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3.2.1 Number of papers published per teacher in the Journals notified on UGC website during the last five years

Sr.No.	Title of paper	Name of the Author/s	Department of the Teacher	Name of Journal	Year of Publication
1.	A review on analytical method for estimation of Dapaglflozin and saxagliptin in bulk and in pharmaceutical dosage form by HPLC method	Mali Yogesh B, **Miral Pooja B**	Medicinal Chemistry	World journal of pharmaceutical research	2020
2.	Designing of benzothiazole derivatives as promising EGFR tyrosine kinase inhibitors : a pharmacoinformatics Study	Hitesh V Shahare and **Gokul S Talele**	Medicinal Chemistry	Journal of Biomolecular Structure and Dynamics Taylor & francis	2019
3.	Protective effect of human umbilical cord cell on cardiomyopathy in male wistar rat.	Rupali A. Patil, **Prashant V. Vyavahare**, Chaitali M. Diwane	Pharmacology	Research article	2019
4.	Formulation and Evaluation of Mucoadhesive Buccal Tablet of Repaglinide	**Prashant S. Malpure**, Eknath B. Thakare, Avish D. Maru,	Pharmaceutics	Journal of Drug Delivery and Therapeutics	2019

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		Yashpal M. More			
5.	Formulation and Evaluation of Sustained Release Matrix Tablets of Captopril	Simran S. Pawar, **Prashant S. Malpure**,Santosh S. Surana, Jayshree S. Bhadane	Pharmaceutics	Journal of Drug Delivery and Therapeutics	2019
6.	Formulation and Evaluation of Gastroretentaive Floating Mucoadhesive Tablet of Repaglinide	**Prashant S. Malpure**, Bapu R. Chavan, Avish D. Maru, Parag D. Kothawade	Pharmaceutics	International Journal of Recent Scientific Research	2019
7.	Development and validation of stability indicating HPTLC method forAlbendazole	**Amrapali M. Pawar**, Dr. Sunil K. Mahajan	Medicinal Chemistry	World Journal of Pharmaceutical Research	2018
8.	Formulation and Evaluation of Mucoadhesive Buccal Tablet of Irbesartan	Priti P. Nikam, **Prashant S. Malpure**, Shital H. Patil, Yashpal M. More	Pharmaceutics	World Journal of Pharmaceutical Research	2018
9.	Formulation And Evaluation of Aloe Vera based Hydrogel for treatment of Burns	Shital H. Patil, **Prashant S. Malpure**, Priti P. Nikam,	Pharmaceutics	World Journal of Pharmaceutical Research	2018

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		Yashpal M. More, Santosh S. Surana			
10.	Formulation and Evaluation of Mouth Dissolving Tablets of Zolmitriptan	Vaishali B. Morade, Vandana R. Daga, **Prashant S. Malpure**	Pharmaceutics	Asian Journal of Pharmacy and Technology	2018
11.	Gastroretentive Drug Delivery System: A Review	**Prashant S. Malpure**, Bapu R.Chavan*	Pharmaceutics	World Journal of Pharmacy and Pharmaceutical Sciences	2018
12.	Atrigel-Implants and Controlled Release Drug Delivery System: A Review	EknathThakare *, **Prashant S. Malpure**	Pharmaceutics	American Journal of Pharmatech Research	2018
13.	Development of validated HPLC-UV method for simultaneous determination of Metformin, Amlodipine, Glibenclamide and Atorvastatin in human plasma and application to protein binding studies	PK Porwal, **GS Talele**	Medicinal Chemistry	Bulletin of Faculty of Pharmacy, Cairo University	2017

14.	Glycation alter serum albumin binding of valsartan and nateglinide when studied contemporarily	PK Porwal, **GS Talele**	Medicinal Chemistry	Journal of Liquid Chromatography & Related Technologies	2017
15.	Formulation and development and evaluation of in situ nasal gel of lisinopril dehydrate.	R. B. Saudagar, Sonika B. Deore, Sheetal B.G	Pharmaceutics	Scholars Academic journal of pharmacy (SAIP)	2016
16.	Review on nanoparticulate drug delivery system.	**Dhokale N. N.**	Pharmaceutics	International journal of institutional pharmacy and life science	2016
17.	Review on liquid,solid technology –solublity and bioavability enhancer for poorly soluble drug.	**Dhokale N. N.**	Pharmaceutics	International journal of institutional pharmacy and life science	2016
18.	Formulation And Evaluation Of Gastroretentive Floating Alginate Beads Of Lafutidine By Ionotropic Gelation Method	Dipika H. Patil, **Prashant S. Malpure**	Pharmaceutics	World Journal of Pharmaceutical Research	2016

19.	Design, Synthesis And Antifungal Evaluation Of Novel Triazole Derivatives As Fluconazole Analogue	Ashvini H. Pagare, **Sachin N. Kapse**, Rani S. Kankate, Dr. Anwar R. Shaikh	Medicinal Chemistry	World Journal of Pharmacy and Pharmaceutical Sciences	2016
20.	Protective effect of rubia cordifolia in paclitaxel induced neuropathic pain in experimental animal	Chaitali M. Diwane, Rupali A. Patil, **Prashant V. Vyavahare**, Rajendra S. Bhambar	Pharmacology	Indian journal of pain	2015
21.	Ameliorative effect of Nebivolol in parkinson's disease	Vandana S. Nade, **Priyanka S. Pagare**	Pharmacology	Research article	2015
22.	Modulation of stress by Boerhaavia Diffusa in sleep Defrival stress cold restrain stress	Vandana S.Nade, **Priyanka S. Pagare**	Pharmacology	Research article Journalof pharmaceutical biology	2015
23.	Review on polymer used for in situ gel for ophthalmic drug delivery system	**Vidya K. Kakad**, Rachana Kumar	Pharmaceutics	International journal of pharmaceutical research and 2015 bioscience	2015
24.	In situ gelling system smart carriers for	**Vidya K. Kakad**, Nagare	Pharmaceutics	International journal of	2015

