Letters to Editor

Irreducible, incarcerated vertical dislocation of the patella into a Hoffa fracture

Sir,

I read with interest the article by Soraganvi et al. titled as “Irreducible, incarcerated vertical dislocation of the patella into a Hoffa fracture.” I congratulate the authors for their good results in this rare case. I would like to discuss few issues with this article.

1. I would like to draw attention to the fact as it is a lateral condylar fracture rather than a Hoffa fracture. Hoffa fracture is a fracture of femoral condyle in a coronal plane. This injury is the result of violent force and generally occurs in young adults. There is usually a combination of forces: Direct trauma along with an element of abduction, the ground reaction is transmitted through the tibial plateau and the axial compression on a flexed knee concentrates the force in the posterior half of the femoral condyles. In flexion, lateral condyle is the leading part of the knee to receive the impact, and hence the fracture.

2. X-rays and computed tomography scan images shown in the manuscript show a lateral femoral condyle fracture in the sagittal plane. That is why, it has been adequately fixed from lateral to the medial side with the help of two cancellous screws as shown in postoperative radiograph. On the contrary, Hoffa fracture would require an anterior to posterior, preferably headless compression screws for fixation.

2. Closed reduction of dislocation of the patella is difficult in vertical dislocations due to increased tension in quadriceps mechanism and can cause small avulsion fractures of the patella. A small avulsion fracture can be seen in the 2 years followup radiograph of manuscript. I would like to know if the authors did any attempt at closed reduction.

Amit Chauhan
Department of Orthopaedics, University Hospital of North Tees, Stockton on Tees, United Kingdom

Address for correspondence:
Dr. Amit Chauhan,
Department of Orthopaedics, University Hospital of North Tees, Hardwick Road, Stockton on Tees, TS19 8PE, United Kingdom.
E-mail: amitcoolest4@gmail.com

Author’s reply

Sir,

We thank the authors for showing keen interest in our paper. We would like to address the issues raised.

Condyle fracture of femur starts from trochlear condylar groove at the junction between trochlea and the medial and the lateral condyles (type B1 and B2 – AO classification). Starting from this site fracture line may be frontal, sagittal or oblique. Hence, critical point for diagnosing condyle fracture is extension of fracture line to trochlear condylar groove. Hoffa fracture is coronally oriented fracture of femoral condyle where trochlear condylar groove is intact. In our case, we found fracture in an oblique plane in which trochlear condylar groove was found intact and fracture separated patellofemoral joint from tibiofemoral joint (type B3 fractures – AO classification). Hence, we considered it as a Hoffa’s fracture. Present literature offers paucity of information regarding such type of oblique fracture of femoral condyle.

Rigid fixation of the fracture can be achieved by optimally positioning the screw perpendicular to fracture line. Hoffa’s fracture in our case (oblique fracture line) was in an oblique plane extending from anterolateral to posteromedial. Hence, to achieve rigid fixation screws were fixed perpendicular to fracture line. Present literature supports various methods of fixation for Hoffa fracture. Jarit et al. showed fixation with 6.5 mm partially threaded screws from posterior to anterior was more stable. In our case, we fixed fracture posterior to anterior with 6.5 mm partially threaded screws.

Vertical patellar dislocations even in isolation are difficult to reduce by closed maneuvers. Our case had Hoffa’s fracture...
with incarceration of patella hence we did not attempt any closed reduction. Avulsion fracture was not seen in preoperative radiographs and computed tomography scan. Hence, we believe that it could be calcification at quadriceps attachment to patella.

**Prasad Soraganvi, B. S. Narayan Gowda, R. Ramakanth, Ashok S. Gavaskar**¹

*Department of Orthopaedics, PES Institute of Medical Science and Research, Kuppam, Andhra Pradesh, ¹Department of Orthopaedics, Choolaimedu, Chennai, India*

**Address for correspondence:** Dr. Prasad Soraganvi, PES Institute of Medical Science and Research, Kuppam, Chittor District - 517 425, Andhra Pradesh, India. E-mail: prasad_doct@yahoo.co.in

**REFERENCES**

1. Chauhan A. Irreducible, incarcerated vertical dislocation of patella into a Hoffa fracture. Indian J Orthop 2015;49:369.
2. Soraganvi PC, Narayan Gowda B, Rajagopalakrishnan R, Gavaskar AS. Irreducible, incarcerated vertical dislocation of patella into a Hoffa fracture. Indian J Orthop 2014;48:525-8.
3. Manfredini M, Gildone A, Ferrante R, Bernasconi S, Massari L. Unicornylar femoral fractures: Therapeutic strategy and long term results. A review of 23 patients. Acta Orthop Belg 2001;67:132-8.
4. Sahu RL, Gupta P. Operative management of Hoffa fracture of the femoral condyle. Acta Med Iran 2014;52:443-7.
5. Arastu MH, Kokke MC, Duffy PJ, Korley RE, Buckley RE. Coronal plane partial articular fractures of the distal femoral condyle: Current concepts in management. Bone Joint J 2013;95-B:1165-71.
6. Jarit GJ, Kummer FJ, Gibber MJ, Egol KA. A mechanical evaluation of two fixation methods using cancellous screws for coronal fractures of the lateral condyle of the distal femur (OTA type 33B). J Orthop Trauma 2006;20:273-6.