

Niosomes as a Novel Carrier

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ABSTRACT

Vesicular drug delivery system is one of the best novel drug delivery systems which means to improve the bioavailability of the encapsulated drug along with numerous advantages over conventional drug delivery systems. Niosomes are a novel drug delivery system, which are made up of a bilayer of non-ionic surfactant-based vesicle. Niosomes are formed mostly by non-ionic surfactant and cholesterol incorporation as an excipient. Various methods are used for the preparation of Niosomes and different formulation of Niosomes are prepared for evaluation of niosomes. The materials used to prepare niosomes make them more stable. Niosomes present a structure similar to liposome and hence they can represent alternative vesicular systems with respect to liposomes, due to the niosome ability to encapsulate different type of drugs within their multi environmental structure. The technology utilized in niosomes is still greatly in its infancy, and already it is showing promise in the fields of cancer and other infectious disease treatments. Niosomal carriers are suitable for the transdermal delivery of numerous pharmacological agents, including antioxidant, anticancer, anti-inflammatory, antimicrobial, and antibacterial molecules. Niosomes manifested to be a promising drug carrier and have potential to decrease the side effects of drugs and increased therapeutic effectiveness in various diseases. They also increase the permeation of drug. Several mechanisms have been proposed to explain the ability of niosomes to increase drug transfer through the skin. We will give an overview of the techniques of preparation of niosome, types of niosomes, evaluation and their applications.

Keywords: niosomal, non-ionic surfactants, cancer, liposomes