	ophthalmic drug delivery.	Rupal, Bhambere Deepak		pharmaceutical research scholars	
25.	Electronic milestones on herbal medicine	Prashant Y. Mali, Manoj H. Alai, Apurva S. Patel, **Gokul S. Talele**	Medicinal Chemistry	The pharma review	2015
26.	Development of validated bioanalytical HPLC –UV method for simultaneous estimation of amlodipine and atorvastatin in rat	**G.S. Talele**, P.K. Porwal	Medicinal Chemistry	Indian journal of pharmaceutical science	2015
27.	Physicochemical Investigation of Prosopis spicigera fruits (Linn.)	MV Girase, **GS Talele**	Medicinal Chemistry	Journal of pharmaceutical and BioSciences 3	2015
28.	Effective Natural Drug Remedies against Herpes Zoster: A review	**Shinde P.R., Patil P.S.,**	Pharmacognosy	Journal of drug Delivery and Therapeutics	2020

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A REVIEW ON ANALYATICAL METHODS FOR ESTIMATION OF DAPAGLIFLOZIN AND SAXAGLIPTIN IN BULK AND IN PHARMACEUTICAL DOSAGE FORM BY HPLC METHODS

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ABSTRACT

Dapagliflozin and Saxagliptin are very effectively used treatment for type II diabetes. They are very potent inhibitor of renal glucose reabsorption and dipeptidyl peptidase protein 4 and sodium glucose transport protein 2 and also they are called as DPP4 & SGLT2 inhibitors. They are generally administered as tablets. Determination of Dapagliflozin and Saxagliptin in pharmaceutical dosage form and bulk form, several analyatical methods including UV, HPLC, LC-MS, HPTLC techniques has been developed. Method indicaticating human plasma stability and impurity profiling are also describe for both drugs. For qualitative and quantitative estimation of Dapagliflozin and Saxagliptin these analytical method can be used and it can also be used for its related degradants in bulk formulations and biological fluids.

KEYWORDS: Dapagliflozin, Saxagliptin, RP-HPLC.

Designing of benzothiazole derivatives as promising EGFR tyrosine kinase inhibitors: a pharmacoinformatics study

Hitesh V. Shahare & Gokul S. Talele

Abstract

Benzothiazole derivatives represent an important class of therapeutic chemical agents and are widely used for interesting biological activities and therapeutic functions including anticancer, antitumor and antimicrobial. In this study, we have performed similarity/substructure-based search of eMolecule database to find out promising benzothiazole derivatives as EGFR tyrosine kinase inhibitors. Several screening criteria that included molecular docking, pharmacokinetics and synthetic accessibility were used on initially derived about 7000 molecules consisting of benzothiazole as major component. Finally, four molecules were found to be promising EGFR tyrosine kinase inhibitors. The best docked pose of each molecule was considered for binding interactions followed by molecular dynamics (MD) and binding energy calculation. Molecular docking clearly showed the final proposed derivatives potential to form a number of binding interactions. MD simulation trajectories undoubtedly indicated that the EGFR protein becomes stable when proposed derivatives bind to the receptor cavity. Strong binding affinity was found for all molecules toward the EGFR which was substantiated by the binding energy calculation using the MM-PBSA approach. Therefore, proposed benzothiazole derivatives may be promising EGFR tyrosine kinase inhibitors for potential application as cancer therapy.

Communicated by Ramaswamy H. Sarma

KEYWORDS: Tyrosine kinase, molecular docking, pharmacokinetics, molecular dynamics, binding energy

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Invent:pmp/27919/19

PROTECTIVE EFFECT OF HUMAN UMBILICAL CORD BLOOD CELL ON CARDIOMYOPATHY IN MALE WISTAR RATS

01-Apr-2019 Research Article April - June 2019

Rupali Patil*, Prashant V Ajantkar, Chetali M Dhere

This study examined the cardioprotective activity of human umbilical cord blood cells (hUCBC) in doxorubicin (Dxr) induced cardiomyopathy in Wistar rats. Wistar rats treated with doxorubicin (50 mg/kg i.p.) revealed cardiac damage that was manifested by the elevation of serum marker enzymes such as lactate dehydrogenase (LDH), aspartate aminotransaminase (AST) and alanine aminotransaminase (ALT). The animals showed significant changes in the biochemical parameter such as in-vivo antioxidant enzyme levels (superoxide dismutase, catalase, glutathione peroxidase and glutathione-S-transferase) and lipid peroxidation levels, lipid profile and histopathological examination. Pretreatment with hUCBC significantly reversed elevation in serum marker enzymes and restored the enzyme activity and lipid peroxides to near normal levels. Restoration of cellular normality accredits the hUCBC with a cardioprotective role in Dxr-induced cardiac damage.

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Journal of Drug Delivery and Therapeutics

Open Access to Pharmaceutical and Medical Research

Open Access Research Article

Formulation and Evaluation of Mucoadhesive Buccal Tablet of Repaglinide

Thakare Eknath B*., Nalpure Prashant S., More Avish D., More Yashpal M.

