



ATOPIC ECZEMA/DERMATITIS

## COMPARISON OF 24-HOUR, 28-DAY AND 1-WEEK POST-MOISTURIZING EFFECTS ON SKIN HYDRATION, BARRIER FUNCTION AND PH OF CERAMIDE 1, 3, 6-II CONTAINING MOISTURIZER VS HYDROPHILIC CREAM IN ELDERLY XEROSIS

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**Introduction:** A chronological decrease in the level of ceramides within the intercellular lipid lamellae of the stratum corneum is considerably one cause of skin dryness and barrier disruption in senile people. Ceramide 1, 3, 6-II containing moisturizer with multivesicular emulsion technology for the enhancement of individual ingredient effects on the skin may provide the long lasting efficacies in treatment of elderly xerosis.

**Objective:** To evaluate the efficacy of 24-hour, 28-day, and 1-week post-moisturizing effects of ceramides containing moisturizer compared with hydrophilic cream after application for 28 days for treatment of xerosis in the elderly.

**Materials and Methods:** Patients with xerosis severity scale 2-4, aged 50-70 years, were enrolled in this intra-subject, randomized, double-blinded, controlled study. The efficacy of skin hydration, transepidermal water loss (TEWL), and skin pH improvement was evaluated.

**Results:** There were 10 enrolled female subjects with mean age of  $56.6 \pm 5.46$  and mean xerosis severity scale of  $3.6 \pm 0.7$ . Remarkable skin hydration improvement was more significantly observed in those with the ceramide containing moisturizer rather than the hydrophilic cream at all evaluated time points for  $15.51 \pm 3.18$  vs  $14.97 \pm 3.42$  (baseline),  $38.55 \pm 6.01$  vs  $25.88 \pm 5.17$  (4 hrs),  $28.21 \pm 5.29$  vs  $21.94 \pm 5.12$  (24 hrs),  $33.11 \pm 2.74$  vs  $26.5 \pm 2.88$  (28 days), and  $30.59 \pm 3.07$  vs  $25.25 \pm 2.72$  (1-week post moisturizing) ( $P < 0.05$ ), respectively. Whilst, TEWL notably yielded better treatment efficacy of the ceramide containing moisturizer after 24-hour ( $P = 0.034$ ) and 1-week post moisturizing effects ( $P = 0.019$ ). Moreover, more skin pH improvement on the ceramide treated site was markedly noted after 28 days ( $P = 0.002$ ).





Conclusion: Following the multivesicular emulsion technology, ceramide 1, 3, 6-II containing moisturizer significantly yielded better efficacies for skin hydration, TEWL, and skin pH improvement at 24-hour, 28-day and 1-week post moisturizing in elderly xerosis treatment.

