Acute Fixation of Distal Fibula Avulsion Fractures after Ankle Sprains

Jasmin Diallo
Joe Wagener
Christine Schweizer
Beat Hintermann
Lukas Zwicky
Tamara Horn Lang
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Jasmin Diallo

My disclosure is in the Final AOFAS Mobile App.
I have no potential conflict with this presentation.
The Issue

Avulsion fracture of the distal fibula causes...
- ...elongation of the lateral ligaments due to dehiscence between the avulsed fragment and the fibula
The Issue

We believe this elongation might result in chronic ankle instability
The Idea

open reconstruction of acute bony avulsion of lateral ligaments with fixation of the fragment prevents chronic ankle instability
Patients and Methods

- between 2010 and 2013
- 10 patients with an acute avulsion fracture of the fibula involving the ATFL and FCL
  - mean age 34 [15 - 64] years
  - 5 females, 5 males
- open reconstruction of the lateral ligaments and fixation of the avulsed fragment
- postoperative walking boot for 6 weeks with weight bearing as tolerated
- clinical and radiological follow-up controls 6 weeks, 3 months and one year postoperative
Patients and Methods

Outcome measures included:

- **Objective**
  - x-ray for reduction control
  - “Anterior Drawer Test”

- **Subjective**
  - pain (VAS)
  - reuptake of sports activities
  - patient satisfaction (modified Coughlin-Score)
  - stability/ recurrence of ankle sprain
Local debridement of the fragment and the fibula with a chisel.
Technique and Surgeries

Reduction and fixation first with Kirschner-wire(s), then with 1-2 cannulated screw(s)
Results

After a mean follow up 2 years [1 - 4]

- Objective
  - in all cases good reduction an bony integration of the fragment on the x-ray
  - none of the cases had a positive anterior drawer test in comparison to the contralateral side

- Subjective
  - mean pain on VAS 1.5 [0 - 4]
  - all patients returned to their pre-injury sport activities
  - no subjective instability
  - 6 patients are very satisfied, 4 patients are satisfied with the result
Conclusion

These promising results encourage us to further treat patients presenting acute avulsion fractures involving the ATFL and FCL using open reconstruction of the lateral ligaments with fixation of the osseous avulsion fragment.
References

- Bom Soo Kim, MD; Woo Jin Choi, MD; Yong Sang Kim, MD; Jin Woo Lee, MD. The Effekt of an Ossicle of the Lateral Malleolus on Ligament Reconstruction of Chronic Lateral Ankle Instability. Foot&Ankle International. 2010