APOA Foot & Ankle Council Presents..

Case of the Fortnight

1st April 2023

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Presented by:

Dr. Yeung Wai Lok, Charlix

Department of Orthopaedics and Traumatology
Princess Margaret Hospital,
Hong Kong, SAR

Title:

Surgical Management of a Talar Body Nonunion

Learning Points:

- The management of foot and ankle nonunion requires a thorough clinical assessment and imaging to identify the underlying cause
- Hypertrophic nonunion requires improvement of mechanical instability. In addition, bone grafting can enhance bone healing. Operative treatment is indicated for talar fracture non-union for improvement of the outcome.

*Upcoming Case of the Fortnight on **1st May 2023***

Presented by:

Andi Praja Wira Yudha Luthfi, MD

Department of Orthopaedics and Traumatology
Bhayangkara Tk.I R.Said Sukanto Hospital
Jakarta, Indonesia

Title:

Suture Tape Internal Brace Augmentation in Pure Ligamentous Ankle Dislocation

Want to present a case? Write to...

Prof. Chayanin Anthong
chatthara@yahoo.com

Dr Kwai Ming Siu
siukmhk@hotmail.com

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Surgical Management of a Talar Body Nonunion

Dr. Yeung Wai Lok, Charlix
Department of Orthopaedics and Traumatology
Princess Margaret Hospital, Hong Kong, SAR
Email: ywl836@ha.org.hk

Introduction:

Talar body nonunion is a rare and challenging problem that can cause significant pain and disability. I present a case report of a 56-year-old male construction worker with a long-standing history of left ankle pain due to talar body nonunion and describe the surgical management of this condition.

Case Report:

The patient initially presented to our department in 1998 with left ankle pain that had persisted for 6 years. He had a history of ankle sprain in 1992 and was treated without immobilisation by a bone setter. He was later conservatively management with a course of NSAIDs. In 2007, he developed an increase in left ankle pain, and X ray of left ankle showed old talus fracture with pseudoarthrosis and degenerative changes ***(Figure 1 XR left ankle)***. Conservative management failed as the patient developed severe left ankle pain and was referred to our hospital in 2013. He complained of severe left ankle pain. On physical examination, the range of motion of the ankle was 10 degree dorsiflexion and 25 degree of plantar flexion. The inflammatory maker was normal. X rays and CT scan ***(Figure 2)*** revealed an old non-union fracture across the left –talar body with degenerative changes.

(Fig. 1)

XR and CT scan ankle in 2007 showing old left talus fracture with pseudoarthrosis and degenerative changes

