

# Bilateral Fracture of Tibial Intercondylar Eminences: A Case Report

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## ABSTRACT

**We report the first case of bilateral fracture of intercondylar eminences of tibiae following a road traffic accident. Classification and management are reviewed. To the best of our knowledge these bilateral fractures have not been reported.**

The intercondylar eminence is the elevated part of the tibial plateau between the condylar surfaces. In immature bone it is covered with cartilage, and it is therefore difficult to diagnose the fracture by x-ray<sup>1</sup>.

Fracture of the intercondylar eminence of the tibia occurs more frequently in children than in adults<sup>2</sup>. This fracture has been classified into three types. Type 1 has minimal displacement of the anterior third, Type 2 has considerable displacement and Type 3 has significant displacement<sup>3</sup>. All reported cases were unilateral.

## THE CASE

A five-year-old boy was hit by a car on the front of both knees while standing, and presented with bilateral knees, pain and effusion. Examination revealed multiple abrasions on the anterior part of both knees with effusion. It was difficult to move the knees or assess ligament integrity due to pain. Thirty ml of blood was aspirated from each knee.

Radiographic (Fig 1a & b) and computed tomography (CT) examination of knees (Fig 2) showed fracture of bilateral intercondylar eminences of the tibiae (right side Type 1 and left side Type 2).

The patient was treated conservatively with plaster cylinders. Static quadriceps exercise was started on the second day and straight leg raising after ten days.

The plaster was removed after five weeks. The patient made an uneventful recovery and has been asymptomatic at two years of follow-up.

## DISCUSSION

Fracture of the intercondylar eminence of the tibia is common in children and the most common cause of the fracture is bicycle accident<sup>2</sup>.

It is difficult to know the details of the mechanism of injury from children. Meyers and MacKeever 1959 speculated that the fracture occurs when the tibia is forced into internal rotation relative to the femur in an extended knee, thereby increasing tension in the anterior cruciate ligament<sup>3</sup>. Most surgeons agree that treatment of Type 1

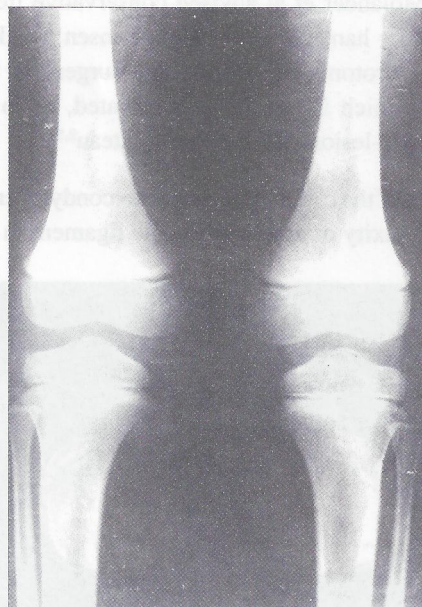


Figure 1a: Anterio posterior view of both knees

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**Figure 1b:** Lateral view of both knees

is by closed method, and surgery or arthroscopic surgery for Type 3<sup>2,4</sup>.

There is still controversy regarding the treatment of Type 2 lesions. In 1970 Meyers and MacKeever and later in 1981 Molander et al advised conservative treatment. On the other hand in 1984 Falstie-Jensen and Petersen advised arthrotomy or arthroscopic surgery to free the meniscus which is usually incarcerated, or to fix big cartilaginous lesions at the tibial plateau<sup>2,5,4</sup>.

Some of the cases of fracture intercondylar eminence have mild laxity of anterior cruciate ligament in spite of

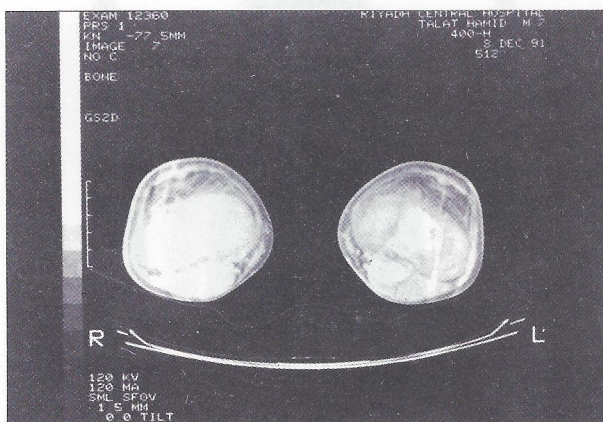
good healing. This laxity is due to the stretching of the ligament, which occurs before fracture of its tibial attachment<sup>2,3</sup>.

Our patient, who was treated conservatively, has full function of both knees and there has been no ligament laxity.

A computer search and review of literature has revealed no report of bilateral fracture intercondylar eminence.

## REFERENCES

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**Figure 2:** CT scan of both knees