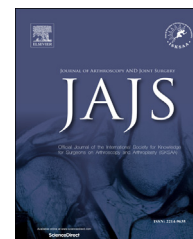


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Case Report

Hoffa fracture associated with avulsion fracture of cruciate ligaments: Two case reports



Baljit Singh, Shaleen Sareen, Parminder Virdi, Simarpreet S. Bhattal, Aditya Bhardwaj*

Department of Orthopaedics, Sri Guru Ram Das Institute of Medical Sciences and Research, Amritsar, Punjab, India

ARTICLE INFO

Article history:

Received 29 October 2014

Accepted 3 December 2014

Available online 22 January 2015

Keywords:

Hoffa fracture

Avulsion fracture

Cruciate ligaments tear

ABSTRACT

Hoffa fracture designated as intraarticular coronal plane femoral condyle fracture are the uncommon injury in orthopaedics. Hoffa fracture associated with cruciate ligament avulsion fracture are rather rare injuries reported. We encountered 2 cases of Hoffa fracture with cruciate ligament avulsion fracture in our hospital. These cases were managed by open reduction and internal fixation of femoral condyle with 2 lag screws and screw fixation of avulsion fracture of cruciate ligament. Patients were followed up for 18 months. KOOS functional knee score was used to evaluate the outcome. Excellent result in one and good result was observed in second case regarding postoperative knee movement, weight bearing, pain and bony union.

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1. Introduction

Unicondylar fractures of the lower end of the femur are uncommon injuries that usually occur in the sagittal plane.¹ Coronal (tangential) plane fractures, first described by Hoffa in 1904, are unusual.^{1–4} According to AO classification Hoffa fractures comes under type B3. When they do occur, the cause is often direct anteroposterior force applied to a flexed knee in a high-energy accident. In this report an unusual trauma pattern of a Hoffa fracture associated with avulsion fracture of cruciate ligament is presented.

2. Case 1

A 32-year-old woman with history of motor vehicle accident reported in emergency with knee pain and non-weight

bearing. Physical examination revealed gross swelling and tenderness of the left knee. Anterior drawer and Lachmann test were positive during examination. Plain radiography showed a lateral condylar Hoffa fracture. MRI imaging revealed lateral Hoffa fracture with avulsion fracture of ACL. Treatment comprised a left knee lateral parapatellar incision with open reduction and internal fixation achieved visually and fixed with two antero-posterior lag screws to achieve appropriate compression. ACL avulsion on femoral site was evaluated but fragment found to be very small to fix. Lateral condyle was drilled in the same ligament direction and ACL was transfixed at its attachment site with Ethibond through the drill hole and screw with washer on opposite side. Post-operatively knee brace was used for 3 weeks. Physiotherapy including controlled knee movement was started 3 weeks postoperatively. Radiological fracture union was achieved at 3 months. Functional evaluation was done with KOOS

* Corresponding author. 27-C Sant Avenue, The Mall, Amritsar, Punjab 143001, India. Tel.: +91 9876118678 (mobile).

E-mail address: dradityabhardwaj@gmail.com (A. Bhardwaj).
<http://dx.doi.org/10.1016/j.jajs.2014.12.002>

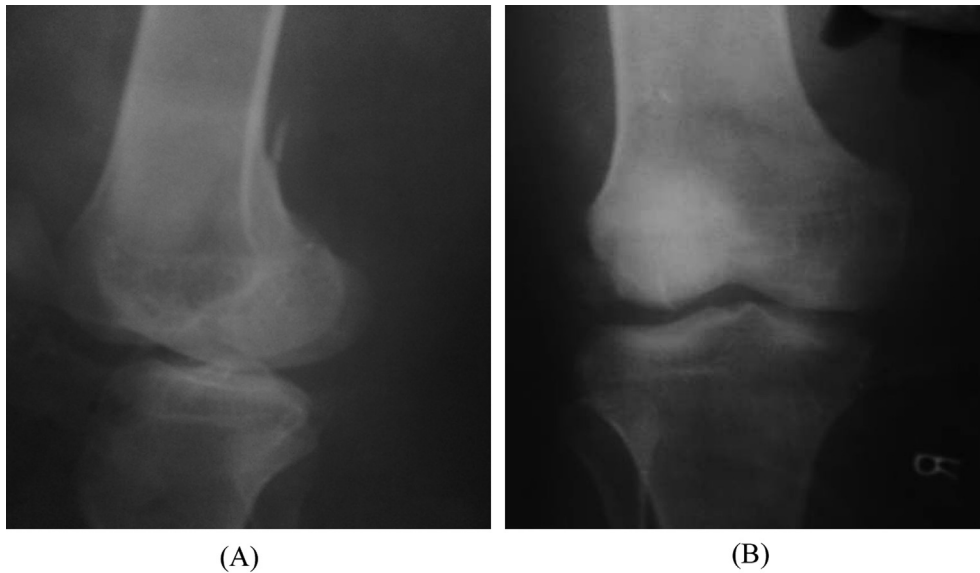


Fig. 1 – (A) AP View and (B) Lateral view of lateral femoral condylar with Hoffa fracture.

functional outcome score. Excellent score was reported in the case (Figs. 1–6).

3. Case 2

A 37-year-old male patient had a road side accident presented to casualty within 2 h. Physical examination revealed deformity (sagging of tibia), swelling and tenderness of the right knee. Radiographs showed a unicondylar coronal plane fracture of the lateral femoral condyle. CT and MR imaging, indicated by the anteroposterior laxity of the knee detected during physical examination, revealed Hoffa fracture combined with

bony avulsion of the PCL. No other morbidity was found. Treatment comprised a right knee lateral parapatellar incision with open reduction and internal fixation achieved visually and fixed with two antero-posterior lag screws. The heads of the screws were countersunk. The bony fragment of tibia to which PCL was attached fixed with cortical screw. Knee brace applied for 3 weeks. Physiotherapy including controlled knee movement was started 3 weeks postoperatively, and in the 6th postoperative week partial weight bearing was allowed after observing early sign of union. At 4 months postoperatively, radiological fracture union was achieved. KOOS functional score was used to evaluate outcome. Good result was observed (Figs. 7–9).



Fig. 2 – MRI images of the same case showing Hoffa fracture and associated injuries.

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