



Changes and Causes of Drug Medicine in Human Body

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DESCRIPTION

Topical drug delivery is the “process of applying a medication-containing formulation to the skin to treat a cutaneous ailment.” The application of topical treatments like ointments, creams, and lotions is uncomfortable for the patient since they are typically very sticky. They must be utilized carefully because they have a reduced spreading coefficient. They struggle with stability as well. To solve this issue, transparent gels have grown in popularity in cosmetic and pharmaceutical formulations. The formation of gels results from the considerable entrapment of an aqueous or hydroalcoholic liquid in a system of colloidal solid particles. Gel compositions offer a quicker therapeutic release than ointments and creams. Gels have one fundamental disadvantage despite all of their benefits, they cannot deliver hydrophobic medications.

To get over this restriction, an emulsion-based technique is being created that will efficiently incorporate and deliver a hydrophobic therapeutic component across gels. Emulgels are dosage forms that combine the benefits of gels and emulsions. Emulsions have a refined appearance and can be readily removed from the skin. They also penetrate the skin fairlywell. “Emollient, non-staining, water-soluble, easier spread ability, longer shelf life, bio-friendly, translucent and a pleasing look are just a few of the benefits of emulgels for dermatological treatment.

The skin is the primary mechanical defense against penetration of many pharmacological compounds and it also serves as an ideal site for local and systemic drug delivery. Over the last few decades, the topical route of medication delivery has been increasingly popular. Despite the limitations of traditional topical

medication delivery techniques, such as poor retention and bioavailability. This disadvantage is resolved through intensive research aimed at developing novel topical drug delivery technologies that increase safety, effectiveness and side effects.

The skin is the body's largest organ and serves as an exterior protection system. It covers the outside of the body and serves as a mechanical barrier between the interior part of the body and the outside environment, in addition to the defense mechanism. The majority of topical medications are meant to be used topically.

CONCLUSION

The development of topical dosage forms therefore requires a fundamental understanding of the skin's physiological function. “A third of the blood that circulates throughout the body passes through the skin of an adult, which has a surface area of around 2 m² and according to estimates, there are 200-300 sweat ducts and 40-70 hair follicles per square centimeter of human skin and the pH of the skin varies from 4 to 5.6”. The pH of the skin's surface is impacted by sweat and the fatty acids released in sebum.

The skin is composed of four distinct layers of tissue. These layers of skin, which lie between the stratum corneum and the dermis, range in thickness from 50 to 100 micrometres. The physico-chemical structures of the living epidermis' cells resemble those of other living tissues. Tonofibrils serve as the cellular adhesive. The density of this region is similar to that of water. There is around 90% water in the mixture.

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