

Transdermal delivery of finasteride invasomes using taguchi robust design method

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Transdermal drug delivery route is a potential route for delivering drugs, but the main drawback is penetration through skin. To overcome the stratum corneum barrier vesicle formulations have been used as skin delivery systems. Invasomes are novel elastic vesicles composed of phosphatidylcholine, ethanol and terpene. They enhance permeation by penetrating intact into the stratum corneum through low penetration resistance channels or the vesicular materials interact with intracellular lipids, disrupting/disorganizing the lipid lamellae thus forming penetration channels for drug molecules to penetrate. Finasteride, an azasteroid used in the treatment of benign prostatic hyperplasia and male pattern baldness (alopecia) is administered at doses 1mg and 5mg daily. Its low molecular weight 372.6 daltons, half-life (6hrs in individuals less than 60yrs old), bioavailability (63%) and log P (3.03) are ideal physico-chemical properties for transdermal delivery. Taguchi robust design is an experimental design using mathematical and statistical techniques for characterizing complicated process. Finasteride invasomes were formulated and optimized by Taguchi robust design. Two factor three level design with terpenes (limonene, carvone and nerolidol) were selected to construct Taguchi L9 orthogonal array experimental design for formulation of invasomes. Vesicle size, entrapment efficiency, zeta potential, permeation studies, stability studies and histopathology studies were evaluated. Limonene 0.5% which enhanced permeation by 21.17 fold over aqueous solution was optimized. Permeation studies and histopathology studies indicated invasomes as a novel lipid carrier for transdermal delivery.

Biography

Prasanthi domaraju is pursuing PhD in pharmaceutics in Jawaharlal Nehru technological university, Hyderabad, India. She is working as an assistant professor (pharmaceutics) in G.Pulla reddy college of pharmacy, Hyderabad, India. She has 9 years of teaching experience and has published 7 articles in international journals and presented in nearly 10 national and international conferences. She is Life member of APTI.

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Wound healing activity of *Allophyllus Cobbe L.* alcoholic extract herbal ointment on albino rats

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Wounds are physical injuries that result in an opening or breaking of the skin. Proper healing of wounds is essential for the restoration of disrupted anatomical continuity and disturbed functional status of the skin. It is a product of the integrated response of several cell types to injury. Wound healing is a complex multifactorial process that results in the contraction and closure of the wound and restoration of a functional barrier. Traditionally, a large number of plants are used for treatment of wounds. In India *Allophyllus Cobbe L.* (Theepani) (F. Sapindaceae) is traditionally used for treatment of open wounds, to treat fever and stomach ache, bone fracture etc. Hence, the present study was conducted to investigate the wound healing activity of alcoholic extract of *Allophyllus Cobbe L.* formulated ointment on excision wound model. The effect was compared with the wound healing by povidone-iodine (Betadine®) drug. The wound healing effect was investigated by application of 0.5 g/wound of the *Allophyllus Cobbe L.* ointment and Betadine® once daily for 19 days to the excision wound of albino rats and was observed at 4 days intervals. It was observed that ointment formulation accelerate the wound closer time. This study suggests that *Allophyllus Cobbe L.* Plant extract ointment herbal formulation could be developed as a therapeutic agent for wound healing effects.

Biography

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