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Formulation Development and Characterization of Floating Microsphere of Losartan Potassium

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Abstract

Floating drug delivery systems improves the drug bioavailability and patient compliance by increasing the gastric residence time and controlling the drug release and have a bulk density less than gastric fluids and so remain afloat in the Stomach. Objective of this study was to prepare and evaluate floating microspheres of losartan potassium for the prolongation of gastric residence time. The microspheres were prepared by solvent evaporation method using ethyl cellulose, hydroxyl propyl methylcellulose and sodium alginate as natural polymers. Various evaluation parameters were assessed, with a view to obtain sustained release of Losartan Potassium. The Floating microsphere of Losartan Potassium were subjected to various characterization as FTIR, SEM, particle size and size distribution, percent yield , drug content, entrapment efficiency, in vitro dissolution studies, release kinetics and Differential scanning calorimetry. The FTIR Spectra divulged that, there was no interaction between the polymers and drug and Floating Losartan Potassium microspheres was spherical in nature, which was confirmed by SEM. Floating microspheres with normal frequency distribution were obtained. A maximum of 90.0% drug entrapment efficiency was obtained within the floating microspheres which were prepared by using Accelerated stability study was also performed for three months indicated that optimized formulation was stable. The developed floating losartan potassium microsphere system could be a promising floating drug delivery system for oral sustained administration of losartan.

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