Incidence of Occult Chondral Lesions in Weber C Ankle Fractures in Athletes and Their Effect on Time to Return to Play

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Our disclosures are in the Final AOFAS Mobile App. We have no potential conflicts with this presentation.
Background

• Ankle injuries account for 15-25% of sports related injuries\textsuperscript{1,3-5}
• While most ankle injuries are isolated to the soft tissues, ankle fractures are a source of significant morbidity resulting in extended loss of playing time.
• Despite anatomical surgical reconstruction, many athletes continue to experience pain and swelling that interferes with their ability to play\textsuperscript{2,12}
• Residual problems are thought to be related to occult intra-articular injuries such as cartilage or ligament disruption, and the presence of loose bodies.\textsuperscript{8,14}
• Previous studies have reported occult chondral lesions (OCL) to occur as frequently as 20-79% in acute ankle fractures sustained in the general population.\textsuperscript{6-9,11}
• Severity of cartilage injury has been shown to correlate with the distance from the syndesmosis\textsuperscript{6,12}
Purpose

Examine the prevalence of intra-articular injuries found at the time of operative fixation of Weber C fibula fractures in competitive athletes, and to characterize effect, if any, on time to return to play.
Methodology

- Retrospective case-control study
- 13 competitive athletes
- Weber C ankle fractures only
- Arthroscopy at time of initial fixation
- Microfracture/Drilling of OCLs
- Fixation of ankle fracture/syndesmosis
- Detailed aggressive rehab protocol
Results

• OCLs: 5/13 patients (38.5%) had total of 6 lesions
  – 5 medial talus, one posteromedial tibial plafond
• Syndesmosis disruption: 13/13 (100%)
• Deltoid disruption: 10/13 patients (76.9%)
• Loose bodies: 6/13 (46.2%)
  – 100% patients with OCL
Results

Time to Return to Play

- Overall: 14.5 weeks
- OCL: 16.1 weeks
- No OCL: 13.6 weeks
- Deltoid Injury: 15.9 weeks
- No Deltoid Injury: 12.3 weeks
- High School: 15.3 weeks
- College: 14.8 weeks
Results

- 2 football players were fixed by outside physician without arthroscopy
- Unable to return to play after 6 and 8 months respectively due to residual pain and swelling
- Workup revealed full thickness OCD and loose body
- Patients underwent arthroscopic microfracture and loose body removal
- Returned to play 10.9 and 16 weeks after arthroscopy
Discussion

• Prevalence of 38.5% OCLs in Weber C ankle fractures consistent with reported literature\textsuperscript{6,8-9}
• Overall time of 14.5 weeks before to return to play shorter than previously reported \textsuperscript{2,10}
• No statistically significant differences in time to return to play between groups
• Cannot determine if acute OCL intervention makes a functional difference without outcome scores\textsuperscript{11,13}
• Future aims: Prospective study with outcome data and longer follow up
• Ankle arthroscopy before Weber C fixation in conjunction with an aggressive rehabilitation protocol may lead to earlier return to sport and improved outcomes with deceased residual problems
Citations


