

Solid hyaluronic acid concentrate with anti-aging effects

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Introduction Hyaluronic acid (HA) is an important component of the extracellular matrix and has been used injectable to treat signs of aging, however, little is known about its use topically in different vehicles.

Objectives The aim of this study was to evaluate the benefits of a solid cosmetic with 1,5% of HA in different molecular weights to increase skin hydration and reduce signs of aging.

Materials and methods First, the increase in HA synthesis was evaluated using the enzyme immunoassay ELISA (enzyme linked immunosorbent assay) performed on ex vivo human skin fragments. After, a clinical study evaluated the skin hydration and transepidermal water loss (TEWL) on 22 volunteers after 15min, 30min, 6h, 12h and 24h after a single application. A long-term clinical trial evaluated product benefits by dermatologists, image analysis by means of pores, whitening and wrinkles, and cutometric assessment by means of firmness and elasticity after 28 and 56 days of use.

Results Product increased up to 44% on the synthesis of HA, compared to the baseline control group, evaluated in parallel under the same conditions in ex vivo study. Skin hydration increased by 23.84% (T15min), 37.04% (T6h), 35.20% (T12h) and 31.62% (T24h) after a single application of the investigational product. Also, it was demonstrated significant decrease in TEWL by 28.64% (T15min), 34.58% (T6h), 40.18% (T12h) and 41, 51% (T24h). After evaluating the clinical efficacy, the investigational product provided a significant ($p<0.05$) improvement of: skin spots, pores, medium and deep wrinkles, erythema and skin luminosity after 28 and 56 days of use. The image analysis showed that the investigational product provided a significant ($p<0.05$) reduction in the number of pores, significant lightening of total spots and brown spots, significant improvement of UV spots, red spots (erythema), reduction of wrinkles and fine lines after 56 days of use. Cutometric evaluation proved statistically significant improvement ($p<0.05$) in skin firmness and elasticity after 28 days of continuous use.

Discussion These study presents important information's about benefits of solid cosmetic with high concentration of HA to moisturize skin and improve sings of aging.