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Research Article

A Prospective Study on Alcohol Drinking Patterns, Dependency and Disease Severity in Alcohol Related Liver Cirrhosis

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Abstract:

Aim: To determine the relation between the alcohol dependency and alcoholic liver disease states objectively with well-defined scoring systems.

Design: A prospective observational study conducted on the in-patients diagnosed with Liver Cirrhosis.

Setting: Asian Institute of Gastroenterology, Hyderabad, Telangana, India.

Participants: A total of 255 patients (220 males and 35 females) between October 2017 and January 2018.

Parameters: Alcohol Use Disorders Identification Test (AUDIT), Severity of Alcohol Dependence questionnaire (SADQ) and liver assessment with MELD score, Maddrey's Discriminant Fraction and Child-PUGH score.

Results: Of the 255 patients, 89 were non-alcoholic patients and 166 were alcoholic patients of which 127 were alcohol dependent and 39 were alcohol non-dependent. In the alcohol dependent patients, there were 47/127 mild alcohol dependent, 48/127 moderate alcohol dependent and 32/127 severe alcohol dependent. When compared with the severity levels, we found that most of the alcoholic patients has shown high severity and most of them were alcohol dependents. In non-alcoholic patients, most of them had shown the disease condition to be moderate. When the increasing disease severity was compared with the increasing dependency values, it has shown negative correlation.

Conclusion: From the study, it can be concluded that the cause for the liver cirrhosis in most of the cases is consumption of alcohol but, when the severity scores has been compared it states that the increase in the alcohol dependence is not specifically related to the increasing disease severity.

Keywords: Alcoholic Liver Disease, Liver Cirrhosis, AUDIT score, SADQ score, Alcohol Dependence, Alcohol non-dependence.

Introduction

Alcoholic liver disease (ALD) is the most prevalent cause of advanced liver disease. It encompasses a spectrum of injury, ranging from simple steatosis to frank cirrhosis.[1] It is not necessary that a single stage of the disease occurs, but multiple stages may be present simultaneously in a single individual which includes three stages: fatty liver or simple steatosis, alcoholic hepatitis and chronic hepatitis with hepatic fibrosis or cirrhosis.[2] A subset of patients with ALD develop severe alcoholic hepatitis, which has a substantially worse short-term prognosis. Alcoholic Hepatitis ranges from mild injury to severe and life-threatening injury which later develops into chronic liver disease (liver cirrhosis).[2]

Cirrhosis of Liver is one of the important health issue occurring these days and is the last stage of liver disease. Nearly all liver cirrhosis cases require admission to the hospital and many patients are associated with ascites and hepatic encephalopathy as its complications. Some of the patients are requiring biopsy and liver transplantation due to the deteriorating nature of their liver.[1] In today's lifestyle, there is an increase intake of alcohol and is the leading cause for many health issues of which liver cirrhosis is the most important health hazard occurring due to alcohol.[2] Hence, it is important to review for the relationship between the increasing dependency of alcohol abuse and the disease severity in these liver cirrhosis patients.

Materials and Methods

The study was performed in the liver unit of Asian Institute of Gastroenterology, Telangana, India. It is a well-recognized hospital where people from all over the country visit to get their disease treated. Subjects recruited in the study were admitted as in-patients in the hospital in the period of four months from October 2017 to January 2018. This study

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A PROSPECTIVE OBSERVATIONAL STUDY ON PREVALENCE OF CHRONIC KIDNEY DISEASE IN DIABETES MELLITUS

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ABSTRACT

Background: Diabetes is a metabolic disorder that results from deficiency in insulin production and insulin resistance. Chronic Kidney Disease is defined as kidney damage or glomerular filtration rate (GFR) <60 mL/min/1.73 m^2 for 3 months or more. In 2013, diabetes led to more than 51,000 new cases of kidney failure and over 247,000 people are currently living with kidney failure resulting from diabetes.[1] **Methodology:** This study was conducted with the aim to assess the percentage of population at risk of Chronic Kidney Disease in Diabetes Mellitus, to determine the stages of Chronic Kidney Disease and to assess the quality of life of the patient that who are diagnosed with Chronic Kidney Disease in Diabetes in Mallareddy Narayana Multispeciality Hospital, Suraram, Hyderabad. This study is prospective observational in nature and the subjects enrolled in this study were about 200. Informed consent was obtained from all the subjects. The stages of Chronic Kidney Disease were determined using eGFR value by CKD-EPI equation.[9] The quality of life of subjects were assessed by using SF-36 HS scale.[2] **Results:** This study identifies the percentage of population at risk of chronic kidney disease in Diabetes, stages of Chronic Kidney Disease and quality of life of subjects. A total of 200 diabetes patients were observed among them 77 subjects (37.99%) were with Chronic Kidney Disease, of which stage-5 (End Stage Renal Disease) was prominent. 24.53% of subjects were under dialysis. Quality Of Life is categorized into 9 activities, out of which role limitations due to physical health is more effected with a percentage of 22.5%**. Conclusion:**

