[2008] [SAT0393] LONG-TERM USE OF COLLAGEN HYDROLYSATE AS A NUTRITIONAL SUPPLEMENT IN ATHLETES WITH ACTIVITY-RELATED JOINT PAIN

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Background: Collagen hydrolysate is a nutritional supplement which has been shown to exert an anabolic effect on cartilage tissue.
Objectives: To investigate the effect of collagen hydrolysate on individuals who are healthy.
Methods: A prospective, randomized, placebo-controlled, double-blind study was carried out at Penn State University. Parameters like joint pain, mobility and inflammation were evaluated with the use of a visual-analogue-scale during a 24-week-study-phase. 147 subjects who competed either on a varsity or a club sport were recruited. Data of 97 of those 147 subjects could be statistically evaluated. 73 subjects were randomly assigned to receive 10 grams of collagen hydrolysate per day in the form of a vial containing 25 ml of a liquid formulation and 74 subjects to receive a placebo, i.e. a 25 ml of a liquid formulation containing xanthan.The primary efficacy parameter was the change of the visual analogue scales during the study phase in relation to the parameters referring to pain, mobility and inflammation.
Results: When the data of all the subjects (n = 97) that were evaluated during the study were taken into consideration, 6 parameters showed statistically significant changes of collagen hydrolysate (CH) versus placebo, namely the parameter pain at rest as assessed by the physician (CH versus placebo (-1,37±1.78 versus -0.90±1.74 (p = 0.025))) and the following 5 parameters as assessed by the study participants, joint pain when walking (-1.11±1.98 versus -0.46±1.63 (p = 0.007)), joint pain when standing (-0.97±1.92 versus -0.43±1.74 (p = 0.011)), joint pain at rest (-0.81±1.77 versus -0.39±1.56 (p = 0.039)), joint pain when carrying objects (-1.45±2.11 versus -0.83±1.71 (p = 0.014)) and joint pain when lifting (-1.79±2.11 versus -1.26±2.09 (p = 0.018)).
When a sub-group analysis which merely focused on subjects with knee arthralgia (n = 63) was carried out, the difference between the effect of collagen hydrolysate versus placebo even became more pronounced.
Conclusion: This is the first clinical trial to show improvement of joint-functioning in healthy subjects who were treated with the nutritional supplement collagen hydrolysate.
The results also suggest that athletes consuming collagen hydrolysate can potentially improve their physical performance.
References:
1. Ng KW, Saliman JD, Kelly T-AN, Statman LY, Ateshian GA, Hung CT: Collagen hydrolysate increases the mechanical properties and type II collagen synthesis of tissue engeneered articular cartilage. Paper no 0259. 51st Annual Meeting of the Orthopaedic Research Society in Washington (USA) in February 2005.
2. Flechsenhar K, Alf D: Ergebnisse einer Anwendungsbeobachtung zu Kollagen-Hydrolysat CH-Alpha. Orthopädische Praxis, 9/2005, 486 494
3. Hochberg MC: What a difference a year makes: reflections on the American College of Rheumatology recommendations for the medical management of osteoarthritis. Current Rheumatology Report (December 2001), 3 (6): 473 478

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Back pain, mechanical musculoskeletal problems, local soft tissue disorders

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