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Transfersomes: A Promising Nanoencapsulation Technique for Transdermal Drug Delivery System

[1]Thorat Sanket B., [2]Gadge Vinayak D., [3]Thorat Aniket B., [4]Gadge Shubham. C., [5]Datkhile Sachin V., [6]Walmik Nikhil V., [7]Indre Umesh M.

Students, Samarth Institute of Pharmacy, Belhe, Maharashtra, India[1,2,6,7]
Students, Ashwin College of Pharmacy, Manchi hill, Maharashtra, India [3]
[4]Department of Pharmacology, Samarth Institute of Pharmacy, Belhe, Maharashtra., India
[4]Dr. Vitthalrao Vikhe Patil's Foundation College of Pharmacy, Ahemadnagar, Maharashtra, India
[5]Department of Pharmaceutics, Samarth Institute of Pharmacy, Belhe, Maharashtra., India

Abstract: *Transdermal delivery systems have gained a lot of interest in recent years due to their benefits compared to conventional oral and parenteral delivery system. It is the controlled and self-regulatory delivery systems that can improve patient compliance and provide a controlled release of therapeutic agents. The biggest challenge for transdermal delivery systems is the task of preventing the outer layer of the skin. Molecules weighing more than 500 Da and ionized compounds usually do not pass through the skin. Therefore, only a limited number of drugs can be administered by this route. The combination of drugs in transfersomes is one of the most effective ways to overcome this problem. Transferosomes combine the characteristics of liposomes with niosomes because Contain both liposomes (phospholipids and cholesterols) and niosomes as substances (nonionic surfactants; activists on edge). They have a two-dimensional structure that facilitates the encapsulation of lipophilic and hydrophilic, as well as amphiphilic, drugs with relatively high efficacy compared to conventional liposomes. Transfersomes are elastic in nature, can be deformed and squeeze like a solid fabric into holes that are much smaller than their size. This review aims to explain the concept of transfersomes, methodology, various methods of preparation and manufacture of materials and properties affecting transfersomes, as well as their latest applications in the administration of commercial drugs.*

Keywords: Transfersomes; Nano-encapsulation; Transdermal drug delivery system, Phospholipid.

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