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SYSTEMATIC EVALUATION OF EXCLUSIVE FACTORS ASSOCIATED WITH NON-ADHERENCE TO TREATMENT IN IBD PATIENTS

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ABSTRACT

Adherence to treatment is a key condition in preventing relapses in inflammatory bowel disease. This study was contrived with the aim to evaluate the exclusive factors associated with non-adherence to treatment in Inflammatory Bowel Disease. A total population of 150 patients were evaluated for this study from Asian Institute of Gastroenterology, to find out the factors causing non-adherence to treatment. A questionnaire concerning demographic, clinical, patient related, medication related, physician related, socioeconomic and psychological assessment of patients were evaluated by using Microsoft Excel 2007. Out of 150 patients 89(59.3%) men and 61(40.6%) women completed the questionnaire. Patients with Crohn's disease 73(48.6%), indeterminate colitis 4(2%), and ulcerative colitis 73(48.6%). In patient related factors, non-adherence causing co-factors were diminished quality of life 91(60.67%), full time employment 81(54%), and lack of understanding the drug use 80(53.3%). In medication related factors, high cost 102(68%), non-availability of medication 78(52%), heavy pill burden 76(50.6%). In physician related factors, lack of explanation about side-effects 91(80.67%). In psychological assessment, health dependent on medication 97(64.66%), prefer once daily medication 96(64%), effect of medicine on future health 89(59.33%), mystery to take medication 46(30.66%). In socioeconomic factors, lack of participation in sports/activity 44(29.33%), going out socially 45(30%), worried about future income 63(42%) causing non adherence in patients. **Conclusion:** In this prospective observational study, socioeconomic factors were causing the

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RATIONALITY ASSESSMENT OF ANTIBIOTIC USE IN MEDICAL AND SURGICAL UNITS AT A MULTISPECIALTY HOSPITAL

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ABSTRACT

This study was contrived with the aim to evaluate antibiotics prescribed for their rationality and appropriateness. The research was conducted to assess the antibiotic prescribing pattern of the physicians in renowned hospital in Hyderabad. This study is descriptive in nature. The population took under study was from the different wards of Care Hospitals, Nampally. The 307 respondents were the patients from which 202 patients were ambushed with different organ and tissue infections admitted in different medical wards were evaluated for rationality according to standard guidelines and remaining 105 patients were scheduled for surgical treatment admitted in different surgical units of the hospital were monitored to scrutinise the conformance to policy framed by the hospitals Infection control Committee. The specially designed data collection forms aided ward round survey method was used to fetch the data and analyzed by the help of Microsoft Excel 2007.The results of 202 patients evaluation shows that more than 50% patients receive the antibiotics empirically, Less than 20 % are to be witnessed to be receiving antibiotics prophylactically, Less than 20% patients received antibiotic inappropriately and only the limited numbers of patients are able to have received antibiotics specifically. The 105 prophylactic conformity audit shows more than 60% disagreement with the policy. As most of the antibiotics are used empirically, perceivable count of inappropriately prescribed

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New Method Development and Validation for Simultaneous Determination of Atazanavir and Cobicistat in Bulk and Tablet Dosage Form by UPLC

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ABSTRACT

The present analytical work is a unique method development and validation for the simultaneous determination of Atazanavir and Cobicistat by using reverse phase ultra-performance liquid chromatography (UPLC) with isocratic elution technique. Here the stationary phase used was C18 HSS column (2.1 × 100 mm, 1.8 µm) mobile phase was 45% OPA (0.1%) and 55% Acetonitrile. pH of the mobile phase was maintained at 3.0, flow rate 0.2 ml/minute. Eluted material underwent for monitoring at the detector wavelength of 254 nm. Retention time for Atazanavir and Cobicistat was found to be 0.536 minutes and 1.366 minutes, linearity range was 75 µg/ml to 450 µg/ml and 37.5 µg/ml to 225 µg/ml respectively. The new method was evaluated according to ICH guideline and as far as validation results are concern correlation coefficient value was 0.999 for both of the compounds, LOD 0.76 and 0.37, LOQ 0.2.30 and 1.11, percentage recovery 99.74% and 99.34%, repeatability results relative

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DEVELOPMENT AND OPTIMIZATION OF SUSTAINED RELEASE ABACAVIR MATRIX TABLETS

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ABSTRACT
The aim of the present study was to develop and characterize Abacavir sustained release tablets. These Abacavir solid unit dosage forms were prepared by using direct compression technique and by utilizing synthetic polymers such as ethyl cellulose, eudragit and sodium alginate. Abacavir drug is used in the treatment of human immunodeficiency virus (HIV) infection. It is nucleoside reverse transcriptase inhibitors (NRTIs). The prepared tablets were characterized for hardness, thickness, disintegration time and drug release studies. Optimized formulation of drug delivery was 98.70% in 8 hours along with satisfactory results. It was noted that A5 formulation was the best formulation compared with the other formulations based on the drug release studies and physical parameters.

