

Design and Development of Sustained Release Floating Tablet of Stavudine

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Abstract : The purpose of the present study was to prolong the gastric residence time of Stavudine by developing gastric floating drug delivery system (GFDDS). Moreover, to study influence of different polymers on its release rate using gas-forming agents, like sodium bicarbonate, citric acid. Floating tablets were prepared by wet granulation method using PVP K-30 as a binder and the other polymers include Pullulan Gum, HPMC K100M, six different formulations with the varying concentrations of polymers were prepared and the tablets were evaluated in terms of their pre-compression parameters like bulk density, tapped density, Hausner ratio, angle of repose, compressibility index, post compression physical characteristics, in vitro release, buoyancy, floating lag time (FLT), total floating time (TFT) and swelling index. All the formulations showed good floating lag time i.e. less than 3 mins. The batch containing combination of Pullulan Gum and HPMC 100M (i.e. F-6) showed total floating lag time more than 12 h., the highest swelling index among all the prepared batches. The drug release was found to follow zero order kinetics.

Keywords : Stavudine, floating, total floating time (TFT), gastric residence

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