Studies

Clin Exp Dermatol. 2014 Dec;39(8):874-80. doi: 10.1111/ced.12405. Epub 2014 Oct 4.

Effect of high advanced-collagen tripeptide on wound healing and skin recovery after fractional photothermolysis treatment.

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Author information

Abstract

BACKGROUND: Collagens have long been used in pharmaceuticals and food supplements for the improvement of skin.

AIM: We evaluated the efficacy of high advanced-collagen tripeptide (HACP) on wound healing and skin recovery.

METHODS: Using an in vitro model, we performed HaCaT cell migration assays and collagen gel contraction assays using HACP concentrations of 1, 10 and 100 μg/mL. In this pilot study, eight healthy volunteers were randomly divided into two groups. Both the control and experimental groups received fractional photothermolysis treatment, but in the experimental group, four subjects received 3 g/day of oral collagen peptide (CP) for 4 weeks. To assess transepidermal water loss in each patient before and after the treatment, we used a Corneometer and a Cutometer, and we also assessed the patient's Erythema Index.

RESULTS: The cell migration assay showed that HACP enhanced wound closure, but not in a dose-dependent manner. The collagen gel contraction assay showed increased contractility when patients were treated with 100 μg/mL HACP, but the results were not significantly different from those of controls. We found that post-laser erythema resolved faster in the experimental group than in the control group ($P < 0.05$). In addition, the recovery of skin hydration after fractional laser treatment was greater in the experimental group than in the control group by day 3 ($P < 0.05$), and the experimental group showed significantly improved post-treatment skin elasticity compared with the controls by day 14 ($P < 0.05$).

CONCLUSIONS: Collagen tripeptide treatment appears to be an effective and conservative therapy for cutaneous wound healing and skin recovery after fractional photothermolysis treatment.

Studies

Skin Pharmacol Physiol. 2014;27(1):47-55. doi: 10.1159/000351376. Epub 2013 Aug 14.

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

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Author information

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.

Studies

J Cosmet Laser Ther. 2014 Jun;16(3):132-7. doi: 10.3109/14764172.2013.854119. Epub 2013 Nov 18.

Effects of collagen tripeptide supplement on skin properties: a prospective, randomized, controlled study.

Choi SY[1], Ko EJ, Lee YH, Kim BG, Shin HJ, Seo DB, Lee SJ, Kim BJ, Kim MN.

Author information

Abstract

BACKGROUND: Experimental and clinical trials have indicated that dietary supplements can have beneficial effects on skin health.

OBJECTIVE: We investigated to evaluate the effect of daily collagen peptide (CP) supplement on skin properties.

METHODS: Thirty-two healthy volunteers were randomized to receive either no supplement (Group A), CP 3 g (Group B), CP 3 g, and vitamin C 500 mg (Group C), or vitamin C 500 mg (Group D) daily for 12 weeks. Skin properties evaluated included hydration, transepidermal water loss (TEWL), and elasticity using a corneometer, tewameter, and cutometer, respectively.

RESULTS: Changes from baseline in the corneometer were statistically significant between Groups A and B ($p = 0.011$) and Groups A and C ($p = 0.004$). There were statistically significant differences in cutometer from baseline between Groups A and B ($p = 0.005$) and Groups A and C ($p = 0.015$). There was no significant difference from baseline in the corneometer and cutometer between Groups B and C. The greatest changes in TEWL from baseline were seen in Group B, and the second greatest changes were seen in Group C.

CONCLUSIONS: Daily CP supplementation may improve skin hydration and elasticity, but concomitant intake of low-dose vitamin C did not enhance the effect of CP on skin properties.