KEYWORDS: Abacavir, Hydroxypropyl methyl cellulose, sodium alginate, direct compression technique, in-vitro drug release studies.

INTRODUCTION
Oralroute is the most preferred route for administration o f drugs. Tablets are the most popular oral formulations available in the market and preferred by the patients and physicians alike. In long- term therapy for the treatment of chronic disease conditions, conventional formulations are required to be administered in multiple doses, and therefore have several disadvantages.[1] Sustained release (SR) tablet formulations are much desirable and preferred for such therapy because they offer better patient compliance, maintain uniform drug levels, reduce dose and side effects, and increase safety margin for high-potency drugs.[2]

Direct compression method had been applied for preparation of matrix tablet that involved simple blending of all ingredients used in the formulations and then underwent direct compression. It required fewer unit operations, reduced number of personnel and reduced processing time, increased product stability and faster production rate.[3] Abacavir as a nucleoside and nucleotide reverse transcriptase inhibitors active against Human Immunodeficiency Virus Type 1. It is the treatment of HIV infection in combination with other antiretroviral agents.[4] Oral drug delivery systems have progressed from immediate release to site specific delivery over a period of time.[5] Abacavir is a carbocyclic synthetic nucleoside analogue used for the treatment of HIV/AIDS. To reduce the frequency of administration and to improve patient compliance, a sustained release formulation of Abacavir is developed.[6] The main objective of the present work was to develop sustained release matrix tablets of Abacavir using different polymers.

MATERIALS AND METHOD
Materials: Abacavir was collected as a gift sample from Hetero labs, Hyderabad, Sodium alginate, eudragit and other excipients were purchased from AR chemicals.

Methodology[7,8]
Drug-excipient compatibility studies: The IR absorption spectra of the Abacavir and with various polymers were taken in the range of 3500-3000 cm^{-1} utilizing KBr disc technique, 1-2 mg of the substance to be examined was triturated with 300-400 mg, specified quantity, of finely powered and dried potassium bromide. These quantity are generally enough to give a disc of 10-15mm diameter and pellet of appropriate strength by a hydraulic press.

FORMULATION AND EVALUATION OF VILAZODONE FAST DISSOLVING TABLETS

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ABSTRACT

The purpose of the present study was to formulate solid dispersion incorporated fast dissolving tablet of vilazodone to improve the aqueous solubility, dissolution rate and to facilitate faster onset of action. Solid dispersion of vilazodone was prepared with various carrier in different drug:carrier ratio using solvent dispersion technique. The objective of the study was to formulate and evaluate fast dissolving tablet of Viladazone. Direct compression method was used to formulate orally disintegrating tablet of Viladazone by employing solid dispersion, magnesium stearate (lubricant), Talc (glidant). These prepared formulations were then evaluated. In vitro Dissolution tests were performed using USP apparatus II and ultraviolet spectrophotometry, respectively. All formulations showed compliance with pharmacopeia standards. The effect of carrier concentration and direct compression method on drug release profile was studied. Release profile of F2 were found to be satisfactory comparing to other formulations. F2 Formulation as processed excipient was found to be the best carrier for the preparation of Viladazone fast dissolving tablets formulations. Due to it has exhibited faster disintegration time and best dissolution profile when compared to other formulations.

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FORMULATION AND INVITRO EVALUATION OF GASTRORETENTIVE FLOATING MATRIX TABLETS OF ETODOLAC

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ABSTRACT

In the present work, an attempt has been made to develop *In vitro* Evaluation of Gastroretentive Floating Matrix tablets of Etodolac. Novel method of Gastroretentive Floating Matrix technology was employed to formulate the tablets. All the formulations were prepared by direct compression method using 8mm punch on 8 station rotary tablet punching machine. The blend of all the formulations showed good flow properties such as angle of repose, bulk density, tapped density. The prepared tablets were shown good post compression parameters and they passed all the quality control evaluation parameters as per I.P limits. Among all the formulations F4 was considered as best formulation after considering all the evaluation parameters. *In vivo* evaluations were performed later for the selected best formulation.

