Treatment of Catastrophic Failures of Achilles Tendon Repairs Due to Deep Wound Complications
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Category: Sports

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Introduction/Purpose: The Achilles tendon is the most commonly injured tendon in the lower extremity. Whether these ruptures are acute or chronic, a surgical Achilles repair or reconstruction is often needed to restore tendon integrity and function. Risks from such surgeries include superficial or deep wound infections and/or dehiscence. To date, there is scant literature regarding the treatment of catastrophic failures of Achilles tendon repairs or reconstructions from deep wound infection and dehiscence. The purpose of this study is to retrospectively examine clinical outcomes from uniform single-stage surgical treatment of catastrophic failures of Achilles tendon repairs or reconstructions from deep wound complications.

Methods: Between 2007 and 2016, 10 patients developed a deep wound infection and dehiscence after surgical treatment of an acute or chronic Achilles rupture. Medical co-morbidities included obesity in 4, diabetes in 3, and nicotine use in 2 patients. Six and 4 patients had a mid-substance and insertional Achilles rupture respectively. Three patients had an acute injury that received an end-to-end suture repair. Seven patients had a chronic injury with Achilles retraction, which necessitated proximal Achilles or gastrocnemius lengthening. These patients required surgery for their wound problem due to depth and involvement of their Achilles repair/reconstruction site. Surgery involved a single-stage wound irrigation and debridement, Achilles excisional debridement at the repair/reconstruction site, flexor hallucis longus transfer to the calcaneus to replace the compromised or failed Achilles repair/reconstruction, and primary or vacuum assisted wound closure. Patients were followed for 6 months after this surgery and invited for recent follow-up to collect data.

Results: With uniform surgical treatment, full resolution of deep wound infection and dehiscence after Achilles repair/reconstruction was achieved in all 10 patients. No patients developed a recurrence of wound complications and/or infection to necessitate any further surgical debridements. All 10 patients presented for recent follow-up at a mean of 57.3 months. Mean Foot and Ankle Ability Measures increased from 36.3% at initial presentation before Achilles repair/reconstructive surgery to 84.2% at latest follow-up (P<0.05). Mean Visual Analog Scores of pain decreased from 6.6 of 10 before the Achilles repair/reconstruction to 1.5 of 10 at latest follow-up (P<0.05). All patients were able to return to normal gait and full activities at home, with 3 reporting difficulties with prolonged ankle activities at work.

Conclusion: This study demonstrates that our method of single-stage surgical treatment of catastrophic failures of Achilles tendon repairs or reconstructions from deep wound complications can achieve a high rate of improved patient function and pain relief. Clinical outcomes of treating patients with this particular complication of Achilles repair/reconstruction in this manner have not been previously reported in the orthopaedic literature. As catastrophic failures of Achilles tendon repairs or reconstructions from deep wound complications are studied further, our method of surgical care should be strongly considered as treatment.