3.3.1 Number of research papers published per teacher in the journals notified on UGC care list during the last five years

3.3.1.1. Number of research papers in the Journals notified on UGC CARE list year wise during the last five years

DVV Comment: Provide a direct link to the research paper, the journals website, and the URL of the content page if it's a print journal.

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Calendar Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number		
						Link to website of the Journal	Link to article / paper / abstract of the article	Is it listed in UGC Care list
Formmulation Development of invitro evaluaion of Buprenorphine loaded Transdermal patches	Anil Joshi, Jimidi Bhaskatr	Pharmaceutics	International Journal of All Research and Scientific Methods	2023	2455-6211	https://www.ijaresm.com/	https://www.ijaresm.com/uploaded_files/document_file/Narre_Shirishasit2.pdf	
Development of Novel Indole-3-sulfonamide-heteroaryl Hybrids as Carbonic Anhydrase Inhibitors: Design, Synthesis and *in-vitro* Screening	Chinchilli, Krishna K.; Singh, Priti; Swain, Baijayantimala; Goud, Nerella S.; Sigalapalli, Dilep K.; Choli, Abhishek; Angeli, Andrea; Nanduri, Srinivas; Yaddanapudi, Venkata M.; Supuran, Claudiu T.; Arifuddin, Mohammed	Pharmaceutical Chemistry	Anti-Cancer Agents in Medicinal Chemistry (Formerly Current Medicinal Chemistry - Anti-Cancer Agents)	2023	1875-5992	https://ouci.dntb.gov.ua/en/works/45GabvO9/	https://www.ingentaconnect.com/content/ben/acamc/2023/00000023/00000011/art00002	UGC Care List in Grade I
Tetrandrine, an Effective Inhibitor of COVID-19 Main Protease (Mpro); Insights from Molecular Docking and Dynamics Simulations.	Arifa Begum SK, Shaheen Begum, Pranay Bandari, Maadhu Reddemma	Pharmaceutical Chemistry	International Journal of Pharmaceutical Investigation	2023	2230-973X	https://jpionline.org/	https://openurl.ebsco.com/EPDB%3Agcd%3A5%3A4439557/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A173739892&crl=c	UGC Approved journal
Quantitative Estimation Preservative Paraben and Niolone 950 Content in Herbal Skin Unguent	Kabita Banik a#* , Namratha Sunkara a# , P. Twila Pushpa a# and Nahid a#	Pharmaceutics	Recent Progress in Science and Technology	2023	978-81-19039-34-0	https://promotion.bookpi.org/discussion-on-quantitative-estimation-preservative-paraben-and-niolone-950-content-in-herbal-skin-unguent/	https://www.researchgate.net/profile/Chandan-Shaw-3/publication/367473588_Impact_of_Technology_on_the_Sports_Field/links/646dab3837d6625c002c7c8d/Impact-of-Technology-on-the-Sports-Field.pdf#page=79	
Phytochemical profile, HPLC analysis, and CNS activity of ethanol extract from the flowers of Borage	Haritha Polimati1, Ho Viet Hieu2, Rajeswari Pasupula3, Srilakshmi Nallapaty3, Srilekhya Ketha4, Alekhya Ketha5	Pharmaceutical chemistry	Thai Journal of Pharmaceutical Sciences	2023	1905-4637	https://digital.car.chula.ac.th/tjps/	https://digital.car.chula.ac.th/cgi/viewcontent.cgi?article=2828&context=tjps	

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Formulation Development and invitro Evaluation of Deflazocart fast dissolving tablets	G Srujana, Jimidi Bhaskar	Pharmaceutics	International Journal of All Research and Scientific Methods	2023	2455-6211	https://www.ijaresm.com/	https://www.ijaresm.com/formulation-development-and-in-vitro-evaluation-of-deflazacort-fast-dissolving-tablets	UGC Approved journal
Role of Insulin in management of Type-II Diabetes Mellitus	Harikishore Reddy, T.Ritika, Jimidi Bhaskar	Pharmaceutics	International Journal of All Research and Scientific Methods	2023	2455-6211	https://www.ijaresm.com/	https://ijpbs.com/ijpbsadmin/upload/ijpbs_657f1d079bf90.pdf	UGC Approved journal
Pulmonary Drug Delivery System-A Review	Harika Jualakanti, Jimidi Bhaskar	Pharmaceutics	International Journal of Pharmacy & Biological Sciences	2023	2321-3272	https://www.ijaresm.com/	https://ijpbs.com/ijpbsadmin/upload/ijpbs_657f1d079bf90.pdf	YES
Preperation and Evaluation of Fast Disintegration Tablets of Posaconazole	G.Rahul, J Yashashwini, K.Vikram, K.Ujwala, K.Sai Rupini, Dr. J.Bhaskar & Dr. Reddy Nazemoon	Pharmaceutics	World Journal of Pharmaceutical Sciences & Research	2023	ISSN (Print): 1871-5206	https://www.wjpr.net/	https://wjpsronline.com/images/958c118849452747431c85398dac89cb.pdf	
Formulation Development and iInvitro Evaluation of Posaconazole loaded Transfersomes Gel	Amulya Chikoti & Jimidi Bhaskar	Pharmaceutics	World Journal of Pharmaceutical Sciences & Research	2023	ISSN (Online): 1875-5992	https://www.wjpr.net/	https://wjpsronline.com/images/22c6c2d959e5625e7fc89ead879ca9c3.pdf	
A novel approach to develop tramadol.HCl transdermal films with complete In-vitro evaluation	Kabita Banik, Dr. Namratha, Ms. Twila, K Harika	Pharmaceutica analysis	IJIRT	2023	2349-6002	https://ijirt.org/	https://ijirt.org/Article?manuscript=160945	
Formulation and In-vitro characterization of Nelfinavir extended release tablets	Gunduavi Ramyasri , Namrata Sunkara	Pharmaceutica analysis	IJARESM	2023	2455-6211	https://www.ijaresm.com/	https://www.ijaresm.com/formulation-and-in-vitro-characterization-of-nelfinavir-extended-release-tablets	
Bioassay Guided Isolation of Anti-Inflammatory Compounds from Bauhinia variegata L.: A Key Ingredient in Herbo-Mineral Formulation, Gandmala Kandan Ras	Dr. Alekhya	pharmaceutical medicinal chemistry	Indian Journal of Pharmaceutical Sciences	2023	1998-3743	https://www.ijpsonline.com/	https://www.ijpsonline.com/articles/bioassay-guided-isolation-of-antiinflammatory-compounds-from-embauhinia-variegataem-l-a-key-ingredient-in-herbomineral-formulation-4873.html	yes
Millintonia hortensis-A Review	Dr. Alekhya	pharmaceutical medicinal chemistry	IJCRT	2023	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2302516.pdf	
effect of isolated fraction from biophytum reinwardtii on dexamethasone induced insilin resistance in rats.	Dr. Alekhya	pharmaceutical medicinal chemistry	toxicology international	2023	0971-6580	https://informaticsjournals.com/index.php/toxi/	https://www.informaticsjournals.com/index.php/toxi/article/view/26258	

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GC-MS, isolation,characterization and biological activity of ethanolic extract of moss fabronia secunda mont	Dr. Alekhya	pharmaceutical medicinal chemistry	Indian Journal of Pharmaceutical Sciences	2023	1998-3743	https://www.ijpsonline.com/	https://www.ijpsonline.com/articles/gas-chromatographymass-spectrometric-analysis-isolation-characterization-and-biological-activity-of-ethanolic-extract-of-moss-emfa-4941.html	YES
protrctive activity of ferulic acid on rotenone-induced neuro-degeneration in zebra fish model.	Dr. Alekhya	pharmaceutical medicinal chemistry	journal of survey in fisheries sciences.	2023	2368-7487	https://www.sifisheriessciences.com/index.php/journal	https://sifisheriessciences.com/journal/index.php/journal/article/view/1245	
Evaluation of anti-bacterial and anti-oxidant potential of Melia.Azedarach linn and psidium guava linn leaf extract	Mrs.Azka Fathima, Dr.Kalyani	pharmacognosy	RJPT	2023	0974-3618	https://www.rjptonline.org/	https://rjptonline.org/AbstractView.aspx?PID=2023-16-7-12	YES
Formulation and Evaluation of Fast Dissolving tablets of Albendazole	Anil Joshi Jimidi Bhaskatr	Pharmaceutics	High Technology letters	2022	1006-6748	https://gjstx-e.cn/	https://drive.google.com/file/d/135WsF_Aus7TwGY3RDC6EE7d9azx5H5-v/view	
Antidiabetic potential of leaf extracts of Ecobolium linneanum Kurz in streptozotocin-induced diabetic rats	Srilakshmi Nallapaty1, Narender Malothu1*, Rajeswari Pasupula2, Alekhya Ketha3	Medicinal Chemistry	Journal of Pharmacognocy and Phytochemistry	2022	0719-4250	https://jppres.com/jppres/	https://jppres.com/jppres/pdf/vol10/jppres21.1319_10.3.496.pdf	YES
Agricultural uses of carbon nanotubes and their toxic effects	JE Rachel Nivedita	Pharmacology	wjpps	2022	2278-4358	https://www.wjpps.com/Wjpps_controller/abstract_id/16574	https://www.wjpps.com/Wjpps_controller/abstract_id/16574	
Synthesis, Antioxidant, Antinociceptive Activity of Novel Phenoxy acetyl carboxamides.	S. K., ARIFA BEGUM;	Pharmaceutical Chemistry	Oriental Journal of Chemistry	2022	0970-020X	https://www.orientjchem.org/	https://openurl.ebsco.com/EPDB%3Agcd%3A3%3A1069859/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A158070356&crl=c	YES
Exploring Quantitative Structure-Activity Relationships (QSARs) for Urea-Based Dual FAAH and sEH Inhibitors	Arifa Begum SK	Pharmaceutical Chemistry	International Journal of Quantitative Structure-Property Relationships (IJQSPR)	2022	2379-7487	https://www.igi-global.com/journal/international-journal-quantitative-structure-property/126552	https://www.igi-global.com/article/exploring-quantitative-structure-activity-relationships-qsars-for-urea-based-dual-faah-and-seh-inhibitors/290013	
stability indicating RP-HPLC M ethod of development and validation of daptomycin	Azka Fatima	Pharmaceutica analysis	international journal of creative research thoughts	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2210101.pdf	

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Efficacy of Oral Glucosamine Sulphate and Sulfasalazine combination in the treatment of Osteoarthritis	G D'Souza Marina	pharmacognosy	rjpt	2022	0974-3618	RJPT - Research Journal of Pharmacy and Technology (rjptonline.org)	https://www.indianjournals.com/ijor.aspx?target=ijor:rjpt&volume=15&issue=9&article=067	YES
Drug Utilization and Evaluation of Antiepileptic Drugs in a Tertiary Care Hospital	Arifa Begum SK	Pharmaceutical Chemistry	Indian Journal of Pharmacy Practice	2022	0974-8326	http://www.ijopp.org/	https://ijopp.org/files/InJPharPract-15-4-321_0.pdf	YES
Glimpepiride-induced hypoglycemia in diabetic mellitus type-2	Nahid	Pharm-D	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2211470.pdf	
Formulation and evaluation of poly herbal hand wash	P.Twila Pushpa1*, Namratha Sunkara2 , Kabita Banik 3 Nahid4	Pharm-D	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2211153.pdf	
A Case Report on liposomal Amphotericin-B induced anaphylactic reaction	Nahid	Pharm-D	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2210281.pdf	
Study of Incidence of Malaria, Dengue and Chikungunya Fevers Among Febrile Patients Visiting Tertiary Care Hosp[ital (King George Hospital) in Visakhapatnam	P. Twila Pushpa, K. Narendra Kumar, S. Namratha, Kabita Banik	Pharmaceutics	Journal of Global Trends in Pharmaceutical Sciences	2022	2230-7346	https://www.jgtps.com/#:~:text=(e%2DISSN%2D%202230%2D7346).	https://www.cabidigitallibrary.org/doi/full/10.5555/20220221750	
Formulation and evaluation of clarithromycin enteric coated microcapsules using 2 square-Full Factorial Designs	Kabita Banik1*, S Namratha2 and Twila Pushpa3	Pharmaceutics	GRADIVA REVIEW ACCEPTED	2022	0363-8057	https://gradivareview.com/	https://actascientific.com/ASPS/pdf/ASPS-06-0887.pdf	
Phytochemical screeing and invitro anticancer activity of Lonicera ligustrina leaf extract on breast cacorectal carcinoma cell.	Dr. Namratha	Pharmaceutics	RJPT	2022	0974-3618	https://www.rjptonline.org/	https://rjptonline.org/AbstractView.aspx?PID=2022-15-8-26	YES
Review Article On FTIR Spectroscopy	Dr. Namratha	Pharmaceutica analysis	ACTA SCIENTIFIC PHARMACEUTICAL SCIENCES	2022	2320-2882	https://actascientific.com/ASPS.php	https://www.semanticscholar.org/paper/REVIEW-ARTICLE-ON-FTIR-SPECTROSCOPY-Sunkara-G.Anvitha/45f2a11dd97ec7fd066a0e2647983aaa6c393aaa	

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Corticobasal syndrome	Twila	Pharmacy practice	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2210286.pdf	YES
Lower respiratory Tract infection LRTI case Report	Twila	Pharmacy practice	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2211332.pdf	YES
Ulcerative colitis-A case Report	Twila	Pharmacy practice	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2210341.pdf	YES
Pregnancy- placental previa-A case report	Twila	Pharmacy practice	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2211302.pdf	YES
Dengue with Thrombocytopenia-A case report	Twila	Pharmacy practice	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2210506.pdf	YES
Effective medication in Vestibular migraine	Twila	Pharmacy practice	IJCRT	2022	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2211356.pdf	YES
Protective effect of Vitex altissima L.f. bark extract on cisplatin induced renal injury in Wistar rats	Dr. Alekhya	pharmaceutical medicinal chemistry	Plant Science Today	2022	2348-1900	https://horizonepublishing.com/journals/index.php/PST	https://www.cabidigitallibrary.org/doi/full/10.5555/20220299315	
Evaluation of antidiabetic effect of leaves of acacia nilotica phytopharmacological prospective	JE Rachel	Pharmacology	World Journal of pharmacy and Pharmaceutical Sciences	2022	2278-4357	https://www.wjpps.com/	https://www.wjpps.com/Wjpps_controller/abstract_id/17248	
Stoneman syndrome frequency/ Munchmeyer's diseases rare genetic disorders (1 in 2 million)	JE Rachel	Pharmacology	World Journal of pharmacy and Pharmaceutical Sciences	2022	2278-4358	https://www.wjpps.com/	https://www.wjpps.com/Wjpps_controller/abstract_id/16279	

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Patern of use of SGLT2 inhiibitors in patient with CHF	Ms.Nahid	Pharmacy practice	IJRAR	2022	2348-1269	https://ijrar.org/	https://www.ijrar.org/papers/IJRARTH00096.pdf	YES
Synthesis and Evaluation of 1,2,4-Triazole Derivatives for Antioxidant, Anti-inflammatory, Cytotoxicity and QSAR Analysis	Dr Arifa Begum SK	pharmaceutical medicinal chemistry	Asian Journal of Chemistry	2022	0970-7077	https://asianpubs.org/index.php/ajchem/index	https://asianpubs.org/index.php/ajchem/article/view/35_1_27	YES
Extraction of bioactive egg compounds used in human medicine	Palaparthi Twila Pushpa	Pharm-D	IJPSI	2021	2319-6718	https://www.ijpsi.org/		YES
Phytochemical evaluation and in-vitro antioxidant potential of whole plant of Hyptis suaveolens	Nimmagadda Srinivas	Pharmaceutical chemistry	Research Journal of Pharmacy and Technology	2021	0974-3618	RJPT - Research Journal of Pharmacy and Technology (rjptonline.org)	https://www.indianjournals.com/ijor.aspx?target=ijor:rjpt&volume=14&issue=1&article=074	YES
Extraction, phytochemical analysis and anthelmintic activity study of *Portulaca quadrifida* Linn.	Twila Pushpa	Pharm-D	Journal of Global Trends in Pharmaceutical Sciences	2021	2230-7346		https://www.cabidigitallibrary.org/doi/full/10.5555/20210492038	
Identification and Quantitative Estimation of Niacinamide and Neolone 950 in an Oil/Water Cream by HPTLC Method.	Banik, Kabita	Pharmaceutics	Eurasian Journal of Analytical Chemistry	2021	1306-3057	https://www.ebsco.com/	https://openurl.ebsco.com/EPDB%3Agcd%3A10%3A24739994/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A155671856&crl=c	
Formulation and Evaluation of Dermatological Product Containing Niacinamide	Kabita B. Banik	Pharmaceutics	Advances in experimental medicine & biology	2021	0065-2598	https://www.springer.com/series/5584?srsltid=AfmBOooBhmKWgJlczOpcnrgCAme6aMI3bdpSBX6Jf58PpOISeLZ_iKFj	Formulation and Evaluation of Dermatological Product Containing Niacinamide | SpringerLink	YES
Exploring Quantitative Structure-Activity Relationships (QSARs) for Urea-Based Dual FAAH and sEH Inhibitors	Kabita B. Banik	pharmaceutical medicinal chemistry	International Journal of Quantitative Structure-Property Relationships (IJQSPR)	2021	2379-7487	https://www.igi-global.com/journal/international-journal-quantitative-structure-property/126552	https://www.igi-global.com/article/exploring-quantitative-structure-activity-relationships-qsars-for-urea-based-dual-faah-and-seh-inhibitors/290013	YES
Impact of Non-sedation in Gastrointestinal Conventional Endoscopy	Dr Arifa Begum SK	pharmaceutical medicinal chemistry	Indian Journal of Pharmacy Practice,	2021	0974-8326	https://ijopp.org/	https://www.semanticscholar.org/paper/Impact-of-Non-sedation-in-Gastrointestinal-in-Setup-Shaik-Srija/aee803edc80d39c0fe9c754ca311c0995c8a794c	YES
Drug Utilization and Evaluation of Antiepileptic Drugs in a Tertiary Care Hospital	Dr Arifa Begum SK	pharmaceutical medicinal chemistry	Orient J Chem 2022;38(3).	2021	2231-5039	https://www.orientjchem.org/category/vol38no3/	✔ Drug Utilization and Evaluation of Antiepileptic Drugs in a Tertiary Care Hospital – Indian Journal of Pharmacy Practice (ijopp.org)	YES

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A Review on medicinal importance of isatin scaffolds with anti-mycobacterial activity	Mrs.Azka Fathima	Pharmaceutica analysis	journal of cardiovascular disesase reasearch	2021	0975-3583	https://www.jcdronline.org/	https://jcdronline.org/paper.php?slug=a-review-on-medicinal-importance-of-isatin-scaffolds-with-anti-mycobacterial-activity	
Stability indicating RP-HPLC Method of development and validation of daptomycin	Dr. Namratha	Pharmaceutica analysis	international journal of creative research thought	2021	2320-2882	https://ijcrt.org/?gad_source=1&gclid=Cj0KCQjwh7K1BhCZARIsAKOrVqFERjGxzmU1qf0IaDVG-j_LKA9rYizqr8hRuRY0oT5ry-NGxeRyzjcaAtKkEALw_wcB	https://ijcrt.org/papers/IJCRT2210101.pdf	
Glimpepiride-induced hypoglycemia in diabetic mellitus type-2	Ms. Nahid	Pharmacy practice	IJCRT	2021	2320-2882	https://ijcrt.org/?	https://ijcrt.org/papers/IJCRT2211470.pdf	
Assessment of efficacy of Ticagrelor versus Clopidogrel in the treatment of myocardial infarction by 2D echocardiography	Marina Gladys D'Souza, Aishwarya Goud Muthyala, Tejaswini Myaka, Sanjib Kumar Sahu, Swathi Boddupalli	Pharmacognosy	GSC Biological and Pharmaceutical Sciences	2020	2581-3250	https://gsconlinepress.com/journals/gscbps/	https://gsconlinepress.com/journals/index.php/gscbps/article/view/gscbps-2020-0256	
Nootropic herbal formulations for the treatment of Alzheimer's disease: In vivo pharmacological assay and molecular docking studies	Naveen Kumar Kotla, Shibnath Kamila, Shivani Patel, Joel Kothapally, Aparna Kongara, Satheesh Madhav	Pharmacy Practice	İstanbul Journal of Pharmacy	2020	2587-2087	https://iupress.istanbul.edu.tr/en/journal/ijp/home	https://dergipark.org.tr/en/download/article-file/1259721	
Formulation and evaluation of polyherbal chewable tablets to treat allergy	G. Sumalatha, M. Nikitha Reddy, Ajmeri Begum, G. Mounika, Dattatreya	Pharmacognosy	Journal of Global Trends in Pharmaceutical Sciences	2020	2230-7346	https://jgtps.com/	cabidigitallibrary.org/doi/full/10.5555/20219814444	

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Formulation, development and evaluation of Polysaccharide based Gastro-retentive Formulation for Delivery of AntiHypertensive Drug	Gyati Shilakari Asthana, Kavi Soundarya, Vemula Nagamani	Pharmaceutics	International Journal of Advance Research, Ideas and Innovations in Technology	2020	2454-132X	https://www.ijariit.com/	https://d1wqtxts1xzle7.cloudfront.net/80901108/V6I2-1341-libre.pdf?1644976841=&response-content-disposition=inline%3B+filename%3DFormulation_development_and_evaluation_o.pdf&Expires=1728121109&Signature=Cyf3bzHKxeK27kJV1v6EGf5jh1Libb0d89zFXbSlrOvAoWqJ49ucKDXnoc0qFnmZNfcty1N2o8iKcZYLZBrv92Dk1baH-8M7bfOid8z75BVGcKuyOxTSlLWnzvui8dzskewi6Yp7AjLdYD2m7SUFxxi2UeWs3robQRI7ueU~SLB6Jme5E2WW7S-pocShWWoPPhDSTyYMEQ7r-ZCfzg7yllBMbAwf0lNL~tvl8OioN02Fk~FD02J95DcwWy8NIxAbLllAFa1QIoScPKELdlDl4sFZzczyqsaRfUEXhO5phjDM9GnsB7jEWA-XOuYUcagSVp104~tYOvx89oRQAkpotw__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA	
Synthesis, Evaluation and in Silico Studies of 4-N, N-Dimethylamino and 4-Carboxy Chalcones as Promising Antinociceptive Agents	Kabita Banik, S Akshitha, OV Poojitha, Ch Thulasi, V Vineetha	Pharmaceutical Chemistry	Asian Journal of Research in Pharmaceutical Science	2020	2231-5640	https://ajpsonline.com/	https://www.indianjournals.com/ijor.aspx?target=ijor:ajrps&volume=10&issue=3&article=003	
A prospective comparative study to evaluate the effect of Myo-inositol plus diet vs diet alone in patients with gestational diabetes	B Swathi, A Deepthi, B Sravani, Rekha, S Namratha and R Sandhy	Pharmacology	GSC Biological and Pharmaceutical Sciences	2020	2581-3250	https://gsconlinepress.com/journals/gscbps/	https://www.semanticscholar.org/reader/dc54e0476b915ec68939e0a98c7ecae43e92fbd3	
Formulation and Evaluation of Telmisartan Solid Dispersion of Encapsulation Using Different Polymer	KabitaBanik and K Yashasree	Pharmaceutics	Acta Scientific Pharmaceutical Sciences	2020	2581-5423	https://actascientific.com/ASPS.php	https://actascientific.com/ASPS/pdf/ASPS-04-0555.pdf	
Evaluation of Floating Microspheres of Repaglinide by Ionic Gelation Method	Bharath Kumar,KabitaBanik	Pharmaceutics	journal of pharmaceutics and drug research	2020	2640-6152	https://www.scitcentral.com/journals/14/Journal-of-Pharmaceutics-and-Drug-Research-(ISSN:2640-6152)	https://www.scitcentral.com/article/14/1508/Formulation-and-Evaluation-of-Floating-Microspheres-of-Repaglinide-by-Ionic-Gelation-Method#tabs6	
Evaluation of Antiurolithiatic activity of Moringa leaves by UV Spectroscopic Method.	Kabita Banik, S. Akshitha, O. V. Poojitha, Ch. Thulasi, V. Vineetha	Pharmaceutics	Asian Journal of Research in Pharmaceutical Sciences	2020	2231-5640	https://ajpsonline.com/	https://ajpsonline.com/AbstractView.aspx?PID=2020-10-3-3	YES

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Formulation, characterization and evaluation of microspheres containing isoniazid	Kabita Banik and Dr. Y Phalguna	Pharmaceutics	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/UgVtLG.pdf	
Extraction, phytochemical analysis and anthelmintic activity study of portulaca quadrifida linn	Mrinmay Das, Ch. Ascharya, Kabita Banik and Twila Pushpa	Pharmaceutics	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/tMFX28.pdf	
Comparative study of intrathecal dexmedetomidine versusfentanyl as an adjuvant to 0.5% bupivacaine in sensory and motor block recovery of spinal anaesthesia	S. Praveen, M. Sai Vikas, Dr. B. Swathi, Haritha pasupulati, Dr.Maniram, Kranthi Kumar N	Pharmacology	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/hpZDmV.pdf	
Formulation of an anti- bacterial cream from plantoxalis corniculata andits evaluation	Bhanuprakash Arakareddy, Kezia K.Sam	Pharmaceutics	International Journal of Current Pharmaceutical Research	2020	0975-7066	https://journals.innovareacademics.in/index.php/ijcpr	https://journals.innovareacademics.in/index.php/ijcpr/article/view/39763/23614	

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Evaluation of analgesic activity of methanolic extract of sidaacutaon rats using by eddy's hot plate method	Kattunga Durga Prasad, P.Twila Pushpa, Pyla Venkata Harika, Sarnala Rajani, Kukkala Mohan, Karinki Durga Rao	Pharmacology	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/4QnsSG.pdf	
Anti-atherosclerotic effect of extract of methanolic of ochnaobtusata on high fat diet and triton-x induced atherosclerosis in albino wistar rats	Je Rachel Nivedita, Swathi and Haritha Pasupulati	Pharmacology	World Journal of pharmacy and pharmaceutical sciences	2020	2278-4357	https://www.wjpps.com/	yes	
Preparation and characterization of nevirapine chitosan nanoparticles	Nimmagadda Srinivas, Anusha Yedire, Surampalli Gurunath	Pharmaceutics	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/cHOBIC.pdf	
Mandatory generic prescribing and generic substitution for brand-name medicines in india -a cross-sectional survey	Nimmagadda Srinivas, SurampalliGurunath, Jyothi Papani, Meena Banda, Nandini Bairi, YugandarThimmidi	Pharmaceutics	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/9VgCOX.pdf	
A novel RP-HPLC method development and validation for the estimation of clopidogrel in tablet dosage form	V. Shushma, Mannaswini Sammala, Ch. S. Vijaya Vani, Mamindla Sandhya	Pharmaceutica analysis	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://jgtps.com/admin/uploads/JHCs9Y.pdf	
spectroscopic method for the determination of alogliptin benzoate and metformin hydrochloride in bulk and tablet dosage form	M. Sandhya, Saipurna. A, Ch. S. Vijaya Vani	Pharmaceutica analysis	Journal of global trends in pharmaceutical sciences	2020	8425-8429	https://www.jgtps.com/	https://www.jgtps.com/admin/uploads/Vpg8MR.pdf	
Phytochemical evaluation and in-vitro antioxidant potential of whole plant of Tanacetum parthenium	Deepthi Yada, T. Sivakkumar, N. Srinivas	Pharmaceutics	International research journal of pharmacy	2020	2230-8407	https://www.irjponline.com/index.php/IRJP	https://rjptonline.org/AbstractView.aspx?PID=2021-14-1-74	
A Novel UPLC Method Development and Validation for the Estimation of Paracetamol and Chlormezanone in Dosage Form	Teja Sri Adla, Sandhya Mamindla	Pharmaceutica analysis	Research and Reviews: A Journal of Pharmaceutical Science	2020	2229-7006	https://stmjournals.com/Journal-of-Pharmaceutical-Science.html	https://www.semanticscholar.org/paper/A-Novel-UPLC-Method-Development-and-Validation-for-Adla-Mamindla/1242890abb51e8778a393c054650b569e5596430	yes
Impact of The ^{68}Ga Prostate-Specific Membrane Antigen (^{68}Ga-PSMA) PET/CT on the Management of Prostate Cancer	Surampalli Gurunath, Shreeya Salunke and Sravan Komittishetty	Pharmacology	Journal of Exploratory Research in Pharmacology	2020	2993-5121	https://www.xiahepublishing.com/journal/jerp	https://www.xiahepublishing.com/2572-5505/JERP-2020-00009	YES

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Effect of Polyherbal Combinations and Essential Oils against Biofilm of Streptococcus	S. Gopi Krishna, K. Abhilash Reddy, M. Shiva Kumar, G. Ramu, B. Uma Rajeswari and	pharmaceutical medicinal chemistry	International Journal of Pharmaceutical Sciences and Research	2020	0975-8232	https://ijpsr.com/	https://ijpsr.com/bft-article/effect-of-polyherbal-combinations-and-essential-oils-against-biofilm-of-streptococcus-mutans/	yes
Fabrication and characterization of ketoprofen nanoparticles by double emulsification- solvent evaporation technique using PLGA	C. Sadak Vali, Md.Rayees Ahmad, AbdullahKhan, Sk. Arifa Begum, M.D.Priya Darshini,Amani Vemulapalli, S. TayabaGousia, SwathiGoud	pharmaceutical medicinal chemistry	International journal of pharmacy and pharmaceutical research	2020	0975-8232	https://ijpsr.com/	https://ijppr.humanjournals.com/wp-content/uploads/2020/11/33.C.-Sadak-Vali-MD.-Rayees-Ahmad-Abdullah-Khan-SK.-Arifa-Begum-M.D.Priya-Darshini-Amani-Vemulapalli-S.-Tayaba-Gousia-Swathi-Goud.pdf	YES
Coronavirus treatment: Newer Therapeutic Development of Covid-19 Drugs and Vaccines	Arun Kumar Sanapala, Sunkara Namratha, Sunil Junapudi	Pharmaceutical analysis	Inventi rapid: Pharmacy Practice	2020	0976-3848	https://inventi.in/journal/impact/139/InventiRapidPharmacyPractice	https://inventi.in/journal/article/139/31474/Inventi%20Rapid:%20Pharmacy%20Practi/Pharmaceutical	YES
Efficacy and pattern of antibiotic Usage Among Patients with Cirrhosis and/or Chronic Liver Disease in Telangana,	Shibnath Kami-Srinivas, Giddalur Ab-	Pharmacy practice	Exploratory Re-search and Hygine	2020	2278-4357	https://www.wjpps.com/	https://www.xiahepublishing.com/2472-0712/ERHM-2020-00003#:~:text=The%20current%20indications%20of%20antibiotic,ceftriaxone%20(administered%20as%201%20g%2F	
Formulation and Evaluation of Propranolol HCl Floating Tablets-A Gastro Retentive Drug Delivery	Banik Kabita*, Dr. Phalguna Y, Sangeetha B	Pharmaceutics	Research Journal of Pharmaceutical Dosage Forms and Technology	2019	0975-234X	https://rjpdft.com	https://www.indianjournals.com/ijor.aspx?target=ijor:rjpdft&volume=11&issue=3&article=005	
Reversed-phase high-performance liquid chromatography method development and validation of ilaprazole and domperidone in bulk and pharmaceutical dosage forms.	Namratha, Sunkara; Vijayalakshmi, A.	pharmaceutical Analysis	Drug invention today	2019	0975-7619	https://www.sciencedirect.com/journal/drug-invention-today	https://openurl.ebsco.com/EPDB%3Agcd%3A6%3A13324214/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A140346363&crl=c	