Department of Pharmaceutics, Loknete Dr. J.D. Pawar College of Pharmacy, Manur, Tal. Kalwan, Dist. Nashik (Maharashtra) 423501

ABSTRACT

The aim of present investigation was formulation and evaluation of mucoadhesive buccal tablet of Repaglinide to study the effect of different polymers on release profile of drug for prolonged release. In this study mucoadhesive buccal tablet were prepared by direct compression method. Various rheological characteristics of the powder bed like bulk density, compressibility value, and angle of repose were evaluated and studied. Fluoroadhesive buccal tablets were compressed on a 8 station rotary press using 10 mm flat faced punches and were all assessed for weight variation, hardness, friability, thickness, percent swelling index, mucoadhesive strength and in vitro release of the drug by using USP TDC 001, dissolution testing apparatus method II using a paddle at 50 rpm. Data was optimized by using 3 full factorial design by using software named as design expert and with the help of kinetic study. The stability studies showed that there is no decrease in the drug content of all formulations for the period of 3 months.

Keywords: Buccal tablet, Repaglinide, HPMC K 15M4, Xanthan gum.

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INTRODUCTION

Bioadhesion can be defined as a phenomenon of interfacial molecular attraction forces in the midst of the surfaces of biological substrate and the natural or synthetic polymers, which allows the polymer to adhere biological surface for an extended period of time. Among the various routes of drug delivery the oral route is perhaps the most preferred by patients and clinicians alike. However peroral administration of drugs has disadvantages, such as hepatic first pass metabolism and enzymatic degradation within the gastrointestinal (GI) tract, that prohibit oral administration of certain classes of drugs especially peptides and proteins. Consequently, other absorptive mucosa are considered as potential sites for drug administration. Transmucosal routes of drug delivery (i.e., the mucosal linings of the nasal, rectal, vaginal, ocular, and oral cavities) offer distinct advantages over peroral administration for systemic effect. These advantages include possible bypass of first pass effects and avoidance of presystemic elimination within the GI tract.

drug administration. In the first case, the aim is to achieve a site specific release of the drug on the mucosa, where as the second case involves drug absorption through the mucosal barrier to reach the systemic circulation.

Mucoadhesive drug delivery systems

Mucoadhesive drug delivery systems are delivery systems, which utilized the property of bioadhesion of certain polymers, which become adhesive on hydration and hence can be used for targeting a drug to particular region of the body for extended period of time. The ability to maintain a delivery system at a particular location for an extended period of time has great appeal for both local as well as systemic drug bioavailability. Pharmaceutical aspects of mucoadhesion have been the subject of great interest during recent years because it provides the possibility of avoiding either destruction by gastrointestinal contents or hepatic first-pass in activation of drug.

MATERIALS & METHODS

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Research Article

FORMULATION AND EVALUATION OF GASTRORETENTIVE FLOATING MUCOADHESIVE TABLET OF REPAGLINIDE

Prashant S. Malpure, Bapu R. Chavan*, Avish D. Maru and Parag D. Kothawade

Department of Pharmaceutics, Loknete Dr. J. D. Pawar College of Pharmacy, Manur, Kalwan (Nashik) 423501 Maharashtra, India

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Key Words:

Dual working system, Need of study, Formulation and Evaluation parameters

ABSTRACT

Formulation of Gastroretentive floating mucoadhesive tablet which would remainin stomach for prolonged period of time thereby maximizing the drug release at the desired site for stipulated time. Repaglinide is having half life 60 min; to improve its half life by using excipient like HPMC k15M, HPMC k100M and Xantham gum as polymer. Optimization using 3²factorial design to study stability testing of optimized formulation. **Method-** The tablet formulation prepared by direct compression method. Prepared formulation were evaluated in terms of their physical properties, hardness, % friability, weight variation, content uniformity, *in-vitro* release, floating properties, mucoadhesive strength and swelling index. The classical zero order release curve was found to be linear ($R2 \geq 0.90$). For the Korsemeyer's Peppas release curves R^2 was found to be $\geq 0.90$for all 9 formulations. **Result-** FTIR and DSC studies showed no evidence of interactions between drug, polymers, and excipients. The best *in-vitro* drug release profile was achieved with the formulation F7 is 95.96 % after 12 h, which contain10 mg drug, 25 mg HPMC K15M, 50 mg HPMC K100M and 25 mg Xantham gum. The floating lag time of formulation F7 was found to be 78±0.04sec. t₉₈±0.05sec. The *in-vitro* release kinetics studies reveal that all formulations show Zero order and anomalous or nonfickiandiffusion. The stability study and no change in anyphysical characteristics and drug content over a 2 monthsperiod at 40±2°C. **Conclusion-** Study concluded that successful

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Journal of Drug Delivery and Therapeutics

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Open Access — Research Article

Formulation and Evaluation of Sustained Release Matrix Tablets of Captopril

Pawar Simran S.*, Malpure Prashant S., Surana Santosh S., Bhadane Jayashri S.

Department of Pharmaceutics, Loknete Dr. J.D. Pawar College of Pharmacy, Manur, Tal-Kalwan, Dist-Nashik (Maharashtra) 423501

ABSTRACT

The objective of the present study was to study the effect of polymers on sustained release of Captopril from tablets. Compatibility was studied by Fourier transform infrared spectroscopy and DSC. The tablets were prepared by direct compression technique using Xantham gum and Ethyl Cellulose. The prepared matrix tablets were evaluated for their physicochemical parameters such as weight variation, hardness, friability, content uniformity and in-vitro dissolution. Pre and post compression parameters were evaluated and all the parameters were found within the limit. The drug release data were subjected to different models in order to evaluate release kinetics and mechanism of drug release. Formulation F4 was selected as best formulation. The dissolution of formulation F4 can be Shown Non-fickian drug release mechanism.

Keywords: Matrix tablets, Captopril, Xantham gum, Ethyl cellulose.

