Surgical Repair for Chronic/ Neglected Tendoachilles Rupture with Synthetic Tendon Graft (ARTELON®) Augmentation

Ahmed Shoaib and V Mishra
Hull Royal Infirmary, UK
Surgical repair of symptomatic chronic achilles tendon rupture using synthetic graft augmentation

Ahmed Shoaib MRCS (UK)*, Viren Mishra MSc, FRCS (Orth)
Hull Royal Infirmary, UK

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ABSTRACT

Background: Surgical repair of symptomatic chronic Achilles tendon (TA) rupture is a challenging problem due to the presence of a large defect between tendon edges. We report the results of surgical repair of symptomatic chronic TA rupture by synthetic graft augmentation.

Methods: Seven consecutive patients with a symptomatic chronic TA rupture underwent surgical repair by VY plasty and augmentation with bio-absorbable synthetic graft (Artelon®). In all patients, the intraoperative tendon gap after debridement was more than 5 cm (Myerson Grade 3). The total duration of plaster immobilization was 10 weeks. The complications were recorded prospectively and functional outcome was assessed by AOFAS score and Achilles tendon Total Rupture Score (ATRS).

Results: At a mean follow up of 29 months there was no re-rupture or deep infection. All patients reported good functional outcome as shown by AOFAS and ATRS scores. There were no graft related complications. At final follow up, six patients were able to do single stance heel raise however, calf wasting was noted in all patients.

Conclusions: Tendon repair augmented by absorbable synthetic graft is an acceptable technique in Myerson Grade 3 chronic symptomatic TA ruptures.

Level of evidence: Level IV, Case series.

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Patients and Methods

- 7 Patients
- All symptomatic
- Single Surgeon
- Average Age 50
- 3 Males/4 Females
- Confirmation of diagnosis using MRI or USS.

- Level 4
- Case series
- Consecutive Cases
- Average Duration between Injury and Surgery was 15 weeks
Surgical Technique

6 cm gap
Results

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre OP Score</th>
<th>Post OP Score</th>
<th>Heel Raise</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOFAS</td>
<td>59.42</td>
<td>91.5</td>
<td></td>
</tr>
<tr>
<td>ATRS</td>
<td></td>
<td>92.14</td>
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<tr>
<td>VAS Pain</td>
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<td>0</td>
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<tr>
<td>VAS Function</td>
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<td>0</td>
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<tr>
<td>Yes</td>
<td></td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Pre OP Score: Blue
Post OP Score: Red
Heel Raise: Green
Conclusion

- Chronic TA ruptures with a gap of more than 5 cm can be surgically treated by VY plasty combined with Artelon® Synthetic graft augmentation. This repair provided satisfactory clinical outcome with no significant graft related complications in this case series.