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Case Report

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Synovial haemangioma in posterior intercondylar region of knee: a case report

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ABSTRACT

We report the case of a young male with gradually worsening knee pain and terminal restriction of flexion which on magnetic resonance imaging (MRI) showed features suggesting a diagnosis of synovial haemangioma in the posterior intercondylar region. The mass was excised, and the histopathology confirmed the diagnosis post-operatively. After excision, the patient was pain free with full range of movements at 2-year follow-up.

Keywords: Haemangioma, Knee, Posterior intercondylar

INTRODUCTION

Synovial haemangioma is a rare benign tumour. The clinical presentation is not specific, making diagnosis difficult, which can delay therapeutic management.[1] It may be a cause of pain and recurrent joint swelling in children and young adults.[2,3] Magnetic resonance imaging (MRI) provides important hints at diagnosis but can be inconclusive at times. Definitive diagnosis has to be made on histopathology.[3]

CASE REPORT

A 19-year-old male presented with a history of pain in posterior aspect of his left knee for 4 months, with painful flexion and restriction of terminal flexion, resulting in inability to squat. He had received previous treatment in the form of analgesics giving temporary relief. Patient gave history of twisting injury to left knee while playing cricket 4 months back. Walking was pain free. There were no associated medical comorbidities. His clinical examination revealed he had terminally painful flexion with restriction of 20 degrees compared to opposite side. Anterior drawer test, Lachman's test, McMurray test was negative. Blood tests were within normal limits. His medical, developmental, and family histories were unremarkable. Plain radiographs and magnetic resonance imaging (MRI) scans were obtained (Figure 1).

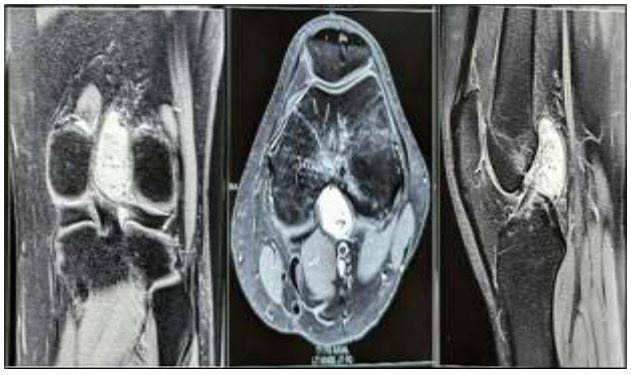

Figure 1: MRI images showing enhancing lesion in posterior intercondylar lesion and relation to the neurovascular structures (left to right: coronal, transverse, sagittal).

The plain radiographs showed no abnormality, but the MRI was suggestive of intracapsular lobulated nodular lesion in posterior intercondylar region measuring

3.0×2.3×1.8 cm. Imaging findings were suggestive of intraarticular intercondylar posterior synovial haemangioma which was restricting the terminal flexion of the knee (Figure 2).

Figure 2: Range of movements: full extension (left) with terminal restriction of flexion (right).

Patient was planned for embolization; lower limb angiography showed arterial supply to tumour from genicular artery. Selective cannulation of right genicular artery was done using progreat. Coil embolization of muscular branches was done to avoid non selective embolization. Selective genicular artery embolization was done with PVA particles the previous day (Figures 3a and b).

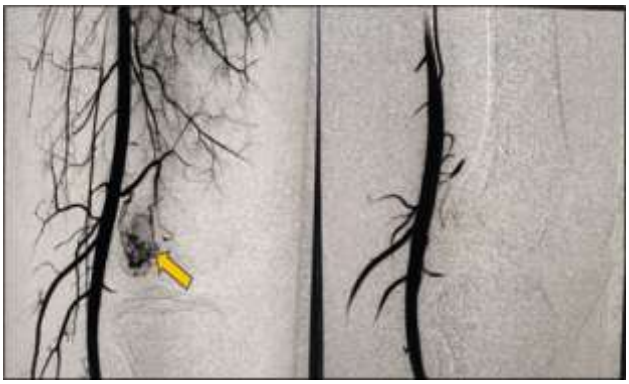

Figure 3: Left-pre-embolization (lesion marked in yellow), right-post-embolization.

Under general anaesthesia, in a prone position, Lazy 'S' incision was taken over posterior aspect of knee. Common peroneal and tibial nerve, popliteal artery and vein identified. Multiple branches of popliteal vein were ligated with vascular clips. Exploration continued deep to popliteal artery to reach the space between posterior femoral condyles. Capsule opened to expose the swelling. Soft tissue of 3×2×1.5 cm was excised and was sent for histopathology (Figure 4). Post-operative period was uneventful. Final histopathology report suggested synovial haemangioma which was consistent with the MRI findings. At 2 years follow-up, the patient is pain-free with full range of movements (Figure 5).

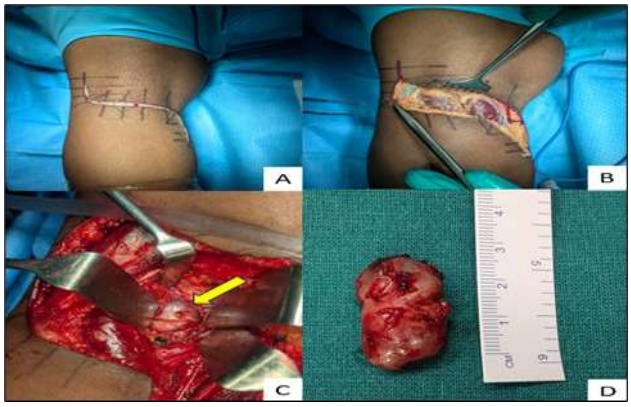

Figure 4: (A) Posterior lazy S incision, (B) superficial dissection, (C) lesion in the posterior intercondylar notch (marked with yellow arrow), and (D) lesion excised.

Figure 5: Functional outcome at 2 years follow-up.

DISCUSSION

Synovial haemangiomas are rare benign intra-articular tumours, typically found in the knee, and most often affecting children and young adults.[4] The diagnosis is frequently delayed due to non-specific symptoms like knee pain, swelling, instability, recurrent effusion, and reduced range of motion. Misdiagnosis is frequent due to similarities with conditions like chronic synovitis, synovial lipoma, fibromas of the tenson sheath, pigmented villonodular synovitis (PVNS), synovial sarcoma, and various arthropathies.[5-7]

Trauma is sometimes an aggravating factor. MRI is the primary imaging tool for diagnosis, offering detailed insights into tumour location, size and extent.[8] Arthroscopy may also aid in diagnosis, particularly when combined with biopsy.

Treatment varies and includes embolization alone or in combination with minimally invasive arthroscopic or open surgical excision.[9,10] Early excision is preferred to prevent recurrent effusions, which may lead to cartilage damage and secondary degeneration.[11] The prognosis depends on the type of haemangioma—localized forms have better

outcomes than diffuse types, which are harder to resect and more prone to recurrence.

CONCLUSION

Despite its rarity, synovial haemangioma of the knee should be kept as a differential diagnosis when evaluating a young patient with knee pain without any significant clinical history. MRI helps in early diagnosis. Surgical excision in conjunction with preoperative embolization gives excellent results.

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