Article Info: Received 18 July 2019; Review Completed 23 Aug 2019; Accepted 27 Aug 2019; Available online 30 Aug 2019

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INTRODUCTION

Sustained release technology is relatively new field and as a

abolish responses to Angiotensin I but not to Angiotensin II. Hence the inhibition of ACE therefore may reduce the effect unrelated to reducing the level of Angiotensin II. ACE

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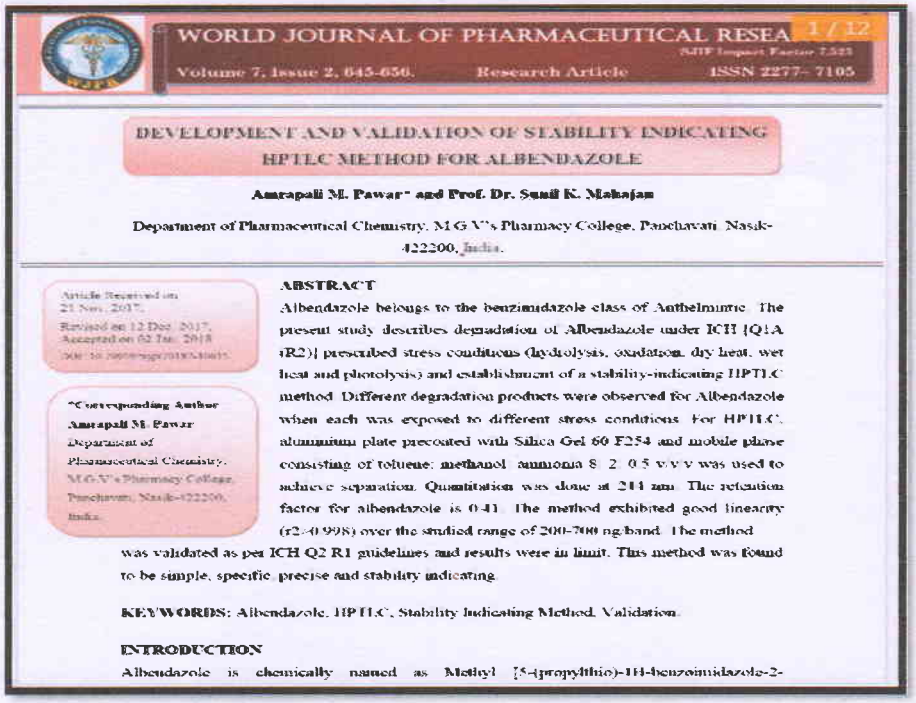

WORLD JOURNAL OF PHARMACEUTICAL RESEA 1 / 12

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DEVELOPMENT AND VALIDATION OF STABILITY INDICATING HPTLC METHOD FOR ALBENDAZOLE

Amrapali M. Pawar* and Prof. Dr. Sunil K. Mahajan

Department of Pharmaceutical Chemistry, M.G.V's Pharmacy College, Panchavati, Nasik-422200, India.

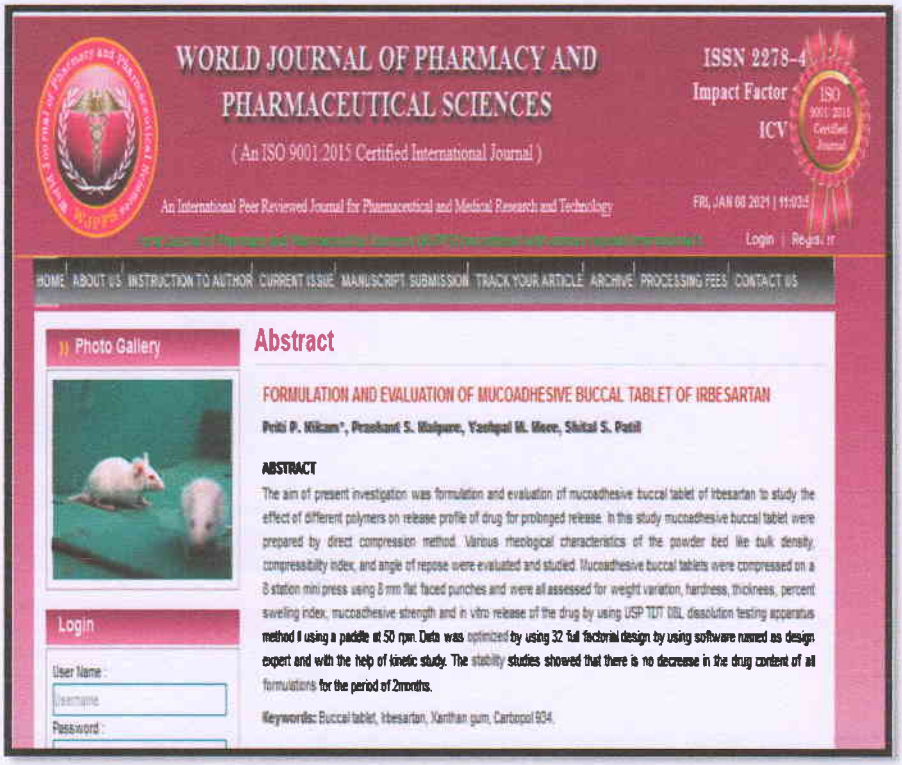
ABSTRACT

Albendazole belongs to the benzimidazole class of Anthelmintic. The present study describes degradation of Albendazole under ICH {Q1A (R2)} prescribed stress conditions (hydrolysis, oxidation, dry heat, wet heat and photolysis) and establishment of a stability-indicating HPTLC method. Different degradation products were observed for Albendazole when each was exposed to different stress conditions. For HPTLC, aluminium plate precoated with Silica Gel 60 F254 and mobile phase consisting of toluene: methanol: ammonia 8: 2: 0.5 v/v/v was used to achieve separation. Quantitation was done at 214 nm. The retention factor for albendazole is 0.41. The method exhibited good linearity (r^2=0.998) over the studied range of 200-700 ng/band. The method was validated as per ICH Q2 R1 guidelines and results were in limit. This method was found to be simple, specific, precise and stability indicating.

