

TRANSIENT LATERAL SUBLUXATION OF PATELLA :TYPICAL MRI (3T) FINDINGS

Moon Kanjila, Sudipta Saha, Surajit Das, Samiran Samanta

¹ Department of Radiodiagnosis, Institute of Post-Graduate Medical Education and Research and Seth Sukhlal Karnani Memorial (IPGME&R and SSKM) Hospital, Kolkata, West Bengal, India

PJR April - June 2016; 26(2): 131-133

ABSTRACT

Lateral patellofemoral subluxation is an entity which often goes unrecognized clinically due to its transient nature. Patient usually complains of medial knee pain and is unaware of brief phase of dislocation of patella (as it gets reduced spontaneously). Recurrent dislocation may lead to osteochondral injury and osteoarthritis. MRI helps in specific diagnosis of this condition. We are presenting a case with telltale MRI signs of transient patellar dislocation.

Introduction

A case without any history of previous trauma to knee, which shows typical features of transient lateral patellar subluxation in MRI (3T) is presented here.

Case Presentation

A 26 yrs old male patient presented with right medial knee pain and swelling following a twisting injury. There was no history of direct trauma to knee. Upon clinical suspicion he underwent MRI. MRI scan revealed marrow oedema in lateral femoral condyle with corresponding marrow oedema and osteochondral defect in medial facet of patella and associated joint effusion.

Discussion

Transient lateral patellar subluxation with spontaneous reduction is an entity which mostly remains undiag-

nosed due to its transient nature.¹ Patients present with knee swelling and pain in medial aspect of knee. Clinically it's very difficult to differentiate it from other soft tissue injuries, for which MRI features are very specific.



Figure 1: Axial GRE showing small fracture near medial facet of patella

Correspondence : Dr. Moon Kanjilal
Department of Radiology, (IPGME&R and SSKM) Hospital, Kolkata 700020,
West Bengal, India.
Mobile: +917059716120
Email: kanjilalmoon@gmail.com

Submitted 9 August 2015, Accepted 9 October 2015

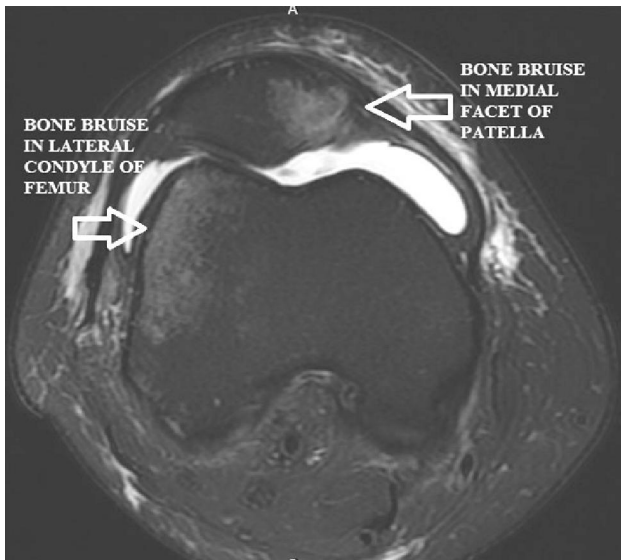


Figure 2: Axial T2FS showing bone bruise in medial facet of patella and lateral condyle of femur