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Formulation, Characterization and In-vitro Evaluation of Cetrizine HCL Oral Disintegrating Tablets	HARITHA PASUPULATI, Y PHALGUNA, SANDHYA RUDRA	Pharmaceutics	Asian Journal of Pharmaceutical Research and Development	2019	2320-4850	https://www.ajprd.com/index.php/journal	https://www.ajprd.com/index.php/journal/article/view/563	yes
RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF CEFTALAZONE AND TAZOBACTUM IN BULK AND IN ITS PHARMACEUTICAL DOSAGE FORMS.	Maneesha, Kandala Neela; Sunkara, Namratha; Kumar, Sanapala Arun; Lakshmi, P. Rama	pharmaceutical Analysis	International Journal of Chemical & Pharmaceutical Analysis	2019	2395-2466	https://www.ijcpa.in/	https://www.ijcpa.in/articles/rphplc-method-development-and-validation-of-ceftalazone-and-tazobactum-in-bulk-and-in-its-pharmaceutical-dosage-forms.pdf	yes
Design and study of anticaries effect of different medicinal plants against S. mutans glucosyltransferase.	Kiranmai Mandava , U. R. Batchu, Shravya Kakulavaram, Shulamithi Repally, Ishwarya Chennuri Srinivas Bedarakota, Namratha Sunkara	Pharmaceutical Chemistry	BMC Complementary and Alternative Medicine	2019	1472-6882	https://bmccomplementmedtherapies.biomedcentral.com/	https://pubmed.ncbi.nlm.nih.gov/31375097/	
RP-HPLC METHOD DEVELOPMENT AND VALIDATION FOR ESTIMATION OF NELFINAVIR IN PURE FORM AND PHARMACEUTICAL DOSAGE FORM	Namratha Sunkara*, K. Sai Bhavani, S. Rehana, D. Sreeja and Farheen Begum	pharmaceutical Analysis	World Journal of Pharmaceutical Research	2019	2277– 7105	https://wjpr.net/	https://www.researchgate.net/profile/Namratha-Sunkara/publication/343850715_RP-HPLC_METHOD_DEVELOPMENT_AND_VALIDATION_FOR_ESTIMATION_OF_NELFINAVIR_IN_PURE_FORM_AND_PHARMACEUTICAL_DOSAGE_FORM/links/5f44af8392851cd30227e862/RP-HPLC-METHOD-DEVELOPMENT-AND-VALIDATION-FOR-ESTIMATION-OF-NELFINAVIR-IN-PURE-FORM-AND-PHARMACEUTICAL-DOSAGE-FORM.pdf	
Antitumor and Antioxidant Effects of Flavonoid Fraction of Citrus sinensis peel Extract	Godishala Shirisha1, Kiranmai Mandava*2, Uma Rajeswari Batchu2, Kesava Rao Thammana2, Vijaya Laxmi Turpu	Pharmaceutical Chemistry	Pharmacognosy Journal	2019	0973-1296	https://phcogj.com/	https://docs.google.com/viewerng/viewer?url=https://www.phcogj.com/sites/default/files/PharmacognJ-11-1-57.pdf	YES
In-vitro evaluation of Anti-helmintic activity of ethanolic extract of alternan-thera sessilis linn	Mrinmay Das* and Yadgiri Phalguna	Pharmaceutics	World journal of pharmaceutical and life sciences	2019	2278-4357	https://www.wjpps.com/	https://www.wjpls.org/home/article_abstract/1570	

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Anti-atherosclerotic activity of polygonum glabrum against high-fat diet in-rats	Mihir Y Parmar* , Amreen B, Shravya B and Dinesh P	Pharmaceutics	Insights in bio-technology and bioinformatics	2019	1177-9322	https://www.medtextpublications.com/insights-in-biotechnology-and-bioinformatics-home.php	https://www.medtextpublications.com/open-access/anti-atherosclerotic-activity-of-polygonum-glabrum-against-high-fat-diet-induced-atherosclerosis-in-rats-175.pdf	
Phytochemical evaluation and In-vitro anti-oxidant potential of whole plant of tanacetum Parthenium	sivakumar	pharmacognosy	International Re search Journal of Pharmacy	2019	2230-8407	https://www.irjponline.com/index.php/IRJP	https://www.irjponline.com/index.php/IRJP/article/view/393	YES
Topiramate induced stevens-Johnson Syndrome (SJS)-a case report	shibnath Kamila	Pharmacy practice	International journal of phar macy practice and drug research	2019	2250-3250	https://www.rip ublication.com/ijpdr.htm	https://www.researchgate.net/publication/333748942_TOPIRAMATE_INDUCED_STEVENS-JOHNSONS_SYNDROME_SJS_-A_CASE_REPORT	
nephroprotective and Antioxidant Potential of Ethanolic extract of Flowers of cassia Siamea against Gentamicin Induced nephrotoxicity	Mihir Y Parmar, Dinesh Pore	Pharmacology	jOJ urology and nephrology	2019	2476-0552	https://juniperp ublishers.com/jojun/	https://juniperpublishers.com/jojun/JOJUN.MS.ID.555693.php	
Analytical method development and validation for the simultaneous estimation of Sumatriptan and Naproxen by RP-HPLC method	Maddi Phanisri	Pharmaceutica analysis	International Journal of phar macy and biologi cal sciences	2019	0975-6299	https://www.ijpbs.com/	https://ijpbs.com/abstract.php?iid=2002	YES
Formulation, Characterisation and in-vitro evaluation of Fast Dissolving Oral films of Cetrizine HCl	Y.Phalguna, Haritha Pasupulati	Pharmacology	journal of drug delivery and ther apeutics	2019	2250-1177	https://jddtonline.info/index.php/jddt	https://jddtonline.info/index.php/jddt/article/view/3392	YES

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Oral Disintegrating tablets: a review	Y.Phalguna, Haritha Pasupulati	Pharmacology	European journal of biomedical and pharmaceutical sciences	2019	2349-8870	https://www.ejbps.com/		
Formulation, Characterisation and in-vitro evaluation of Isoniazid Micro spheres	Y.Phalguna	Pharmacology	Journal of Pharma research	2019	0973-7200	https://jopcr.com/	https://www.semanticscholar.org/paper/FORMULATION%2C-CHARACTERIZATION-AND-INVITRO-OF-Phalguna-Purna/2b15c7a83e9308a31d46ed4ec6891d25c0f92d9c	YES
Hypoprotective Potential of Ethanolic extract of barks of Tricholepis Glaberrima against Gentamicin Induced Nephrotoxicity	Mihir Y Parmar	Pharmacology	journal of Phar macology and clinical research	2019	2476-0552	https://juniperpublishers.com/jpcr/	https://juniperpublishers.com/jpcr/JPCR.MS.ID.555708.php	
Efficacy and pattern of Antibiotic Usage Among Patients with Cirrhosis and/or Chronic Liver Disease in Telangana, India	Shibnath Kamila, Surampalli Gurunath, Nimmagadda Srinivas, Giddalur Ab	Pharmacy practice	Exploratory Re search and Hy pothesis in Medi cine	2019	2993-5113	https://www.xiahepublishing.com/journal/erhm	https://www.researchgate.net/publication/341738819_Efficacy_and_Pattern_of_Antibiotic_Usage_Among_Patients_with_Cirrhosis_andor_Chronic_Liver_Disease_in_Telangana_India	
In-vitro evaluation of anthelmintic activity of ethanolic extract of alternanthera sessilis linn	Mrinmay Das,yadgiri phal guna	Pharmacology	World journal of pharmaceutical and life sciences	2019	2278-4357	https://www.wjpps.com/	https://www.wjpls.org/home/article_abstract/1570	YES
A V. Method development and validation of Lopinavir in Tablet Dosage form Using reversed phase high performance Liquid chromatography	S Namratha, A Vijayalakshmi	pharmaceutical Analysis	Asian Journal of Pharmaceutical and Clinical Research	2018	2349-7750	https://journals.innovareacademics.in/index.php/ajpcr	https://journals.innovareacademics.in/index.php/ajpcr/article/view/31715	
Validation of Cefpodoxime proxetil and Ambroxol hydrochloride by reverse-phase high-performance liquid chromatographic method.	Namratha, Sunkara; Vijayalakshmi, A.	pharmaceutical Analysis	Drug invention today	2018	0975-7619	https://www.sciencedirect.com/journal/drug-invention-today	https://openurl.ebsco.com/EPDB%3Agcd%3A1%3A13322385/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A129638639&crl=c	
Study of a Drug (TLB) Containing Tridax procumbens, Lawsonia inermis and Bougainvillea spectabilis for the Effect of Analgesic, Antiinflamatory and Antipyretic Action in Rat	Shibnath Kamila, Sravani K	Pharmacology	Current Traditional Medicine	2018	2215-0838	https://benthamscience.com/public/journals/current-traditional-medicine	https://www.researchgate.net/publication/325649592_Study_of_a_Drug_TLB_Containing_Tridax_procumbens_Lawsonia_inermis_and_Bougainvillea_spectabilis_for_the_Effect_of_Analgesic_Antiinflamatory_and_Antipyretic_Action_in_Rat	YES

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Design, Synthesis and biological evaluation of novel urea and thiourea bearing thieno[3,2-d]-pyrimidines as PI3 kinase inhibitors	Sumalatha G1* and Sreedevi A2	Pharmacology	Anticancer agents in medicinal chemistry	2018	1875-5992	https://benthamscience.com/public/journals/anti-cancer-agents-in-medicinal-chemistry	https://www.semanticscholar.org/paper/Design%2C-Synthesis-and-Biological-Evaluation-of-Urea-Bodige-Ravula/043de62592a4efd0c90480a6c3d5616ac8037510	YES
Evaluation of Antiepileptic activity of ethanol extract of leaves of Gossypium Herbaceum in mice	Sumalatha G1* and Sreedevi A2	Pharmacology	International Journal of Pharmacy and Biological Sciences	2018	2230-7605	https://ijpbs.com/ijpbsadmin/upload/ijpbs_5c77f84ec13a8.pdf	https://ijpbs.com/ijpbsadmin/upload/ijpbs_5c77f84ec13a8.pdf	YES
The effect of Alpha Crystalline on Diet Induced Hypercholestrolemic rats	S. Nirmala Bharathi, R. Jayakumar*	Pharmacology	IOSR Journal Of Pharmacy www.iosrphr.org	2018	2319-4219	www.iosrphr.org	https://iosrphr.org/papers/vol8-issue6/Version-2/A0806020110.pdf	YES

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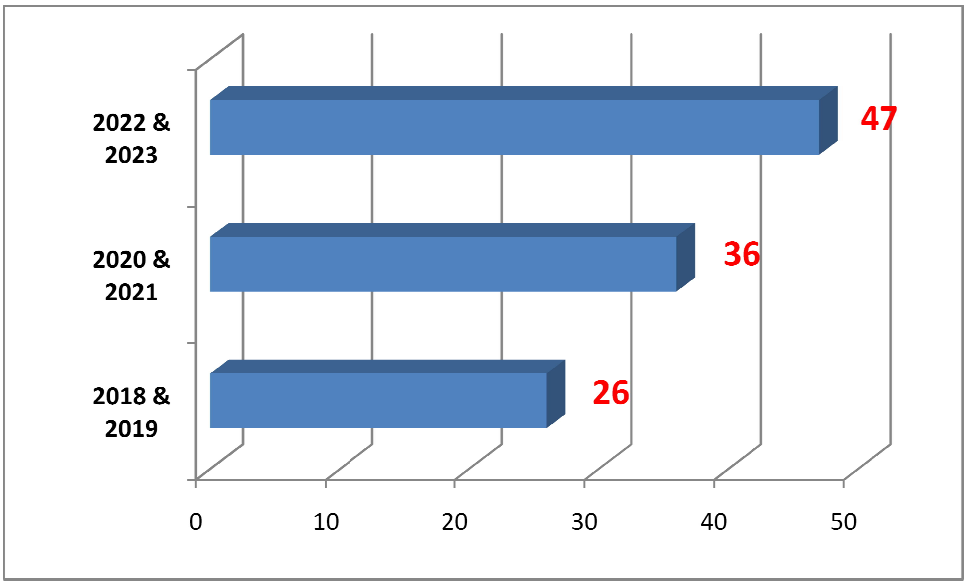
Total number of Publications during the last five years



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International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211, Volume 11, Issue 10, October-2023, Available online at: www.ijaresm.com

Formulation Development and In-Vitro Evaluation of Buprenorphine Loaded Transdermal Patches

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[1]Department of Pharmaceutics, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad

ABSTRACT

The goal of the current research was to create Buprenorphine transdermal matrix patches that would be effective. The ingredients of the transdermal patch are polyethylene glycol (PEG), hydroxy propyl methyl cellulose (HPMCK4M), Eudrajit RS, and di-chloromethane:methanol (1:1). The TDDS was created using the film casting method. A study of the interactions between drugs and excipients was then conducted using the Fourier transform infrared (FTIR) spectroscopy method. A physical assessment was made. In a Franz's diffusion cell, in vitro diffusion studies were carried out. The BF1 batch demonstrated the fastest drug release after 10 hours.

Keywords: Buprenorphine, Transdermal patch, FTIR

INTRODUCTION

Transdermal drug delivery systems (TDDS), also known as medicated adhesive patches applied to the skin to administer a precise dose of medication via the skin and into the bloodstream, are dosage forms created to transport a therapeutically effective amount of drug across a patient's skin [1]. Since frequent medication intake is not required, transdermal treatment devices may create prolonged, steady, and controlled levels of drug in the plasma, enhancing patient compliance [2].

The perfect penetration booster diminishes the stratum corneum's barrier resistance in a reversible manner without endangering the skin. The ability to avoid issues with stomach irritation, pH, and emptying rate impacts; avoid hepatic first pass metabolism [3]; and increase the bioavailability of the drug is the safest and most commonly utilized penetration enhancer.

MATERIALS AND METHODS

Materials

Buprenorphine was a gift sample from Clabs,Telangana. Eudragit RS-100 were obtained from Degussa India Pvt. Ltd. (Mumbai, India). HPMC obtained from Colorcon Asia Pvt. Ltd. (Goa, India). All other ingredients used were of pharmaceutical grade.

Methods

Drug polymer interaction

FTIR study

Infrared spectrum of drug and excipients were determined on Fourier Transform Infrared spectrophotometer (8400 S Shimadzu) using KBr dispersion method.

Calibration curve

The standard solution was created by combining 10 mg of buprenorphine with 10 ml of phosphate buffer pH 7.4, and then increasing the amount to 100 ml. A series of dilutions containing 0.2, 0.4, 0.6, 0.8, and 1 ml from this standard solution were pipetted out and subsequently diluted to 10 ml with phosphate buffer pH 7.4 to produce 2, 4, 6, 8, and 10 g/ml, respectively. When using phosphate buffer pH 7.4 as a blank solution, the absorbances of these dilutions were determined using a UV spectrophotometer at 235 nm.

Preparation of transdermal patch

The TDDS was prepared by film casting technique (Table 1). One by one, each polymer was dissolved in a solvent solution in a boiling tube. After ultrasonication, which helps to eliminate the air bubbles, the resulting homogenous solution was let

Development of Novel Indole-3-sulfonamide-heteroaryl Hybrids as Carbonic Anhydrase Inhibitors: Design, Synthesis and *in-vitro* Screening

Authors: Chinchilli, Krishna K.; Singh, Priti; Swain, Baijayantimala; Goud, Nerella S.; Sigalapalli, Dilep K.; Choli, Abhishek; Angeli, Andrea; Nanduri, Srinivas; Yaddanapudi, Venkata M.; Supuran, Claudiu T.; Arifuddin, Mohammed

Source: Anti-Cancer Agents in Medicinal Chemistry (Formerly Current Medicinal Chemistry - Anti-Cancer Agents), Volume 23, Number 11, 2023, pp. 1225-1233(9)
Publisher: Bentham Science Publishers
DOI: https://doi.org/10.2174/1871520623666230227092821

Background: Carbonic anhydrases (CAs, EC 4.2.1.1) catalyze the reversible hydration of carbon dioxide to bicarbonate and a proton. Inhibition of isoforms IX and XII has induced potent anticancer effects.

Objective: A series of indole-3-sulfonamide-heteroaryl hybrid (6a-y) was synthesized and screened for the inhibition of human (h) hCA isoforms I, II, IX, and XII.

Methods: The synthesis of target compounds (6a-y) was carried out in multistep starting from 5-nitro indole as starting material by using classical reported reaction conditions. The steps involved are N-Alkylation Chlorosulfonation, amination, reduction, and finally amidation reaction.

Results: Amongst all the compounds (6a-y) synthesized and screened, 6l was found to be active against all the screened hCA isoforms, with Ki ranging 8.03 μM, 4.15 μM, 7.09 μM, and 4.06 μM respectively. On the other hand, 6i, 6j, 6q, 6s, and 6t were highly selective against tumor-associated hCA IX, and 6u was selective against both hCA II and hCA IX with moderate inhibitory activities under the range of 100 μM. These compounds showed good activity against the tumor-associated hCA IX and might be developed as future drug leads for anticancer drug discovery.

Conclusion: These compounds may be useful as starting points for the design and development of more selective and potent hCA IX and XII inhibitors.

Keywords: Carbonic anhydrases; carboxamides; coumarin; hCA IX; hCA XII; inhibitors; sulfonamides
Document Type: Letter Paper
Publication date: July 1, 2023

Title

Tetrandrine, an Effective Inhibitor of COVID-19 Main Protease (M^{pro}); Insights from Molecular Docking and Dynamics Simulations.

Authors

S. K., Arifa Begum; Begum, Shaheen; Bandari, Pranay; B., Swapna; Reddemma, Maadhu

Abstract

Background: Natural products emerged as potential lead molecules in the drug discovery paradigm. During COVID-19 pandemic, researchers explored several natural agents with antiviral activity. The objective of the present study is to predict inhibitors of important COVID-19 targets from a set of potential candidates belonging to natural origin using molecular docking and dynamic simulation. Materials and Methods: Important target, main protease (Mpro) (PDB ID: 6M03) was selected for this purpose. Twenty natural agents were selected for molecular docking (Auto Dock vina 4.2). Molecular dynamic studies were performed using GROMACS. Results and Discussion: Among the selected natural products, tetrandrine, an isoquinoline alkaloid (-8.9 kcal/mol), and etoposide, a podophyllotoxin (-8.4kcal/mol) showed excellent binding affinity compared to remdesivir (-7.1kcal/mol) with Mpro. Further, the stability of the complex formed between Mpro and tetrandrine was confirmed in molecular dynamic studies at 100ns. Conclusion: The present in silico investigation could lead to the development of tetrandrine as a potent COVID-19 inhibitor.

Subjects

MOLECULAR dynamics; COVID-19 pandemic; COVID-19; ISOQUINOLINE alkaloids; DRUG discovery; MOLECULAR docking

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Chapter 6
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Quantitative Estimation Preservative Paraben and Niolone 950 Content in Herbal Skin Unguent

Kabita Banik [a#*], Namratha Sunkara [a#], P. Twila Pushpa [a#] and Nahid [a#]

DOI: 10.9734/bpi/rpst/v3/17595D

ABSTRACT

A new analytical method was developed and validated for the quantitative estimation of the preservatives, such as Paraben, by High-Performance Liquid Chromatography (HPLC) and Neolone 950 by High- Performance Thin Layer Chromatography (HPTLC), in dermatological unguent [1]. Skin creams typically contain a number of ingredients, including preservatives. The primary reason for including preservatives as antimicrobial additives in skin cream formulations is to protect consumer health and safety. Preservatives are frequently used in multi-component mixtures to broaden the spectrum of antimicrobial properties. 1. Cosmetic product ingredients are labelled in accordance with (European Union) EU legislation. We developed a quantitative method for estimating the preservative concentration in herbal skin cream. The methods described above are based on High-Performance Liquid Chromatography (HPLC) analysis and UV spectroscopy, and they are carried out under various conditions. With minimal sample preparation, the suggested method was applied successfully to the assay of methyl paraben, propyl paraben, and neolone 950 in cosmetic products [2].

Keywords: Herbal cosmetics; paraben; preservative; HPLC; HPTLC.

1. INTRODUCTION

Cream is a semi-solid emulsion composed of oil and water in the presence of an emulsifying agent [1]. They are divided into two types: oil-in-water (O/W) creams which are composed of small droplets of oil dispersed in a continuous phase, and water-in-oil (W/O) creams which are composed of small droplets of water dispersed in a continuous oily phase. Oil-in-water creams are more comfortable and cosmetically acceptable as they are less greasy and more easily washed off

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Original Article

Thai Journal of Pharmaceutical Sciences

Phytochemical profile, HPLC analysis, and CNS activity of ethanol extract from the flowers of Borage

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ABSTRACT

Purpose of the research: The study of medicinal plants has made it possible to develop products and drugs for the treatment of different diseases. Several plants in India have a history of popular use for the treatment of CNS disorders. The objective of this work was to provide information on the phytochemical profile and central nervous system (CNS) activity of the ethanolic extract of *Borago officinalis* flowers (Ee). **Results:** The preliminary phytochemical and HPLC evaluation of Ee established the presence of alkaloids, flavonoids, phenols, tannins, terpenes and steroids. The acute toxicity study revealed that administration of 2000 mg/kg body weight of Ee showed CNS depressant effect and there was no mortality observed up to 14 d. Thus, 100 and 200 mg/kg of Ee was selected for the spontaneous motor activity, muscle relaxant activity, effect on pentobarbital sodium-induced sleeping time and central analgesic activity. The results revealed that Ee at 100 and 200 mg/kg showed a significant ($P < 0.001$) reduction in spontaneous motor function, muscle relaxant activity and central analgesic activity. Whereas both low and high doses showed a significant ($P < 0.001$) increase in pentobarbital sodium-induced sleeping time. **Conclusion:** The result suggests that Ee has a CNS depressant and analgesic activity in tested rodent models.

Keywords: *Borago officinalis*, CNS activity, Muscle relaxant activity, Pentobarbital-induced sleeping time, Spontaneous motor activity

INTRODUCTION

Modern lifestyles have occasioned in stress-related ailments, and several tactics such as meditation and yoga are used to stabilize aversive stress effects. Plant preparations have come to rescue mankind in various disorders/diseases and may offer adequate solutions to stress-induced perturbations.[1] Biologically active phytochemicals appearing in various species of the family Boraginaceae have become a topic of importance in recent decades. Especially, rosmarinic acid (polyphenol) from *Cordia verbenacea*[2] and heliotrine (alkaloid) from *Heliotropium indicum*[3] have been studied for central nervous system (CNS) properties. Thus, it seemed of interest to study the CNS activities of other species of Boraginaceae, and the current pharmacological evaluation dealt with Borage or *Borago officinalis* (family: Boraginaceae).

Borage is widely distributed in Asia, Europe, and United Kingdom. In folklore medicine, the decoction of leaves, flowers, and stems of *B. officinalis* was widely used in the treatment of CNS disorders, liver diseases, diabetes, heart problems, and abdominal pain.[4,5] Earlier, few groups established the chemical composition of seed oil of *B. officinalis* and reported to have a good content of fatty acids such as linolenic acid, oleic acid, stearic acid, palmitic acid, eicosenoic acid, and erucic acid.[6,7] Recent pharmacological studies hypothesized that various extracts of *B. officinalis* parts have potential actions to inhibit free radical and inflammatory enzymes[8-10] and to treat gastrointestinal, respiratory, and cardiovascular disorders.[11] So far, no studies established the

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Formulation Development and In-Vitro Evaluation of Deflazacort Fast Dissolving Tablets

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ABSTRACT

The aim of the current research to develop fast dissolving tablets (FDTs) of Deflazacort by direct compression method. Deflazacort goes under Biopharmaceutical Classification System(BCS) II drug i.e., less dissolvability and high vulnerability which brings about less bioavailability of drug. The target of the existing work is expected to develop FDTs by utilizing superdisintegrants. Precompression and postcompression parameters of FDTs were evaluated. Out of 6 formulations DF6 containing sodium starch glycolate as disintegrant shows highest drug release in 15min, which is considered as optimized formulation. Accelerated stability study indicates no variation in parameters.

Keywords: Deflazacort, FDTs, direct compression, BCS.

INTRODUCTION

The advances in novel drug delivery systems for designing dosage forms like orodispersible tablets[1,.2] for convenient to be manufactured and administered free side effects, offering immediate release and enhance bioavailability so as to achieve better patient compliance. Oral drug delivery systems preferably tablets are most widely used dosage forms for being compact offering uniform dose and painless delivery. But elderly and pediatric patients suffer in dysphasia because of physiological changes is associated with those groups[3,4]. Generally dysphasia is observed nearly 35% of population and associated with a number of conditions like parkinsonism, mental disabilities, motion sickness, unconsciousness, unavailability of water etc..To overcome such problems certain innovative drug delivery system[5,6] like mouth dissolving tablets have been developed.

The concept of orodispersible tablets emerged from the desire to provide patient with conventional mean of taking their medication. It can be disintegrated, dissolved or suspended by saliva in the mouth resulting in easy swallowing can provide significant benefits to the pediatric and geriatric populations as well as other patients who prefer convenience of easily swallow able dosage form. Orodispersible tablets disintegrate instantaneously when placed on tongue, releasing the drug that dissolves or disperses in the saliva.The orally disintegrating tablets are also called as orodispersible tablets, quick disintegrating tablets, fast disintegrating tablets, porous tablets, rapimelts.The mouth dissolving tablets are absorbed from the mouth, pharynx and esophagus as saliva passes down into the stomach[7].The solution containing active ingredients is absorbed through gastrointestinal epithelium to reach the target and produce desired effect. In these cases the bioavailability of drugs are significantly greater than those observed from conventional solid dosage forms such as tablets and capsules[8].In the present study FDT of Deflazacortwere designed using direct compression method.

MATERIALS AND METHODS

Materials

Deflazacortwas received as a gift sample from Suzikem Labs Pvt Ltd., cherlapally, A.P, Magnesium stearate, talc, micro crystalline cellulose(MCC),and potassium dihydrogen-o-phosphate were procured from SD fine chem. Ltd Mumbai. Superdisintigrants are gifted from DFE Pharma.

Drug excipient studies:

The FTIRspctroscopy allows identification of functional groups in various chemicals as well as incompatibilities between the drug and excipients. From the FTIR spectroscopy study it can be concluded that the major peaks of drug remains intact and no interaction was found between the drug and excipients.

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Role of Insulin in Management of Type 2 Diabetes Mellitus - Review Article

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ABSTRACT

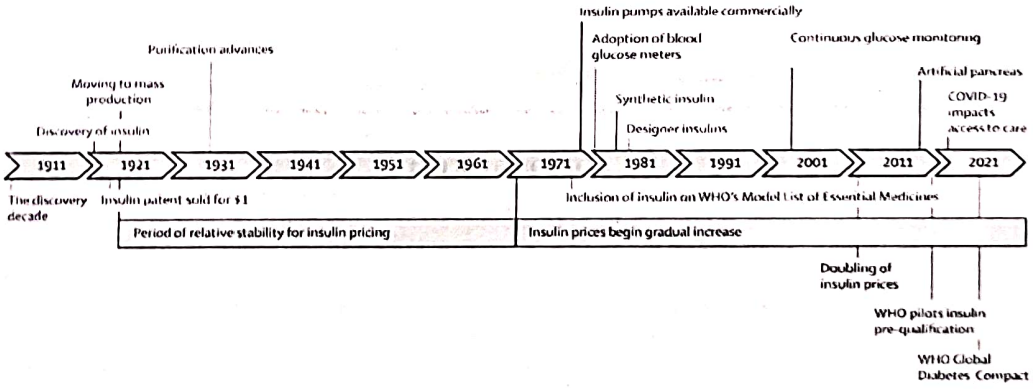
High blood sugar levels brought on by inadequate insulin synthesis are the hallmark of type 2 diabetes mellitus. Type 2 diabetes mellitus is becoming more common, and with it comes a rising amount of morbidity and mortality. Strict glycolic management plays a major role in lowering the micro vascular problems associated with diabetes. Even in individuals who take oral anti-diabetic medications on a regular basis, extra insulin therapy is still necessary. There are numerous insulin preparations on the market, and each offers benefits and drawbacks of its own. The purpose of developing the current insulin was to address some of the drawbacks of the earlier formulations. The function of insulin in the treatment of type 2 diabetes is discussed in this review.

INTRODUCTION

Human insulin is a synthetic form of the hormone that is produced in labs to mimic human insulin. It was developed in the 1960s and 1970s and was eventually licensed for medicinal use in 1982. Physicians used animal and porcine insulin prior to the development of human insulin. Diabetes mellitus is a chronic illness that affects many people worldwide. It is typified by a failure to maintainglycolic control and increasing beta cell loss. Diabetes burdens healthcare systems with both direct and indirect expenses and is a major source of morbidity and mortality. Insulin doses are needed fortreatment when multi-drug therapies and lifestyle changes are ineffective in lowering blood sugar levels.

History of Insulin

Dr. Teusches created the first human insulin synthetic in Switzerland in 1975. The US Food and Drug Administration authorized the first synthetic human insulin in 1982. A more sophisticated version ofhuman insulin was created in the 1990s. Analogue insulin was the name given to this.



Pharmacological Action of Insulin

With a molecular weight of 6000 and 51 amino acids, insulin is a two-chain polypeptide. Insulin playsa key role in the treatment of type 1 diabetic patients with progressive beta cell insufficiency. Unlikeother oral hypoglycemic medications that depend on the existence of enough endogenous insulin to function as insulin sensitizers, insulin secretagogues, incretion mimics, amylin analogues, and otherfactors, insulin acts directly on tissues to regulate glucose homeostasis. The anabolic action of insulin and the promotion of the uptake, utilization, and storage of importantnutrients such as glucose, lipids, and

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Pulmonary Drug Delivery System: A Review

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Abstract

Growing attention has been given to the potential of pulmonary root as an alternative for noninvasive systemic delivery of therapeutic agents. Pulmonary drug delivery can be used as an alternative to oral delivery. The system can be best utilized for both local and systemic actions. Pulmonary Drug Delivery System (PDDS) is an important research area which impacts the treatment of illness including asthma, chronic obstructive pulmonary disease (COPD) and various other diseases. Inhalation gives the most direct access to the drug target. This route can be used to deposit the drug to the target site at the high concentration reducing the amount of drug given to the patient and help in reducing systemic side effects and first pass metabolism. Generally, half of all pharmaceuticals are not soluble in water, but are soluble in lipid. As the lungs can absorb both water and oil into the tissue this is not a restriction of pulmonary delivery.

Keywords

Pulmonary Drug Delivery System, COPD, Systemic, Inhalation

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INTRODUCTION

Pulmonary drug delivery systems (PDDS) have been used for decades to deliver drugs for treatment of respiratory disorders [1] as well as other disorders. The lungs provide a huge surface area of alveoli with rich capillary network which acts as an excellent absorbing surface for administration of drugs. Throughout the past several years, rapid onset of action and higher efficiency has been responsible for the success of pulmonary delivery system for symptomatic relief in treatment of asthma and chronic obstructive pulmonary disease (COPD). Research in the area of pulmonary drug delivery has gathered momentum in the last several years, with increased interest in using the lung as a means of delivering drugs systemically. Delivery of locally acting drugs directly to the site of action reduces the amount of dose needed to produce the pharmacological effect but now the lung has been studied as a possible route to administer the treatment of systemic diseases, like diabetes mellitus. The site of deposition that is on central or peripheral airways and whether the distribution of the inhaled drug is uniform or non-uniform may play a vital role in an inhaled drug's effectiveness [2].

Pulmonary delivery of drugs has become an attractive target in the health care industry as the lung is capable of absorbing pharmaceuticals either for local deposition or for systemic delivery. Some pharmaceuticals are not soluble in water but are soluble in lipids. As the lung is able to absorb both water and oil into the tissue, this is not a limitation of pulmonary delivery. Targeted drug delivery to the lungs has evolved to be one of the most widely investigated systemic or local drug delivery approaches [3].

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PREPARATION AND EVALUCATION OF FAST DISINTEGRATION TABLETS OF POSACONAZOLE

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ABSTRACT

Posaconazole is a broad spectrum triazole antifungal agent with potent activity against various fungi, including yeast and moulds Clinical studies have demonstrated that the agent is efficacious as prophylaxis against inventive fungal infections inpatients at hedonist and may also useful in salvage therapy against invasive aspergillosis and mucomycosis However, the bioavailability Posaconazole following administration as oral suspension, which was the only formulation clinically available for many years variable negatively influenced several factors because many by the patients had sub therapeutic levels when the oral suspension was wed, overcome this limitation delayed release tablet was developed and is now available for clinical use. In addition, pharmacokinetic parameters following administration of the tablets were not Significantly affected by medication that increasing gastric motility, and the tablets could also be administrated without regard to food similar results have been found in patients at high risk for invasive fungal who have received.

KEYWORDS: Posaconazole, triazole, aspergillosis, mucomycosis.

INTRODUCTION

Posaconazole tablet formulation and appears to be well tolerated to date, although data regarding clinical efficacy are needed. Posaconazole is a triazole antifungal agent with a spectrum of activity that includes Candida and Cryptococcus specie and some endemic fungi. Posaconazole has received US Food and Drug Administration approval for the treatment of oropharyngeal, candidiasis including infections refractory to itraconazole and/or fluconazole. It is also approved as prophylaxis for invasive Aspergillus and Candida infections in patients aged >13 years who are at high risk of developing these infections, in adult and adolescent hematopoietic stem cell transplant recipients with graft-versus-host disease, and in persons with hematologic malignancies and prolonged neutropenia due to chemotherapy, who are at high risk of developing these infections. Approval for additional indications is being sought. Limited clinical experience suggests efficacy for the treatment of infections due to Zygomycetes and as salvage therapy for patients with invasive aspergillosis and coccidioido mycosis. Currently available only as an oral suspension, Posaconazole which has been well tolerated, requires administration with food or a nutritional supplement to assure adequate

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FORMULATION DEVELOPMENT AND IN-VITRO EVALUATION OF POSACONAZOLE LOADED TRANSFEROSOMES GEL

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ABSTRACT

The goal of the current research was to create Posaconazole (PSZ) transferosome gel that would be effective against fungal infections. The gel was created by thin film hydration method. A study of the interactions between drugs and excipients was then conducted using the Fourier transform infrared (FTIR) spectroscopy method. The formulations were prepared and evaluated for measurement of pH, viscosity, spreadability, % entrapment efficiency, drug content estimation and *in vitro diffusion* study. Eight formulations were developed(PF1-PF8). In a Franz's diffusion cell, *in vitro diffusion studies* were carried out. The PF7 batch demonstrated the highest drug release after 24 hours. The developed formulation was stable, non irritant and provided sustained release over 24 hrs.

