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Clinical and functional outcomes of minimally invasive reconstruction of chronic Achilles tendon injuries

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ABSTRACT

Introduction: Chronic Achilles tendon injuries require surgical treatment to improve tendon function. The minimally invasive technique described in this study reduces damage to the fascia and rigid fixation.

Objective: To evaluate the clinical and functional outcomes of the reported technique using functional tests, anthropometric measurements and questionnaires.

Methods: We evaluated 13 patients who underwent surgical treatment using the minimally invasive technique from 2013 to 2017, after at least 12 months of postoperative follow-up. The patients were subjected to the straight leg raise test to evaluate strength function; we measured the calf circumference and the tibiotarsal angle, and the Achilles Tendon Total Rupture Score (ATRS) and visual analog scale (VAS) were administered. We used parametric tests for statistical analysis.

Results: We obtained a 15.4% complication rate (2 patients). We observed differences between healthy and treated limbs when assessing the tibiotarsal angle (a 20% loss of ankle length) and the leg circumference (a 3% decrease in linear measurement). We observed a 36% loss of muscle stretch in functional tests. Conversely, we observed excellent results in the subjective functional assessment using the ATRS (a mean of 82.8 points and a median of 98 points).

Conclusion: Surgical treatment of chronic Achilles tendon injuries using the minimally invasive reconstruction technique is associated with an important postoperative objective functional loss. However, this functional loss is not correlated with subjective outcomes assessed using questionnaires in the postoperative follow-up of this technique, which indicates satisfaction and subjective functionality.

Keywords: Achilles tendon; Minimally invasive surgical procedures; Outcome assessment (Health care).

