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JOURNAL OF PHARMA RESEARCH

ISSN: 2319-5622

http://www.worldinventiapublishers.com/JPR/

UGC Approved

Vol - 6 Supplement - 1

March - 2017

www.worldinventiapublishers.com

PEAR – 2017

International conference on

"Pharmaceutical Education-Academia Relation to Industry-Current Scenario"

17th & 18th March 2017

At Jawaharlal Nehru Auditorium, JNTUH, Hyderabad.

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INTERNATIONAL CONFERENCE ON

"Pharmaceutical Education-Academia Relation to Industry-Current Scenario"

(PEAR - 2017)

ABSTRACT PROCEEDINGS

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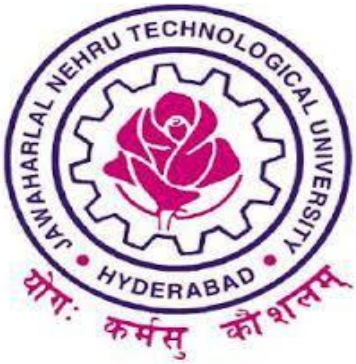

Centre for Pharmaceutical Sciences

Institute of Science and Technology, JNTUH, Kukatpally,

Hyderabad – 500085

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EDITORIAL REPORT

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Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: ANA001

DEVELOPMENT AND VALIDATION OF BIO - ANALYTICAL METHOD FOR THE ESTIMATION OF LACIDIPINE IN HUMAN PLASMA BY USING LC-MS/MS

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ABSTRACT

A simple, sensitive, rapid and economic high performance thin layer chromatographic method and a mass spectroscopic bio-analytical method developement and validation of lacidipine in human plasma using amilodipine as internal standard. The column employed in this determination was Agilent, Eclipse Zorbax XDB phenyl (4.6x75, 5µ), mobile phase comprising 5M ammonium acetate buffer: isopropnol in the ratio of 70:30v/v. the injection volume were 20 µL^{-1} the retention time was about 1.3 for lacidipine and 0.95 minutes for Amilodipine of a total run time of 2.5 minutes, linearity of the method was linear over the range of 0.2052 ng/mL to 12.5026 ng/mL using Amilodipine as internal standard.

KEYWORDS: *Lacidipine, Amilodipine (ISTD).*

How to cite this Abstract:

Lingeswara Rao Punati, Saikishore Vankayalapati. DEVELOPMENT AND VALIDATION OF BIO - ANALYTICAL METHOD FOR THE ESTIMATION OF LACIDIPINE IN HUMAN PLASMA BY USING LC-MS/MS. J Pharm Res 2017;6(Suppl 1):S-1.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: ANA019

SIMULTANEOUS ESTIMATION AND VALIDATION OF RP-HPLC METHOD FOR PREGABALIN AND CELECOXIB IN BULK AND DOSAGE FORMS

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ABSTRACT

A simple, accurate, precise and highly selective reverse phase high performance liquid chromatographic (RP-HPLC) method was developed and validated for Pregabalin and Celecoxib. Chromatographic separation was achieved isocratically by using waters allaiance 2695 separation module, Hypersil BDS(150 mm x 4.6 mm, 5µ) at temperature 30°c. Flow rate selected was 1ml/min. Both changes were identified with 238 nm. Mobile phase employed was potassium di hydrogen orthophosphate buffer of pH 6.5 and acetonitrile in the ratio of (50:50) which resulted best resolution and sensitivity. Developed method was validated in terms of linearity, range(37.5 µg/ml-281.25 µg/ml, for Pregabalin, 100 µg/ml -750 µg/ml Celecoxib),precession (correlation coefficient is less than 0.999), robustness, accuracy (recovery of Pregabalin and Celecoxib were 100.3% and 100.13% respectively). The validation of proposed method was verified by recovery studies and can be applicable in routine pharmaceutical analysis.

KEYWORDS: *RP-HPLC, Pregabalin, Celecoxib and Potassium di hydrogen orthophosphate Buffer.*

How to cite this Abstract:

Merugu Manasa, G.Swapna. SIMULTANEOUS ESTIMATION AND VALIDATION OF RP-HPLC METHOD FOR PREGABALIN AND CELECOXIB IN BULK AND DOSAGE FORMS. J Pharm Res 2017;6(Suppl 1):S-2.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Review **Code: CEU023**

GUGGULOSOMES: AN OVERVIEW

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ABSTRACT

Novel Drug Delivery System adopts various strategies to achieve controlled and targeted drug delivery. Guggulosomesare concentric,bilayered novelvesicular drug delivery systems wherein the drug is encapsulated in the lipid bilayer or in the aqueous core depending upon the solubility of the drug. Liposomes are vesicular systems formulatedusing lecithins, synthetic phospholipids (phosphatic acid, phosphotidylcholine, phosphotidylglycerol) together with cholesterol. Guggulosomes are modified liposomes where cholesterol is substituted with guggullipids. Guggulosomes can be utilized for therapeutic and cosmetic purpose for the delivery of the active to the target site or organ.Guggul lipid is the standardized extract of the oleo-gum-resin of Commiphoramukul, Family - Burseraceae.Scientific investigations of guggullipid indicated it to possess anti-inflammatory, anti-hyperlipidemic, anti-obesity, and anti-cancer and also anti- wrinkle, anti-acne activities.Guggulosomes act synergisitically when formulated for treatment of the above conditions. Thus, they enable dosereduction andalso minimize the dose dependent side effect of the drugs.Guggulosomes are prepared using different methods such as lipid hydration method, solvent evaporation method, sonication method, French pressure cell method etc. This vesicular delivery system is evaluatedfor lamellarity, particle size, and vesiclecharge. Shekhar et al (2010) successfully formulated ibuprofen guggulosomes forsynergistic and sustained anti-inflammatory activity. The results demonstrated that the guggulosomes prepared by bath sonication method showed greater sustained release and drug entrapment efficiency. The data obtained in the vivoanti-inflammatory study by rat paw edema method revealed synergistic and increased therapeutic efficacy of ibuprofen guggulosomes when compared to ibuprofen or guggul lipids individually. VivekDave et al. (2014) successfully formulated guggulosomes withacelofenac.The experimental data indicated guggulosomegel withcarbopol 934K to be more stable and devoidof irritation indicating its acceptability for topical administration. Review of guggulosomes indicated it to be a promising alternative for delivery of anti-inflammmatory drugs and also for cosmetic treatment of the skin.

