formulated tablets were evaluated for various quality control parameters. The tablets were passed all tests. Among all the formulations F7 formulation containing, drug and Croscarmellose sodium showed good result that is 98.12 % in 45 min. Hence from the dissolution data it was evident that F7 formulation is the better formulation. By conducting further studies like *invitro* studies.

Keywords

Escitalopram, PEG 6000, Croscarmellose sodium and Sodium-starch glycolate, Immediate release.

36. Formulation Design, Development of Gastro Retentive Floating Tablets of Propranolol

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Aim: The present research work was carried out by formulate and evaluate the gastro-retentive floating tablets of propranolol. Materials and Methods: Propranolol HCl is an antihypertensive agent. It is mainly used in the treatment of acute myocardial infarctions. Consequently, the current exploration was to design a gastro-retentive drug delivery system of propranolol using swelling polymer through wet granulation method. All the formulations were evaluated for weight variation, hardness, friability, drug content, and *in-vitro* dissolution. In this gastro-retentive dosage form using hydroxypropylmethylcellulose-K4M (HPMC-K4M) was prepared to develop a sustain release tablets, which could retain in the stomach for longer periods of time delivering the drug to the site of action that is in the stomach. Statistical Analysis used: Fourier-transform infrared signifying compatibility of the drug and polymers in the tablet composition. Results: Pre- and Post-compression parameters of all the formulations were within the pharmacopoeial limits and *in-vitro* drug release of F2 formulation was found to be 99.14% in 12 h. Conclusion: Dissolution studies of the composition, it was concluded that the formulation F2 which is containing 50 mg of HPMC-K4M, 25 mg of sodium bicarbonate, 25 mg of polyvinylpyrrolidone K30, 1.5 mg of magnesium stearate, and 1.5 mg of Talc is the best formulation. F2 possessed quick buoyancy lag time of 40 s and good total floating time of 12 h. As the consequence of this study, it may accomplish that the floating tablets using HPMC-K4M are a hydrophilic polymer increases the gross register tonnage of the dissolution fluid in the stomach to deliver the drug in a sustained manner.
Key words: Gastro retentive drug delivery system, hydroxypropylmethylcellulose-K4M, propranolol, wet granulation

37. FORMULATION DESIGN AND DEVELOPMENT OF ZOLMITRIPTAN ODT

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ABSTRACT

Zolmitriptan is a Selective Serotonin receptor agonist. Used in the acute treatment of Migraine attacks with or without aura and headaches.
The current research work is aimed at evolving a formulate and evaluate of a Rapid dispersible tablet dosage form of Zolmitriptan. Who have little orno access to water are also good candidates for orodispersible.Direct Compression technique was employ for combination of pure drug and excipientsin the given ratio as an eight compositions. The primed powder blend was then compressed

into tablets by the required Superdisintegrants (SSG, CCSand CP) and Polymers. The tablets be evaluate for hardness, thickness, weight variation, friability, Drug Content and Disintegrating Time (Sec) weresubjected to a 7 minutes in-vitro drug release studies (USP dissolution rate test apparatus II, 50 rpm, 370C ±0.50C) using phosphate buffer, pH 6.8 as adissolution medium (900ml). The quantity of Zolmitriptan released from the tablet compositions at dissimilar time intervals is predictable by means ofa UV spectroscopy method. The compositions that showed a considerable retardation of the drug release are considered promising. Among the eightcompositions, F5 formulation contains Drug to Croscaramellose Sodium (CCS) in ratio 1:2 is optimized based on its ability to till 5 mins of in-vitrodissolution time and its cumulative % drug release was found to be 99.24 %.

KEYWORDS: Direct Compression technique, Zolmitriptan, Croscaramellose Sodium.

38. EVALUATION OFANTIHYPERLIPIDEMIC AND ANTIOXIDANT ACTIVITY OF INULA RACEMOSA ROOTS

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The potential of Inula racemosa roots on hyperlipidaemia and oxidative stresswas investigated in diet induced hyperliperlipidaemia model, In vivo and Invitro antioxidant parameters. Hyperlipidemia is induced by mixing rat feedwith cholesterol and saturated fats for 28 d. Serum was withdrawn on 7th,14th, 21st and 28th d. Seperated serum was analysed for Cholesterol (CH),Triglycerides (TG), HDL, LDL, Glucose, Aspartate aminotranferase (AST),Alanine aminotransferase (ALT) and Bilirubin. On 28th d liver was isolatedand analysed for In vivo and In vitro antioxidant parameters. Oraladministration of Inula racemosa for 28 d resulted in significant ($P<0.05$)reduction of cholesterol, triglycerides, LDL, Glucose AST, ALT, Bilirubin andincrease in HDLlevels. The elicited effects were compared with standard drug,atorvostatin (10 mg/kg). The plant also displayed significantly ($P<0.01$)elevated Catalase and Glutathione levels and lowered LPO, NO and DPPH
levels. The experimental results conferred significant ($P<0.01$)antihyperlipidemic activity of Inula racemosa in experimentally inducedhyperlipidemia model and antioxidant activity. On the basis of present findingsit can be concluded that Inula racemosa roots possess antihyperlipidaemicactivity and antioxidant activity.

39. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FELODIPINE IN BULK AND TABLET DOSAGE FORM BY USING RP-HPLC TECHNIQUES

M.Nandini, S.Amarnath, Ampati Srinivas
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Abstract:

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This paper describes the analytical method suitable for validation of Felodipine by reversed Phase High Performance Liquid Chromatography (RP-HPLC) method. The method utilized RP-HPLC (Water 2695 with PDA detector) model and a column ODS C18 (4.6 x 150mm, 5□m). The mobile phases were comprised with Acetonitrile and Water (80:20 V/V) at a flow rate of 1.0 ml/min. UV detection at 305 nm MTS were eluted with retention times of 3.155min. The method was continued and validated accordance with ICH guidelines. Validation revealed the method is rapid, specific, accurate, precise, reliable, and reproducible. Calibration curve plots were linear over the concentration ranges 15-75 µg/mL (R2 = 0.9998). Limit of detection (LOD) was 0.19µg/ml and limit of quantification (LOQ) was 0.6µg/mL. The method showed good recoveries (98.9 - 100.4%). Statistical analysis was proves the method is suitable for the analysis of Felodipine as a bulk, in tablet dosage form without any interference from the excipients. It was also proved study for degradation kinetics. It may be extended for its estimation in plasma and other biological fluids.

Keywords: Felodipine, RP-HPLC, Method Development and Validation.

40. FORMULATION DESIGN, DEVELOPMENT AND EVALUATION OF GRDDS OF ETODOLAC BY USING NATURAL POLYMERS

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ABSTRACT

Etodolac is used to relieve pain from various conditions. It also reduces pain, swelling, and joint stiffness from arthritis. This medicationis known as a non steroidal anti inflammatory drug (NSAID). Hence the current study was to intend a floating delivery system of Etodolac by usingnatural polymers by Direct Compression method. All the composition was evaluated for hardness, friability, disintegration time and dissolution.The tablets which are disintegrated were discarded. The tablets which were able to float were further evaluated. In this gastro retentive dosageform using Xanthan gum, Guar gum and Pectin was prepared to develop a prolonged release tablets, that could retain in the stomach for longerperiods of time delivering drug to the site of action that is in the stomach. In-vitro dissolution studies of the formulations, it was concluded that theformulation F-3 which containing 150 mg of Xanthan gum, 85mg of NaHCO3, 9 mg of Mg. stearate, 9mg of Talc and Quantity sufficient of microcrystalline cellulose is the optimized formulation. Among all the formulation F-3 is prepared with Xanthan gum in Drug: Polymer ratio of 1:0.5. F-3exhibited 98.67±0.25% of drug release within 12 hours. As the result of this study it may fulfilled that the floating tablets using Xanthan gum is anatural polymer increases the GRT of the dissolution fluid in the stomach to deliver the drug in a persistent manner. The concept of formulatingfloating tablets of model drug offers a suitable and practical approach in serving preferred objectives of gastro retentive floating tablets.

Key words: Etodolac, Floating Tablets, Natural Polymers.

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41. Formulation design and development of Orodispersible tablets of Levetiracetam

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Levetiracetam is a medication used to treat epilepsy. It is used for partial onset, myoclonic or tonic clonic Seizures. It works by decreasingabnormal excitement in the brain. The Current research work is aimed at developing a formulate and evaluate of an orodispersible tabletdosage form of Levetiracetam. The target of these new oral dissolving/disintegrating dosage forms have generally been pediatric, geriatric,bedridden and developmentally disabled patients and also patients with persistent nausea, who are in traveling, or who have little or noaccess to water are also good candidates for ODTs Direct Compression method was employed for blending of drug with polymers in thegiven ratio as a Nine formulations. The prepared powder blends were then compressed into tablets using the necessary Superdisintegrants(CP, SSG and CCS) and Excipients. The tablets were evaluated for Weight variation, thickness, hardness, friability, Drug Content andDisintegrating Time (Sec) were subjected to a 20 minutes *in vitro* drug release studies (USP dissolution rate test apparatus II, 50 rpm, 370C±0.50C) using phosphate buffer, pH 6.8 as a dissolution medium (900ml). The amount of Levetiracetam released from the tablet formulationsat different time intervals was estimated using a UV spectroscopy method. The formulations that showed a considerable retardation of thedrug release are considered promising. Among the nine formulations, F5 formulation containing Drug to Sodium Starch Glycollate (SSG) andCross Povidone (CP) is optimized based on its ability to till 10 minutes of *in-vitro* dissolution time, and its Cumulative % drug release of the99.82±0.37% of dissolution study.

KEY WORDS: Levetiracetam, Orodispersible Tablets, Sodium Starch Glycollate, Cross Povidone.

42. The Constantly Highly Expression of Limbal Stromal Cells Compared to the Bone Marrow Mesenchymal Stromal Cells, Adipose-Derived Mesenchymal Stromal Cells and Foreskin Fibroblasts

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Limbal epithelial stem cells (LESC) have great potential in treating the blindness caused by corneal damage. LESC are maintained in stem cell niche called Palisade of Vogt. Limbal stromal (LS) cells are critical component of LESC niche and help in their self renewal. These cells resemble mesenchymal stromal/stem cells with multilineage differentiation potential. However little is known about their gene expression profile compared to MSC derived from various sources..

