



PharmTech

International Journal of PharmTech Research

CODEN (USA): IJPRIF, ISSN: 0974-4304

Vol.9, No.2, pp 124-133, 2016

Development & Evaluation of Mucoadhesive Microspheres of Roxatidine Acetate HCl

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Abstract: Present study aims to prepare and evaluate mucoadhesive microspheres of Roxatidine acetate HCl by ionotropic gelation method. Among all the formulations, M13 was selected as optimized formulation for mucoadhesive microspheres based on the evaluation parameters and drug release studies. *In vitro* release study of formulation M13 showed 99.4% 12 h in a controlled manner, which is essential for disease like peptic ulcer. The release order kinetics for M13 was best fit with the highest correlation coefficient was observed in Higuchi model, indicating diffusion controlled principle. The innovator Rotane 150 mg conventional tablet shows the drug release of 96.45% within 1 h. FT-IR and DSC analyses confirmed the absence of drug-polymer interaction. The results obtained from evaluation studies of Roxatidine mucoadhesive microspheres that system may be useful to achieve a controlled drug release and targeting also achieved by mucoadhesion of the microspheres to the GIT may help to reduce the dose of drug, dosing frequency and improve patient compliance when compared with marketed product

Key words: Roxatidine, mucoadhesiveness, gum olibanum, chitosan, microspheres.

Arifa Begum. SK *et al* /Int.J. PharmTech Res. 2016,9(2),pp 124-133.
