

〈講座〉

表皮角層変化の評価法

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Evaluation for Alteration of the Stratum Corneum

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Abstract

Abnormal changes of the horny layers are generally represented by such clinical symptoms as shininess, scaling and wrinkling, termed here "skin roughness" which develops frequently as a result of surfactant treatments. The skin roughness is considered important as a prerequisite for the further occurrence of primary irritation because of a decrease in the horny layer's ability to protect against penetration. Several techniques are available for inducing roughness experimentally such as immersion-, circulation-, dropping, wet cloth- and cup shaking methods. In addition to clinical evaluation, morphologic observations are also conducted using SUMP or Replica technique as well as electron microscopic analysis modified for fixation procedures. Another aspects of observation of the roughness is evaluations of the horny layers as functioning organelles. They involve water content measured by Impedance meter, transepidermal water loss by Evaporimeter. Biochemical evaluations are performed by corneocyte counting, adsorption measurement of chemicals used, and SH analysis. It is also convenient to observe changes of the horny layers by histochemical techniques including dye staining, acid phosphatase histochemistry of stripped horny layers, as well as FITC staining and SH or SS staining by DACM of frozen sections.