KEYWORDS: Etodolac, Gastroretentive Floating Matrix, Blend, Direct compression, quality control, parameters.

INTRODUCTION

The gastro-intestinal (GI) tract is diversified in its composition at several locations in anatomy, biochemical environment, microbial flora, expression of transporters and absorption characteristics. There are several processes such as chemical/ enzymatic/ bacterial degradation, absorption, precipitation, efflux by P-glycoprotein pump and metabolism by Cytochrome P450 enzymes may occur simultaneously following drug release from a dosage

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Evaluation of phytosomes containing Ethanolic extract of Aerial parts of *Mukia maderaspatana*

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Abstract : The aim of the present investigation was to formulate *Mukia maderspatana* loaded Phytosome for improved delivery. Phytosomal formulations were developed using different concentration of Cholesterol (1-3%) then optimized and characterized. Particle size, entrapment efficiency and vesicular shape were determined by Malvern Zetasizer, and Scanning Electron Microscopy, respectively. Particle size varied from 175 to 510 nm depending on the concentrations of Cholesterol. Entrapment efficiencies were exhibited of 38.42-84.26%, where it increased with concentration of cholesterol increased. Photomicrographs revealed that optimized Phytosomes were spherical in shape and uniform in size. Based on minimum particle size and maximum entrapment efficiency F9 (3% of Cholesterol concentration and 40% of ethanol concentration) was selected as optimization Phytosomal formulation.

Key Words : *Mukia maderspatana*, Optimization, Characterization, Phytosome.

Introduction:

Mukia maderaspatana, *Cucumis maderaspatana* or *Mukia scabrella* (family: Cucurbitaceae) is an annual monoecious herb, densely covered with white hairs. It is found throughout India ascending up to 1800 m in the hills. Mukia is rich in sugars, namely, arabinose, fructose, glucose, mannose, sucrose, xylose, galactose and ribose, together with uncharacterized steroids, triterpenes, alkaloids, phenols, glycoflavones, catechins and saponins[1]. Folklore medicine claims that it is a good diuretic, stomachic, antipyretic, and antiflatulent, antiasthmatic, and antibronchitis, hepatoprotective[2] and immunomodulatory effects[3] and antiarthritic activity properties[4]

Phytosome are more bioavailable as compared to simple herbal extracts owing to their enhanced capacity to cross the lipid rich biomembranes and finally reaching the blood. The lipid-phase substances employed to phytoconstituents, lipid compatible are phospholipids from so, mainly phosphatidylcholine (PC). Phospholipids are complex molecules that are used in all known life forms to make cell membranes. They are cell membrane building blocks, making up the matrix into which fit a large variety of proteins that are enzymes, transport proteins, receptors and other biological energy converters. In humans and other higher animals the

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Formulation development and comparative evaluation of multiple and single unit tablets of omeprazole magnesium

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Abstract : The aim of the present study was to develop multiple unit particulate system and single unit tablets of omeprazole magnesium as a delayed release dosage form and study the in-vitro release pattern of test product by comparing with the marketed reference product. The work was carried out to delay the release of omeprazole magnesium by using enteric polymer methacrylic acid copolymer type-C. The optimized formula of omeprazole magnesium delayed release tablets were prepared using wet granulation technique for single unit tablets and pellet technology for multiple unit particulate system. The multiple unit pellets and single unit tablets were found to be satisfactory with respect to physical as well as chemical characteristics. The dissolution profiles of these were compared with that of the reference product - Prilosec® and the comparisons of the drug release profiles were found to be satisfactory. Single unit tablet process would be an effective, low cost and simple alternative approach compared with the use of more expensive process like fluidization process and adjuvant in the formulation of oral dosage tablets.
Key-words : Omeprazole magnesium; Delayed release pellets and tablets, Enteric polymer; Fluidization process.

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FORMULATION AND EVALUATION OF TRAMADOL POROUS TABLETS

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ABSTRACT

The present research work was aimed to develop a porous tablet of tramadol using various polymers. The formulation was optimized by using various concentrations of the disintegrants and other excipients. Menthol was used as the sublimating agent. Absorption maxima was determined to be 272nm and the calibration curve was plotted using the absorbance values of various concentration of the drug. Prior to tablet making, the formulation bled was subjected to preformulation studies which were found to be within the acceptance range indicating the powder has good flow properties. Among all the eight formulations, sixth formulation (F6) having cross carmelose in the concentration of 25mg has the highest release rate where 100.26% of the drug was release within 30 mins similar to eighth formulation but sixth formulation was considered as optimized due to low sublimating agent concentration. Moreover, FT-IR spectrum obtained showed no drug-excipient incompatibility used in preparing the formulations. Therefore, the optimized formulation F6 can be employed for scale up process as the method is simple, easy and cost effective and hence can be used during large scale production.