KEYWORDS: Albendazole, HPTLC, Stability Indicating Method, Validation.

INTRODUCTION

Albendazole is chemically named as Methyl [5-(propylthio)-1H-benzoimidazole-2-



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Abstract

FORMULATION AND EVALUATION OF MUCOADHESIVE BUCCAL TABLET OF IRBESARTAN

Priti P. Nikam*, Prashant S. Kulpure, Yashpal M. More, Shital S. Patil

ABSTRACT

The aim of present investigation was formulation and evaluation of mucoadhesive buccal tablet of Irbesartan to study the effect of different polymers on release profile of drug for prolonged release. In this study mucoadhesive buccal tablet were prepared by direct compression method. Various rheological characteristics of the powder bed like bulk density, compressibility index, and angle of repose were evaluated and studied. Mucoadhesive buccal tablets were compressed on a 8 station mini press using 8 mm flat faced punches and were all assessed for weight variation, hardness, thickness, percent swelling index, mucoadhesive strength and in vitro release of the drug by using USP TDT DBL dissolution testing apparatus method II using a paddle at 50 rpm. Data was optimized by using 32 full factorial design by using software named as design expert and with the help of kinetic study. The stability studies showed that there is no decrease in the drug content of all formulations for the period of 2months.

Keywords: Buccal tablet, Irbesartan, Xanthan gum, Carbopol 934.

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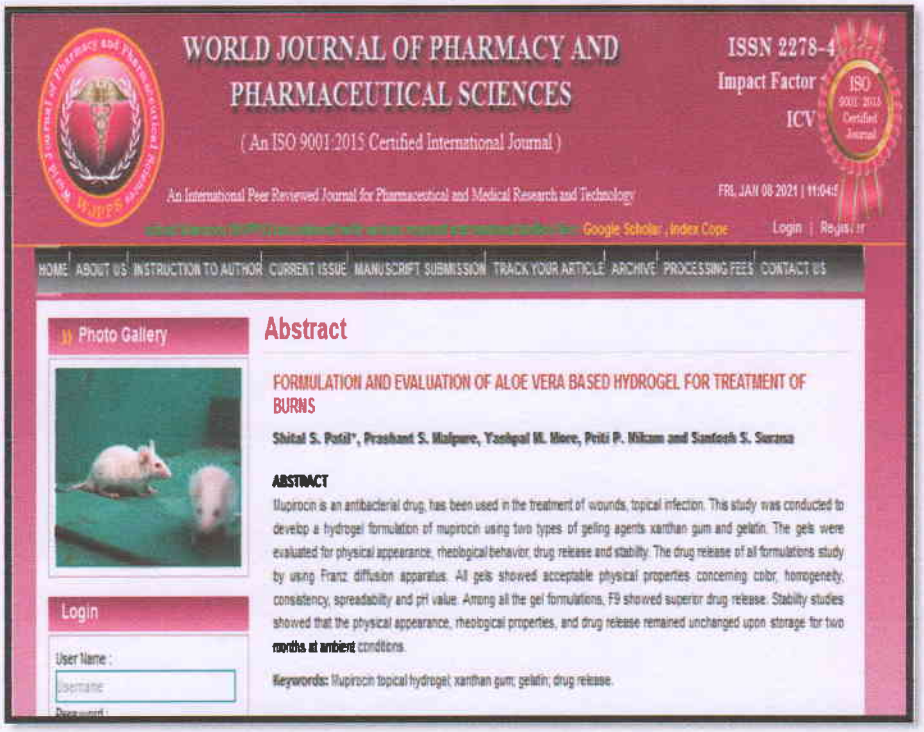

