

〈原 著〉

口唇落屑メカニズムに基づいたリップケア方法の開発

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Development of Lip Treatment on the Basis of Desquamation Mechanism

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Abstract

Lip chapping is a serious cosmetics problem, though remedies other than moisturizing have not been proposed. We investigated changes in the surface configurations of lip corneocytes and activities of desquamation-regulating proteinases associated with lip chapping. Using scanning electron microscopy, villus-like projections were observed on the inner surfaces of most corneocytes from normal lips, whereas those with flatter surface were predominant in chapped lips. Further, cell surface area increased with the severity of lip chapping. Cathepsin D (CD)-like and chymotrypsin-like proteinase, which are also present in skin as desquamation-regulating proteinases, were detected in lip corneocytes, though only CD activity was found to decrease in severely chapped lips. Hydration was also lower in areas of lip chapping. Sequential topical application of apricot extract essence increased CD activity and improved chapping severity. Our results suggest that lip chapping can be characterized as similar to senile xerosis rather than dry skin such as winter xerosis, as it shows a delayed transition of corneocytes through the stratum corneum, and the reduced CD activity may be one of the mechanisms that is further decreased by low hydration. We propose that an enhancement of both CD activity and lip moisture may be effective to improve lip chapping.

Key words: corneocyte, desquamation, cathepsin D-like proteinase, lip, lip chapping, lip treatment.