KEYWORDS: Posaconazole, gel, FTIR, Franz's diffusion cell.

INTRODUCTION

Transdermal drug delivery systems (TDDS), also known as medicated adhesive patches applied to the skin to administer a precise dose of medication via the skin and into the bloodstream, are dosage forms created to transport a therapeutically effective amount of drug across a patient's skin.[1] Since frequent medication intake is not required, transdermal treatment devices may create prolonged, steady, and controlled levels of drug in the plasma, enhancing patient compliance.[2]

The perfect penetration booster diminishes the stratum corneum's barrier resistance in a reversible manner without endangering the skin. The ability to avoid issues with stomach irritation, pH, and emptying rate impacts; avoid hepatic first pass metabolism[3]; and increase the bioavailability of the drug is the safest and most commonly utilized penetration enhancer.

Posaconazole (PSZ) is a triazole antifungal drug of BCS Class-II medication with a high lipid solubility and low water solubility. Posaconazole is an antifungal medication that comes in a variety of forms, including injections, oral suspensions, and delayedrelease tablets. When taken orally, these formulations can cause patient incompliance,

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A Novel Approach to Develop Tramadol Hydrochloride Transdermal Films with Complete *In-Vitro* Evaluation

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Abstract*— The oral route is now the most prevalent method of medication administration. While it has the benefit of being simple to administer, it also has substantial disadvantages, including low bioavailability due to hepatic metabolism and the propensity to cause fast blood level spikes, necessitating high and/or frequent doses, which may be expensive and inconvenient. In this study, hydroxypropyl methyl cellulose 6 cps (HPMC 6 cps) and ethyl cellulose are used as release-controlling polymers to create a matrix type transdermal drug delivery system for the analgesic medication tramadol HCl for its systemic delivery. This new drug delivery systems has increased the therapeutic efficacy and safety of pharmaceuticals by allowing for more accurate, site-specific delivery system, it allows temporal placement inside the body, resulting in smaller dosages consumption.

Indexed Terms*— Transdermal films, Hydroxypropyl methyl cellulose, Ethylcellulose polymer, Tramadol HCl

I. INTRODUCTION

Transdermal medication delivery refers to the movement of a medicinal substance via the dermis of the skin for later systemic distribution. Therefore, properly speaking, this includes both traditional subcutaneous administrations with a hypodermic needle and syringe as well as the better recognised "patch." By this wide definition, the medication must enter the body through an artificial pathway, which is a feature of all transdermal drug delivery techniques. The key benefit of this method is that the medicine enters the body undisturbed and bypasses the body's different defence mechanisms[1]. The transdermal route of medication administration, while less convenient than oral administration (such as eating a tablet), avoids both drug breakdown in the gastrointestinal system and lower effectiveness due to first-pass metabolism (i.e. in the liver). Additionally, oral-specific adverse effects like liver damage—common with medications like estradiol (oestrogen) or paracetamol—are avoided. [2]

- Conventional patching techniques

Despite the fact that infusion pumps are dependable in providing the desired therapeutic administration profile, using one (such as an insulin pump) is rather difficult, expensive, and necessitates a hypodermic needle-based infusion set [2]. Drug administration using transdermal patches, where the medication diffuses through the skin, is far more practical while still providing the advantages of continuous drug release [3]. Depending on the patch size, the medications now used topically range in molecular weight from 162 Da (for nicotine) to 357 Da (for oxybutynin), with a realistic dosing rate of 4–20 mg/day. The mass of an insulin molecule is 5808 Da, but the molecular weight of contemporary DNA-based vaccines, which are composed of vectors with thousands of base pairs, may range from hundreds to thousands of kilo Daltons (kDa) [4-5].

II. MATERIALS AND METHODS

All the materials used in formulation, evaluation and other experiments are listed below. Distilled water is used in all experiments.

S. No	Use	Materials	Source
1	Drug	Tramadol HCl	Hy-Chem chemicals Pharma Ltd
2	Polymer	Hydroxy Propyl Methyl Cellulose 6 cps	Dr. Reddy's Laboratories Ltd
		Ethylcellulose	Dr. Reddy's Laboratories Ltd
3	Plasticizer	Polyethylene glycol 4000	SD Fine Chemicals
		Glycerin	
4	Penetration enhancer	Tween 80	SD Fine Chemicals
5	Solvents	Acetone	SD Fine Chemicals
6	Lubricant	Liquid Paraffin	SD Fine Chemicals

Table 1: List of materials used

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Formulation and in Vitro Characterization of Nelfinavir Extended-Release Tablets

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ABSTRACT

The current study's objective was to develop a Nelfinavir drug delivery system based on extended release (ER). Four separate batches of Nelfinavir ER tablets were made using the direct compression method based on varying ethyl cellulose (EC) concentrations. The tablets' pre-compression and post-compression characteristics were established. N4 was judged to be the best batch out of all of them based on the highest drug release. The results for all formulations made it clear that the polymer of the core can regulate the rate of medication release. Therefore, current tablet design technologies can offer more benefits than traditional tablets.

Keywords: extended release, Nelfinavir, ethyl cellulose, direct compression

INTRODUCTION

Because of its simplicity in administration, consistent drug release into systemic circulation, and improved patient compliance, oral extended release (ER) systems command the largest market share among the numerous innovative drug delivery systems (NDDS) on the market. Compared to quick release formulation, these dosage forms offer a number of advantages, such as improved effectiveness in treating chronic illnesses, less side effects, and improved patient convenience because of a more straightforward dose regimen [1].

To provide therapeutically effective drug concentrations to the systemic circulation for an extended period of time, ER oral administration devices were created. Reduced side effects, improved convenience and patient compliance, and reduced dosing frequency are all therapeutic benefits of a correctly designed ER dosage form [2]. Controlled release polymer is used into dose forms to primarily achieve ER effect. This study's goal was to create ER Nelfinavir tablets using the direct compression method with ethylcellulose as the appropriate polymer.

MATERIALS AND METHODS

Materials

Nelfinavir was obtained from Cipla Laboratories Ltd, Goa, India. Microcrystalline cellulose (MCC, Avicel pH 101) was purchased from Signet Pharma, Mumbai. EC were obtained as a gift sample from SD Fine Chem Ltd, Mumbai. All other ingredients used were of laboratory reagents and used as such without further testing. All other solvents and reagents usedwere of analytical grade.

DRUG EXCIPIENT STUDIES

Fourier Transform Infrared (FTIR) Spectroscopy Study

FTIR is used to know characteristics peaks indicating compatibility between drug and excipients. The FTIR allows identification of functional groups [3] in various chemicals as well as incompatibilities between the drug and excipients.

Preparation of extended release (ER) tablets

The direct compression approach was used to create the tablets [4]. Ingredients in Table 1 were accurately weighed, with the exception of the lubricant (magnesium stearate) and glidant (aerosil), which passed through filter number 60. Gliding and lubricating fluid were run through sieve No. 80.

By using geometric dilution, all the ingredients—aside from the lubricant and glidant—were physically mixed together in a mortar. With the use of a rotary compression machine, the powders were compacted into spherical tablets.

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Research Paper

Bioassay Guided Isolation of Anti-Inflammatory Compounds from *Bauhinia variegata* L.: A Key Ingredient in Herbo-Mineral Formulation, Gandmala Kandan Ras (https://www.ijpsonline.com/articles/bioassay-guided-isolation-of-antiinflammatory-compounds-from-embauhinia-variegataem-l-a-key-ingredient-in-herbomineral-formulation-4873.html)

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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A REVIEW ON MILLINGTONIA HORTENSIS

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ABSTRACT: Millingtonia hortensis Linn. is cultivated in most parts of India, both in gardens and avenues. Tall and straight, with comparatively few branches, its popularity lies in its ornamental value. It is a fine tree, fast growing, but with brittle wood, liable to be damaged by storms. In favourable positions it can grow to 24 m tall. The ashy bark is cracked and furrowed and the numerous fissures make removal of the cork an easy matter. It is used as an inferior substitute for true cork. From April until the rains and again in November and December, a profusion of silvery-white, delightfully fragrant flowers crown the foliage. Upright open clusters with arching blooms terminate every branchlet. Each flower is a tiny bell-shaped calyx, a long slender tube of palest green dividing into four waxy, white petals and several conspicuous yellow anthered stamens. Many flowers are delicately tinted with rose. As the flowers are short-lived, the flower sprays mostly consist largely of long whitish buds, while the ground below is spangled with innumerable little stars. Between January and March the leaves are shed and renewed during April and May, although the tree is never quite naked. Trees do not seed very easily in India[1].

IMPORTANT TERMS : Millingtonia hortensis , brittle wood, foliage, calyx, stamens.

INTRODUCTION :

Millingtonia hortensis Linn. is an important medicinal plant which belongs to the family Bignoniaceae and it is one of important medicinal plant in Southern Asia, ranging from India, Burma, Thailand and Southern China Commonly known as Cork tree. It is also called as Akash neem, Neem chameli . A very tall tree, Flowers have very rich & pleasant scent. Propagation by Seeds, suckers. Longevity is Perennial. It is a tall deciduous tree. It grows up to 25 meter. The leaves are pinnately compound. Long leaves bear two or three widely spaced pinnae, each with 5-7 smooth leaflets, oval, pointed and slightly round-toothed, 1-3 inches long[2].

In India about 7300 plant species are used in traditional health care systems. 90% of the medicinal plants which find place in day-to-day uses, many of these, are used as herbal remedies[3]. Medicinal plants are of great importance to the health of individual and communities. The medicinal value of these plants lies in some chemical active substances that produce a define physiological action on human body. The most important of these chemically active constituents of plants are alkaloids, tannin, flavonoid and phenolic[4].

A very tall and straight tree with brittle wood and liable to damaged by storms. It can grow up to 25 meter tall and it can reach 80 meter in height. Flowers have very rich and pleasant scent. In Thailand, the flower is called 'peep' and compounds. Many of these indigenous medicinal plants are also used for medicinal purposes . In recent years, use of antimicrobial drugs in the treatment of infectious disease has developed multiple drug resistance and with increase in production of new antibiotics, by pharmaceutical industry, resistance to these drugs has also increased.used for the treatment of asthma, sinusitis and as a cholagogue and tonic. The flowers are also used in rituals and have good antimicrobial properties. The stem has brittle wood and liable to damaged by storms, stem bark is used traditionally as mainly lung tonic, antiasthmatic and antimicrobial properties. Leaves and roots of cork tree used as antiasthmatic and antimicrobial activity. Fruit is very long and narrow, pointed at both ends and contains thin, flat seeds. Trees do not seed very easily in India. Roots can be used for the treatment of tuberculosis and as an antiasthmatic. The leaves of Cork tree are very ornamental and extracts of leaves has good antimicrobial activity. The leaves of Millingtonia hortensis are used as antipyretic, antiasthmatic, sinusitis, cholagogue and tonic in folklore medicine[5].

Effect of Isolated Fraction from *Biophytum reinwardtii* on Dexamethasone Induced Insulin Resistance in Rats

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Pharmacology

ABSTRACT

The Fraction from Methanolic extract whole plant of *Biophytum reinwardtii* (HEMBR) is traditionally used in the treatment of diabetes. Rats were treated with a standardized dose of Dexamethasone for 14 days

Research Paper

Gas Chromatography-Mass Spectrometric Analysis, Isolation, Characterization and Biological Activity of Ethanolic Extract of Moss *Fabronia secunda* Mont. (https://www.ijpsonline.com/articles/gas-chromatographymass-spectrometric-analysis-isolation-characterization-and-biological-activity-of-ethanolic-extract-of-moss-emfa-4941.html)

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Protective activity of ferulic acid on rotenone-induced Neurodegeneration in Zebra-fish model

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Abstract
Back ground- Parkinson disease is acknowledged as progressive disorder that cause degeneration of a neuron which occur as a result of abnormal cluster of a protein termed as alpha-synuclein that leads to a diminishing effect to the level of brain dopamine level in basal ganglia. Methods and Materials determine the behavioral parameter, dopamine and catalase level and mitochondrial function of Rotenone induced zebra fishes we carried out an experiment on 40 fishes induced with Rotenone (Parkinson inducer) and 10 normal fishes. Result -this article provides an inclusive, general and practical experimental procedure on zebra fish using Ferulic acid as our test compound and it act as anti-Parkinson phytochemical. Conclusion-we noticed that while the fish treated with Rotenone shows unusual feature like erratic movement and being in cataleptic state after some time and decrease on their Dopamine, Catalase and Mitochondrial function level, on the other hand the fish that was priorly treated with Ferulic acid followed by a direct exposure to Rotenone shows an increasing level of bio chemical parameter.

Keywords: Alpha-synuclein, abnormal cluster, Brain dopamine level, Behavioral parameter, Biochemical parameter, Catalepsy.

Introduction

Parkinson's disease is named by the British doctor James Parkinson in 1817 who wrote the first book about the disease. According to his definition, Parkinson is called the shaking palsy or paralysis agitans (1). Neuronal loss in the substantia nigra, which result in striatal dopamine deficiency, and intracellular inclusions containing bunch of α-synuclein are the neuropathological target of Parkinson disease (2). Parkinson disease is a unique clinical and neuropath logical entity which is manifested clinically by bradykinesia, resting tremor, rigidity and postural reflex impairment (3).

The etiology of Parkinson disease is not known but genetic and environmental factors have its own implication (4). Abnormal mutation in alpha-*synuclein* (*SNCA*), *parkin* (*PARK2*), *PTEN-induced putative kinase 1* (*PINK1*), *DJ-1* (*PARK7*), and *Leucine-rich repeat kinase 2* (*LRRK2*) are the main genetical factor for the disease (5). An increase in the level of genetically cell aging process as a result of the combined effect of triggering factor like environmental toxins result in idiopathic

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Evaluation of Antibacterial and Antioxidant potential of Melia. Azedarach linn. and Psidium guajava linn. Leaf extracts (AbstractView.aspx?PID=2023-16-7-12) (https://scholar.google.co.in/scholar?q=Evaluation of Antibacterial and Antioxidant potential of Melia. Azedarach linn. and Psidium guajava linn. Leaf extracts)

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FORMULATION AND EVALUATION OF FAST DISSOLVING ALBENDAZOLE TABLETS

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ABSTRACT

The objective of the study was to develop fast dissolving tablets (FDT) of albendazole.Dry granulation technique was used for the preparation of FDT using super disintegrants sodium starch glycolate. The formulated tablets were evaluated for pre compression parameters; post compression parameters, wetting time, *in vitro* dispersion time, *in vitro* dissolution study. Fourier Transform InfraredSpectroscopy (FTIR) study was used to know compatibility studies of formulations. The tablet formulation batch F3 was considered as the overall best formulation as it showed *in vitro* drug release study of 96.56 % at the end of 6 mins..Short term stability studies (at 40±2°C/75±5% RH) on the best formulation indicated that there no significant changes in drug content. From the FTIR study indicated that there are no drug excipient interactions.It can be concluded that dissolution profile of albendazole is more in F3 batch as it contains more amount of sodium starch glycolate.

Keywords: Albendazole,FDT, FTIR spectroscopy,sodium starch glycolate.

INTRODUCTION

Albendazole is a treatment of choice for neurocysticercosis, the dosage for Albendazole is 15 mg/ per day for ten days. Chemically, it is methyl 5-(propylthio)-2-benzimidazole carbamate. Its Molecular formula is $C_{12}H_{15}N_3O_2S$. Its molecular weight is 265.34.Generic Albendazole tablets from developing countries showed a poor dissolution rate compared to the innovator product, which creates a need for developing a generic product of a chewable Albendazole tablet with an improved dissolution rate. Albendazole was selected as a drug candidate for the formulation of FDT for the following reasons. It is chemically [1] stable. The biological $t_{1/2}$ is 8 to 12 h. In view ofsubstantial first pas effect and its shorter plasma half life, therefore is an ideal drug candidate forFDT.

Solid dosage forms like tabletsare the most popular dosage forms [2,3]existing today because of its convenience of self administration, compactness and easy manufacturing. Out of variousnovel drug delivery system (NDDS) for designing dosage forms like FDT [4,5] for convenient to be

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Abstract

AGRICULTURAL USES OF CARBON NANOTUBES AND THEIR TOXIC EFFECTS

*Mahesh Gomasa and JE Rachel Nivedita

ABSTRACT
Carbon nanotubes are one of the most studied materials in the world right now. It is the most desired material with electrical, mechanical and thermal characteristic properties. Research in this area is revealing a slew of surprises in fields including material science, physics, chemistry and biology; opening up an abounding of new possibilities for the application. In this review, we highlight the synthesis, classification, detailed agricultural application of Carbon nanotubes like Plant growth regulators, Biosensor, Seed dormancy and germination, Pesticide analysis and also the drawbacks that could lead to CNT toxicity.

Keywords: Carbon nanotubes, Agriculture, Seed Dormancy, Germination, Biosensor, Toxicity.

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Title

Synthesis, Antioxidant, Antinociceptive Activity of Novel Phenoxy acetyl carboxamides.

Authors

MANJUSHA, R. K.; REDDEMMA, M.; BEGUM, SHAHEEN; S. K., ARIFA BEGUM; SHAREEF, MOHAMMAD ZUBAIR; BHARATHI, K.

Abstract

A series of novel phenoxy acetyl carboxamides (4a-4g) were synthesized by amidation using phenoxy acetyl hydrazide and various acid chlorides (benzoyl, adamantly carbonyl cinnamoyl, 4-chloro benzoyl chlorides) or bases (piperidine, morpholine & substituted piperidinone) and evaluated for antioxidant and antinociceptive activities. The title compounds were purified by recrystallization using ethanol and characterized by spectral (FTIR, 1H NMR, and Mass) analysis. Compound 4a was effective in scavenging the DPPH radicals (57%) and nitric oxide (NO) radicals (52%) while compound 4e was able to significantly neutralize ABTS cation radicals (58%). However, the radical scavenging ability was lesser compared to the standard antioxidant agents. Among the tested compounds, 4f and 4g elicited good antinociceptive activity in the central and peripheral animal models (25 mg/kg body weight). Compounds 4b and 4f seem to open ATP-sensitive potassium channels (KATP channels), a possible mechanism for their peripheral effects. The carboxamides bind well with the monoglyceride lipase enzyme (MAGL) and established strong interactions at the active site.

Subjects

CARBOXAMIDES; POTASSIUM channels; MORPHOLINE; BENZOYL chloride; ACYL chlorides; RADICAL cations; ANTIOXIDANTS

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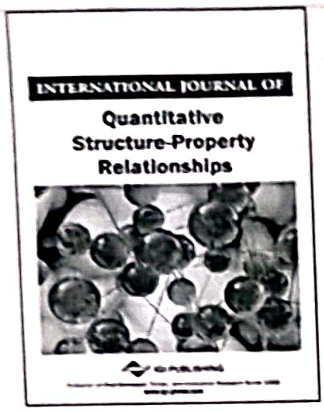

Exploring Quantitative Structure-Activity Relationships (QSARs) for Urea-Based Dual FAAH and sEH Inhibitors

Jaswanthi Padala, Shaheen Begum, Bharathi Koganti, Arifa Begum S. K.

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Abstract

Several urea-based compounds have been reported as dual inhibitors of Fatty acid amide hydrolase (FAAH) and Soluble epoxide hydrolase (sEH) enzymes which have potential as anti-inflammatory and antinociceptive agents. QSAR studies were performed on the urea analogs to identify the molecular descriptors influencing the FAAH and sEH inhibitory activity using Small Dataset Modeler tool. Molecular descriptors (1D &2D) were computed using PaDEL-Descriptor software. A set of forty-eight compounds was used in the present study. Statistically significant models were derived for both the enzymes [pIC50 (sEH): R2 = 0.797, Q2 = 0.762 and Q2F1 =0.747; pIC50 (FAAH): R2 = 0.642, Q2 = 0.521 and Q2F1 =0.566]. The results of QSAR on the sEH enzyme revealed the contribution of topological charge indices, Ionization potential, and the number of nitrogen atoms (naaN) for defining the potency. Polarizability showed a major influence on FAAH inhibition. The predictive ability of the QSAR models was established based on the dual inhibitory potential of some newly designed molecules.

Article Preview

Top

1. Introduction

A well-validated QSAR model guides medicinal chemists to analyze the effect of molecular features on biological activity, as well as in the design and the activity prediction of newer analogs (Maltarollo et al, 2017, Neves et al, 2018). QSAR techniques are proven strategies to reduce animal experimentation requiring cumbersome ethical obligations. Several drugs such as Zanamavir, Imatinib,

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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STABILITY INDICATING RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF DAPTOMYCIN

Dr.Namratha Sunkara*[1], Kabita Banik [2], ,P.Twila Pushpa[3],B.Swathi[4],Azka Fathima[5]

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ABSTRACT: A simple, Accurate, precise method was developed for the estimation of the Daptomycin in Tablet dosage form. The detection was carried out by using PDA detector at 223nm.Phenomenex IB-SIL C_8 column was used for the study as this yield peak of good shape.Buffers of different pH were tried. 3.4g/L $NH_4H_2PO_4$ adjust P^H to 3.1 ± 0.05 with H_3PO_4 was finally used because of the good symmetrical peaks.. Injection volume used was 25µl .This has yielded peaks of good shape without any splitting. The flow rate was fixed at 0.9ml/min. This has eluted the drug around 37min.By using the method the retention time of the Daptomycin was found to be 37.74min.System suitability conditions meet the recommended criterion.Linearity of the solution was demonstrated between 0.1506 mg/ml and 0.4519 mg/ml concentration range.Accuracy was demonstrated as reported. Recovery and % of RSD are within the recommended limits.Limit of detection value is at 0.0000154mg/ml and limit of quantification is at 0.0000467mg/ml. Under forced degradation studies, the peak single point threshold is always lower than purity index for Daptomycin peak and all degradant peaks were well resolved. Retention times were decreased and run time was decreased, so the method developed was simple and economical that can be adopted in regular Quality control test inIndustries.Hence the method can be adopted as a stability indicating method.

Keywords: Quality control, Daptomycin, Recovery, Wavelength.

INTRODUCTION:

Pharmaceutical Analysis is that centre branch of drug store training and research, which is advancing speedy. It can be arranged as union of new medications particles and pharmaceutical investigation.The liquid chromatographic techniques, the pivoted arrange systems in perspective of balanced silica offers the most imperative probability of triumphs. In any case, an extensive number of (structure) factors (parameters) impact the selectivity and the assurance. Trade legitimate methods are made for the prescription thing to diminish the cost and time[1]. Then evaluate the best division condition from trial runs. In the wake of improving the separation condition, favour the procedure for release to routine research focus.Daptomycin arepale yellow crystalline powder, both the medicine are freely soluble in methanol and practically insoluble in water[2]. Themechanismofactionofdaptomycinisdistinctfromthatofanyotherantibiotic. Daptomycin bindstobacterialmembranesandcauses arapiddepolarisationofmembranepotential inbothgrowingandstationaryphasecells.

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Efficacy of oral glucosamine sulphate and sulfasalazine combination in the trea

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Online published on 27 February, 2023.

Background

Osteoarthritis is a degenerative disorder commonly affecting any joints mostly joints of hands, knees, spine and hips. The disorder occurs wh

Materials and Methods

In this prospective randomized controlled study 60 patients of osteoarthritites between the age group of 18 to 60 years were selected. Patients

Results

After six months 67% reduction in number of swollen joints and 76% of duration of morning stiffness in combination therapy was observed co

Conclusion

The study concluded that the combination treatment regimen glucosamine sulfate and oral sulfasalazine improved patient mobility, decreased

Glucosamine sulphate (GS), Sulfasalazine (S), Osteoarthritis, Pain, Inflammation.

Original Article

Drug Utilization and Evaluation of Antiepileptic Drugs in a Tertiary Care Hospital

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ABSTRACT

Aim: Drug utilization and evaluation (DUE) study of antiepileptic drugs in a tertiary care hospital. **Methods:** A total of 110 case records of patients were included in a prospective observational study which was conducted for duration of 6 months. The prescription pattern was analyzed based on age, gender, route of administration, indication, duration of therapy, type of seizures, generation of Anti-Epileptic Drugs (AEDs), and rationality. **Results:** AEDs were prescribed more for patients between the ages of 51-60 years. The majority of patients receiving AEDs were males and AEDs were mostly used in the neurology department followed by neurosurgery and general medicine. Levetiracetam was prescribed most commonly as monotherapy. Lorazepam and midazolam were the most common add-on drugs. Gabapentin was mostly prescribed for severe neuropathic pain. The oral route was the common route of administration of AEDs. AEDs were highly prescribed for prophylaxis of seizures. Second-generation AEDs were highly used compared to other drugs. **Conclusion:** Second-generation AEDs were used as monotherapy and were found to be effective in reducing seizures and economically affordable for patients. As monotherapy, levetiracetam was the drug of choice followed by lorazepam.

Keywords: Drug Utilization Evaluation (DUE), Epilepsy, Antiepileptic drugs, Levetiracetam, Phenytoin, Seizures.

INTRODUCTION

Drug use evaluation (DUE) is a criteria-based evaluation of drug use that ensures the appropriate use of medicine. Inappropriate usage of medicines seriously declines the quality of patient care.[1] Commonly prescribed drugs, expensive drugs, drugs with potential drug interactions, new drugs, drugs with narrow therapeutic index, drugs that cause frequent adverse drug reactions, and the drugs that are used in high-risk patients are the most common targets for DUE studies. Important parameters which are included in DUE studies are drug indications, doses prescribed, duration of therapy, cost, and therapeutic duplication. In a prospective DUE, scheduled drug therapy is evaluated before it is dispensed to a patient. Prescription drug dosage, route of administration, drug interactions, and duplicate therapy can be evaluated.[2]

Concurrent DUE is performed during the treatment and pharmacists can alert prescribers regarding potential problems with the drug therapy while in retrospective DUE, patient medications are observed to determine if the drug therapy is meeting the approved criteria. DUR improves the health care quality, and therapeutic results and reduces healthcare expenditures.[3]

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GLIMEPIRIDE- INDUCED HYPOGLYCEMIA IN DIABETIC MELLITUS TYPE 2 - A CASE REPORT:

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ABSTRACT:

Sulfonylureas are a group of medicines used in the management of type 2 diabetes. Sulfonylureas lower blood glucose levels by stimulating insulin release from the beta cells of pancreas, which do notwork in people with type 1 diabetes. Where 2nd generation sulfonylureas [glimepiride] are among most used anti-diabetic medication as they are highly efficient and inexpensive. The effective dosage range is 1to 8mg/day which should be used with caution in elderly & in patients with renal/ hepatic disease. Where glimepiride, was generally associated with lower risk of hypoglycaemia & less weightgain compared to other sulfonylureas. A 65 yrs. old female patient was admitted in general medicine ward, in a tertiary care hospital with chief complaints of hypoglycaemia & was brought to emergency department for further management. While her past medical H/O indicates that she was taking oral hypoglycemic drugs [glimepiride-2mg] for 2yrs. Where, on laboratory investigation her GRBS-31mg/dl, and was managed by giving IV dextrose[25%] later on further examination her GRBS got improved & were monitored every 2nd hour & was advised to hold the diabetic medication. This adverse reaction is considered as drug related type ADR as per WHO scale. Glimepiride as it is causing severehypoglycaemia, alternative therapy concept i.e. by combination either with metformin/ insulin with lifestyle modifications is much efficient which can minimize the risk of hypoglycaemia in geriatric patients with type 2 diabetes.

KEYWORDS: Glimepiride, Hypoglycaemia, Sulfonylureas.

INTRODUCTION: Hypoglycaemia is a condition in which blood sugar levels is lower than 70mg/dl than the standard range. Glucose is the body's main source of energy. It is common in type 2 diabetes, especially in patient receiving intensive therapy in which the risk of severe hypoglycaemia is increased more than threefold. Hypoglycaemia is less frequent in type 1 diabetes.

CAUSE: -Medication -such as insulin, glimepiride, glibenclamide, quinolones, beta blockers. - excessive alcohol drinking -such as chronic kidney disease, severe liver failure cardiac failure -Some critical illness -Long term starvation -insulin overproduction -hormone deficiency, cortisol deficiency,growth hormone deficiency.

SYMPTOMS: Sweating, pallor, mood swings, lack of coordination, hunger, dizziness.

Type 2 diabetes mellitus is characterized by insulin resistance and progressive beta cells failure, beta cell secretagogues are useful for achieving sufficient glycemic control .glimepiride is a second generation sulfonylurea that stimulate pancreatic beta cells to release insulin .it works by binding to the sulfonylurea receptor in the

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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FORMULATION AND EVALUATION OF POLY HERBAL HAND WASH

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ABSTRACT

The aim of the present study is to formulate and evaluate herbal hand wash gel by Using extracts of Azadirachta indica (neem powder), Ocimum tenuiflorum (Tulasi powder), Mentha (mint powder), Syzygium aromaticum (clove oil), Sapindus mukorossi (rithapowder), carbolpol 940 (gelling agent), methyl Paraben (preservative), Glycerin (softening agent), distilled water, (vehicle), Turmeric (colorant),Rose oil (perfume), Saponin Extract. To select the plant materials. To extract powders from plants by air drying method to get particle free extract. To prepare herbal hand was gel by using suitable agents. To evaluate herbal hand wash gel. Like cosmetics and cosmeceuticals (a cosmetic that has claimed medicinal properties) are topically applied but they have ingredients that influences the biological actions of skin. The WHO estimates that most of the population of Asian country presently use herbal medicine for the purpose of hand hygiene includes preparation of hand wash. the present study was carried out to formulate polyherbal hand wash gel containing herbal extract which is used not only for the purpose of cleaning hands but also for the prevention of bacterial growth. Its composition was prepared according to skin delicateness so that it cannot cause any type of irritation. Hence it can be concluded that polyherbal hand wash gel are much better than the plain soaps or existing marketed hand wash due to their ingredient's and effectiveness on our skin of hands as well a suitable for all type of skin.

Key Words:

Azadirachta indica, Ocimum tenuiflorum , Mentha, Syzygium aromaticum, Sapindus mukorossi, carbolpol 940, methyl Paraben.

FORMULATION AND EVALUATION OF POLYHERBAL HAND WASH

1. Introduction

- Hands are the major route of microbe and illness transfer; hand cleanliness is the most efficient way to prevent the spread of hazardous germs and diseases. In healthcare, hand cleanliness is the best and most effective, simplest, and affordable technique to prevent nosocomial infections. Contaminated hands can function as vectors for the spread of germs. Outbreaks are conveyed fromone human to another when a food handler contaminates his or her hands andthen transfers these bacteria to customers via hand contact with food or drinks. The user is exposed after ingesting these germs, which might cause gastrointestinal disease. Microorganisms infiltrate the food supply when people handle ready-to-eat foods.

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A CASE REPORT ON LIPOSOMAL AMPHOTERICIN- B INDUCED ANAPHYLACTIC REACTION

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Abstract:

Liposomal amphotericin-B is universally used antifungal drug for treatments of invasive fungal infections. The liposomal amphotericin-B is used extensively in medical setting because of its tolerability and potent antifungal activity. Allergic reaction to liposomal amphotericin B is infrequent. We report a case of anaphylactic reaction in a 57-year-old man following liposomal amphotericin B infusion. The patient was managed with immediate action of intravenous Noradrenaline, Ondansetron, Pheniramine and Hydrocortisone.