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Abstract

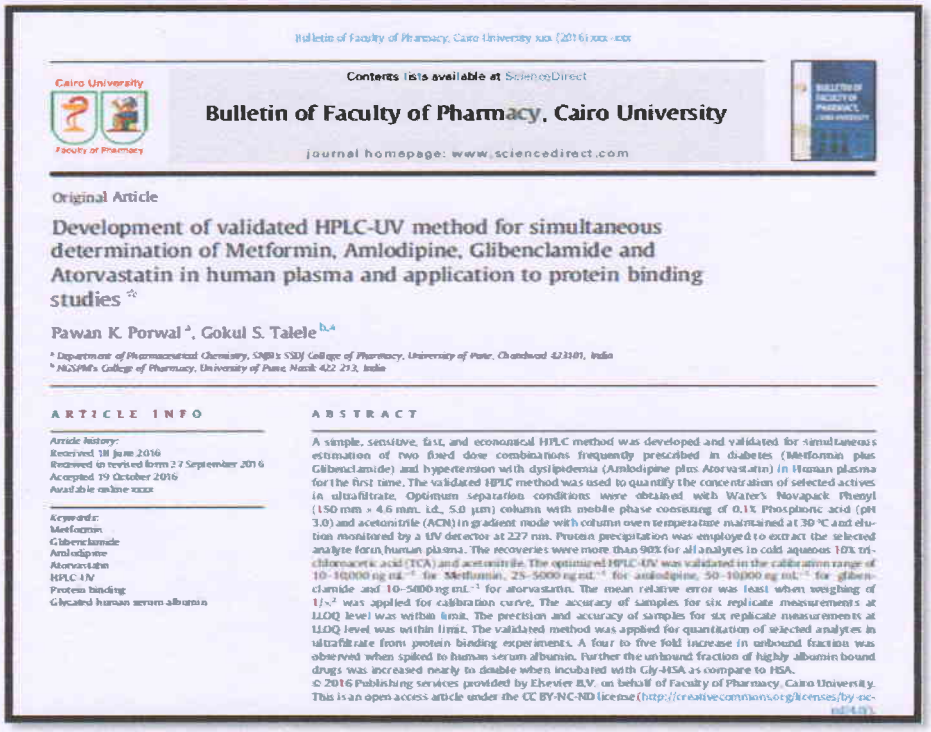
FORMULATION AND EVALUATION OF ALOE VERA BASED HYDROGEL FOR TREATMENT OF BURNS

Shital S. Patil*, Prashant S. Malpure, Yashpal M. More, Priti P. Nikam and Santosh S. Surana

ABSTRACT

Mupirocin is an antibacterial drug, has been used in the treatment of wounds, topical infection. This study was conducted to develop a hydrogel formulation of muprocin using two types of gelling agents xanthan gum and gelatin. The gels were evaluated for physical appearance, rheological behavior, drug release and stability. The drug release of all formulations study by using Franz diffusion apparatus. All gels showed acceptable physical properties concerning color, homogeneity, consistency, spreadability and pH value. Among all the gel formulations, F9 showed superior drug release. Stability studies showed that the physical appearance, rheological properties, and drug release remained unchanged upon storage for two months at ambient conditions.

Keywords: Mupirocin topical hydrogel; xanthan gum; gelatin; drug release.



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Original Article

Development of validated HPLC-UV method for simultaneous determination of Metformin, Amlodipine, Glibenclamide and Atorvastatin in human plasma and application to protein binding studies ☆

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[a] Department of Pharmaceutical Chemistry, SNJB's SSJ College of Pharmacy, University of Pune, Chandwad 423101, India
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Glycated human serum albumin

ABSTRACT

A simple, sensitive, fast, and economical HPLC method was developed and validated for simultaneous estimation of two fixed dose combinations frequently prescribed in diabetes (Metformin plus Glibenclamide) and hypertension with dyslipidemia (Amlodipine plus Atorvastatin) in human plasma for the first time. The validated HPLC method was used to quantify the concentration of selected actives in ultrafiltrate. Optimum separation conditions were obtained with Water's Novapack Phenyl (150 mm × 4.6 mm, i.d., 5.0 μm) column with mobile phase consisting of 0.1% Phosphoric acid (pH 3.0) and acetonitrile (ACN) in gradient mode with column oven temperature maintained at 30 °C and elution monitored by a UV detector at 227 nm. Protein precipitation was employed to extract the selected analyte form human plasma. The recoveries were more than 90% for all analytes in cold aqueous 10% trichloroacetic acid (TCA) and acetonitrile. The optimized HPLC-UV was validated in the calibration range of 10–10,000 ng mL^{-1} for Metformin, 25–5000 ng mL^{-1} for amlodipine, 50–10,000 ng mL^{-1} for glibenclamide and 10–5000 ng mL^{-1} for atorvastatin. The mean relative error was least when weighing of $1/x^2$ was applied for calibration curve. The accuracy of samples for six replicate measurements at LLOQ level was within limit. The precision and accuracy of samples for six replicate measurements at LLOQ level was within limit. The validated method was applied for quantitation of selected analytes in ultrafiltrate from protein binding experiments. A four to five fold increase in unbound fraction was observed when spiked to human serum albumin. Further the unbound fraction of highly albumin bound drugs was increased nearly to double when incubated with Gly-HSA as compare to HSA.

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Review Article.....!!!

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LIQUIDSOLID TECHNOLOGY - SOLUBILITY AND BIOAVAILABILITY ENHANCER FOR POORLY SOLUBLE DRUGS

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Keywords:

Solubility enhancement, powder solution technology, liquisolid compact, bioavailability

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ABSTRACT

Liquisolid technique is also known as powder solution technology. It is the technique which deals with the solubility enhancement of poorly soluble drugs. As these days there are many drugs in the market with poor solubility which leads to poor dissolution and bioavailability, so solubility is becoming rate limiting factor in the development of new drugs. To overcome this problem there are many techniques but liquisolid technique is most promising technique which is discussed in this article. Liquisolid is mainly composed of drug, non volatile solvent, carrier material, coating material, and disintegrant. In liquisolid technique carrier and coating material which should be in the ratio of 20:1 is mixed into the non volatile solvent and then disintegrant is added and final material is compressed into tablets. Both immediate or sustained release formulation through oral route.

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Research Article

Formulation Development and Evaluation of In-Situ Nasal Gel of Lisinopril Dihydrate

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Abstract: The present study was aimed to develop a mucoadhesive In-situgel of Lisinopril Dihydrate for improved bioavailability by circumventing the hepatic first pass metabolism and patient compliance. Lisinopril dihydrate was incorporated into the blends of thermo reversible polymer pluronic F 188(PF 188) and bio adhesive polymer Carbopol 934 in the form of In-situgel by cold technique to reduce the mucociliary clearance, and thereby it will increase the contact of formulation with nasal mucosa and hence improving drug absorption. The prepared gels were characterized by pH, Drug content, Gel strength, in -vitro drug release studies, stability study etc. The pH of all the formulations were found to be within the range between 4.5-6.5 and the nasal mucosa can tolerate the above mentioned pH of the formulations. The drug content of all formulations was found to be 91.09 to 99.98%. Viscosity measurement of the formulations at temperatures 25°C & 37°C shows that there was increase in viscosity with increase in the temperature and it was found that all formulations were in liquid state at room temperature and were converted into gel at nasal physiological temperature. The optimized formulation showed a drug release of 98.83% in 8 hrs.
Keywords: Lisinopril dihydrate, In-situgel, nasal delivery, Pluronic F188.

