

Arthroscopic Assisted Screw Fixation Of The Tibial Eminence Avulsion Fracture

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INTRODUCTION:

Tibial eminence fracture is a relatively rare injury, with an incidence of approximately 3 per 100,000 per year, which mainly occurs in children and adolescents.

The ACL is prone to damage because the epiphyseal plate where the ACL attaches cannot provide sufficient force against the traction force of the ligament itself. Anatomic reduction of the fracture should be performed because intercondylar fractures are intraarticular fractures.

REPORT

A 15 years old student who involved in motor-vehicle accident while riding motorbike, fell from the bike in squatting position and landed on right leg. Post trauma complained pain on right knee and unable to ambulate.

Examination on right knee showed swelling, anterior joint line tenderness and limited range of motion 60° to 100°. X-rays showed ACL Avulsion fracture and proceed with CT scan for fracture evaluation and pre operative planning.

The patient proceeded with arthroscopic assisted screw fixation of the ACL avulsion fracture.

Patient was put in supine position and tourniquet applied. Then the anterolateral and anteromedial port was created for insertion of arthroscope. The arthroscopic image showed tibial eminence avulsion fracture could be seen from ACL insertion site.

The avulsed fragment was pushed by guide wire and temporary fixation was achieved by using Kirschner wire. Cannulated screw 4.0mm diameter, half threaded was used with washer for fragment fixation. Intra-operative fluoroscopy was used to confirm fragment reduction and screw placement

Postoperatively, a long leg splint was applied for 3–4 weeks with the knee in 30 degrees of flexion. Passive knee motion was then started. Weight bearing was permitted at 6 weeks after the surgery



Figure 1:

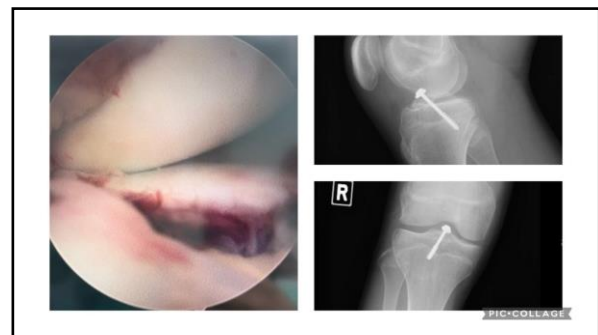


Figure 2:

At 5 months follow up, patient had no knee pain, no complaint of instability. Anterior drawer test and Lachman test was negative and patient already return to sport such football and badminton. Imaging at latest follow up showed the fracture united.

CONCLUSION:

Arthroscopically assisted cannulated screw fixation for tibial eminence fracture in children and adolescents shows satisfactory clinical and radiological outcomes. Union can be achieved and postoperative function of the knee is excellent

REFERENCES:

1. Callanan M, Allen J, Flutie B, et al. Suture Versus Screw Fixation of Tibial Spine Fractures in Children and Adolescents: A Comparative Study. Orthopaedic Journal of Sports Medicine. 2019;7(11).