

Oral supplementation of specific collagen peptides has beneficial effects on human skin physiology: a double-blind, placebo-controlled study

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Abstract

Various dietary supplements are claimed to have cutaneous anti-aging properties; however, there are a limited number of research studies supporting these claims. The objective of this research was to study the effectiveness of collagen hydrolysate (CH) composed of specific collagen peptides on skin biophysical parameters related to cutaneous aging. In this double-blind, placebo-controlled trial, 69 women aged 35-55 years were randomized to receive 2.5 g or 5.0 g of CH or placebo once daily for 8 weeks, with 23 subjects being allocated to each treatment group. Skin elasticity, skin moisture, transepidermal water loss and skin roughness were objectively measured before the first oral product application (t0) and after 4 (t1) and 8 weeks (t2) of regular intake. Skin elasticity (primary interest) was also assessed at follow-up 4 weeks after the last intake of CH (t3, 4-week regression phase). At the end of the study, skin elasticity in both CH dosage groups showed a statistically significant improvement in comparison to placebo. After 4 weeks of follow-up treatment, a statistically significantly higher skin elasticity level was determined in elderly women. With regard to skin moisture and skin evaporation, a positive influence of CH treatment could be observed in a subgroup analysis, but data failed to reach a level of statistical significance. No side effects were noted throughout the study.

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