TREATMENT OUTCOMES OF OSSIFICATION AT THE INSERTION SITE OF THE ACHILLES TENDON

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Treatment outcomes of ossification at the insertion site of the Achilles tendon

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My disclosure is in the Final AOFAS Mobile App. I have no potential conflicts with this presentation.
BACKGROUND

Insertional Achilles Tendinopathy (IAI)

• Retrocalcaneal bursitis
  ...due to Haglund’s deformity

• Insertional Achilles tendinosis (IAT)
  ...with ossification

✓ The poor results in IAT with ossification is reported.

Watson et al. Foot Ankle Int. 2000

✓ There are only a few reports of surgery in IAT with ossification.

MATERIAL & METHOD

Subject
29 feet in 27 patients (1992-2013)
With the ossification in insertional Achilles at radiograph.
At least 3 months of failed conservative management.

Gender
Male: 26 feet in 24 patients
Female: 3 feet in 3 patients

Age
mean 62 y/o (48 to 72 y/o)

Follow-up
mean 28 mns (16 mns to 12 ys)

Past History
Diabetes 4/27
Hypertension 6/27

Sports activity
No sports 17/27
Recreation 10/27
(marathon 1, jogging 4, golf 5)
Surgical Technique

- With the patient prone
- Through an arc shaped incision 4~6 cm lateral to the lateral border of the tendon distal to the calcaneal insertion
- The lateral Achilles tendon insertion was elevated by subperiosteal dissection.
- The medial Achilles tendon insertion was not detached.
- The ossification and spur was excised using an osteotome.
- The tendon was reinserted using 3 suture anchors (Depuy, Panalok Loop)
  The anchors was inserted through the cortex of calcaneal.
Postoperative Management

- **ope~**
- **2 W~**
- **4 W~**
- **8W-12W~**

- Cast below knee at neutral possibly
- ROM exe, PWB
- FWB
- Jogging
RESULTS

Subjective evaluation

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/27</td>
<td>6/20</td>
<td>1/27</td>
<td>0/27</td>
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ROM

Full 29/30 2/3 1/30
10/10 return to the previous activity

Sports activity

Complication

Infection 0/30
Neurological complication 1/30 (numbness)
Wound dehiscence 0/30
Swelling of operative scar 30/30
Radiograph evaluation

Recurrence of spur or ossification 3/30
All 3 cases have obesity.
Not so strong pain

If most of tendon degenerated, we have reconstructed Achilles tendon with artificial material. 6/30
CASE REPORT

64y/o, male, 169cm 63kg  
Job: Teacher  Complication: None  Sports: Jogging

5 months ago he was aware of pain in his left Achilles tendon.  
After conservative treatment for 4 months, we excised his ossification.

2 months after the operation he started jogging.

He had no problems for jogging 1 years later.
DISCUSSION

Some authors report...

- Maffulli. AmeJSportMed. 2004: Excellent and good are 71%
  Reattachment with 2 to 5 anchors.
- Wagner. FootAnkleInt. 2006: Satisfactory rate is 92%
  Reattachment with anchors and with a V-Y lengthening.
- Johnson. FootAnkleInt. 2006: 77% had no pain with shoe. (Preoperatively 5% only)
  Excision through tendon splitting approach.

In my series the excellent and good are 96% (26/27), which is as well or better to these reports.

No guidelines exist to determine how much healthy tendon can be dissected at surgery.
We recommend to disinsert about 2/3~3/4 laterally.
It’s because medial of Achilles tendon, that is soleus muscle fiber, is almost safe and the tendon don’t happen shortening.
BMI > 30  
\[
\begin{array}{c}
5/27 \\
\rightarrow \text{recurrence} \\
3/5
\end{array}
\]

We think… Mechanical stress at insertional site  \^{\uparrow\uparrow} 
\rightarrow \text{Recurrence of spur or ossification}  \^{\uparrow\uparrow}

But there are various types in the recurrence. So I guess there may be different mechanisms.

- Like spur (traction force ?)
- Like heterotopic ossification (surgical trauma ?)
CONCLUSION

1. We reported the surgical treatment outcomes of ossification at insertion site of Achilles tendon.

2. The treatment outcomes of partial detachment and excision of ossification are almost good. But the obesity may be a risk factor of recurrence of spur and ossification.

3. It is necessary to evaluate the presence of degenerative tendon.

REFERENCES


