Formulation Development and Evaluation of Floating Tablets of Venlafaxine Hydrochloride

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Abstract : Venlafaxine hydrochloride has a short elimination half-life of 5 ± 2 hr, and absorption window in the upper part of gastrointestinal tract. The conventional tablets need to be administered two to three times a day and possess an oral bioavailability of 45%. The purpose of this study was to formulate gastroretentive effervescent floating tablets of Venlafaxine HCl. Different grades of HPMC namely K15M, K4M, K100M and E15LV were employed as swelling polymers whereas sodium bicarbonate was employed as gas generating agent. The direct compression method was employed for the formulation of tablets. The tablets were evaluated in terms of hardness, friability, weight variation, drug content, water uptake, in-vitro floating behavior and in-vitro drug release study. All the formulations exhibited very short floating lag time of < 1 min and total floating time of 12 hr. Formulation L3 containing 25 mg and 75 mg of HPMC E15 LV and HPMC K15M respectively exhibited complete drug release within 12 hrs.

Keywords : venlafaxine HCl, hydroxyl propyl methylcellulose, floating gastro retentive tablets, in-vitro drug release, non-fickian diffusion
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