OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Pharmaceutics & Novel Drug Delivery Systems
April 08-10, 2013 Hilton Chicago/Northbrook, USA

Comparative study of various permeation enhancers for development of Sumatriptan succinate buccal tablet

Amarjit P Rajput[1], Smita A Rajput[2], Vikas P Patil[1] and Dheeraj T Baviskar[1]
[1]Institute of Pharmaceutical Education, India
[2]Institute of Pharmaceutical Education, India

The aim of the present study was to prepare buccoadhesive sustained release tablets of sumatriptan succinate using various permeation enhancers with reduction in dosing frequency. Fulvic acid was extracted from shilajit by using resins. Fulvic acid was characterized by various spectroscopic techniques. The study was initiated with preformulation, to study the interaction of excipients with drug using FTIR and DSC. It showed that there was no drug, polymer and permeation enhancer interaction. Buccoadhesive sustained release tablets of sumatriptan succinate with various permeation enhancers were prepared by direct compression method using bioadhesive polymers like Carbopol 934 and HPMC K100M. The physical characteristics like surface pH, swelling index, in vitro mucoadhesion time, in vitro mucoadhesion strength, in vitro drug release study and in vitro permeation study of formulated tablets were shown to be dependent on characteristics and composition of bioadhesive materials used. The in vitro release study showed sustained drug release over 8 hour period. The permeation study showed 90%, 82% and 78% of drug permeated with fulvic acid, chitosan and beta cyclodextrin, respectively. Sumatriptan succinate release from the buccoadhesive system was extended and exhibited a non fickian drug release kinetics approaching to first order as the values of release rate exponent varied between 0.97 to 0.99 resulting in a regulated and complete release until 8 hours.

amarjit.rajput@yahoo.com