KEYWORDS: *Guggulosomes, Phospholipids, Guggul Lipids, Anti-Inflammatory.*

How to cite this Abstract:

P.J. PrasunaSundari, Kalpana Agarwal. GUGGULOSOMES: AN OVERVIEW. J Pharm Res 2017;6(Suppl 1):S-3.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU040

CONTROLLED RELEASE OF SODIUM CROMOGLYCATE *IN SITU* GEL FOR OPHTHALMIC DELIVERY USING PHASE TRANSITION POLYMERS

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ABSTRACT

Conventional ophthalmic preparations exhibit poor bioavailability due to the rapid precorneal elimination the drug, and the physiological constraints imposed by the protective mechanisms of the eye lead to the low absorptio of the drugs resulting in a short duration of the therapeutic effect. In order to increase the residence time of the drug situ gelling systems were prepared and instilled as drops into the eye which undergo a sol-gel transition in the cul-a sac. The present work describes the formulation and evaluation of Sodium Cromoglycate Ocular in situ gel using thr different gelling agents in a controlled manner. Three different modes of phase transition techniques were prepared achieve sol – to – gel transformation which include pH sensitive (Carbopol 940), ion sensitive (Sodium Alginate) a temperature sensitive (Polaxomer) techniques, where three different gelling agents were used in conjunction wi Hydroxypropyl Methylcellulose (K_4M), a viscosity enhancing agent. The promising formulations T6, I4 and P2 we evaluated pH, drug content, in vitro gelation, in vitro drug release, in vivo drug release, ocular irritation, and stabili The FTIR study has shown that there is a good Compatibility between the drug and polymer. The cumulative perce drug release was found to be 52.8, 54.8 and 56.5 % and the Percent drug content was found to be 98.60, 99.43 and 99.1 % for the formulations T6, I4 and P2 respectively. The ocular irritation study has shown no redness or inflammation the treated as well as in the controlled eye for the duration of 6 hrs. In vivo studies of the temperature sensitive in si gelling systems has shown decrease in the scores of Conjunctival redness, Chemosis, discharge from the eye a Conjunctival Itching with the after 8hrs.

KEYWORDS: *In situ gelling systems, Sodium Cromoglycate, Poloxamer, Sodium Alginate, Carbopol 940, HPMC K4M, pH sensitive systems, Temperature sensitive systems and ion sensitive systems.*

How to cite this Abstract:

P.Nagadivya, Anna Balaji. CONTROLLED RELEASE OF SODIUM CROMOGLYCATE *IN SITU* GEL FOR OPHTHALMIC DELIVERY USING PHASE TRANSITION POLYMERS. J Pharm Res 2017;6(Suppl 1):S-4.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU041

DESIGN AND CHARACTERISATION OF BIOADHESIVE MICROSPHERES OF RANITIDINE

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ABSTRACT

Bioadhesive microspheres of ranitidine were developed for controlled release of the drug using hydrophilic polymers sodium alginate and HPMC E15. Bioadhesive microspheres can be efficiently used for the active agents which undergo rapid first pass metabolism, hence the bioadhesive microspheres of ranitidine were prepared by using combination of two polymers sodium alginate and HPMC E15 using 2%w/v calcium carbonate as crosslinking agent by ionotropic gelation technique. Formulations F1, F2, F3, F4 were composed of sodium alginate and hydroxypropyl methyl cellulose (HPMC E15) in different ratios respectively. The prepared microspheres were characterized for their percentage yield, drug content, drug entrapment efficiency, insitu bioadhesion studies, in vitro drug release studies and SEM analysis for their size, surface morphological studies. All the formulations exhibited satisfactory physicochemical characteristics. Cumulative percentage of the drug released for the optimized formulation [F4] was 95.80 % for 11hrs among all four formulations respectively. Sodium alginate and HPMC E15 in the different ratios using calcium chloride as crosslinking agent were very promising in controlling the release of ranitidine by bioadhesive drug delivery system.

KEYWORDS: *Bioadhesive Microspheres, Sodium alginate and HPMC E15.*

How to cite this Abstract:

S.Varalaxmi, S.L.V. Nath, Rajeev Kotla. DESIGN AND CHARACTERISATION OF BIOADHESIVE MICROSPHERES OF RANITIDINE. J Pharm Res 2017;6(Suppl 1):S-5.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU067

DEVELOPMENT OF DIAZEPAM MICROEMULSION FOR INTRA NASAL ADMINISTRATION FOR BRAIN TARGETTING

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ABSTRACT

Diazepam is, a poorly water soluble and the drug of choice for status epilepticus. Administration of Diazepam via intravenous route needs hospitalization of the patient resulting in delayed treatment. Intranasal delivery of Diazepam in the treatment of seizure emergencies, before hospitalization reduces the extent of damage due to seizures. Diazepam can reach the brain bypassing the blood brain barrier through olfactory path ways. Hence nasal formulation of Diazepam is prepared as Micro emulsion drug delivery systems. In present study the pseudo ternary phase diagrams were developed for various micro emulsion formulations composed of oleic acid, Tween 80, propylene glycol and ethanol. The micro emulsion was optimized using a three-factor, three-level Box–Behnken design, the independent variables selected were oleic acid, surfactant mixture and water; dependent variables were cumulative amount permeated across porcine nasal mucosa (Y1)flux, size (Y2), and zeta (Y3). Mathematical equations and response surface plots were used to relate the dependent and independent variables. The regression equations were generated for responses Y1, Y2 and Y3. Optimized formulation factors were selected by feasibility and grid search. Validation of the optimization study with 10 confirmatory runs indicated high degree of prognostic ability of response surface methodology. The prepared formulations were characterized for various physicochemical parameters and In vitro and ex vivo studies. The emulsion of optimized formulation showed a flux of 317.4 $\mu g.cm^{-2}.h^{-1}$, size 52 nm and zeta was -32.4 mV. Further studies will be conducted on rat animal models for in vivo investigation.

KEYWORDS: *Diazepam, Microemulsion, Nasal Administration.*

How to cite this Abstract:

Srividya Ramreddy, Krishnavenijanapareddi. DEVELOPMENT OF DIAZEPAM MICROEMULSION FOR INTRA NASAL ADMINISTRATION FOR BRAIN TARGETTING. J Pharm Res 2017;6(Suppl 1):S-6.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU069

ANTIMICROBIAL ACTIVITY OF *ACHYRANTHES ASPERA*

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ABSTRACT

The successive extracts of Achyranthes aspera herb parts has been investigated for invitro antimicrobial activity against Staphylococcus aureus, Bacillus subtilis, Escherichia coli and Salmonella typhi by disc diffusion method. Different solvents such as methanol, acetonitrile, chloroform and n-hexane were selected for extraction. Ciprofloxacin and Clotrimaxazole 1000 µg/ ml were used as standard drugs. Methanol extracts of Achyranthes aspera powder inhibited the growth of Staphylococcus aureus, Salmonella typhi and Bacillus subtilis with inhibition zone diameter of 9 mm, 7 mm and 9 mm respectively. Chloroform extract of Achyranthes aspera plant parts was found to inhibit S. aureus, S. typhi with zone diameter of 6 mm (leaves), and 6 mm (inflorescence) respectively. N-hexane extract showed the growth inhibition against S. aureus, E. coli and B. subtilis with 6 mm (stem), 8 mm (inflorescence) and 6 mm (whole plant) respectively.

