Abstract

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Fatty Acid Based Vesicular Systems: A Novel Strategy for Topical Treatment?

Foziyah Zakir

Delhi Pharmaceutical Sciences and Research University, India

Abstract

Topical administration of active pharmaceutical ingredients remains to be the most efficient and cost effective strategy for the treatment of superficial infections. The early infection can be well treated with topical formulations while more invasive infection can be dealt with oral treatment. However, a newer approach would be the use of topically administered flexible formulations which can deliver their contents to the systemic circulation.The common topical formulations like creams and ointments are limited in their efficacy because of lack of local pharmacological activity. The various vesicular systems have been gaining attention because they not only act as depot for delivery of contents but also act as penetration enhancers. Carrier systems like liposome and noisome had to be overshadowed because of stability concerns. Investigation of other carrier system revealed fatty acids to self-assemble into vesicles which could carry the potential of drug delivery. The present work is focused on preparation and characterization of various vesicular systems and their comparison. In this work we focused on the treatment of superficial fungal infection as model disease to prove the effectiveness of fatty acid based vesicular systems.

Superficial fungal infection is known to be the most widespread mycoses prevalent not only in developing but also in developed countries. We found out that the pharmaceutical performance of the model drug was improved by using fatty acid based vesicle system in comparison to other conventional lipid and surfactant based vesicles. Therefore the use of fatty acid vesicles as a novel delivery system can be explored for topical treatment.

Keywords: Fatty acid vesicle, topical delivery, vesicle delivery systems

Biography

Zakir has completed her PhD from Jamia Hamdard (NIRF rank 1), India. Zakir is currently working as an Asst. Prof., Delhi Pharmaceutical Sciences and Research University (India's First Pharmacy University and second in the world). She has more than 20 referred articles in high impact journals >4 (h-index=10, >400 citations). She has authored numerous book chapters by Elsevier and Bentham publishers. She has published more than 50 conference proceedings and abstracts. She has also received various awards such as Young Rearcher Award, Award for Academic Excellence, best poster and oral presentation awards.