KEYWORDS: Porous tablet, tramadol, absorbtion maxima, preformulation studies, post formulation studies, stability.

INTRODUCTION

Tramadol is chemically (1R,2R)-2-[(dimethylamino)methyl]-1-(3-methoxyphenyl)cyclohexan-1-ol with the molecular formula C16H25NO2 and molecular weight of 263.381g/mol.[1] It is a synthetic analogue of codeine[2] which has significantly lower affinity for opioid receptors than codeine. It is a narcotic analgesic which acts as selective weak OP3-receptor agonists.[3-5] It exists as a racemic mixture and the mean peak plasma concentration occurs two hours after its oral administration.[6] It is used to treat postoperative[7-9], dental[10], cancer[11-12] and acute musculoskeletal pain[13] and as an adjuvant to NSAID therapy in patients with osteoarthritis.[14-15] Literature study reveals various formulations of tramadol and its evaluation.[16-22] However, there was no study in the preparation of tramadol porous tablet. Therefore, the present study was aimed to formulate a porous tablet of tramadol using direct compression method with menthol as sublimating agent and evaluate their pre and post formulation parameters.

MATERIALS AND METHODOLOGY

Materials and Instrumentation

Tramadol standard drug was obtained as a gift sample from Chandra labs, Hyderabad, India. Cross povidone, cross caramelose and sodium starch glycolate were purchased from MYL CHEM, Mumbai, India. Micro crystalline cellulose, magnesium stearate and talc were obtained from S.D Fine chem. LTD, Mumbai where as Avicel pH 102 and menthol were obtained from FMC Biopolymer and Fine chem laboratories respectively.

Drug excipients compatibility studies were studied using FTIR spectrophotometer of Per Kin Elmer, USA and a double beam UV-Visible spectrophotometer was used to obtain the absorbance values at 272nm. Single punch compression machine of Cadmach was used to formulate tablet. Post formulation studies were performed using Schleuniger hardness tester, friability test apparatus and bulk density apparatus of Electrolab. Dissolution test was performed using tablet dissolution USP apparatus –I (Basket Method) of Distek, Dissolution system 2100C.

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EVALUATION OF NOOTROPICACTIVITY OF NEWLY SYNTHESIZED GABA DERIVATIVE IN MICE

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Abstract:

Objective: *This study was aimed to "Evaluate the Nootropic activity of newly synthesized GABA derivative in Mice"*

Methodology: *The activity of the Test drug studied using the Actophotometer test model in swiss albino mice. Learning and memory parameters were evaluated using Open field test. The Test drug was administered in dose of50mg/kg body weight i.p. to the respective groups. Piracetam (200mg/kg,i.p.) was used as astandard nootropic agent.*

Results: *It was observed Test drug at a dose of 50mg/kg (i.p.) was administered and subjected to locomoter activity in Actophotometer Test, exhibited a significant behavioral activity in Actophotometer test and Open field test. Its effect is clearly seen by the decreased in motility rate i.e., response to the decreased in activity is said to be depressant, anxiolytic and inhibitory effects on the CNS.*

Conclusion:*N-plthaloyl GABA derivativehas inhibitory effects which may be processed by the GABAnergic action of the drug. Enhancement of GABA by the drug under study may prove to be a useful memory restorative agentinthe treatment of dementia seen in Alzheimer's disease. Hence, further studies are required to know the exact mechanism.*

Key Words: *N-pthaloyl GABA, Alzheimer's disease, Picrotoxin, Nootropic.*

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Research Article

EFFECT OF FORMULATION FACTORS ON ORODISPERSIBLE TRIPTAN FORMULATIONS – NOVEL APPROACH IN TREATMENT OF MIGRAINE

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ABSTRACT

Objective: The present research work is an attempt to determine the effect of various diluents and superdisintegrants on drug release of eletriptan orodispersible tablets and designs an optimized formulation using 2^2 factorial design. Further, evaluate the tablets for various pre-compression and post-compression parameters.

Methods: The drug excipient compatibility study was conducted by infrared spectroscopy, differential scanning colorimetry and X-ray diffraction studies were conducted to test the purity of the drug. The tablets were formulated by direct compression method using spray dried lactose, mannitol, microcrystalline cellulose, starch as diluents and crospovidone, croscarmellose sodium, and sodium starch glycolate as superdisintegrants. The powder formulations were evaluated for pre-compression parameters such as bulk density, tapped density, Carr's Index, Hausner's ratio, and angle of repose. The tablets were evaluated for post-compression parameters such as the hardness, thickness, friability, weight variation, and disintegrating time in the oral cavity, *in vitro* drug release kinetics studies, and accelerated stability studies. The formulations were optimized by 2^2 factorial design.

