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Oral Supplementation Of Specific Collagen Peptides Accelerates Improvement In Achilles Tendon Symptoms And Function In Combination With Eccentric Exercise.

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Introduction: Recent studies indicate that nutritional factors can modulate local tendon healing following mechanical overloading. At a histological level tendinopathy is characterised by an imbalance in tendon collagen synthesis and structural fibril degradation. The current pilot study aimed to investigate whether oral supplementation of specific collagen peptides (sCPs) improves Achilles tendon symptoms and function in patients with chronic Achilles tendinopathy.

Methods: The current pilot study was a prospective double-blinded placebo-controlled clinical trial with a cross-over design. Eligible participants were randomized to 3 months of bi-daily doses of 2.5g sCPs (TENDOFORTE®, GELITA AG, Germany) or a placebo before exercise. Group AB received CPs for the first 3 months before crossing over to placebo. Group BA received placebo first before crossing over to sCPs. In addition to the nutritional intervention, all participants followed a well-structured eccentric calf strengthening program and milestone-based return-to running program for 6 months. At baseline (T1), 3 (T2) and 6 (T3) months, VISA-A questionnaires were obtained in 20 patients (13 men/7 women, age:44±8 yrs, BMI:24.4±3.3kg.m⁻²) with clinical symptoms (duration 54±90 months) of uni- or bilateral Achilles tendinopathy.

Results: After 3 months, 6 out of 10 participants in group AB and 3 out of 10 participants in group BA successfully returned to running activities. After 6 months these numbers further increased to respectively 7 (group AB) and 5 (group BA) participants. VISA-A score for the AB group at T1 was on average 60.8 (95%CI:[52.0; 69.6]), similar to the BA group at T1 (62.8, 95%CI: [54.0; 71.6]). At T2 the VISA-A score increased significantly for the AB group (73.4, 95%CI: [64.6; 82.2]), while in the BA group there was only a small increase (68.1,95%CI: [59.3; 76.9]). At T3, the AB group showed a further non-significant increase in VISA-A (79.3, 95%CI: [70.5; 88.1]), while the BA group showed a significant increase in VISA-A (85.8, 95%CI: [77.0; 94.6]). Both groups achieved the same improvement between T1 and T3.

Discussion & Conclusion:

Although this pilot study has limited statistical power and requires duplication in a larger clinical trial, oral supplementation of sCPs may accelerate the clinical benefits of a well-structured calf strengthening and return-to-running program in patients with chronic Achilles tendinopathy symptoms.