APOA Foot & Ankle Council Presents..

Case of the Fortnight

15th August 2022

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Presented by:

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Princess Margaret Hospital
Hong Kong

Learning Points:

- Noncompliance of conservative treatment for fracture can result in fracture nonunion
- Enhancement of stability at the fracture by plating is a treatment option for hypertrophic nonunion

Title:
A Case of Distal Fibular Nonunion

*Upcoming Case of the Fortnight on **1st September 2022***

Presented by:

Dr. Yudha Manggala
Orthopaedics and Traumatology Surgery,
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Catholic University,
Semarang, Indonesia

Title:
Complex ankle injury: how to manage

Want to present a case? Write to...

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A Case of Distal Fibular Nonunion

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(Fig 1.)

X rays of right foot revealing minimally displaced fracture of the third, fourth and fifth metatarsal bases.

Case

A 40-year-old heavy manual worker with good past health was admitted to our hospital for right foot and ankle injury during work. His right foot and ankle was rolled over by a forklift. He then complained of severe right ankle and foot pain, swelling and inability to bear weight.

Physical examination showed there was an abrasion wound over his right lateral malleolus. There were swelling and tenderness over his right lateral malleolus, third, fourth and fifth metatarsal bases. The range of movement of his right ankle and toes were limited by pain. There was no sign of compartment syndrome and the neurovascular status of his right foot was intact.

X ray of the patient's right foot ***(Fig. 1)*** showed minimally displaced fracture of the third,

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fourth and fifth metatarsal bases. X Rays of his right ankle ***(Fig. 2)*** showed Weber B transverse fracture of distal fibula with very mild valgus deformity and minimal shortening.

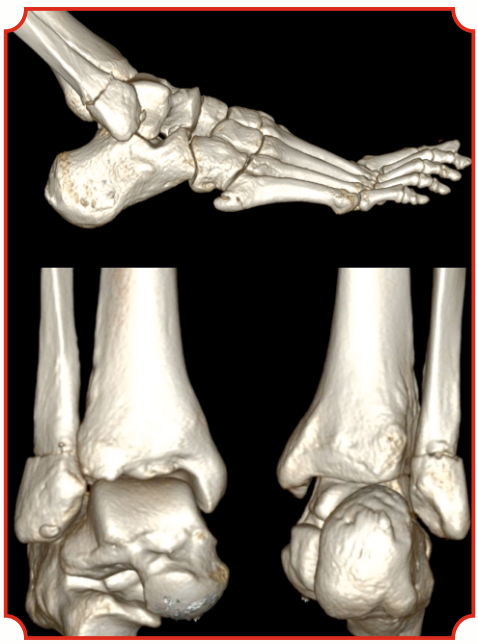
(Fig. 2)

X Rays of the right ankle (Fig. 2) showing Weber B transverse fracture of the distal fibula with very mild valgus deformity

(Fig. 3)

CT scan of his right ankle confirmed very mild valgus deformity of the distal fibula fracture (Weber B).

CT scan with 3D-reconstruction ***(Fig 3, 4)*** of his right foot and ankle confirmed very mild valgus deformity of the distal fibula fracture (Weber B), minimally displaced lateral cuneiform fracture and minimally displaced third, fourth and fifth metatarsal base fractures. The syndesmosis was intact.



(Fig. 4)

CT scan with 3D-reconstruction confirmed very mild valgus deformity of the distal fibula fracture (Weber B).

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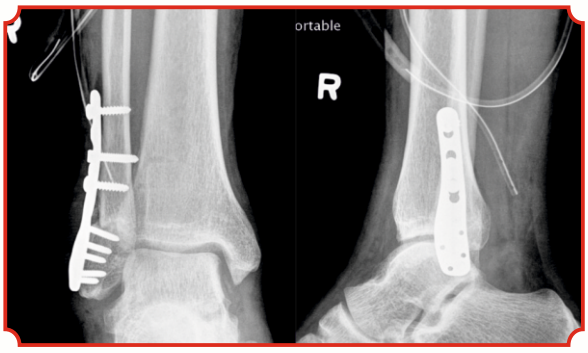
(Fig. 5)

X Rays (Fig. 5) at 5 months showed hypertrophic nonunion with sclerosis of right lateral malleolar fracture.



(Fig. 6)

X rays showing fixation of the fracture nonunion with a 2.7/3.5 lateral distal fibula locking compression plate (LCP)

The patient was treated conservatively with a short leg brace and non-weight bearing walking exercise for 6 weeks. The lateral malleolus abrasion wound culture grew coagulase negative Staphylococci which was treated with a course of ampicillin and cloxacillin and daily wound dressing.

Although the wound was healed without wound complication, the patient did not comply with the short leg brace or protected weight bearing. He did not follow our repeated advice. He did not wear brace at 3 weeks after injury and started to walk with right leg full weight bearing at 4 weeks after injury. At 5-month post injury, the patient complained of persistent right lateral ankle pain on walking. He needed to walk with one crutch. There was tenderness at the lateral malleolus. No localised erythema was noted. His right ankle active range of movement was normal. Blood test was normal. X Rays ***(Fig. 5)*** at that time showed hypertrophic nonunion with sclerosis of right lateral malleolar fracture. The metatarsal and lateral cuneiform fractures were healed.

Open reduction and internal fixation with bone graft was performed to treat the right distal fibula fracture nonunion. Intraoperatively, it was found that there was hypertrophic nonunion of the right distal fibula fracture. There was no sign of infection. The scar tissue at the fracture site was debrided and filled with cancellous bone graft which was harvested from the proximal tibia with trephine biopsy set. The fracture was fixed with a 2.7/3.5 lateral distal fibula locking compression plate (LCP) ***(Fig 6).***

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Post operatively, the patient was advised to have non-weight bear walking for 6 weeks. But the patient started partial weight bear walking with one crutch at 4 weeks after the operation by himself. An ankle-foot-orthosis was given to him for 8 weeks post-operatively. The fracture was healed at post-operative 12 weeks **(Fig. 7).**

(Fig. 7)

X rays demonstrating fracture union at post-operative 13 months

The patient was able to resume duty at post-operative 7months. He had his last follow-up at post-operative 13 months. During that follow up, he only had minimal right ankle pain on prolong walking and did not require any analgesic. The active range of movement was full.