2:45 pm
Role of Arthroscopy in Ankle Fractures
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Introduction
1. The long term outcome of ankle fractures is more related to the injury to the joint surface than the bony injury (1) (2) (3).
2. Cartilage damage is related to the Weber fracture type, and increases from A to C (likely related to the degree of energy imparted to the joint) (1) (4) (5) (6) (7) (8)
3. Articular lesions occur in 50-80% of ankle fractures.
4. Medial maleolar fractures are more likely to have a loose body present than patients with deltoid ligament injury (9)
5. As a result, arthroscopic assessment of the joint at the time of ORIF may result in better outcomes (10).

Problems with open reduction
1. The joint is often not visualized unless the surgeon makes a specific effort to do so.
2. If the joint surface only partially visualized, the cartilage injury or loose body may not be treated.
3. Step deformities may not be fully assessed.
4. Syndesmosis injuries may be missed.
5. Visualization of the joint with open treatment may require a longer incision and further soft tissue dissection potentially devascularizing bone. This may lead to nonunion and late collapse.
6. Increased dissection increases the risk of wound breakdown.

Options:
Arthroscopic reduction with percutaneous screw fixation
Arthroscopic reduction with percutaneous ring fixation (11)
Arthroscopic reduction with limited open fixation
Arthroscopic reduction with nail fixation

Benefits
Diagnosis and treatment of injuries not recognized on preoperative

Assessment
- Cartilage defects (2)
- Sydesmosis instability (12) (13) (14)
- Loose bodies
- Other fractures of the talus or distal tibia
- Impaction injuries – lateral and medial distal tibia

Treatment
- Removal of loose bodies
- Debridement of cartilage defects
Assessment of reduction of the joint surface
Removal of potential impingement lesions such as the PTFL

**Indications for arthroscopy in foot and ankle after fracture:**

**Ankle joint**

**Acute**
- Single, bimaleolar and trimaleolar fractures (5)
- Talar body and neck fractures
- Acute talar osteochondral injuries
- Triplane, Tillaux and growth plate fractures (15) (16) (17) (18) (19)
- Isolated injuries to the syndesmosis without fracture (20) (21)
- Tibial plateau fractures

**Late**
- Patients with ongoing joint pain suggestive of cartilage injury or joint fibrosis (22) (23) (3) (24)

**Subtalar joint**

- **Lateral process fractures**
  - Allows assessment of subtalar joint at the same time as lateral process fractures are associated with posterior facet chondral and subchondral injuries

- **Calcaneal fractures**
  - Arthroscopy can assist calcaneal fracture reduction and avoid a large open incision in some fracture patterns that can be treated by minimally invasive fixation (25) (26) (27) (28) (29)
  - Late arthroscopy can be used after fracture for arthrolysis (30)

**References:**


