

A Bi-malleolar Fracture With Concomitant Chaput Tubercle Fracture : A Case Report

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INTRODUCTION:

Bi-malleolar fractures are common orthopaedic injuries. However, the presence of a concurrent Chaput tubercle fracture is rare, and, associated with syndesmotic injury, contribute to chronic ankle instability if inadequately treated. The anterior inferior tibiofibular ligament (AITFL) plays a pivotal role in ankle stability, and the Chaput tubercle avulsion is caused by AITFL pull, often occurring in ankle sprains with external rotation forces.

REPORT:

This case involves a 61-year-old male involved in a motor vehicle accident resulting in a left ankle injury. Radiographs confirmed a bi-malleolar fracture involving the medial malleolus and fibular shaft. Avulsion of the Chaput tubercle was also identified through careful radiographic review and further delineated by CT imaging. Two weeks post-trauma, the patient underwent open reduction and screw fixation for the medial malleolus and Chaput tubercle plus a syndesmotic screw. The procedure involved a separate anterolateral approach for the Chaput tubercle, ensuring anatomical reduction and stable fixation with cannulated screws. Postoperatively, a non-weight-bearing protocol, followed by physiotherapy was initiated. Strict precautions were enforced initially to prevent fracture displacement. Follow-up visits showed functional and radiographic improvements.



Fig(A) Plain radiograph AP/lateral/mortise views – Bimalleolar fracture with a Chaput tubercle avulsion fracture (B) CT images coronal, axial and 3D reconstruction (C) Post surgical fixation

CONCLUSION:

The co-existence of Chaput tubercle fractures with bi-malleolar fractures requires careful diagnosis and treatment planning. Accurate identification is crucial, and a comprehensive surgical approach involving standard methods for the bi-malleolar fracture and a separate anterolateral approach for the Chaput tubercle is necessary. Failure to recognize and address Chaput tubercle fractures may lead to persistent instability and arthritis. Postoperatively, a gradual transition to weight-bearing and physiotherapy optimizes functional outcomes, with regular follow-ups to monitor healing and complications.

REFERENCES:

1. van den Bekerom, M. P., Lamme, B., Hogervorst, M., & Bolhuis, H. W. (2007). Which ankle fractures require syndesmotic stabilization?. *The Journal of foot and ankle surgery*, 46(6), 456-463.