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DESIGN, SYNTHESIS AND ANTIFUNGAL EVALUATION OF NOVEL TRIAZOLE DERIVATIVES AS-FLUCONAZOLE ANALOGUE

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ABSTARCT

A series of 1-(5-(4-phenyl)-1,3,4-oxadiazol-2-yl)-2-(2,4-difluorophenyl)-3-(1H-1,2,4-triazol-1-yl)propan-2-ols compounds were synthesized and evaluated for their antifungal activities *in- vitro*. As most 6A-6E compounds exhibited good *in-vitro* antifungal activity, this finding supported our attention that attachment of fluoro and chloro group to the phenyl ring increases the antifungal activity of the compound. On the other hand, replacing the chloro and fluoro group with nitro group almost eliminated the antifungal activity, which was demonstrated by the low antifungal activity of compounds 6G-6I. Combining the results from this study and from previous research, we propose that the optimal strategy to maximize the antifungal activity of compound was to condense substituted 1,3,4-oxadiazoles as the replacement to 1,2,4-triazole ring of

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Original Article

Ameliorative Effect of Nebivolol in Parkinson's disease

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ABSTRACT

Objective: The objective of the present study was to evaluate anti-parkinsons activity of nebivolol.
Methods: Parkinson's disease (PD) was induced by administration of rotenone (3 mg/kg/day, i.p for 21 consecutive days), and haloperidol (1 mg/kg, i.p). The symptoms of PD like tremors, akinesia, rigidity and catalepsy were evaluated. Foot shock-induced aggression (FSIA) model was used to confirm anti-parkinsonian activity. Nebivolol was administered at doses of 5, 10 and 20 mg/kg, p.o.
Results: Treatment with nebivolol significantly reduced intensity of muscular rigidity, akinesia, tremors, duration of catalepsy and increase fighting behaviour. The locomotor activity, exploratory behavior and grip strength were significantly improved by nebivolol. In rotenone model, the biochemical analysis of brain revealed the increased level of lipid peroxidation (LPO) and decreased levels of superoxide dismutase (SOD) and catalase (CAT). Treatment with nebivolol significantly reduced LPO level and restored the defensive antioxidant enzymes SOD and CAT.
Conclusion: Nebivolol may be used as a neuroprotective agent in the treatment of parkinsons disease along with standard anti-parkinson agents.

Keywords: Foot shock-induced aggression, Neurodegeneration, Parkinson's disease, Rotenone.

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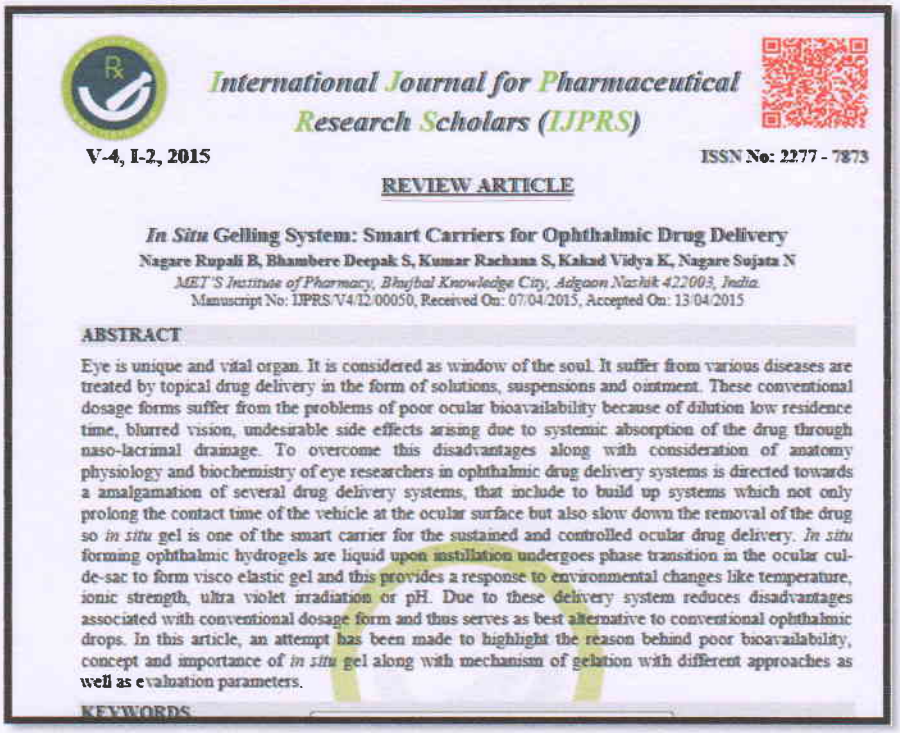

