Percutaneous Achilles Tendon Reconstruction with a Central Turndown Flap and Semitendinosus Augmentation

***Ghanshyam Kakadiya, MS**; Prashant Gedam, MBBS*
Topiwala National Medical College & BYL Nair Hospital, Mumbai, India

Purpose: Our objective was to report the results of a new minimally invasive Achilles reconstruction technique and to assess the perioperative morbidity, medium- to long-term outcomes, and functional results.

Methods: Our series was composed of 14 patients (11 men and 3 women), with a mean age of 45.6 years at surgery. Each patient had a chronic Achilles tendon rupture. The mean interval from rupture to surgery was 5.5 months (range, 2-10). The mean total follow-up was 30.1 months (range, 12-78). All patients were operated with a central turndown flap augmented with free semitendinosus tendon graft and percutaneous sutures in a minimally invasive approach assisted by endoscopy. The patients underwent retrospective assessment by clinical examination, the American Orthopaedic Foot & Ankle Society (AOFAS) ankle and hindfoot score, and the Achilles Tendon Total Rupture Score (ATRS). Paired t tests were used to assess the preoperative and postoperative AOFAS scores, ATRS, and ankle range of motion.

Results: The length of the defect ranged from 3 to 8 cm (mean, 5.1), while the length of the turndown flap ranged from 8 to 13 cm (mean, 10.1). The mean AOFAS score improved from 64.5 points preoperatively to 96.9 points at last follow-up. The mean ATRS improved from 49.4 preoperatively to 91.4 points at last follow-up. None of the patients developed a wound complication. No patient had a rerupture or sural nerve damage.

Conclusion: All patients in our study had a favorable outcome with no complications. We believe that with this triple-repair technique, one can achieve a strong and robust repair such as in open surgery while at the same time reducing the incidence of complications.

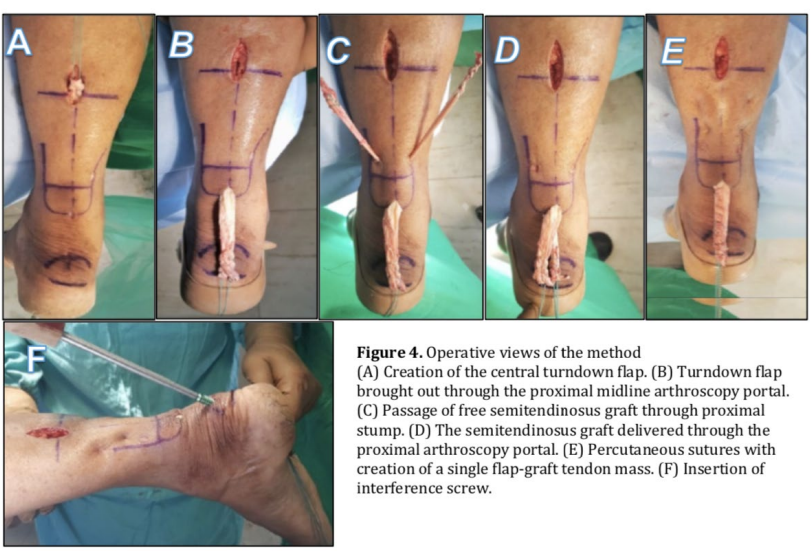

Figure 4. Operative views of the method
(A) Creation of the central turndown flap. (B) Turndown flap brought out through the proximal midline arthroscopy portal. (C) Passage of free semitendinosus graft through proximal stump. (D) The semitendinosus graft delivered through the proximal arthroscopy portal. (E) Percutaneous sutures with creation of a single flap-graft tendon mass. (F) Insertion of interference screw.