Formulation and Evaluation of Floating Microspheres of Antianginal drug

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Abstract

The purpose of this research was to prepare a floating drug delivery system of Nicorandil. In the present study preparation of Nicorandil floating microspheres, evaluation of Floating microspheres, *in vitro* prediction of the release, and optimization of stirring speed and polymers ratio to match target release profile were investigated. Floating microspheres were prepared by solvent evaporation technique using hydroxylpropyl methylcellulose (HPMC) and Ethylcellulose (EC) as the rate controlling polymers. Particle size analysis, drug entrapment efficiency, surface topography, buoyancy percentage and release studies were performed. Results showed that the polymer ratio and stirring speed affected the size, incorporation efficiency and drug release of microspheres, floating time and the satisfactory results were obtained at the ratio of HPMC:EC (1:2). The mean particle size of prepared floating microspheres increased but the drug release rate from the microspheres decreased as the polymer concentration increased. The formulated floating microspheres of Nicorandil may be used in for prolonged drug release in stomach for at least 12 hrs, thereby improving the bioavailability and patient compliance.