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REVIEW ARTICLE

In Situ Gelling System: Smart Carriers for Ophthalmic Drug Delivery

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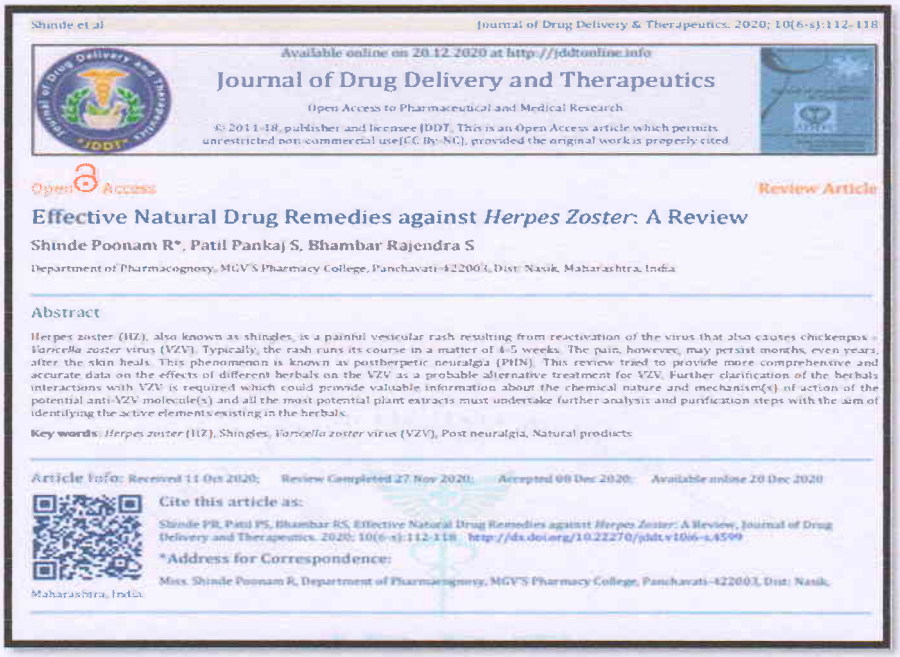
ABSTRACT

Eye is unique and vital organ. It is considered as window of the soul. It suffer from various diseases are treated by topical drug delivery in the form of solutions, suspensions and ointment. These conventional dosage forms suffer from the problems of poor ocular bioavailability because of dilution low residence time, blurred vision, undesirable side effects arising due to systemic absorption of the drug through naso-lacrimal drainage. To overcome this disadvantages along with consideration of anatomy physiology and biochemistry of eye researchers in ophthalmic drug delivery systems is directed towards a amalgamation of several drug delivery systems, that include to build up systems which not only prolong the contact time of the vehicle at the ocular surface but also slow down the removal of the drug so *in situ* gel is one of the smart carrier for the sustained and controlled ocular drug delivery. *In situ* forming ophthalmic hydrogels are liquid upon instillation undergoes phase transition in the ocular cul-de-sac to form visco elastic gel and this provides a response to environmental changes like temperature, ionic strength, ultra violet irradiation or pH. Due to these delivery system reduces disadvantages associated with conventional dosage form and thus serves as best alternative to conventional ophthalmic drops. In this article, an attempt has been made to highlight the reason behind poor bioavailability, concept and importance of *in situ* gel along with mechanism of gelation with different approaches as well as evaluation parameters.

KEYWORDS



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Open Access Review Article

Effective Natural Drug Remedies against *Herpes Zoster*: A Review

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Abstract

Herpes zoster (HZ), also known as shingles, is a painful vesicular rash resulting from reactivation of the virus that also causes chickenpox - *Varicella zoster* virus (VZV). Typically, the rash runs its course in a matter of 4-5 weeks. The pain, however, may persist months, even years, after the skin heals. This phenomenon is known as postherpetic neuralgia (PHN). This review tried to provide more comprehensive and accurate data on the effects of different herbals on the VZV as a probable alternative treatment for VZV. Further clarification of the herbals interactions with VZV is required which could provide valuable information about the chemical nature and mechanism(s) of action of the potential anti-VZV molecule(s) and all the most potential plant extracts must undertake further analysis and purification steps with the aim of identifying the active elements existing in the herbals.

Key words: *Herpes zoster* (HZ), Shingles, *Varicella zoster* virus (VZV), Post neuralgia, Natural products

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Original research article

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Physicochemical Investigation of *Prosopis spicigera* fruits (Linn.) from Khandesh region of Maharashtra, India

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Abstract:

The evaluation of crude drug is an important task to get an idea about quality, purity of herbal crude drugs so pharmacognostical and phytochemical investigations are considered as valuable parameters for determination of quality, purity and correct identity of medicinal plants. The Khandesh region of Maharashtra, densely populated by various tribe's communities like Pawara, Kokani, Bhils, Mavach, and Vasave etc. The tribes reside isolated form from each other so, illiteracy ratio is quite high and unfortunately less number of modern medical facilities are available for treatment of public health so tribes strongly believe in herbal treatment given by local traditional healers. The healers used *Prosopis spicigera* as a medicine in liver disorders. The *Prosopis spicigera* (Linn.) Druce is a traditional multipurpose plant used by tribes in the treatment of various diseases without any scientific rational data. For the rationalization of *Prosopis spicigera* in a scientific way, the fruits were investigated pharmacognostically and phytochemically and outcomes confirmed the presence of various inorganic elements within proper range. The fruit extracts were screened for conventional phytochemical investigation revealed the presence of flavonoids, tannins, alkaloids, phenolic compounds, sterols and carbohydrates. Thus the present study provides scientific, rational data on the basis of pharmacognostical and phytochemical findings, which can be supported to plant to get a valuable place in modern herbal medicines and in the proposed Pharmacopoeia of Indian medicinal plants.

Keywords: King of desert, Nutritional plant, khandesh plant, *Prosopis spicigera*

INTRODUCTION

Since antiquity plants have been playing a great role in the development of medicine and for public health. In analogues built on prototype compounds isolated from plants [5]. The Satpuda region of Khandesh, Maharashtra, particularly Dhule and Nandurbar districts

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