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Development and validation of UV spectrophotometric method for simultaneous estimation of ondansetron and pantoprazole in the tablet dosage form

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A precise, accurate, simple and reliable UV SPECTROPHOTOMETRIC method was developed for a recently marketed new combination of PANTOPRAZOLE (PAN) and ONDANSETRON (OND). The objective was to subject this new tablet formulation to Spectrophotometric analysis and arrive at a suitable method for the determination of the drugs therein. The work was confined to the estimation of content of active ingredients only and was carried out using Simultaneous Equation Method. Shimadzu UV/Visible double beam spectrophotometer, model 1700 Pharmaspec with 1 cm quartz cells, was used for Spectrophotometric analysis, using distilled water as solvent. Qualitative and quantitative analysis of the drugs were carried out in which melting point, UV spectra, λmax and Spiking of drugs was found. Simultaneous Equation method was used for the estimation of both the drugs. Standard stock solutions of Pantoprazole and Ondansetron were prepared and study of spectra, selection of scanning range and wavelength was carried out. Lambert Beer Law was studied and also additivity of absorbance and absorptivity for PAN and OND was studied at selected wavelengths. The absorbance maxima of PAN is 294.5 nm and that of OND is 310 nm. The method developed was applied to the marketed formulation. The method was validated in terms of linearity, accuracy, precision, specificity, and ruggedness and was as per ICH guidelines.The developed method for the selected drugs was applied successfully to both OND and PAN. The results were reproducible and can be adapted for routine quality control analysis of these drugs in pharmaceutical combined dosage forms.

Biography

Priya Prasad at present is pursuing her M. Pharm (Quality Assurance) from Sharad Pawar College of Pharmacy, Nagpur, Maharashtra, India. She has completed her B. Pharm at the age of 22 from Nagpur University. She has presented papers in many national and international conferences. She has published 1 paper in international journal. She also has publications in many national souvenirs. She has also won the best research paper award in one of the national conferences.

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Development and evaluation of nimesulidem containing microsponges for topical drug delivery system

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Microsponge containing nimesulide drug with seven different proportions of Eudragit RS 100 as polymer were obtained successfully using quasi-emulsion solvent diffusion method. These formulations were studied for production yield, particle size and physical characterization. The physical characterization showed that microsponge formulation NMRS 13 showed a better production yield, particle size and loading efficiency. Selected five microsponge formulation were prepared as gel in 0.25 %w/w carbopol 934 and studied for pH, viscosity, spreadability, drug content and in vitro release on treated silastic membrane. The microsponge formulation gel, NMRS 7 showed viscosity 6540 cps, spreadability of 23.54 g cm/s and drug content of 93.87 %. Ex-vivo anti-inflammatory activity of microspongic gel was studied adopting carrageenan induced rat paw edema method. The anti-inflammatory studies showed better edeama inhibition with 75.4 ± 0.6 % for microsponge formulation gel NMRS 7 when compared with pure drug loaded gel, edeama inhibition 38.9 ± 0.8 % in every 24 hours. This formulation also showed better anti-inflammatory activity on edeama induced rat skin when compared with control group without application of drug. The microsponge nimesulide gel formulations showed an appropriate drug release profile and also bring remarkable decrease on gel application for inflammatory treatment.

Keywords: Microsponges, Nimesulide, Eudragit RS 100, Carbopol 940.

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