Key Words: Liposomal Amphotericin-B, Anaphylactic Reaction, Post covid Mucormycosis

INTRODUCTION:

COVID-19 impacted India severely, especially during the second wave. India, with a population of more than 1.34 billion, experienced significant problem in controlling the transmission of COVID-19 infection among its population [(1)]. As the conflict against the deadly Covid-19 epidemic is continuing worldwide, several complications are being reported in cases who have recovered post-covid. A fungal disease called Mucormycosis is one of the fatal complications being reported in patients in India, who have tested positive for Covid-19 and with gradual recuperation. Mucormycosis, also known as 'black fungus', is a fungal infection caused by the mucormycetes family of moulds, which are ubiquitous, commonly found in soil and decaying matter [(2)]. Post-Covid-19 patients who are more vulnerable to Mucormycosis are those with a history of inadequately uncontrolled diabetes mellitus and also those who are immune-compromised and have been treated with steroids and other medicines for Covid-19. When mucormycosis is suspected, appropriate imaging to document the extent of the disease is firmly advised, followed by surgical debridement of the affected area. Amphotericin B is suggested as a first-line treatment, whereas intravenous isavuconazole and intravenous or delayed-release-tablet posaconazole have also been recommended [(3)]. Amphotericin B is a low-soluble polyene antibiotic which has the property to self-aggregate. Activity and pharmacokinetics characteristics can be modified by its aggregated state. Despite of its high adverse effects it is still extensively used for the treatment of systemic fungal infections and parasitic disease and different formulations are marketed. The antifungal-activity of amphotericin B depends mainly by its ability to bind ergosterol in the cell membrane of susceptible fungi. This creates a transmembrane channel, and the resultant change in membrane permeability allowing leakage of intracellular components leading to loss of membrane integrity. Four formulations of amphotericin B marketed are conventional amphotericin B, amphotericin B colloid dispersion, liposomal amphotericin B, and amphotericin B lipid complex [(4)].

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STUDY OF INCIDENCE OF MALARIA, DENGUE AND CHIKUNGUNYA FEVERS AMONG FEBRILE PATIENTS VISITING TERTIARY CARE HOSPITAL (KING GEORGE HOSPITAL) IN VISAKHAPATNAM

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ARTICLE INFO

Key words:

Malaria, Dengue, Chikungunya.

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ABSTRACT

Aim & objective*:** Study of incidence of malaria, Dengue and Chikungunya fevers among febrile patients visiting tertiary care hospital (King George hospital) in Visakhapatnam. ***Method: The study is conducted in-patients visiting King George Hospital, which is a Government General Hospital located in Visakhapatnam, Andhra Pradesh, India. The hospital with 1237 beds serving the needs of north coastal Andhra Pradesh and adjacent Orissa for more than 150 years. Patients presenting to the health centre with some signs and symptoms compatible with the diagnosis of malaria, dengue and chikungunya (fever which can be recent or in evidence during the previous 2-4 days or/and other symptoms of febrile diseases such as chills, headache, joint, muscle and body pains).100 febrile patients shall be selected randomly at the age group of 13-60 years Patients shall also be selected on the basis of febrile and other symptoms such as chills, headache, joint, and muscle and body pains. **Results and Conclusion:** Age wise Distribution of Malaria, Dengue and Chikungunya, number of patients n=100 were taken, total n=72 patients were positive for Malaria, n=24 patients were positive for Dengue and n=4 patients were Chikungunya. With the Mean of 10.6 and Standard Deviation are 6.1. From the age group of "36 to 50"years n=28 number of patients positive for both males and females, form this total n=12 positive for malaria with the percentage of 16.6% and Females were n=16 with the percentage of 22.2%.From the age group "51 to 65"years n=8 number of patients positive for malaria in both males and females, from this total the male patients were n=4 positive for malaria with the percentage of 5.6%.The age wise description of Dengue a total "n=24"number of patients are positive for Dengue in both males and females. From the total n=16 number of male patients which are positive for Dengue with the percentage of 66.6% with the Mean of 5.3 and Standard Deviation is 4.7.females were n=8 number of patients with the percentage of 33.3% and in the Mean of 11.1 with Standard Deviation is 2.4. The age wise description of Chikungunya fever of different age groups a total "n=4"number of patients are positive for Chikungunya fever in both males and females. From the total n=02 number of male patients which are positive for malaria with the percentage of 50% with the Mean of 0.6 and Standard Deviation is 0.5 females were n=02 number of patients with the percentage of 50% and in the Mean of 0.6 and Standard Deviation is 0.5. Chikungunya fever in both males and females, from the total male patients were n=0 positive for Chikungunya fever and females were n=1 number of patients positive for Chikungunya with the percentage of 25%. The maximum peaks are observed equally in the age of 36 to 50 years age group. The Month wise Description of Malaria, Dengue and Chikungunya positive patients from the month of April 2017 to month of October 2017. To identify the seasonal variation of the disease, analysis of the data on monthly basis was done.

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Research Article

Formulation and Evaluation of Clarithromycin Enteric Coated Microcapsules Using 2^2 - Full Factorial Designs

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Abstract

The purpose of the research was to develop and evaluate Clarithromycin loaded, Cellulose acetate phthalate (CAP) enteric coated, controlled release microcapsules where talc is used as an anti aggrading agent. Clarithromycin degrades rapidly at normal gastric pH (1.0-2.0) and remains stable at intestinal pH at 7.4-10 and shows rapid first-pass hepatic metabolism. In order to improve the bioavailability and reduce the gastric degradation, enteric coating microencapsulation was prepared. Clarithromycin microcapsules were formulated by solvent evaporation technique while using 2^2 factorial designs. A 2^2 full factorial designs was used to derive a statistical equation, ANOVA analysis, contour plots, and 3D response surface plots. Different polymer and anti aggregating agent ratios of CAP and talc were used to formulate five formulations (F1 to F5) of microcapsules. The relationship between dependent variables (Percentage drug release, drug entrapment efficiency, angle of repose) and independent variables (CAP and Talc) has been established by regression analysis and ANOVA.

The optimized formulations F2 exhibited high drug entrapment efficiency of 94.90 ± 0.02%, Angle of repose of % drug release of 71.51 ± 0.04% at 10 hrs. Microcapsules showed drug release by diffusion in the hydrated matrix and polymer relaxation as a controlled release mechanism.

Keywords: Clarithromycin; Enteric Coated Microencapsulation; Solvent Evaporation Technique; Cellulose Acetate Phthalate (CAP); Factorial Design

Introduction

Clarithromycin is a macrolide antibiotic used to treat pharyngitis, tonsillitis, acute maxillary sinusitis, acute bacterial exacerbation of chronic bronchitis, pneumonia (especially atypical pneumonias associated with Chlamydia pneumoniae or TWAR), skin and skin structure infections. In addition, it is sometimes used to treat Legionellosis [1], Helicobacter pylori, and lyme disease.

Clarithromycin prevents bacteria from growing by interfering with their protein synthesis. Clarithromycin binds to the subunit 50S of the bacterial ribosome and thus inhibits the translation of peptides. Clarithromycin has similar antimicrobial spectrum as erythromycin but is more effective against certain gram-negative bacteria, particularly [2] Legionella pneumophila.

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33

STABILITY INDICATING RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF DAPTOMYCIN

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ABSTRACT: A simple, Accurate, precise method was developed for the estimation of the Daptomycin in Tablet dos form. The detection was carried out by using PDA detector at 223nm.Phenomenex IB-SIL C_8 column was used for the stu as this yield peak of good shape.Buffers of different pH were tried. 3.4g/L $NH_4H_2PO_4$ adjust P^H to 3.1 ± 0.05 with H_3PO_4 w finally used because of the good symmetrical peaks.. Injection volume used was 25µl .This has yielded peaks of good sha without any splitting. The flow rate was fixed at 0.9ml/min. This has eluted the drug around 37min.By using the method t retention time of the Daptomycin was found to be 37.74min.System suitability conditions meet the recommend criterion.Linearity of the solution was demonstrated between 0.1506 mg/ml and 0.4519 mg/ml concentration range.Accurac was demonstrated as reported. Recovery and % of RSD are within the recommended limits.Limit of detection value is 0.0000154mg/ml and limit of quantification is at 0.0000467mg/ml. Under forced degradation studies, the peak single poir threshold is always lower than purity index for Daptomycin peak and all degradant peaks were well resolved. Retention time were decreased and run time was decreased, so the method developed was simple and economical that can be adopted i regular Quality control test inIndustries.Hence the method can be adopted as a stability indicating method.

Keywords: Quality control, Daptomycin, Recovery, Wavelength.

INTRODUCTION:

Pharmaceutical Analysis is that centre branch of drug store training and research, which is advancing speedy. It can be arranged as union of new medications particles and pharmaceutical investigation.The liquid chromatographic techniques, the pivoted arrange systems in perspective of balanced silica offers the most imperative probability of triumphs. In any case, an extensive number of (structure) factors (parameters) impact the selectivity and the assurance. Trade legitimate methods are made for the prescription thing to diminish the cost and time[1]. Then evaluate the best division condition from trial runs. In the wake of improving the separation condition, favour the procedure for release to routine research focus.Daptomycin arepale yellow crystalline powder, both the medicine are freely soluble in methanol and practically insoluble in water[2]. Themechanismofactionofdaptomycinisdistinctfromthatofanyotherantibiotic. Daptomycin bindstobacterialmembranesandcauses arapiddepolarisationofmembranepotential inbothgrowingandstationaryphasecells.

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RJPT

RESEARCH ARTICLE

Phytochemical screening and *Invitro* Anticancer activity of *Lonicera ligustrina* leaf extract on Breast and Colorectal carcinoma cell lines

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ABSTRACT:

Cancer can be described as a disease characterized by groups of aberrant cells that undergo uncontrolled proliferations in the absence of cell cycle regulation. The metastasize cancer cells spread to various locations in the body where their uncontrolled growth invades the normal tissue. Cancer comprises more than hundred different diseases, including malignant tumors of different sites such as breast, cervix, stomach, intestines, colon, lung, mouth etc. There are numerous factors responsible for the cause, like genetic, tobacco, chemicals, environmental factors, hormones etc. Cancer detection is described by their pathological grade and clinical stage. Thus we have made an attempt to use *Lonicera ligustrina* herbal extract to check the efficacy against breast and colorectal carcinoma cell lines. The present study aimed to evaluate preliminary phytochemical screening and *invitro* anticancer potential activities against MCF-7(breast) and HCT-116 (colorectal) cancer cell lines. Samples shown significant activity at its higher concentration and the IC50 value of breast cell lines 24.45µM (MCF-7) and colorectal cell lines 9.210µM (HCT-116) inhibition. Standard Doxorubicin tested against MCF-7 and HCT-116 cell lines showed IC50 value of 18.76µM and 16.89µM inhibition. Therefore, a dynamic view of IC_{50} values and the methods used to detect the density-dependent IC_{50} spectrum of a cancer cell line (primary or passaged) established. This view will benefit patients and the cancer research community as a whole.

KEYWORDS: Cancer, cell lines, Breast, Colorectal, Doxorubicin, Culture.

INTRODUCTION:

Cancer can be described as a diseases characterized by groups of aberrant cells that undergo uncontrolled proliferation in the absence of cell cycle regulation. The metastasize cancer cells spread to various locations in the body where their uncontrolled growth invades the normal tissue. Cancer comprises more than hundred different diseases, including malignant tumors of different sites such as breast, cervix, stomach, intestines, colon, lung, mouth etc. There are numerous factors responsible for the cause, like genetic, tobacco, chemicals, environmental factors, hormones etc.

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Cancer detection is described by their pathological grade and clinical stage [1,2]. The cancer treatment includes surgery, radiation, hormone therapy and chemotherapy [3]. Medicines from plant sources have gained importance in therapeutic efficacy with minimum adverse effects. Hence there is need for continuous investigation and isolation of secondary plant metabolites for efficient therapeutic system. *Lonicera ligustrina* shrub belongs to family caprifoliaceae grows in Bhutan, Nepal, India and China. The leaves claimed to have Antioxidant, anti-inflammatory, laxative, Antidiabetic, Anticancer and urinary disorders based on practices[4,5]. However, this plant has not been studied for anticancer activity on breast and colorectal carcinoma. Thus we have made an attempt to use this herbal extract to check the efficacy against Breast and Colorectal carcinoma cells [6,7]. The present study aimed to evaluate preliminary phytochemical screening and *invitro* anticancer potential

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Keywords: Cancer () cell lines () Breast () Colorectal () Doxorubicin () Culture. ()

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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REVIEW ARTICLE ON FTIR SPECTROSCOPY

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ABSTRACT:

Qualitative Fourier transform infrared (FTIR) spectroscopy has long been established and implemented in a wide variety of fields including pharmaceutical, bio-medical, and clinical fields. While the quantitative applications are yet to reach their full potential, this technique

is flourishing. It is tempting to shed light on modern engaging and the applicability of analytical quantitative FTIR spectroscopy in the aforementioned fields. More importantly, the credibility, validity, and generality of the application will be thoroughly demonstrated by reviewing the latest published work in the scientific literature. Utilizing FTIR spectroscopy in a quantitative approach in pharmaceutical, biomedical, and interdisciplinary fields has many

undeniable advantages over traditional procedures. An insightful account will be undertaken in this regard. The technique will be introduced as an appealing alternative to common methods such as high performance liquid chromatography. It is anticipated that the review will offer researchers an update of the current status and prospection the subject among the pharmacy and biomedical sciences both in academic and industrial fields.

INTRODUCTION:

The measurement of infrared light absorption (or transmission) by a material as a function of wavelength is known as infrared (IR) spectroscopy (or frequency). The IR spectrum is produced as a plot of absorption (or transmission) versus wavelength (or frequency). The fundamental heat spectrum of materials, which is principally caused by molecular vibrations and their corresponding rotating absorption bands, is examined using infrared spectroscopy. [1]The IR spectroscopy was the first structural spectroscopic technique and is an analytical method which is used to characterize the bonding structure of atoms based on the interaction of the IR radiation at which the substance absorbs and lead to the production of vibration in molecules. It gives the techniques for identification and characterization of chemical structures to obtain information from biological to composite materials, from liquids to gases. [3]The basic principle of IR is measurement of amount of IR radiation by absorption, emission or reflection. It is also called as vibrational spectroscopy. It is widely used for structural elucidation of molecules. The spectral regions can be divided into further 3 regions; the FAR Infrared (400-10 cm-1), MID Infrared (4000-400 cm-1), NIR

(13000-4000 cm-1). It is based on the absorption pattern of other compounds including isomers. When reference spectra available, most compound can be obvious identified on the basis of spectra of IR. [2]

Most widely used IR is MIR, but remaining both can also provide important information. FTIR is real time measurement analytical method and

non-destructive technique, which is unable to identify the unknown compounds (quantitative determination) and their corresponding concentration (qualitative determination) from liquid, gas or solid samples. During vibrations, there is change in the dipole moment. In this case we can called as IR active substances and a radiation corresponds to a change in dipole moment. For

IR inactive substances, the dipole moment is zero, there is no matter how long the bond is in the molecule (IR - active; polar bonds, asymmetric molecules. IR inactive; non-polar bond, symmetrical molecule). In IR each chemical bond has a very specific vibrational frequency which is corresponding to an energy level.

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Corticobasal Syndrome [Cbs]:- A Case Report:-

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ABSTRACT: -

Corticobasal syndrome[CBS] is a rare progressive atypical parkinsonism syndrome related to frontotemporal dementia.CBS is typically caused by the deposit of the tau proteins forming in different areas of the brain. corticobasal degeneration pathology was associated with four broad clinical phenotypes. prevalence of CBS was found to b3 4.9-7.3 caese per 1,00,000 population.Most common causes of CBS degeneration was atypical alzheimer's disease and other rare causes include pick's disease and progressive supranuclear palsy.Diagnostic tests CT and MRI scanning was done based on signs and symptoms.complications of CBS includes the pneumonia,sepsis,Blood clot in the lungs and also leads to death in critical cases.A 68years old male patient was admitted in Neurology Department in KIMS SECUNDRABAD With chief complaints of fever since from 20 days, difficulty to walk since from 20 days, H/O slowness of movements.NO H/O fall.H/O memory since from one week.H/O headache on and off. NO H/O seizures.He was known with the past history of HTN. Patient had parkinsonism with left upper limb dystonia and apaxia. levodopa challenge test was done.UPDRS score during off period is 63 and on period is 49 for motor examination. In view of good response TAB.syndopa was added. Patient limb and fcial expression was improved.antiobiotics were adjusted according to the sensitivity pattern. Diet modified with extra salt.There is no proper therapy that helps in progression or permanent removal of an corticobasal degeneration. Only drugs and antibiotics are prescribed to manage symptoms and to prolong the life of the patient. Patient improved clinicallyand is being discharged in stable condition.

Key words: Corticobasal syndrome, Alzheimer's disease, Parkinsonism, HTN, Antibiotics

INTRODUCTION: -

Corticobasal syndrome is a disorder of movement cognition and behavior with several underlying pathologies,including corticobasal degeneration. Corticobasal degeneration is pathologically established for four repeated tauopathy.it's pathological features are cortical and +ve neuronal and glial lesions of both white and the grey matter coupled with focal cortical and substantiai neuralloss.corticobasdal degeneration pathology was associated with four broad clinical phenotypes.

they are;-

1. Corticobasal syndrome.
2. PSP Syndrome.
3. Frontal behavioural and spatial syndrome.
4. Nonfluent/agrammatic variant of primary aphasia.

Epidemiology; -

The prevalence of CBS Was found to be 4.9-7.3 cases per 1,00,000 population.annual incidence was calculated from the rate prevalence and life expectancy would be between 0.5 and 1per 1,00,000 per year.typical age of presentation was 50s-70s and average lifespan from diagnosis to death is 07years.

CAUSES; -

- Occurs due to underlying pathologies.
- Most common cause of corticobasal degeneration is atypical alzheimer's disease.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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Lower respiratory tract infection LRTI Case Report

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ABSTRACT

Lower Respiratory Tract Infections (LRTI) are infections that affect the airways (below the level of the larynx), including the trachea and the alveolar sacs.

LRTI are characterized in many different ways. Acute infections that affect the airways include acute bronchitis, bronchiolitis and influenza, whereas acute infections that affect the alveolar sacs can include pneumonia.

Infections are caused by tiny organisms known as bacteria or viruses, which are usually the most common cause. They are carried in tiny droplets and passed between people by coughing, sneezing and at times by indirect contact with surfaces. People who are infected usually produce antibodies to fight the virus. If re-infected, the antibodies help to fight the infection with the same strain. Viruses can change forms and manifest in different strains, causing the body to produce new antibodies. Less frequently, these bacteria can go on to cause a LRTI.

Key words: Acute bronchitis, Influenza, Bronchiolitis,Pneumonia.

Acute Bronchitis

Acute bronchitis is an infection of the bronchi, the large passages that connect the windpipe and the lungs. Bronchitis causes swollen and irritated bronchi. It can last for a few weeks, but it maybe accompanied by a cough that can persist for over a month.

Acute bronchitis is usually caused by a viral infection, such as the common cold, and issometimes referred to as a "chest cold." Less often, it may be caused by a bacterial infection such as bordatella pertussis (whooping cough). In most healthy people, bronchitis will get better without treatment. However, in some people, bronchitis leads to more serious issues. This is particularly true for people who have other health problems, like asthma or COPD.

Treatment Options

Antibiotics do not help the many lower respiratory infections which are caused by parasites or viruses. While acute bronchitis often does not require antibiotic therapy, antibiotics can be given to patients with acute exacerbations of chronic bronchitis The indications for treatment are increased dyspnoea, and an increase in the volume or purulence of the sputum The treatment of bacterial pneumonia is selected by considering the age of the patient, the severity of the illness and the presence of underlying disease. A systematic review of 32 randomised controlled trials with 6,078

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ULCERATIVE COLITIS A CASE REPORT

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ABSTRACT

A 81 yrs elderly female with co- morbidities admitted in gastro enterology department, KIMS , secundrabad with increased stool frequency 4-5/day, watery, painless, no mucus / pus along with peri anal pain since 1 month with recent history of bleed per rectum off – on 4-5 days back. She also has bloating & abdominal discomfort in form of mild pain lower & central part , non radiating, not related to meals/passing motions. Evaluated in OP showed PROCTOSIGMOIDITIS consistent with IBD – UC & INTERNAL HEMORRHOIDS. Initial lab investigations were done . Thyroid & sugar under control. She was started on i.v fluids ,antibiotics, (rifagut, magnex, metrogyl, doxycycline) probiotic & supportive medications(mesalamine, anti-secretory). She improved symptomatically with treatment & is being discharged. This case discusses about the UC, its causes , pathophysiology, appropriate investigations, its management & preventive measures.

KEYWORDS

IBD,UC, PROCTOSIGMOIDITIS, 5-ASA.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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PREGNANCY-PLACENTAL PREVIA

A CASE REPORT.

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ABSTRACT:

Placental Previa is a complication which occurs during the pregnancy. In this condition the placenta covers the opening of the cervix. This is frequently associated with severe Obstetric Hemorrhage.

A 35 year old female patient was admitted in Obstetrics and gynecology ward of KIMS for safe confinement as she had been diagnosed with placenta Previa. She had spontaneous conception and history of missed abortion and preterm vaginal birth. Her placenta was posterior and upper segment extending up to internal OS. Later placenta extended into LUS as the pregnancy progressed. The management here included C-section [lcscs] with Foley bulb induction which is a safe and effective way to induce labor during pregnancy. The Foley bulb is being filled with saline [100ml]. the hemorrhage was prevented by giving misoprostol , so the hemorrhage was not observed . The patient was discharged in stable condition with prescribed antibiotics and baby was also safe.

Key Words: Placental Previa, LUS, Internal OS, Hemorrhage.

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DENGUE WITH THROMBOCYTOPENIA: A CASE REPORT

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ABSTRACT : Dengue fever is a mosquito borne viral fever which has high incidence in tropical and sub-tropical areas. Dengue Fever may range from mild asymptomatic to severe symptomatic complications like Dengue Hemorrhagic Fever and Dengue Shock Syndrome. The major problem that dengue fever causes is thrombocytopenia which in turn effects the platelets resulting in serious impact on one's health. We report a case of 55 year old female who was admitted in hospital with the complaints of fever associated with chills, loose stool, and vomiting. The patient also had a complaint of dry cough. The patient was diagnosed with dengue fever with thrombocytopenia. The patient was managed with RDP transfusion, IV fluids, SDP transfusion, Paracetamol, Carica Papaya leaf extract, Urodeoxycholic Acid and Ceftizoxime .The patient condition improved at the time of discharge.

KEY WORDS: Dengue fever, dengue hemorrhagic fever, dengue shock syndrome, thrombocytopenia, serum glutamic oxaloacetic transaminase, serum glutamic pyruvic

INTRODUCTION: Dengue fever also known as break bone fever is a mosquito borne infectious tropical disease caused by dengue virus[1]. Dengue viruses DENVs consist of four serotypes (DENV 1, DENV 2, DENV 3 and DENV 4) that are members of Flaviviridae Family, Genus Flavivirus[2]. It is transmitted mainly by Aedes aegypti mosquito and sometimes by Aedes albopictus. All four sero types can cause subclinical infection to mild self-limiting disease the dengue fever (DF) and severe disease that may be fatal, the dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS).the symptoms of dengue virus infection is fever, joint pains, headache rashes. In addition thrombocytopenia is more marked and develops earlier in cases with fatal outcomes. other clinical presentation involving neurologic, hepatic, coetaneous, and GIT is also observed [3]. According to its incidence and mortality rate dengue is ranked as second most serious vector borne disease worldwide following malaria. In 2019 regarding to WHO estimation 2.5billion people lived in endemic areas and 50 million were infected with dengue virus annually resulting in 25000 deaths. Any age of the population can be infected with dengue virus with approximately 30-40%of them showing symptoms. However distinctions exist

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A Case Report in Wallenberg syndrome

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Introduction-

Wallenberg syndrome is also known as lateral medullary syndrome or the posterior inferior cerebellar artery syndrome. Wallenberg described the first case in 1895. This neurological disorder is associated with a variety of symptoms that occur as a result of damage to the lateral segment of the medulla posterior to the inferior olivary nucleus. It is the most typical posterior circulation ischemic stroke syndrome in clinical practice.

The primary pathology of Wallenberg syndrome is occlusion of the posterior inferior cerebellar artery (PICA) or one of its branches. The syndrome can also be due to occlusion of the vertebral artery, or the inferior, middle, or superior medullary vessels. Anatomically the infarcted area in Wallenberg syndrome is supplied by the posterior inferior cerebellar artery (PICA). The majority of cases are caused by occlusion of the vertebral artery, which gives rise to the PICA and the anterior spinal artery before it joins with the opposite vertebral artery to form the basilar artery the most common mechanism of occlusion of the vertebral artery or PICA is atherothrombosis. (1)

The symptoms of Wallenberg syndrome vary depending on the cause and location of the brain damage trouble swallowing (dysphagia),Feeling hoarse,Dizziness,Nausea and vomiting,Rapid involuntary eye movements (nystagmus),Difficulty with balance and gait (walking),Problems with body temperature sensation,Lack of pain and temperature sensation on one side of the face and the other side of the body, Vertigo, Hiccups. Horner syndrome (2)

All patients with suspected Wallenberg Syndrome should receive immediate care and neuroimaging in order to exclude differential diagnoses and to screen for any contraindications to suggested stroke therapies.In most cases, patients are initially prescribed medication in order to combat chronic/long-lasting pain. In cases of ischemic stroke, blood-thinners such as heparin or warfarin can also be prescribed to lessen the blockage in the arteries that supply the lateral medulla

Treatment management in Wallenberg syndrome include Intravenous (IV) thrombolysis with IV tissue plasminogen activator (TPA) within 3 to 4 1/2 hours of the onset of the ischemic stroke with slightly different exclusion criteria., General medical therapy, IV fluid, blood pressure management(1). A feeding tube may be necessary if swallowing is very difficult. Speech/swallowing therapy may be beneficial. (3)

CASE REPORT-

A 35 year old male patient got admitted in a tertiary care hospital with the complaints of Giddiness since 02 days, Dysphagia, Not able to stand, Slurring of speech, difficulty in

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Effective Medications in Vestibular Migraine

A Case Report

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ABSTRACT:

Vestibular Migraine is a type of migraine where people experience a combination of vertigo, dizziness or balance problems with other migraine symptoms. Vestibular Migraine is evaluated to be the 2nd most common cause of episodic vertigo. It is referred with other terms such as Migrainous vertigo, Migraine related dizziness or Migraine with prominent vertigo. About 40% of population experience various kinds of migraines associated with severe headaches, Nausea, vomiting, dizziness and others. Migraine can affect the vestibular system of the inner ear which shows impact on the control mechanisms of brain which give rise to vestibular migraine. A 55years old female patient was admitted in Internal Medicine department of KIMS-Rasoolpura (Krishna Institute of Medical Sciences) with chief complaints of giddiness, fever, headache and vomiting since 5days. Her personal history showed that her appetite, sleep, bowel and bladder habits were abnormal. She was treated with the prophylactic treatment such as cinnarizine and flunarizine and other supportive medication like betahistine and clorazepam etc which improved the patient condition within 7 days duration. Thus the hint of this written report is to say that, the management of the vestibular migraine with cinnarizine and flunarizine will show a better result in the patient.

INTRODUCTION:

Vestibular Migraine is a nervous system problem that causes frequent episodes of vertigo(or dizziness) in people with history of migraine symptoms. Migraines are often accompanied with painful headaches but whereas in case of vestibular migraines, people usually doesn't experience any kind of headache. In addition to vertigo people may feel off-balance and light-headed. This Vestibular migraine may last long for few seconds or minutes, in some cases they persevere for days. Only about 1% of population are been shown to have vestibular migraine. Science isn't precise about the complex mechanisms of migraine, but few believe that the abnormal release of chemicals in brain may play a role. On the other hand, one theory suggests that migraine relates to an unusual electrical charge in the neurons that sets off the brain's pain receptors. Another theory suggests that migraine may be related to changes in serotonin in the brain.

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RESEARCH ARTICLE

Protective effect of *Vitex altissima* L.f. bark extract on cisplatin-induced renal injury in Wistar rats

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Abstract

Cisplatin (CP) is a commonly used chemotherapeutic drug. The major limiting factor in the use of CP is the side effects in normal tissues, including the kidney. Since ancient times, medicinal plants are rich sources of various bioactive constituents used to treat multiple ailments, including drug toxicities. The present work is a preliminary study to explore the renoprotective actions of methanolic extract of *Vitex altissima* L.f. bark (**Va**) against CP-induced renal damage in Wistar rats. **Va** was found to have potent radical scavenging activity than metal ion reducing power properties, compared with ascorbic acid. Further, **Va** was evaluated for nephroprotective activity in rats induced by CP (8 mg/kg; intraperitoneal) on the 7th day. The animals were grouped ($n = 6$) and treated with **Va** (100 and 200 mg/kg) orally for 14 days. The outcomes of the study found that CP significantly ($P < 0.001$) altered the oxidative stress markers (MDA, SOD and CAT), serum urea and creatinine levels. The administration of **Va** significantly halted the toxic condition and maintained it towards normal levels. The higher dose of **Va** significantly ($P < 0.001$) raised the SOD and CAT levels and halted the MDA levels than the low dose. Also, a higher dose of **Va** maintained the normal integrity of the histopathological studies of kidneys than a low dose. The present study demonstrates that *V. altissima* can attenuate the oxidative stress induced by CP by enhancing the endogenous antioxidant levels and depleting the lipid peroxidation levels.

Keywords

antioxidant activity, cisplatin, nephrotoxicity, oxidative stress, *Vitex altissima*

Introduction

The kidney is the principal organ that plays a vital role in the excretion of xenobiotics and their metabolites (1, 2). Nephrotoxicity is one of the major leading causes of death worldwide, of which 20% of deaths are accounted for drug-induced toxicity with various classes of life-saving drugs (2-4). The nephrotoxicity symptoms include the change in urine volume, increased kidney weight, and alteration of kidney biochemical parameters (serum urea nitrogen and creatinine levels) (5, 6).

Cisplatin (CP) is platinum derived first-line anticancer drug that shows the efficient suppression of malignancies. CP interacts with DNA *via* the formation of covalent adducts between certain DNA bases and the platinum compound (7, 8). The toxic effects of CP include nausea, vomiting, ototoxicity, neurotoxicity and bone marrow suppression, but its chief dose-limiting side effect is nephrotoxicity (8). But prolonged usage of CP exhibits

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Abstract

EVALUATION OF ANTIDIABETIC EFFECT OF LEAVES OF ACACIA NILOTICA ON PHYTOPHARMACOLOGICAL PROSPECTIVE

Neelmani Chauhan*, Ved Prakash Tiwari and Rachel Niveditha

ABSTRACT

Acacia nilotica is a potent herbal drug traditionally used in the treatment of diabetes. Aim of present study is to evaluate the anti-diabetic effect of Acacia nilotica leaf on phytopharmacological prospective.

Keywords: Acacia nilotica, antidiabetic, Anti oxidents, Phytopharmaceuticas.

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Abstract

STONEMAN SYNDROME FREQUENCY / FIBRODYSPLASIA OSSIFICANS PROGRESSIVA (FOP)/ MUNCHMEYER'S DISEASEs RARE GENETIC DISORDER (1 IN 2 MILLION)

Keerthika*, J. E. Rachel Nivedita

ABSTRACT

FOP it is an extremely rare skeletal dysplasia also called stone man syndrome. It is characterized by the progressive ectopic ossification of tendons and ligaments, facial and skeletal muscle throughout life. It is a rare hereditary connective tissue disease. Smooth muscle is not involved in this disorder. The known reported epidemiology in this disorder is one in two million FOP it is occurred due to the bone formation outside of the skeleton is namely called as heterotopic ossification. And which leads to formation of ribbons, sheets and plates of extra bone forming in places whole body where bone should not be. Once formed this bone cannot be removed and hence it may lead to stiffness of joint. Hence it can restrict normal movement and function therefore it causes lock in joints. Here it is a rare skeletal dysplasia which has the characteristics of imaging and clinical findings where it includes stout first metatarsals, bilateral hallux valgus, mono phalanges great toes. The symptoms are likely to begin in childhood as localized soft tissue swellings. There will be dysfunction and immobility of the spine and proximal extremities. In severe case there is also limitation of masticatory function by scoliosis it is a temporal mandibular joint (TMJ) is a critical component involved in the maxillofacial region. Where TMJ is not involved and rare.

Keywords: ? Fibro dysplasia ossificans progressive. ? Rare dominant autosomal skeletal dysplasia. ? One in two million / rare. ? Dysfunction and immobility of the spine and proximal extremities. ? It is a trivial trauma. ? Characteristic imaging [MRI] and clinical

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Pattern of Use of SGLT2 Inhibitors In Patient With Chronic Heart Failure In A Tertiary Care Hospital In South India 2021-22

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ABSTRACT:

AIM: To assess the efficacy, safety & tolerability of SGLT2 inhibitors in chronic heart failure, as well as their impact on patient symptoms and QOL. To investigate the reasons for therapeutic discontinuance.

Objectives: To evaluate the Indian population's safety, efficacy & tolerability.The assessment of patient quality of life is as important as the treatment outcome. The cost-effectiveness of the treatment should be considered for the patient's convenience..

Materials and methods: The study is conducted as a Prospective Observational study in the Department of Out-patient Unit of Cardiology at Krishna Institute of Medical Sciences (KIMS) hospital in Secunderabad. The study duration is 6 months, and the sample size consists of 103 adult patients.