Keywords: limbal stromal cells; bone marrow mesenchymal stromal cells; adipose mesenchymal stem cells; gene expression profiling; microarray;limbal epithelial stem cells

43. Subcutaneous DL Technique Has Proven To Be an Adequate Host for HumanEmbryonic Stem Cells

Ampati Srinivas and Prasad Garrepally
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Islet transplantation has become an important treatment modality for Type 1 Diabetes Mellitus (T1DM); nonetheless, the proceduremay be limited by donor availability. An alternative has been the increasing use of cellular therapies derived from human EmbryonicStem Cells (hESC), showing very promising results in maturation, yield and ultimately, in insulin secretion in response to adequatestimuli. We recently developed a new technique for cellular transplantation under the skin. This manuscript evaluates the capabilities ofthe pre-vascularized Device-Less (DL) site to allow transplantation of Pancreatic Endoderm (PE) cells differentiated from hESC to treatdiabetes mellitus. Fifty immunodeficient mice, n = 25 diabetic and n = 25 non-diabetic, were transplanted with PE cells. Animals werefollowed for 22 weeks and grafts were retrieved to evaluate engraftment and subsequent maturation. Diabetic mice showed slightlybetter engraftment (48% vs. 36%, p = 0.19) and secreted higher concentration of human C-peptide upon glucose stimulation (0.32 ±0.15 ng/mL vs. 0.13 ± 0.09 ng/mL, p = 0.30), although differences were not significant. This maturation was not sufficient tosuccessfully reverse diabetes. Monomorphic cystic changes were detected in 12% and 8%, respectively (diabetics vs. non-diabetics, p =0.32) and all grafts seemed to be adequately contained by the surrounding collagen wall within the DL space. Our findings support thecapabilities of the DL site to host PE cells and allow safe maturation as a new strategy to treat diabetes.

Keywords: islet Transplantation; embryonic stem cells; cell engraftment; cell maturation

44. Novel Spectrophotometric Method Development for the Estimation of Boceprevir in Bulk and in Pharmaceutical Formulations

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ABSTRACT:

A New, Simple, Rapid and economical extractive spectrophotometric methods were developed for the determination of Boceprevir (anti-retroviral drug). Boceprevir is a direct acting protease inhibitor for the treatment of hepatitis C. It

also has two isomers in which the S isomer is more active than the R-isomer. The methods were based on the formation of color chromogens with Bromo cresol green, Bromo thymol blue, Bromo phenol blue and Methyl orange indicator. The extractive spectrophotometry was carried out with phthalate buffer and chloroform. The absorbances of the chromogens were measured at 410 nm and 415 nm against the corresponding reagent blank. The proposed methods have been successfully applied to the bulk drug. The method has been statistically evaluated and was found to be precise and accurate.

KEYWORDS: Anti-hepatitis, Anti-HIV, Chromogen, Boceprevir, Extractive spectrophotometry, Victerelis

45. Design, synthesis and biological evaluation of 5-[2(3)-dialkylamino alkoxy] indole 2,3-diones as new antihistamine agents

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Abstract
In the present work, some new *5*-[2(3)-dialkylamino alkoxy] Indole 2, 3-diones were preparedfrom 5-hydroxy isatin. A mixture of 5-hydroxy isatin, dialkylamino alkylhalide in alcoholicpotassium hydroxide was stirred at room temperature for 6 hours to get the *5*-[2(3)-dialkylaminoalkoxy] Indole 2,3-diones. The structures of the products were characterized by IR, NMR,MASS Spectral studies. All the compounds were evaluated for Antihistaminic activity byHistamine chamber method.

Key words: Synthesis, 5-[2(3)-dialky amino alkoxy] indole 2, 3-diones, antihistaminic activity.

46. Antihyperglycemic Effects of *Bombax malabaricum* Extracts in Alloxan-Induced Diabetic Rats

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ABSTRACT

Bombax Malabaricum is a medicinal shrub used in conventional therapy for a number ofdiseases including diabetes mellitus. The aim of the present study was to investigate theantihyperglycemic effects of aqueous and ethanol extracts of Bombax Malabaricum in alloxaninduced diabetic and normal rats. Rats were administered 100 and 200 mg/kg of aqueous andethanol bark extracts and 20 mg/kg glibenclamide po. The doses applied caused no acute toxicityor behavioral changes in study animals. Blood glucose was determined at 0, 1, 3 and 5 h(normal rats) and on days 0, 1, 3 and 5 (diabetic rats) after treatment. Various doses of extractssignificantly ($p \leq 0.05$) reduced the level of hyperglycemia in both normal and alloxan induceddiabetic rats. The effects of ethanol extracts on

glucose tolerance tests were significant (p≤0.05)and the hypoglycemic effects were pronounced from 30 to 180 min after treatment.

Key words: Bombax Malabaricum, diabetes mellitus, extract, hypoglycemic.

47. DISSOLUTION ENHANCEMENT OF A POORLY WATER SOLUBLE DRUG USINGWATER SOLUBLE CARRIERS

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Role of various water-soluble carriers was studied for dissolution enhancement of a poorly soluble drug,famotidine, using solid dispersion approach. Carriers like urea, mannitol and sorbitol were used for thispurpose. Characterization of the solid dispersions using FTIR and DSC techniques revealed distinct loss ofdrug crystallinity in the formulation, accounting for enhancement in dissolution rate. All the prepared soliddispersions showed dissolution improvement when compared with the pure drug to varying degrees. Amongthe carriers used urea showed better improvement in dissolution when compared with mannitol and sorbitol.

Keywords: Famotidine, Carrier, Solid dispersion, Characterization, Dissolution enhancement.

48. Design, Synthesis and Biological Evaluation of Methyl-2-(2-(Arylideneamino) Oxazol-4- Ylamino) Benzoxazole-5-Carboxylate Derivatives as New Antiinflammatory Agents

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ABSTRACT:
A series of novel methyl-2-(arylideneamino)oxazol-4ylamino)benzoxazole-5-carboxylate derivatives synthesized. Thestructures of these compounds were established by IR, 1H NMR, 13C NMR, Mass spectral data and elemental analysis.
Compounds were evaluated for their anti-inflammatory activity. Derivatives VIId and VIIe exhibited very good andalmost equal anti-inflammatory activity in carrageenan-induced rat paw edema method compared with the standarddrug Diclofenac Sodium.

KEYWORDS: Benzoxazole derivatives, IR, 1H NMR and Mass spectroscopy, methyl-2- (arylideneamino)oxazol-4ylamino) benzoxazole -5-carboxylate and anti inflammatory.

49. Synthesis and Anti-Inflammatory Activity of a Novel Series of Diphenyl-1,2,4-triazoles and Related Derivatives

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Abstract:
In the present investigation we have synthesized a series of new 1-[3-(4-substitutedphenyl)-5-phenyl-4H-1,2,4-triazol-4-yl]urea and 1-[3-(4-substitutedphenyl)-5-phenyl-4H-1,2,4-triazol-4-yl]thiourea derivatives **(4Ia -4IId)**. The newly synthesised derivatives were characterized by using the dataof IR, 1H NMR and Mass Spectral analysis. Thus synthesised andcharacterized targetted compounds were further screened for their anti-inflammatory activity by using Carrageenan – induced paw edema rat model.Among all the newly synthesized derivatives, Compounds **4Ia-4Ic** andCompounds **4IIa-4IId** were reduced the inflammation very significantly($p<0.0001$), thus these compounds showed promising anti-inflammatoryactivity and only one compound (**4Id)** showed moderate anti-inflammatoryactivity ($p<0.05$).

Keywords: 1,2,4-triazoles, IR, 1 H NMR, Mass Spectroscopy and anti-inflammatory activity.

50. EVALUATION OF FLOWERS OF *JASMINUM OFFICINALE* FOR ANTIBACTERIAL ACTIVITY

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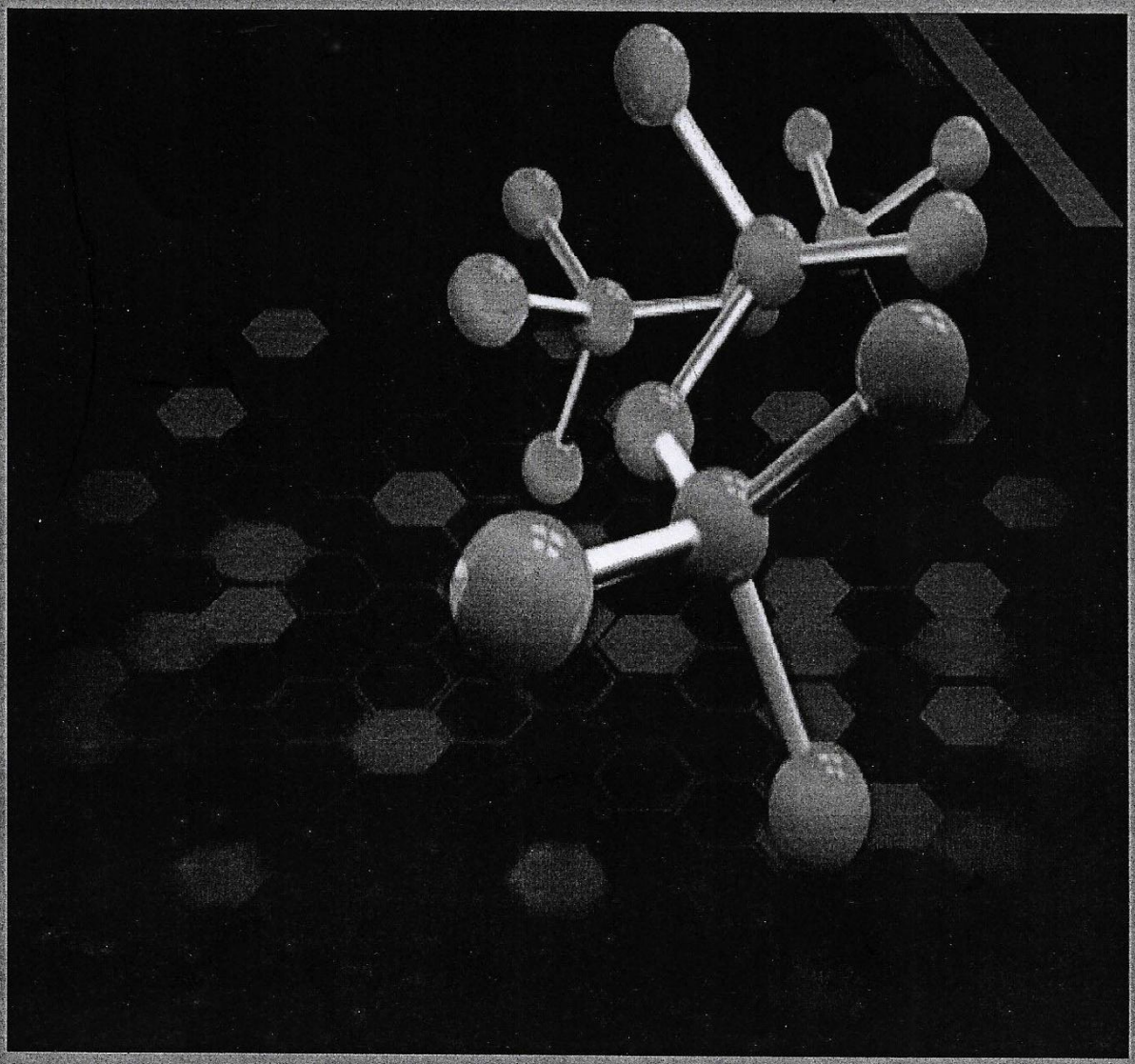
Abstract:
Jasminum officinale belongs to the family Oleaceae has been investigated for many pharmacologicalactions. Literature reports suggests that the Jasminum officinale can be used in mental depression,impotence, nervous tension, menstrual disorders and Jasminum officinale used as analgesic, antispasmodic,galactogogue etc,. Our objective of the present study is to evaluate the flowers of Jasminum officinale forantimicrobial activity. The antifungal activity has been studied against Candida albicans and Aspergillusnigerby Agar Cup Plate method, and antibacterial has been studied against Pseudomonas aeruginosa,Staphylococcus aureus, Klebsiella pneumoniae, Bacillus pumilis, P. vulgaris and E.coli by Cup Platemethod. n- butanol and chloroform extracts displayed a good antibacterial and antifungal activity.

