Abstract

The objective of the current study was to formulate the eprosartan mesylate loaded transfersomes using different proportions of Phospholipon® 90 G and Tween® 80 (95–75:5–25% w/w). The prepared transfersomes were characterized for their vesicles size, shape, polydispersity index, zeta potential, entrapment efficiency, in vitro skin permeation, confocal laser scanning microscopy, and in vivo skin irritation. Results
revealed that the formulated transfersomes were negatively charged, spherical unilamellar structure of 71.18–85.66 nm with entrapment efficiency of 83.00–88.19%, and presented transdermal flux of 1.78–5.02 μg/cm²/h across rat skin. Confocal laser scanning microscopy confirmed that the formulated rhodamine 6 G loaded transfersomes could penetrate deeply and uniformly into rat skin. Additionally, in vivo skin irritation studies revealed that the prepared transfersomes were devoid of any skin irritation potential (erythema and edema). Results of this study revealed that the transfersomes prepared with Tween® 80 could be used to enhance the transdermal delivery of eprosartan mesylate. In conclusion, transdermal transfersomes formulation may prove to be an encouraging drug carrier for eprosartan mesylate and other actives, particularly owing to their simple formulation and unsophisticated scale-up methods.

Keywords: Transfersomes, hypertension, skin, stratum corneum, lipid based formulation

Additional information

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