

Malleolar fractures of the ankle

Fractures and fracture dislocation of the ankle are common.

Most are low energy fractures of one or both ✓
malleoli , usually caused by a twisting
mechanism. The most obvious injury is a
fracture of one or both malleoli ; often though
, the invisible part of the injury –rupture of
one or more ligaments.

Mechanism

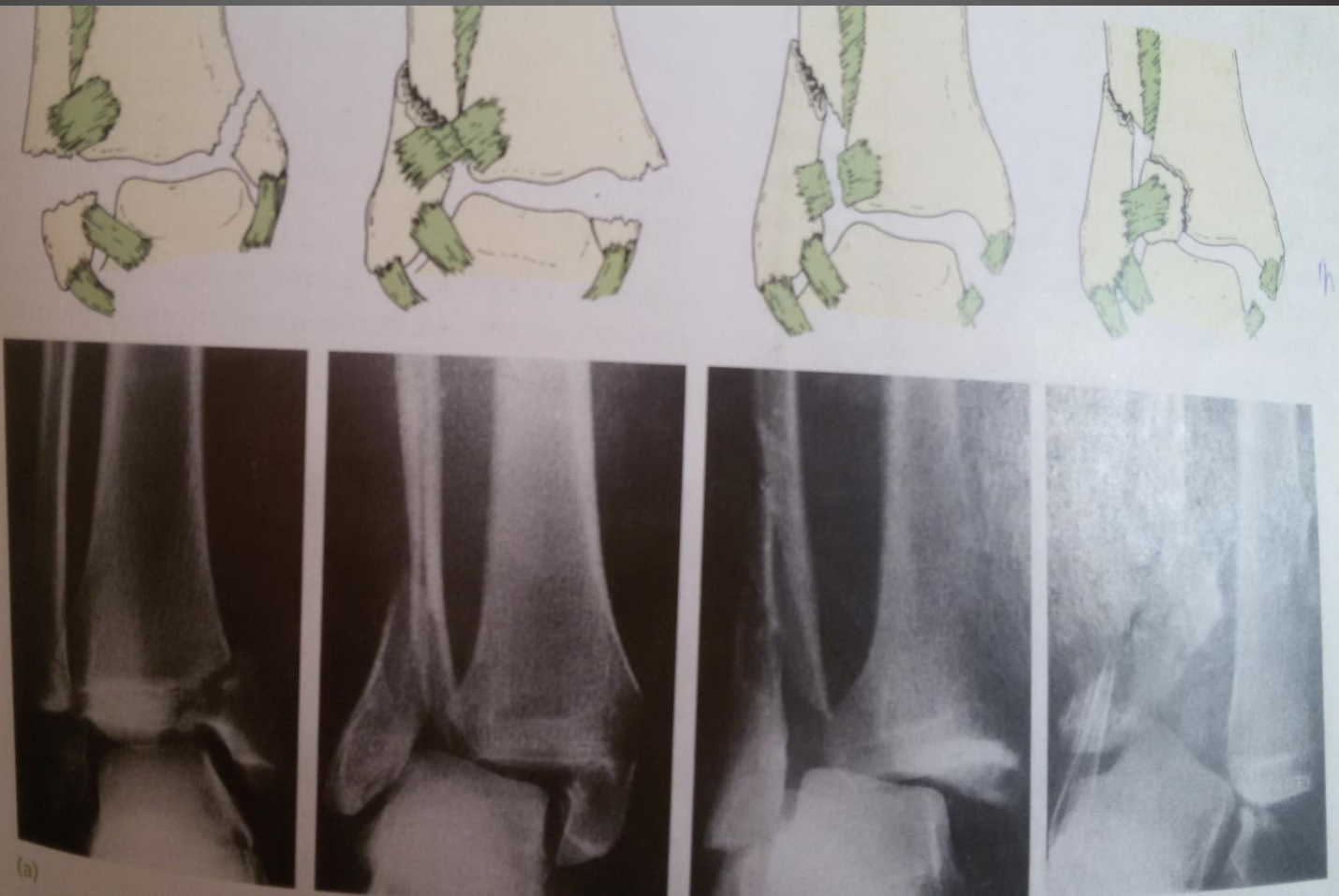
The patient stumble and fall. Usually the foot ✓ is anchored to the ground while the body lunges forward. The ankle is twisted and talus tilts and or rotates in the mortise , causing a low energy fracture of one or both malleoli, with or without injuries of the ligaments. The precise fracture pattern is determined by :1.the position of foot 2.the direction of force at the moment of injury.

Classification

A simpler classification is that of Danis and ✓
Weber, which focuses on the fibular fracture

Type A is a transverse fracture of the fibula below ✓
tibiofibular syndesmosis, perhaps associated with
oblique or vertical fracture of the medial
malleolus, this is adduction or adduction and
internal rotation injury

Type B is an oblique fracture of the fibula in the ✓
sagittal plane at the level of the syndesmosis;
often there is avulsion injury of the medial side,
this is an external rotation



Type B fracture may be associated with a tear ✓
of the anterior tibiofibular ligament.

Type C is amore severe injury , above the level ✓
of the syndesmosis, which means that the
tibiofibular ligament and part of the
interosseos membrane must have been torn,
this is abduction or abduction and external
rotation injury.

Clinical features

Intense pain , inability to stand on the leg, ankle is swollen. Tenderness and bruising

X-ray

AP ,lateral and mortise view is needed ✓

treatment

If the injury is not dealt with a few hours, ✓
definitive treatment may have to be deferred
for several days till swelling subside.