Key words: Jasminum officinale n-butanol extract, chloroform extract, n-hexane extract, antibacterial activity, antifungal activity

PHARMACEUTICAL ORGANIC CHEMISTRY LAB MANUAL



Dr.AMPATI SRINIVAS
T.PRATHIMA

PHARMACEUTICAL ORGANIC CHEMISTRY

LAB MANUAL

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PHARMACEUTICAL ORGANIC CHEMISTRY LAB MANUAL

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Preface

This book has been designed to meet the demands of all categories of students of Chemistry.

The language of the book is very simple. Each chapter includes sufficient number of experiments and each experiment has been designed in a fashion that is essentially used by the students in writing their practical notebook. Nowadays experiments related to Spectroscopy and Chromatography are frequently encountered, and hence they have also been explained for easy comprehension by the students.

The book includes complete theory, reasoning and reactions of each experiment. Throughout the book, italic words or sentences have been used to draw attention of students to important things, making it easier for them to remember.

The book will also be helpful to the teachers and laboratory assistants in preparing solutions, reagents, indicators, etc.

In short, I have tried to provide a ready-made material to the students who can frequently use the book as a textbook of organic practicals. It will adequately fulfil the needs of the students and teachers. Suggestions for further improvement of the book will be welcome.

Dr. T.AMPATI SRINIVAS
M.Pharm.,Ph.D.
T.PRATHIMA
M.Pharm.,(Ph.D)

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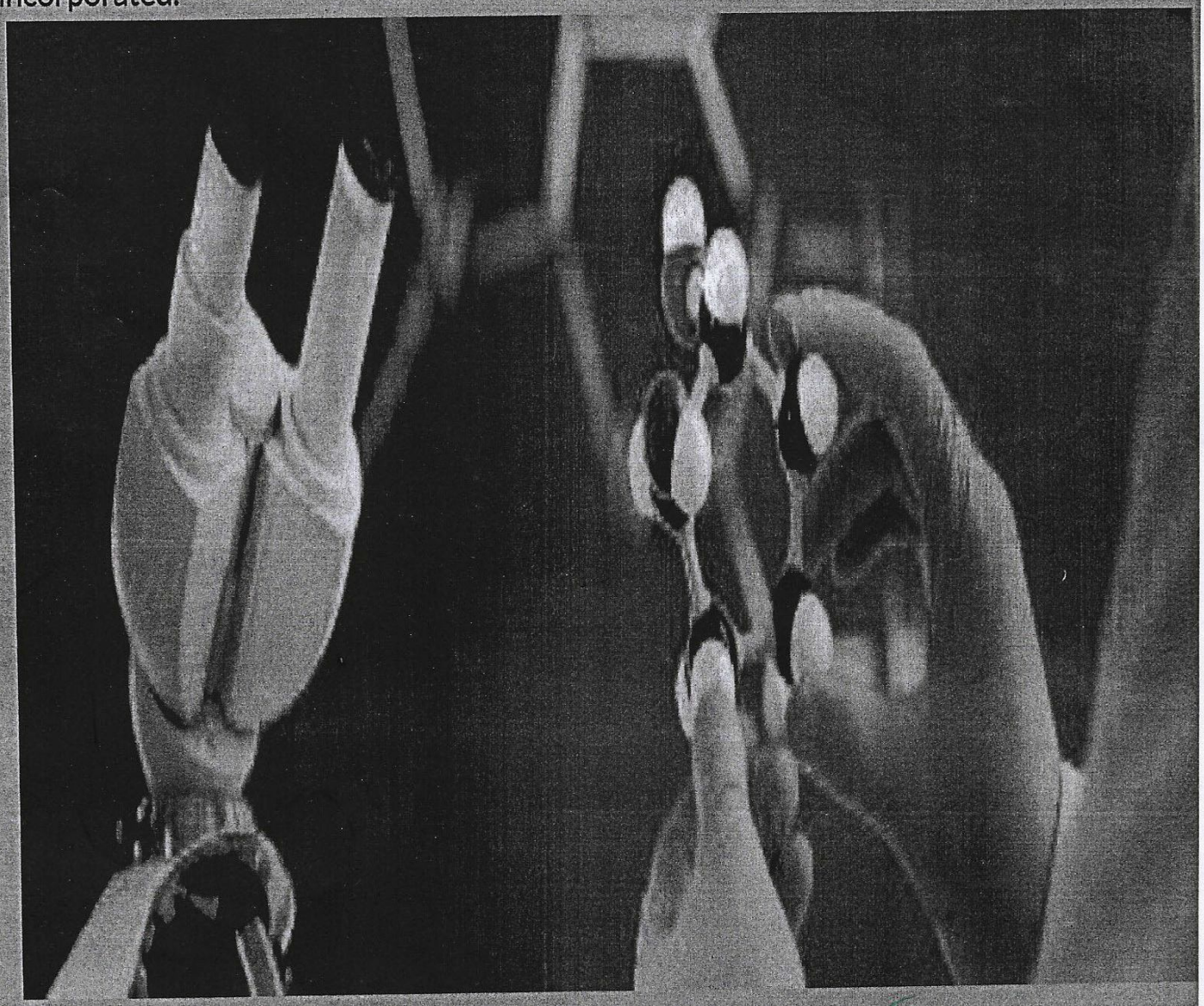
This book deals with general information about work in Organic Chemistry Laboratory, viz., safety, first aid, different types of apparatus and their assemblies used for various types of reactions, stirring arrangements, heating techniques and low temperature experiments. Various methods used for purification of organic compounds have been described. Besides the normal technique, the book includes write-up about molecular distillation, chromatography and electrophoresis. Special emphasis has been given to the methods, which can be used for working up of organic reactions. Various methods, which can be used successfully for isolation of products from natural sources, have been incorporated.



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Dr.Y.Ganesh*, P.Goverdhan Reddy, J. Andalu, MD. Ismail, Md. Parveen Sulthana

Unity College of Pharmacy, Raigir, Bhongir, Yadadri Bhongir, TS

2. **Formulation and Evaluation of Dicyclomine hydrochloride -Sustained Release Tablets**

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3. **ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FORSIMULTANEOUS ESTIMATION OF INDACA AND GLYCOINPHARMACEUTICAL DOSAGE FORMS BY RP-HPLC**

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5. **ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR OXETACAINE AND SUCRALFATE IN API AND COMBINED PHARMACEUTICAL DOSAGE FORMS BY RP-HPLC**

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M. Ravi, M. Navaneetha*, M. Shiva

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48. DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR THE ESTIMATION OF AGOMELATINE IN BULK AND TABLET DOSAGE FORM

V. Kiran, V. Vishwavani*, V. Swetha

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I. Rajeev, M. Navaneetha*, Md. Fazal

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50.SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF SOME N-(5-(2-ARYLIDENEHYDRAZINECARBONYL) BENZOXAZOL-2-YL) -2-(DIALKYLAMINO) ACETAMIDE DERIVATIVES

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1. FORMULATION AND EVALUATION OF FROVATRIPTAN -BUCCAL TABLETS

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Unity College of Pharmacy, Raigir, Bhongir, Yadadri Bhongir, TS

The point "of the present investigation was to create" buccal plan of Ftptn (Frovatriptan) & quot;Polymers were utilized in the grouping of quot; 5 mg, 7.5 mg and 10 "mg fixation". "Though from the disintegration contemplates it was clear that the plan (FPT2) indicated better and wanted medication discharge example i.e.,97.22 % in 12 hours"

2. Formulation and Evaluation of Dicyclomine hydrochloride -Sustained Release Tablets

Dr.Y.Ganesh*, P.Goverdhan Reddy, J. Andalu, MD. Ismail, V. Mounika

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The point of the present investigation was to create supported discharge definition of Dclhcld to keep up steady helpful degrees of the medication for more than 12 hrs .. Though from the disintegration contemplates it was obvious that the detailing (DCN7) demonstrated better and wanted medication discharge design i.e.,97.12 % in 12 hours . It pursued zero request discharge energy instrument.

Keywords: Dcl hcld ,Karaya gum, Chitosan ,Sodium CMC and sustained release tablets.

3. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FORSIMULTANEOUS ESTIMATION OF INDACA AND GLYCOINPHARMACEUTICAL DOSAGE FORMS BY RP-HPLC

Dr. M.Paul Richards*, M. Ravi, T. Soujanya, B. Sudhakar, G. Shilpa

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ABSTRACT

Another strategy was set up for concurrent assessment of Indaca and Glyco by RP-HPLCtechnique. The experimental situation were effectively produced for the partition of Indaca and Glyco by utilizing Xterra C18 5µm (4.6*250mm) 1ml/min, (0.05M) pH 4.6: ACN (55:45%v/v) (pH with orthophosphoric corrosive), location frequency was 255nm. PDA Detector 996, Empower-programming form 2.The systematic technique was approved by ICH rules. The linearity concentrate coefficient (r2) was discovered to be 0.999 and 0.999, % mean recuperation was discovered to be 100% and 100.5%, %RSD for repeatable was 0.7 and 0.4, %RSD for midway correctness was 0.18 and 0.39 personally.

KEY WORDS: Indaca, Glyco, RP-HPLC, validation.

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4. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR THE SIMULTANEOUS ESTIMATION OF LESINURAD AND ALLOPURINOL BY RP-HPLC METHOD

Dr. M.Paul Richards*, M. Ravi, T. Soujanya, B. Sudhakar, M. Madhavi

Unity College of Pharmacy, Raigir, Bhongir, Yadadri Bhongir, TS

ABSTRACT

Based on exploratory outcomes, the advised process is expropriate for the mensurable assurance of Lesinurad and Allopurinol in drug measurements structure. The technique gives extraordinary affectability, sufficient linearity and repeatability.The assessment of Lesinurad and Allopurinol was complete by RP-HPLC. The phosphorus protect was pH 2.5 and the potable level was advanced which contain of Acetonitrile: Phosphate support mix in the proportion of 80:20 % v/v. A Symmetry C18 (4.6 x 150mm, 5m, Make XTerra) segment utilized as fixed stage. The detect was done utilizing UV finder at 274 nm. The steady stream pace of 0.8 ml/min. the linearity scope of Lesinurad and Allopurinol were discovered to be from 25-125 g/ml. Straight relapse coefficient was not more than 0.999. The shifts from 97-102% of Lesinurad and Allopurinol LOD and LOQ was discovered to be inside limit. Lesinurad and Allopurinol in formulation.High level of recuperation shows that the strategy is liberated utilized in the detailing. So the strategy can be helpful in the normal medications.

KEYWORDS: Symmetry C18,Lesinurad and Allopurinol, RP-HPLC.

