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Case Report

A rare case of Tuberculous Arthritis presenting as Baker's cyst

Vishnu Senthil
Senior Resident, Dept of Orthopaedics, Sree Balaji Medical College, Chennai.

***Corresponding author**
Vishnu Senthil
Email: vishsnake@gmail.com

Abstract: Baker's cyst arises as a cystic swelling in the posterior-medial aspect of knee and commonly of degenerative in origin. We report a case of Tubercle bacilli as an etiological factor in causing baker's cyst. We report this case because the need of high index suspicion of tuberculosis in an endemic region and the cornerstone for treatment of tuberculosis is chemotheraphy.
Keywords: Baker's cyst, tuberculosis.

INTRODUCTION

Baker cyst presents as a cystic swelling in the medial aspect of popliteal fossa caused due to distension of the gastrocnemius-semimembranous bursa of the knee and also communicates with the posterior portion of joint capsule. Usually degenerative in origin, TB arthritis causing baker's cyst is rarely reported in English literature [1, 2]. Till now only 6 cases have been reported in English literature. We report a case of an isolated tubercular baker's cyst in a 50 year old man.

CASE REPORT

A 50 year old man presented with swelling and pain in the posterior aspect right knee since one year and aggrevated since five months. The pain was moderate in intensity and localised to the posterior aspect of the knee. The swelling was insidious and progressive to the present condition. No history of trauma. No history of fever, constitutional symptoms, loss of weight, cough or any other joint complaints were present. Patient was immunised with BCG with scar mark present. No history of contact with TB.

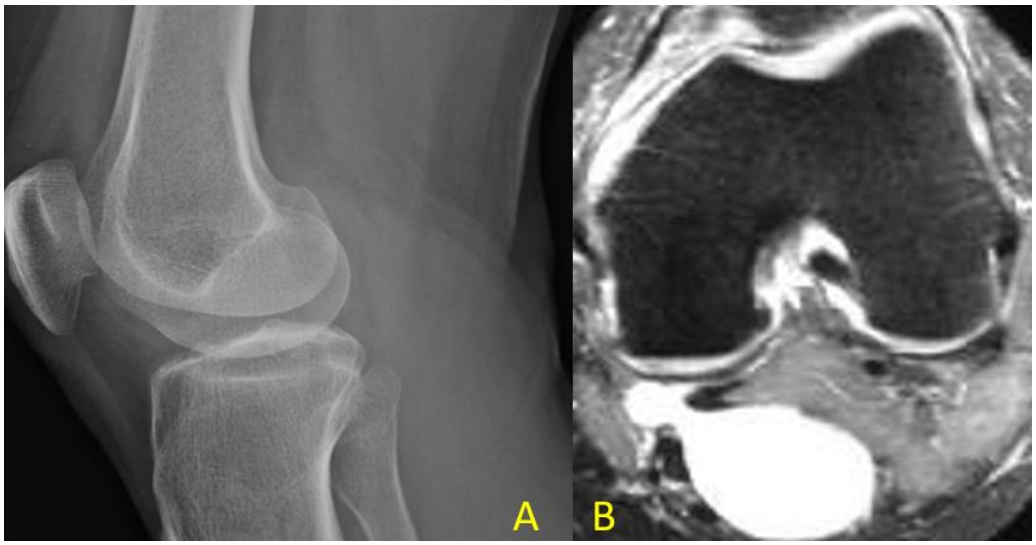
The patient had an antalgic gait with minimal flexion deformity. On local examination, there was well defined soft non-tender swelling which was tense on knee extension. Skin over the swelling was normal. General examination revealed no lymphadenopathy. Systemic examination was normal.

Radiological examination showed increased soft tissue density in the post aspect of knee without any bony abnormality with degenerative changes in the joint [Figure 1A]. Ultrasonography of the posterior aspect of knee showed a hypo-echoic cystic lesion measuring 6.3x 5.1x2.9 cm. MRI showed a cystic lesion in gastrocnemius semimembranous bursa which was hypointense in T1 and hyperintensive in T2 sequences [Figure 1B]. Baker's cyst was confirmed. Open baker cyst excision was done in prone position. The cyst was sent for histo-pathological examination and synovial fluid was sent for PCR and gram staining.

Post-operative period was uneventful and weight bearing started from day 2. No residual swelling was present and the pain decreased after cyst excision. Biopsy reported as granulomatous inflammation with epitheliod granulomas suggesting Tuberculosis.

