


**CHRONIC TENDO -ACHILLES RUPTURES TREATED BY SUTURE ANCHOR REPAIR
AND AUGMENTATION WITH FLEXOR HALLUCIS LONGUS TENDON TRANSFER,
FIXED WITH TITANIUM ACL SCREW**

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ABSTRACT

A chronic Achilles tendon tear is an unhealed rupture, often resulting from missed diagnoses of acute tears, especially in middle-aged men., to restore function, although recovery is prolonged and can involve. Methods: Surgically, Most common approach, varying by gap size. Small Gap End-to-end repair. Medium Gap (up to 5 cm): VY advancement (lengthening the tendon). Large Gap (>5 cm): Tendon transfer (using another tendon like FHL) or allograft. the repair. **Results:** chronic ruptures of the Achilles tendon of 10 patients were followed for a mean period of 12 months. 6 patients, excellent result and 4 patients good result.

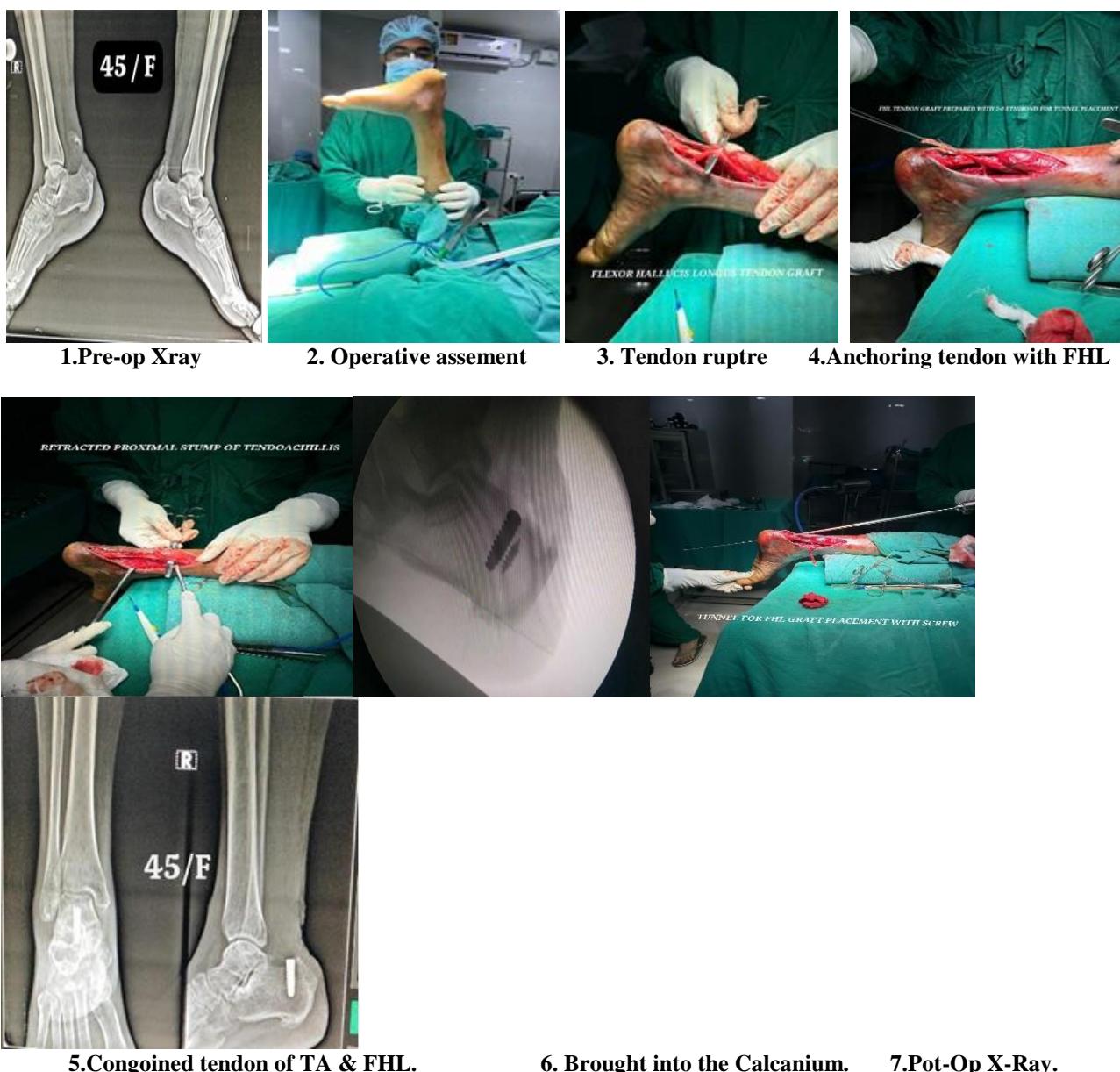
KEYWORDS: Chronic tear Achilles tendon, Flexor hallucis longus, Titanium ACL Screw.