KEYWORDS: *Antimicrobial activity, Achyranthes aspera, Microorganisms.*

How to cite this Abstract:

Ashwini Kumari Chauhan, Rahamat Unissa. ANTIMICROBIAL ACTIVITY OF *ACHYRANTHES ASPERA*. J Pharm Res 2017;6(Suppl 1):S-7.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU076

FORMULATION AND IN VITRO EVALUATION OF EXTENDED RELEASE TABLETS OF DARIFENACIN HYDROBROMIDE

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ABSTRACT

Darifenacin Hydrobromide is a Potent and selective antimuscarinic (M3) agent used in Symptomatic treatment of urge incontinence and/or increased urinary frequency and urgency as may occur in adult patients with overactive bladder syndrome. The present study was an attempt to formulate and evaluate Darifenacin Hydrobromide Extended Release matrix tablets. Darifenacin Hydrobromide ER tablets were prepared by using excipients like HPMC and Xanthan Gum and formulated by direct compression method using 8mm punch and compared with the marketed product (ENABLEX). The main objective of the present study was to delay the release of Darifenacin Hydrobromide by using Hydrophilic matrix polymers i.e. HPMC (K4M, K15M, K100M, Metalose 60 SR 50), XANTHAN gum and to have an extended release of the drug over a prolonged period. The physicochemical, pre compression, post compression studies were evaluated and compared with the marketed product (ENABLEX).The % drug released from the extended release tablets (from F1 to F12) was found to be vary from 9.34% to 104.45% in 24 hours. The optimized formulation F12 showed 97.84% of drug release in 24 hours where as the marketed extended release tablets (ENABLEX) showed 96.45% in 24 hours. There was no significant difference between the optimized formulation and marketed tablet (ENABLEX) in terms of invitro drug release profile. The extended release tablets prepared were found to be within the official limits with respect to hardness, weight variation, drug content, thickness etc. The optimized formulation (F12) follows first order kinetics and found to be stable for 3 months of period time.

KEYWORDS: *Darifenacin Hydrobromide, Vitro Evaluation, Extended Release tablets, HPMC, Xanthan Gum.*

How to cite this Abstract:

Anil Goud Kandhula, V. Ravikrishna, G. Divya. FORMULATION AND IN VITRO EVALUATION OF EXTENDED RELEASE TABLETS OF DARIFENACIN HYDROBROMIDE. J Pharm Res 2017;6(Suppl 1):S-8.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU077

FORMULATION AND EVALUATION OF FAST DISSOLVING SUBLINGUAL FILMS OF AGOMELATINE

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ABSTRACT

Agomelatine a potent agonist at melatonin receptors (MT1 and MT2) and antagonist at serotonin (5-HT2C) receptors. The combined actions of Agomelatine at MT_1, MT_2 and 5-HT 2C receptors can improve the disturbed circadian rhythm and abnormal sleep pattern thus produce the antidepressant effect. These unique effects suggest that it might be effective for the treatment of seasonal affective disorder like anxiety and bipolar depression. Agomelatine undergoes first pass metabolism, which have the bioavailability 5%. The present study investigated the possibility of developing agomelatine fast dissolving sublingual films allowing fast, reproducible drug dissolution in the oral cavity, thus bypassing first pass metabolism to provide rapid onset of action of the drug. The fast dissolving films were prepared by solvent casting method. Low viscosity grades of hydroxy propyl methyl cellulose (HPMC E3 and E5) were used as film forming polymers due to their hydrophilic nature. In this study Ethanol and dichloro methane were used as solvents. Tween 80 used as solubilising agent and plasticizer and aspartame used as sweetening agent. All the film formulations (F_1 – F_{12}) were evaluated for their thickness, weight variation, tensile strength, percentage elongation, folding endurance, in vitro disintegration time, drug content, and in vitro drug release and ex vivo permeation studies. The film formulation F_{10} showed satisfactory physico-mechanical parameters and pH, drug content (98.54±1.25%), effective in vitro drug release (94.64±1.42% in 20min), disintegration time (41.1±1.08 sec.), ex vivo permeation (60.12% in 1hr) and satisfactory stability which may appeared to be a promising alternative to conventional tablets of Agomelatine.

KEYWORDS: *Agomelatine*, Formulation and Evaluation, Fast Dissolving Sublingual Films.

How to cite this Abstract:

Ravi Krishna Velupula, A. Lavanya, M.Vamshi Krishna, Sd. Sumera Shermeen. FORMULATION AND EVALUATION OF FAST DISSOLVING SUBLINGUAL FILMS OF AGOMELATINE. J Pharm Res 2017;6(Suppl 1):S-9.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU078

FORMULATION AND EVALUATION OF SOLID SELF EMULSIFYING DRUG DELIVERY SYSTEM OF FUROSEMIDE

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ABSTRACT

The objective of the present study was to develop a novel Solid Self emulsifying Drug Delivery System (SEDDS) to enhance the solubility, dissolution rate and ultimately the oral bioavailability of poorly water soluble drug Furosemide. Conventional SEDDS, which are mostly prepared in a liquid form and orally administered in soft or hard gelatin capsules can make some disadvantages such as high production costs, low drug incompatibility and stability, drugs leakage and precipitation, capsule ageing. Then incorporation of liquid SEDDS into a solid dosage form is compelling and desirable. Recently, a new drug delivery technology-solid SEDDS (S-SEDDS) which combine the advantages of SEDDS and those of solid dosage forms, have been investigated. Phase solubility studies were conducted using various oils (Oleic acid, and Soybean oil, Sunflower oil), Surfactants (Tween 20, Cremophor RH40) and co-solvent (Ethanol) for the maximum solubility of Furosemide. Ternary phase diagrams were constructed to evaluate the self- emulsification domains and were also for the optimum concentrations of oil and surfactants in the formulation. The globule size analysis and zeta potential of all the developed formulations were studied using Malvern Zeta Sizer. Invitro release studies and emulsification time were conducted using USP Type II dissolution test apparatus. FTIR analysis for investigating the drug-excipients interactions was performed. The formulation of Furosemide SEDDS was compared with commercial tablets (Lasix® 40). The Results of the studies indicated that, the rate of dissolution of the developed SEDDS formulations containing Furosemide was 2.9 to 3.6 folds increased compared with that of commercial tablets.

KEYWORDS: *Formulation & Evaluation, Self Emulsifying Drug Delivery System (SEDDS), Furosemide.*

How to cite this Abstract:

Anjali Devi Nippani, J. Renuka, Anil Goud Kandhula. FORMULATION AND EVALUATION OF SOLID SELF EMULSIFYING DRUG DELIVERY SYSTEM OF FUROSEMIDE. J Pharm Res 2017;6(Suppl 1):S-10.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Review **Code: CEU082**

PARENTERAL SUSPENSIONS – A PROMISING APPROACH IN DRUG DELIVERY

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ABSTRACT

Parenteral suspension are dispersed, heterogeneous systems containing insoluble drug particle which can be easily resuspended prior injecting into the body. The reduction in size of the particles in formulation of parenteral suspensions there is increase in surface area of the dispersed drug which ensures a high degree of bioavailability due to increased rate of absorption. Different approaches were used for modifying the rate of release of drug from the parenteral suspensions byincreasing the viscosity by using different viscosifying agents, complex formation, esterification method, using oil solutions as vehicles. Drastic changes in recent era led to the development of many controlled release parenteral suspensions which mainly include depot formulations which are mainly intended for rate of release retardation of the active drug molecules.In recent years, the research in parenteral suspension technologies has been fuelled pathway for development of many novel formulations. They have also emphasized on appropriate selection of excipients for suspension injectable dosage forms and linking their physiochemical properties with optimum manufacturing method with suitable case studies. This review will gain better understanding of parenteral suspensions their formulation studies and also stability studies their resolving problems with practical approach.

