

Kirschner Wiring For Displaced Juvenile Tillaux Fracture: A Case Report

Naqib MN, Abilash K, Afiq MMF, Zubair AAA

Orthopaedic Department, Hospital Shah Alam, Persiaran Kayangan, Seksyen 7, 40000, Shah Alam, Selangor, Malaysia.

INTRODUCTION:

An isolated fracture of the anterolateral distal tibial epiphysis is called juvenile Tillaux fracture, that was first described by Paul Jules Tillaux in 1892. Tillaux fractures, which account for 3% to 5% of paediatric ankle fractures, are Salter-Harris III fractures, and result from an epiphyseal avulsion at the site of attachment of the anterior inferior tibiofibular ligament. A displacement of more than 2mm is an indication for open reduction and internal fixation. In our case, we chose K-wiring as a method of fixation instead of the more popular method, i.e., screw fixation.

CASE PRESENTATION:

A 13 years old girl presented to us with an injury to her left ankle following a fall. On examination there was moderate swelling around the ankle joint and foot, soft compartment and tenderness over lateral aspect of the ankle. Radiographic images of left ankle are as shown below (Fig 1).



Figure 1 : Tillaux fracture of left tibia with displacement of 4mm.

Figure 2: Post operative radiographs.

A diagnosis of Tillaux fracture of left ankle was made and a Triplane fracture was ruled out. The patient was scheduled for open reduction and K-wiring of left tibia after the swelling subsided. Following anterolateral incision, the fragment was identified, reduced and fixed with Kirschner wires size 1.8mm percutaneously. (Fig 2). The patient was immobilised with short leg splint, instructed for non-weight bearing crutches ambulation and wires were removed after three weeks. Short leg cast was kept for seven weeks and during two months follow up, X-rays showed united fracture with good restoration of articular congruity (Fig 3). Full range of ankle motion achieved and no pain on full weight bearing.



Figure 3 : Eight weeks post surgery

DISCUSSIONS:

Thomas M. Tiefenboeck reported good outcome in all patients treated with open reduction, screw fixation and plaster cast immobilisation for 4 to 8 weeks but no reports on K-wiring as a method of fixation. We found out that, with an open reduction and K-wiring, we managed to reduce the fracture fragment anatomically, restored the articular congruity and produce a good outcome that is as good as screw fixation. Furthermore, K-wiring is faster, simpler procedure, cost-effective, minimal implant fixation, minimal growth plate violation and the patient also does not need another operation to remove the screw.

CONCLUSION:

Open reduction and Kirschner wiring is a simple good option with good outcome to treat a displaced juvenile Tillaux fracture with a displacement of more than 2mm.

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