5. **ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR OXETACAINE AND SUCRALFATE IN API AND COMBINED PHARMACEUTICAL DOSAGE FORMS BY RP-HPLC**

Dr. M.Paul Richards*, M. Ravi, T. Soujanya, B. Sudhakar, B. Ajay

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ABSTRACT

The assessment of Oxetacaine and Sucralfate was perfected by RP-HPLC. The Phosphate support was pH 3.0 and the versatile advanced Methanol: Phosphate cushion blended in the proportion of 70:30 % v/v. Evenness C18 5µm (4.6*250mm) Make; waters or fixed stage. The recognition was completed utilizing UV locator at 260 nm. The arrangements were chromatographed at a consistent stream pace of 0.8 ml/min. the linearity scope of Oxetacaine and Sucralfate were discovered to be from 100-500 g/ml of Oxetacaine and 1-5g/ml of Sucralfate. Direct relapse coefficient was not more than 0.999.The estimations of % RSD are under 2% of the technique. The differs from 98-102% of Oxetacaine and Sucralfate. LOD and LOQ were discovered cutoff. The outcomes acquired on the approval

boundaries it gathered the strategy discovered to have appropriate examination with serious extent of exactness and accuracy.

KEYWORDS: Methanol: Phosphate buffer, Symmetry C18 column, Oxetacaine and Sucralfate, RP-HPLC

6. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF INDACATEROL AND GLYCOPYRROLATE IN PHARMACEUTICAL DOSAGE FORMS BY RP-HPLC

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ABSTRACT

A newmethodwas establishedfor simultaneous estimation of Indacateroland GlycopyrrolatebyRP-HPLCmethod.The chromatographicconditionsweresuccessfullydevelopedfortheseparationofIndacaterolandGlycopyrrolatebyusingXterraC185µm(4.6*250mm)column, flowrate was1ml/min, mobilephaseratiowas Phosphatebuffer(0.05M)pH4.6: ACN (55:45%v/v) (pH was adjusted with orthophosphoric acid), detection wavelengthwas 255nm.TheinstrumentusedwasWATERS HPLCAutoSampler,Separationmodule2695,PDA Detector996, Empower-softwareversion-2.Theanalyticalmethodwas validatedaccordingtoICHguidelines (ICH,Q2(R1)).ThelinearitystudyforIndacaterolandGlycopyrrolatewas found in concentration range of 1µg-5µg and 100µg-500µg and correlation coefficient(r2)was foundtobe 0.999and 0.999,%mean recoverywasfoundtobe100%and100.5%,%RSDforrepeatabilitywas0.7and0.4,%RSDforintermediateprecision was0.18and 0.39respectively.

KEY WORDS: Indacaterol,Glycopyrrolate,RP-HPLC, validation.

7. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR THE SIMULTANEOUS ESTIMATION OF LESINURAD AND ALLOPURINOL BY RP-HPLC METHOD

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ABSTRACT

On the basis of experimental results, the proposed method is suitable for the quantitative determination of Lesinurad and Allopurinol in pharmaceutical dosage form. The method provides great sensitivity, adequate linearity and repeatability.The estimation of Lesinurad and Allopurinol was done by RP-HPLC. The Phosphate buffer was pH 2.5and the mobile phase was optimized which consists of Acetonitrile: Phosphate buffer mixed in the ratio of 80:20 % v/ v. A Symmetry C18 (4.6 x 150mm, 5µm, Make XTerra) column used as stationary phase. The detection was carried out using UV detector at 274 nm. The solutions were chromatographed at a constant flow rate of 0.8 ml/min. the linearity range of Lesinurad and Allopurinol were found to be from 25-125µg/ml. Linear regression coefficient was not more than 0.999.The values of %RSD are less than 2% indicating accuracy and precision of the method.The percentage recovery varies from 97-102% of Lesinurad and Allopurinol LOD and LOQ was found to be within limit.The proposed method is precise, simple and accurate to determine the amount of Lesinurad and Allopurinol in formulation.High percentage of recovery shows that the method is free from the interference of excipients used in the formulation. So the method can be useful in the routine quality control of these drugs.

KEYWORDS: Symmetry C18,Lesinuradand Allopurinol, RP-HPLC.

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8. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FOR OXETACAINE AND SUCRALFATE IN API AND COMBINED PHARMACEUTICAL DOSAGE FORMS BY RP-HPLC

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ABSTRACT

High performance liquid chromatography is at present one of the most sophisticated tool of the analysis. The estimation of Oxetacaine and Sucralfate was done by RP-HPLC. The Phosphate buffer was p^H3.0 and the mobile phase was optimized with consists of Methanol: Phosphate buffer mixed in the ratio of 70:30 % v/ v. Symmetry C18 5µm (4.6*250mm) Make; waters or equivalent chemically bonded to porous silica particles was used as stationary phase. The detection was carried out using UV detector at 260 nm. The solutions were chromatographed at a constant flow rate of 0.8 ml/min. the linearity range of Oxetacaine and Sucralfate were found to be from 100-500 µg/mlof Oxetacaine and 1-5µg/ml ofSucralfate. Linear regression coefficient was not more than 0.999.The values of % RSD are less than 2% indicating accuracy and precision of the method. The percentage recovery varies from 98-102% of Oxetacaine and Sucralfate. LOD and LOQ were found to be within limit.The results obtained on the validation parameters met ICH and USP requirements .it inferred the method found to be simple, accurate, precise and linear. The method was found to be having suitable application in routine laboratory analysis with high degree of accuracy and precision.

KEYWORDS:Methanol: Phosphate buffer,Symmetry C_{18} column,Oxetacaine and Sucralfate,RP-HPLC.

9. FOMULATION AND EVALUATION OF FENTANYL CITRATE – BUCCAL TABLETS

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Abstract

Fentanyl, a powerful narcotic agonist, was created during the 1950s to fill a requirement for solid and fast absense of pain. Due to these qualities, fentanyl is generally used to treat persistent malignant growth torment or in sedation. Fentanyl is identified with other narcotics like morphine and oxycodone. Fentanyl's high strength has additionally made it a typical debasement in unlawful

medications, particularly heroin. In 2017, 47600 excess passings in the United States included some narcotic (more than 2/3 of all excess passings). Narcotic excesses execute a normal of 11 Canadians day by day. Present study is to formulate buccal tablets of fentanyl citreate FNCT2 is the optimized formulation with 97.64%. Key Words: fentanyl citreate, buccal tablets.

10. ANASTROZOLE-ORAL THIN FILMS

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Abstract

Anastrozole is a non-steroidal aromatase inhibitor (AI), like letrozole, used to diminish coursing estrogen levels in the therapy of postmenopausal ladies with estrogen-responsive bosom cancer. Anastrozole is likewise identified with exemestane, a steroidal AI, however its non-steroidal nature gives obvious preferences including an absence of steroid-related antagonistic impacts, for example, weight acquire and acne.4 Aromatase inhibitors, including anastrozole, have become endocrine medications of decision in the therapy of postmenopausal bosom malignancy because of a more great viability and unfavorable impact profile when contrasted with before estrogen receptor modulators, for example, tamoxifen. In the. In the current examination anastrozole oral thin films were set up in which ANSTZL3 indicated better consequences of 97.06% contrasted with other.

Key words: anastrozole, oral thin films

11. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION FORNIMESULIDE AND SERRATIOPEPTIDASE IN COMBINE DOSAGE FORMS BY RP –HPLC METHOD

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ABSTRACT

Another strategy was set up for synchronous assessment of Nimesulide and Serratiopeptidase by RP-HPLC technique. The chromatographic conditions were effectively created for the division of Nimesulide and Serratiopeptidase by utilizing Xterra C_{18} 5µm (4.6*250mm) section, stream rate was 1ml/min, portable stage proportion was Phosphate support (0.05M) pH 4.6: ACN (55:45%v/v) (pH was changed with orthophosphoric corrosive), identification frequency was 255nm.

KEYWORDS: Xterra C_{18}, Nimesulide and Serratiopeptidase , RP-HPLC

12. METHOD DEVELOPMENT AND VALIDATION FOR FLAVOXATE HCL AND OFLOXACIN IN BULK AND ITS PHARMACEUTICAL DOSAGE FORMS BY USING RP-HPLC AS PER ICH GUIDELINES.

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ABSTRACT

Another of Flavoxate hcl and Ofloxacin by RP-HPLC technique. The chromatographic conditions created for the division of Flavoxate hcl and Ofloxacin by utilizing Agilent C18 section (4.6×150mm) 5µ, 1ml/min, versatile (70:30 v/v) methanol: Phosphate support (KH2PO4and K2HPO4) pH 3 (pH was changed with orthophosphoricacid), discovery frequency was 254nm.

Key words: Flavoxate hcl ,Ofloxacin, RP-HPLC,Methanol

13. RP-HPLC METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF DICLOFENAC POTASSIUM AND DICYCLOMINE HYDROCHLORIDE IN BULK AND PHARMACEUTICAL DOSAGE FORMS

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ABSTRACT

Superior fluid chromatography is at present quite possibly device of the investigation. The assessment of Diclofenac potassium and Dicyclomine hydrochloride was finished by RP-HPLC. The Phosphate support was pH 3.0 and the portable stage was enhanced Methanol: Phosphate cushion 70:30 % v/v. Inertsil C18 segment C18 (4.6 x 150mm, 5m) or comparable particles was utilized as fixed stage. The recognition was completed utilizing UV finder at 260 nm.

KEYWORDS: Inertsil C18, Diclofenac potassium and Dicyclomine hydrochloride, RP-HPLC

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14. METHOD DEVELOPMENT AND VALIDATION FOR ESOMEPRAZOLE AND DOMPERIDONE IN BULK AND ITS PHARMACEUTICAL DOSAGE FORMS BY USING RP-HPLC AS PER ICH GUIDELINES

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ABSTRACT

Chromatography is at present perhaps the most refined device of the examination. The assessment of Esomeprazole and Domperidone was finished by RP-HPLC. Inertsil C18 section C18 (4.6 x 150mm, 5m) or comparable artificially attached to permeable silica particles was utilized as fixed stage.

KEYWORDS: Inertsil C18, Esomeprazole and Domperidone, RP-HPLC

15. METHOD DEVELOPMENT AND VALIDATION FOR ESOMEPRAZOLE AND DOMPERIDONE IN BULK AND ITS PHARMACEUTICAL DOSAGE FORMS BY USING RP-HPLC AS PER ICH GUIDELINES

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ABSTRACT

High performance liquid chromatography is at present one of the most sophisticated tool of the analysis. The estimation of Esomeprazole and Domperidone was done by RP-HPLC. The Phosphate buffer was p H 3.0 and the mobile phase was optimized with consists of Methanol:Phosphate buffer mixed in the ratio of 70:30 % v/ v. Inertsil C 18 column C18 (4.6 x 150mm,5um) or equivalent chemically bonded to porous silica particles was used as stationary phase. The detection was carried out using UV detector at 260 nm. The solutions were chromatographed at a constant flow rate of 0.8 ml/min. the linearity range of Esomeprazole and Domperidone were found to be from 100-500 □g/ml of Esomeprazole and 1-5□g/ml of Domperidone. Linear regression coefficient was not more than 0.999.The values of % RSD are less than 2% indicating accuracy and precision of the method. The percentage recovery varies from 98-102% of Esomeprazole and Domperidone. LOD and LOQ were found to be within limit.The results obtained on the validation parameters met ICH and USP requirements .it inferred the method found to be simple, accurate, precise and linear. The method was found to be having suitable application in routine laboratory analysis with high degree of accuracy and precision.