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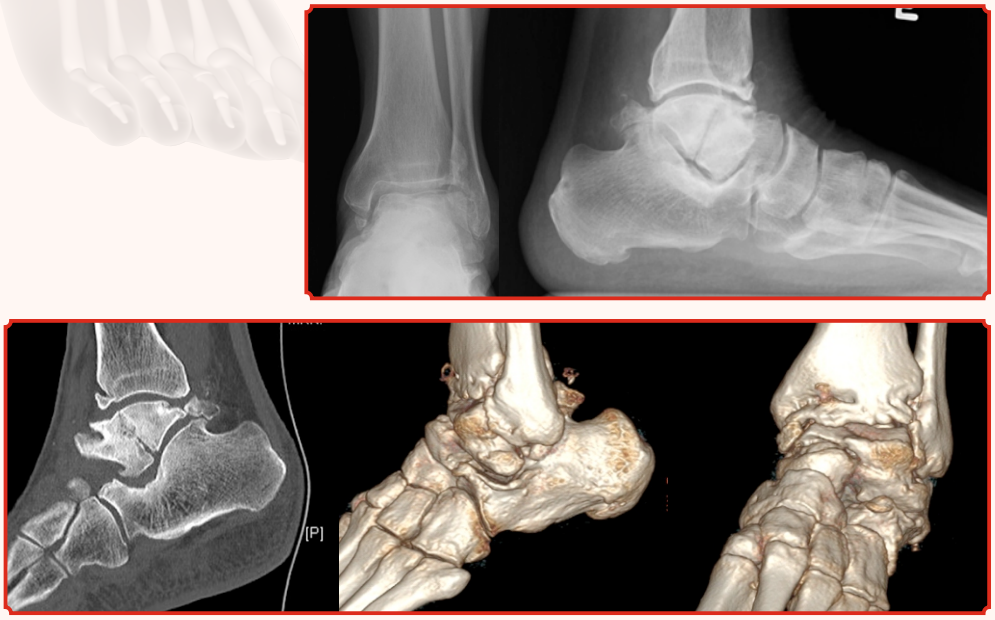
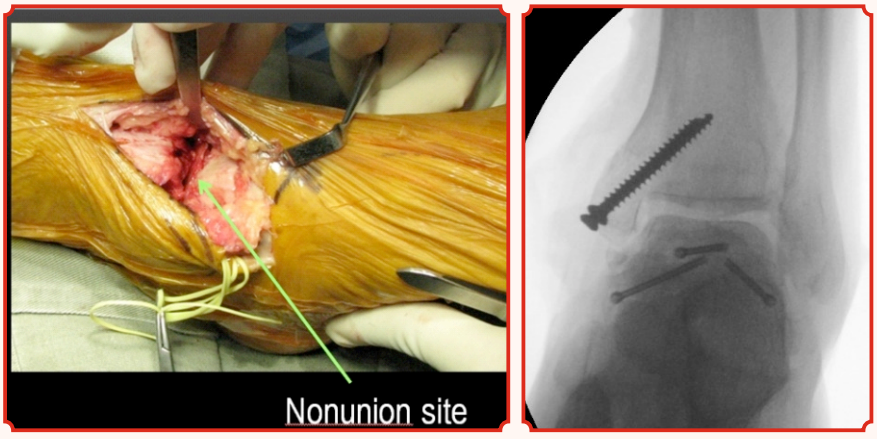


(Fig. 2)

Repeated X rays and CT scan in 2013 revealing old non-union across the left talar body with degenerative changes.

Treatment:

The patient underwent open reduction and internal fixation with tibial autograft, medial malleolar osteotomy, and insertion of three headless compression cannulated screws performed by an anteromedial approach. The sclerotic non-union surface was prepared by curettage, drilling, and burrs, and bone graft was obtained from the lateral side of the proximal tibia ***(Figure 3 Intraoperative photos)***. The patient had a good outcome at 5 months, with full weight-bearing walking, minimal pain, and good ankle range of motion. At post-op 5.5yrs, the patient had minimal pain with good range of ankle motion. ***(Figure 4)***. The CT scan at post-op 18 months confirmed bony union of the talus. ***(Figure 5).***



(Fig. 3)

Intraoperative photo showing non-union site of the talar fracture and intra-op X ray after medial malleolar osteotomy and talar fixation

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(Fig. 4)
Clinical photos and X rays
Post-op 5.5 years: Minimal pain.
Good ROM

(Fig. 5)
CT scan at post-op 18 months demonstrating union of the talar fracture

Discussion:

The management of foot and ankle nonunion requires a thorough clinical assessment and imaging to identify the underlying cause and excludes infection. Correcting risk factors such as smoking is crucial in the management of nonunion. Treatment options for nonunion include non-operative methods, such as immobilization and bone-stimulating modalities, as well as operative means. The type of nonunion determines the choice of treatment, with hypertrophic nonunion requiring improvement of mechanical instability with possible bone grafting. Atrophic nonunion requires stimulation of biological healing, such as bone grafting.

Conclusion:

Talar body nonunion is a challenging problem that requires a systematic approach to diagnosis and management. Surgical management with open reduction and internal fixation, bone grafting can provide successful outcomes for patients with talar body nonunion.

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