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Evaluation of outcome of modified procedure of FHL transfer in chronic tendoachilles rupture with single incision technique

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Abstract

Background: Reconstruction of chronic ruptures of the Achilles tendon often requires an augmentation procedure, such as a turndown flap, a tendon transfer, a tendon graft, or the use of synthetic materials. Several surgical techniques have been described for the treatment of chronic Achilles tendon ruptures, with little evidence that one is clearly superior to another.

Objective: Aim of study to evaluate the outcome of modified FHL TRANSFER in surgical management of chronic tendoachilles rupture with single incision technique.

Keywords: Evaluation, tendoachilles, FHL

Introduction

A study of 20cases of chronic tendoachilles rupture treated with using flexor hallucis longus augmentation

Inclusion Criteria

1. All patients with chronic tendoachilles rupture and neglected rupture
2. Pts with intrasubstancial tear
3. Closed injuries
4. Insertional tendinopathy and tears

Exclusion Criteria

1. Traumatic
2. Avulsion type of tendoachilles rupture
3. Calcaneal fractures
4. compound injuries

Materials and Methods

- All patients with tendoachilles rupture of mean duration of 12wks range from 8wks to 16wks from the time of injury who came to OPD SHADAN MEDICAL COLLEGE between 2018-2020
- Men-12
- Women-8
- AGE-mean-of 46yrs range-40 yrs to 60 yrs
- Were examined clinically, thompson test was positive, obriens needle test
- COMORBIDITIES-AMONG MEN-5 ARE DIABETIC
- AMONG WOMEN-3 are diabetic and one is DM and CKD
- Investigation- x-ray, ultrasound and mri showing complete TA rupture.
- Mean duration of surgery-1hr with in torniquet time
- Technique-FHL augmentation with interferon screw fixation
- Suture material used-ETHIBOND

Procedure

- Procedure-we have done TA REPAIR with flexor hallucis transfer with same incision on posterior midline
- FHL is divided at the level medial malleolus at tarsal tunnel and seperated from the bed of tendoachilles
- Maximum possible length for tendon transfer taken
- Diameter of FHL is measured and accurate sized tunnel made in calcaneum with cannulated drill
- And FHL, pulled with suture in to tunnel in calcaneum and fixed with interferon screw
- it is attached over the posterior aspect tendoachilles with modified krackow suture
- Intraoperatively, on plantar flexion total TA along with FHL MOVING as single stump
- Once after exposure, gap between the end of TA are assessed.
- In 2cases, when gap.5cm v-y advancement to fill the gap is done.
- After fhl is harvested at the level of medial malleolus and made like bed and augmentation to ruptured tendon
- Passing the tendon stump in to the calcaneum and anchored with interferential screw
- Postoperative- suture removal done on 15th pod
- Immobilisation with cast in plantar flexion of 10 degrees in 6weeks.
- Partial weight bearing at after 6wks
- Complete weight bearing after 12wks
- Regular follow up at 6months, 9months till 18months
- All patients underwent an accelerated rehabilitation protocol that featured early weight-bearing and early range of motion.

Isokinetic exercises of gastrosoleus complex

- Results- Excellent-12
- GOOD-6
- FAIR – 1
- POOR-1
- RESULTS the 4point scale described by Boyden *et al.* All patients received a removable below-the-knee orthosis (pneumatic walking brace; Aircast, Summit, New Jersey) with a 2-cm heel lift to provide approximately 20° of plantar flexion. The rehabilitation program is outlined in the Appendix. Modalities to reduce pain and swelling were initiated during physiotherapy.
- Outcome Measures
- The primary outcome was the rerupture rate. Rerupture was diagnosed by the investigating surgeon on the basis of a positive Thompson squeeze test, the presence of a palpable gap, and loss of plantar flexion strength.
- Secondary outcomes included isokinetic strength, the Leppilahti score, ankle range of motion, and calf circumference. The isokinetic plantar flexion

Advantages

- Without second incision on plantar aspect of foot augmentation can be done.
- No donor site morbidity,
- NO entry of foot compartments
- Fhl forms as bed for TA

- Less chance of median plantar nerve injury
- Less duration.
- No loss of flexion strength of great toe

