



ATOPIC ECZEMA/DERMATITIS

## THE ROLE OF CERAMIDE, MENTHOL, AND POLIDOCANOL ON SKIN BARRIER FUNCTION AND DISEASE SEVERITY OF ATOPIC DERMATITIS

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**Introduction:** Pathogenesis of atopic dermatitis (AD) relates with the defect of skin barrier. Unbearable itch leads to intense scratching, causing skin damage, and perpetuates the disease.

**Objective:** The aim of this study is to investigate efficacy of ceramide, menthol, and polidocanol to improve skin barrier function and AD severity.

**Material and Methods:** Thirty subjects were included in this pre-experimental, before-after observation study. The subjects were children 8-18 years old with mild atopic dermatitis. We evaluated the effect of the combination on AD severity using SCORAD index and skin barrier function using trans epidermal water loss (TEWL). Cream containing ceramide, added with gel containing menthol and polidocanol were applied at baseline visit. Subjects then suggested to apply same procedure regularly at home. Evaluation were done on 5 minutes after first application, week 1, and week 2.

**Results:** The mean SCORAD index on baseline visit was  $19.04 \pm 4.13$ , on week 1 evaluation was  $12.93 \pm 3.36$ , and week 2 was  $9.40 \pm 2.94$ . SCORAD index was statistically significant decrease among all evaluation points. The baseline mean TEWL was  $26.91 \pm 14.48$ , on 5 minutes evaluation was  $16.86 \pm 8.75$ , week 1 was  $18.31 \pm 10.67$ , and week 2 was  $14.97 \pm 7.66$ . Baseline TEWL compared with evaluation points was significantly difference, but the differences among evaluation points was not statistically significant.

**Conclusions:** Decreasing TEWL after 5 minutes application and remains steady until 2 weeks showed that the combination can improve skin barriers immediately, and the effect persist with regular application. Decrease of SCORAD index obtained after one-week daily usage. Combination of ceramide, menthol, and polidocanol improve skin barrier function and decrease AD severity.