KEYWORDS: Inertsil C 18, Esomeprazole and Domperidone, RP-HPLC

16. RP-HPLC METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUSESTIMATION OF DICLOFENAC POTASSIUM AND DICYCLOMINE HYDROCHLORIDEIN BULK AND PHARMACEUTICAL DOSAGE FORMS

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ABSTRACT

High performance liquid chromatography is at present one of the most sophisticated tool of the analysis. The estimation of Diclofenac potassium and Dicyclomine hydrochloride was done by RP-HPLC. The Phosphate buffer was p H 3.0 and the mobile phase was optimized with consists of Methanol: Phosphate buffer mixed in the ratio of 70:30 % v/ v. Inertsil C 18 column C18 (4.6 x 150mm, 5um) or equivalent chemically bonded to porous silica particles was used as stationary phase. The detection was carried out using UV detector at 260 nm. The solutions were chromatographed at a constant flow rate of 0.8 ml/min. the linearity range of Diclofenac potassium and Dicyclomine hydrochloride were found to be from 100-500 ug/ml of Diclofenac potassium and 1-5ug/ml of Dicyclomine hydrochloride . Linear regression coefficient was not more than 0.999.The values of % RSD are less than 2% indicating accuracy and precision of the method. The percentage recovery varies from 98-102% of Diclofenac potassium and Dicyclomine hydrochloride . LOD and LOQ were found to be within limit.The results obtained on the validation parameters met ICH and USP requirements .it inferred the method found to be
simple, accurate, precise and linear. The method was found to be having suitable application in routine laboratory analysis with high degree of accuracy and precision.

KEYWORDS: Inertsil C 18, Diclofenac potassium and Dicyclomine hydrochloride, RP-HPLC

17. Formulation And In-Vitro Evaluation Of Flutrimazole Microspheres Loaded Transdermal Gel

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ABSTRACT

Flutrimazole is an imidazole antifungal specialist that is imidazole in which the hydrogen connected to the nitrogen is supplanted by a 2,4'- difluorotrityl bunch. An effective antifungal specialist which shows strong expansive range in vitro movement against dermatophytes, filamentous parasites and yeasts. F9 showed greatest rate drug arrival of 97.38 subsequently it was considered as the enhanced definition.

Key words: Flutrimazole

18. Formulation And In-Vitro Evaluation Of Doxepin Oral Dispersible Tablets

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ABSTRACT

Doxepin oral dispersible tablets were prepared and evaluated total 9 formulations were 4 2 prepared among them DXPN4 with 98.09% drug release is the optimized formulation

Key words: Doxepin, oral dispersible tablets

19. Design And Invitro Characterization Of Nifedipine Sublingual Tablets

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ABSTRACT

Nine formulations of nifedipine sublingual tablets were prepared and evaluated NDPN4 with 97.04% is the optimized formulation.

Key words: nifedipine, sublingual tablets

20. Design development and invitro characterization of Misoprostol tablets for gastro 5 retentive drug delivery system

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ABSTRACT

Nine formulations of misoprostol gastro retentive floating tablets were prepared and 6 2 evaluated among the nine formulations MSP8 with 98.57% drug release is the optimized formulation. Key words: misoprostol, gastro retentive floating tablets

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21. DESIGN AND IN-VITRO CHARACTERIZATION OF TOLVAPTAN ORAL DISPERSIBLE TABLETS

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ABSTRACT

In the present audit, an undertaking was made to encourage speedy disintegrants tablets of Tovaptan, to investigate the effect of superdisintegrants obsession with the release profile of the prescription in the tablets amon the 9 tolvaptan oral dispersible tablets formulations TVP2 with 97.72% drug release is the optimized formulation

Key words: Tolvaptan, oral dispersible tablets

22. EVALUATE THE ANTI DIABETIC ACTIVITY AND BENEFICIAL EFFECTS IN DIABATIC NEUROPATH

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Diabetes Type II is comprising 90-95%based on . Retarding insulin is a common effect I n those individuals destined to develop diabetes, -cell ability declines, Figure 1:Pathways of insulin signaling3Figure 2: Overview of insulin action. Aim & Objectives: The evaluation of Trigollagraemfor activity in rats. Materials Mate rials source Sodium citrate Virat labs, Hyd, India Diethyl ether Finar chemicals limited, Ahmadabad. Equipments us ed Centrifuge RemiequipmentsPvt, Ltd, Hyd, India. 1 Shimadzuelectronic balance Toshvin Analytical Pvt. Ltd, India Plant Utilizing ExtractTrigollagraem Pharmacologicaleffects of Trigollagraem:Analgesic,anti adhesive, against carci nogenic, antioxidantizing, antiplatleticactivity,hepatoprotectiveactivity,insulinsensitizing&lipidloweringaction s. ME THODOLOGY Collection and Authentification of Plant Material Parts of Trigollagraem collected . . 210grams pow der utilized by 750 ml of ethanol in RBF, contents sealed 7 days shaked and filtred Evaporation of Solvent Filtrate gotwasstiilevaporated using Rotary evaporator in a porcelain dish. concengumextract of black kept in vaccumdisseca tor for 7 days. 1 Weight of the china dish with extract = 73. 24gm Weight of the extract obtained = (73. 54 gm % yiel d of ethanol extract =

(weight of extract)/(powder taken for extraction) × 100 = 24. 27 %. Phenolic Constituents Extr acts Aerial Parts of Trigllagraeum

23. Design and Development of Modified Release Solid Oral Dosage Form

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A B S T R A C T

The present research work focuses on design and development of modified Release solid oral dosage form.entacapone: basedon assessment of various parameters, in vitro drug dissolution profile and drug kinetics, hf14 was found to be optimizedformulation.FT-IR & DSC studies revealed that there was no interaction between the drug and polymers used in theformulations. The drug release from hf14 was found to fit zero order of concentration independent and best fitted to higuchiemodel confirming to be diffusion assisted mechanism. Based on the mucoadhesive study, the optimized dosage formadhesive to gastro intestinal tract more than 12 hours. The marketed product released by first order kinetics by concentrationdependent. In vivo bioavailability studies were conducted for optimized entacapone trilayer tablets and marketed product, theresults were indicating that the optimized entacapone formulation was shown sustained release patterns where marketedproduct was shown immediate release.

Keywords: Polyalthia Suberosa Roth, anti-diabetic activity, Alloxan induced diabetes, Glibenclamide, serum glucose level

24. Design and Characterization of Mouth Dissolving Tablets of Zolmitriptan Using Novel Super Disintegrants

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A B S T R A C T

The present study was carried out on Zolmitriptan Mouth dissolving tablets were prepared by direct compression method anddifferent concentration super disintegrants like croscarmellose sodium, polyplasdone XL and Explotab were used in mouthdissolving tablets. A total of 9 formulations were prepared and evaluated for various pre and post compression parameterslike angle of repose, bulk density, tapped density, carr's index, hausner's ratio, weight variation, hardness,

friability,thickness, wetting time, water absorption ratio, drug content, in vitro disintegration time, in vitro drug release. The in vitrodisintegration time of the optimized formulation (F4) of Zolmitriptan was found to be 7 sec. Release rate of drug was 97.54%within 10 minutes. FTIR studies showed good compatibility between drug and excipients.

Keywords: Zolmitriptan, croscarmellose sodium, polyplasdone XL, Explotab

25. Bioavailability enhancement of paclitaxel by cocrystal technology

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ABSTRACT

Objective: The objective of the present study is to prepare a better form of paclitaxelcocrystal with improved solubility. Paclitaxel (PTX) is a class-4 drug; this drug haslow aqueous solubility and high affinity for P-gp. Available formulation are IVbased and using our research work with advantages of co-crystal technology towardsthe enhancement of paclitaxel solubility and thereby its bioavailability (1) and alsoto improve the patient compliance.Methods: Naringen was selected based on their chemical nature and its ability toinhibit P-gp, solvent assisted grinding method used to prepare the cocrystals, andprepared cocrystals were subjected to solid state characterization to determine thecrystal structure of the cocrystals, as this can provide significant new insights intohow the drug and coformer interact, and thereby provide an excellent crystalengineering guide to new cocrystals, potentially with improved properties.Instruments like Fourier transform infrared spectroscopy(FTIR), differentialscanning calorimetry, X-ray powder diffraction will be used to determine theirstability and any phase transformations (including decomposition) which they mightundergo as a function of temperature.Results: Principle involved in the formation of cocrystal is hydrogen bondingbetween C=O and N-H group of drug and COOH groups of coformers, which isconfirmed by FTIR data and DSC experiments were carried out to study the meltingpoint and heat of enthalpy of the cocrystals. Results clearly shows that the meltingpoint of the cocrystals was increased which confirms the formation of cocrystals.The drug and formation of cocrystals are explained by the X-ray powder diffractionpatterns. The PXRD patterns of the pure drug showed sharp, well-definedpeaks(spectrum attached) and cocrystals PXRD patterns shows that there is asignificant difference in the entire diffraction pattern, changes in peak locations withrespect to pure drug indicates a change in the arrangement of molecules, henceconfirms the development of new crystalline phase.

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Conclusion: The results obtained from the above experiments clearly shows the formationof cocrystals with improved solubility.

Keywords: Paclitaxel, Cocrystals, Solid state characterization, Naringin

26. Formulation and evaluation of sitagliptin phosphate and Anti-CD20mAb trilayered tablets.

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A b s t r a c t

Sitagliptin phosphate when used alone is an oral anti hyperglycemic drug of thedipeptidyl peptidase-4 (DPP-4) inhibitor class. It is available as tablets under trade nameJANUVIA. Anti-CD20mAb is used alone in the form of biguanide anti hyperglycemicagent for treating non- insulin-dependent diabetes mellitus (NIDDM) and is available asboth conventional and sustained release tablets. The objective of the present study was todevelop a trilayered tablet of immediate release Sitagliptin phosphate layer and sustainedrelease Anti-CD20mAb layer. Apart from the aesthetic appeal this trilayered tablet isexpected to improve glucose tolerance in patients with the type 2 diabetes by loweringboth basal and postprandial plasma glucose, reducing the dose, reducing frequency ofadministration and dose related gastrointestinal side effects of Anti-CD20mAb and improveits bioavailability thus improving the patient compliance. Anti-CD20mAb has biologicalhalf-life of nearly 6 hours. An attempt was made to sustain its release by using twodifferent polymers in two layers. Preformulation studies including drug excipientcompatibility studies were conducted for both drugs. Different formulations ofsustained release Anti-CD20mAb HCl tablets were prepared by using a combination ofhydrophilic polymers like HPMC K100, HPMC K4M, HPMC K15 M, pH sensitivepolymer Carbopol 971P, retarding polymer Ethyl cellulose and Low substituted hydroxyl propyl cellulose. Sitagliptin immediate release formulations were prepared using crosspovidone, croscarmellose sodium and sodium starch glycolate as super disintegrants.The tablets were evaluated for all physico chemical parameters like angle of repose,bulk density, tapped density, Hausners ratio and carrÊs index. Based on the invitrodissolution data the formulations SF6, MF9 and MF8 were found to be the optimizedformulations for Sitagliptin phosphate and Anti-CD20mAb formulations respectively.Trilayered tablets were prepared by first preparing Anti-CD20mAb HCl layers namelyMF3 and MF8 using lesser compression force. The final compression was made byplacing Sitagliptin IR layer (SF6) on the Anti-CD20mAb layers with final hardness of6.5 kg and evaluated. The IR layer of Sitagliptin phosphate layer disintegrated in 54.67sec from the trilayered tablet. In

vitro dissolution studies of Trilayered tablet wereperformed in USP type II apparatus. The cumulative % drug release of Sitagliptinphosphate SF6 was found to be 99.65% at 30 min and Anti-CD20mAb HCl MF3 andMF8 was found to be 98.72 % at 12 hrs. From the study it is found that the formulationsmade from MF3 and MF8 combination of HPMC K15M and HPMC K4M polymersand SF6 Sodium starch glycolate used as super disintegrant was found to show optimumproperties of required drug release.

