DIFFERENT BASES OF PHARMACEUTICAL CREAMS AND THEIR DISPERSED SYSTEM

Hawilo Ali, Yudina Yu.V.
National University of Pharmacy, Kharkiv, Ukraine
alihawilo@hotmail.com

Once widely used, ointments have been largely substituted by creams and gels

Oil-in-water creams are more comfortable and cosmetically acceptable as they are less greasy and more easily washed off using water.

Water-in-oil creams are more difficult to handle but many drugs which are incorporated into creams are hydrophobic and will be released more readily from a water-in-oil cream than an oil-in-water cream.

Water-in-oil creams are also more moisturizing as they provide an oily barrier which reduces water loss from the stratum corneum, the outermost layer of the skin.

The main advantage of creams over other semisolid systems is their ability to easily dissolve both hydrophobic and hydrophilic drugs. Creams are softer than ointments and are preferred because of their easy removal from containers and good spreadability over the absorption site.

The most important consideration with respect to creams is the stability of the finished product. The stability of a pharmaceutical emulsion is characterized by the absence of coalescence of the internal phase, absence of creaming, and maintenance of elegance with respect to appearance, odor, color and other physical properties.

The instability of a drug may lead to the loss of its concentration through a chemical reaction under normal or stress conditions. This results in a reduction of the potency and is a well-recognized cause of poor product quality. The degradation of the drug may make the product esthetically unacceptableif significant changes in color or odor have occurred. The degradation product may also be a toxic substance.

Cream formulations may contain fats and oils with high percentage of unsaturated linkages that are susceptible to oxidation degradation and development of rancidity. The addition of antioxidants retards oxidation of fats and oils, minimizes changes in color and texture and prevents rancidity in the formulation.

We are planning a complex research the effect of different physical, chemical and technological parameters on the stability of cream preparations.