Results: The drug and excipients were compatible, and no interaction was found. The drug was pure, and all the pre-compression parameters were within Indian Pharmacopoeial Limits. Post-compression parameters were also within limits. The disintegration time was found to be 27 s for the formulation F_{29} containing Croscarmellose sodium (5%) and Mannitol as diluent, and *in vitro* drug release was found to be 99.67% in 30 min and follows first-order kinetics. This was also the optimized formulation by 2^2 factorial design with a p=0.013.

Conclusion: The orodispersible tablets of eletriptan were successfully formulated, and the optimized formulation was determined that can be used in the treatment of migraine.

Keywords: Eletriptan, Crospovidone, Croscarmellose sodium, Sodium starch glycolate, Microcrystalline cellulose, Lactose, Starch, Magnesium stearate, Talc, Aerosil, Aspartame.

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INTRODUCTION [1]

Oral route of drug administration is perhaps most useful and important route for drug delivery. Tablets are the most favored oral solid dosage form mainly because of several advantages such as ease of administration, good chemical and microbiological stability, lowest cost among all another solid dosage form, dose precision and least content variability, ease of packing, self-medication, and patient compliance. Orodispersible tablets are solid unit dosage forms like conventional tablets, but are composed of superdisintegrants, which help them to dissolve the tablets within a minute in the mouth in the presence of saliva without any difficulty of swallowing. In such cases, bioavailability of the drug is significantly greater than those observed from the conventional tablet dosage form. Migraine is a neurological disease characterized by recurrent moderate to severe headaches often in association with a number of autonomic nervous system symptoms. Triptans are a family of tryptamine-based drugs used as abortive medication in the treatment of migraines and cluster headaches. Thus, the aim of present research work was to formulate oral disintegrating tablets of Eletriptan to overcome the adverse effects of conventional tablets in the treatment of migraine.

METHODS

Eletriptan was obtained as a gift sample from Sun pharma ltd, Hyderabad, croscarmellose sodium, sodium starch glycolate, cross-povidone, microcrystalline cellulose, mannitol, spray-dried lactose, and starch were obtained from Signet chemical corp. Mumbai, aspartame, aerosil, talc, and magnesium stearate were obtained from S.D fine chemicals, Mumbai, and potassium dihydrogen orthophosphate and sodium hydroxide were obtained from Narmada chemicals.

Calibration curve for eletriptan in 6.8 phosphate buffer [2]

About 100 mg of Eletriptan was accurately weighed into 100 ml volumetric flask and dissolved in a small quantity of methanol. The volume was made up to 100 ml with pH 6.8 phosphate buffer to get a concentration of (1000 µg/ml) SS-I. From this, 1 ml was withdrawn and diluted to 100 ml with 6.8 phosphate buffer to get a concentration of (10 µg/ml) SS-II. From the standard stock solution (SS-II), 2 ml, 4 ml, 6 ml, and 8 ml were withdrawn, and volume was made up to 10 ml with 6.8 phosphate buffer to give a concentration of 2,4,6, and 8 µg/ml. Absorbance of these solutions was measured against a blank of 6.8 phosphate buffer at 221 nm, and values are tabulated in Table 4 and shown in Fig 1.

Drug-excipient compatibility studies by infrared (IR)[3]

IR spectroscopy is one of the most powerful analytical techniques to identify functional groups of a drug. The pure drug and its formulation were subjected to IR studies. In the present study, the potassium bromide disc (pellet) method was employed. The graphs are shown in Fig. 2 and 3.

Formulation of orodispersible tablets of Eletriptan[3]

All the ingredients were weighed accordingly and passed through#60 mesh sieve separately. The drug and diluents were mixed by adding a

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A Validated HPTLC Method for the Quantification of B-Sitosterol In Leaves, Bark of Putranjiva Roxburghii Wall

