ETHOCYN, A COSMETIC TREATMENT FOR AGING SKIN

E.K. Orenberg*, S. Selim*, P. Lehman + and C. Burnison*

* Chantal Pharmaceutical Corporation, Los Angeles, California
+ University of Washington, Seattle, Washington

Abstract:

Ethocyn (Chantal Pharmaceutical Corporation) is a new cosmetic which is being developed as an agent to help optimize skin tone and youthful appearance. With aging of the skin, the stiffening of dermal collagen and decrease in elastin fiber density and thickness contribute to skin surface wrinkling and inelasticity. Pilot studies with topical Ethocyn indicate smoothing of skin surface topography as well as optimization in the elasticity of the skin.

Pharmacokinetic profiles of Ethocyn in rats show rapid and quantitative skin absorption (98%) following a single dermal dose. Blood levels of radioactivity plateau at 8-12 hrs. and decrease by 24 hrs. The compound is excreted predominantly in the urine within the first 24 hrs. In vivo percutaneous studies in Franz cell diffusion chambers were used to compare the penetration of Ethocyn in rat, rabbit, monkey, pig, and human skin and to analyze the flux (% dose/hr/cm) as a function of dose and carrier vehicle. For example, the flux of 0.5% Ethocyn in 75%-25% alcoholic/aqueous solution is steady in all skins over a 40 hour period. The surface wash, epidermal, and dermal contents of drug increase in proportion to applied dose. HPLC analysis of the receptor solution indicates that Ethocyn is metabolized in the skin.

Cosmetic clinical studies for Ethocyn to document activity will include non invasive procedure of macrophotography under controlled conditions, and skin surface replicas created with silicon impression materials with subsequent computer image analysis to obtain a permanent graphic record of skin topography for comparative evaluations. Light and electron microscopy study of skin biopsy specimens will assess qualitative changes in elastin with Ethocyn treatment.

Presented at the INTERNATIONAL CONFERENCE ON SKIN THERAPY AND COSMETIC Cannes, France, August 28 - September 2, 1988