ABSTRACT

Nebivolol HCl is the most common and useful anti-hypertensive drug which is beta-1 receptor selective antagonist category. It is most widely used in the treatment of hypertension and angina pain.

The objective of the present study was to prepare FDTs containing Nebivolol HCl using various superdisintegrants such as crospovidone, croscarmellose sodium and sodium starch glycolate by direct compression method in different concentrations. The simplex lattice design was applied to evaluate the effect of single or mixture of the above superdisintegrants. The superdisintegrants such as crospovidone, croscarmellose sodium and sodium starch glycolate were considered as independent variables. The final blend was evaluated for Bulk density, Tapped density, Carr's index, Angle of repose. The prepared FDTs were evaluated for hardness, friability, *in vitro* disintegration time, drug content, and *in vitro* drug release studies. Among the formulations, the formulation containing CCS showed minimum disintegration time (17.16 ± 0.75 sec), *in vitro* dissolution study (98.58 % release in 6 min.). FT-IR studies revealed the absence of drug polymer interaction. Short term accelerated and intermediate stability studies indicated no significant changes in hardness, friability, *in vitro* disintegration time, drug content and *in vitro* drug release studies.

Keywords: Nebivolol HCl; Beta-1 selective receptor antagonist; Hypertension; FDTs; Simplex lattice design.