Ruptured Ligamentum mucosa: A Case Of Locked Knee

P Gallacher, R Roach

Citation

P Gallacher, R Roach. *Ruptured Ligamentum mucosa: A Case Of Locked Knee*. The Internet Journal of Orthopedic Surgery. 2006 Volume 7 Number 2.

Abstract

A previously fit and well eighteen year old girl presented with a painful, swollen, locked knee following minimal trauma. The pain was anteromedial and there was a block to full extension on clinical examination. A working diagnosis of displaced bucket handle meniscal tear was made and arthroscopy performed. Arthroscopy revealed normal joint surfaces and menisci. The pathological finding was a torn ligamentum mucosa crowding the notch preventing full extension. The anterior cruciate ligament (ACL) was normal. Following debridment the patient regained full range of movement and returned to her pre injury activities. Acute knee injuries account for a large proportion of new orthopaedic presentations. Differential diagnosis of an acutely locked knee in a young adult includes torn menisci, acute anterior cruciate ligament tear or interposition of an osteochondral fragment. We discuss this unusual injury with a review of the relevant literature.

Work carried out at the dept of orthopaedics Princes Royal Hospital

CASE REPORT

A fit and healthy eighteen year old lady injured her right knee when moving from a squatting position to fully erect. The knee became swollen over the next 24hrs and she had difficulty walking due to medial knee pain. On initial presentation clinically the knee was found to have a large effusion with range of movement from 30-70 degrees only limited by pain. Radiographs taken at presentation demonstrated no bony injury. Initially the diagnosis was unclear and urgent physiotherapy was commenced. At clinic follow up the knee still lacked full extension with more localised anteromedial joint line tenderness and a clinical diagnosis of displaced meniscal tear was made. Acute arthroscopy was performed revealing a torn ligamentum mucosa (Fig 1) in an otherwise pristine knee with an intact ACL (Fig 2).

The torn ligamentum was debrided using a shaver (Fig 3).

Following surgery the block to extension resolved and the knee settled quickly with physiotherapy.





Figure 2

Figure 2: Intact ACL







DISCUSSION

The ligamentum mucosa is also referred to as the ligamentum patellae, inferior patella plicae, infrapatella fold or septum. It is believed that the plicae of the knee are developmental remnants from the mesenchymal tissue that fills the notch during embryonic development and in fact there can be a complete septum between the two tibiofemoral joints of the knee. [1]

Pathology and symptoms arising from the ligamentum mucosa are not well described in the literature. The presence of this ligamentum can make visualisation of the notch and ACL difficult during arthroscopic surgery. The ligamentum mucosa has been described as a cause of anterior knee symptoms and when thickened in chronic anterior knee pain its removal has been advocated. [2, 3] Indeed it can become an arthrofibrotic band after surgery, for example ACL reconstruction, giving sharp anterior knee pain limiting flexion.

There have also been cases of acute haemarthrosis following ruptured ligamentum mucosa alluded to in the literature but it has not to our knowledge been previously described as a cause of locking or mimicking a meniscal tear. [2]

Genuine locked knees have a mechanical cause and arthroscopy has been advocated for the investigation and treatment of knee problems where definite clinical signs are demonstrated. [4, 5] Previous reports have demonstrated rare pathologies causing knee locking including pigmented villonodular synovitis, intra articular ganglion, gouty tophi and posterior cruciate ligament rupture. [6, 7, 8, 9, 10]

Our case is of topical interest as it mimicked a meniscal tear, the resection of which lead to a resolution of symptoms with no long-term complications.

References

1. Jean-Yves Dupont MD Synovial Plicae of the Knee Controversies and Review Controversies and Review Clinics in Sports Medicine 1997 Jan; 16(1) 2. Demirag B, Ozturk C, Karakayali M. Symptomatic infrapatellar plica. Knee Surg Sports Traumatol Arthrosc. 2006 Feb;14(2):156-60. Epub 2005 Jul 30 3. Kim SJ, Choe WS Pathological infrapatellar plica: a report of two cases and literature review. Arthroscopy. 1996 Apr;12(2):236-9 4. Bansal P, Deehan DJ, Gregory RJH. Diagnosing the acutely locked knee. Injury 2002(33) 495-498 5. Carmichael IW, MacLeod AM, Travlos J MRI can prevent unnecessary arthroscopy. J Bone Joint Surg Br. 1997 Jul;79(4):624-5. 6. Roach R, Dos Remedios I. Localised pigmented villonodular synovitis: an uncommon cause of knee pain mimicking a meniscal tear. Br J Sport Med Aug 2003; 37: 368-369 7. Seki K, Mine T, Tanaka H et al Locked knee caused by intraarticular ganglion. Knee Surg Sports Traumatol

Intraarticular ganglion. Knee Surg Sports Traumatol Arthrosc. 2006 Sep;14(9):859-61. Epub 2006 Feb 1. 8. Espejo-Baena A, Coretti SM, Fernandez JM et al Knee locking due to a single gouty tophus. J Rheumatol. 2006 Jan;33(1):193-5.

9. Swenning TA, Prohaska DJ. Isolated posterior cruciate ligament rupture presenting as a locked knee. Arthroscopy. 2004 Apr;20(4):429-31.

10. Van Meter CD, Rowdon GA. Localized pigmented villonodular synovitis presenting as a locked lateral meniscal bucket handle tear: a case report and review of the literature. Arthroscopy. 1994 Jun;10(3):309-12.

Author Information

Peter Gallacher, MRCS

Dept of Orthopaedic Surgery, Mid Staffordshire General Hospitals NHS Trust

Richard Roach, FRCS Trauma & Orthopaedics

Dept Orthopaedics, Princes Royal Hospital Telford & Robert Jones and Agnes Hunt Hospital