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Effect of different viscosity grade of HPMC on cefixime trihydrate sustained release matrix tablet

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The present work aims to study effect of different viscosity grade of HPMC on cefixime trihydrate sustained release matrix tablet with a view to prolong drug release *in vivo* and reduce frequency of dosing. Cefixime Trihydrate is an orally active third generation cephalosporin. It has plasma half-life of 3-4 hrs. It is active against Gram+ve as well as Gram-ve bacteria. The sustained release matrix tablets were prepared by wet granulation method using various release retardant polymers like different grade of HPMC, Lactose, MCC, and PVP K-30. The granules were subjected to pre-compression and post-compression parameters and they were in the acceptable limits. The *in vitro* retardation of drug release from HPMC matrices in accordance with its different proportion and viscosity grade was HPMC K-100M >HPMC K-15M >HPMC K-4M with ratio of (1, 1.5, 2) individually in formulation F1-F9 and (0.5, 0.75, 1) ratio in F10-F12. Among various kinetic models drug release was found to best fit the case - II transport, Zero order release model. A drug-excipient interaction was performed by DSC and FTIR; results were shown that there was no interaction between drug and excipients used. After 3 months stability study at 40°C/75% RH, formulations found to be stable. So as the viscosity and proportion of HPMC increases release rate from sustained release cefixime trihydrate matrix tablet decreases.

Biography

Parth B Patel has completed his graduation BPharm with First Class; Distinction at the age of 21 years from Gujarat Technological University and his Postgraduate studies MPharm running from Kalol Institute of Pharmacy, Gujarat Technological University. He is an author of three international books published by Lambert Publishing, Germany, and one international book from Scholar's Press, Saarbrücken, Germany. He has published 2 research papers and 2 review articles in reputed journals.

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