

Adult Tillaux Fractures Of Ankle: Case Report

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Abstract

INTRODUCTION

We describe 2 cases of adult pattern of Tillaux fracture for its rarity and its management.

CASE REPORT

[Case no.1] 60 years old male patient presented following a fall from height, sustaining injury to his left ankle. [Case No.2] 27 year old male presented with injury to his right ankle following a RTA.

Both patients were otherwise fit and well without any injury in the past. On clinical examination, they had ankle swelling, and tenderness with clinical signs of a closed ankle fracture. X-rays of ankle showed coronal plane fracture involving the antero lateral part of the tibial plafond. The fracture patterns were more like

Avulsion rather than compression injuries. The fragments involved anterior articular surface and were of significant size with obvious displacement. They were not consistent with Pilon fracture type. We could not fit these pattern in any of the eponymic adult ankle fractures described in the literature. They were consistent with

Tillaux fracture patterns that were commonly described in adolescent ankle injuries.

Figure 1



They both were treated by open reduction and cannulated screw fixation. Post-operatively ankle was protected in cast for 4 weeks. They both were followed up at 2 weeks, 4

weeks and 6 weeks after surgery. Both fractures healed without any complication. Full weight bearing started 6 weeks post op. period and normal gait achieved at 3 months. Average follow up 1.8 years with no complication.

Figure 2



DISCUSSION

Tillaux Fractures are uncommon type of adolescent ankle injuries. It results due to rotation forces in the ankle. In adolescent age at the time of skeletal maturation the distal tibial physis closes at the centro- medial before the lateral side. Any type of external rotational injures results in avulsion of the anterolateral aspect of the tibial plafond caused by the taught anteroinferior tibio- fibular ligament.

The original Tillaux -Chopaut fracture described in the literature had a postero -lateral element in the fracture.

In adult ankle fractures of Bimalleolar and Trimalleolar type they most commonly involves the medial, lateral and the posterior malleolus. The Weber classification and the Laugh Hanson classifications does not include this fracture pattern. In OTA classification for ankle injures Type B1.1 and 2.1 it describes the coronal or frontal plane element but mostly involves the posterior malleolus. The involvement of anterior malleolus is quite rare. Complex Pilon injures can have the anterior malleolus fragment but the mechanism is vertical load than the rotational injures.

In the literature Adult pattern of Tillaux ankle fractures has been described as Type A and B. With the rotational injures

in adults the ankle can sustain avulsion fractures to the antero-lateral aspect of the distal tibial plafond which is “type A” and with the extreme rotational force the injury extend to the medial aspect resulting in antero medial pattern which is “type B”.

MANAGEMENT OF THESE FRACTURES

Study of the fracture pattern is very essential. If necessary a CT scan of the ankle needs to be done to get the precise details of the fracture fragment. These fractures are mostly displaced type that needs internal fixation to restore the joint anatomy. Open reduction of these fractures is through the antero lateral or the antero medial side depending on the type of fracture. After soft tissue clearance of the fracture site reduction with a K wire as a fixation joystick helps in anatomical reduction. Fixation with one or more screws helps to stabilize the fracture fragment. Arthroscopic visualization assisted anatomic reduction and Percutaneous techniques are described in the literature. It is technically feasible but has its own problems of technical expertise and

availability. The principles of articular fracture fixation has to be followed to get a congruous joint surface to mobilize there by to get a better functional outcome.

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