Surgical Treatment of Insertional Achilles Tendinopathy with or without Flexor Hallucis Longus Tendon Transfer: A Prospective, Randomized, Controlled Trial

Foot & Ankle Category: Other

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Introduction
Chronic insertional Achilles tendinopathy is a common pathology that can be difficult to manage. For patients who fail an appropriate course of non-operative management, several operative techniques have been described. Decompression with debridement has been shown to reduce pain and improve function in younger patients with less severe tendon involvement. However, results have been less reliable in patients over age 50. Due to concerns about persistent pain and functional limitation with decompression alone, some have advocated augmentation with the FHL tendon. However, the benefits of FHL augmentation have not been demonstrated in a controlled trial. We hypothesize that FHL augmentation will be associated with superior clinical outcome scores and greater ankle plantarflexion strength compared with Achilles debridement alone.

Methods
As part of an IRB approved study protocol, all patients greater than 50 years of age who had failed non-operative treatment for chronic insertional Achilles tendinopathy were invited to participate. Patients were randomly assigned to Achilles decompression and debridement alone (Group 1) or Achilles decompression and debridement augmented with FHL transfer (Group 2). Patients followed a standard post-operative protocol, including formal physiotherapy. Outcome measures included: AOFAS Ankle/Hindfoot score, visual analog pain scale (VAS), ankle and hallux plantarflexion strength (measured with Cybex 6000 Isokinetic Dynamometer), and a patient satisfaction survey. Patients were evaluated post-operatively at 6 weeks, 3 months, 6 months, and 1 year. All operative complications were recorded.

Results
A total of 28 enrolled patients had a minimum of one year follow-up, 15 in group 1 and 13 in group 2. The average patient age was 60.7 years. AOFAS ankle/hindfoot scores improved in both groups at 6 months and 1 year with no difference between groups. Activity-related VAS scores improved significantly in both groups, with no difference between groups at 6 months and 1 year. There was greater ankle plantarflexion strength in group 2 at 6 months, and a trend toward greater ankle plantarflexion strength at one year, compared to Group 1 (p=0.07). There was no difference between the two groups in hallux plantarflexion strength pre-op and at 1 year. At one year, 25 of 28 patients (90%) were satisfied with the outcome of their procedure, again with no difference between groups. Wound complications were found in 35.7% of patients; all wound complications resolved without surgical intervention. There were significantly more wound complications in Group 2 compared to Group 1 (p<0.05).
Conclusion
In this analysis of preliminary data, we found no difference in clinical outcome scores and patient satisfaction when comparing patients treated for chronic insertional Achilles tendinopathy with Achilles debridement alone versus FHL augmentation. However, we found greater ankle plantarflexion strength at 6 months and a trend toward greater ankle plantarflexion strength at 1 year in the FHL augmentation group. Hallux plantarflexion strength was no different between groups at one year. Wound complication rates were high, particularly in the FHL transfer group. Additional patient enrollment and follow-up may further elucidate the potential advantages of FHL transfer.