

Tuberculous Osteomyelitis of the Patella

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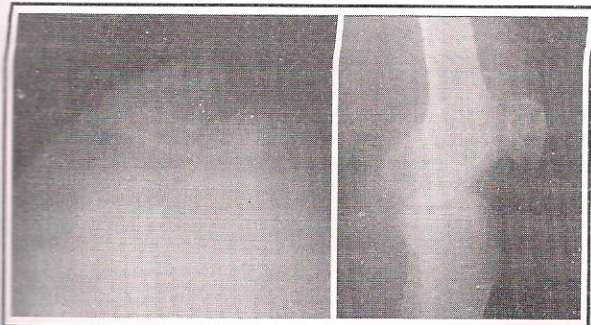
INTRODUCTION

Tuberculous osteomyelitis of the patella is a very rare condition with less than five to ten cases of patellar osteomyelitis reported in literature from 1991(8,10) and the exact incidence of tuberculous osteomyelitis is not yet known(1) Extrapulmonary tuberculosis accounts for less than 3% of cases, and sites like the patella are very rare.(8)

This paper reports a case of tuberculous osteomyelitis of the patella in a 22-year-old female for the rarity of the site of infection.

CASE REPORT

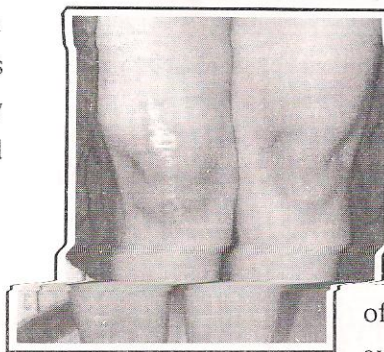
A 22 year old female presented to our out patient clinic with complaints of pain in the right knee since one year and swelling of the (rt.) knee joint since last eight months. The pain was continuous in nature which aggravated on climbing the stairs or getting up from sitting position. She had difficulty in sitting in cross-legged position and squatting. There was no history of traumatic injury, significant weight loss, constitutional symptoms, other bone or joint pains. No significant family history was noted. Patient did not give any past history of tuberculosis or contact



Preop Skyline and Lateral Views

with a known Case of tuberculosis. Incidentally she was a known case of epilepsy and was on phenytoin

and gardona!



The patient had reported earlier at third month of symptoms for the painful (rt.) knee to an orthopaedician where

of physiotherapy and symptomatic pain

relief measures. However as there was no relief she had consulted another orthopaedician. This time she was treated with local intraarticular steroid injection with partial relief of the pain for couple of months. There after the symptoms and swelling in the (rt.) knee recurred back.

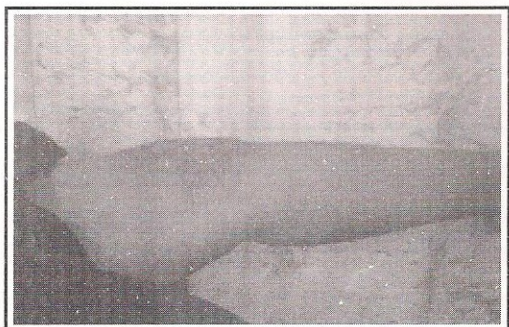
On examination, there was minimal diffuse swelling over the anteromedial and Para patellar aspect of the (rt) knee and tenderness over the anterior surface of the patella. Patellar



grinding test was positive. Side to side mobility of the patella was painful. There was boggy with minimal knee effusion. There was marked synovial thickening that was tender on palpation. No signs

of acute frank pyogenic infection were found. Range of movement of the rt knee joint was 10 to 90 degrees.

Earlier Radiographs showed osteolytic lesion in the body of the patella sparing the lower pole.



Clinical and Radiological Photographs after one year

Tibiofibular joint space was unaffected. The skyline view of the patella showed subtotal osteolysis of medial facet of the patella.

At this time, the patient had a total white blood cell count of 8000, lymphocyte count of 27 and neutrophil count of 72. The erythrocyte sedimentation rate (ESR) was 56 mm at the end of one hour. A provisional diagnosis of tuberculous osteomyelitis of patella was made. We decided to treat the patient with open synovectomy and debridement of the lesion with medial parapatellar approach. Intraoperatively we found there was a well-demarcated greyishwhite granulomatous lesion at the medial facet of the patella, which had perforated the cartilage at single point. Marked inflamed synovial thickening was noted. Tibiofemoral joint was unaffected. Complete debridement of the lesion through the perforated cartilage could be achieved and sub total synovectomy was performed. Irrigation and joint lavage was done. The excised tissue was sent for histopathological exam which confirmed the clinical suspicion of tuberculous osteomyelitis. Radiograph of the chest was done to rule out any pulmonary focus but it was normal.

On confirmation of the diagnosis, four-drug anti-tuberculosis treatment was started (isoniazid,

rifampicin, ethambutol, pyrazinamide along with pyridoxine). The patient was advised to carry out guarded weight bearing and knee mobilization (in pain confines) with continuous passive mobilization machine from third postoperative week. At three months, the patients' ESR came down to 25 and she had 0 to 100 degrees range of movement. Minimal quadriceps wasting which had developed improved after physiotherapy. At one year follow-up the patient was asymptomatic with no evidence of any recurrence and almost full range of movements.

DISCUSSION :

Rarity of this condition is reflected by paucity of literature on tuberculous osteomyelitis of the patella. Most of the cases reported are in the age group of 5 to 15 years and are due to pyogenic infection with *Staphylococcus aureus*.(2) Before the age of five years the patella is more or less cartilaginous in nature and hence osteomyelitis of the patella usually does not manifest at that age(4) Other organisms such as streptococcus, *Escherichia coli* and *Clostridium bifermentans* have also been indicted.(2, 5) Namey and Frogameni reported co-existent *Mycobacterium intracellulare* osteomyelitis of the patella and septic arthritis of the knee in an adult patient with pulmonary sarcoidosis (6) Evans reported osteomyelitis of the patella secondary to prepatellar bursitis.(3) Vaninbroux reported three cases of osteomyelitis of the patella secondary to haematogenous spread but none of them were due to tuberculosis.(2) Richter et al gave an account of seven cases of tuberculous osteomyelitis, all of which presented late and the lesion in all was situated within the corpus of the patella.(7) Thus, three modes of acquiring the infection are clear: direct invasion following injury, haematogenous, and local from prepatellar bursitis (1-3)

Index patient did not show any sign or symptom of the primary focus.

We emphasize upon the very innocuous clinical presentation as patient presented with pain on anterior aspect of the patella, aggravating after climbing up the stairs. There was no other joint involvement.

It is the clinical presentation of the patellar osteomyelitis that makes it prone for delay in diagnosis as reported in literature(1,9) The lack of clinical suspicion, due to rarity of the entity, could be another cause for the delay. A high index of suspicion should thus be maintained in cases of patellar pain with or without signs of infection. Histology of the curetage specimen is required to reach certain diagnosis and develop an adapted management strategy to protect the functional future of the knee(8). Open biopsy and debridement maybe necessary in doubtful cases, as in our case, because it was necessary to establish the diagnosis before starting anti-tuberculous drug treatment. Standard course of drug therapy for nine months should be adequate for a complete cure(9). Imaging studies, especially MRI, are of great interest for the diagnosis and to assess the extent of tuberculosis(8) Finally the Diagnosis and treatment should be urgent, including surgical debridement and well-conducted antitubercular therapy to yield a satisfactory functional outcome. {8}

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