KEYWORDS: *Parenteral Suspensions, Drug Delivery.*

How to cite this Abstract:

Sravani Somayajula, Medhuri Jayasree, S. Varalaxmi. PARENTERAL SUSPENSIONS – A PROMISING APPROACH IN DRUG DELIVERY. J Pharm Res 2017;6(Suppl 1):S-11.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU099

IN VITRO STUDY OF NATURAL GUM BASED BUCCOADHESIVE TABLETS OF ANTIEMETIC DRUG

Jaydeep B. Pawar [1], Somashekar Shyale [2], Vijayalakshmi Prakya [3]

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ABSTRACT

The aim of the present study was to assess the applicability of Almond gum (AG) obtained from Terminalia catappa L., as a mucoadhesive polymer using Ondansetron hydrochloride as a model drug. Direct compression technique was employed for the preparation of buccal tablets using ethyl cellulose as backing layer with 3^2 full factorial design. Amounts of AG and Guar gum (GG) were taken as the formulation variables. The tablets were tested for post-compressional parameter with study the effect of formulation variables on swelling index, surface pH, bioadhesive strength and in-vitro drug dissolution and permeation study. Surface pH study of tablets indicated that the all formulations are suitable for buccal environment. The hardness, friability, weight variation, drug content, surface pH, swelling index, mucoadhesive strength, in vitro drug release were uniform and reproducible. However the AG and GG markedly affected the mucoadhesion strength and the release profile. Mucoadhesive strength and drug release was found to be a function of amount of polymers. As amount of polymers increases mucoadhesive strength and drug release increases. The formulation variables were found to be significant for mucoadhesion and release properties ($P< 0.05$). The investigation results clearly indicated that combination of GG and AG be capable of mucoadhesive polymer for drug delivery.

KEYWORDS: *Almond gum, Guar gum, In- Vitro dissolution.*

How to cite this Abstract:

Jaydeep B. Pawar, Somashekar Shyale, Vijayalakshmi Prakya. *IN VITRO* STUDY OF NATURAL GUM BASED BUCCOADHESIVE TABLETS OF ANTIEMETIC DRUG. J Pharm Res 2017;6(Suppl 1):S-12.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU111

FOMULATION AND EVALUATION OF RESPERIONE EXTENDED RELEASE TABLETS

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ABSTRACT

The main objective of the present study is to formulate and evaluate pharmaceutically stable, cost effective and quality improved formulation of Resperidone Extended Release tablets and to compare with thereference product (Lithium). These drugs degrades in acidic environment of the stomach and leads to therapeutic inefficacy. It is necessary to permeate the acidic pH of the stomach which can be achieved by formulating extended release dosage forms by using different enteric polymers.Resperidone belongs to the atypical antipsychotics class. A dopamine antagonist possessing anti-serotonergic,anti-adrenergic and anti-histaminergic properties.Preformulation parameters such as bulk density, tapped density, Angle of repose, solubility studies andcompatibility were studied. Drug and excipients were found to be compatible had done by using DSC. Initially aperformulation studies and formulation was developed for the core tablet, the tablets were prepared with different concentrations of the binder. The optimized formulation was coated with barrier coating and then with enteric coating with Eudragit (Methacrylic acid co polymer) using a plasticizer, Tri ethyl citrate. All the batches showed better dissolution profile but the dissolution profile of F6A is nearer to the Reference product at all the time intervals.

For the formulations from F1A to F5A the dissolution profile was seen faster in some cases and slower in some case. Even though all the formulations are releasing the drug, but not comparable with the reference product.Finally it was concluded that the optimized formulation (F6A) with optimum hardness at 21% weight build up matches with reference product.

KEYWORDS: *Formulation & Evaluation, Resperione, Extended Release Tablets.*

How to cite this Abstract:

Nasreen Sultana, Y. Vamshi Vishnu. FOMULATION AND EVALUATION OF RESPERIONE EXTENDED RELEASE TABLETS. J Pharm Res 2017;6(Suppl 1):S-13.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Review Code: CEU133

SMART POLYMERS IN DRUG DELIVERY

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ABSTRACT

Controlled drug delivery is useful because it is achieving better drug product effectiveness, reliability and safety. Smart polymers have various applications in biomedical field as delivery systems. Smart polymers are macromolecules that display a dramatic physiochemical change in response to small changes in their environment such as temperature, pH, light, magnetic field, ionic factors etc. Dual – stimuli responsive polymers are also used in the biomedical field.

Keywords: *Smart Polymer, drug delivery, cross linking, in situ gel.*

How to cite this Abstract:

Addanki Anusha, Pavani V. SMART POLYMERS IN DRUG DELIVERY. J Pharm Res 2017;6(Suppl 1):S-14.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU134

A COMPREHENSIVE REVIEW ON NOVEL MICROSPONGES DRUG DELIVERY APPROACH

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ABSTRACT

Micro sponges drug delivery approach (MDA) has been introduced in topical products to facilitate the controlled and targeted release of active drug into the skin to decrease systemic exposure and minimize local cutaneous reaction. Micro sponges are highly cross-linked, polymeric sponge, porous in nature, spherical shape consisting of high drug content within their interconnecting voids, releasing bioactive agent at a target site within predetermined time. They are mostly used for prolonged topical administration, enhanced efficacy for topically therapeutic agent with safety, stability and reduced side effects followed by improved aesthetic properties in an efficient and novel manner. More ever, it is found to be stable over wide pH range and compatible with most vehicles. We here complied recent data regarding properties of micro sponges, their methodology pharmaceutical application and list of patent till date.

Keywords: *Micro sponges, Bioactive, Porous, Interconnecting voids, Aesthetic.*

How to cite this Abstract:

Mummaneni Swathi, Pavani V. A COMPREHENSIVE REVIEW ON NOVEL MICROSPONGES DRUG DELIVERY APPROACH. J Pharm Res 2017;6(Suppl 1):S-15.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CHE002

EVALUATION OF ANTI-INFLAMMATORY ACTIVITY OF SUBSTITUTED BENZOFURAN DERIVATIVES

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ABSTRACT

Benzofuran and its derivatives constitute active class of compounds possessing wide spectrum of biological and pharmacological activities. Several benzofuran derivatives were reported widely to possess anti-inflammatory activity. In view of the above facts, getting more potential molecules, the derivatives of benzofuran were evaluated against the Anti-inflammatory activity.

