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## **Minimally invasive treatment of acute Achilles tendon injuries with flexor hallucis longus tendon augmentation assisted by posterior ankle arthroscopy: case series and surgical technique**

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**Introduction:** Achilles tendon ruptures cause significant functional limitations. The treatment for acute injury is controversial; conservative or surgical treatment and open or minimally invasive surgery are available options. The objective of this study is to evaluate the clinical and functional outcomes of patients with acute Achilles tendon rupture treated with minimally invasive tendon repair and augmentation with flexor hallucis longus tendon transfer assisted by posterior ankle arthroscopy.

**Methods:** A retrospective, cross-sectional and observational study in which 5 patients with more than 24 months of postoperative follow-up were evaluated using the American Orthopedic Foot and Ankle Society (AOFAS) score, the Victorian Institute of Sport Assessment-Achilles (VISA-A), the Achilles Tendon Total Rupture Score (ATRS), the pain visual analog scale (VAS), and assessments of range of motion and strength.

**Results:** The mean scores on the following instruments were obtained: pain VAS: 0.6; AOFAS: 98; VISA-A: 98.2 and ATRS: 100. The mean dorsiflexion range of motion was smaller (4.8°) than the contralateral range of motion (7.6°). The mean plantar flexion strength was 24.02kgf on the operated side and 24.64kgf on the contralateral side. The flexion strength of the hallux interphalangeal joint was weaker on the operated side (13.94kgf) than on the contralateral side (17.6kgf), albeit with no complaints from the patients.

**Conclusion:** The proposed surgical treatment method had good clinical and functional outcomes among the patients evaluated in this study. The surgical technique presented herein may be a good alternative for the treatment of uncooperative patients diagnosed with acute Achilles tendon rupture due to tendinosis with important tendon degeneration.

**Keywords:** Spontaneous rupture; Achilles tendon; Arthroscopy.