Results and discussion: In our study, a total of 103 patients were included, from the age of 20 to 89 years. Of those, the males were 65 and the females were 38, and the mean age was 54.85 years. Most (93.3%) of the patients had no complaints when they were on SGLT2 among them, 6.7% had complaints of burning micturition and dysuria. The number of pus cells in the urine increased by an average of 18, while serum creatinine increased by an average of 0.9 in the patients showing adverse effects in their review 1. An average of 15 and 0.6 changes were in pus cells and serum creatinine respectively in the patients showing adverse during their review 2.The effectiveness of SGLT2 in HF management is seen comparing the ejection fraction improvement from each and every review to baseline visit. The average improvement in EF at the first review of each patient is 1.96 % and the average EF improvement on review 2 is 3.26%

Synthesis and Evaluation of 1,2,4-Triazole Derivatives for Antioxidant, Anti-inflammatory, Cytotoxicity and QSAR Analysis

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Abstract

A series of novel 4-amino-5-substituted-1,2,4-triazole-3-thiol derivatives (B1-B18) were synthesized and characterized by spectral analysis. Equimolar portions of thiocarbohydrazide and different acids (substituted aryl/heteroaryl/aliphatic) were fused to synthesize the title compounds. The compounds were evaluated for cytotoxicity, in vitro anti-inflammatory activity and antioxidant activities. Cytotoxicity studies highlighted B4 (2,4-dichloro analog) as the potent cytotoxic molecule with IC50 value of 20.35 µM against MCF-7 cell line compared to cisplatin (IC50 = 12.06 µM). B4 (2,4-dichloro), B18 (oleayl) and B14 (2-hydroxy) showed significant membrane-stabilizing activity with IC50 values < 35 µM, whereas B11 (3,4-dimethoxy), B4 (2,4-dichloro) and B14 (2-hydroxy) displayed moderate proteinase inhibitory activity with IC50 values < 72 µM. Compounds possessing phenolic hydroxyl group (B12–B14) demonstrated an appreciable antioxidant activity in the studied antioxidant models. QSAR analysis revealed the important contribution of molecular connectivity, ionization potential and mass of the compounds for optimum cytotoxicity. Present results suggested compound B4 as a potential lead molecule to design novel and potent cytotoxic and anti-inflammatory agents.

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Extraction of Bioactive Egg Compounds Used In Human Medicine

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Abstract
Egg, a highly nutritious food, contains high-quality proteins, vitamins, and minerals. This food has been reported for its potential pharmacological properties, including antibacterial, anti-cancer, anti-inflammatory, angiotensin-converting enzyme (ACE) inhibition, immunomodulatory effects, and use in tissue engineering applications. The significance of eggs and their components in disease prevention and treatment is worth more attention. Eggs not only have been known as a "functional food" to combat diseases and facilitate the promotion of optimal health, but also have numerous industrial applications. The current review focuses on different perceptions and non-food applications of eggs. The versatility of eggs from an industrial perspective makes them a potential candidate for further exploration of several novel components. Biologically active ingredients of hen eggs are widely used in human medicine. This review article is aimed to summarize the extraction of various bioactive egg components that are used in pharmaceutical industries due to their beneficial pharmacological actions.

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I. Introduction

The principal components of eggs include the egg shell, egg white, the yolk, and the eggshell membrane. In addition to food consumption, increasing attention has been given to exploring the unique biological values and functions of eggs and their comprehensive applications as a non-food resource in different industrial sectors. This review aimed to summarize and analyse the cost-effectiveness of this essential food product that can make the academic communities and industries explore its potential, its bioactive components. In addition, an overall understanding of its bioactive components and their potential in large-scale development for applications in biotechnology, medicine, pharmaceuticals, and nutraceuticals may give rise to future developments in the egg industry. Extensive studies have been carried out to identify and characterize the biologically active components of hen's eggs, apart from. the products already being produced by industries for various biomedical applications for human and veterinary medicine, and other potential applications in non-biological industries.

Functional properties of egg compounds

Egg Components in Improving Osteoporosis

Egg yolk phosvitin, a highly phosphorylated protein naturally found in nature, plays a vital role in the osteoblast differentiation process, similar to ascorbic acid. Real-time PCR analysis of cultured mouse osteoblastic MC3T3-E1 cells treated with ascorbic acid and phosvitin revealed a similar expression of osteogenic gene markers, including collagen type 1, osteocalcin, runt-related transcription factor 2, and bone morphogenetic protein-2Phosvitin can effectively play the role of ascorbic acid in the osteoblast differentiation process when the former is unavailable, with immediate applications for individuals who are susceptible to bone loss, providing alternative treatment options for patients with osteoporosis. Industries currently manufacturing artificial bone and dental fixtures can replace them with a natural biological material containing eggshell waste to rapidly improve bone structure formation.

Wound Healing Potency of Egg Compounds

The use of egg shell membrane to improve biological and biodegradable matrices has gained attention as a new material for use in biological dressings in the wound regeneration process in split-thickness skin graft donors and in nerve regeneration enhancement in the sciatic nerves of rats. ESM, with its biodegradability due to

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Phytochemical evaluation and in-vitro antioxidant potential of whole plant of *Hy*

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The present study was to investigate total phenol and flavonoid content, the antioxidant potential of various extracts of *Hyptis suaveolens* whc

Hyptis suaveolens, Antioxidant activity, DPPH, Nitric oxide scavenging activity, FRAP.

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EXTRACTION, PHYTOCHEMICAL ANALYSIS AND ANTHELMINTIC ACTIVITY STUDY OF *PORTULACA QUADRIFIDA* LINN

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Key Words

Portulaca quadrifida, haemorrhoids, asthma, inflammations, swelling

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ABSTRACT

Portulaca quadrifida Linn. belongs to the family Portulacaceae. It is a small diffused, succulent, annual herb found throughout the tropical parts of India. It is used as a vegetable and also used for various curative purposes. It is said to be useful in asthma, cough, urinary discharges, inflammations and ulcers. In Rajasthan, the leaves are used in preparing bread by mixing with Bajra. In Tamilnadu, leaves and tender shoots cooked and eaten as greens. A poultice of the plant is applied in abdominal complaints, erysipelas and haemorrhoids. In Nigeria the leaves are used as a local application to swellings. The present study was aimed to undergo ethanolic extraction, phytochemical analysis of ethanolic extract and investigation of the anthelmintic potential of crude ethanolic extract of *Portulaca quadrifida* Linn. on Indian earth-worm (*Pheretima posthuma*). Three concentrations (25, 50, 100 mg/ml) of each extract were studied in activity which involved the determination of time of paralysis (vermifuge) and time of death (vermicidal) of the worms. Albendazole in 25mg/ml concentration was included as standard reference and normal saline water with 1% CMC as control. The ethanolic extracts exhibited significant anthelmintic activity at a concentration of 100 mg/ml. Findings of the present investigations confirms that, the ethno-medicinal claim of anthelmintic activity of this plant is genuine

INTRODUCTION

Parasitic infection including Helminthiasis is a critical serious problem in the tropical regions including the Asian countries which affects more than two billions of people worldwide. Helminthes produce serious problem in human and other animals around the world specifically to the third world countries. Different type of helminthes infects the human and animals out of which intestinal round worms (Ascardia sp.) are most common. Approximately 300 million people suffer severe morbidity associated with these parasites and half of which are school-going children affected by massive infections. Variety of several clinical symptoms arises due to this infection include dysentery, diarrhoea, nausea-vomiting, loss of appetite and weight, acidity and sometimes anaemia. Other manifestations of helminthic infections include respiratory symptoms, dermatological consequences and epilepsy as a result of neurocysticercosis. Helminthic infections may also subvert immune responses to pathogens of other diseases such as tuberculosis, HIV, and malaria.[1] The plant *Portulaca quadrifida* is commonly known as 'Chicken Weed', widely used as green vegetable, described in the Ayurvedic Literature. *Portulaca quadrifida*

Title

Identification and Quantitative Estimation of Niacinamide and Neolone 950 in an Oil/Water Cream by HPTLC Method.

Authors

Mahanty, Arpan; Banik, Kabita; Al Maruf, Abdullah; Mitu, Farhana Sultana; Bala, Nripendra Nath; Gupta, Bijan Kumar; Rath, Seemanchala

Abstract

Niacinamide, a derivative of niacin, also known as vitamin B3 (C6H6N2O) has ability to treat some skin conditions including aging. It is also beneficial for treating different inflammatory skin conditions such as psoriasis and rosacea. Neolone 950 is a broad spectrum bactericide, compatible with a variety of fungicides and bactericides. It is widely used as a preservative in different cosmetic preparations, and exhibits outstanding antimicrobial activity, inhibiting against a wide variety of Gram-positive and negative bacteria. The present study involves separation and quantitative estimation of Niacinamide and Neolone 950 by High performance thin layer chromatography using two different solvent systems, to illustrate, acetic acid: acetone: methanol: benzene (5:5:20:70) for Niacinamide and was chloroform: methanol (90:10) for Neolone 950. Retention factor for Niacinamide and Neolone were found to be 0.52 and 0.72 respectively. The chromatograms were analysed by scanning through densitometer for quantitative estimation of samples. Linearity of the analytical method was supported by R2 values greater than 0.9 in each case. Percentage recovery results were found to be more than 90 %, both according to area and height of the standard curves. Statistical parameters like root mean square error of prediction (RMSEP) and relative standard error of prediction (RSEP) were less than one, therefore, indicated good precision of the method.

Subjects

NICOTINAMIDE; BACTERICIDES; PSORIASIS; ANTI-infective agents; GRAM-positive bacteria

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Formulation and Evaluation of Dermatological Product Containing Niacinamide

| Conference paper | First Online: 01 January 2022

| pp 331–337 | Cite this conference paper

GeNeDis 2020

Sandhya Rani, Kabita B. Banik & Simhachalam Rath

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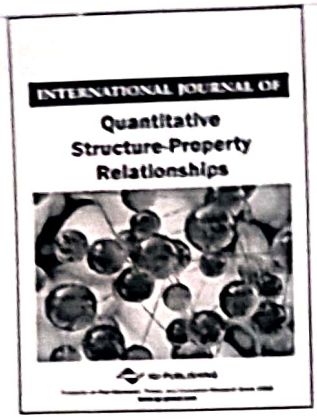
Abstract

In this study, niacinamide-based skin creams were formulated and evaluated. Niacinamide (also known as nicotinamide, 3-pyridinecarboxamide) is a physiologically active form of niacin or vitamin B3. Niacinamide, a derivative of niacin, has the ability to treat some skin conditions including aging skin. Quality of the product was assessed by using high-performance thin-layer chromatography (HPTLC) method to determine the content of niacinamide. No change in the physical properties was observed; the pH was in a proper range. The formulations showed good spreadability, no evidence of phase separation, and



Exploring Quantitative Structure-Activity Relationships (QSARs) for Urea-Based Dual FAAH and sEH Inhibitors

Jaswanthi Padala, Shaheen Begum, Bharathi Koganti, Arifa Begum S. K.

Source Title: International Journal of Quantitative Structure-Property Relationships (IJQSPR) (/journal/international-journal-quantitative-structure-property/126552) 7(2)

Pages: 17
DOI: 10.4018/IJQSPR.290013

Abstract

Several urea-based compounds have been reported as dual inhibitors of Fatty acid amide hydrolase (FAAH) and Soluble epoxide hydrolase (sEH) enzymes which have potential as anti-inflammatory and antinociceptive agents. QSAR studies were performed on the urea analogs to identify the molecular descriptors influencing the FAAH and sEH inhibitory activity using Small Dataset Modeler tool. Molecular descriptors (1D &2D) were computed using PaDEL-Descriptor software. A set of forty-eight compounds was used in the present study. Statistically significant models were derived for both the enzymes [pIC50 (sEH): R2 = 0.797, Q2 = 0.762 and Q2F1 =0.747; pIC50 (FAAH): R2 = 0.642, Q2 = 0.521 and Q2F1 =0.566]. The results of QSAR on the sEH enzyme revealed the contribution of topological charge indices, ionization potential, and the number of nitrogen atoms (naaN) for defining the potency. Polarizability showed a major influence on FAAH inhibition. The predictive ability of the QSAR models was established based on the dual inhibitory potential of some newly designed molecules.

Article Preview

Top

1. Introduction

A well-validated QSAR model guides medicinal chemists to analyze the effect of molecular features on biological activity, as well as in the design and the activity prediction of newer analogs (Maltarollo et al, 2017, Neves et al, 2018). QSAR techniques are proven strategies to reduce animal experimentation requiring cumbersome ethical obligations. Several drugs such as Zanamavir, Imatinib,

Indian Journal of Pharmacy Practice (https://ijopp.org/)
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InJPharPract, Vol 15/Issue 2/2022 Original Article

Impact of Non-sedation in Gastrointestinal Conventional

Article Tools

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ndoscopy Practices in Outpatient Setup

Published on:April 2022

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Original Article | doi:10.5530/ijopp.15.2.22 (http://dx.doi.org/10.5530/ijopp.15.2.22)

Authors:

Arifa Begum Shaik[1,*], Billakuduru Srija[1], Kalvakollu Keerthi[1], Ambadipally Laharika[1], Malli Saisree[1], Shaheen Begum[2], Sethu Babu[3]

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Abstract:

Background: This study is aimed to evaluate the impact of non-sedation in gastrointestinal conventional endoscopy practices in outpatient setup. The importance of our study is to assess the safety, tolerability of the non-sedation methodology and suggest the benefits of the non-sedation procedures. This study was conducted in endoscopy department of Krishna Institute of Medical Sciences (KIMS). A total of 150 patients were included in the study after acquiring their consent over it. Pregnant, lactating women, Volunteers with less than

Indian Journal of Pharmacy Practice (https://ijopp.org/)
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Case Report InJPharPract, Vol 15/Issue 4/2022

Drug Utilization and Evaluation of Antiepileptic Drugs in a Tertiary Care Hospital

ublished on:October 2022

Indian Journal of Pharmacy Practice, 2022; 15(4):321-324

Case Report | doi:10.5530/ijopp.15.4.58 (http://dx.doi.org/10.5530/ijopp.15.4.58)

Authors:

Arifa Begum SK[1,*], Ch Vaishnavi Durga[2], B Sahithi[2], K Leema[2], K Vaishnavi[2], R P Swathi[2], B Swathi [3], V Rajendra[4], Shaheen Begum[5]

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Abstract:

Aim: Drug utilization and evaluation (DUE) study of antiepileptic drugs in a tertiary care hospital. **Methods:** A total of 110 case records of patients were included in a prospective observational study which was conducted for duration of 6 months. The prescription pattern was analyzed based on age, gender, route of administration, indication, duration of therapy, type of seizures, generation of Anti-Epileptic Drugs (AEDs), and rationality. **Results:** AEDs

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A REVIEW ON MEDICINAL IMPORTANCE OF ISATIN SCAFFOLDS WITH ANTI-MYCOBACTERIAL ACTIVITY

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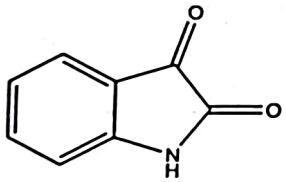
ABSTRACT:-

Isatin consist of 1H indole 2,3diones it is an important class of a heterocyclic compounds. Isatin analogues (or) scaffold have a wide variety of strong interest in synthesis and pharmacological activity. Isatin and its derivatives posses anti-tuberclosis or anti-mycobacterial activity. Tuberculosis is rapid growing diseases. Many Isatin scaffold are more potent then reference drug. This review aims of highlighting the diverse biological activity of Tuberclosis by Isatin scaffold

KEYWORD: ANTI-MYCOBACTERIA,MTB H37Rv, MDR-TB, ISATIN, TUBERCLOSIS,

INTRODUCTION:-

Isatin consist of 1H indole 2,3diones is important class of a heterocyclic compounds. Isatin moiety is privilaged Scaffold's for a chemical modification and is responsible for a broad spectrum and a wide variety of biological and pharmacological activity.[1]



According to the latest World Health Organization (WHO) report, tuberculosis (TB) is the ninth leading cause of death throughout the world and the leading cause from a single infectious agent, ranking above HIV/AIDS. There was around 10.4 million people fell ill with TB in the year 2019, resulting 1.67 million deaths TB globally.[2] The new virulent forms of Mycobacterium tuberculosis (MTB) is a species of pathogenic bacteria in the family Mycobacteriaceae. Mycobacterium tuberculosis has an waxy coatngan its cell surface primarily due to the presence of mycolic acid. Mycobacterium can appear either gram positive and gram negative.

Pathophysiology of tuberculosis:-

The spread of the disease and it is believed that tuberculosis can be spread by sharing food or water, hugging or kissing, sharing toothbrushes, skin contacts like shaking hands, or touching toilets seats.It can spread only through the air droplets containing Mycobacterium that are released by the infected person while coughing, sneezing, singing, or talking. The pathogenesis of Mycobacterium

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

STABILITY INDICATING RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF DAPTOMYCIN

Dr.Namratha Sunkara*[1], Kabita Banik [2], ,P.Twila Pushpa[3],B.Swathi[4],Azka Fathima[5]

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ABSTRACT: A simple, Accurate, precise method was developed for the estimation of the Daptomycin in Tablet dosage form. The detection was carried out by using PDA detector at 223nm.Phenomenex IB-SIL C_8 column was used for the study as this yield peak of good shape.Buffers of different pH were tried. 3.4g/L $NH_4H_2PO_4$ adjust P^H to 3.1 ± 0.05 with H_3PO_4 was finally used because of the good symmetrical peaks.. Injection volume used was 25µl .This has yielded peaks of good shape without any splitting. The flow rate was fixed at 0.9ml/min. This has eluted the drug around 37min.By using the method the retention time of the Daptomycin was found to be 37.74min.System suitability conditions meet the recommended criterion.Linearity of the solution was demonstrated between 0.1506 mg/ml and 0.4519 mg/ml concentration range.Accuracy was demonstrated as reported. Recovery and % of RSD are within the recommended limits.Limit of detection value is at 0.0000154mg/ml and limit of quantification is at 0.0000467mg/ml. Under forced degradation studies, the peak single point threshold is always lower than purity index for Daptomycin peak and all degradant peaks were well resolved. Retention times were decreased and run time was decreased, so the method developed was simple and economical that can be adopted in regular Quality control test inIndustries.Hence the method can be adopted as a stability indicating method.

Keywords: Quality control, Daptomycin, Recovery, Wavelength.

INTRODUCTION:

Pharmaceutical Analysis is that centre branch of drug store training and research, which is advancing speedy. It can be arranged as union of new medications particles and pharmaceutical investigation.The liquid chromatographic techniques, the pivoted arrange systems in perspective of balanced silica offers the most imperative probability of triumphs. In any case, an extensive number of (structure) factors (parameters) impact the selectivity and the assurance. Trade legitimate methods are made for the prescription thing to diminish the cost and time[1]. Then evaluate the best division condition from trial runs. In the wake of improving the separation condition, favour the procedure for release to routine research focus.Daptomycin arepale yellow crystalline powder, both the medicine are freely soluble in methanol and practically insoluble in water[2]. Themechanismofactionofdaptomycinisdistinctfromthatofanyotherantibiotic. Daptomycin bindstobacterialmembranesandcauses arapiddepolarisationofmembranepotential inbothgrowingandstationaryphasecells.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

GLIMEPIRIDE- INDUCED HYPOGLYCEMIA IN DIABETIC MELLITUS TYPE 2 - A CASE REPORT:

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ABSTRACT:

Sulfonylureas are a group of medicines used in the management of type 2 diabetes. Sulfonylureas lower blood glucose levels by stimulating insulin release from the beta cells of pancreas, which do notwork in people with type 1 diabetes. Where 2nd generation sulfonylureas [glimepiride] are among most used anti-diabetic medication as they are highly efficient and inexpensive. The effective dosage range is 1to 8mg/day which should be used with caution in elderly & in patients with renal/ hepatic disease. Where glimepiride, was generally associated with lower risk of hypoglycaemia & less weightgain compared to other sulfonylureas. A 65 yrs. old female patient was admitted in general medicine ward, in a tertiary care hospital with chief complaints of hypoglycaemia & was brought to emergency department for further management. While her past medical H/O indicates that she was taking oral hypoglycemic drugs [glimepiride-2mg] for 2yrs. Where, on laboratory investigation her GRBS-31mg/dl, and was managed by giving IV dextrose[25%] later on further examination her GRBS got improved & were monitored every 2nd hour & was advised to hold the diabetic medication. This adverse reaction is considered as drug related type ADR as per WHO scale. Glimepiride as it is causing severehypoglycaemia, alternative therapy concept i.e. by combination either with metformin/ insulin with lifestyle modifications is much efficient which can minimize the risk of hypoglycaemia in geriatric patients with type 2 diabetes.

KEYWORDS: Glimepiride, Hypoglycaemia, Sulfonylureas.

INTRODUCTION: Hypoglycaemia is a condition in which blood sugar levels is lower than 70mg/dl than the standard range. Glucose is the body's main source of energy. It is common in type 2 diabetes, especially in patient receiving intensive therapy in which the risk of severe hypoglycaemia is increased more than threefold. Hypoglycaemia is less frequent in type 1 diabetes.

CAUSE: -Medication -such as insulin, glimepiride, glibenclamide, quinolones, beta blockers. - excessive alcohol drinking -such as chronic kidney disease, severe liver failure cardiac failure -Some critical illness -Long term starvation -insulin overproduction -hormone deficiency, cortisol deficiency,growth hormone deficiency.

SYMPTOMS: Sweating, pallor, mood swings, lack of coordination, hunger, dizziness.

Type 2 diabetes mellitus is characterized by insulin resistance and progressive beta cells failure, beta cell secretagogues are useful for achieving sufficient glycemic control .glimepiride is a second generation sulfonylurea that stimulate pancreatic beta cells to release insulin .it works by binding to the sulfonylurea receptor in the

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(CASE STUDY)

Assessment of efficacy of ticagrelor versus clopidogrel in the treatment of myocardial infarction by 2D echocardiography

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Abstract

Myocardial infarction (MI) is the irreversible death of heart muscle due to prolonged lack of supply of oxygen resulting in decreased coronary blood flow and if untreated may lead to myocardial damage. Myocardial infarction may be due to several causes *viz.*, coronary occlusion, ventricular hypertrophy, coronary artery emboli or coronary trauma. Drugs used for the treatment of MI includes vasodilators to dilate the arteries and veins, antiarrythmics, thrombolytics to dissolve clots, anti-thrombolytics to prevent thrombus formation, anti-platelet drugs, analgesics to reduce pain, cardiac depressants to control heart rate and contractions. Present study was undertaken to evaluate the efficacy of Ticagrelor v/s Clopidogrel the antiplatelet drugs indicated in patients to reduce the risk of myocardial infarction. Both the drugs act by preventing the formation of platelet clots and helps in the smooth flow of blood. Assessment of results was carried out by 2d Echo test to evaluate the efficacy of the treatment. Treatment with ticagrelor showed improved efficacy and safety by improving the ejection fraction, reducing the rate of stroke, reducing vascular abnormalities, showing no bleeding problems. No death is observed due to vascular problems in both the treatment. Ticagrelor revealed considerable recovery rate compared to clopidogrel. Study reports revealed that ticagreloriseefficient thanclopidogrel in the treatment of MI and is a better choice over clopidogrel to treat MI.

Keywords: Myocardial infarction; Anti-platelet; Ticagrelor; Clopidogrel; 2D echo

1. Introduction

Myocardial infarction commonly referred to as a heart attack is often caused by reduced supply of blood flow or oxygen to the heart, resulting in the necrosis of cardiac muscle. This happens usually as a result of blood clot in the epicardial artery, the artery which supplies blood to the tertiary of heart muscle [1]. The prevalence approaches around three million people worldwide ever year. Etiology refers to ruptured atherosclerotic plaques leading to thrombosis, causing decreased blood flow in the coronary artery which is one of the main causes for myocardial infarction. Thrombus formation is regulated by plasma proteins, blood cells and flow and this is fundamental in the development of coronary occlusion. Studies have shown that, thrombi in patients with ST-segment elevated myocardial infarction (STEMI) contain platelets, fibrin and inflammatory blood cells [2]. In non ST-segment elevated myocardial infarction (NSTEMI),

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Original Article

Nootropic herbal formulations for the treatment of Alzheimer's disease: *In vivo* pharmacological assay and molecular docking studies

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ABSTRACT

Background and Aims: The main aim of the study was to enhance the cognitive function of the brain by nootropic herbal formulations in animal models. Polyphyto herbal formulations were known to enhance the cognition and memory function by several pathways such as anti-oxidative, anti-inflammatory, and cell signaling pathways. In this study, six formulations were prepared by mixing specified plant parts and were coded as NHF1, NHF2, NHF3, NHF4, NHF5, and NHF6.
Methods: The potency of the formulations was assessed by *In vivo* (photo actometer, rod walking test, pole climbing test, and Ellman's acetylcholinesterase test) studies.
Results: NHF1 and NHF5 exhibited greater activity than the standard drug donepezil *in vivo* (Ellman's acetylcholinesterase test) analysis. NHF1 and NHF5 formulations containing plant parts were further investigated against several published literatures for the identification of chemical constituents and those chemical constituents were subjected to molecular docking and *in silico* ADME prediction studies to figure out the possible compounds responsible for the cholinesterase inhibition activity.
Conclusion: In conclusion, the computational studies also reveal that presence of chemical constituents such as sarsasapogenin (13.13 nM), racemosol (16.26 nM), and beta-sitosterol (30.47 nM) having binding energy (-10.75 kcal/mol), (-10.63 kcal/mol), (-10.25 kcal/mol), might be directly responsible for the nootropic activity.

Keywords: Herbal, nootropic, acetylcholinesterase, Alzheimer, autodock 4.2.6, sarsasapogenin, SwissADME

INTRODUCTION

Alzheimer's disease is a progressive neuronal damage that leads to shrinkage of the brain, which is characterized by the presence of plaques of amyloid beta and tangles of tau protein (Waldemar et al., 2007). It is the most common cause of dementia accounting for 60 - 80% in elder people. Alzheimer's disease has no therapeutic treatment, however, certain medications are available for symptomatic relief and improvement of cognition. In fact, the prescribed medications have serious side effects as well as pharmacokinetic limitations (De la Monte, 2012; Dos Santos Pisoni et al., 2010)

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Journal of Global Trends in Pharmaceutical Sciences

FORMULATION AND EVALUATION OF POLYHERBAL CHEWABLE TABLETS TO TREAT ALLERGY

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ABSTRACT

Plants have always been a exemplary source of drugs and many of the currently available drugs have been derived directly or indirectly from them. The present study aimed at the formulation and evaluation of polyherbal chewable tablets to treat allergy. **Methodology:** Polyherbal chewable tablets for allergy was prepared by using pineapple (*Ananas comosus*), Tulsi (*Ocimum tenuiflorum*), Cinnamon (*Cinnamomum Zeylanicum*), Lemon (*Citrus aurantifolia*), Honey as binding and sweetening agent and potato starch is used as binding agent following wet granulation technique. Granules were evaluated for Angle of repose; Carr's compressibility index, particle size distribution and tablets were evaluated for friability, hardness, organoleptic properties, diameter and thickness, weight variation test and the time required for complete chewing. **Results:** All the evaluation parameters were found to be in acceptable limits. **Conclusion:** The evaluation of granules and tablets indicate successful formulation of chewable tablets. Chewable tablets are with minimum disintegration time, sufficient hardness, pleasant taste and meeting all official limits.

INTRODUCTION

Allergic conditions are well spread on the rise in the world now-a-days (1). Some symptoms attributable to allergic diseases are mentioned in ancient sources (2). The concept of "allergy" was originally introduced in 1906 by the Viennese pediatrician Clemens von Pirquet, after he noticed that patients who had received injections of horse serum or smallpox vaccine usually had quicker, more severe reactions to second injections (3). Pirquet called this phenomenon "allergy" from the Ancient Greek words *allos* meaning "other" and *ergon* meaning "work" (4). There are several different types of allergies which include allergic rhinitis, drug allergy and food allergies. Signs and symptoms of allergy include red eyes, itchy rash, shortness of breath, swelling, sneezing etc (5). Treatment of allergy involves administration of Drugs like steroids (hydrocortisone), antihistamines (cetrizine, chlorpheniramine maleate), antibiotics (penicillin), NSAIDs etc. Several antiallergic drugs are associated with adverse effects like dizziness, sedation, confusion, hypotension, heartburn, cramping, nausea, headache, blurred vision etc (6). Herbal medicines are safer than Allopathic medicine with lesser adverse effects. Hence there is a pressing need to exploit natural resources for the effective treatment of allergy with minimum or nil adverse effects. Literature reveals that leaves of Tulsi, bark of Cinnamon, fruits of Pineapple, fruits of lemon and honey possess anti allergic properties (7-9). Hence the present study was designed to formulate and evaluate Polyherbal chewable tablets by using leaves of Tulsi (*Ocimum tenuiflorum*), Fruit of Pine apple

Formulation, development and evaluation of Polysaccharide based Gastro-retentive Formulation for Delivery of Anti-Hypertensive Drug

Authors: Dr. Gyati Shilakari Asthana, Kavi Soundarya, Vemula Nagamani

This paper is published in Volume-6, Issue-2, 2020

Abstract

In situ gel-forming systems have been widely investigated as vehicles for sustained drug delivery. In situ gel formation occurs due to one or a combination of different stimuli like pH change, temperature modulation, and solvent exchange. So, In situ gelling system via different routes such as oral, nasal, ophthalmic, etc can be formulated. In the present research work Oral Floating Insitu gel of Captopril was formulated using Sodium alginate. The optimized batch gave drug release for 7 hrs in the polymer combination of Sodium Alginate 1% and sodium bicarbonate 1.25%. It was found to be floating for more than 12 hrs. The batch was found to be stable for 2 months of instability study.

Chapter

Synthesis, Evaluation and in Silico Studies of 4-N, N-Dimethylamino and 4-Carboxy Chalcones as Promising Antinociceptive Agents

July 2020
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In book: Advances in Computational and Bio-Engineering (pp.481-490)

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Bharath
Sri Padr

Citations (1) References (9)

Abstract

In the present work, a series of substituted 4-N, N-dimethylamino and 4-carboxy chalcones were synthesized using Clasien-Schimdt condensation and characterized by spectral data. The antinociceptive activity was studied in mice using different models. The results indicated that in the 4-dimethylamino series, compound 4c, bearing 3,4-dimethoxy substituent has shown good peripheral antinociceptive activity. Among the 4-carboxy series, 5c and 5i were found to be potent both in central and peripheral pain models. In dimethylamino chalcones, compounds 4b and 4c containing 4-methoxy and 3, 4-dimethoxy groups showed good binding affinity towards iNOS, while compound 4f bearing 4-chloro substituent exhibited good binding affinity towards COX-2 enzyme. Interestingly, in the series of carboxy chalcones compound 5e containing 4-fluoro substitution demonstrated good affinity towards both iNOS and COX-2 enzymes.

Citations (1) References (9)

ACTA SCIENTIFIC PHARMACEUTICAL SCIENCES (ISSN: 2581-5423)

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Research Article

Formulation and Evalution of Telmisartan Solid Dispersion of Encapsulation Using Different Polymer

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Abstract

The aim of the present study was to improve the solubility and dissolution rate of a poorly water soluble drug, telmisartan by solid dispersion technique. The objective of the study is to prepare telmisartan solid dispersion and encapsulation using different polymers to achieve the enhanced solubility and to determine the Kinetic Modeling of Drug Release and Stability studies. Telmisartan has PH dependent solubility. Due to this reason only the % release for the prepared solid dispersions was higher in PH 4.5 acetate buffer when compared with other mediums. Based on mathematical data revealed from models, it was concluded that the release data was best fitted with First order kinetics. Stability studies showed that there were no significant changes in physical and chemical properties of capsule of formulation after 3 months.

Keywords: *Solid dispersion; Telmisartan; PEG6000; PEG20000; HPMC E15; HPC LH21; β-Cyclodextrin*

Introduction

Telmisartan is a member of a family of drugs called angiotensin receptor blockers (ARBs). Angiotensin, formed in the blood by the action of angiotensin converting enzyme (ACE), is a powerful chemical that attaches to angiotensin receptors found in many tissues but primarily on muscle cells of blood vessels. Angiotensin's attachment to the receptors causes muscle cells to shorten and narrow the blood vessels (vasoconstrict), which leads to an increase in blood pressure (hypertension). Telmisartan blocks the angiotensin receptor. By blocking the action of angiotensin, telmisartan widens blood vessels (vasodilate) and reduces blood pressure. Telmisartan belongs to class II drug in BCS classification i.e. low solubility and high permeability. One of the major problems with this drug is its low solubility in biological fluids, which results into poor bioavailability after oral administration. The solubility of Telmisartan in aqueous medium was very low i.e. 0.078 mg/ml in water. Absolute bioavailability of the Telmisartan was 42 - 58% and biological half-life is only 24 hours that results into poor bioavailability after oral administration. Poor solubility of Telmisartan leads to poor dissolution and hence variation in bioavailability. Thus increasing aqueous solubility and dissolution of Telmisartan is of therapeutic importance.