Clues to invisible ligament injury include – ✓
widening of tibiofibular space, asymmetry of
the talotibial space, widening of the medial
joint space.

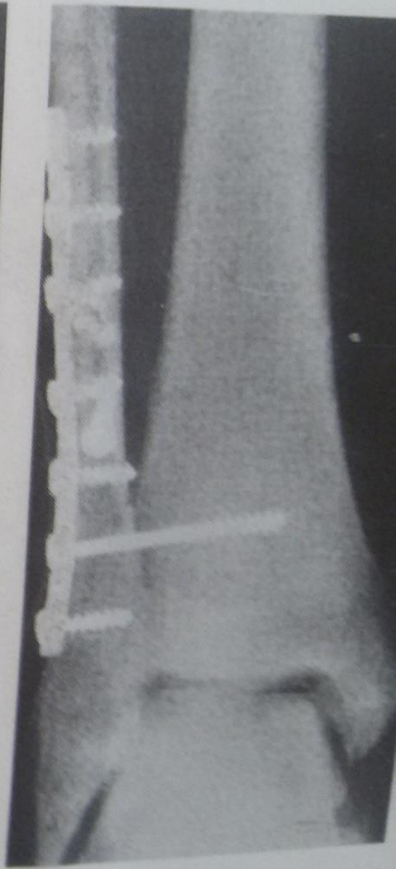
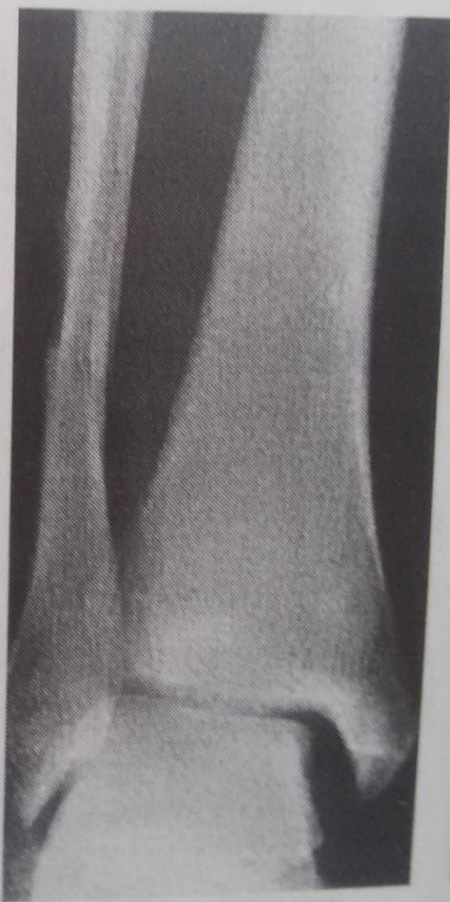
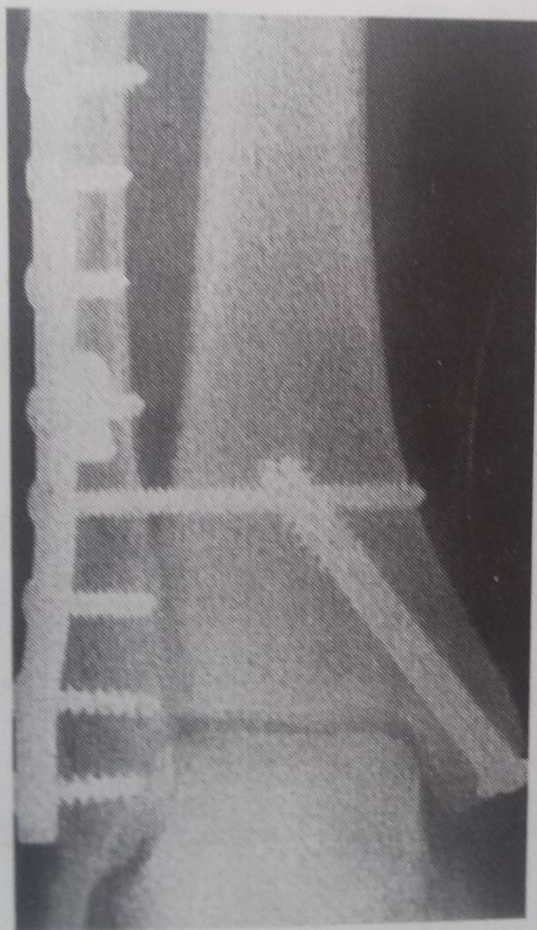
Type A undisplaced fracture is stable and firm ✓
bandage or brace is applied mainly for
comfort until the fracture heals.

Displaces type A fracture , the medial ✓
malleolar fracture is vertical and remain
unstable after closed reduction; internal
fixation is done and fibular fracture must also
reduced by closed method if failed , internal
fixation must be done

Undisplaced type B fracture can be treated with a ✓
below –knee cast with ankle in the neutral
position.X ray is taken at weeks to confirm that
fracture remain undisplaced.The cast can usually
be discarded after 6-8 weeks.

Displaced type B fracture ; if there is spiral ✓
fracture of the fibula and an oblique fracture of
the medial malleolus, closed reduction by
traction and then internal rotation of the foot if
failed internal fixation is needed

Type C fracture displaced or not need open reduction and internal fixation.



complications

Early : vascular injury , wound breakdown and ✓
infection

Late: incomplete reduction , non-union, joint ✓
stiffness, algodystrophy and osteoarthritis.