Keywords: Hyperglycemia, Anti-CD20mAb HCl, Sitagliptin Phosphate, Trilayered tablet.

27. A RAPID DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR SIMULTANEOUS ESTIMATION OF MIGLITOL AND METFORMIN HYDROCHLORIDE IN PURE AND PHARMACEUTICAL DOSAGE FORM

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ABSTRACT

A simple, accurate, precise and rapid reversed-phase high performance liquid chromatographic (RP-HPLC) method has been developed and subsequently validated for the simultaneous estimation of Miglitol and Metformin Hydrochloride and in pure and tablet formulation. The proposed method is based on the separation of the two drugs in reversed-phase mode using zorabax c18 analytical column (250×4.6 mm I.D., 5 µm particle size). The optimum mobile phase consisted of Phosphate buffer of (pH 4.0): Methanol in the ratio of 80:20 v/v was selected as a mobile phase, flow rate of 1.0 ml/min and UV detection was set at 251 nm.

The retention times were 3.045 and 4.460 min for Miglitol and Metformin Hydrochloride respectively. The method was validated according to ICH guidelines. It was found to be accurate and reproducible. Linearity was obtained in the concentration range of 50-150 µg/ml for Miglitol and 50-150 µg/ml Metformin Hydrochloride. Mean percent recovery of samples at each level for both drugs were found in the range of 100%. The proposed method can be successfully applied in the quality control of bulk and pharmaceutical dosage forms.

28. FORMULATION DEVELOPMENT AND INVITRO EVALUATION OF ESCITALOPRAM IMMEDIATE RELEASE TABLETS

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ABSTRACT

The aim of this study is to formulate and significantly improve the bioavailability andreduce the side effects of immediate release tablets Escitalopram.The precompression blendsof Escitalopram were characterized with respect to angle of repose, bulk density, tappeddensity, Carr's index and Hausner's ratio. The precompression blend of all the batchesindicates good to fair flowability and compressibility. Immediate release tablets werepreprepared with various polymers like PEG 6000, Croscarmellose sodium and Sodium-starchglycolate at different concentration ratios and were compressed into tablets. The formulatedtablets were evaluated for various quality control parameters. The tablets were passed alltests. Among all the formulations F7 formulation containing, drug and Croscarmellosesodium showed good result that is 98.12 % in 45 min. Hence from the dissolution data it wasevident that F7 formulation is the better formulation. By conducting further studies likeinvitro studies.

Key words : Escitalopram, PEG 6000, Croscarmellose sodium and Sodium-starch glycolate,

Immediate release.

29. Synthesis and Design of pyridines as novel Antimicrobial agents

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Abstract:

The compound substituted benzamides (A) will be obtainedby treatment of 1H-imidazo[4,5-b]pyridine-2-amine with some substituted benzoylchlorides in ethanol. This on treatment with PCl_3 in oil bath at 120 ^{O} C to gives unstableintermediate compound (B). This unstable intermediate compound on stirring with a coldsolution of azide in sodium acetate affords the corresponding pyridines (C) in good yields. All the synthesizedcompounds were tested for antimicrobial activity by using cup and plate method by using Ampicillin sodium and ketoconazole as standards respectively. Among all the tested compounds compound Cc and Cg showed more potent antibacterial activity and compound Ci and compound Cj showedpotent antifungal activity when compared with standards respectively.

Key Words:, pyridine, IR Spectrum, NMR Spectrum, Mass Spectrum, Antibacterial,Antifungal

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30. Evaluate the antipyretic, analgesic and anti-inflammatory activities of merremeia emerginata on male wistar rats

P. Sujitha, P. Goverdhan Reddy*, G. Shalini
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TheDiclofenac isusedasstandardanalgesicdrugsignificantlyreducedthenumberofwrithingandthe percentageinhibitionwas.Thepet-etherextractandwaterextractbothatthedoseof100and200 mg/kg(p.o)failedtoreduce numberofwrithings.Theseresultsindicatedthat bothextractsdonotpossesssignificantanalgesicactivity inthismodel. TheDiclofenac sodium whichis used as standard drug inhibited the inflammation inducedbyformalintotheextentof49%at fourthhour.Thewaterextractof*Merremia*

*Emerginata*atthedoseof100mg/kgp.o.inhibitedtheinflammation by28% at2nd hour,where asat200mg/kg doseit significantlyinhibitedtheinflammationtotheextentof34%at2nd hour.These results indicates that water extract possess significant anti-inflammatory activity.Thepet-etherextractatbothdosesof100and500mg/kgp.o.hasfailedtoexhibit anti-inflammatory effect informalinpawedemamethod. The diclofenac sodium,which isused as standardanti-inflammatorydrug,reduced theinflammationto theextentof59%at 4thhour.ThewaterextractofMerremiaemerginata atthedoseof100mg/kg(p.o)reduced theinflammationinducedbyCarageenentotheextentof30%at2nd hour.Thesameextractatthedoseof200mg/kg(p.o)also significantlyreducedthe inflammationdosedependently.Thepeakeffectwasobservedat2nd hour and percentagereductionofinflammationwas39%. Interestingly,the ether extract of Merremia emerginata found to exhibit significantanti-inflammatoryactivityinratstestedbyCarageeneninducedinflammation method.

31. Pharmacological Activity of Vitis vinifera leaves aqueous extract

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Flavonoids (specifically flavonoids such as the catechins) are "the most common group ofpolyphenolic compounds in the human diet and are found ubiquitously in plants". Flavonols,the original bioflavonoids such as quercetin, are also found ubiquitously, but in lesser quantities.The widespread distribution of flavonoids, their variety and their relatively low toxicitycompared to other active plant compounds (for instance alkaloids) mean that many

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animals,including humans, ingest significant quantities in their diet. Preliminary research indicates thatflavonoids may modify allergens, viruses, and carcinogens, and so may be biological "responsemodifiers". In vitro studies show that flavonoids also have antiallergic, anti-inflammatory,anti-microbial, anti-cancer, and anti-diarrheal activities. GABA is the most important inhibitory neurotransmitter in the human central nervous system.GABA is involved in epilepsy, sedation and anxiolysis, and works via binding to GABA-Areceptors. GABA-A receptors are heteromeric GABA-gated chloride channels. The transmembrane ion channel is opened by a stimulus generated by GABA, which allows an influx ofchloride ions. This results in a decrease of the depolarizing effects of an excitatory input, therebydepressing excitability. As a result the cell is inhibited and an anticonvulsant, sedative oranxiolytic activity is achieved. GABA potentiating action of Flavonoids is the reason for basis ofthis study. This study employed Maximal Electro Shock method for inducing Epilepsy in rats.From the study the flavonoids present in aqueous and hydro alcoholic extracts decreased theExtensor period of Epilepsy. And Within the extracts, Hydro alcoholic extract has showndecreased extensor period than that of aqueous extract. These study further warrants to carry outthe biochemical, neurochemical changes in brain. Further we can confirm the putative role ofFlavonoids in Vitis vinifera in Epilepsy.

32. Comparative Studies for Enhancement of the Dissolution Profile of Pitavastatin

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Abstract:

The main objective of the present study is to enhance the solubility, dissolution rate, bioavailability of waterinsoluble drug pitavastatin by liquisolid technology and solid dispersions. The liquisolid compacts were preparedby different ratios of polyethylene glycol 400 as a non volatile liquid vehicle, micro crystalline cellulose used ascarrier material and colloidal silicon dioxide as coating material. Solid dispersions were prepared by differentratios (1:2, 1:4, 1:6, 1:8) of poly ethylene glycol 6000 as carrier. All these formulations were characterized fordifferent physical parameters to comply with pharmacopoeial limits. *Invitro* dissolution profiles of liquisolidformulation, solid dispersions were studied and compared with that of pure pitavastatin tablet formulation in0.1N HCL. It was found that liquisolid formulation tablets formulated with microcrystalline cellulose showedpercentage drug release 63±2.42 at 5min and they showed significant higher drug release rates than pure drug13±1.44 due to increase in wetting properties and surface of drug available for dissolution. FTIR spectral studiesshowed that there is no interaction between the drug and excipients.

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Key words:

Liquisolid technologies, solid dispersions, pitavastatin, PEG6000.

33. Formulation and Development of Fast Dissolving Tablets (FDTS) of Sumatriptan Succinate Using Simple and Cost Effective Technique

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Abstract:

The basic need of this study is to develop an fast dissolving tablet of sumatriptan succinate used in the treatmentof migrain ,with an aim of reduces the lag time and providing faster onset of action. Present investigation is toformulate fast dissolving tablets (FDTs) of sumatriptan using simple and cost effective technique. The tablets wereprepared by direct compression method using superdisintegrants such as poly plasdone XL, polacrilin potassium,primogel,L-HPC and pregelatinized starch, with pearlitol SD 200 and Spraydried lactose as diluent. Improve thepalatability of the drug with sweetening agent and flavor. Find out the suitable diluent and disintegrantcombination, to formulate the fast dissolving tablets of sumatriptan succinate. Formulation (F14) withpolyplasdone 5% was considered as the optimized fast dissolving tablets. It shows drug release of 92.00% of drugin 5 min and 98.17% in 10min. These results were comparable with the marketed product suminat-25. Based onthe optimization results it is concluded that the objective of formulating fast dissolving tablets containingsumatriptan succinate was achieved by simple and cost effective technique.