INTRODUCTON

A rupture that is diagnosed 8 weeks after injury is considered. Activities like jogging, walking fast or climbing and descending stairs are restricted. Posterior heel pain or functional impairment can be indications for delayed reconstruction.

METHODS

This is a study of 10 patients consecutively operated at Dr PMR Institute of Medical Sciences General Hospital, Chevella, from Aug 2023 to Jan 2025, Most common approach, varying by gap size. Small Gap End-to-end repair. Medium Gap (up to 5 cm): VY advancement (lengthening the tendon). Large Gap (>5 cm): Tendon transfer (using another tendon like FHL) or allograft, the repair. The Achilles tendon was exposed by a posteromedial incision extending upto 1 cm below the calcaneal insertion. FHL was dissected out protecting the neurovascular bundle (Figure 3)The tendon is pulled and securely fixed with an Titanium ACL screw of same size as the tunnel diameter. (Figure 5). Paratenon is meticulously closed over the repair followed by skin closure.



RESULT

The patients were evaluated by American Orthopaedic The patients were evaluated by American Orthopaedic a 100 point score with 40 points for pain, 50 points for function and 10 for alignment. Functional evaluation by AOFAS ankle-hind foot scale was done in i. Pre-injury status by evaluating contralateral normal side; ii)Preoperative status; iii) Postoperative state at maximum followup. Overall result was graded as Excellent; Good and Poor. In addition, the time of single leg heel raise patient could sustain at latest followup was measured.

Table 1: Age (In Years), wise distribution of cases.

Age	No.of cases
31-50 yrs	6
51-60 yrs	4

Table 2: Gender wise distribution of cases Particulars.

Gender	No.of Cases
Male	6
Female	4

Table 3: Distribution of patients based on the outcome.

Result	No. of cases	Percentage (%)
Excellent	6	80
Good	4	20

Table 4: Mean AHS score.

Phase	AHS	Sd Score
Pre-Operative	41.2	9.37
Post-Operative	85.4	5.14

There were 10 patients with 10 chronic insertional Achilles tendon ruptures. The left Achilles tendon was

ruptured in 6 patients and right in 4. The mean age of this patient group was 54.7 years and it included 6 males and 4 females (Table 1). The average time interval from trauma to surgery was 6.3 weeks suggesting the chronicity of injury at the time of surgery. No patient was lost to followup. The mean length of followup was 10.3 months (range 9-13 months). At the last followup, the patients were able to do single leg heel raise for an average 13.7 seconds indicating a good return of push-off power during walking.

DISCUSSION

Our study has demonstrated good to excellent functional outcome in all patients. Similar good results have been published by Hartog and Wegrzyn and Yeoman *et al* which also used FHL tendon transfer.^[7-9] Mulier *et al* have shown poorer results and higher infection rates with gastrocnemius turn down flaps as compared to tendon transfer techniques.^[10] All the ruptures in our study were insertional i.e. at the calcaneal insertion or within 1 cm of insertion leading to a very short distal stump., a direct repair of proximal segment of Achilles tendon to the calcaneum via titanium suture anchor. In this situation, bone-tendon healing occurs which is slow and unreliable.^[11] So, the FHL transfer also works as a backup strategy in case of failure of suture anchor repair of Achilles tendon.

This is reflected in our good postoperative AHS scores. We did not immobilize the ankle in excessive plantar flexion but only in gravity equinus equal to the opposite side.^[12] In chronic rupture reconstruction, a 3.7% re-rupture rate is recorded. 13FHL tendon transfer probably protects the Achilles tendon repair from undue stress. FHL is the strongest plantar flexor of the ankle after triceps surae.^[13] Its line of contraction more closely resembles the Achilles tendon. So, tendon re-education is not required in the postoperative period. Moreover, the FHL tendon is in anatomical proximity to the Achilles tendon, so it can be harvested through the same incision. FHL tendon can also be harvested at master knot of Henry or from the great toe. In this study, the use of interference screw fixation requires a very short length of tendon making redundant the need for a second incision.

A potential problem with FHL transfer is loss of active plantar flexion of first toe which was observed in all of our cases. However, patients did not complain about any functional impairment in daily activities due to the same.^[15] Good recovery of plantar flexion strength was observed. All the patients were able to stand tip toe and maintain single leg heel raise for an average 13.7 seconds. FHL augmentation adds substantially to the overall strength of the reconstruction. Although it is study of a small number of patients (10) but chronic insertional tears of Achilles tendon are relatively uncommon. There were no major complications in our study and reliable good outcomes were found in all patients with successful rehabilitation to pre-injury level of activity.

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