

〈原著〉

ムコ多糖多硫酸エステルを含有する外用剤の 皮膚表面水分含有量に対する影響 ——各種外用剤との比較検討——

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The Effect of Creams Containing Mucopolysaccharide Polysulfate on the Skin Surface Water Content — Comparison with Various Skin Creams —

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Abstract

In a previous study,¹⁾ mucopolysaccharide polysulfate (MPS-PS) was shown to have a high water-holding capacity. Additional studies were performed in which the moisturizing effect of creams containing MPS-PS was compared to the effect of other skin creams. Following application, changes in skin surface water content were measured using high frequency alternating current. Application of skin creams resulted in an immediate increase in water content in the skin surface which decreased rapidly during the first 30 minutes and then decreased gradually thereafter. The focus of the present study is this gradual reduction in the skin surface water content.

1. Hirudoid® (0.3% MPS-PS), Hirbee cream® (0.1% MPS-PS), and the cream base were applied and changes in the skin surface water content were examined over a 6-hour period. All samples maintained a significantly high level of water content for at least 6 hours. They were ranked in order of moisturizing potency: Hirudoid, Hirbee cream, and cream base. These results indicate that MPS-PS is the active moisturizing component in these creams.

2. When compared to other skin creams containing hyaluronic acid, urea, and collagen, Hirudoid was found to have the highest moisturizing capacity. Following the application of D cream which contained Aquarizer E.J., vitamin A palmitate, vitamin E acetate, and vitamin D₂, the skin surface water content increased gradually with time and after 5 hours reached the same level as that of Hirbee cream. The moisturizing effect of the other creams was lower than that of Hirbee cream.

Conclusion: Hirudoid® and Hirbee cream® containing MPS-PS were found to have a greater moisturizing effect on the stratum corneum of human skin than other skin creams. These results indicate that MPS-PS is an effective moisturizer for the stratum corneum of human skin.