Key words:

Sumatriptan succinate, Primogel,L-HPC, Pearlitol SD 200 and Polacrilin potassium

34. **Formulation and evaluation of Mouth DissovingTablets of Amlodipine Bisylate**

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The present work was designed to formulate and evaluate the oral disintegrating tablets of Amlodipine besylate byusing different synthetic polymers. The Fast dissolving drug delivery systems, with an aim of improvedisintegration and bioavailability, patient compliance, less side effects of the drug when compared to theconventional dosage forms. To carry out pre-formulation study of excipients and their compatibility with the API.Development of various formulations and preparation of ODT's by direct compression technique. An attempt ismade for ODT tablets of

Amlodipine which is used in the treatment of hypertention by using the superdisintegrants Cross Povidone, Sodium Starch Glycolate, Cross Carmellose Sodium by Direct Compression method.Suitable analytical method based on UV-Visible spectrophotometer was developed for Amlodipine. λmax of 367nm was identified in phospate beffer solution pH 6.8 . The formulated tablets were evaluated and all the F9formulations has passed the pharmacopieal standards. Among all the trials F6 (Drug : Cross Carmellose Sodium)in 1:2 ratio has shown the good in vitro drug release rate i.e about 98.20 %. The data was fitted in the curvefitting analysis. Hence the CCS is better suitable for drug release than other polymers

Key words:

Amlodipine besylate, UV-Visible spectrophotometer, Pharmacopieal standards & ODT tablets.

35. Formulation and evaluation of Floating Bioadhesive Matrix tablets of Amoxicillin Trihydrate

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The present work involves the design and evaluation of gastric floating and bioadhesive hydrogel tablets ofAmoxycillin trihydrate, to increase gastric residence time and thereby its therapeutic efficacy against*H.Pylori.*Development of gastric floating and bioadhesive hydrogel tablets of Amoxycillin trihydrate with differentsynthetic polymers. To evaluate the physicochemical characteristics of all formulations and to carryout *in vitro*drug release studies using USP XXIV apparatus. To select the best formulation based on the above studies. In thecurrent work, a matrix floating-bio adhesive tablet incorporating an insoluble active substance is described. The most successful tablets with the least lag time of buoyancy were those prepared with 4.35% of effervescent basebut changing the polymer type of mixture ratio did not change the duration of buoyancy. Tablets containing 20%of HPMC and 80% CH or 80% of CP and 20% of PMA were optimum from both the bio adhesion and prolongeddrug release rate point of view.

36. **Formulation and Development of Modified Released TabletsContaining Antibiotic Loaded Microspheres**

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The main objective of this work is to develop and explore a new formulation to enhance the bioavailability of ahighly permeable and a poorly soluble antipsychotic drug Ziprasidone and

NSAID Flurbiprofen InclusionComplexes. From the literature, it was found that carrier like microcrystallinecellulose (Avicel101), disintegratingagents like sodiumstarchglycolate, Croscarmelose sodium, Cross povidone were used to prepare Drug cyclodextinInclusion Complexed tablets. Ziprasidone and Flurbiprofen are being poorly water insoluble drugs can be made toimprove bioavailability, if drug is released effectively and this is achieved by formulating drug as inlusioncomplexed tablets which was the rationale of the present study. Complexation technology is one of the promisingapproaches to increase drug release and is confirmed by the experimental results. When compared to TPD-Z , F11and TPD-F , F23 showed greater than two times of % Drug Release in Inclusion complexed system. This may bedue to the presence of HPβCD,As the drug complexed with HPβCD ,the surface of the drug exposed to thedissolution media was more, this is because the Inclusion complexed formulations after disintegrating in themedia the drug molecules were suspended as a molecular dispersion,thus the formulation might be showing thebetter drug release, due to the complexation of drug with HPβCD.

Key words:

Microspheres, microcrystalline cellulose, HPβCD and TPD-Z .

37. Formulation and Characterization Transdermal Patches forEnhancing the Bio-Availability of Lisinopril Dihydrate

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The present study was carried out to prepare Lisinopril Transdermal films for treating Hypertension.UV - Spectrophotometric analysis were performed for determination of Lisinopril in phosphate buffer pH 7.4 at207 nm. FTIR Spectrum of pure drug and drug-polymer mixture revealed that there was no interaction. Eightformulations of Transdermal films were prepared by solvent casting technique using propylene glycol asplasticizer and SPAN20 as permeation enhancer and different polymers like HPMC K4M, HPMC K15M, EudragitRS100 and Eudragit RL100. Various physicochemical parameters like film thickness, weight variation, drugcontent, folding endurance, moisture content and *in vitro* diffusion study were evaluated. The *in vitro* diffusionkinetics of the Transdermal films were calculated.The maximum drug diffusion was attained at 12 h byformulation F3. In zero order kinetics the regression value of formulation F3 was found to be 0.992. Stabilitystudy of F3 formulation was performed and that showed no significant change in physicochemical parameters anddrug diffusion.

38. Formulation and *In Vitro* Characterization of Sustained ReleaseMicrospheres Loaded With Cyclobenzaprine HCl

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Sustained release microspheres of cyclobenzaprine hydrochloride, a skeletal muscle relaxant which relievesmuscle spasm of local origin without interfering with muscle. Cyclobenzaprine hydrochloride is highly watersoluble drug, having low oral bioavailability (33-55%) due to extensive metabolism of drug. And the dosage formsavailable in market were having trice daily administration. The main objective of present study was developed toimprove oral bioavailability, reduce the frequency of drug administration, and improve patient compliance. In thisstudy, sustained release microspheres of cyclobenzaprine hydrochloride was prepared by solvent evaporationtechniques using Eudragit RS 100, Eudragit RS&RL 100 and Ethylcellulose as polymers and yield, particle size,encapsulation efficiencies and in vitro release of the prepared microspheres were evaluated. The results showedthat percentage yield, encapsulation efficiencies and particle size were influenced mainly by polymerconcentration, type of polymer and stirring speed. From the results of the in vitro study shows that the desiredrelease rate is achieved by CBRS 4, CBRS 12 and CBEC 19 formulations are releasing the drug up to 12 hrs. DSCresults showing there is no interaction between drug and polymers. SEM results of optimized microspheresshowing discrete, spherical microspheres.

Key words:

cyclobenzaprine hydrochloride, Eudragit RS&RL 100 ,Ethylcellulose

39. Formulation and Development of Modified Released TabletsContaining Metronidazole Loaded Microspheres

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The main objective of present study is to formulate and evaluate Metronidazole colon specific tablets with the helpof natural polysaccharides. To develop suitable formulation by optimizing the lag time of drug release in stomachand small intestine by formulating with suitable natural polysaccharides. To study the drug release pattern.Applying of kinetic models to the optimized formulation. Disssolution studies without caecum content forformulations F1-F11 were represented in tables ,they revealed that formulations (F1-F3) containing tamarindgum in different ratios showed drug release upto 95% in 12 hours. And formulations containing gum karaya (F4-F6)

showed drug release upto 97% in 10 hours. Formulations containing locust bean gum (F7-F9), showed drugrelease 95% within 8 hours. And combination of both gums (tamarind gum and gum karaya) containingformulations showed drug release upto 97.8% within 20hrs. The same studies were conducted in dissolutionmedium containing rat caecum, they revealed that formulations (F1-F3) containing tamarind gum in differentratios showed drug release upto 93 to 96% within 11 hours.And formulations containing gum karaya (F4-F6)showed drug release upto 94 to 97% within 9 hours. formulations containing locust bean gum (F7-F9), showeddrug release 92% to 98% within 7 hours and combination of both gums (tamarind gum and gum karaya)containing formulations showed drug release up to 97.8% within 12hrs(1:2), 96.5% within 16hrs(2:1). Theoptimized formulation F11 was subjected to various kinetic models such as Zero-order, First order, Higuchi order,Peppas model and Hixson-Crowell model.And drug release follows zero order according to their R^2 value (0.9093).

40. Development and Characterization of Entacapone SustainedRelease Matrix Tablets by Using the Polymer HPMC

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Sustained release has given a new break through for novel drug delivery system in the field ofPharmaceutical technology. Because of increased complication and expense involved in marketing ofnew drug entities has focused greater attention on development of sustained release or controlledrelease drug delivery systems Entacapone. The Pre compression powder blend of all the15formulations was characterized for Flowability and compressibility and results were found to be intheoretical range for processing into tablet dosage form. The prepared tablets of the 5 formulationswere characterized for weight variation, hardness, thickness, friability, % drug content and resultswere found to be uniform within the pharmacopoeial limits. *In vitro* release study exhibited that, informulations F1 to F5 prepared with HPMC K100M, drug release extended up to 7h to 12h. Therelease kinetics study shows that drug release followed zero order model for all the formulationswhich indicates that the amount of drug release is proportional to the time. The Korsmeyer peppasresults showed that release follows anomalous or non-Fickian diffusion. It has been shown that in theformulated tablets, swelling and erosion of the polymer occurs simultaneously, and both of themcontribute to the overall drug-release rate. FTIR and DSC characterization showed that there is nodrug-polymer interaction.

41. Preparation, optimization and evaluation of liposomes encapsulatingdiclofenac sodium and charge inducers to enhance stability usinglipid hydration method.

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ABSTRACT

Aims

The aim of the study is to encapsulate, optimize and characterize the liposomal preparations of various formulations of Diclofenacsodium (DS) along with phosphatidylcholine, cholesterol, stearylamine and dicetylphosphate.

Settings and design

Rotary evaporator is set at a temperature of 400C with constant rotation speed. Instruments used during the study includes Whirlmixer, Hellos software, zetasizer, Ultracentrifugation, Dialysis tube and UV Spectrophotometer.

Methods and Material

Diclofenac Sodium, Phosphatidylcholine, Cholesterol, Dicetylphosphate, Stearylamine, Phosphate buffer and solvents. Liposomeswere prepared by Lipid-Hydration technique using rotary evaporator (RE-300). The prepared liposomes were analyzed for size,zeta potential, percentage of drug encapsulated, in-*vitro* drug release and stability studies.

Results

Particle size of the drug loaded liposome was decreased when compared to that of the drug free. Encapsulation efficiency of thedrug loaded liposomes with PC shows increase in the percentage of drug encapsulated to that of the lower concentrated vesiclesand positive charge inducer have revealed elevated encapsulation efficiency. Liposomes composed of PC: CHOL: SA observed to be released at high rate and stability studies confirms that PC: CHOL: SA is supreme stable at varied temperatures.

Conclusions

Phosphatidylcholine, cholesterol and stearylamine based preparations posses the suitable % drug encapsulated and release rate.The composition PC: CHOL: SA at a concentration of 16:8:4 μmoles proved as a stable suspension. From the study it can beconcluded that cholesterol and stearylamine based phosphatidylcholine liposomes are most suitable to encapsulate the Diclofenacsodium.

Keywords: Liposomes, Diclofenac Sodium (DS), Phosphatidylcholine (PC), Entrapment, Lipid, Cholesterol (CHOL),Stearylamine (SA), Dicetylphosphate (DCP).