The approaches in overcoming the bioavailability problems due to such causes are: 1. The pharmaceutics approach which involves modification of formulation, manufacturing process, or the physiochemical properties of the drug without changing the chemical structure. 2. The pharmacokinetic approaches in which the pharmacokinetics of the drug is altered by the modifying its chemical structure. 3. The biological approach whereby the route of the drug administration may be changed such as changing from oral to parental route.

Materials and Methods

Materials

The materials used for the formulation are Telmisartan, gifted by SERDIA Pharma Ltd, Hyderabad, PEG6000, PEG20000, HPMCE15, HPC LH21- S D Fine chem. Ltd. Mumbai, β-Cyclodextrin- Himedia laboratoty pvt. Mumbai, Lactose, Aerosil, Magnesium Stearate, Isopropyl Alcohol. All the materials used in study were of analytical grade.

Instruments

UV/VIS spectrophotometer, Electronic balance, PH meter, Dissolution apparatus, Tapped density apparatus USP.

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Original Research Article: Open Access

Formulation and Evaluation of Floating Microspheres of Repaglinide by Ionic Gelation Method

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ABSTRACT

Repaglinide is an antidiabetic drug in the class of medications known as meglitinides, and was invented in 1983. Repaglinide is an oral medication used in addition to diet and exercise for blood sugar control in type 2 diabetes mellitus. The mechanism of action of repaglinide involves promoting insulin release from β-islet cells of the pancreas; like other antidiabetic drugs. The present investigation involved the formulation of the alginate microspheres of Repaglinide (model drug) using calcium chloride as a cross linking agent by inotropic gelation method. Microspheres were prepared by using 2%, 2.2% sodium alginate concentrations. Polymers (HPMC, Ethyl cellulose, Carbopol 934P) were used in combination concentration to prepare Microspheres. Microspheres were evaluated for micromeritic properties like angle of repose, bulk density, tapped density, Carr's index, Hausner's ratio and for drug content. The in vitro drug release study was done for microspheres All formulations. The mean particle size, In vitro Buoyancy, Encapsulation efficiency%, Percentage yield (%) were within limits. Floating Microspheres of Repaglinide improves patient compliance by decreasing dosing frequency. Gastric retention time is increased because of buoyancy. Enhanced absorption of drugs which solubilise only in stomach. Drug releases in controlled manner for prolonged period, site-specific drug delivery.

Keywords: Repaglinide, Antidiabetic, Floating microspheres, Inotropic gelation method, Sodium alginate, Carbopol 934P, HPMC, Ethyl cellulose

INTRODUCTION

A well-designed controlled drug delivery system can overcome some of the problems of conventional therapy and enhance the therapeutic efficacy of a given drug. To obtain maximum therapeutic efficacy, it becomes necessary to deliver the agent to the target tissue in the optimal amount in the right period of time there by causing little toxicity and minimal side effects [1,2].

Repaglinide lowers blood glucose by stimulating the release of insulin from the beta islet cells of the pancreas. It achieves this by closing ATP-dependent potassium channels in the membrane of the beta cells. This depolarizes the beta cells, opening the cells' calcium channels, and the resulting calcium influx induces insulin secretion [3]. Repaglinide has a 56% bioavailability when absorbed from the gastrointestinal tract. Bioavailability is reduced when taken with food; the maximum concentration decreases by 20%. The protein binding of repalglinide to albumin is greater than 98%. repaglinide is primarily metabolized by the liver - specifically CYP450 2C8 and 3A4 - and to a lesser extent via glucuronidation. Metabolites of repaglinide are inactive and do not display glucose-lowering effects and it is 90% excreted in the feces and 8% in the urine. 0.1% is cleared unchanged in the urine [4].

The word new or novel in the relation to drug delivery system is a search for something out of necessity [5]. An appropriately designed sustained or controlled release drug delivery system can be major advance toward solving the problem associated with the existing drug delivery system. The aim of any drug delivery system is to afford a therapeutic amount of drug to the proper site in the body to attain promptly, and then maintain the desired drug concentration [6]. Oral drug delivery has been known for decades as the most widely used route of administration among all the routes that have been explored for the

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Evaluation of Antiurolithiatic activity of Moringa leaves by UV Spectroscopic Method (AbstractView.aspx?PID=2020-10-3-3) (https://scholar.google.co.in/scholar?q=Evaluation of Antiurolithiatic activity of Moringa leaves by UV Spectroscopic Method)

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ABSTRACT:

The effect of M.olifera leaf against Calcium oxalate was tested by uv Spectrscopy method calcium oxalate crystals were confirmed by UV analysis. Then the sample was treated against leaf extract and again UV analysis was done to confirm presence or absence of crystals. Two type of assay the done to confirming the property Aggression assay and nucleation assay. calcium Oxalate, Phosphate, uric acid and proteins are important markers as well as citrate and magnesium are inhibitors which were tested for the confirmation of the stone. LDH and oxalate are the enzymes of liver and kidneys are having an important role in Urolithiasis were also estimated. After studding the absorbance and turbidity of calcium oxalate solution we concluded the results, studies showed significant data to confirm the efficacy of M.olifera leaf having anti-urolithic activity. The results of present study suggest usefulness of M.olifera in the treatment of kidney stone disease.

Keywords: M.olifera leaf () Calcium oxalate () Urolithiasis () Nucleation assay () Aggregation assay () Crystallization inhibition rate. ()

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FORMULATION, CHARACTERIZATION AND EVALUATION OF MICROSPHERES CONTAINING ISONIAZID

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ARTICLE INFO

Key Words
INH, Solvent Evaporation, FTIR.

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ABSTRACT

The present study was aimed to develop and evaluate microspheres of isonicotinylhydrazide (INH) in different drug to polymer ratios using emulsion solvent Evaporation method.[i] FTIR studies showed that there was no chemical interaction between the drug and polymers. Scanning electron microscopy showed the microspheres having a spherical structure. Prepared microspheres were characterized for calibration curve, FTIR, % drug loading and *in-vitro* drug release studies. In-vitro drug release studies were performed using the shaking flask method. The aim of present work is to investigate the possibility of obtaining a prolonged, reducing the side effects, increase the patient compliance, relatively constant effect of isoniazid microspheres by using Carbopol as carrier.[ii]

INTRODUCTION

Isoniazid is a first line antitubercular drug. It has broad spectrum antimicrobial activity. They act as both bacteriostatics for resting bacilli and bacteriocidal for dividing microorganisms. Isoniazid is a prodrug i.e. converted by enzyme known as mycobacterial catalase peroxidase into an active metabolite. Mycolic acid is a unique fatty acid component of mycobacterial cell wall.[iii] Isoniazid is inhibits the biosynthesis of mycolic acid in bacterial cell wall. Isoniazid acts on enoyl-ACP reductase of fatty acid synthase-II, cause saturation of fatty acid in mycolic acid biosynthesis .Isoniazid is absorbed by oral and parental administration. Metabolized by liver, and excreted in the urine, t1/2 is about 3 hours. Dose 5mg/kg (adult dose = 300mg / day).[iv] Aluminum hydroxide inhibits the absorption of isoniazid. Para-amino salicylic acid inhibits the metabolism of isoniazid and increase t1/2 of isoniazid. Isoniazid inhibit metabolism of warfarin, phenytoin, carbamazepine and diazepam which may raise their concentration in blood. Peripheral neutritis, neurological manifestations, hepatotoxicity, rashes, fever, acne and arthralgia etc. are common side effects[v]. Microencapsulation is the protective technology of encapsulating solid, liquid or gas materials into micro particles with a diameter of 1–1000 μm, and has been widely used in fields of medicine, cosmetics, food, textile and advanced materials[vi]. The unique advantage of microencapsulation lies in that the core material is completely coated and isolated from external environment. More importantly, microencapsulation would not affect the properties of core materials, provided that proper shell material and preparing method are chosen[vii] . Microspheres offer a number of advantages in therapeutics. Microspheres are of the drug delivery system which provide programmed and controlled release drug after proper duration of action at particular site[viii].

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EXTRACTION, PHYTOCHEMICAL ANALYSIS AND ANTHELMINTIC ACTIVITY STUDY OF *PORTULACA QUADRIFIDA* LINN

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Key Words

Portulaca quadrifida, haemorrhoids, asthma, inflammations, swelling

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ABSTRACT

Portulaca quadrifida Linn. belongs to the family Portulacaceae. It is a small diffused, succulent, annual herb found throughout the tropical parts of India. It is used as a vegetable and also used for various curative purposes. It is said to be useful in asthma, cough, urinary discharges, inflammations and ulcers. In Rajasthan, the leaves are used in preparing bread by mixing with Bajra. In Tamilnadu, leaves and tender shoots cooked and eaten as greens. A poultice of the plant is applied in abdominal complaints, erysipelas and haemorrhoids. In Nigeria the leaves are used as a local application to swellings. The present study was aimed to undergo ethanolic extraction, phytochemical analysis of ethanolic extract and investigation of the anthelmintic potential of crude ethanolic extract of *Portulaca quadrifida* Linn. on Indian earth-worm (*Pheretima posthuma*). Three concentrations (25, 50, 100 mg/ml) of each extract were studied in activity which involved the determination of time of paralysis (vermifuge) and time of death (vermicidal) of the worms. Albendazole in 25mg/ml concentration was included as standard reference and normal saline water with 1% CMC as control. The ethanolic extracts exhibited significant anthelmintic activity at a concentration of 100 mg/ml. Findings of the present investigations confirms that, the ethno-medicinal claim of anthelmintic activity of this plant is genuine

INTRODUCTION

Parasitic infection including Helminthiasis is a critical serious problem in the tropical regions including the Asian countries which affects more than two billions of people worldwide. Helminthes produce serious problem in human and other animals around the world specifically to the third world countries. Different type of helminthes infects the human and animals out of which intestinal round worms (Ascardia sp.) are most common. Approximately 300 million people suffer severe morbidity associated with these parasites and half of which are school-going children affected by massive infections. Variety of several clinical symptoms arises due to this infection include dysentery, diarrhoea, nausea-vomiting, loss of appetite and weight, acidity and sometimes anaemia. Other manifestations of helminthic infections include respiratory symptoms, dermatological consequences and epilepsy as a result of neurocysticercosis. Helminthic infections may also subvert immune responses to pathogens of other diseases such as tuberculosis, HIV, and malaria.[1] The plant *Portulaca quadrifida* is commonly known as 'Chicken Weed', widely used as green vegetable, described in the Ayurvedic Literature. *Portulaca quadrifida*

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COMPARATIVE STUDY OF INTRATHECAL DEXMEDETOMIDINE VERSUS FENTANYL AS AN ADJUVANT TO 0.5% BUPIVACAINE IN SENSORY AND MOTOR BLOCK RECOVERY OF SPINAL ANAESTHESIA

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Key Words

Intrathecal, Hyperbaric, lower limb surgeries, ASA grade 1 and grade 2.

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ABSTRACT

Aim: The aim of the study is to compare the recovery of motor and sensory blockade between intrathecal Dexmedetomedine and Intrathecal Fentanyl as adjuvant to 0.5% hyperbaric bupivacaine in spinal anaesthesia. **Materials and methods :** A prospective randomized -double blind study was conducted on patients who comes under ASA grade 1 and grade 2, age groups between 20 to 60 years undergoing elective lower limb surgeries in Department of anaesthesiology, Durgabai Deshmukh Hospital, a 250 bedded multispeciality hospital from July 2018 – march 2019. **Results:** Among the total number of patients (60), patients were randomly allocated into two groups (each group of 30) based on Age, BP and other health care conditions. Group- A are administered with Dexmedetomedine + bupivacaine, Group- b are administered with Fentanyl + bupivacaine. Both groups are administered for, Motor, Sensory and haemodynamic changes. It was observed that the activity of Dexmedetomidine + Bupivacaine acted on patient for longer duration of time compared to that of Fentanyl + Bupuvcaine. **Conclusion :** In this study we have evaluated the efficacies of Dexmedetomidine + bupivacaine and we have evaluated the effecacies of Dexmedetomidine + bupivacaine (vs) Fentanyl + bupivacaine and we have concluded that the time of both sensory and motor activity is more for the drug combination – Dexmedetomidine + bupuvaacaine.

INTRODUCTION

Spinal anaesthesia was the first major regional technique introduced into broad clinical practice. Spinal anesthesia is the most regularly used technique for lower abdominal surgeries. However, postoperative pain control is a major problem because spinal anaesthesia using only local anaesthesia using only local anaesthetics is associated with relatively short duration of action, and thus early analgesic intervention is needed in the postoperative period.[1'2] A number of adjuvants, such as clonidine and midazolam and others have been studied to prolong the effect of spinal anaesthesia.[3] The addition of fentanyl to hyperbaric bupivacaine improves the quality of intraoperative and early postoperative subarachanoid block. The addition of opiods to local anaesthetic solution have disadvantages, such as pruritis and respiratory depression.[4-6] Dexmedetomidine a highly selective α2 - agonist, is under evaluation as a neuraxial adjuvant as it provides stable hemodynamic conditions, good quality of intraoperative and extended postoperative analgesia with minimal side effects Dexmedetomidine has been approved by Food and drug administration as a

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Int J Curr Pharm Res, Vol 12, Issue 5, 40-44 Original Article

FORMULATION OF AN ANTI-BACTERIAL CREAM FROM PLANTOXALIS CORNICULATA ANDITS EVALUATION

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ABSTRACT

Objective: Even in areas where modern medicine is available, the interest on herbal medicines and their utilization have been increasing rapidly in recent years. Plant-derived substances and herbal medicines have recently attracted the great interest towards their versatile application as medical plants are the rich source of bioactive compounds used in traditional and modern medicine. The present work is to formulate and evaluate the antibacterial cream of oxalis corniculata extract.

Methods: The ethanolic extracts were prepared by using the maceration method.

Results: The agrochemical potential of methanolic extract, n-hexane, chloroform, ethyl acetate,and n-butanol soluble sfractions showed excellent activites against Escherichia coli, Shigella dysenteriae, Salmonella typhi, and Bacillus subtilis. Similarly the crude n-hexane and chloroform fractions were also found to have significant activity against fungal strains including Fusarium solani, Aspergillus flexneri, and Aspergillus flavus.

Conclusion: Oxalis corniculata is a common medicinal plant widely used against numerous infectious diseases. The two isolated compounds 5-hydroxy-6,7,8,4'-tetra methoxy flavone and 5,7,4'-trihydroxy-6,8-dimethoxyflavone were evaluated for antibacterial and antifungal activities. The results showed that latter compound was more active than that of the former.

Keywords: Oxalis corniculata extract, Antibacterial cream, Anti-fungal

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INTRODUCTION

Oxalis corniculata is an endangered and medicinally important plant indigenous to tropical and sub-tropical regions of the world,its medicinal usage is reported in Indian pharmaceutical codex, the Chinese, British and the American pharmacopoeias and in different traditional systems of medicines such as Ayurveda, Unani and Siddha. Wide ranges of phytochemical constituents have been isolated from the plant like flavanoids, tannins, phytosterols phenol, glycosides, fatty acids galactoglycerolipid and volatile oil. it is rich source of essential fatty acids like palmitic acid,oleic acid, linoleic, linolenic and stearic acids and it possess anti-bacterial, anti-inflammatory anti-oxidant properties [1]. Anti-bacterial cream is a medicated cream which is used to treat certain skin infections caused by bacteria, the topical cream can be used to treat certain skin infections

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EVALUATION OF ANALGESIC ACTIVITY OF METHANOLIC EXTRACT OF *SIDA ACUTA* ON RATS USING BY EDDY'S HOT PLATE METHOD

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Key Words

Sida Acuta, Eddy's hot plate, Analgesic Diclofenac

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ABSTRACT

Evalution of analgesic activity of methanolic extract of *sida acuta* on rats using by eddy's hot plate method ***Method:*** Extraction has been prepared by using ***sida acuata*** leafs, methonal and maceration was done for seven days.The extract was filtered by using muslin cloth.The obtained filtrate was evaporated and cooled to dryness at 45^0 to 55^0c. Until it become like a semisolid. ***Results:***The animal models employed for screening of analgesic activity in this study were pain-state models using thermal stimuli which include tail-flick and hot plate methods. The methanol extract from the leafs of *Sidaacuta* increase the reaction time of the rats on hot plate method. The difference in the mean reaction time of the extract and the control groups was statistically significant during all observation times. Analgesic effect in Diclofenac on rats was detectable at 45 to 60 min.Hot plate method produces two measureable behavioural components in response to thermal pain, with regard to their reaction times. Responses such as paw licking and jumping in rats are considered to be supraspinally integrated. Thus, the extract to shows these behaviors on hot plate method indicates that it might be acting at supraspinal level. ***Conclusion:*** The methanol extract of the *Sidaacuta* displayed analgesic activity and supported the traditional use of this plant in pain relief. Further study is warranted to identify the active compounds present in this extract and to elucidate the mechanisms involved in its analgesic properties

INTRODUCTION

Higher plants remain as an almost untapped reservoir of potentially useful chemical compounds not only as drugs but also as unique templates that could serve as a starting point for synthetic analogues. Many drugs have been developed with phytochemicals or taking phytochemicals as lead molecules. Some important mainline drugs include digitoxin, aspirin, taxol, ergotamine, morphine, cocaine and reserpine. According to the World Health Organization, approximately 25% of modern drugs used in the United States have been derived from plants and it is estimated that at least 7,000 medical compounds in the modern pharmacopoeia are derived from plants. Today nearly 88% of the total global populations turn to plant-derived medicines as first line of defense to maintain health and combating ailments. People of Asia are utilizing plants as part of their routine

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Abstract

ANTI-ATHEROSCLEROTIC EFFECT OF EXTRACT OF METHANOLIC OF OCHNAOBTUSATA ON HIGH FAT DIET AND TRITON-X INDUCED ATHEROSCLEROSIS IN ALBINO WISTAR RATS

JE Rachel Nivedita*, Swathi and Haritha Pasupulati

ABSTRACT

Since the start of the latest century, found outs on the cholesterol-diminishing function of lants of medicinal importance have been highlighted. The value of such research, are proved in the therapeutic value of diabetes mellitus, obesity, failure of cardiac function, and atherosclerosis. Researchers have described the function of plants of medicinal category in the managing of raised value cholesterol in serum, and the diminish of mortality & morbidity hence of vascular diseases attached with it. Hyperlipidemia is an aspect when unnatural raised values of lipids i.e. the fatty compounds are seen in the blood. This aspect is again termed as hyperlipoproteinemia /hypercholesterolemia. Body of Human being is machinery of complex functioning and for managing the homeostasis in several organ and organ system.

Keywords: .

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PREPARATION AND CHARACTERIZATION OF NEVIRAPINE CHITOSAN NANOPARTICLES

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ARTICLE INFO

Key Words

Nanoparticle, Chitosan, Nevirapine and solvent evaporation method, *In-Vitro* drug Release

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ABSTRACT

The aim of the present study is to prepare and characterize nanoparticles containing Nevirapine using Chitosan as the polymer. The Nevirapine loaded nanoparticles were prepared by Solvent evaporation method. Nanoparticles were prepared and characterize for process yield, drug entrapment efficiency, particle size, in vitro drug release, kinetic studies and stability studies. The prepared nanoparticles were spherical in shape. The infra red spectra and scanning electron microscopy showed stable character of Nevirapine in the drug-loaded nanoparticles and revealed the absence of drug polymer interactions. The in vitro release behavior from all the drug loaded batches were found to follow first order and provided sustained release over a period of 8 h. No appreciable difference was observed in the extent of degradation of product during 90 days in which Nanoparticles were stored at various temperatures. The best-fit of release kinetics was achieved with first order Higuchi plot and the formulation F7 was found to be best formulation. The release of Nevirapine was influenced by the drug to polymer ratio and particle size and was found to be diffusion controlled. According to the data obtained, this Chitosan-based nanoparticles opens new and interesting perspectives as drug carriers for treating acquired immunodeficiency syndrome (AIDS).

INTRODUCTION

Pharmaceutical Nanotechnology deals with the formation and development of small structures like atoms, molecules or compounds of size 0.1 to 100 nm into structures which can be further developed into special devices with desired characteristics and properties[1]. 'Chitosan' the natural cationic polymer derived from chitin has received growing attention mainly due to their biocompatible, innocuous nature, mucoadhesive properties besides certain medicinal properties like antimicrobial and antioxidant properties. This enhances its potential in different biomedical applications [2-4]. Hence, chitosan based nanoparticles are for the first time explored for as drug delivery carrier for Nevirapine. Therefore, the main aim of this study is to achieve prolonged release of Nevirapine such that the dosing frequency can be reduced by which we may reduce the side effects and increase the patient compliance. It is used in the treatment of HIV infection [5]. Nevirapine is a non-nucleoside reverse transcriptase inhibitor (NNRTI) of HIV-1. Nevirapine binds directly to reverse transcriptase (RT) and blocks the RNA-dependent and DNA-dependent DNA polymerase activities by causing a disruption of the enzyme's catalytic site [6].

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MANDATORY GENERIC PRESCRIBING AND GENERIC SUBSTITUTION FOR BRAND-NAME MEDICINES IN INDIA - A CROSS-SECTIONAL SURVEY

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Key Words

Generic, branded, survey, prescribing, questionnaire

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ABSTRACT

Background: India is considered as the pharmacy of the world, being the largest provider, supplying 18% by volume in the world's generic drugs market, exporting US$20.0 billion worth of drugs in the 2019–20. It is ironical that India has very low domestic consumption of the generics, being dominated by branded medicines. It's matter of huge burden to public health funding of the Government as well as the patient's huge out-of-pocket expenditure. **Aim & Objectives:** The primary objective of the study is to conduct a systematic review and critical appraisal of perception among various stakeholders on (i) mandatory prescribing with a generic name and (ii) generic substitution for brand-name medicines. **Methodology:** A cross-sectional survey was undertaken in the form of systematic interviews with various stake holders (N= 426) comprising physicians (96), representatives of the industry (20) and regulatory bodies (10), pharmacists (110) and patients (190) which is followed up with a self-administered questionnaire using Google Forms. **Results & Discussion:** Verbal interviews with physicians, pharmacists & patients revealed a lot of misconceptions with lack of trust on the quality, stability and extent of regulatory control of generic medicines. Out of 426 respondents, 234 (55%) were found to have basic understanding on quality, safety, efficacy, cost & applicable regulatory controls on generics and the majority of this fraction (90%) voted for mandatory prescribing of medicines using generic names, while there was a mixed response on the right to generic substitution by the pharmacist. **Conclusions:** The study revealed the need for continued education and improving the perception of generics among all stakeholders through effective regulatory system, supply-chain management and enforcement of anti-counterfeiting policies. The study has perceived a strong resistance from the physicians for mandatory generic prescribing while the industry & pharmacists are not inclined to the right for generic substitution by pharmacists.

INTRODUCTION: Internationally, the generic medicines have been increasingly favoured due to substantially low prices Without compromising on quality, economic pressure on public health care budgets, and the expiry of patents on widely used medicines.

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Journal of Global Trends in Pharmaceutical Sciences

A NOVEL RP-HPLC METHOD DEVELOPMENT AND VALIDATION FOR THE ESTIMATION OF CLOPIDOGREL IN TABLET DOSAGE FORM

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Key Words

RP-HPLC, Clopidogrel

LOD, LOQ

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ABSTRACT

A simple, rapid, specific, accurate and precise Reverse phase High Performance Liquid Chromatographic (RP-HPLC) method was developed for the estimation of Clopidogrel in tablet dosage form. Inertsil C18 ODS(150mm ×4.6mm) at ambient temperature (100×2.1mm ID) 5µm was the column used. Methanol: Water in the ratio of 60:40(v/v) was the optimized mobile phase.The flow rate was 1ml/min with the end effluents were monitored at 225nm. The method was validated for linearity, accuracy, precision, specificity and sensitivity. The retention time of Clopidogrelwas found to be 2.929minutes with injection volume of 20µL respectively. Limit of Detection (LOD)and Limit of Quantification(LOQ) of Clopidogrel were found to be 0.00471 and 0.01429 respectively.

INTRODUCTION

Clopidogrel is anAromaticheteropolycyclic compound as well as inhibitor of adenosine diphosphate (ADP) induced platelet aggregation.It is also known as methyl (2S)-2-(2-chlorophenyl)-2-{4H,5H,6H,7H-thieno[3,2-c]pyridin-5-yl}acetate or an anti-platelet drug. Clopidogrel prevents binding of Adenosine Diphosphate (ADP) to its platelet receptor, impairing the ADP-mediated activation of the glycoprotein GPIIb/IIIa complex. It is proposed that the inhibition involves a defect in the mobilization from the storage sites of the platelet granules to the outer membrane. The drug specifically and irreversibly inhibits the P2Y12 subtype of ADP receptor, which is important in aggregation of platelets and cross-linking by the protein fibrin. No direct interference occurs with the GPIIb/IIIa receptor. As the glycoprotein GPIIb/IIIa complex is the major receptor for fibrinogen, its impaired activation prevents fibrinogen binding to platelets and inhibits platelet aggregation. It also acts as anti-depressant drug[2-4]. Clopidogrel is marketed under the brand name Clopilet and also used in the management of depression. Literature review revealed that analysis of Clopidogrelhas beencarried out bysome UV- spectrophotometric methods [5,6] and one HPLC method [7] for the estimation of Clopidogrel in tablet dosage form.The present study was mainly aimed to develop stable, simple,specific,rapid, accurate,precise chromatographicmethodwith high sensitivity and to acquire better resolution, speed for the estimation of Clopidogrel in tablet dosage form

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Journal of Global Trends in Pharmaceutical Sciences

DEVELOPMENT AND VALIDATION OF UV SPECTROSCOPIC METHOD FOR THE DETERMINATION OF ALOGLIPTIN BENZOATE AND METFORMIN HYDROCHLORIDE IN BULK AND TABLET DOSAGE FORM

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ARTICLE INFO

Key Words
Alogliptin (ALG), Metformin (MET), Simultaneous equation, Quantitative analysis, LOD, LOQ

ABSTRACT

A simple, accurate and precise UV spectroscopic method has been developed for the simultaneous estimation of Alogliptin benzoate and metformin hydrochloride in bulk and tablet dosage forms, Both the drugs are used as anti-diabetic drugs. The combination is estimated by simultaneous equation method, which is based on measurement of absorption of alogliptin benzoate at λ_{max} 275nm and metformin hydrochloride at 235nm respectively. Linearity was observed in the concentration range of 2.5-12.5µg/ml for alogliptin benzoate and 2-10µg/ml for metformin hydrochloride. The accuracy of the methods was assessed by recovery studies and was found to be within range of 98-101% for both Alogliptin benzoate and metformin hydrochloride respectively. The developed methods were validated with respect to accuracy, precision and linearity. The results were validated statistically as per ICH guidelines and were found to be satisfactory. Due to the non-availability of combination product the tablet was prepared in laboratory and used to simulate the condition of actual product. This development was successfully applied for the simultaneous determination for both the drugs in bulk and commercial tablet preparation.

INTRODUCTION

Alogliptin (trade name Nesina and Vipidia) is a new anti-diabetic drug in the DPP-4 inhibitor (gliptin) class used for the treatment of Type-2 diabetes[1]. Alogliptin exhibits relatively little risk of hypoglycemia and has relatively modest glucose-lowering activity. Alogliptin and other gliptins are commonly used in combination with metformin in people whose diabetes cannot adequately be controlled with metformin alone[2]. It was developed by Syrrx, a company which was acquired by Takeda Pharmaceutical Company in 2005.Chemically, alogliptin is prepared as a benzoate salt and exists predominantly as the R enantiomer (>99%). It undergoes little or no chiral conversion *in vivo* to the (S) enantiomer. Metformin hydrochloride is an oral antihyperglycemic drug (*N, N dimethyl imido dicarbonimidicdiamide hydrochloride)*, marketed under the trade name Glucophage, is the first-line medication for the treatment of type 2 diabetes, particularly in people who are overweight. It is also used in the treatment of polycystic ovary syndrome.

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Phytochemical Evaluation and in-vitro Antioxidant Potential of Whole Plant of Hyptis suaveolens (AbstractView.aspx?PID=2021-14-1-74) (https://scholar.google.co.in/scholar?q=Phytochemical Evaluation and in-vitro Antioxidant Potential of Whole Plant of Hyptis suaveolens)

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ABSTRACT:
The present study was to investigate total phenol and flavonoid content, the antioxidant potential of various extracts of Hyptis suaveolens whole plant using various in vitro systems were quantified by colorimetric methods. The Chloroform extract exhibited potent antioxidant activity as determined by 2,2-diphenyl-1-picrylhydrazyl (DPPH), nitric oxide scavenging and ferric reducing antioxidant power assays (FRAP). The total phenolic content and flavonoid content of chloroform extract of plant was found to 86.16±0.877 and 64.66±1.201mg of GAE and Quercetin equivalents respectively.

Keywords: Hyptis suaveolens () Antioxidant activity () DPPH () Nitric oxide scavenging activity () FRAP. ()

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A Novel UPLC Method Development and Validation for the Estimation of Paracetamol and Chlormezanone in Dosage Form

Teja Sri Adla, Sandhya Mamindla • Published 21 May 2020 •
Chemistry, Medicine

TLDR A simple, rapid, specific, accurate and precise Ultra High-Performance Liquid Chromatographic (HPLC) method was developed for the estimation of paracetamol and chlormezanone in dosage forms and validated for linearity, accuracy, precision, specificity and sensitivity. Expand

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TLDR A simple, precise and rapid

Dual Wavelength Spectrophotometric method for the simultaneous determination of Paracetamol and Nabumetone in API and in tablet dosage form

C. K. Oza, R. Nijhawan, M. Pandya, A. Vyas, A. Patel

Chemistry, Medicine

TLDR The developed method was

Review Article

Impact of the ^{68}Ga Prostate-Specific Membrane Antigen (^{68}Ga-PSMA) PET/CT on the Management of Prostate Cancer

Surampalli Gurunath*, Shreeya Salunke and Sravan Komittishetty

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Abstract

This review discusses the efficiency and sensitivity of ^{68}Ga-labelled prostate-specific membrane antigen (PSMA) positron emission tomography (PET)/computed tomography (CT) imaging in comparison to other radiotracers and imaging techniques. It also conveys its impact on the treatment or management of prostate cancer patients. PSMA, observed in almost all prostate cancer cells, is used for staging and treatment, due to its high multiplication in this cancer when compared to normal tissues. PSMA PET/magnetic resonance imaging (MRI) has applications in the management of prostate cancer. Though PSMA PET/MRI has yielded preliminary results, it is still studied as an imaging biomarker for tumor responses. PSMA-PET/CT is known for its highly sensitive resolution, as it lights up only the parts harboring prostate cancer or tumor cells and not any other kind of lesion. Therefore, ^{68}Ga-PSMA-PET imaging is chosen over other variants of ^{68}Ga-PSMA-11, such as ^{177}Lu-PSMA or ^{225}Ac-PSMA, and it is used for its greater ability to detect metastatic sites in patients with biochemical recurrence and low serum prostate-specific antigens values. The efficacy of ^{68}Ga-PSMA PET/CT also allows for estimation of oligometastases, as it supports the design of therapeutic trials in measuring long-term effects in patients. Finally, ^{68}Ga-PSMA PET/CT is effective in identifying recurrence localization and, hence, permits the ability to choose the best therapeutic strategy as early as possible.

Introduction

Prostate cancer (PCa) holds the second position for most commonly occurring cancer and is a remarkable cause for the majority of death in men. According to research conducted in the UK, the incidence of PCa has increased by 44% since 1990.[1] Every year in Australia and the UK, death of men due to PCa (3,306 deaths in Australia; 12,032 deaths in the UK) is more than the death of women due to breast cancer (3,058 deaths in Australia; 11,371 deaths in the UK).[1,2] Twenty-sixty percent of patients treated for PCa fail primary therapy, and less than thirty percent of the patients having high-volume metastatic disease achieve 5-year survival.[3]

Imaging techniques like computed tomography (CT) or magnetic resonance imaging (MRI) are used for staging of cancer.[4] In non-metastatic cancer patients, about 30–35% patients treated by radical prostatectomy (RP) or radiotherapy (RT) have a rise in the prostate-specific antigens (PSA) levels and biochemical recurrence (BCR) in the years following treatment.[5] Increasing levels of PSA after RT or surgery indicate a higher risk of death in men. These high levels of PSA and the early PSA failure in patients indicates a greater need for ^{68}Ga-prostate-specific membrane antigen (PSMA) positron emission tomography (PET)/CT scanning.[6] Treatment or management strategies differ for each patient depending on their risk, which usually increases after therapies like hormonal therapy, RT, chemotherapy or sometimes a combination of all these therapies.[7]

PSMA is a glycoprotein present on the outer surface of prostate cells, hyper-regulated during metastatic conditions and castrate-resistant PCa (CRPC).[8] Though the exact functions of PSMA are yet to be defined, it is still used for staging and treatment due to its high multiplication in PCa.[8,9] Many other malignancies, namely breast cancer, colorectal carcinoma, follicular lymphoma, *etc.*, also express PSMA with ^{68}Ga-PSMA avidness. Highly expressed PSMA (type-II-transmembrane glycoprotein) is also observed in almost all PCa cells, except the 5–10% of PCa cells without PSMA expression.[9] In 2016, a study in Brazil estimated 61,200 new cases of PCa, which made it the second most prevailing neoplasia in men throughout the country and the third most common reason of death by cancer in men of Western countries.[10] This review discusses the

Keywords: Oligometastases; Metastatic sites; Nodal metastasis; Baseline staging.