Reaction of 5-bromosalicyldehyde with 2-bromo-1-(Phenyl)ethanones yields 5-bromobenzofuran-2-yl-phenylmethanone (1a-e). Condensation of compounds (1a-e) with aniline, hydroxylamine hydrochloride and thiosemicarbazide afforded 5-bromo-benzofuran-2-yl-phenylmethylene aniline (2a-e), 5-bromobenzofuran-2-yl-phenyl methanone oxime (3a-e) and 5-bromobenzofuran-2-yl-phenyl methanone thiosemicarbazone (4a-e) respectively.

Keywords: *Benzofuran derivatives, Anti-inflammatory, 5-bromosalicyldehyde, 2-bromo-1-(Phenyl)ethanone.*

How to cite this Abstract:

Channamma M., Raga Basawaraj, S. Appala Raju, N. V. Kalyani. EVALUATION OF ANTI-INFLAMMATORY ACTIVITY OF SUBSTITUTED BENZOFURAN DERIVATIVES. J Pharm Res 2017;6(Suppl 1):S-16.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CHE003

SYNTHESIS OF 5-(((2,2-DIMETHYLCHROMAN-4-YL)OXY)METHYL)-3-PHENYL ISOXAZOLES, 1-BENZYL-4-(((2,2-DIMETHYLCHROMAN-4-YL)OXY)METHYL)-1H-1,2,3-TRIAZOLES AND 4-(((2,2-DIMETHYLCHROMAN-4-YL) OXY)METHYL)-1-PHENYL-1H-1,2,3-TRIAZOLES

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ABSTRACT

It is well-known that heterocyclic compounds having azole nucleus are important pharmacophore that appear extensively in various types of pharmaceutical agents, widely implicated in biochemical processes and display diversity of pharmacological activities. Chromanones and their derivatives show significant pharmaceutical interest since they exhibit a broad range of biological activities which include antiviral, antimicrobial, antiallergic and antitumor activities etc. Isoxazoles are an important heterocycles, which are largely used in the area of pharmaceuticals and therapeutics such as anticancer, antituberculosis, antibiotic, antitumour, antifungal, antibacterial, insecticidal and ulcerogenic. 1,2,3-Triazole moieties are attractive connecting units because they are stable to metabolic degradation and capable of hydrogen bonding, which can be favorable in the binding of biomolecular targets and can improve the solubility. The 1,2,3-triazole moiety does not occur in nature, although the synthetic molecules that contain 1,2,3-triazole units show diverse biological activities. The importance of triazolic compounds in medicinal chemistry is undeniable.

We have synthesized novel 5-(((2,2-dimethylchroman-4-yl)oxy)methyl)-3-phenyl isoxazoles, 1-(substituted benzyl)-4-(((2,2-dimethylchroman-4-yl)oxy)methyl)-1H-1,2,3-triazoles and 1-(substituted phenyl)-4-(((2,2-dimethylchroman-4-yl)oxy)methyl)-1H-1,2,3-triazoles in excellent yields employing click chemistry approach.

Keywords: *Synthesis, Triazoles, Heterocyclic compounds.*

How to cite this Abstract:

P. Nagendra Reddy, V. Rekha, G.L. David Krupadanam. SYNTHESIS OF 5-(((2,2-DIMETHYLCHROMAN-4-YL)OXY)METHYL)-3-PHENYL ISOXAZOLES, 1-BENZYL-4-(((2,2-DIMETHYLCHROMAN-4-YL)OXY)METHYL)-1H-1,2,3-TRIAZOLES AND 4-(((2,2-DIMETHYLCHROMAN-4-YL) OXY)METHYL)-1-PHENYL-1H-1,2,3-TRIAZOLES. J Pharm Res 2017;6(Suppl 1):S-17.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CHE031

SYNTHESIS, CHARACTERIZATION AND ANTI-INFLAMMATORY ACTIVITY OF PHTHALAZINONE AND PYRIDAZINONE DERIVATIVES

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ABSTRACT

Phthalazinone and Pyridazinone derivatives have found application in clinical medicine due to their pronounced antipyretic, analgesic, and tuberculostatic activity and also vasodialator and antihypertensive properties. Also these derivatives have been reported as potent hepatoprotective agents ,antibacterial and antifungal agents, anticancer ,cyclo-oxygenase -2 inhibitors. Therefore, it was thought worthwhile to synthesize Pthalazinone and Pyridazinone derivatives by refluxing the mixture of appropriate acid and hydrazine in absolute alcohol and new pyridazinones were also prepared. The intermediate 1,4 ketoacids (β-aroylpropionic acids) required for the synthesis of Pthalazinone and Pyridazinone (PH-1 to PH-12) were prepared by substituted aromatic compounds with appropriate acid anhydride and All the synthesized compounds were purified by chromatographic and crystallization methods and then identified by physical and their structures of compounds were elucidated by spectral and elemental analysis. These compounds, were tested for their anti-inflammatory activity.

Key words: *Phthalazinone and Pyridazinone , Anti-inflammatory and Etoricoxib.*

How to cite this Abstract:

B. Chandrakanth, V. Girija Sastry, Y. Vamshi Vishnu. SYNTHESIS, CHARACTERIZATION AND ANTI-INFLAMMATORY ACTIVITY OF PHTHALAZINONE AND PYRIDAZINONE DERIVATIVES. J Pharm Res 2017;6(Suppl 1):S-18.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: COG010

COMPARATIVE STUDY ON THE WOUND HEALING ACTIVITY OF AQUEOUS, ETHANOLIC EXTRACTS OF *PSIDIUM GUAJAVA* LEAVES

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ABSTRACT

The aim of the present research work was to investigate the wound healing effect of Psidium guajava leaves extract. Psidium guajava Linn (Myrtaceae) has been used as traditional medicine to treat wound. The wound healing mechanisms of Psidium guajava leaves extract was investigated. Aqueous and ethanolic extract of Psidium guajava leaves was used. The comparative study of Water and ethanolic extract Psidium guajava leaves was carried out to evaluate wound healing activity. The major findings of the study demonstrated the significant wound healing potential of Psidium guajava leaves extract gel formulation. Clinical healing was established by measuring the area of the wound in each test group on days 3, 6, 9 ,12 & 15 . Water and ethanolic extract containing gel applications result decrease in the wound area in 15 days. Comparative study was done in water extract and ethanolic extract. Alcoholic extract was more effective in comparison with water extract. Histological evaluation showed that the Psidium guajava leaves extract group had a high histological score than the control groups during the whole test period and the difference between the Psidium guajava leaves extract group and the control group was significant. Statistical differences between means were determined by one way ANOVA followed by Tukey's test. Values of $p<0.040$, were considered as significant in this experimental animal study. Formulated herbal gel containing water and alcoholic extract test groups and standard which indicates that formulated herbal gel was as effective as standard gel for wound healing activity. From the results it was concluded that Psidium guajava leaves extract when formulated in gel show significant improvement in wound contraction for wound healing activity. Formulated herbal gel containing water and alcoholic extract test groups and standard indicates that formulated herbal gel was as effective as standard gel for wound healing activity.

