

〈原 著〉

角層剥離パターンによる角層評価 (第2報) ——季節変化と年代差について——

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Evaluation of the Stratum Corneum Exfoliated by Tape Stripping Method (Part 2) —Seasonal and age-related differences of exfoliated pattern—

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Abstract

When the stratum corneum is sampled using the tape stripping method, the exfoliated stratum corneum adheres to the tape in patterns that correspond to its condition. Analysis of this stripped stratum corneum pattern enables skin condition to be evaluated. In the present work, we used image analysis to quantify the patterns of stratum corneum sampled from women's cheeks, calculating four parameters—desquamation index for amount (DIA), desquamation index for thickness (DIT), desquamation index for size (DIS) and desquamation index for locality (DIL)—and analyzed seasonal and age-related differences in these parameters. As regards seasonal differences, DIA was higher in spring than in winter and there was a tendency for DIS to be higher in winter. Simultaneously performed measurements of skin hydration showed minimum values in winter and maximum values in summer, illustrating a disparity between seasonal changes in DIA and hydration. This finding suggests that desquamation tends to increase with the dry skin state in winter, whereas the amount of exfoliated skin may not simply vary only in accordance with skin dryness. As regards age-related differences, comparison using stratum corneum samples collected in winter showed that DIA tended to increase with advancing age, but no obvious age-related differences were observed for DIS. In brief, there was a tendency for exfoliation of the stratum corneum to be thicker with advancing age, but the onset of desquamation may be more substantially affected by external factors such as the living environment, rather than the effects of aging.

Key words: stratum corneum, tape stripping, image analysis, seasonal differences, age-related differences.