

Studies

Int J Cosmet Sci. 2009 Dec;31(6):427-35. doi: 10.1111/j.1468-2494.2009.00513.x. Epub 2009 Jun 30.

An oral nutraceutical containing antioxidants, minerals and glycosaminoglycans improves skin roughness and fine wrinkles.

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Abstract

Various nutraceuticals (dietary supplements) are claimed to have cutaneous antiageing properties, however, there are a limited number of research studies supporting these claims. The objective of this research was to study the effectiveness of an oral nutraceutical containing antioxidants, minerals and glycosaminoglycans on cutaneous ageing. In this double-blind, placebo-controlled trial, 60 women aged 35-60 years were randomized to receive oral dietary supplement (n = 30) or placebo (n = 30), once daily for 12 weeks. The depth of skin roughness and fine wrinkles were measured using surface evaluation of skin parameters for living skin (Visioscan) at baseline, and at the 4, 8 and 12 weeks of treatment. Surface evaluation using a replica film (Visiometer) at baseline and at the 12th week of treatment was also carried out. Statistical differences in objective skin improvement were assessed by the independent t-test. The volunteers' satisfaction was tested using the chi-squared test. The baseline depth of skin roughness and fine wrinkles in the treatment group and the placebo group were 100.5 and 100 µm, respectively. At the end of the study, the depth of skin roughness and fine wrinkles in the treatment group showed a 21.2% improvement, whereas improvement in the control group was 1.7%. This difference was statistically significant (P < 0.001). With regard to the volunteers' satisfaction, there was no statistically significant decrease in the homogenization of skin colour, however, a statistically significant reduction in pore size and depth of skin roughness and fine wrinkles were observed (P < 0.05). No side effects were noted throughout the study. The oral dietary supplement containing antioxidants, minerals and glycosaminoglycans improved skin roughness and fine wrinkles but did not affect skin colour change in female volunteers.

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Glucosamine oral administration as an adjunct to hyaluronic acid injection in treating temporomandibular joint osteoarthritis.

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Abstract

OBJECTIVE: To investigate the therapeutic effect of oral glucosamine (GS) as an adjunct to hyaluronic acid (HA) injection on patients with temporomandibular joint osteoarthritis (TMJ OA).

METHODS: In this clinical trial, 136 participants, diagnosed as TMJ OA clinically and radiographically, were enrolled and randomized into two groups (group GS + HA: oral GS + HA injection; group placebo + HA: oral placebo + HA injection). Pain, maximum interincisal mouth opening (MMO), the levels of IL-1 β , IL-6, and TGF- β in TMJ synovial were defined as the outcome measurements and conducted before operation, and at 1-month and 1-year follow-up.

RESULTS: In both groups, pain scores were decreased and MMOs were increased at 1-month and 1-year follow-up, the changes at 1-year follow-up showed statistically significant intergroup differences. At 1-month follow-up, only IL-6 concentration was lower in group GS + HA than that in group placebo + HA. One year later, TGF- β concentration was higher and IL-6 and IL-1 β concentrations were lower in group GS + HA than those in group placebo + HA.

CONCLUSIONS: Both strategies alleviated symptoms in short term, but the patients treated with GS benefited more than those with placebo in long term, which may be due to the suppression of IL-1 β and IL-6 and the stimulation of TGF- β .

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Efficacy of Glucosamine Sulphate in Skin Ageing: Results from an ex vivo Anti-Ageing Model and a Clinical Trial.

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Author information

Abstract

BACKGROUND: Glucosamine sulphate (GS) is essential in the biosynthesis of glycolipids, glycoproteins, glycosaminoglycans (GAGs), hyaluronate, and proteoglycans. Connective tissues primarily contain collagen and proteoglycans and play an important role in skin ageing.

OBJECTIVE: The objectives were to assess ex vivo the impact of GS on skin ageing parameters and in vivo the effect of GS on the skin physiology of mature healthy volunteers after oral intake.

METHODS: The impact of GS on skin ageing was assessed ex vivo via different immunohistochemical assays and histology and via a clinical study using biopsies. Modulation of selected skin physiology markers was assessed by real-time quantitative PCR on skin punch biopsies obtained from 8 healthy >50-year-old women having ingested GS 250 mg once daily for 8 weeks.

RESULTS: Ex vivo, GS significantly (all $p \leq 0.02$) increased the expression of CD44 and collagen type IV, the epidermis GAG level, and collagen type I synthesis. After 8 weeks of oral GS administration, a significantly increased expression was observed at the mRNA level for vimentin, fibromodulin, biglycan, xylosyl transferase, hyaluronan synthase, collagen types I and III, bone morphogenic protein-1, and decorin (all $p \leq 0.05$).

CONCLUSION: Both experiments showed that GS has a positive effect on epidermal and dermal markers associated with age.

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J Dermatolog Treat. 2001 Mar;12(1):47-51.

The effect of an oral supplement containing glucosamine, amino acids, minerals, and antioxidants on cutaneous aging: a preliminary study.

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Abstract

BACKGROUND: Alterations in collagen, elastin, and glycosaminoglycans contribute to cutaneous changes seen in aging skin.

METHODS: A randomized, controlled, single-blind study was conducted with 53 female volunteers who were supplied with an oral supplement containing glucosamine, amino acids, minerals, and various antioxidant compounds. Hydration properties of the skin as well as textural analysis of the women's fine lines and wrinkles were assessed following 5 weeks intake of the oral supplement and results were compared with those of a control group of 12 individuals who did not take the supplement.

RESULTS: There was a statistically significant reduction (34%) in the number of visible wrinkles as measured by the silflo replicas ($P < 0.01$) and a reduction (34%) in the number of fine lines ($P < 0.06$) in the group of women who took the supplement. No significant changes in epidermal hydration were observed in either the control or study groups.

CONCLUSION: The use of an oral supplement containing glucosamine, minerals, and various antioxidant compounds can potentially improve the appearance of visible wrinkles and fine lines. It does not, however, affect epidermal hydration.