

A Review on Formulation and Evaluation of Ondansetron Hydrochloride Niosomes in Transdermal Drug Delivery

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Received: 02-06-2023 / Revised: 30-06-2023 / Accepted: 24-07-2023

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Conflict of interest: Nil

Abstract

The niosomal gel of the chosen formula (F2) was formulated by incorporating the niosomal dispersion in a mixture of Carbopol 974 gel base and Na-CMC. Briefly, a sufficient amount of Carbopol 974 was gradually added to water and kept for 24 h for complete hydration of polymer chains. Niosomes and liposomes have similar physical properties but differ in the chemical nature. Niosomal vesicle is formed by non-ionic surfactants whereas liposomal vesicles of lipids. Niosomes are superior to liposomes because of higher chemical stability of surfactants than lipids. This review article focuses on the concept of niosomes, advantages and disadvantages, composition, method of preparation, factors influencing the niosomal formulation and characterization, application of niosomes. Niosomes can be utilized in the treatment of several diseases like Psoriasis, leishmaniasis, cancer, migraine, Parkinson etc.

Keywords: Niosomal, liposomes, chemical. Polymer, lipids

Introduction

A drug delivery system is a process for delivering a therapeutic agent by any of the usual routes of administration for a therapeutic effect in humans or animals. The most fundamental goals in this area are to improve drug viability and well-being. There are several routes by which drugs can be delivered to the human body. The choice of route depends on three factors, namely

- (a) Effect desired,
- (b) Type of disease,
- (c) Type of product

The most common routes of drug administration are as follows

- Oral
- Parenteral

- Inhalation route
 - Transdermal route (Abdul & Hassan, 2012)
- Today recent advances in the kind of pharmacokinetic and pharmacodynamic nature of drugs offer a more rational approach to the development of an ideal delivery system. The novel drug delivery systems are carriers it maintains the drug concentration in the therapeutic range for a longer period. The novel drug delivery system is developed and it aims to minimize drug degradation, reduce side effects, and improve the bioavailability of medication. New drug carriers are being developed that are useful for the controlled and targeted delivery of drugs.