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

Topical ultradeformable carrier based delivery of antiviral agent

Mohammad Ramzan, Subheet Jain, Zia Ur Rahman, Puneet Utreja and Afzal Hussain
PCTE- Institute of Pharmacy, India

The main objective of the present study was to prepare and evaluate elastic liposomal formulation for topical drug delivery of antiviral agent like acyclovir as model drug. Acyclovir is effective against cutaneous infection due to HSV-1 whose target site is the basal epidermis. Enhanced permeation of the formulation to the deeper layers of the skin is due to the well penetration power of elastic liposomes. The elastic liposomes formulations loaded with acyclovir were prepared by conventional rotary evaporation method, characterized and evaluated for *in-vitro* skin permeation and drug deposition followed by in-vitro skin permeation study using albino rat skin. Permeability studies of different optimized formulations were performed and the results were compared against commercially available topical acyclovir product and drug solution. The skin permeation parameters determined shows efficient and enhanced permeation potential across the skin as compared to commercial as well as drug solution. The permeation profile of elastic liposomal formulation revealed enhanced transdermal flux 5.9 g/ cm^2/hr. The maximum enhancement ratio for elastic liposomal formulation in comparison to commercial acyclovir cream was observed 6.8 fold higher and 12.3 fold higher than drug solution. Vesicular size and size distribution, percent entrapment, morphology, vesicle and skin interaction study through SEM, lipid interaction with surfactant study by FTIR for drug interaction with other excipients were also determined. The results of the present investigation demonstrated that ultra deformable elastic liposomal formulation has great potential for topical delivery of Acyclovir against viral infection.

ramzan.pharma@gmail.com