Formulation and Evaluation of Sublingual Tablets of Metoprolol Tartrate

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Abstract

Metoprolol tartrate is β1-selective adrenergic blocking agent and widely used in the treatment of hypertension and angina-pectoris. The present investigation was undertaken with an objective to increase the bioavailability of the drug by avoiding hepatic first pass metabolism giving quick onset of action. The sublingual tablets of Metoprolol tartrate were prepared in various batches (trial batches) and evaluated for various parameters such as hardness, friability, drug content, in vitro disintegrating time and *in vitro* dissolution study. The tablets containing 3.5mgsodium starch glycolate and 3.5 mg crospovidone showed the least disintegrating time and highest drug release. The formulation was further optimized using 3^2 factorial design taking X1 and X2 as independent variables (concentration of sodium starch glycolate and crospovidone) and disintegrating time and %drug release as dependent variables. The batch B9 was selected as optimized batch which showed least disintegrating time 35 seconds, cumulative percentage drug release at 25min 96.75±0.19 %. The two extra check point batches were prepared and evaluated. The closeness of predicted and actual values validated the design. Thus, the sublingual tablets of Metoprolol tartrate were successfully formulated to give quick onset of action.