Extraction and performance evaluation of Salvia hispanica mucilage as natural disintegrants for optimization of pyrilamine maleate fast dissolving tablets

Panda, B.P., Gregory, J.

Department of Pharmaceutical Technology, School of Pharmacy, Taylors University, Lakeside Campus, Selangor, Malaysia

Abstract

The present research encompasses the formulation and evaluation of pyrilamine maleate fast dissolving tablets (FDTs) by employing Salvia hispanica (Chia) mucilage as natural disintegrants. To evaluate the performance of Salvia hispanica mucilage as natural disintegrants, comparative studies with synthetic superdisintegrant such as croscarmellose sodium were carried out. The Salvia hispanica mucilage was extracted from chia seeds. FDTs of pyrilamine maleate were prepared by direct compression method on Rimek Mini Press-I using mannitol as directly compressible vehicle employing along with 2, 5, and 10% of natural and synthetic disintegrants. The results indicate that formulation SMF3 containing 10% Salvia hispanica mucilage provides faster disintegration with sufficient hardness which can be simulated comparatively with performance of formulation CCF5 containing 5% of croscarmellose sodium. Results revealed that formulation SMF3 FDTs showed disintegration time of 45 sec and hardness 3.8 kg/cm² as compared to the formulation CCF5 having disintegration time of 53 sec and hardness 3.6 kg/cm² respectively. In general FDTs of Salvia hispanica (Chia) mucilage provide better hardness as compared with FDTs made from croscarmellose sodium. Drug excipient compatibility and short term stability studies for optimized SMF3 formulation reveal that Salvia hispanica mucilage are compatible with drug and form a stable formulation. The synergy of natural and disintegrating effect of Salvia hispanica (Chia) mucilage can be employed as an alternative over the synthetic superdisintegrant for the development and optimization of pyrilamine maleate fast dissolving tablets (FDTs) for superlative management of antihistaminic therapy and explored as a potential natural pharmaceutical excipient for commercialization. © 2015 Bentham Science Publishers.