Study to investigate the efficacy of Cutimed® ACUTE containing 5% and 10% urea on skin hydration

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The following graph shows the mean Corneometer® value of all volunteers at all assessment times.

**Efficacy of products**

This graph shows the difference data of skin hydration values against baseline.

**Introduction**

A damaged skin barrier leads to increased trans-epidermal water loss (TEWL), which results in dry skin conditions. When TEWL is increased, a urea-based product can be applied externally, binding water, re-balancing hydration and helping to restore the smoothness and elasticity of the skin.

**Objective**

The aim of this study was to investigate the efficacy of skin care products on skin hydration/moisturization after product application. The measurements were performed on the volar forearms of female volunteers. An untreated control area was included.

**Materials and Methods**

The test products were Cutimed® ACUTE cream mousse with 5% and 10% urea. The products were applied by 20 female volunteers at home, twice daily, over a period of two weeks, according to an application plan. One area remained untreated as the control.

Four test areas were defined on each volunteer (two on each volar forearm). The two test products and the untreated control area were allocated to the test areas using a randomisation scheme. Measurements were performed on the first day (baseline), after one week and after two weeks of product application.

Skin hydration measurement was performed using the electrical capacitance method with a Corneometer®. The principle is based on changes in the capacitance of the measuring head, which functions as a capacitor. An electrical field is applied between two gold conductors to measure the dielectric constant of the upper skin layer. The dielectric constant is an indication of the moisture content of the skin.

**Results of Corneometer® measurements [skin hydration]**

The following graph shows the mean Corneometer® value of all volunteers at all assessment times.

**Conclusion**

The aim of the study was to investigate the efficacy of the skin care products Cutimed® ACUTE 5% and 10% urea on skin hydration/moisturization after product application, compared to areas of untreated skin and the baseline situation. Skin hydration was determined before product application, and on days 8 and 15 of the study.

Regarding the Corneometer® results, significantly higher skin hydration was found for Cutimed® ACUTE 5% and 10% urea compared to baseline. Also a significant increase in skin hydration was found for the test products Cutimed® ACUTE 5% and 10% urea compared to the untreated area for all assessment times.

**Result:**

The analysed data show significantly higher skin hydration values for Cutimed® 5% and 10% urea on day 8 and 15 compared to the untreated area as well as to the baseline situation.