OSTEOCHONDRAL LESION OF THE TALUS IN FOOTBALL PLAYERS: ARTHROSCOPIC FIXATION


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Osteochondral lesions of the talar dome

- 6.5 per 100 sprains
- Average age 20 to 30 years ( ? )
- Slight male predominance

- Medial lesions are more common. They are typically located at the posteromedial talar dome and are typically deep and cup-shaped. These may be traumatic or nontraumatic in origin.

- Lateral lesions are more commonly associated with acute trauma. They are typically located in the anterolateral aspect of the talar dome.
• Frequent in football players due to the ankle sprains and repetitive microtraumas during sprinting, cutting, tackling and kicking
OLTs classifications

- Ferkel (1990). Arthro-CT.

- MRI based may overestimate the extent of OLTs and therefore does not directly treat.

- Arthroscopic based focus on cartilage, are unable to consider the bony component of the lesion and therefore do not offer treatment guidelines.
• Anderson & Crichton (1989) MRI
  stage 1: trabecular compression
  stage 2a: subchondral cyst
  stage 2b: nondetached fragment
  stage 3: non-displaced fragment
  stage 4: displaced fragment

• Cheng et al (1995) ARTHROSCOPIC
  stage A: smooth, intact, but soft or ballotable cartilage
  stage B: rough surface
  stage C: fibrillation and/or fissuring
  stage D: flap present or bone exposed
  stage E: loose, undisplaced fragment
  stage E: displaced fragment
treatment options

- No established treatment algorithm
- Early return to sports is very important
- Depend on the stage of OLTs

- conservative
  - microfractures
  - drilling
  - fixation
- autologous chondrocyte implantation
- stem cells transplantation
- hyaluronate membrane
- mosaicoplasty
Common technical problem

- The **location** of the chronic non-traumatic lesion which - in the vast majority of the cases - are medial and slightly posterior and therefore ...

- Difficult to **access** them when drilling and/or fixation is indicated
Solution?

- Medial malleolus osteotomy

But

- Arthroscopically??
  Special target devices
  “transmalleolar” portal
Purpose of our study is to present our experience with arthroscopic fragment fixation in combination with antegrade drilling using a bioabsorbable dart.

- ... and a special technique to approach as vertical as possible the lesion, in posteromedial microtraumatic cases.
Method & results :

- 2015 - 2016
- 5 football players
- 16 – 20 years old
- 4 U19 & 1 semiprofessional level
- Symptomatic medial (and slight posterior) OLTs
- 4 stage IIb – 1 stage III (Anderson)
- Smooth, soft, “swollen” cartilage
  (stage A Cheng)
Key points

- **high anteromedial portal**
- **Access to the lesion through an anteromedial bony groove**
- **Fixation** with an absorbable dart: “smartnail” 1.5 – 16 mm CONMED corporation USA

- 2-3 **antegrade drillings** with the special (1.5 mm) drill, used for the smartnail
- **No iatrogenic chondral lesion**
postoperatively

- No immobilization
- Early ROM
- Non-weight bearing for 4 weeks
- Partial weight bearing 4 weeks more
- Low intensity jogging 3 ms postop
- Rehabilitation program focused on proprioception, speed reaction and strengthening.
results

- Return to unrestricted sport activities 6 ms postop
- Full ROM
- None complained for pain at the anteromedial aspect of the joint
results ( x-ray, MRI, CT )

- Improvement of talus bone oedema
- 4 pts: healing of the fragment
- 1 pt: incomplete integration without pain
- Angle of the dart trace to the tangential line to the upper surface of the lesion was between 60 – 64 degrees
- Insignificant defect of the distal anteromedial articular surface of the tibia
Case presentation

- 17 yo
- nontraumatic
- 5 months symptoms
• the first view of a “soft, ballotable & swollen” cartilage (AL portal)
- Initial “cleaning” of the anteromedial corner with RF & shaver (std AM portal)
• Confirmation of the lesion
Creation of a bony groove

- **High anteromedial portal under direct arthroscopic view**

Evaluation the accessibility (full plantar flexion)
drilling with the special (1.5) drill

... and finally fixation with smartnail
4.5 ms post.op
Conclusion

Depending on the stage ...

- **fixation of the fragment** is a reasonable option of treatment (in terms of maintenance of healthy hyaline cartilage), with good results concerning the healing of the lesion and the resolution of the symptoms.

- An **anteromedial bony groove** can offer a satisfactory access to the posteromedial lesions without the potential complications and the elongated rehabilitation period of the other methods.
Thank you for your attention

Ευχαριστώ για την προσοχή σας
surgical technique

- Anterolateral (viewing) and anteromedial (working) portals
- Confirmation of the location arthroscopically and with fluoroscopy
surgical technique

- High anteromedial portal, under direct arthroscopic view.
- Groove (using an acromionizer) tangential to the anteromedial corner of the distal tibia.