KEYWORDS: *Psidium guajava; Tannin Fraction; Wound healing activity.*

How to cite this Abstract:

D. Anusha, V.R.M. Gupta. COMPARATIVE STUDY ON THE WOUND HEALING ACTIVITY OF AQUEOUS, ETHANOLIC EXTRACTS OF *PSIDIUM GUAJAVA* LEAVES. J Pharm Res 2017;6(Suppl 1):S-19.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: COG042

STANDARDIZATION AND PHYTOCHEMICAL SCREENING OF *MUCUNA PRURIENS*

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ABSTRACT

Mucuna pruriens belongs to the family Fabaceae, is the most popular drug in Ayurvedic system of medicine. Various parts of Mucuna pruriens are generally used to treat impotence, diabetes mellitus and cancer. All the parts of plant possess valuable medicinal properties in traditional system of medicine and are used for the treatment for bone fractures, cough, dog bite and madness. The present study was designed for the standardization of whole plant powder and preliminary phytochemical screening of various extracts of leaves of Mucuna pruriens. Physicochemical parameters like loss on drying, determination of total ash, determination of pH range and acid insoluble ash of whole plant powder of Mucuna pruriens were estimated based on the methods recommended by World Health Organization (WHO). The study includes preparation of extracts by solvent extraction method with soxhlet apparatus using chloroform, ethyl acetate and methanol, as solvents and preliminary phytochemical screening. The result of physicochemical parameters values was found to be within the ranges and valuable to estimate the chemical constituents present in the crude drug. Report of phytochemical screening for all the extracts revealed the presence of alkaloids, flavonoids, tannins and phenolic compounds in the leaves of Mucuna pruriens. The generated information of the present study will provide data which is helpful in the correct identification & authentication of this medicinal plant and may help in preventing its adulteration.

KEYWORDS: *Standardization, Phytochemical Screening, Mucuna Pruriens.*

How to cite this Abstract:

Rakam Gopi Krishna, Raja S., Raj Kumar V. STANDARDIZATION AND PHYTOCHEMICAL SCREENING OF *MUCUNA PRURIENS*. J Pharm Res 2017;6(Suppl 1):S-20.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Review **Code: COL012**

MATHEMATICAL INTERPRETATION OF CANCER CELLS

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ABSTRACT

Cancer has been a universal phenomenal disease, for the last few decades. It has caused a very large mortality rate around the globe. Cancer is the diseased condition, caused due to division of abnormally proliferating cells, in the body, leading to tumours. Cancerous tumours are malignant, as they spread and invade various tissues in the body. It is now, in this 21st century, that we are finding innovative ways to cure cancer, by pharmaceutical drugs like TR100 and Glivec. Now, to enhance the activity of such drugs, we need to have a clear idea about when and how to administer them. For this, we need to know more about the growth and spread of cancer cells. Cell division in cancer cells is through the process of mitotic cell division, which follows geometric progression. Based on this, we can analyse the dose to be given to the patient, to control the division of these tumour causing cells. Cell division in cancer cells is mainly based on 3 types:

Case 1: *The number of cancer cells produced and the number of cancer cells repaired by the immune mechanism in the body are in equal proportion. In this condition, as there is no further growth of cancer cells, it will be cured easily.*

Case 2: *The number of cancer cells in the body is growing uniformly at a constant rate. When this is put on a graph, the slope of the graph gives the rate of growth of cells at any time, by which the medication can be assessed.*

Case 3: *The number of cancer cells is proliferating at a non-uniform rate. In this case, the cancer condition is serious, and very high doses are required to control the cell growth.*

Based on these cases, we can assess the patients' condition and hence, proper medication can be provided. In the 1st case, the growth of cells is uniform and can be cured by available therapies. In the 2nd case, the growth is at a constant rate, and can be cured under constant observation and medication, depending on the patients' condition. The 3rd case is an irregular growth pattern which can be fatal.

KEYWORDS: *Standardization, Phytochemical Screening, Mucuna Pruriens.*

How to cite this Abstract:

Yatisha Rajanala and Ch. Nandini. MATHEMATICAL INTERPRETATION OF CANCER CELLS. J Pharm Res 2017;6(Suppl 1):S-21.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: COL094

GASTROPROTECTIVE EFFECT OF SELECTED ANTIOXIDANTS, VITAMINS AND MINERALS IN ETHANOL INDUCED ULCER MODEL IN RATS

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ABSTRACT

Objective: *The investigation was aimed to explore the critical role of few selected antioxidants, vitamins and minerals on gastroprotection by using ethanol induced ulcer model in rats.*

Materials and Methods:*Male Wistar rats weighing between 180-220g. were divided into 9 groups (n=6). The groups were treated respectively as follows Group I normal control, and Group II disease control, received normal saline, Group III was treated with standard drug omeprazole, Group IV to IX received test substances respectively, antioxidants (Vitamin E, Cystine) vitamins (Thiamin, Niacinamide) minerals (Iron, Zinc) administered for 7 days. Variousparameters like, the volume and pH of gastric juice, total acidity, ulcer index, percentage protection, biochemical parameters like mucin content, pepsin activity and antioxidant enzymes were estimated. Histopathology of stomach epithelium was observed.*

Results: *Significant reduction ($p<0.05$) in ulcer index, total acidity, and increase in pH were observed in ulcer induced rats pretreated with test substances. Mucin content in all rats pretreated with test substances was increased, and pepsin activity was decreased significantly ($p<0.05$) when compared with disease control treated rats. Test substances treated rats showed significant restoration i.e., increased the level of super oxide dismutase, catalase, reduced glutathione and significantly reduced ($p<0.05$) the lipid peroxidation and decreased the levels of MPO and MDA. Histopathological observations on gastric mucosa also confirmed the gastroprotective activity of test substances.*

Conclusions:*It is concluded that, all test groups acts as an antiulcer drugs which may be attributed to its antisecretory, cytoprotective and antioxidant activities.*

Key words: *Antioxidants, Gastroprotection, Lipid peroxides, Minerals, Omeprazole, Vitamins.*

How to cite this Abstract:

Darshan V. Shah, Nitin Mahurkar, A. Srinivasa Rao. GASTROPROTECTIVE EFFECT OF SELECTED ANTIOXIDANTS, VITAMINS AND MINERALS IN ETHANOL INDUCED ULCER MODEL IN RATS. J Pharm Res 2017;6(Suppl 1):S-22.

