〈原　著〉

口唇皮膚生理に着目したスキンケア口紅の開発

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Development of Skincare Lipsticks on the Basis of Dermatological Study of Lips

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Abstract

The color of the skin is known to reflect the blood flow within. The lips have many capillaries close to the skin surface, making lips redder than the rest of the face. However, the lips have not been studied as much in dermatology as the facial or body skin, and little is known about the relationship between relatively dull-colored lips and skin blood flow. Hence, we studied the physiological differences between colorful and dull-colored lips by two-dimensional laser Doppler blood flow analysis, by spectrometer for the measurement of oxygen saturation and by observing inside the lips non-invasively using confocal microscope. We found that dull-colored lips and the corner of lips (generally dull-colored compared to the center of lips) show relatively poor blood flow and lower oxygenated hemoglobin. We also found there was a difference in lip structure between those who had relatively colorful lips (generally the young) and those who did not (generally the elderly). The blood in the lips of those with relatively colorful lips tended to run straight and in parallel with the skin surface. This structure emphasizes clear red blood. Those with relatively dull-colored lips had lost this unique blood-capillary structure. Their blood ran from deep within the skin, and straight back down again, much as blood circulates within facial skin. Also, members of the latter group had fewer blood capillaries near the skin surface in the lips than members of the colorful-lips group. We incorporated α-G hesperidin derived from the rinds of certain citrus fruits, which is known to enhance blood circulation, into a lipstick for trial. It was found that blood flow was increased 30 min after application, and after two weeks of daily application the lips became noticeably less dull. These findings suggest that the decrease of blood flow resulting from the change of unique capillary structures causes the dullness of lips.

Key words: lip, dullness, blood flow, α-glucosyl hesperidin, confocal microscope.