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Ganesh G. Keshavshet
gkeshavshetti@yahoo.co.in

Sidramappa B. Shirsand

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Stability Studies on Cyclopirox Olamine Encapsulated Niosomes

Ganesh G Keshavshetti*, Sidramappa B Shirsand

Email: gkeshavshetti@yahoo.co.in

Abstract

The field of novel drug delivery has shown a lot of potential for the development of nanocarriers as effective drug delivery systems. Niosomes, a type of vesicular drug delivery systems, are formed when non-ionic surfactants self-assemble in an aqueous phase. Niosomes are considered a unique and novel drug delivery system (NDDS), as they can encapsulate both hydrophilic and hydrophobic drugs. Although niosomes have many advantages as a novel drug delivery system, stability is the main issue. So, the present investigation is focused on the stability study of niosomes. Niosomes containing Cyclopirox Olamine (CPO) were prepared by using thin film hydration. Span 60 was used as the non-ionic surfactant, and cholesterol in specified concentration was used. Stability studies of prepared niosomes were assessed by keeping niosome formulation in sealed glass containers and storing them at room temperature and in the refrigerator for six months, and then evaluated for various parameters. The results showed no significant changes in the niosomes during the six months of its storage period. Hence, it is clear that the prepared niosomes are stable at refrigerator condition as well as at room temperature. A temperature of 4°C is recommended as a suitable condition for storage of niosomes

Key words: Cyclopirox Olamine (CPO), Film hydration method, Niosomes, Stability studies

Ganesh G Keshavshetti¹, Sidramappa B Shirsand²

1 Department of Pharmaceutics, SVET's College of Pharmacy, Humnabad, Bidar, Karnataka, India

2 Department of Pharmaceutics, HKES's MTRIPS, Gulbarga, Karnataka, India

* Corresponding Author

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