

Tripathi M, Radhika PR, Sivakumar T. Formulation and evaluation of glipizide hollow microballoons for floating drug delivery. *Bull. Pharm. Res.* 2011;1(1):67-74.

Abstract: The present investigation was aimed to formulate and evaluate the gastro-retentive floating microballoons of glipizide using hydrophilic polymers hydroxypropyl methylcellulose (HPMC) and Eudragit RS100 (RS 100) by emulsion solvent evaporation technique. The floating microballoons were evaluated using micromeritic properties, buoyancy, *in vitro* drug release, scanning electron microscopy and stability studies. The densities of floating microspheres (0.475-0.975 g/cm³) were found to be less than the density of gastric fluid (1.004 g/cm³), therefore showed an extended floating time of more than 12 h over the gastric fluid. The entrapment efficiency of prepared floating microspheres was satisfactory (41.32-76.19%). The scanning electron microscopy confirmed the hollow nature of microspheres with pores on the surface which imparted floating properties to the prepared floating microballoons. Among all formulations, F4 (Drug:HPMC:RS 100::1:4:3) was found to be the best as it exhibited highest drug release (99.12%) in 12 h followed by diffusion mechanism and was stable for three months at ambient conditions.

Key words: Hollow microballoons, Glipizide, Sustained release, Floating drug delivery.

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