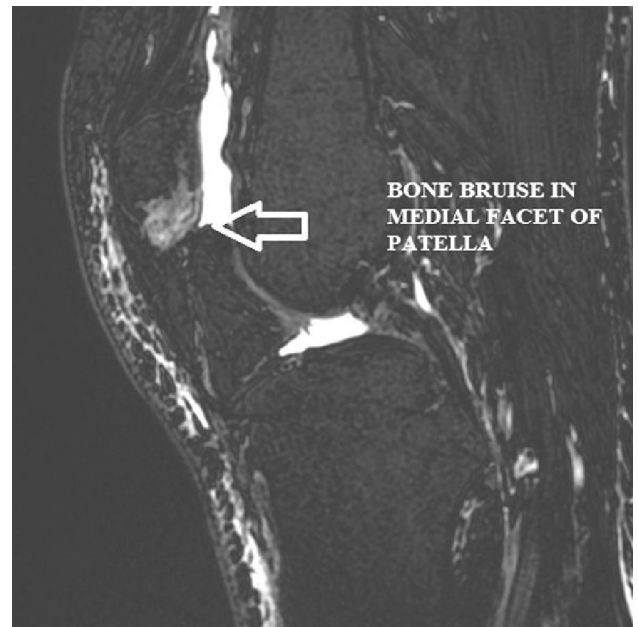


Figure 4: SAG T2FS reformed image showing bone bruise in medial facet of patella

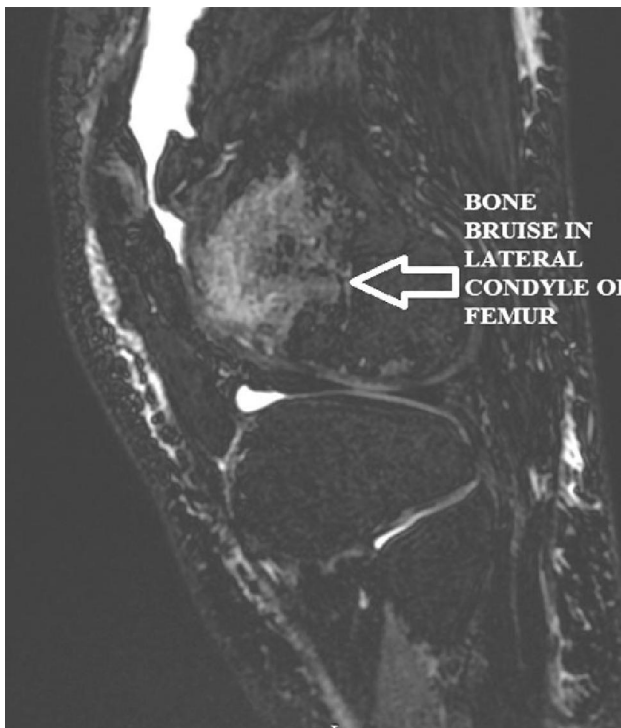


Figure 3: SAG T2FS reformed image showing bone bruise in lateral condyle of femur

It's seen more commonly with lateral trochlear dysplasia, patella alta and lateralization of tibial tuberosity.² Usually it's seen in young active adults following a twisting injury in a semi flexed (30 degree) knee. The femur internally rotates over a fixed tibia causing patella to subluxate laterally causing bruise both in

medial patellar facet and lateral femoral condyle with associated injury to medial retinaculum of patella. When knee is extended spontaneous reduction of patellar dislocation occurs and during this phase medial patellar impaction against the non-weightbearing anterolateral aspect of the lateral femoral condyle produces characteristic bone bruise.

Skyline view of conventional radiograph may show dislocated patella and joint effusion; however MRI is the only accurate diagnostic modality for this condition.³ Axial and coronal T2FS shows bone bruise in lateral femoral condyle (which is situated more superiorly and laterally than marrow edema of anterior cruciate ligament [ACL] tear) and medial facet of patella with joint effusion. Axial GRE reveals associated osteochondral injury to patella. Medial patellar retinaculum may show changes from mild sprain to complete tear.⁴

If goes undiagnosed transient patellar subluxation can lead to long term disability in the form of osteoarthritis and chronic knee pain.⁵ MRI should be advised for proper delineation of soft tissue injury and osteochondral defects.⁶

Acknowledgement:

We have no personal or financial interest in writing this report. It's purely for academic purpose.

References

1. Fithian DC, Paxton EW, Stone ML, et al.. Epidemiology and natural history of acute patellar dislocation. Am J Sports Med 2004; **32(5)**: 1114-21. Cross Ref, Medline
2. Sillanpää P, MattilaVM, Iivonen T, Visuri T, Pihlajamäki H. Incidence and risk factors of acute traumatic primary patellar dislocation. Med Sci Sports Exerc 2008; **40(4)**: 606-11. CrossRef, MBaldwin JL. The anatomy of the medial patellofemoral ligament. Am J Sports Med 2009 **37**: 2355-62.
3. Dirim B, Haghghi P, Trudell D et al. Medial patellofemoral ligament: cadaveric investigation of anatomy with MRI, MR arthrography, and histologic correlation. AJR 2008; **191**: 490-8.
4. Sanders TG, Morrison WB, Singleton BA, Miller MD, Cornum KG. Medial patellofemoral ligament injury following acute transient dislocation of the patella: MR findings with surgical correlation in 14 patients. J Comput Assist Tomogr 2001; **25**: 957-62.
5. Earhart C, Patel DB, White EA et-al. Transient lateral patellar dislocation: review of imaging findings, patellofemoral anatomy, and treatment options. Emerg Radiol. 2012; doi: 10. 1007/s 10140-012-1073-9 - Pubmed citation
6. AtkinDM, Fithian DC, Marangi KS, Stone ML, Dobson BE, Mendelsohn C. Characteristics of patients with primary acute lateral patellar dislocation and their recovery within the first 6 months of injury. Am J Sports Med 2000; **28(4)**: 472-9. Medline