

A CASE REPORT OF GIANT MEDIAL PARAMENISCAL CYST OF THE RIGHT KNEE

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Abstract: Meniscal cysts are rare and usually asymptomatic. It may present as a palpable mass with or without pain and sometimes grows large enough to limit the patient's activities of daily living. The magnetic resonance imaging (MRI) is the gold standard for their visualization. Excision is often guided by a careful study of the pre-operative MRI scans in multiple planes. Cysts have been reported most frequently in 20-30 year old males. We report a case of giant medial para meniscal cyst of knee in 75yrs old male.

Keywords: Knee joint, Meniscal tear, Para meniscal cyst, Magnetic resonance imaging

INTRODUCTION:

Para meniscal cysts are small cystic lesions located along the peripheral margin of the meniscus, and typically measure between 0.3 and 9 mm in diameter^[1]. Para meniscal cyst formation is still controversy. Several etiological theories have been presented for the development of para meniscal cysts.

The two most common causes of a meniscus tear are traumatic injury (often seen in active people) and degenerative processes (often seen in the elderly). Para meniscal cysts are almost always associated with horizontal meniscal tears, extrusion of synovial fluid through the adjacent meniscal tear is a widely accepted theory regarding the aetio pathogenesis^[2].

Meniscal cyst causes various symptoms depending upon its size and the site of its origin^[3]. Although a majority of the para meniscal cysts are very small and patients almost never present with a mass around the knee, they rarely exceed 2 cm or present with a painful mass.

Frequently, meniscal cysts are asymptomatic and are found incidentally on MRI performed to assess for other intra-articular pathology such as internal derangement or chondral abnormality^[3].

However, when a meniscal cyst expanded outside the joint, it presented as a spontaneously or intermittent palpable mass with or without pain. It sometimes grows large enough to limit the patient's activities of daily living^[4] as they are more likely to extend away from their site of origin since the medial collateral ligament limits the direction of cyst expansion^[5]. MRI is the gold standard for visualization of meniscal cysts^[6]. For the treatment of meniscal cysts, limited meniscectomy with cyst decompression under arthroscopy or open cystectomy has been recommended^[7].

We report a case of giant medial meniscal cyst of the knee detected by MRI and excised.

CASE REPORT:

A 75-year-old man presented with chief complaints of bilateral knee pain more on the left side for 2 years, the pain was insidious in onset, progressive in nature, aggravated by activities, relieved by rest, and analgesics. The patient noticed a painless swelling on the medial aspect of his left knee which was gradually increasing in size followed by pain for 3 months. It was not associated with fever or loss of appetite.

Clinical evaluation revealed swelling over medial aspect of left knee (fig 1). Firm and immobile and there was slight tenderness with palpation. Knee joint movements were limited without ligamentous instability. There was no distal neurovascular deficit.



Fig.1 swelling over medial aspect of left knee



Fig.2 Radiograph of left knee joint Antero posterior view

Plain radiograph of the left knee joint showing a well defined radio-opacity (arrow) along the medial border of the joint and proximal tibia with few air foci within it (arrowhead). Note the degenerative changes in the joint, predominantly in the medial compartment.

