Development, Preparation and Evaluation of Oral Dissolving Films Containing Metoclopramide

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Abstract:

This study was aimed to prepare and characterize fast dissolving films containing antiemetic drug, Metoclopramide hydrochloride (MH), for oral use to avoid more stimulation of emesis by using other dosage forms such as tablets or syrups. Methylcellulose (MC) was used as the film forming polymer and croscarmellose Sodium (CCS) and sodium starch glycolate (SSG) were used as super disintegrants. Medicated films were prepared by solvent casting method. The physicochemical characterizations were done by Fourier transform infrared spectroscopy (FTIR) and differential scanning calorimetry (DSC) for MH-loaded fast dissolving films and their corresponding physical mixtures as well as the individual components to investigate the drug polymer interaction. The obtained DSC and FTIR results indicated that MH was molecularly dispersed in the matrix of MC. The prepared films were also characterized for their tensile strength, percentage of elongation, taste palatability, surface pH, weight and their content uniformity. In addition, MH-loaded oral films were elegant enough, transparent, flexible, smooth, homogeneous and palatable. The films were disintegrated within seconds and the drug was released within 3 min. It was found also that neither addition of superdisintegrant nor their concentrations have an effect on the drug dissolution.

Keywords:

Antiemetic drug, Metoclopramide, Oral dissolving films.

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