



Formulation and Evaluation of Metoprolol Succinate Floating Tablets using Peanut Husk Powder as Natural Polymer

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Abstract: A sustained release system for Metoprolol succinate designed to increase its residence time in the stomach without contact with the tablets was achieved through the preparation of floating tablets by the direct compression method. In the present study attempt has been made to develop sustained released drug delivery system by formulating the floating tablets of Metoprolol Succinate using peanut husk powder as a natural polymer (cellulose 35.7%, hemicelluloses 18.7%, lignin 30.2%) which is biodegradable, biocompatible, nontoxic, economically cheap cost, devoid of adverse and side effects and easily availability. Metoprolol succinate [MS] ((+)-1-(isopropyl amino)-3-[p-(2-methoxyethyl)]-2-propanol succinate) is a β_1 - selective adrenergic receptor blocking agent used in the management of hypertension, angina pectoris, cardiac arrhythmias, myocardial infarction, heart failure, hyperthyroidism and in the prophylactic treatment of migraine. Hence the drug has relatively short half-life about 4-6hrs, in the normal course of therapy multiple administration is required every 4-6hrs. The 9 batches of floating tablets (MF1 to MF9) were formulated by direct compression method using different ratio of polymers like peanut husk powder, HPMC and carbopol. The formulated tablets were evaluated by means of different parameters like shape and density of tablet, hardness, friability, weight variation, drug content uniformity, *In vitro* buoyancy, swelling Index, *In vitro* dissolution studies. The formulation MF6 has better sustained release when compared other formulations, it release the drug of about 31.32% at the 1sthr and almost 60% release at the end of 8hrs, hence we conclude that the combination of peanut husk powder, HPMC and carbopol shows better Gastric retention time which sustains the release of the dosage form.

Keywords: Metoprolol Succinate, Floating tablets, Peanut Husk Powder, Natural Polymer.