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ABSTRACT

Objective: A simple and sensitive high-performance thin-layer chromatography method was developed and validated for the determination of β-sitosterol in Putranjiva roxburghii Wall leaf and bark
Methods: Analysis of samples was performed on TLC aluminium precoated plate (60F 254) by using mobile phase toluene: ethyl acetate: formic acid (9:1:0.1v/v/v). TLC plate derivatized with vanillin sulphuric acid reagent. The method was validated using International Council for Harmonization (ICH) guidelines, including linearity, precision, accuracy, and robustness.
Results: A good linearity relationship was found to be with correlation coefficient (r2) value of 0.9951 for β-sitosterol, from calibration curve it shows presence of 0.16%w/w for β-sitosterol in leaf extract, 0.07% w/w in bark extract of Putranjiva roxburghii Wall (Family:Euphorbiaceae). Limit of detection and limit of quantitation was found to be 0.04, 0.13 ng spot-1 respectively for β-sitosterol. The interday and intraday precision was found to be 1.33%, 1.99% (%RSD). Accuracy of the method was performed by recovery studies at three different concentration levels and the average percentage recovery was found to be 98.05% for β-sitosterol.
Conclusion: The proposed method for the quantitation of β-sitosterol was found to be simple, specific, accurate and robust in Putranjiva roxburghii Wall.
Keywords: Putranjiva roxburghii Wall; Euphorbiaceae; β-sitosterol; HPTLC; Method validation.

I. INTRODUCTION

Euphorbiaceae family having 220 genera and 4,000 plant species found in various tropical regions of India [1-2]. Following genera of Euphorbiaceae are reported as medicinal plants: *Acalypha, Aleurites. Bridelia, Jatropha, phyllantus, Putranjiva, Ricinus* [2-3,4]. The species commonly seen in India is *Putranjiva roxburghii* Wall which is known as child's amulet tree or child-life tree [5]. *Putranjiva roxburghii* is evergreen tree with drooping branches with corky bark coriaceous leaves, dioeciously flowers [6].

Most frequently recorded folk remedy claims of *Putranjiva roxburghii* Wall mentioned that the plant leaf, bark, seed, nuts are medicinally useful. Paste of seeds of *Putranjiva roxburghii* applied on forehead to check pain. The seeds of this plant species are given daily for one month to women for conception [6]. The bark and the seeds are usefull in antidotal treatment of snake-bite. Its leaves and fruits, stones of this plant have been traditionally used for the treatment of fever, muscle twisting, aphrodisiac, arthralgia and rheumatism [7-9]. It is also used as antinociceptive, antipyretic, anti-inflammatory, antioxidant [10]. This plant has reported various phytoconstituents such as putranjivanonol, putranjic acid, friedelin, putranjivadione, friedelanol and roxburgholone from the trunk bark of *Putranjiva roxburghii* [11-13]. Roxburghonic acid, putraflavone were isolated from the alcoholic extract of *Putranjiva roxburghii* leaves [14].

β-Sitosterol is a dietary supplements, found in a variety of plants and plant oils. Phytosterols are similar in structure to cholesterol except some minor structural differences [15]. β-Sitosterol was estimated by HPLC in

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Data Article

Dataset on leaf surface and elemental study of four species of Bignoniaceae family by SEM-EDAX

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Tecoma stans (L.) Juss.ex Kunth
Tabebuia rosea (Bertol)
Scanning electron microscopy
Elemental analysis

ABSTRACT

The data presented in this article are related to the scanning electron microscope and elemental studies in the four species of Bignoniaceae namely *Tecoma gaudichaudi* DC (Sample 1), *Tecoma capensis* (Thunb.) Lindl. (Sample 2), *Tecoma stans* (L.) Juss.Ex Kunth (Sample 3), *Tabebuia rosea* (Bertol.) (Sample 4). The SEM images were obtained for permanent record. The abaxial and adaxial surfaces of each species were carefully studied. In addition to this, the consistent occurrence of anomocytic stomata in all four species of this family shows that morphological and taxonomically all the species are very close and intimate.

The elemental data on leaf samples of all four species were performed and total eight important components were present such as C, O, Mg, Al, Si, Cl, K, Ca. These elements are useful, so identification of inorganic components of these species defiantly helps to promote as dietary elements.

Abbreviations: BSI, botanical survey of India; SEM-EDS, scanning electron microscopy- Energy dispersive spectroscopy

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Quality of Life Assessment in Cancer Patients of Regional Centre of Hyderabad City

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Cancer; Quality of life; Hyderabad city; EORTC QLQ- C-30 questionnaire; chemotherapy.

ABSTRACT

The present study was carried out to determine the quality of life in regional cancer patients of Hyderabad city with an objective to create awareness about the various health related issues and financial problems underlying the disease. So that possible measures can be taken by the society and the government in advance to improve the quality of life in cancer patients. The complete data for the present study has been collected for a period of 2 months from Mehdi Nawaz Jung Institute of Oncology and Regional Cancer Centre, Red Hills, Hyderabad, Telangana, India from 192 Females and 32 Males in the age group between 18-70 years. The quality of life of the cancer subjects was assessed using EORTC QLQ- C-30 questionnaire. The observations have shown that the cancer patients in spite of having better functioning and minimum symptoms, their perception was that they had poor quality of life. It is concluded that the therapy should be individualized for each patient not just based upon the type or stage of cancer but also based on the patient's priorities, concerns and symptoms along with treating the disease. In simple words it can be said that the therapy should be patient oriented rather than disease oriented.