Abbreviations: BCR, biochemical recurrence; CRPC, castration-resistant prostate cancer; CT, computed tomography; FCH, fluorocholine; FDG, fluorodeoxyglucose; MRI, magnetic resonance imaging; mp-MRI, multi-parametric magnetic resonance imaging; PCa, prostate cancer; PET, positron emission tomography; PSA, prostate-specific antigens; PSMA, prostate-specific membrane antigen; RLT, radioligand therapy; RP, radical prostatectomy; RT, radiotherapy.

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Fabrication and Characterization of Ketoprofen Nanoparticles by Double Emulsification-Solvent Evaporation Technique Using PLGA

IJPPR
HUMAN

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Keywords: Ketoprofen, Nanoparticles, Double Emulsification Solvent Evaporation (DESE), Poly D, L-Lactic-Co-Glycolic Acid (PLGA), Polyvinyl Alcohol (PVA)

ABSTRACT

Nanoparticles are a rapidly developing field of nanotechnology with numerous applications in drug delivery. The capacity to incorporate drugs into nanocarriers presents the latest model in drug delivery that could be used for drug targeting. Therefore, nanoparticles hold promise for the attainment of the goal of controlled, site-specific drug delivery and therefore have attracted the broad attention of researchers. The present study aimed to prepare nanoparticles containing ketoprofen. The purpose of nanoparticles in drug delivery is to attain higher intracellular uptake than free drugs. PLGA nanoparticles are biocompatible; they release the drug in a controlled manner and improve the stability of active substances able to reach target specific tissues. Because of its biodegradability and low systemic toxicity, the US Food and Drug Administration (FDA) approved PLGA to be used in the research of nanoparticle drug delivery systems. PLGA nanoparticles can be formulated using diverse methods, such as double emulsification solvent evaporation (DESE), solvent displacement or nanoprecipitation, solvent diffusion, and phase-inversion technique. In the present study, the nanoparticles were prepared using a double emulsification-solvent evaporation technique with ketoprofen, PLGA, and PVA. The double emulsification procedure is based on a combination of a volatile non-aqueous miscible solvent and an aqueous solution, which are emulsified together by applying high shear force. As the volatile solvent is evaporated nanoparticles are formed. DESE is a beneficial method for the preparation of nanoparticles, as it is nontoxic, rapid, and fabricates nanoparticles of a very small size. The *in-vitro* drug release profile of optimized was evaluated at the end and the release kinetics of the nanoparticles were determined. The entrapment efficiency and loading efficiency, particle size, polydispersity index, zeta potential, and cumulative percentage drug release of the best formulation were found to be 79.5±0.02%, 0.94mg/ml, 302±2.5 nm, 0.213±0.05, 5.38±0.53mV, and 98±0.04% respectively. Invitro drug release investigation showed sustained release of ketoprofen over 24 h. The drug release kinetics showed the finest fitted to the first-order rate model and Korsmeyer-Peppas model. The obtained results signify that ketoprofen can get entrapped in the nanoparticles with good physicochemical behavior.

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Articles

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Coronavirus Treatment: Newer Therapeutic Development of Covid-19 Drugs and Vaccines

01-Jul-2020 *Review* *2020 : July-September*

Arun Kumar Sanapala, Sunkara Namratha, Sunil Junapudi*

The new coronavirus (Covid-19) has infected more than 85,000 people in central China, spreading outbreaks in more than 201 countries, territories an USA, Iran, South Korea, Japan and now threatening to travel across the globe as a pandemic. Coronavirus is zoonotic, transmitted between animals and severe acute respiratory syndrome, kidney failure and even death may result from infection. 31,000 death cases have been reported around the world so While there is still no effective cure for the virus and the pneumonia it causes, according to the World Health Organization, there are more than 50 potentially worth trying. Clinical studies of a few medications such as remdesivir, favilavir, atazanavir, oseltamivir, chloroquine and lopinavir along wit in symptomatic treatment and recovery of Covid-19 patients. More trials for new drug development and complete eradication of this novel coronavirus (

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Original Article

Efficacy and Pattern of Antibiotic Usage Among Patients with Cirrhosis and/or Chronic Liver Disease in Telangana, India

Shibnath Kamila[1], Surampalli Gurunath[2*], Nimmagadda Srinivas[3], Sethu Babu[4], Giddalur Abhiman[1], Ravirala Ushasri[1], Syed Taha[1], Shreeya Salunke[2] and Sravan Komittishetty[2]

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Abstract

Background and objectives: The most common Gram-negative bacteria, such as enteric bacilli, *Escherichia coli* and *Klebsiella pneumoniae*, and Gram-positive bacteria, such as *Streptococcus* spp., are seen in patients suffering from cirrhosis and/or chronic liver diseases. The objective of this prospective observational study was to compare the efficacy and pattern of antibiotic use in patients with bacterial translocation.

Methods: This 10-month study was conducted at the Gastroenterology Department of the KIMS hospital, Telangana, India. The patients were more than 18 years of age (n = 60) and diagnosed with liver cirrhosis and/ or chronic liver diseases. All data was analyzed statistically, at a significance threshold of $p < 0.05$.

Results: Among the 60 patients, the Child-Pugh-Turcotte scores were A in 30%, B in 35% and C in 14%. White blood cell count was reduced from 12,620 ± 1,266 (before treatment) to 8,385 ± 944 (after treatment with antibiotics; $p < 0.05$). Serum glutamic pyruvic transaminase values were reduced from 360.1 ± 87.3 (before treatment) to 141.9 ± 37.9 (after treatment with antibiotics therapy ($p < 0.001$), whereas serum bilirubin values were reduced from 6.064 ± 0.91 (Before treatment) to 3.514 ± 0.44 (after treatment with antibiotics therapy; $p < 0.0001$). The mortality rate was 6.6 %, *i.e.* only 4 patients died post-treatment. It was also observed that meropenem was prescribed in the majority of cases and norfloxacin was the least prescribed of all antibiotics.

Conclusions: Our study suggests that antibiotic treatment might be effective for patients suffering with cirrhosis or chronic liver diseases with improved life expectancy.

Introduction

Liver diseases represent the second largest cause of mortality, with the prevalence of cirrhosis between 5% and 9% of the general USA population amongst all digestive diseases, as reported from autopsy studies. The worldwide estimate of mortality from cirrhosis ranked 14th and 10th for cause of death globally and among developed populations respectively, inflicting 771,000 patients.[1]

The definition of cirrhosis is stated as the histological outgrowth of regenerative nodules, with the growth of surrounding fibrous tissues being due to chronic injury to the liver causing end-stage liver disease and portal hypertension. The most common feature noticed in liver cirrhosis patients is the overgrowth of intestinal bacteria, predominantly in the small intestine. The complications associated with cirrhosis with ascites include spontaneous bacterial peritonitis (SBP), occurring via the translocation of gut flora into the mesenteric plexuses and the ascetic fluid contained within. The mortality rate surveyed over 2 years for cirrhosis patients with ascites was estimated to be 50%.[2,3] However, in patients with ascites, there will be 10–25% chance of developing SBP, with a sub-

Keywords: Bacterial translocation; Cirrhosis; Meropenem.

Abbreviations: SBP, spontaneous bacterial peritonitis; BT, bacterial translocation; AEA, appropriate empirical antibiotic; CLD, chronic liver disease; CPT, Child-Pugh-Turcotte; MELD, model for end-stage liver disease; WBC, white blood cell; SGPT, serum glutamic pyruvic transaminase levels.

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Formulation and Evaluation of Propranolol HCl Floating Tablets-A Gastro Ret

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Online published on 31 December, 2019.

The objective of present study was to develop a gastroretentive drug delivery system of propranolol hydrochloride. The biggest problem in o

Bioadhesive Floating Matrix, Propranolol Hcl, ACE, Gastroretentive drug delivery, Floting lag time.

Title

Reversed-phase high-performance liquid chromatography method development and validation of ilaprazole and domperidone in bulk and pharmaceutical dosage forms.

Authors

Namratha, Sunkara; Vijayalakshmi, A.

Abstract

Objective: A simple, accurate, and precise reversed-phase high-performance liquid chromatography (RP-HPLC) method was developed for the simultaneous estimation of the ilaprazole (ILA) and domperidone (DOM) in bulk and pharmaceutical dosage forms. Materials and Methods: Chromatogram was run through Zodiac Sil RP C18 (4.5 mm × 100 mm 3.0 µm) with a mobile phase consisting of 70:30 methanol:phosphate buffer at a flow rate of 1 ml/min. Detection was carried out at 240 nm. The developed method was validated in terms of accuracy, precision, linearity, limit of detection (LOD), limit of quantification (LOQ), and solution stability. Results: The retention time of ILA and DOM was found to be 2.170 min and 7.280 min, and percentage relative standard deviation of ILA and DOM was found to be 0.52% and 0.83%, respectively. The described method shows excellent linearity over a range of 16-80 ppm of ILA and 25-150 ppm of DOM. The correlation coefficient for ILA and DOM was 0.999 and 0.999, respectively. The LOD was found to be 2.17 and 0.0372 and the LOQ values were 6.60 and 0.112, respectively. Percentage assay was obtained as 99.1% and 98.2% for ILA and DOM, respectively. Conclusion: The results of this study showed that the proposed RP-HPLC method is simple, rapid, precise, and accurate which is useful for the routine determination of ILA and DOM bulk drug and in its pharmaceutical dosage form.

Subjects

INTERNATIONAL Longshoremen's Association; HIGH performance liquid chromatography; DOSAGE forms of drugs; HYDROCHLOROTHIAZIDE; ULTRAVIOLET spectrophotometry; DOMPERIDONE; RF values (Chromatography); CHROMATOGRAMS

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Research Articles

Formulation, Characterization and In-vitro Evaluation of Cetrizine HCL Oral Disintegrating Tablets

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Keywords: **Super disintegrates, Cetrizine hydrochloride, Sodium starch Glycolate, Crosscarmellose.**

ABSTRACT

The main objective of this work is to formulate and evaluate Cetirizine HCl MFDT's using different concentrations of superdisintegrants like croscarmellose sodium (CCS), sodium starch glycolate (SSG) and their combinations in different ratios. The in vitro disintegration time of Cetrizine Hcl prepared by direct compression method by super disintegrates were found to be in the range of 18 to 11sec fulfilling the official requirements. The bulk density and tapped bulk density for the entire formulation blend varied from 0.508 gm/cc to 0.5438 gm/cc and 0.5941 to 0.6408 respectively. The friability was found in all designed formulations in the range 0.42 to 0.74% to be well within the approved range (<1%). The weight variation was found in all designed formulation in the range 97 to 102 mg. The wetting time were found to be in the range of 11 to 18sec. Water absorption ratio for all the formulations found in the range 11 to 16%.combination of sodium starch glycolate and cross carmellose sodium (6% of 25%-ssg&75%ccs)) promotes dissolution rate of drug release when compared to formulation of SSG & CCS alone. It may be due to capillary and wicking mechanism of SSG & CCS.

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RP-HPLC METHOD DEVELOPMENT AND VALIDATION OF CEFTALAZONE AND TAZOBACTUM IN BULK AND IN ITS PHARMACEUTICAL DOSAGE FORMS

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ABSTRACT

A validated RP-HPLC method was developed for simultaneous estimation of Ceftalazone and Tazobactam in bulk and in its pharmaceutical dosage form. The current method is simple, precise, and accurate and can be used for the quantification in the regular quality control tests and in industries. The optimization of the method was done by using several combinations of mobile phases and different columns and finally the chromatograms showed good resolution, retention time, peak response and lowest noise base line ratio by using Acetonitrile and phosphate buffer of pH 4 at a ratio of 70:30%v/v at a wavelength of 234nm using UV detector for detection. The retention time of Ceftalazone and Tazobactum was found to be 2.42 & 4.42 at a flow rate of 1ml/min. The current method was validated for accuracy, % assay, precision, Linearity, LOD and LOQ. The % assay of Ceftalazone and Tazobactum was found to be 101.3% and 101.8%. The linearity shown by the drugs at a concentration range of 50-150ppm of Ceftalazone and 25-75 ppm of Tazobactum showing regression co-efficient of 0.999, respectively. The LOD of Ceftalazone & Tazobactum was found to be 1.46 and 4.45 and LOQ was found to be 0.47 and 1.42, respectively. The current newly developed method was validated as per the ICH guidelines.

Keywords *– RP-HPLC, Quantification, Zerbaxa injection, Acetonitrile, Phosphate buffer pH 4, Ceftalazone, Tazobactum.*

1. INTRODUCTION

Chromatography is a separation technique in which individual components gets separated from a mixture using a combination of stationary phase and mobile phase through equilibrium distribution between two phases. There are two types of modes of separation [1-5].

a. Normal phase: Polar stationary phase and Non- Polar mobile phase

b. Reverse phase: Polar mobile phase and Non-Polar stationary phase.

HPLC is a separation technique that can be used for the analysis of organic molecules and ions. It involves a solid stationary phase, normally packed inside a stainless-steel column, and a liquid mobile phase. Separation of components based on the differences in the relative distribution ratios of the solute between two phases [6].

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Design and study of anticaries effect of different medicinal plants against S.mutans glucosyltransferase

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PMID: 31375097 PMCID: PMC6679430 DOI: 10.1186/s12906-019-2608-3

Abstract

Background: The present study was aimed to evaluate the molecular level anticaries effect of different medicinal plants against Streptococcus mutans (S.mutans) glucosyltransferases (gtf).

Methods: A total of six natural sources named as Terminalia chebula (T.chebula), Psidium guajava (P.guajava), Azadirachta indica (A.indica) and Pongamia pinnata (P.pinnata); two essential oils, clove (Syzygium aromaticum) and peppermint oil (Mentha piperita) were selected as test samples. Hydroalcoholic plant extracts and essential oils were examined for their inhibitory potential on gtf isolated from S.mutans. Polyherbal mouth wash was prepared and its effect on gtf activity was compared with commercial chlorhexidine mouth wash (5%w/v). Enzyme kinetic study was carried out in order to explore the molecular mechanism of enzyme action.

Results: Out of six natural sources tested, A.indica has shown maximum inhibitory effect of 91.647% on gtf and T.chebula has shown IC_{50} of 1.091 mg/ml which is significant when compared to standard chlorhexidine. From the final result of kinetic analysis it was found that T.chebula, P.guajava and P.pinnata have show uncompetitive inhibition where as A.indica has shown non-competitive inhibition. Surprisingly, both essential oils have shown allosteric inhibition (sigmoidal response). The polyherbal moutwash has shown significant inhibitory potential on gtf (95.936%) when compared to commercial chlorhexidine mouthwash ($p < 0.05$).

Conclusion: All the tested samples have shown considerable gtf inhibitory action. Moreover polyherbal mouth wash has shown promising noncompetitive inhibitory activity against gtf and it could be the future formulation to combat dental caries.

Keywords: Anticaries agent; Azadirachta indica; Glucosyltransferase; Polyherbal mouth wash; S.mutans; Terminalia chebula.

Figures

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RP-HPLC METHOD DEVELOPMENT AND VALIDATION FOR ESTIMATION OF NELFINAVIR IN PURE FORM AND PHARMACEUTICAL DOSAGE FORM

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ABSTRACT

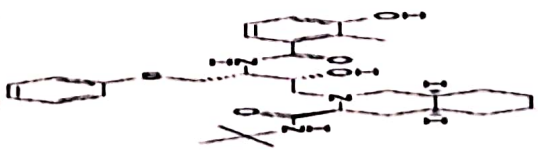
RP-HPLC method was developed for Nelfinavir in bulk and pharmaceutical dosage form with a maximum absorbance found to be at 240nm and peak purity was excellent. The method was developed by using mobile phase ACN: Methanol (60:40% v/v) at a flow rate of 1ml/min using Symmetry ODS C18 (4.6 x 150mm, 5µm)column. The following method has been validated as per the ICH guidelines. The method has been validated for Accuracy, Precision, Linearity, System suitability, Specificity, Robustness. The method showed linearity in a range of 10, 20, 30, 40 and 50 µg / ml. The accuracy for 50%, 100% and 125% was found to be 100.42%. the retention time is found to be 3.155 min. It is found that the method of RP-HPLC with UV-detection system for the analysis of Nelfinavir is straight forward and applied in qualitative and quantitative analysis. This method is simple, rapid, selective and inexpensive. The proposed method for estimation of selected drug Nelfinavir was successfully applied in pharmaceutical formulation.

KEYWORDS: RP-HPLC method was developed for Nelfinavir formulation.

INTRODUCTION

Nelfinavir is 3*S*,4a*S*,8a*S*)-*N*-*tert*-butyl-2-[(2*R*,3*R*)-2-hydroxy-3-[(3-hydroxy-2-methyl phenyl) formamido]-4-(phenylsulfanyl) butyl]-decahydroisoquinoline-3-carboxamide.

Structure of Nelfinavir



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Original Article

Antitumor and Antioxidant Effects of Flavonoid Fraction of *Citrus sinensis* peel Extract

Godishala Shirisha[1], Kiranmai Mandava*[2], Uma Rajeswari Batchu[2], Kesava Rao Thammana[2], Vijaya Laxmi Turpu[2]

ABSTRACT

Background: Cancer is one of the leading causes of death and globally the numbers of cases of cancer are increasing gradually. However, surgeries, chemotherapies have become safer, but these treatments have debilitating side effects. Flavonoids present in the human diet comprise many polyphenolic secondary metabolites with broad-spectrum pharmacological activities including their potential role as anti-cancer agents. **Objective:** The objective of the present study was to extract, orange peel flavonoids (Orange Peel Extract) and to screen anticancer potential of OPF. **Methods:** In the present study tryphan blue dye exclusion, clonogenic assay and nuclear damage studies by ethidium bromide staining were performed to estimate *in vitro* antitumor properties of Orange Peel Extract and subsequently *in vivo* studies also performed using the Dalton Lymphoma Ascites (DLA) tumor model in Swiss albino mice. **Results:** *In vitro* studies revealed the moderate toxicity, high regenerative capacity of Orange Peel Extract and also showed changes in nuclear morphology similar to that of apoptotic cells which is one of the important aspect of an anticancer drug. *In vivo* studies confirmed the anticancer activity of Orange Peel Extract and has increased the average life span of treated animals and restored the antioxidant enzyme levels and hematological parameters to normal which was comparable to that of standard methotrexate. **Conclusion:** Overall, these findings have proved that out of the two doses (50mg/kg bw and 200mg/kg bw) employed for the study lower dose (50mg/kg) was found to be more effective than higher dose (200mg/kg). Hence flavonoid fraction of orange peels can be the better alternative to treat cancer.

Key words: Dalton lymphoma ascites, Ethidium bromide, Methotrexate, Orange peel flavonoids, Tryphan blue.

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INTRODUCTION

Cancer is continuing to be one of the leading causes of death in developing and even in developed countries. It is a proliferative disorder which involves transformation, proliferation, angiogenesis, dysfunction of apoptosis, invasion and metastasis. Owing to the disease burden of cancer enormous therapies have designed for treatment. Conventional chemotherapy treatment could cause adverse and toxic side effects on normal cells during the course of treatment and fails to serve the ultimate purpose of curing cancer. In recent years, great attention has been paid to the discovery of anticancer bioactive compounds of natural origin due to their ability to produce a health benefit with negligible side effects. Cancer chemoprevention by use of natural or synthetic substances and its prevention through dietary intervention has become an important issue. Flavonoids have important effects on cancer chemoprevention and chemotherapy. Flavonoids are a group of about 4000 naturally polyphenolic compounds, found universally in plant origin. According to the differences in functional groups and their relative positions of the 15-carbon skeleton (aglycons), flavonoids are classified into several subgroups including the following: flavone, flavanone, flavonol, isoflavonoid, anthocyanidin and chalcones.[1] Flavonoids are widely present in the genus Citrus (family Rutaceae).[2] Many mechanisms of action of flavonoids have been identified, including carcinogen inactivation, antiproliferation, cell cycle arrest, induction of apoptosis and differentiation, inhibition of angiogenesis, antioxidation and reversal of multidrug resistance or a combination of these mechanisms.[3]

Fruits by-products such as seeds, peels, stems, barks and leaves usually been thrown into an environment which causes serious disposal problem in food and agriculture industries. Therefore, extensive researches have been carried out worldwide in order to minimize the above stated problem. *Citrus sinensis* (Orange, Rutaceae) fruit peels are beneficial to human health. Orange peels have been used in food, drug and cosmetic products. However, the overall demand of orange peels is of insignificant as applications have not been widely explored and recognized. The major constituents of orange peels include flavonoids such as polymethoxy flavonoids; terpenoids, such as limenene and linalool. These

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Abstract

IN-VITRO EVALUATION OF ANTHELMINTIC ACTIVITY OF ETHANOLIC EXTRACT OF ALTERNANTHERA SESSILIS LINN

Mrinmay Das* and Yadgiri Phalguna

ABSTRACT

Alternanthera sessilis Linn. ('Joyweed'), a member of Amaranthaceae family is a weed and occurs in both wetlands and uplands on variety of soil types. Alternanthera sessilis is a popular leafy vegetable in Sri Lanka and also used as traditional medicine in China, India and Sri Lanka. The herb has been reported to be used as galactogogue, cholagogue, febrifuge and indigestion. The present study was aimed to investigation of the anthelmintic potential of crude ethanolic extract of Alternanthera sessilis Linn. on Indian earth-worm (Pheretima posthuma). Three concentrations (25, 50, 100 mg/ml) of each extract were studied in activity which involved the determination of time of paralysis (vermifuge) and time of death (vermicidal) of the worms. Albendazole in 25mg/ml concentration was included as standard reference and normal saline with 1% CMC as control. The ethanolic extracts exhibited significant anthelmintic activity at a concentration of 100 mg/ml. The present investigation confirms that, the ethno-medicinal claim of anthelmintic activity of this plant is genuine.

Insights in Biotechnology and Bioinformatics

Research Article

Anti-Atherosclerotic Activity of Polygonum Glabrum against High-Fat Diet Induced Atherosclerosis in Rats

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Abstract

Objective: Purpose of the current study was to assess the anti-atherosclerotic activity of Ethanolic Extract of Polygonum Glabrum (EEPG) against high-fat diet induced atherosclerotic changes in male wistar rats.

Procedure: The Procedure used for induction of atherosclerosis was high-fat diet for 28 days. Rats were divided into five groups (n=6). Group I served as normal. Group II serves as high-fat diet-treated group. Group III serves as standard treated with high-fat diet + Orilstat (50 mg/kg, PO). Group IV serves as low dose treated with high-fat diet + EEPG (200 mg/kg, PO). Group V serves as high dose treated with high-fat diet + EEPG (400 mg/kg, PO). The following parameters, High-Density Lipoprotein (HDL), Low-Density Lipoprotein (LDL), Total Cholesterol (TC), Very LDL (VLDL), Triglycerides (TG), Atherogenic Index (AI), Serum Glutamic Oxaloacetic Transaminase (SGOT), Serum Glutamic Pyruvic Transaminase (SGPT), Alkaline Phosphate (ALP) and body weight, were evaluated. Additionally oxidative stress parameters such as levels of Malondialdehyde (MDA), Reduced Glutathione (GSH) and activity of Superoxide Dismutase (SOD) and Catalase (CAT) and histopathological studies were performed.

Results: The results showed that EEPG at a dose of 200 mg/kg and 400 mg/kg exhibited significant decrease in, TG, TC, LDL-cholesterol (LDL-C), VLDL, AI, SGPT, SGOT, ALP and increase in HDL-Cholesterol, when compared to high-fat diet group. As well as significant decrease in, MDA content and increase in GSH, SOD and CAT activity when compared to high-fat diet group. Histopathological results are in accompaniment to above observations.

Conclusion: The experimental studies show that the EEPG both doses 200 mg/kg and 400 mg/kg, showed significant reduction in lipid profile and liver function parameters, improvement in pro oxidant: anti oxidant ratio and elevation in HDL Cholesterol. From the scientific study, it concluded that the plant extract showed anti-atherosclerotic activity and thus authenticates its traditional use in prescribed conditions of atherosclerosis.

Keywords: Atherosclerosis; Atorvastatin; High fat diet; Polygonum glabrum

Introduction

As per World Health Organization, Cardiovascular Diseases have been listed first among the major causes of worldwide for, mortality over 15 years. WHO data also indicate that in 2011, approximately 17.3 million people died worldwide as a result of CVD, most of which (80%) recorded in westernized countries. An alarming statistic indicates that this number could reach 23.6 million in 2030, if effective interventions will not have been proposed [1]. Among the main underlying causes of CVD development is atherosclerosis. The term, from Greek origin, consists in two parts: atherosis, characterized by fat accumulation accompanied by macrophages; and sclerosis, featured by fibrosis layer comprising smooth muscle cells, connective tissue and leukocyte [2].

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Atherosclerosis is a multifactorial, slow and progressive disease, endpoint of a series of highly specific molecular and cellular reactions in response to endothelial aggression that results in formation of atherosclerotic plaques in the blood vessels, affecting mainly the intima of medium and large-caliber arteries [2-4]. The incidence of atherosclerosis increases exponentially in adults over 45 years and is considered a non-modifiable disorder, although some studies have found atherosclerotic plaques in young adults, suggesting that this disorder can also occur earlier [5-12]. However, actually it is established that atherosclerosis is not a simple and inevitable degenerative consequence of aging, but an inflammatory condition that can be converted into a clinical and acute event caused by the rupture of the plaque and thrombus formation [13].

Antioxidant Function For many years it is known that natural products, especially those rich in polyphenol compounds show significant antioxidant properties. As for the genesis of atherosclerotic disease, cholesterol oxidation is a limiting step, it is to be expected that different metabolites present in natural products can play significant vasoprotective effects.

The main natural products antioxidant mechanisms of action are through ROS concentration decreasing or production blocking and lipid chain oxidation inhibiting [14]. Antioxidant protection is linked to reduction of lipoproteins oxidative change and lipid peroxidation prevention, since it is considered an atherosclerosis key event. The most antioxidants effects of natural products are attributed to phenolic compounds and their moderate consumption have additional benefits

INTERNATIONAL RESEARCH JOURNAL OF PHARMACY (IRJP)

PHYTOCHEMICAL EVALUATION AND IN-VITRO ANTIOXIDANT POTENTIAL OF WHOLE PLANT OF TANACETUM PARTHENIUM (L)

Deepthi Yada

Sivakkumar T.

Srinivas Nimmagadda

Keywords: Tanacetum parthenium, Antioxidant activity, DPPH, Nitric oxide scavenging activity, FRAP

ABSTRACT

In the current scenario, exploration is aimed at scrutinizing the phytochemicals for total phenol content, total Flavonoid estimation, antioxidant potentials obtained from natural origin. The study was focused on evaluation of antioxidant potential of various extracts of *Tanacetum parthenium* whole plant based on polarity. The total phenolic content and flavonoid content of Ethanolic extract of plant was found to be 32.91 ± 0.629 mg and 67.55 ± 1.170 mg of GAE and Quercetin equivalents respectively. Different *in-vitro* assays such as 2-2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging method, Nitric oxide scavenging activity and reducing power estimation were studied for the various plant extracts and measured spectroscopically. The Ethanolic extract of plant showed the highest antioxidant activity as measured by DPPH, nitric oxide scavenging activity with IC50 values of 197.543 ± 0.659 and 266.449 ± 0.761 respectively. A strong correlation was observed between antioxidant capacities and their total phenolic content indicated that phenolic compounds were a major contributor to antioxidant properties of plant extract. These results suggest that the Ethanolic extract of *Tanacetum parthenium* can constitute a promising new source of natural compounds with antioxidants ability.

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TOPIRAMATE INDUCED STEVENS-JOHNSONS SYNDROME (SJS) -A CASE REPORT

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Abstract

SJS is a relatively uncommon but potentially life-threatening cutaneous reaction that is most often drug-induced. Topiramate is an oral anticonvulsant, weak carbonic anhydrase inhibitor. A serious dermatologic side effect of topiramate is SJS observed in this case and very few cases has been published in the literature, other severe cutaneous reactions, exfoliative dermatitis have been well documented with topiramate use. This case report describes topiramate-induced SJS in a 24-year-old female patient from India. The patient came to the hospital with a complained of fever (101°F) of moderate grade with a burning sensation in the throat, swelling of both eyelids, erythematous rash on face, trunk and other parts of the body. The medical history revealed that she was apparently normal until one month ago, then she developed a headache since one-month duration, diagnosed as migraine and treated with topiramate (25 mg) and naproxen (500 mg) tablets. It was suspected one of the latrogenic type-SJS might be induced by topiramate and was discontinued. After discontinuing topiramate, supportive care and treatment for SJS minimizing the skin lesion and gradually improve the clinical condition. The Naranjo adverse drug reaction causality assessment scale, obtained a score of 6, was calculated indicating that Stevens-Johnson syndrome (SJS) was probably associated with the use of topiramate.

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Nephroprotective and Antioxidant Potential of Ethanolic Extract of Flowers of Cassia Siamea against Gentamicin Induced Nephrotoxicity

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Go to

Abstract

To investigate the nephroprotective and antioxidant activity of Ethanolic extract of Cassia Siamea (EECS) against Gentamicin (100 mg/kg, p.o. for 7 days) induced kidney damage in rats. Rats were pretreated with EECS (250 and 500 mg/kg, p.o) 30 min prior to Gentamicin ingestion for seven days. The extent of defense was measured using levels of serum enzymes like creatinine, uric acid and blood urea nitrogen (BUN). Additionally, oxidative stress parameters such as levels of Malondialdehyde (MDA), reduced glutathione (GSH) and activity of superoxide dismutase (SOD) and catalase (CAT) along with histological evaluation of kidney sections was carried out to shore up the induction of kidney scratch and nephroprotective potential. The substantially elevated kidney weight and serum enzyme levels of creatinine, uric acid and BUN. Oxidative stress parameters MDA, GSH levels and SOD, CAT activities were found to be restored towards normalization by EECS comparable with silymarin standard. Pathological changes were in same road supports finding of biochemical evidences of nephroprotection. The total phenolic content and the total flavonoid content of the extract were 21.55 ± 2.54 mg catechol equivalent/g and 24.50 ± 2.00 mg quercetin equivalent/g respectively. EECS possess an extremely hopeful antioxidant and nephroprotective potential against Gentamicin induced kidney damage.

Keywords: Antioxidant; Gentamicin; Kidney; Nephroprotective; Oxidative Stress; Silymarin

Go to

Introduction

Kidney crash is a medical event in which the kidneys fall short to adequately filter toxins and waste products from the blood. There are two forms one is acute and other is chronic; a number of other diseases or health problems may cause either form of renal failure to occur. Chronic kidney disease attacks the kidneys slowly and progressively over a period of time. It can take years for the harm to these organs to be noticeable because there are no symptoms, which is why the disease is often called the "silent killer" [1].

Nephrotoxicity is caused by class of drugs or xenobiotics like anticancer drug cisplatin and amino glycoside antibiotics are the chief culprit for approximately 20-40% of all acute renal failure cases in intensive care units [2]. Gentamicin is widely used aminoglycoside antibiotics against gram-negative bacteria infections [3]. About 30-35% of the patients, undergone gentamicin treatment for more than seven days, shows signs and symptoms of kidney toxicity [4]. The cellular and molecular mechanism/s of Gentamicin-induced nephrotoxicity is not clearly understood. However Reactive oxygen species (ROS) have important role in pathological mechanisms of Gentamicin- induced acute renal failure. Production as well as amassing of ROS resulted in induction of apoptosis, tubular necrosis and increased infiltration of leukocyte [5]. This Gentamicin-induced acute renal failure is clinically characterized by an increase in serum creatinine and uric acid levels and urea nitrogen, a reduction in the glomerular filtration rate (GFR) and urine osmolality [6].