Why FHL

- Stronger
- Line of contraction similar to ta
- Anatomical proximity
- Vascular supply of distal stump

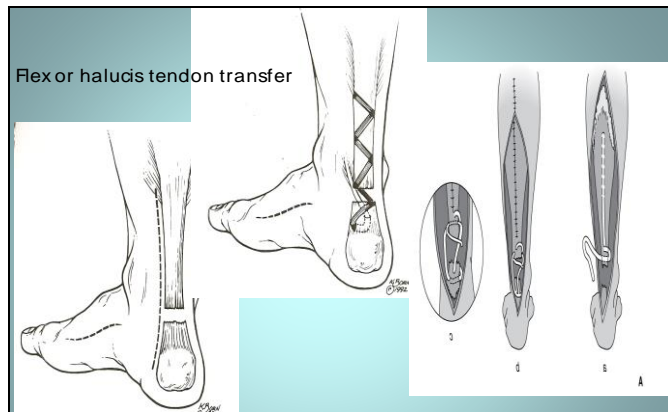


Fig 1: Flex or hallucis tendon transfer

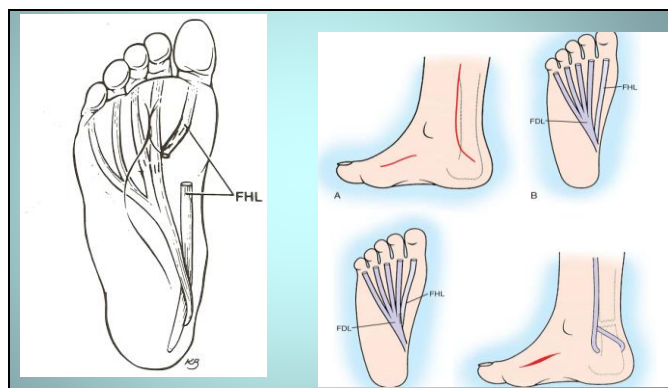


Fig 2: Usual method followed

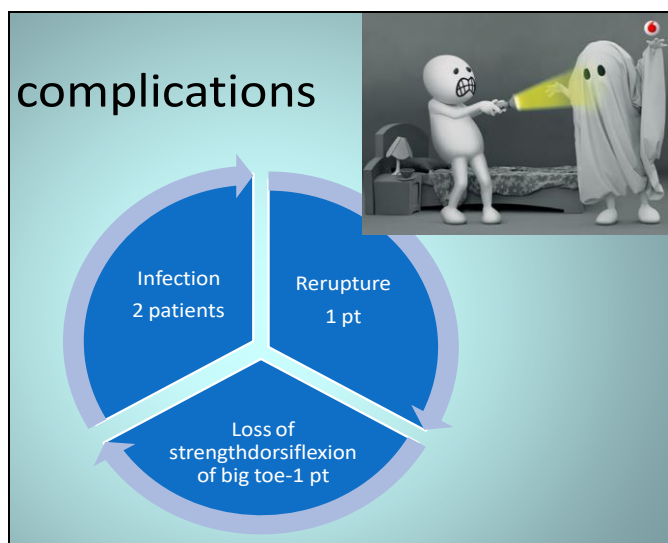


Fig 3: Complications

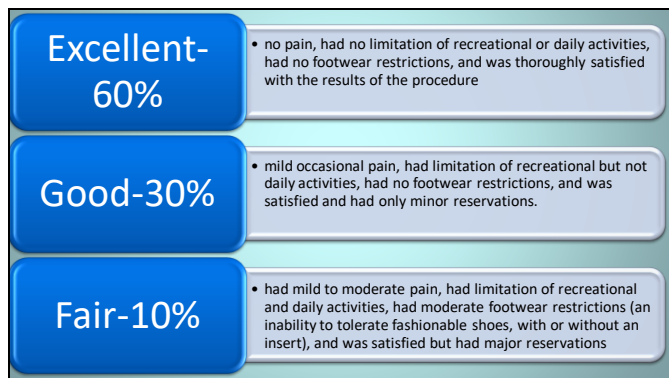


Fig 4: Results the 4-point scale described by Bonden *et al.*

Conclusion

Surgical management with modified flexor hallucis transfer for chronic TA rupture showing excellent results with minimal complications.

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