

Pediatric Tibial Eminence Avulsion Fracture: A Case Report

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INTRODUCTION:

Tibial eminence avulsion fracture in children is uncommon but has continually increased in prevalence as we have been more involved in athletic activities. It can be a devastating condition as it will cause time off from sports and will lead to degenerative disease in the future. Making a precise diagnosis is difficult as there can be many barriers in assessing children.

CASE REPORT:

An 8-year-old girl presented to us with complaints of pain over her left knee and is unable to bear weight following a fall from her bicycle. Physical examination shows diffuse swelling of the knee in flexed position with limited range of movement. Neurovascular component was intact. Plain radiograph showed avulsed fracture of the tibial spine appearing to be a Meyers and McKeever classification type III. After thorough assessment, fracture of the tibial eminence was managed via arthroscopic reduction and fixation of the avulsed fragment using fibre wire.

DISCUSSION:

Fracture of the tibial eminence is the equivalent of ACL avulsion fracture in children. This injury usually happens due to forced flexion at the knee. It is more prevalent in children as there is relative weakness of the incompletely ossified tibial eminence. Regardless of patient age, anatomic reduction and stable internal fixation are mandatory for fracture healing and accurate restoration of normal knee biomechanics. Their management has evolved from traditional open or mini-open techniques to arthroscopic techniques using sutures, screws, wires, anchors, or even buttons.

CONCLUSION:

Children with ACL avulsion fracture when treated well may recover to near normal function. Inappropriate management of this fracture often result in joint laxity and muscle strength deficiency. Hence, accurate choice of treatment often restores function to near normal. Proper follow-up often reveals good prognosis in overall cases.

REFERENCES:

1. Manoj Kumar et al, Avulsion fracture of tibial spine: A case report and review of literature
2. Christy Coyle et al, Tibial eminence fractures in the paediatric population: a systematic review
3. Nathan A. Mall et al, Pediatric ACL injuries: evaluation and management

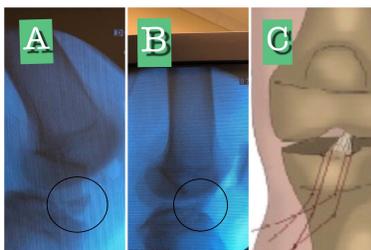


Figure 1

A: Pre-Fixation
B: Post-fixation using fibre wire
C: Schematic diagram of fixation using fibre wire

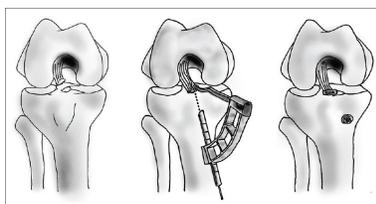


Figure 2

Schematic diagram showing process of avulsed ACL anchorage using fibre wire