Abstract Proceedings of the International Conference on "***Pharmaceutical Education-Academia Relation to Industry-Current Scenario***" (***PEAR - 2017***). Organised by: Centre for Pharmaceutical Sciences, Institute of Science and Technology, JNTUH, Kukatpally, Hyderabad-500085. On 17th & 18th March 2017.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: COL118

EVALUATION OF ANTIEPILEPTIC ACTIVITY OF METHANOLIC FLOWER EXTRACT OF ROSA DAMASCENA AND METHANOLIC LEAF EXTRACT OF PANDANUS FASCICULARIS IN RATS

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ABSTRACT

Epilepsy is a common chronic neurological condition. In the present study, a poly herbal extract comprising of flower of Rosa Damascena, a medicinal plant used in many neurological disorders, convulsion and used as anti-HIV, antibacterial, antioxidant, antitussive, hypnotic, antidiabetic, and relaxant effect. The leaves of Pandanus fascicularis are thought to be useful in leprosy, smallpox, scabies and diseases of the heart and brain. Ayurvedic preparations along with two medicinal plants were evaluated for its protective effect against seizures induced by Maximal Electro shock (MES) method in rats. The present study is to evaluate the antiepileptic activity of methanolic flower extract of Rosa Damascena and methanolic leaf extract of Pandanus fascicularis in rats. A daily dose of 250 and 500 mg/kg of the extract was administered to the animals for 15 days, after which seizures were induced by Maximum electro shock method and the duration of various phases of epileptic attacks were recorded and compared with the control animals. A significant ($P<0.01$ and $P<0.001$) reduction in the time taken for righting reflex (recovery) was noted in the experimental animals.

KEYWORDS: *Antiepileptic, Rosa Damascena, Pandanus fascicularis and neuro protective.*

How to cite this Abstract:

Swathi Baswa, B. Chandrakanth, Y. Vamshi Vishnu. EVALUATION OF ANTIEPILEPTIC ACTIVITY OF METHANOLIC FLOWER EXTRACT OF ROSA DAMASCENA AND METHANOLIC LEAF EXTRACT OF PANDANUS FASCICULARIS IN RATS. J Pharm Res 2017;6(Suppl 1):S-23.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: PRA029

IT'S TIME TO ADOPT PARTICIPATORY PREVENTING MEDICATION ERRORS

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ABSTRACT

Aim : *An Epidemiological study of Medication Reconciliation and Medication Errors in Secondary Care Hospitals*

Objective*: To analyze the prescriptions of the patients admitted in the hospital of various departments for medication errors and medication reconciliation.*

Methods and Materials*: Multi-center, ambispective, observational with a sample size of a minimum of 1000 study subjects.*

Results*: Out of 1000 sample subject 142 cases were found having medication errors. In those most of them were prescribing errors (95.77%) administration errors (2.81%). In prescribing errors subcategories were wrong/no indication (52.51%), wrong/no dose (9.35%), drug allery (0.35%), drug-drug interaction (3.59%), wrong dosing schedule (4.31%), therapeutic duplication (6.83%),adrs (17.98%), contraindicated (5.03%), out of 142 cases medication reconciliation taken were 102 (71.84%) and medication reconciliation not taken were 40cases (28.16%).*

KEYWORDS: *Epidemiological study, Preventing Medication Errors.*

How to cite this Abstract:

Nagesh N., Dr. Anusha A. IT'S TIME TO ADOPT PARTICIPATORY PREVENTING MEDICATION ERRORS. J Pharm Res 2017;6(Suppl 1):S-24.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Review Code: PRA054

PRESCRIPTION ANALYSIS OF PATIENTS ADMITTED IN EMERGENCY DEPARTMENT IN A TERTIARY CARE CENTRE

Anusha. A *, Karthik Rakam [1], Pavani Tushara [1], Teja sree S. [1], Susmitha [2], Dr. Aparna Yerramilli [3], Dr. Sanjeev Sharma[4]

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ABSTRACT

Background: *Emergency Department is the frontline area of patient care in the hospital, responsible for providing early access, appropriate transport and treatment in its pre-hospital care, and quality emergency care to all patients visiting the hospital. Hence it is important to maintain efficient functioning of the ED by estimating the inflow of patients, their presenting complaints, and the drugs used. There are not many studies on prescription analysis in the Emergency Department in India.*

Aim: *Prescription analysis of patients admitted to the Emergency department of a tertiary care centre.*

Methodology: *A prospective, non-interventional study was conducted in the emergency department of a tertiary care centre. The data was categorized based on various parameters like age, gender, presenting complaints, diagnosis and analyzed to study the complaints and drugs used in ED.*

Results: *A total of 350 cases were collected and analyzed. GIT disorders (20.5%) were the leading cause of ED visits followed by Pain disorders, Injuries, Renal disorders and Road Traffic Accidents. NSAIDs (20.4%) were the most widely prescribed drugs followed by PPIs, Anti emetics, Antibiotics and Opioid analgesics. The average number of drugs per prescription during treatment in ED and at discharge was 2.03 and 1.9 respectively.*

Conclusion: *A prescription analysis in the ER in a wider way can have a positive impact on the quality of patient care and increase the functional efficacy of the ER. This type of studies, if expanded can help increase the efficacy of inventory control in the ER pharmacy, develop preventive strategies, check adherence to standard treatment guidelines, detect medication errors and ADRs, and emphasize the importance of clinical pharmacist in improvement of drug use and patient safety.*

KEYWORDS: *Tertiary Care Centre, Nsaids, Git Disorders, ED visits.*

How to cite this Abstract:

Anusha. A et al. PRESCRIPTION ANALYSIS OF PATIENTS ADMITTED IN EMERGENCY DEPARTMENT IN A TERTIARY CARE CENTRE. J Pharm Res 2017;6(Suppl 1):S-25.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: PRA055

A STUDY ON WITHDRAWAL SYMPTOMS AND ALCOHOL DEPENDENCE IN ALCOHOLIC PATIENTS IN TERITARY CARE TEACHING HOSPITAL

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ABSTRACT

Alcohol Withdrawal Syndrome (AWS), results from abrupt cessation of chronic alcohol use, which is prevalent among inpatients who are heavy and prolonged drinkers. A withdrawal state is a group of symptoms of variable clustering and severity occurring on absolute or relative withdrawal of a psychoactive substance after persistent use of that substance. The study was a prospective observational study conducted over a period of six months starting from March 2014 to August 2014. Study Procedure includes Data collection form, patient consent form, severity of alcohol dependence questionnaire and clinical institute withdrawal assessment questionnaire. The withdrawal symptoms like anxiety, agitation, orientation and clouding of sensorium, visual, tactile and auditory disturbances are resolved in 5 to 7 days. Symptoms like tremors, nausea/vomiting paroxysmal sweating and headache are persisted even beyond seventh day. The severity of alcohol dependence frequency according to SADQ score shows mild severity of alcohol dependence in 6 patients, moderate severity of alcohol withdrawal in 27 patients and severe severity of alcohol withdrawal was found in 27 patients. The prescribing frequency of Anti-Convulsants 60 (100%), Sedative and Anti Convulsants 60 (100%), Anti Psychotics 50 (83.3%) and Vitamin Supplements 58 (96.6%) were the most common categories of Psychotropic drugs. Lorazepam, diazepam, lorazepam & diazepam and chlordiazepoxide has been taken by 34, 10, 16 and 21 numbers of patients regularly.

