PHARMACEUTICS-I (BP103T)

UNIT: 5 (Semi-solid dosage forms)

CLASS: 7

TOPIC: EVALUATION TESTS

Content uniformity of drug

A known weight of ointment is taken and assayed for amount of the drug.

Penetration

A weighed quantity of ointment is rubbed over skin for a given period of time and unabsorbed ointment is collected and weighed. The differences in weights represent the amount absorbed.

Rate of release of medicament

To assess rate of release of medicament, small amount of the ointment can be placed on the surface of nutrient agar contained in a Petri dish or alternately in a small cup cut in the agar surface. If the medicament is bactericidal the agar plate is previously seeded with a suitable organism like s.aureus. After a suitable period of incubation, the zone of inhibition is measured and correlated with the rate of release. Another method for finding out release rate is to smear internal surface of test tubes with thin layers of ointment, fill the tubes with saline/serum and after a gap of time estimating the amount of drug present in the serum/saline.

Absorption of medicament into blood stream

The Dia dermic ointment should be evaluated for the rate of absorption of drug into the blood stream. This test can be run in-vivo only. Definite amount of ointments should be rubbed through the skin. Under standard conditions and medicaments are estimated in the blood plasma or urine.

Irritant effect

In general, no ointment should possess irritant effect on the skin or mucous membranes the tests for irritancy can be carried out on the skin and eyes of rabbits or the skin of human beings. The irritant effect can also be judged to a certain extent by injecting the ointment into thigh muscles and under the abdominal skin of rats. Reactions are noted at intervals of 24,48,72 and 96 hours. Lesions on cornea, iris, conjunctiva are used for judging the irritancy to the eyes. Presence of patches on the skin within 2 weeks indicate irritancy to pressing skin.

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Rheology

Rheology is very important as these creams are marketed in tubes or containers. The rheology or viscosity should remain constant. As these products are normally non-Newtonian in nature, the viscosity can be measured using viscometers used for such liquids. Rheologic measurements are utilized to characterize the ease of pouring from a bottle, squeezing from a tube or other deformable container, maintaining product shape in a jar or after extrusion rubbing the product onto and into the skin and pumping the product from mixing and storage to filling equipment.

Sensitivity

As various types of ingredients are used with occasional use of antiseptics hormones etc. there is a possibility of sensitization or photosensitization of the skin. This should be tested beforehand. This test is normally done by patch test on and can be either open or occlusive. The test sample is applied along with a standard market product at different places and effect is compared after a period of time

2 MARKS QUESTIONS

1. Enlist the evaluation tests of semi-solid dosage forms.

5 MARKS QUESTIONS

1. Discuss about the evaluation tests of semi-solid dosage forms