Formulation and Characterization of Mouth Dissolving Tablets For Emesis

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Abstract

Aim of the present study was to prepare and evaluate mouth dissolving tablets of anti-emetic drug like Buclizine HCl. Buclizine HCl is antihistamine drug mainly used for emesis. Solubility of this drug is low in biological fluids which result in poor solubility after oral administration. Therefore solid dispersion of Buclizine HCl with β Cyclodextrin in different weight ratio (1:0.50, 1:0.75, 1:1) were prepared with view to increase its solubility. Solid dispersion were evaluated by solubility study and drug content and characterized by FTIR. Buclizine HCl with β Cyclodextrin (1:1) ratio showed maximum amount of drug release hence it selected for mouth dissolving tablets formulation. Mouth dissolving tablets of Buclizine HCl were prepared by direct compression, wet granulation method and sublimation method by addition of superdisintigrants like sodium starch glycolate, crospovidone, croscarmelose sodium in different concentration (2.5 %, 5 %, 7.5 %). Mannitol used to enhance mouth feel effect. Mouth dissolving tablets were evaluated for pre compression parameters like angle of repose, bulk density, tapped density and carr's index and post compression parameters like hardness, thickness, weight variation, friability, drug content and disintegration time. *In vitro* dissolution study was performed using USP dissolution apparatus type II. Disintegration test was

performed using disintegration apparatus as per IP specifications. % CDR measured in Sorenson Phosphate buffer pH 6.8 measured at 230 nm. Among all formulation F8 containing 5 % Crospovidone was found suitable disintigraton time 15 secounds in phosphate buffer pH 6.8 and drug release 99.90 % in 20 minute. F8 was selected for stability study at room temperature condition (25±2ºC and 65±5 % RH) and accelerated condition (40±2ºC and 75±5 % RH) for period of one month. IR results showed that drug and excipients were compatible to each other. The results of stability studies showed that the F8 formulation was stable in room temperature condition (25±2˚C and 65±5 % RH) and accelerated condition (40±2˚C and 75±5 % RH). Mouth dissolving tablets of Buclizine HCl prepared by direct compression method showed acceptable pre compression properties and satisfactory disintegration time and *in vitro* dissolution studies with improved patient compliance.