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Proniosomes as a Drug Carrier for Topical Delivery of Tolnaftate

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Abstract : Proniosomes are well documented for topical drug delivery and preferred over other vesicular systems because they are biodegradable, biocompatible, non-toxic, possess skin penetration ability and prolong the release of drugs by acting as depot in deeper layers of skin. Proniosome drug delivery was preferred due to improved stability of the system than niosomes. The present investigation aimed at formulation development and performance evaluation of proniosomal gel as a vesicular drug carrier system for antifungal drug tolnaftate. Proniosomes was developed using different nonionic surfactants such as span 60 and span 65 with cholesterol in different molar ratios by the Coacervation phase separation method in presence or absence of either lecithin or phospholipon 80 H. Proniosomal gel formulations of tolnaftate were characterized for vesicular shape & size, entrapment efficiency, rheological properties and release study. The effect of surfactants and additives on the entrapment efficiency, particle size and percent of drug released was studied. The selected proniosomal formulations for topical delivery of tolnaftate was subjected to a microbiological study in male rats infected with Trichophyton rubrum; the main cause of Tinea Pedis compared to the free drug and a market product and the results was recorded.

Keywords : fungal infection, proniosome, tolnaftate, trichophyton rubrum
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