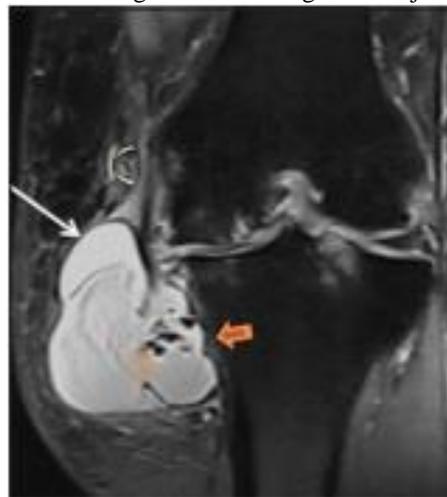


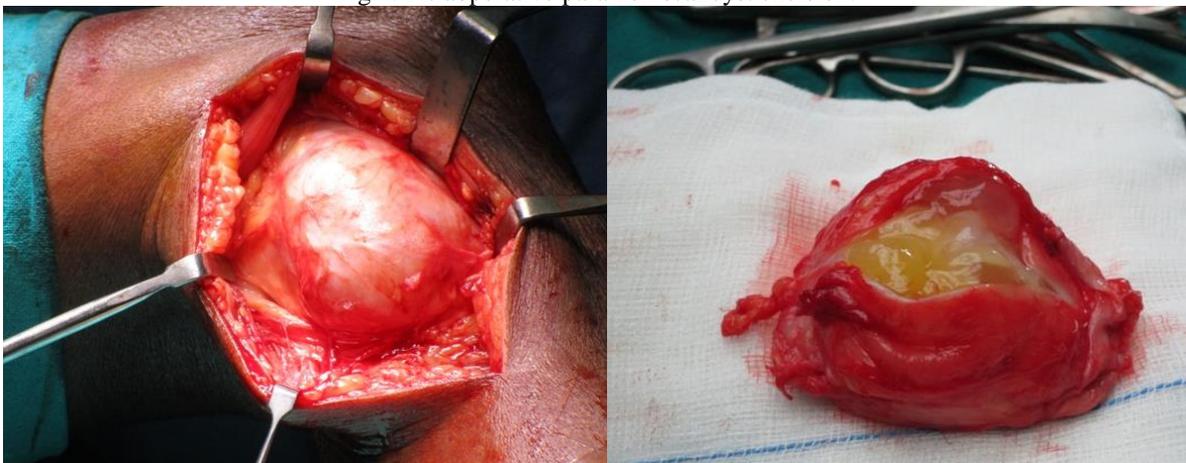
Fig.3 Magnetic resonance imaging

showing a large well-defined fluid intensity lesion adjacent to the medial meniscus extending caudally along the medial border of the proximal tibia , tibial cortical erosion (arrowhead), and edema.

Based on clinical and radiographic findings , we thought differential diagnosis of synovial cyst, baker cyst, ganglion cyst, bursitis, hematoma and cystic neoplasms such as synovial sarcoma.

MRI is the diagnostic method of choice for detecting meniscal cysts which can provide information about the size, location and concomitant intra-articular pathologies.

Fig 4: Intraoperative parameniscal cyst excision.



DISCUSSION:

Parameniscal cysts are uncommon and related to the meniscal tear and pattern of the meniscal tear^[8]. Although the pathogenesis of parameniscal cysts is still unclear, the most widely accepted hypothesis is that the synovial fluid is forced out through the underlying meniscal tear and accumulates near the meniscocapsular junction. However, cysts may also develop from degenerative processes of the menisci, leading to secondary synovial fluid and synovial cell infiltration into the parameniscal tissue^[9]

The characteristic finding of medial meniscal cyst is the presence of a palpable swelling over the medial joint line. The swelling is prominent in extension^[10]. A history of trauma, with pain or discomfort over the joint is common, with mechanical symptoms less frequently reported^[11].

Accurate diagnosis facilitates timely and appropriate intervention. In patients with a traumatic injury and mechanical block to knee motion, the differential diagnosis should include the presence of a meniscal cyst in addition to a bucket-handle meniscus tear, osteochondral defect, other loose body or fracture. In patients with a visible or palpable mass at the joint line, a parameniscal cyst should also be included in the differential diagnosis.^[12]

Radiographs occasionally demonstrate bony erosion under the cyst^[13]. MRI is typically considered the “gold standard” for a suspected meniscal cyst due to its ability to delineate the cyst and assess the menisci^[14]. Moreover, there are often incidental findings of meniscal cysts on MRI in patients who are asymptomatic^[15].

Large cysts with involvement of the medial collateral ligament require open excision. Smaller cysts may be treated arthroscopically^[16]. Arthroscopic treatment of medial meniscal cyst is worthy of clinical application as it could retain the normal meniscus and repair the meniscus injury simultaneously, as well as get a good curative effect and recovery of knee function^[17].

CONCLUSION:

Medial meniscal cysts should be considered in any patient presenting with persistent medial knee discomfort. Rigorous history and physical examination are essential to identify similar rare presentations. The use of MRI is important in confirming such anomalies and plan surgical intervention.

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