INTRODUCTION

Having a potentially life-threatening disease like cancer often makes people to examine their lives and look for meaning. In fact, this search for meaning can be the aspect of cancer that most often has a positive influence on life (Th-iboldeaux and Golant., 2012). The fear of death that affects most people when they are diagnosed with cancer, often makes them to think about what they will leave behind and what they would like to do with the time left. It can make people feel that it's the quality of life (QoL), not just the quantity, which matters the most (Finelli., 2017).

Today in many cultures and societies, cancer remains a taboo and the people suffering with cancer are subjected to stigma and discrimination which prevents them from seeking care (Valerie et al., 2015). The cancer disease can have a severe impact on a person's physical, mental and emotional states and also keep them at more risk of diminished quality of life for several years after diagnosis (Harden et al., 2008). The physiologic effects of some cancer treatments such as hair loss, sexual dysfunction, impaired fertility and weight gain can also leads to stigma and discrimination and sometimes can be the cause of partner rejection (Aubin and Perez, 2015). The psychological toll for caring a cancer living person can also be enormous as many care givers experiences distress and declines in their physical and mental health (Adler and Page, 2008). The pain of cancer experienced due to inadequate access to pain relieving medicines has wide implications in the quality of life of cancer patients and is frequently linked to psychological distress, including higher levels of anxiety, depression and fear (Wells et al., 2008).

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A Review on Various Formulation Methods in preparing Colon targeted mini-tablets for Chronotherapy

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Core-mini-tablets filled pulsincap drug delivery system, Matrix-mini-tablets filled capsule drug delivery system, Coated-mini-tablets filled capsule drug delivery system.

ABSTRACT

Rheumatoid arthritis disease, according to its circadian rhythms shows early morning peak symptoms. Sometimes, single unit (ex. larger tablets) and multiple units (ex. granules, pellets) colon targeted drug delivery systems are not always an efficient treatment option. Because single unit larger tablets may possess the disadvantages of unintentional disintegration of the formulation due to GI variation or manufacturing deficiency leading to complete dose dumping. Even the multiple unit drug delivery systems such as granules and pellets also have many drawbacks because of their irregular weights, shapes and sizes. Thus, a tight, reproducible *in-vitro* and *in-vivo* release profile can't be achieved. In an attempt to overcome the problems presented by these delivery systems, advanced system such as multiple unit mini-tablets have developed. This is an approach towards achieving critical factors such as better patient compliance and convenience. In the present review, a concerted try has made to summarize the details of different formulation methods used in preparing mini-tablets of lornoxicam and naproxen drugs for colon targeted delivery in chronotherapy. The techniques formulated and evaluated as core-mini-tablets filled pulsincap drug delivery system (using time dependent polymers), matrix-mini-tablets filled capsule drug delivery system (using microsomal enzyme dependent and pH dependent polymers) and coated-mini-tablets filled capsule drug delivery system (using pH dependent polymers). All these methods were successful in targeting Anti-inflammatory drugs at colonic junction. Hence, the mentioned formulation methods can be successfully used in the chronotherapeutic treatment of Rheumatoid arthritis.

INTRODUCTION

Drugs have become the order of day for many people across the world. There is hardly anyone who has not taken a medicine in his/her life, but many times the people who take tablets rarely give importance to the timing of its intake. There are about 60 diseases including Arthritis, Asthma and Cancer for which drugs can be more effective when they are taken at the right time of the day. Because, ideal therapy results only when right portion of the drug is delivered to the right targeted organ at the most suitable time. Thus, many adverse effects can also be reduced when a drug is not given when actually it is not required (Hrashesky, 1994; Drelaywaja, 2010; Smolensky and Peppar, 2007; Suresh and Pathak, 2005).

Further, the biochemistry and physiology of a human being is not constant during the 24 hour period, but varies according to the peak timing and trough of body's circadian processes and functions. Many human body systems such as pulmonary, cardiovascular, hepatic and renal vary in their functions throughout a day. It has become obvious through clinical and epidemiological studies that even the disease activity levels of a number of disorders such as Asthma, Arthritis, Peptic ulcer, Hypertension, etc., have a pattern related to body's biological clock as stated to circadian rhythms. When the normal biological processes are influenced according to the time of the day, they affect the pathophysiology of the disease and its treatment. Thus, many human physiological processes differ in a rhythmic manner

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