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RESEARCH PAPER

FORMULATION AND EVALUATION OF TASTE MASKED ORODISPERSIBLE TABLET OF LEVOCETIRIZINE DIHYDROCHLORIDE

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The objective of present investigation was to prepare and evaluate taste masked orodispersible tablet of levocetirizine dihydrochloride using superdisintegrants crospovidone and sodium starch glycolate for the treatment of allergic rhinitis. The taste masking technique employed was using ion-exchange resin technique whereas tableting was done using direct compression method. Prepared tablets were evaluated for weight variation, hardness, friability, content uniformity, wetting time, *in vitro* disintegration time, water absorption ratio and stability studies. Among developed formulations, disintegration time was found to be rapid in F4 formulation. The in vitro dissolution time for F4 formulation was found to be 99.73% in 10 min. F4 formulation was found to be stable and retained their original properties during the testing period.

Key words: Levocetirizine dihydrochloride, Orodispersible tablet, Direct compression, Superdisintegrant

INTRODUCTION

Oral route always preferred route for administration of drugs because of accurate dosage, self medication, low cost and ease of administration leading to high level of patient compliance. Many tablets and capsules are administered through a glass of water which may be inconvenient for some geriatric patients because of changes in various physiological and neurological conditions associated with aging including difficulty in swallowing or dysphagia, hand tremors etc (Hirani *et al* 2009; Desale *et al* 2011; Divate *et al* 2011; Mangal *et al* 2012). Solid dosage forms also present significant administration challenges in children, mentally challenged and uncooperative patients. Moreover, patients travelling with little or no access to water, limit utility to orally administered conventional tablets or capsules. Therefore to fulfill the needs of such patient's recent advancements in technology have resulted in development of viable dosage alternative popularly known as orally disintegrating tablet (ODTs) which disintegrates tablet in mouth without water and in few seconds. The mouth dissolving tablet formulation is defined by the food and drug administration (FDA) as "A solid dosage form containing medicinal substances which disintegrates rapidly usually within a matter of seconds, when placed upon the tongue" (Garg and Gupta, 2013). Oral route of drug administration have wide acceptance upto 50-60% of total dosage forms (Bhowmik *et al* 2009). Sometimes people experience inconvenience in swallowing conventional dosage forms such as tablets when water is not available in the case of motion sickness (kinetosis) and the sudden episodes of coughing during the common cold, allergic conditions and bronchitis That's why tablets which can rapidly disintegrate in oral cavity have attracted great deal of attention.