Synovial haemangioma as a cause for atraumatic haemarthrosis of the knee – a case report

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Abstract

An adult patient presented with repeated episodes of haemarthrosis of the knee. No trauma history could be elicited. An arthroscopy of his knee was performed and a lesion identified. Histologic examination showed it to be a synovial haemangioma (capillary type).

Key words: haemarthrosis, synovial haemangioma

Introduction

Synovial haemangioma is a rare, benign vascular lesion seen mostly in the knee. We report on a case that presented to our emergency department.

Case report

A 56-year-old man presented to the emergency department with an acute onset effusion of the right knee and inability to bear weight on the leg. He denied any history of trauma. He reported that he had had similar incidents of effusion of the right knee over the previous two years which resolved spontaneously. He had no history of tuberculosis. There was also no family history of haemophilia.

On examination he was apyrexial. There was a large effusion in his right knee with decreased range of motion.

A sterile aspiration of his knee was done which showed a haemarthrosis. There were no fat droplets in the aspirate to indicate a possible fracture.

An X-ray of the knee was done which also showed no signs of a fracture. Degenerative changes were present indicative of tri-compartmental osteoarthritis of the knee (*Figure 1*).

Septic markers were normal for the patient.

A Robert Jones bandage was applied to the knee and the patient was given a follow-up date for the orthopaedic clinic in one week. He did not come for follow-up, but presented one month later again to the emergency department with a two-week history of acute onset effusion of his right knee. Examination again revealed decreased range of motion in the knee. He was apyrexial and septic markers again were negative. The patient was referred to the orthopaedic department where an arthroscopy of his knee was booked. The investigation revealed degenerative changes in the knee, especially the lateral compartment on the femoral and tibial surface. His anterior and posterior cruciate ligaments were intact. A large, localised, vascular mass was seen in the lateral compartment adjacent to the tibial plateau (*Figure 2*). Arthroscopic debridement was done and the vascular mass was removed completely and sent for histology as well as microscopy, culture and sensitivity (MCS).

MCS revealed no bacterial growth. Histology showed the biopsy to be a synovial haemangioma (capillary type).

The patient had an uneventful recovery. At two-months' follow-up he had no further history of acute onset knee effusion. His range of motion had improved and he was able to weight-bear fully.

Discussion

Synovial haemangioma is a relatively rare, benign vascular tumour. No more than 250 cases of intra-articular synovial haemangioma have been reported in the literature,[1] and most of them have been as case reports.

The knee is the most typically affected joint (in 60% of cases),[2] mostly in the medial compartment.[1] Synovial haemangiomas have also been found in the elbow, wrist, ankle, temporomandibular joint, and tendon sheaths.[3]

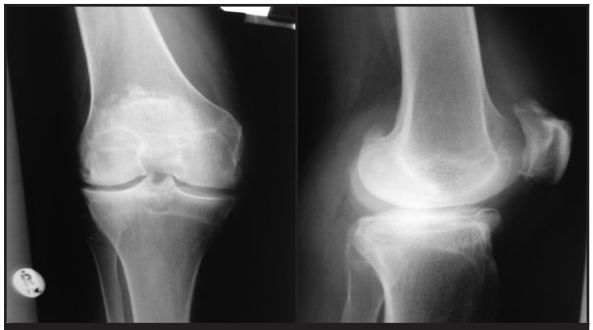

Figure 1. AP and lateral radiograph of the right knee

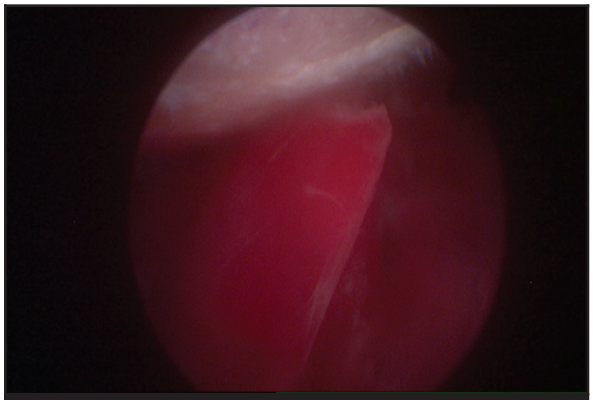

Figure 2. Arthroscopic image of the mass in the lateral compartment of the knee

They usually present in adolescence or young adulthood, but misdiagnosis can lead to delay in diagnosis of many years.[3]

Symptoms that patients present with include progressive onset of pain, repeated joint effusions, restricted range of motion, and limping. There may sometimes also be a palpable mass, and quadriceps atrophy.[4-6] Recurrent episodes of spontaneous haemarthrosis in the absence of a bleeding tendency should alert one to the possible diagnosis of a synovial haemangioma.[4]

Plain radiographs are normal in most cases. Occasionally, a soft tissue mass may be observed. Calcifications or phleboliths are also sometimes be seen.[4,6] In rare cases, a periosteal reaction or cortical erosion is observed. In long-standing cases of synovial haemangioma in the knee with repeated haemarthrosis, radiographic features resembling haemophilic arthropathy may be seen.[2,7]

Magnetic resonance imaging is the imaging of choice to help diagnose synovial haemangioma as well as identifying the extent of the lesion.[7]

Soft tissue haemangiomas can be divided according to location as:[3]

- Cutaneous
- Subcutaneous
- Intramuscular
- Synovial
- Subsynovial

Histologically, soft tissue haemangiomas are classified according to the type of blood vessels that predominate in the lesion:[3]

- Cavernous (50%)
- Capillary (25%)
- Arteriovenous (20%)
- Venous (5%)

The differential diagnosis to be considered is pigmented villonodular synovitis, synovial chondromatosis and synovial sarcoma.[8]

Treatment options, depending on the extent of the lesion, are open or arthroscopic excision/resection of the haemangioma with partial or total synovectomy.[3] Usually a localised lesion can be treated successfully with arthroscopic excision. Diffuse lesions may need open resection to remove the haemangioma entirely. Recurrence of diffuse lesions is more common than the localised type.

Conclusion

In conclusion, it is important to consider synovial haemangioma as part of your differential diagnosis in patients presenting with recurrent episodes of atraumatic haemarthrosis of the knee. Early diagnosis is important so that treatment can be instituted and further joint damage limited.

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