

Proximal Tibia Epiphyseal Fracture in Adolescent Athlete: Case Report

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INTRODUCTION:

Salter-Harris fracture of the proximal tibia are rare, the rarity of this due to the collateral ligaments shields the proximal tibial epiphysis. We report a posteriorly displaced Salter Harris II injury to the proximal tibia after a sports injury.

REPORT:

A teenager presented with direct blow of the left proximal tibia while playing futsal. Patient fell to the ground forcing knee into valgus. On examination left knee was swollen with step deformity over proximal tibia. The affected limb was 10-20 degrees externally rotated. General radiography images revealed a Salter Harris type II injury. Patient underwent closed manual reduction and percutaneous screw fixation. Intraoperatively reduction was confirmed using image intensifier and stability of the fracture was examined at 70 degrees knee flexion. After reduction, the dorsalis pedis artery and posterior tibial artery was palpable. A full femur-tibia-ankle cast was applied at 10 degrees knee flexion. After 6 weeks of injury, fracture position was satisfactory with radiographic evidence of healing. At 8 weeks post operation, the patient achieved full range of motion and full weight bearing was allowed. Patients follow-up will continue with serial radiographs at 4 months, 8 months and 12 months in order to observe for and deformity or growth arrest.

DISCUSSION:

Closure of proximal tibial physis starts posteriorly and anterior fuses later, which usually occurs between ages of 14-18 years old. Proximal tibial epiphysis fracture is rare and can cause neurovascular damage, The affected limb perfusion and circulation status should be closely monitored. The contracted quadriceps

femoris separates the anterior proximal epiphysis causing the avulsion fracture.



CONCLUSION:

The patient was treated with closed reduction percutaneous screw fixation done along with cast immobilization in extension. The prognosis was good, and patient was able to attain his almost normal ROM and was able to ambulate at 8 weeks post surgical intervention.

REFERENCES:

1. Crimaldi S., Calderazzi F., Becherucci L., Faldini A. Upper tibial physal fracture—a case report. proposed mechanism of injury and classification. *Acta Orthopaedica Scandinavica*. 2003;74(6):764–765.
2. Poulsen T. D., Skak S. V., Jensen T. T. Epiphyseal fractures of the proximal tibia. *Injury*. 1989;20(2):111–113. doi: 10.1016/0020-1383(89)90154-X.