There are many natural products such as plant and traditional herbal formulation available for the protective effect on kidney against damage induced by toxin and drugs. More than 600 commercial herbal products with claimed nephroprotective role are being sold in all over the world. Around 170 phytoconstituents isolated from 110 plants belonging to 55 families have been reported to show nephroprotective role. However, only a small proportion of nephroprotective plants as well as formulations used in traditional medicine are pharmacologically evaluated for their safety and efficacy [7-8].

Renal involvement has also been involved in many cardiovascular diseases, such as diabetes mellitus and regarding the im pact of kidney lesions in diabetic nephropathy [9]. In addition, it is becoming highly risk factor to use synthetic drug because of their adverse drug reaction, toxicity and drug-drug interact. Therefore, scientists are fascinated for new herbal molecule with good safety and effective profile. Researches in their previous reports reported that plants possessing polyphenolic compounds, flavonoids and tannins are useful as antioxidants and further it acts as organ protectant [10]. Cassia siamea (family: bignoniaceae) commonly known as African tulip tree. Cassia siamea is useful as a diuretic, anti-inflammatory, antimalarial, anti-HIV and diabetic. The plant possesses quercetin caffeic acids, oleanolic acid, steroids, polyphones, flavonoids, tannins and cardiac glycosides. Herbs are reported to contain phenolic compounds these phenolic components are known as antioxidants. Keeping this in mind Present study was designed to evaluate the antiox- idant, and nephroprotective activity of Ethanolic extract of flowers of Cassia siamea [11-12].

Go to

Experimental Procedures

Plant Material (Plant Material)

Flowers of Cassia siamea used were collected from Chitoor district of Andhra pradesh. The plant was taxonomically identified and authenticated by Dr. Madhav shetty, Department of Botany, Sri Venkateswara University, Tirupathi where the voucher specimen for the same is conserved under the reference number MB-01.

Analytical Method Development and Validation for the Simultaneous Estimation of Sumatriptan and Naproxen by RP-HPLC Method

Author(s): Maddi Phanisri*, H Padmalatha, Kandula Thanuja and Sunkara Namratha

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

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Formulation, Characterization and *In-Vitro* Evaluation of Fa Oral Films of Cetirizine HCl

Y. Phalguna*[1], Haritha Pasupulati[1], Sandhya Rudra[2]

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ABSTRACT

The predominant goal of this work is to formulate and evaluate Cetirizine HCl ODF's the usage of Sod superdisintegrant, Sodium alginate as polymer and Glycerol as plasticizer. Films were prepared by way of Solver for thickness, folding endurance, percentage elongation, floor pH and disintegration time. The consequences with 17.5% combo of polymer and plasticizer was determined to be optimized. The three special formulatior pictures were organized via solvent casting technique the usage of sodium alginate as polymer, SSG as disinteg Menthol was once used as cooling agent along with aspartame as sweetener and citric acid as a style overlayi with presence of superdisintegrant and combo of polymer, plasticizer confirmed first-rate results.

Keywords: Cetirizine HCl, Oral thin film, superdisintegrant, polymer, plasticizer

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INTRODUCTION

Fast dissolving oral motion pictures (FDOFs) are the most advanced structure of oral solid dosage shape due to more flexibility and comfort. It improves the efficacy OF APIs with the aid of dissolving inside minute in oral cavity after the contact with saliva besides chewing and no want of water for administration[1]. It gives speedy absorption and on the spot of application. It then hastily di release the medicinal drug for with formula modifications, dissolving aspects permit for ga be achieved when swallowed. Tl of an outermost layer of strat Below this lies a basement m accompanied via the submucosa

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ORAL DISINTEGRATING TABLETS(ODTS): A REVIEW

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ABSTRACT
Recently ODT terminology has been approved by United States Pharmacopoeia, British Pharmacopoeia, and Centre for Drug Evaluation and Research (CDER). US FDA defined ODT tablets as "A solid dosage form containing medicinal substances which disintegrates rapidly usually within a matter of seconds, when placed upon the tongue. The newest generation of ODTs can produce more robust, versatile tablets that overcome some of the limitations of earlier ODTs. The performance of ODTs depends on the manufacturing technology and the most necessary property of such a dosage form is the ability of rapidly disintegrating and dispersing or dissolving in the saliva, thereby obviating the need for water intake. Disintegrates are substances or mixture of substances added the drug to the formulation that facilitates the breakup or disintegration of tablets or capsule content into smaller particles that dissolve more rapidly than in the absence of disintegrates. Examples of superdisintegrants are croscarmellose, crosspovidone, sodium starch glycolate which represent example of cross linked cellulose.

KEYWORDS: Orally disintegrating tablets, super disintegrates, Drug delivery systems.

INTRODUCTION

Drug delivery systems (DDS) are a strategic tool for expanding markets/indications, extending product life cycles and generating opportunities. DDS has made a significant contribution to global pharmaceutical sales through market segmentation, and are moving rapidly. Orally disintegrating tablets (ODT) are oral solid dosage forms that disintegrate in the oral cavity in easy swallow residue. Orally disintegrating tablets are also known as "Mouth dissolving tablets", "Orodispersible tablets", "Melt- in-mouth Fast dissolving drug delivery, Rapimelts tablets, Porous tablets, Quick dissolving tablets"[2] etc.

Recently ODT terminology has been approved by United States Pharmacopoeia, British Pharmacopoeia, and Centre for Drug Evaluation and Research (CDER). US FDA defined ODT tablets as "A solid dosage form containing medicinal substances which disintegrates rapidly usually within a matter of seconds, when placed upon the tongue". European pharmacopoeia also adopted the term Orally disintegrating tablet as a tablet that is to be placed in the mouth where it disperses, rapidly before swallowing despite various terminologies used. Recently, ODT have started gaining popularity and acceptance as new drug delivery systems, because they are easy to administer and lead to better patient compliance especially in elderly and children. In order to allow fast dissolving tablets to dissolve in the mouth, they are made of either very porous or soft molded matrices or compressed into tablets with very low compression force, which makes the tablets friable and/or brittle, which are difficult to handle, often requiring specialized peel-off blister packaging.[3-6]

Along with the rapid market growth of ODT products, the technologies, too, have advanced considerably over the years. The newest generation of ODTs can produce more robust, versatile tablets that overcome some of the limitations of earlier ODTs. Companies such as Eurand can produce pleasant tasting tablets, overcoming the common problem of poor drug taste compromising the benefits of an ODT. In addition, some companies is developing controlled release ODTs, significantly broadening the applications of this dosage form. A key reason that companies choose an ODT over other delivery technologies is that it is a relatively easy and often less risky delivery option to develop. Since the route of administration remains the same, ODTs that are formulated as bioequivalent line extensions or generic versions of an existing oral dosage form have minimal clinical requirements to gain approval.[7]

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Research Article

FORMULATION, CHARACTERIZATION AND INVITRO EVALUATION OF ISONIAZID MICROSPHERES

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ABSTRACT

The aim of present work is to investigate the possibility of obtaining a prolonged, relatively constant effect of isoniazid microspheres by using HPMC and egg albumin as carriers. The present study was aimed to develop and evaluate microspheres of isoniazid (INH) in different drug to polymer ratios using emulsification heat stabilization method. In-vitro drug release studies were performed using the shaking flask method. FTIR studies showed that there was no chemical interaction between the drug and polymers. Scanning electron microscopy showed the microspheres having a spherical structure. Prepared microspheres were characterized for particle size, zeta potential and in-vitro drug release studies. Microspheres showed the particle size of about 70% was in size range of 178.1 nm and zeta potential found to be -49.2 mV. Formulation INH3 showed prolongs drug release. In the present study a satisfactory attempt was made to develop micro particulate drug delivery system of INH with improved bioavailability, efficient targeting and dose reduction.

KEYWORDS: *Microspheres, Isoniazid, Zetapotential, Particle size Analysis, Shaking flask method.*

INTRODUCTION

Oral route drug administration is by far the most preferable route for taking medications. However, their short circulating half-life and restricted absorption via a defined segment of intestine limits the therapeutic potential of many drugs. Such a pharmacokinetic limitation leads in many cases to frequent dosing of medication to achieve therapeutic effect. Rational approach to enhance bioavailability and improve pharmacokinetic and pharmacodynamics profile is to release the drug in a controlled manner and site specific manner. Microspheres are small spherical particles, with diameters 1 µm to 1000 µm [1]. They are spherical free flowing particles consisting of proteins or synthetic polymers which are biodegradable in nature. There are two types of microspheres; microcapsules and micrometrics, which are described as, Microcapsules are those in which entrapped substance is distinctly surrounded by distinct capsule wall. and micrometrics in which entrapped substance is dispersed throughout the matrix. Microspheres are sometimes referred to as microparticles [2]. Microspheres can be manufactured from various natural and synthetic materials. Microsphere plays an important role to improve bioavailability of conventional drugs and minimizing side effects [3].

Isoniazid is Anti tubercular agent, fatty acid synthesis inhibitor. It containing pyridine ring bearing a carboxylic acid group [4]. The plasma half life of INH in patients with normal renal and hepatic function ranges from 1-6 hours [5] depending on the metabolism from 50% to 70% of a dose of isoniazid is excreted in urine within 24 hours, mostly as metabolites [6].

MATERIALS AND METHODS

INH& HPMC was purchased from Labo chem., Pune. India. Di-sodium hydrogen phosphate, potassium dihydrogen phosphate, acetone, diethyl ether, tween-80 and span-80 were obtained as a gift sample from A.R. Loba Chemical Pvt. Ltd. Mumbai. All other chemicals used were of L.R. grade.

Preparation of micro-spheres of Isoniazid by emulsification heat stabilizing method:

300mg of isoniazid (INH) and polymer (HPMC) were dissolved in 20 ml of deionised water and added 5ml of egg albumin solution, 0.1% of Tween 80, stirring it for 30 min. The prepared solute on was used as aqueous phase. The oil phase was prepared by mixing 20 ml of sunflower oil and 5ml of diethyl ether with 1% span80 (as emulsifier) and stirred it for 20 mins at 8001000rpm on magnetic stirrer [7].

The primary emulsion was prepared by adding the oil phase drop wise to the aqueous phase stirred it for 30 mins at 800to1000 rpm.The prepared primary emulsion was added to preheated (65 to 70oC) sunflower oil (80 ml) by using 21 No. needle and stirred it 100to1200 rpm for 2 hrs till the Solidification of microspheres formed. The suspension was then

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Nephroprotective Potential of Ethanolic Extract of Barks of Tricholepis Glaberrima Against Gentamicin Induced Nephrotoxicity

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Abstract

To scrutinize the nephroprotective potential of Ethanolic Extract of Tricholepis Glaberrima (EETG) against Gentamicin (100mg/kg, i.p. 7 days) induced kidney damage in rats. All rats were pre-treated with EETG (200 & 400mg/kg, p.o) 30min prior to Gentamicin administration for consecutive 7 days. After the last dosing of seventh day after 24 h Serum was analyzed for biochemical parameters. There was no morbidity and mortality observed throughout the study. EETG was found not toxic to the experimental animals up to the dose of 4g/kg. The degree of protection was deliberate using levels of serum enzymes like creatinine, uric acid and Blood Urea Nitrogen (BUN). Protection on Liver can be measured by Liver Function Test Parameters such (LFTs); as Serum Glutamate Oxaloacetate Transaminase (SGOT); Serum Glutamate Pyruvate Transaminase (SGPT) and Alkaline Phosphatase (ALP); Oxidative stress parameters such as levels of Malondialdehyde (MDA); reduced glutathione (GSH); Superoxide Dismutase (SOD); Catalase (CAT) along with histological evaluation of kidney sections as a supplementary data for induction of kidney scratch and nephroprotective potential. The substantially elevated physical parameters such as kidney weight and biochemical parameters; serum enzyme levels of creatinine, uric acid and BUN as well as LFTs parameters in Gentamicin treated animals were observed as compared to control. Oxidative stress parameters MDA, GSH levels and SOD; CAT activities and all above biochemical parameters were found to be restored towards normalization by EETG comparable with silymarin standard. Pathological changes were in same line to supports finding of biochemical evidences of nephroprotection. EETG possess a remarkable nephroprotective potential against Gentamicin induced kidney damage as evidenced by physical, biochemical and histological observation.

Keywords: Antioxidant; Gentamicin; Kidney; Liver; Nephroprotective; Oxidative stress; Silymarin

Abbreviations: BUN: Blood Urea Nitrogen; SGOT: Serum Glutamate Oxaloacetate Transaminase; SGPT; Serum Glutamate Pyruvate Transaminase; ALP: Alkaline Phosphatase; MDA: Malondialdehyde; GSH : Reduced Glutathione; SOD: Superoxide Dismutase; RO: Reactive Oxygen species; IAEC: Institutional Animal Ethics Committee; EETG: Ethanolic Extract Of Tricholepis Glaberrima; GFR :Glomerular Filtration Rate; LFTs : Liver Function Test; DMCT : Dunnett's Multiple Comparison Test; ROS: Reactive Oxygen Species ; GFR: Glomerular Filtration Rate ; SGOT: Serum Glutamate Pyruvate Transaminase

Go to

Introduction (Introduction)

Kidney crash is a medical event in which the kidneys fall short to adequately filter toxins and waste products from the blood. There are two forms one is acute and other is chronic; a number of other diseases or health problems may cause either form of renal failure to occur. Chronic kidney disease attacks the kidneys slowly and progressively over a period of time. It can take years for the harm to these organs to be noticeable because there are no symptoms, which is why the disease is often called the "silent killer" [1].Nephrotoxicity is caused by class of drugs or xenobiotics like anticancer drug cisplatin and amino glycoside antibiotics are the chief culprit for approximately 20-40% of all acute renal failure cases in intensive care units [2]. Gentamicin is widely used aminoglycoside antibiotics against gram-negative bacteria infections [3]. About 30-35% of the patients, undergone gentamicin treatment for more than seven days, shows signs and symptoms of kidney toxicity [4]. The cellular and molecular mechanism/s of Gentamicin-induced nephrotoxicity is not clearly understood. However Reactive oxygen species (ROS) have important role in pathological mechanisms of Gentamicin-induced acute renal failure. Production as well as amassing of ROS resulted in induction of apoptosis, tubular necrosis and increased infiltration of leukocyte [5]. This Gentamicin-induced acute renal failure is clinically characterized by an increase in serum creatinine and uric acid levels and urea nitrogen, a reduction in the glomerular filtration rate (GFR) and urine osmolality [6]. There are many natural products such as plant and traditional herbal formulation available for the protective effect on kidney against damage induced by toxin and drugs. More than 600 commercial herbal products with claimed nephroprotective role are being sold in all over the world. Around 170 phytoconstituents isolated from 110 plants belonging to 55 families have been reported to show nephroprotective role. However, only a small proportion of nephroprotective plants as well as formulations used in traditional medicine are pharmacologically evaluated for their safety and efficacy [7-8]. Renal involvement has also been involved in many cardiovascular diseases, such as diabetes mellitus and regarding the impact of kidney lesions in diabetic nephropathy [9]. In addition, it is becoming highly risk factor to use synthetic drug because of their adverse drug reaction, toxicity and drug-drug interact. Therefore, scientists are fascinated for new herbal molecule with good safety and effective profile. Researches in their previous reports reported that plants possessing polyphenolic compounds, flavonoids and tannins are useful as antioxidants and further it acts as organ protectant [10]. Keeping this consideration in view, we found a medium sized tree, namely Tricholepis Glaberrima of family Asteraceae commonly known as "Brahmadanda", which is planted in gardens and avenues, and reported to be useful as diuretic, anti-inflammatory, antedate, enemas, antisecretolytic, antiparasitic, antimalarial, anti-HIV and diabetic. It is further reported that the plant is useful in the treatment of kidney diseases, herpes, stomachache, urethral inflammations and fungal skin diseases. The literature survey of this plant revealed that this plant possesses quercetin caffeic acids, oleanolic aced, steroids, polyphones, flavonoids, tannins and cardiac glycosides. Herbs are reported to contain phenolic compounds these phenolic components are known as antioxidants, are reported to have organ protective properties [11-12]. Hence in our scientific study an effort was made find out nephroprotective potential of Ethanolic extract of bark of *Tricholepis Glaberrima* against Gentamicin induced nephrotoxicity in rat.

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Efficacy and Pattern of Antibiotic Usage Among Patients with Cirrhosis and/or Chronic Liver Disease in Telangana, India

Exploratory Research and Hypothesis in Medicine

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Citations (1) References (31) Figures (4)

Abstract and Figures

Background and objectives The most common Gram-negative bacteria, such as enteric bacilli, Escherichia coli and Klebsiella pneumoniae, and Gram-positive bacteria, such as Streptococcus spp., are seen in patients suffering from cirrhosis and/or chronic liver diseases. The objective of this prospective observational study was to compare the efficacy and pattern of antibiotic use in patients with bacterial translocation. Methods This 10-month study was conducted at the Gastroenterology Department of the KIMS hospital, Telangana, India. The patients were more than 18 years of age (n = 60) and diagnosed with liver cirrhosis and/ or chronic liver diseases. All data was analyzed statistically, at a significance threshold of $p < 0.05$. Results Among the 60 patients, the Child-Pugh-Turcotte scores were A in 30%, B in 35% and C in 14%. White blood cell count was reduced from 12,620 ± 1,266 (before treatment) to 8,385 ± 944 (after treatment with antibiotics; $p < 0.05$). Serum glutamic pyruvic transaminase values were reduced from 360.1 ± 87.3 (before treatment) to 141.9 ± 37.9 (after treatment with antibiotics therapy ($p < 0.001$), whereas serum bilirubin values were reduced from 6.064 ± 0.91 (Before treatment) to 3.514 ± 0.44 (after treatment with antibiotics therapy; $p < 0.0001$). The mortality rate was 6.6 %, i.e. only 4 patients died post-treatment. It was also observed that meropenem was prescribed in the majority of cases and norfloxacin was the least prescribed of all antibiotics. Conclusions Our study suggests that antibiotic treatment might be effective for patients suffering with cirrhosis or chronic liver diseases with improved life expectancy.

Depiction of changed levels ... | Analysis of class A, B, and C... | Pattern and types of antibiotics... | Baseline characteristics...

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Abstract

IN-VITRO EVALUATION OF ANTHELMINTIC ACTIVITY OF ETHANOLIC EXTRACT OF ALTERNANTHERA SESSILIS LINN

Mrinmay Das* and Yadgiri Phalguna

ABSTRACT

Alternanthera sessilis Linn. ('Joyweed'), a member of Amaranthaceae family is a weed and occurs in both wetlands and uplands on variety of soil types. Alternanthera sessilis is a popular leafy vegetable in Sri Lanka and also used as traditional medicine in China, India and Sri Lanka. The herb has been reported to be used as galactogogue, cholagogue, febrifuge and indigestion. The present study was aimed to investigation of the anthelmintic potential of crude ethanolic extract of Alternanthera sessilis Linn. on Indian earth-worm (Pheretima posthuma). Three concentrations (25, 50, 100 mg/ml) of each extract were studied in activity which involved the determination of time of paralysis (vermifuge) and time of death (vermicidal) of the worms. Albendazole in 25mg/ml concentration was included as standard reference and normal saline with 1% CMC as control. The ethanolic extracts exhibited significant anthelmintic activity at a concentration of 100 mg/ml. The present investigation confirms that, the ethno-medicinal claim of anthelmintic activity of this plant is genuine.

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Research Article

METHOD DEVELOPMENT AND VALIDATION OF LOPINAVIR IN TABLET DOSAGE FORM USING REVERSED-PHASE HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY

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ABSTRACT

Objective: Reversed-phase high-performance liquid chromatographic method (RP-HPLC) was developed for the assessment of lopinavir in the dosage form of tablet.

Methods: Chromatogram was run through using Kromosil C_{18} 4.5×150 mm using a mobile phase methanol: water of ratio 65:35% v/v with a rate of flow of 0.8 ml/min, measured by UV spectrometric detection at 265 nm. The method developed was validated in terms of precision, accuracy, linearity, and robustness parameters.

Results: Retention time of lopinavir established at 2.482 min and percentage R.S.D of lopinavir found to be 1.0% and 0.5%, respectively. The method shows that good linearity range of 30–150 µg correlation coefficient of lopinavir was 0.997. The limit of detection was 2.97 and limit of quantification was 9.92, respectively. The percent purity of lopinavir was 99.87%.

Conclusion: The suggested method (Rp-HPLC) for concurrent assay lopinavir was validated, which is appropriate method for the analysis of lopinavir quantitatively in tablet dosage forms and bulk.

Key words: Validation, Method development, Lopinavir, Reversed-phase high-performance liquid chromatography.

 DOI: http://dx.doi.org/10.22159/ajpcr.2018.v11s4.31715

INTRODUCTION

The selected drug lopinavir is a white to light (tan) powder, in water practically insoluble, but in methanol, it is freely soluble [1]. It is an anti-HIV, anti-infective, and antiretroviral agents [2]. Lopinavir inhibits the HIV viral protease enzyme. Detailed literature survey for the lopinavir determination in formulations and bulk drug revealed several methods that have been reported for the assay of it either alone or in combined dosage forms such as high-performance liquid chromatography (HPLC) [3-11] and UV spectrophotometric methods [12-17].

The development and validation of an analytical method is to ensure a specific, accurate, and precise method for a particular drug with an objective to enhance the conditions and parameters. From the literature survey that the reversed-phase HPLC (RP-HPLC) methods were not reported in the estimation of lopinavir. Thus, the present research paper describes the assessment of lopinavir by RP-HPLC method in tablet dosage form.

MATERIALS AND METHODS

Materials and instrumentation

Waters, separation module 2695, PDA detector Instrument with Kromosil C_{18} column 4.5×150 mm and HPLC - auto sampler - UV detector using Empower software version-2 and Lab India U.V double beam spectrometer of UV 3000+ model and U.V win software were used. HPLC grade water, methanol, acetonitrile, orthophosphoric acid, and KH_2PO_4, K_2HPO_4 were procured from Merck Enterprises, India.

Lead of solutions and reagents

Standard solution preparation

About 10 mg of standard sample was weighed accurately, added to a volumetric flask of 10 ml capacity, and added 7 ml of diluents, dissolved completely by sonication and with stock solution the volume made up to the mark. To a volumetric flask of 10 ml capacity, 0.9 ml of stock solution was added and the solution was diluted to the mark using diluents.

Preparation of sample solution

To a 10 ml volumetric flask added accurately weighed 10 mg equivalent of lopinavir capsule powder, 1 ml of diluents was added, dissolved completely by sonication and with stock solution the volume made up to the mark. 1 ml of the prepared stock solution stated above was added to a volumetric flask of 10 ml capacity, and using diluents, the solution was diluted up to the mark.

Methodology

The chromatographic system was injected with about 20 µL of the blank solution, sample solution, and standard solution each, and lopinavir peak area was calculated.

Process validation

The proposed HPLC process validated in accordance of the ICH guidelines with aspect to accuracy, linearity, precision, specificity, limit of quantification (LOQ), robustness, and limit of detection (LOD) [10].

Linearity

The standard stock solution for both the drugs prepared individually by diluting to obtain the five standard solutions in the concentration of linearity range of 30–150 µg for lopinavir. About 20 µl volume was injected and run under above referred chromatographic conditions. From the values of peak area versus the concentration (µg/ml), linear regressions of lopinavir were executed. Linearity was checked with correlation coefficient and calibration curve.

Title

Validation of Cefpodoxime proxetil and Ambroxol hydrochloride by reverse-phase high-performance liquid chromatographic method.

Authors

Namratha, Sunkara; Vijayalakshmi, A.

Abstract

Objective: A simple, accurate, precise reverse-phase high-performance liquid chromatographic method was developed for simultaneous estimation of Cefpodoxime proxetil and hydrochloride HCl in tablet dosage form. Methods: Chromatogram was run through Phenomenex C18 (250 × 4.6 mm, 5 ƒÊm) with a mobile phase consisting acetonitrile:methanol:water (30:30:40 v/v/v) at a flow rate 1 ml/min, 0.025M potassium dihydrogen phosphate as buffer, and pH 4.0 with orthophosphoric acid. UV-spectrometry detection was measured at 245 nm. The developed method was validated in terms of accuracy, linearity, precision, limit of detection (LOD), limit of quantification, and solution stability. Results: The retention time of Cefpodoxime and Ambroxol HCl was found to be 2.35 min and 4.37 min and % RSD of Cefpodoxime proxetil and Ambroxol HCl was found to be 1.02% and 0.28%, respectively. The described method shows good linearity range of 30.150 ƒÊg/ml Cefpodoxime proxetil and 20.100 ƒÊg/ml for Ambroxol HCl. The correlation coefficient of Cefpodoxime proxetil and Ambroxol HCl was 0.999 and 0.999. The LOD was found to be 2.97 ppm and 3.04 ppm and the limit of quantitation values were 10.1 ppm and 10 ppm, respectively. % assay was obtained as 99.6% and 101.4 % for Cefpodoxime proxetil and Ambroxol HCl. Conclusion: The results of the study showed that the proposed reverse-phase high-performance chromatographic method was simple, rapid, precise, and accurate which is useful in the routine determination of Cefpodoxime proxetil and Ambroxol HCl bulk drug and its pharmaceutical dosage form.

Subjects

REVERSE phase liquid chromatography; ACETONITRILE; DRUG dosage; DRUG tablets; DIHYDROGEN bonding

Publication

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Article

Study of a Drug (TLB) Containing Tridax procumbens, Lawsonia inermis and Bougainvillea spectabilis for the Effect of Analgesic, Antiinflamatory and Antipyretic Action in Rat

June 2018

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Abstract

Background: Many plant extracts show a synergistic effect with each other or with modern drugs, the drugs from natural sources containing steroids, flavonoids, glycosides and terpenoid types of compounds having clinical importance for analgesic, anti-inflammatory and antipyretic action. Objective: The study was designed to evaluate the effective polyphyto admixture TLB for the analgesic, anti-inflammatory and antipyretic action using different animal model. Material methods: The test drug TLB was composed of Polyphyto formulation of Tridax procumbens, Lawsonia inermis and Bouganvillea spectabilis in four different proportion [TLB-I (1:1:1), TLB-II (1:1:2), TLB-III (2:1:1), and TLB-IV (1:2:1)]; tested for the analgesic activity by Hot plate and Tail immersion method, antiinflamatory activity was studied by using plethysmometer and antipyretic activity was studied by using rectal thermometer at a dose of 100 mg/kg po. Results: The result of test drug TLB produced statistically significant effect (<0.05) when it was studied in Hot plate and Tail immersion method, the inhibition of edema induced by carrageenan and reduced fever induced by Brewer's yeast at 100 mg/kg po administration when compared to the control groups. Conclusion: Direct crude drug combination of test group TLB containing Tridax procumbens, Lawsonia inermis and Bougainvillea spectabilis possesses significant analgesic, anti-inflammatory and antipyretic activity.

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EVALUATION OF ANTIEPILEPTIC ACTIVITY OF ETHANOL EXTRACT OF LEAVES OF GOSSYPIUM HERBACEUM IN MICE

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ABSTRACT

Aim: *The aim of the present study was to investigate antiepileptic activity of ethanol extract of Gossypium herbaceum (EEGH) in mice.* ***Method:*** *The antiepileptic activity of EEGH at 10, 30, and 100 mg/Kg, p.o. was evaluated by the convulsions induced in mice by maximum electroshock (MES), Pentylenetetrazole (PTZ) and Isoniazid (INH). Statistical analysis was carried out by one-way analysis of variance (ANOVA) followed by Dunnett's t test.* ***Results and Discussion:*** *In MES and PTZ methods, EEGH (10, 30, and 100 mg/Kg) inhibited convulsions significantly potent than Diazepam and Phenobarbitone sodium (PS). In INH method, EEGH delayed the onset of convulsions less potent than Diazepam.* ***Conclusion:*** *In Present investigation, EEGH showed significant dose-dependent antiepileptic effect potent than Diazepam and PS.*

KEY WORDS

Epilepsy, Pentylenetetrazole, Isoniazid

INTRODUCTION

Epilepsy is a serious neurological disorder, which does not have any boundaries such as age, race, social class or nationality. The incidence of the disease in developing countries is higher than that in developed countries and is reported to be 57 per 1000.

Drug therapy of epilepsy with currently available anti-epileptic drugs (AED) is associated with dose-related side effects and chronic toxicity that involves virtually every organ system. It can be well imagined that all the above-mentioned problems with the current AED therapy of epilepsy are more prevalent in underdeveloped countries due to lack of facilities for proper diagnosis, treatment and monitoring serum levels of AED.

Different types of epileptic seizures have varied susceptibility to currently available AED and on the whole approximately two thirds of the patients with epilepsy can have remission of seizures[1]. There is a pressing need for further research in the field of pharmacotherapy of epilepsy to find drugs with lesser adverse effects. Search for anti-epileptic agents has made man turn to alternative sources i.e., exploitation of medicinal plants.

Leaves of *Gossypium herbaceum* were reported to possess antiepileptic activity[2]. Hence, the present study was aimed to evaluate antiepileptic activity of ethanol extract of *Gossypium herbaceum* (EEGH) in mice.

MATERIALS AND METHODS

Plant Material

Leaves of *Gossypium herbaceum* were collected from Nellutla, Andhra Pradesh, India. It was identified and authenticated by Prof. V. S. Raju, department of Botany, Kakatiya University. The plant specimen was deposited at Kakatiya University Herbarium (KUW), Warangal with voucher number 1865.

Preparation of the extract

The fresh leaves of *Gossypium herbaceum* were collected and washed under running tap water. They

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The Effect of Alpha Crystallin on Diet Induced Hypercholstrolemic Rats

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Abstract: To explore the effect of bovine α-crystallin on high cholesterol diet-induced rats. Rats were divided into three groups (n=6 in each) control, hypercholesterolemic and α crystallin treated. The lipid profiles, antioxidant and membrane bound ATPase status of serum and various tissues were investigated in hypercholesterolemic rats and the effect of α-crystallin on defense systems. The results showed that there was a decrease in cholesterol, triglyceride level on α-crystallin treated hypercholesterolemic rats. Cholesterol enriched diet caused a significant increase in the lipid peroxide and free radical scavenging enzyme concentrations of serum, liver and heart. In addition, a significant decrease in glutathione (GSH) content, were found in serum, liver and heart. This study indicated that administration of α-crystallin may play an important role in suppressing oxidative stress, and thus, may be useful for the prevention of hypercholesterolemia.

Key Words: α-crystallin, Hypercholesterolemia, oxidative stress, lipid profile, Antioxidant, ATPase

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I. INTRODUCTION

Hypercholesterolemia is a well known risk factor in the development of atherosclerosis and subsequent coronary heart disease [1]. A diet of high lipids continuously cause hyperlipidemia[2], a condition is marked by an increase in total cholesterol, triglycerides, Low Density Lipoprotein-Cholesterol (LDL-C), and a decrease in High DensityLipoprotein-Cholesterol (HDL-C).[3] Hyperlipidemia increase the occurrence of atherosclerosis[4], one of factors that triggering cardiovascular disease, as hypertention; coronary heart[5] and stroke[6]. Oxidative stress has been prescribed as the main mechanism responsible for cardiovascular diseases while

hypercholesterolemia under oxidative stress could trigger the progression of atherosclerosis and abnormal lipid metabolism[7]. It has been reported that high levels of fat increase fat-mediated oxidative stress and decrease anti oxidative enzyme activity[8]. It also causes oxidative stress resulting in increased lipid peroxidation in multiple organs[9]. Antioxidants play a significant role in protecting living organism from the toxic effect of various chemicals by preventing free radical formation[10].

α-crystallin is a major lens protein in vertibrates. It is constituted by two subunits, the αA (acidic) and αB (basic). Both independent polypeptides have sequence similarity with the small heat shock protein family (sHsp) and are expressed in low quantities in extracellular tissues[11, 12]. In myocardium, elevated levels of heat shock proteins (HSPs) have been associated with cardiac protection against injury caused by ischemia/reperfusion or other stressful treatments such as hypoxia, ATP depletion, glucose deprivation, and hypotoxicity [13]. The use of sHSPs as targets for the development of novel drug therapies has been demonstrated using α-crystallin, which acts as molecular chaperone to protect against protein aggregation invitro [14]. There is some information that indicates that α-crystallin can behave as an antioxidant and free radical scavenger. α-crystallin was able to decrease thiol groups oxidation in conditions of oxidative stress [15]. α-crystallin can also protect lipids from oxidative modification. The interaction of α-crystallin with lipids has been studied by the group of Borchman et al[16, 17].

The objective of the present study was to test the efficacy of α-crystallin, as therapeutic agent to treat hypercholesterolemia in rats. The present work is carried out to study the potent pharmacological effects of α-crystallin on the lipid composition, antioxidant enzyme level and thiobarbituric acid reactive substance activities in serum, liver and heart of hypercholesterolemic rats. We want to determine α- crystallin administration has any influence on lipid profile, lipid peroxidation, antioxidant and membrane bound enzymes in hypercholesterolemic rats.