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42. DEVELOPMENT AND CHARACTERIZATION OF ENTACAPONE SUSTAINED RELEASE MATRIX TABLETS BY USING THE POLYMER HPMC K4M

P. Sujitha*, J. Andalu, B. Kalpana

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Abstract: Sustained release has given a new breakthrough for novel drug delivery system in the field of Pharmaceutical technology. Because of increased complication and expense involved in marketing of new drug entities has focused greater attention on development of sustained release or controlled release drug delivery systems Entacapone. The Pre compression powder blend of all the15 formulations was characterized for Flowability and compressibility and results were found to be in theoretical range for processing into tablet dosage form. The prepared tablets of the 5 formulations were characterized for weight variation, hardness, thickness, friability, % drug content and results were found to be uniform within the pharmacopoeial limits. *In vitro* release study exhibited that, in formulations F1 to F5 prepared with HPMC K4M, drug release extended up to 7h to 12h. The release kinetics study shows that drug release followed zero order model for all the formulations which indicates that the amount of drug release is proportional to the time. The Korsmeyer peppas results showed that release follows anomalous or non-Fickian diffusion. It has been shown that in the formulated tablets, swelling and erosion of the polymer occurs simultaneously, and both of them contribute to the overall drug-release rate. FTIR and DSC characterization showed that there is no drug-polymer interaction.

Keywords: Sustained release, HPMC K4M, Entacapone, Evaluation studies of the sustained release tablets

43. METHOD DEVELOPMENT, VALIDATION FOR SIMULTANEOUS ESTIMATION OF METFORMIN HYDROCHLORIDE AND GLIMEPRIDE IN BULK AND TABLET DOSAGE FORM BY USING RP-HPLC AND ITS DEGRADATION STUDIES

M. Ravi, M. Navaneetha*, M. Shiva

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Abstract:

A new simple, fast accurate and reproducible reverse phase high performance liquid chromatographic method has been developed and validated for simultaneous estimation of Metformin Hydrochloride and Glimepiride from tablet dosage form. The method was developed using Shimazdu HPLC system on C18 column (Athena 250mm x 4.6 µm) using a mixture of

KH2PO4 pH 4.5 adjusted with ortho Phosphoric Acid and Acetonitrile (45:55 v/v) as mobile phase in an isocratic elution mode at a flow rate of 1.00 ml/min at 40ºC with a load of 20µl. The detection was carried out using UV-Visible detector set at 242 nm. The retention time of Metformin Hydrochloride and Glimepiride were found to be 2.460 min and 4.200 min respectively. The method was validated with respect to linearity, robustness, precision and accuracy. The method had been successfully applied in other pharmaceutical formulations of the same composition.

Keywords: Metformin Hydrochloride, Glimepiride, High Performance Liquid Chromatography

44.METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF PARACETAMOL AND ETORICOXIB IN BULK AND PHARMACEUTICAL DOSAGE FORM BY RP-HPLC.

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Abstract:

A RP-HPLC method was developed for simultaneous estimation of Paracetamol and Etoricoxib tablet formulation using Athena (C18, 250 mm× 4.6 mm, 5µm and a mobile phase of Acetate buffer: methanol: acetonitrile (50:30:20v/v), at flow rate 1.0 ml/min with UV detection at 241 nm. The retention time (tR) of Paracetamol and Etoricoxib found to be 2.833 and 4.930 min respectively. The proposed method was validated for system suitability, specificity, linearity, accuracy, precision, LOD, LOQ and robustness. All parameters were found to be within the acceptance limit. Linearity over the concentration range 5-30 µg/ml for both Paracetamol and Etoricoxib with regression coefficient (r2) 0.999 and 0.999 respectively. The developed method was validated in terms of accuracy, precision, linearity, Limit of detection, Limit of quantitation. The proposed method can be used for estimation of these drugs in combined dosage form for routine analysis.

Key word; Paracetamol, Etoricoxib, RP-HPLC, Accuracy

45. Development and validation of RP-HPLC method for the simultaneous estimation of naproxen sodium and esomeprazole magnesium in pharmaceutical tablet dosage form

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ABSTRACT

An isocratic RP-HPLC method was developed and validated for the Simultaneous estimation of Naproxen sodiumand Esomeprazole magnesium trihydrate in Pharmaceutical tablet dosage form. The separation was achieved byusing a reversed-phase C18column(Thermo eletrole, ODS, 250mm

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× 4.6 mm i.d, 5µm) at ambient temperature withmobile phase consisting of Phosphate buffer (pH adjust to 3.8using OPA): Acetonitrile : Methanol (30:50:20v/v).The flow rate was 1.0 ml/min. Detection was carried out at a wavelength of 220 nm. Retention time of Naproxensodium and Esomeprazole magnesium trihydrate were found tobe2.417 and 3.903min respectively. The proposedmethod was validated for selectivity, precision, linearity and accuracy. The assay method was found to be linearfrom 75-175µg/ml and 3-7µg/ml for Naproxen sodium and Esomeprazole magnesium trihydrate respectively. Allvalidation parameters were within the acceptable range. The developed method was successfully applied to estimatethe amount of Naproxen sodium and Esomeprazole magnesium trihydrate in Pharmaceutical tablet dosage form.

Keywords: Naproxen sodium, Esomeprazole magnesium trihydrate, RP-HPLC method, C18Thermo eletrole,Acetonitrile, Method development and Validation

46. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION ANDFORCE DEGRADATION STUDIES FOR SIMULTANEOUS ESTIMATIONOF AMLODIPINE BESYLATE AND TELMISARTAN IN TABLETDOSAGE FORM BY USING RP-HPLC

Dr. Paul Richard, M. Ravi*, T. Gouthami

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ABSTRACT

The chromatographic analysis was performed on Athena C18 column(250×4.6mm, 5 µparticle size) with mobile phase consisting of methanol and phosphate buffer (pH 4) in theratio of 70:30 v/v, at a flow rate of 1 mL/min and eluents monitored at 240 nm. The methodwas validated for linearity, accuracy, precision, robustness and application for assay as perInternational Conference on Harmonization (ICH) guidelines. The retention times ofamlodipine besylate and telmisartan were 2.3 and 3.4 min, respectively. The calibrationcurves of peak area versus concentration, which was linear from 2.5-15 µg/mL for amlodipinebesylate and 20-120 µg/mL for telmisartan, had regression coefficient (r2) greater than 0.998.The method had the requisite accuracy, precision, and robustness for simultaneousdetermination of amlodipine besylate and telmisartan in tablets. And force degradation alsoperformed. The proposed method is simple, economical, accurate and precise, and could besuccessfully employed in routine quality control for the simultaneous analysis of amlodipinebesylate and telmisartan in tablet form.

47.**STABILITY INDICATING FORCED DEGRADATION RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF OLMESARTAN MEDOXOMIL**

V. Kiran, V. Vishwavani*, E. Swathi

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ABSTRACT: A simple, precise, accurate, economical and reproducible HPLC method for estimation of Olmesartan in tablet dosage form has been developed. Quantitative HPLC was performed with HITACHI L2130 with D Elite 2000 Software with Isocratic with UV-Visible Detector (L-2400), PUMP (LC-IOAT). C18 Develosil ODS HG-5 RP 150mm x 4.6mm 5µm particle size column receptor in vascular muscle. Its action is therefore independent of the pathway of angiotensin II synthesis was used in the study. The mobile phase of ACN: phosphate buffer (pH 3.1) was used in this study. The conditions optimized were: flow rate (1.0 ml/minute), wavelength (205nm) and run time was 10 min; column temperature was maintained at 400C. Retention time was found to be 6.31 min. The linearity was found to be in the concentration range of 10-100 □g/ml. The developed method was evaluated in the assay of commercially available tablets OLMESAR containing Olmesartan. The amount of drug in tablet was found to be 40mg. Results of analysis were validated statistically and by recovery studies. The recovery studies 99.27 % was indicative of the accuracy of proposed method. The precision was calculated as repeatability, inter and intraday variation (%RSD) for the drug. By using the method, stability of the drug has been studied.

48. DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR THE ESTIMATION OF AGOMELATINE IN BULK AND TABLET DOSAGE FORM

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ABSTRACT

OBJECTIVE: Development an accurate , simple ,precise, and rapid method for the estimation of Agomelatine in bulk and Tablet dosage form. Methods: The method uses Reverse phase High performance Liquid Chromatography(RP-HPLC). PHENOMENEX Luna C 18 , (5µm, 250 x 4.6mm)column operated with a mixture of mixed phosphate buffer of pH 6 with ortho phosphoric acid and Acetonitrile(55:45) as mobile phase was found to be suitable for the estimation. The flow rate was maintained at 1ml/min. Detection

was carried out at 230nm using a UV detector. Results: The total run time was less than 10min

the retention time of 2.7min for Agomelatine. Conclusion: Validation of the method was performed for precision ,accuracy, linearty, ruggedness, specificity and sensitivity to confirm to the ICH guidelines for validation of an analytical method.

key words : Agomelatine, RP-HPLC, Method development, Validation.

49. METHOD DEVELOPMENT AND VALIDATION OF DABIGATRANETEXILATE MESYLATE BY RP-HPLC METHOD AND ITSDEGRADATION STUDIES

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ABSTRACT

A simple, precise, accurate, economical and reproducible RP-HPLC method forestimation of Dabigatran Etexilate Mesylate in capsule dosage form has been developed.Quantitative HPLC was performed with SHIMADZU LC 20ATwith Spin chrome Software withUV-Visible Detector (SPD-20A), PHENOMENEX Luna C 18 , 5µm, 250 x 4.6mm(size)columnwas used in the study. The mobile phase of Methanol: Water (70:30)used in this study. Theconditions optimized were: flow rate (1.2 ml/minute), wavelength (230 nm) and run time was 10min, column temperature was maintained at 50 0 C. Retention time was found to be 4.60 min. Thelinearity was found to be in the concentration range of 0-25 mg/ml. The developed method wasevaluated in the assay of commercially available capsules Paradaxa containing DabigatranEtexilate Mesylate. The amount of drug in capsule was found to be 75mg. Results of analysiswere validated statistically and by recovery studies. The recovery studies 96.67 % was indicative

of the accuracy of proposed method. The precision was calculated as repeatability, inter and intra day variation (%RSD) for the drug. By using method, stability of the drug has been studied.

Key Words: HPLC, method validation, Dabigatran Etexilate Mesylate, precision, stabilitystudies

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50.SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF SOME N-(5-(2-ARYLIDENEHYDRAZINECARBONYL) BENZOXAZOL-2-YL) -2-(DIALKYLAMINO) ACETAMIDE DERIVATIVES

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ABSTRACT

In this study, a series of novel N-(5-(2-arylidenehydrazinecarbonyl) benzoxazol-2-yl) -2-(dialkylamino) acetamide derivatives have been synthesized and their structures were confirmed by IR,1H NMR, and mass spectral data. These compounds were prepared by reacting2-(dialkylamino)-N-(5-(hydrazinecarbonyl) benzoxazol-2-yl acetamides, which were obtained by using Methyl-2-(2-(dialkylamino)acetamido)benzoxazole-5-carboxylates with Hydrazine hydrate (99%) All synthesizedcompounds VIIIa-h were tested by using the method of twofold serial dilution technique for in vitroactivities against certain strains of Gram-positive, Gram-negative bacteria as well as the yeastsCandida albicans, Candida krusei, and Candida glabrata in comparison with standard drugs.Microbiological results showed that the newly synthesized compounds possessed a broad spectrum ofactivity, showing MIC values of 3.12-50 µg/mL against the Candida species.

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