Consideration for the Sensitive Skin from the Point of Corneocytes Morphology

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Abstract

There is a growing demand for the cosmetics products which are specifically designed for sensitive skin. In order to develop the effective products for sensitive skin, cosmetic manufacturers need to understand the causes and to have a reliable means of evaluating the degree of sensitivity. Our previous study revealed that the meaning varies somewhat among individuals, but that there is a consensus on specific reasons to which they refer when they report having sensitive skin. These reasons include experiences of some uncomfortable symptoms using cosmetic products, tendencies for their skin to have acne or pimples and become dry and flaky. Also the development of skin sensitivity is often related to a reduction in the barrier function and water holding capacity of stratum corneum. Therefore, a method could be developed by using certain biophysical properties of corneocytes to predict skin sensitivity. Our search for such an objectively measurable sensitivity index led us to the discovery that a certain parameter of the average projected area of corneocytes obtained via tape stripping at a specific area of facial skin can be used for this purpose. This method is now applied for the evaluation of our customer’s skin on skin counseling.

In this article, we would like to introduce the cosmetic manufacturer’s way of thinking about sensitive skin, and also would like to describe the condition of the Japanese women’s sensitive skin through the measurement of corneocytes, obtained by tape stripping, employing the parameters of the average projected area of corneocytes, the cellular arrangement and the thick abrasion. And we would like to consider the seasonal differences in the sensitive skin based on the data of corneocyte parameters we have obtained. Furthermore, we will discuss how the regional differences in Japan affect the corneocytes morphology, based on the data obtained through the practical test of the product, which was conducted at the same season. In conclusion, sensitive skin, some exceptions, does not stay in a permanent condition, but is easily affected by external environments from one season to another.

Key words: skin sensitivity, corneocytes, non-invasive method, tape stripping, the average projected area of corneocytes (APAc), the thick abrasion, the cellular arrangement, seasonal change.

1. 緒 言

自分の肌が敏感だと思う女性は今や二人にひとりであり、近年増加の一途をたどっている（Fig. 1）。敏感肌者の肌を敏感と考える理由として「過去の皮膚トラブル経験」、「ニキビ・吹き出物のできやすさ」、「カサカサ等乾燥性トラブルの発生のしやすさ」を挙げると、敏感肌者に認められる皮膚状態も多くの病態が混在する1)など、敏感肌の実像は非常にわかりにくいことが現状である。

化粧品業界には「敏感肌」についても明文化された共通の定義はないが、敏感肌はアトピー体質やアレルギー体質等の先天的な要因や、体調、季節の変わり目やストレス、疲労等の環境要因により、持続的または一時的に敏感になる肌と考えられており、各企業とも骨子はほぼ同様である4)。

これらから弊社では、敏感肌とは「アレルギー性物質や刺激物質などの特定の物質に対して体質的に過敏になり、自他覚症状が生じやすい肌（体質的敏感肌）」、および「環境変化や刺激などの外部環境や体調・食生活などの影響で、一時的に過敏になり自他覚症状が生じやすい肌（一時的敏感肌）」と定義している。さらに、「敏感肌」に比べ、自他覚症状が生じた場合の症状の程度が軽く、症状の発生頻度が低い肌は「やや敏感肌」と呼んでいる。

一方、敏感肌の定義は皮膚科分野と化粧品分野で若干異なる。すなわち皮膚科分野では、アトピー性皮膚炎やアレルギー性皮膚炎等に代表される炎症やびらん等の症状が認められる肌、いわゆる「疾患肌」が敏感肌に含まれる5)。化粧品分野では皮膚に炎症がある場合は化粧品の使用を避けるべく指導しており、疾患肌は使用対象ではない。