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Case report

Tuberculosis: An unusual etiology of Baker's cyst

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ARTICLE INFO

Article history:
Received 22 January 2016
Accepted 26 March 2016
Available online 9 April 2016

Keywords:
Tuberculosis
Baker's cyst
Arthroscopy
Langhans giant cell
Synovial hypertrophy

ABSTRACT

Baker's cyst is usually degenerative in origin, infective etiology is rare, and tubercular origin is exceptional; only 5 such cases have been reported in English literature till date. We present a case of a young female who presented with clinico-radiological features suggestive of Baker's cyst with associated posterior horn medial meniscal tear. Arthroscopic evaluation revealed suspicious synovial hypertrophy along with meniscal tear and Baker's cyst. Arthroscopic management of Baker's cyst and meniscal pathology was done along with radical synovectomy. Histopathological examination revealed epitheloid granulomas and Langhans giant cells pointing toward a tubercular etiology. Standard ATT protocol with rehabilitation was followed. The patient was asymptomatic at 1 year with complete resolution of symptoms and full range of motion. This case highlights the need to maintain high index of suspicion in cases hailing from endemic region with unusual intra-operative findings; also, it underlines the importance of routine histo-pathological examination.

1. Introduction

Baker's cyst is a distension of the gastrocnemius–semimembranosus bursa of the knee, which communicates with the posterior portion of the joint capsule.[1] It usually appears as swelling in the medial aspect of the popliteal fossa secondary to pathological changes in the knee joint causing effusion. Usually degenerative in origin, an infected Baker's cyst is far less common and tuberculous arthritis is exceptional[2] and only 5 cases have been described in literature till date.[3–7] We report an isolated tubercular Baker's cyst in a 22-year-old who presented to us with a popliteal swelling.

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http://dx.doi.org/10.1016/j.jajs.2016.03.002

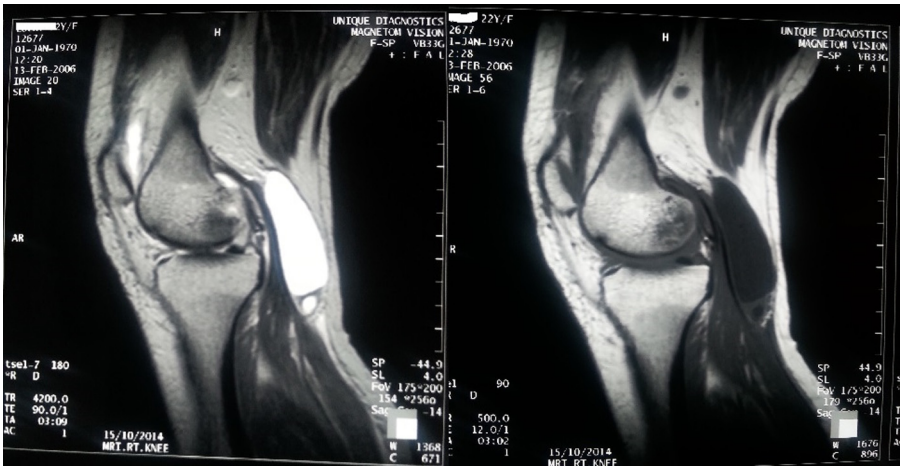

Fig. 1 – (a and b) T1 and T2 weighted sagittal MR images revealed tear in the posterior horn of medial meniscus along with a well-defined, cystic lesion in gastrocnemius–semimembranosus bursa appearing hypointense in T1 and hyperintense on T2 weighted images suggestive of a Baker's cyst.

2. Case report

A 22-year-old woman presented with complaints of pain and swelling in the right knee for 4 months. The pain was mild to moderate in intensity, continuous in nature, and localized to the posterior aspect of the knee. She noticed a swelling in the posterior aspect of her knee which was gradually increasing in size. There was no history of trauma, any constitutional symptoms, or any other associated systemic involvement.

On examination, she had an antalgic gait with a VAS (Visual Analogue Scale) score of five. Local examination revealed a well-defined, soft, non-tender, fluctuant swelling in the medial aspect of popliteal fossa, which reduced in size partially in deep flexion. Overlying skin temperature was normal. It was not associated with any redness, discharging sinus, or other significant skin changes.

There was medial joint line tenderness associated with positive McMurray test in deep flexion. There was no bruit on auscultation. Her range of motion was not restricted although terminal flexion was painful. There was no regional lymphadenopathy. Systemic examination was unremarkable.

Plain radiograph of the right knee showed increased soft tissue shadow in the posterior aspect without any significant bony abnormality. MR imaging revealed tear in the posterior horn of medial meniscus with an associated, 55 mm × 29 mm well defined, cystic lesion in gastrocnemius–semimembranosus bursa appearing hypointense in T1 and hyperintense on T2 weighted images suggestive of a Baker's cyst (Fig. 1).

The patient was planned for an arthroscopic decompression of the Baker's cyst with simultaneous management of the medial meniscal tear. Diagnostic arthroscopy revealed a grade III meniscal tear in the posterior horn of medial meniscus associated with significant synovial hypertrophy, raising suspicions of an associated infective/inflammatory pathology (Fig. 2). ''One way valve'' or ''trap door'' mechanism of Baker's cyst was also evident on arthroscopic examination of the posteromedial compartment (Fig. 3). The decompression of the Baker's cyst was done utilizing the posteromedial portal along with partial meniscectomy of the medial meniscus and subtotal synovectomy (Fig. 4). The contents of the cyst were sent for bacteriological staining and culture while synovial tissue was sent for routine histopathological examination.

Postoperatively, the patient was allowed full weight bearing walking from day 1. She had no residual swelling and the intensity of pain decreased as highlighted by a postop VAS score of two.

Significant synovial hypertrophy as noticed during surgery prompted us to investigate for inflammatory/infective etiology. A relook history revealed no significant personal or family history or history of contact. There was no history of any other joint involvement or morning stiffness. She denied

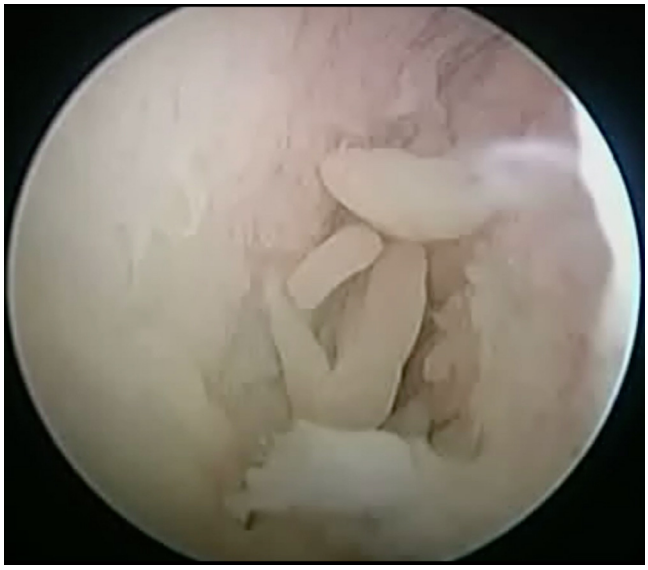

Fig. 2 – Intraoperative arthroscopic view showing significant synovial hypertrophy.