KEYWORDS: *Dependence, CIWA, SADQ, Severity, Withdrawal, Withdrawal Symptoms.*

How to cite this Abstract:

CH. Deepthi, VRM. Gupta. A STUDY ON WITHDRAWAL SYMPTOMS AND ALCOHOL DEPENDENCE IN ALCOHOLIC PATIENTS IN TERITARY CARE TEACHING HOSPITAL. J Pharm Res 2017;6(Suppl 1):S-26.

World Inventia Publishers

Journal of Pharma Research
http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: ANA002

DEVELOPMENT AND VALIDATION OF RP-HPLC ANALYTICAL METHOD FOR SIMULTANEOUS ESTIMATION OF EMTRICITABINE, TENOFOVIR & RILPIVIRINE IN BULK AND TABLET DOSAGE FORM

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ABSTRACT

The main objective of the present work is to develop a new simple RP-HPLC method for the simultaneous estimation of Emtricitabine, Tenofovir and Rilpivirine. Chromatography was carried on a column Altima, 150 x 4.6 mm, 5µusing gradient composition of Potassium di-hyrogen Ortho phosphate buffer as mobile phase A and Acetonitril as mobile phase B at a flow rate of 0.8 ml/min with detection at 260nm. The retention times of the Emtricitabine (2.046min), Tenofovir (6.833min.) and Rilpivirine (7.425 min) respectively. The linearity and range was found to be in the range of 50-300 µg/ml for Emtricitabine,75-450 µg/ml Tenofovir and 6.25-37 µg/ml Rilpivirine. The correlation coefficient of Emtricitabine, Tenofovir and Rilpivirine was found to be 0.999, 0.999 and 0.999 respectively, which indicates a perfect correlation. The developed method was validated for accuracy, precision, and system suitability. The percentage recovery of Emtricitabine, Tenofovir and Rilpivirine was found to be 99.79%, 99.67% and 99.42% respectively. The good percentage recovery of the sample clearly indicates the reproducibility and accuracy of the developed method. Similarly the % RSD value for precision was also found to be within the acceptable limit. The proposed method is simple, fast, sensitive, Linear, accurate, rugged and precise and hence can be applied for routine quality control of Emtricitabine, Tenofovir and Rilpivirine in bulk and in tablet dosage form.

***KEYWORDS**: Emtricitabine, Tenofovir, Rilpivirine, Acetonitrile, Potassium di-hyrogenortho phosphate buffer.*

How to cite this Abstract:

DMD. Musthafa, T. Sankarshana. EVELOPMENT AND VALIDATION OF RP-HPLC ANALYTICAL METHOD FOR SIMULTANEOUS ESTIMATION OF EMTRICITABINE, TENOFOVIR & RILPIVIRINE IN BULK AND TABLET DOSAGE FORM. J Pharm Res 2017;6(Suppl 1):S-27.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU011

PREPARATION AND EVALUATION OF PULSATILE DRUG DELIVERY OF MONTELUKAST SODIUM

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ABSTRACT

In the present study, an effort was made to develop a novel dosage form by using a chronopharmaceutical approach for the treatment of nocturnal asthma using Montelukast sodium as a model drug. A time delayed capsule was prepared by sealing the microspheres inside the insoluble hard gelatin capsule body with erodible hydrogel plug. The microspheres were prepared by emulsion solvent evaporation technique. Optimized microsphere formulations were selected based on dissolution studies. The entire device was enteric coated, so that the variability in gastric emptying time can be overcome and a colon-specific release can be achieved. Hydrogel plug (HPMCK4 and lactose in 1:1 ratio) having 4.5kg/cm² hardness and 100 mg weight was placed in the capsule opening and found that it was satisfactory to retard the drug release in small intestinal fluid and to eject out the plug in colonic fluid and releasing the microspheres into colonic fluid after a lag time criterion of 5 hours. In order to simulate the pH changes along the GI tract, three dissolution media with pH 1.2, 7.4 and 6.8 were sequentially used. FTIR study confirmed that there was no interaction between drug and polymer. Among all the formulations Montelukast sodium microspheres prepared with Eudragit L100 in 1:2 ratio shown prolonged release for a period of 12 hours. The obtained results revealed the capability of the system in delaying drug release for a programmable period of time and can prevent a sharp increase in the incidence of asthmatic attacks, during the early morning hours, a time when the risk of asthmatic attacks is the greatest.

KEYWORDS: *Montelukast sodium, Asthma, Pulsatile, Microspheres, Hydrogel Plug, Solvent Evaporation.*

How to cite this Abstract:

M. Rama Krishna et al. PREPARATION AND EVALUATION OF PULSATILE DRUG DELIVERY OF MONTELUKAST SODIUM. J Pharm Res 2017;6(Suppl 1):S-28.

World Inventia Publishers

Journal of Pharma Research

http://www.jprinfo.com/

Vol. 6, Suppl. 1 (March-2017) ISSN: 2319-5622 USA CODEN: JPROK3

Research Code: CEU079

PREPARATION AND CHARACTERIZATION OF LIPOSOMES FOR ENHANCING THE BIOAVAILABILITY OF FLUVASTATIN SODIUM

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ABSTRACT

Fluvastatin sodium is an antilipidemic agent and it has short biological Half life (3 hours) and low bioavailability (24-29%) due to extensive first pass metabolism. The objective of the study was made to develop the Fluvastatin sodium liposomes , which will control the release of drug, increasing the bioavailability of the drug and thus decreasing the dosing frequency of the drug. The liposomes were prepared by thin film hydration technique using various ratios of soya lecithin and Sodium deoxycholate. Two surfactants, Tween 80 and Span 80 were used to study the influence of surfactants on formulation performance. Upon pre-formulation studies and optimization, the various formulations (of varying proportions) were prepared and subjected for various physico chemical evaluation studies i.e., morphology, particle size, drug entrapment efficiency, in-vitro drug release, release kinetics and stability studies. Among nine formulations (F1- F9) F9 formulation emerged as the most satisfactory formulation in all the evaluation parameters. The liposomes were found to be stable during their stability studies when stored at different temperatures. Hence it can be concluded that Liposomes can also be loaded in liposomal carriers which found to be effective, stable and can be proceeded for further studies. The present study revealed successful preparation of Liposomes, effect of type of surfactant and soyalecithin: Sodium deoxycholate ratio on entrapment efficiency, vesicle morphology and drug release was studied.

KEYWORDS: *Liposomes, Bioavailability, Fluvastatin Sodium.*

How to cite this Abstract:

B. Manjula et al. PREPARATION AND CHARACTERIZATION OF LIPOSOMES FOR ENHANCING THE BIOAVAILABILITY OF FLUVASTATIN SODIUM. J Pharm Res 2017;6(Suppl 1):S-29.