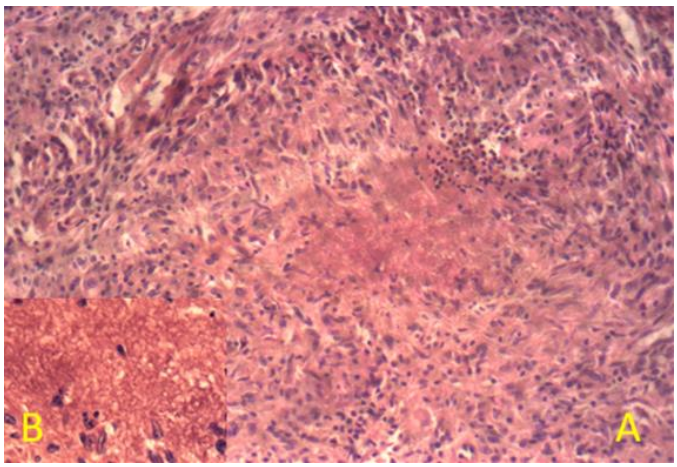
Retrospectively patient data was collected and suggested only monoarticular pathology with no history of polyarthalgia or morning stiffness. Laboratory investigations revealed a leucocyte count of 8.7x 100 cells/L with differential count of neutrophil-60 and lymphocyte-35. ESR was raised of 52mm/hr and CRP<6mg/L. Rheumatoid profile was negative.

Bacteriological staining and culture was also negative. Induration by mantoux test was 15 mm. Chest X-ray normal. Histopathological examination showed evidence of caseous granulomas with typical langhans giant cells. The patient was started on anti-tuberculosis medications with an intensive phase of two months with four drugs (isoniazid, rifampicin, pyrazinamide and ethambutol) and continuous phase for 12 months with isoniazid and rifampicin. The patient now at the 2nd year follow up showing no signs of recurrence with good range of motion.



Fig–1: Plain radiograph of right knee Lateral View [A] showing increased soft tissue density in the posterior aspect of the knee. MRI axial Image of the knee [B] showing baker's cyst in T-2 hyper-intense sequence measuring about 6.3x 5.1x2.9 cm.

Fig–2: Intra-operative photograph showing a cystic lesion arising from the postero-medial aspect of the knee.



Fig–3: Histo-pathology photograph 10X [A] and 40X [B] showing epitheliod granulomatous inflammation with caseous necrosis and langhans giant cells.

DISCUSSION

Skeletal tuberculosis constitutes of only 1-3% of TB. Knee joint ranks third in the incidence for joint tuberculosis (around 30%) accounting for 10% of TB. Haematogenous spread is the common source for musculo-skeletal tuberculosis [2]. Presentation varies from diffuse swelling, warmth, tenderness, progressive loss in range of movements and also present with multiple discharging sinus [3].

Baker's cyst is defined as a collection of fluid in the gastrocnemius-semimembranous bursa and commonly communicates with the posterior portion of joint capsule. Baker cyst is commonly due to non-infectious origin secondary to meniscal tear, Chondral lesions, OA, seronegative/seropositive spondyloarthropathies. In the case report by labropoulos *et al* confirmed that TB as a rare etiological factor for bakers cyst [4-7]. TB as an etiology of Baker's cyst is un-common [8, 9].

In our case, radiological features of TB knee like the phemister triad consisting of juxtra-articular osteoporosis, pheripheral osseous erosions and joint space narrowing were not present. Definitive diagnosis is estabilished by the presence of acid fast bacilli or the presence of caeseous necrosis in histopathology. Osteo-articular tuberculosis being pauci-bacillar, sensitivity and specificity of identifying them by acid fast stain is poor. PCR has high rate of detection of TB in pauci-bacillar conditions [10].

Our case didn't have any constitutional symptoms, chest x ray was normal and no detection of AFB in ZN staining or PCR. Only positive aspect was that the patient is from endemic region and histopathology showed caseous granulomas. Chemotheraphy remains the crux of the treatment and there is no proper literature regarding the duration in months. We have followed our institutional protocol and continued till 14 months.

CONCLUSION

Our case report highlights the importance of tubercular etiology as one of the etiological factors in endemic countries like India. TB baker cyst may mimic a baker cyst of degenerative origin and definitive diagnosis can be arrived only by histopathological examination and high index of suspicion.

Consent: Obtained

Conflict of Interest: None

Acknowledgement: None

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