

Tuberculosis of Hip Diagnosed Per-Operatively, Presenting as a Case of Severe Osteoarthritis Hip: A Case Report

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Abstract: The authors report and discuss a patient who on clinical and radiological presentation was diagnosed as a case of severe osteoarthritis of hip developing after suspected fracture of acetabulum but which later on during arthroplasty was diagnosed as a case of chronic progressive monoarthritis hip due to tuberculosis with caseating abscess and severe hip joint destruction and treated as planned with Girdlestone arthroplasty.

Keywords: Osteoarthritis, Tuberculosis of Hip, Girdlestone arthroplasty.

INTRODUCTION

Tuberculosis, popularly known as TB, is an infectious disease which is caused by an acid-fast bacillus called *Mycobacterium tuberculosis*. Minority of the cases has also been attributed to *M. bovis* [1]. The tuberculous arthritis is usually associated with high risk of destruction of the involved joints. The two most important factors which have much significance in improving the final therapeutic outcome are quick diagnosis and adequate treatment as the delay in diagnosing the disease and inadequate treatment are usually a common occurrence seen in clinical practice. Two crucial large weight bearing joints which are the common sites for the occurrence of extra-axial osteoarticular TB are hip and knee joints [2, 3]. Tuberculosis of hip and knee joint constitutes for about 25-35% of the Osteoarticular tuberculosis cases while hip joint TB alone responsible for 15% [3, 4]. Hip joint plays an important role in wide range of daily activities in controlling body movements and is the most crucial load bearing joint in human body, the degeneration of which could result to be very harmful for the physical and emotional well-being of the patients. Furthermore unmanageable morbidity of long duration result because of delay in the diagnosis. Conventional anti tubercular treatment, incision and drainage of abscess if any, arthrodesis, Girdlestone arthroplasty, are the few therapeutic measures which are taken for osteoarticular tubercular infections. Recently total hip arthroplasty (THA) has shown to be having definitive advantage against other options with higher rate of recovery in the patients post surgery.

Through this case report, we are discussing the clinical and radiological features of a patient presenting as a case of severe osteoarthritis hip which per-operatively was diagnosed as a case of chronic progressive monoarthritis hip due to tuberculosis with caseating abscess and severe hip joint destruction, treated as planned with Girdlestone arthroplasty.

CASE REPORT

A 26-year-old female patient belonging to a very poor socioeconomic status, presented with complaints of pain in the left gluteal area with progressively increasing mobility restriction on the left lower extremity for the last 5 years that made her daily routine activities very miserable. She could walk only with the help of crutches. She gave history of injury to her left hip at the age of about 10 years when she fell down from roof for which she was treated by some local doctor by massage and manipulation. She was alright in about 10-15 days except that she used to limp while walking. She was able to squat and sit with crossed legs though with difficulty. She remained so for about 10-11 years when her present complaints started. The patient had increasing pain on her left lower extremity with restriction of movements mainly abduction and external rotation. Few years later, the movement restrictions became even more severe and accompanied by pain while moving the joint. On presentation, the patient had about 30 degree of fixed flexion, adduction and internal rotation deformity at hip and equinus deformity at ankle due to contracture of tendo Achilles. There was about 7 cm of true shortening of left lower limb. Patient otherwise was in good

general condition and denied having systemic symptoms such as fever, weight and appetite loss. The patient didn't suffer from any other systemic condition. No abnormality was detected in routine lab tests including ESR, CRP etc. The Tuberculin purified protein derivative (PPD) test-Montoux test was positive which was demonstrated by the size of the induration formed at the site of infiltration. HIV test was negative. Patient was seen on multiple occasions by her local doctor who prescribed few pain killer drugs. Recent radiological findings showed severe destruction and collapse of femoral head and neck and deformity of the acetabulum (Fig. 1). Magnetic resonance imaging (MRI) of the hip could not be carried out because of financial constraints.

On the basis of X-Rays, lab investigations and clinical history she was diagnosed as a case of severe osteoarthritis of hip joint developing post fracture

acetabulum with avascular necrosis of femoral head. Because of her age and inability to afford for total hip replacement surgery, she was planned for Girdlestone arthroplasty. During surgery unexpectedly on opening of the joint, there was caseous material along with pus which was collected and sent for histo-pathological examination. So per-operatively we had to change the diagnosis to immune-competent patient with chronic progressive monoarthritis of the hip due to tuberculosis having no systemic symptoms. Later histo-pathological reports also confirmed our diagnosis which showed inflammatory reaction with a granuloma formation with caseous necrosis surrounded by giant Langerhans cells with abundant acid-fast bacilli. The joint was thoroughly cleaned of all debris and as planned, Girdlestone arthroplasty was performed. Post-operatively patient was put on anti-tuberculosis drug regimen including isoniazid, rifampin, pyrazinamide and ethambutol along with other routine antibiotics.



Fig. 1: Preoperative X-ray Pelvis showing marked destructive changes in left hip joint



Fig. 2: Showing fixed flexion, adduction, internal rotation deformity



Fig. 3: Showing deformed head femur after dislocation



Fig. 4: Showing resected deformed head



Fig. 5: Post Operative X-Ray showing deformed acetabulum

DISCUSSION

In western developed countries, osteoarticular tuberculosis is now very rarely seen, but in under developed countries, it is still a very common problem [5]. The hip joint is the most common site of involvement by tuberculosis after the spine and consists of about 15% of all total cases of osteoarticular tuberculosis [6]. The patients usually present in the second and third decades of life. The radiologic

findings are very apparent and conclusive in stage 2nd and 3rd of the disease and the ultimate clinical outcome can almost always be predicted. In the patients who do not get proper treatment, a progressive course of destruction of the hip occurs. With an aim to salvage the hip, intensive anti-tubercular drugs along with drainage of pus collections if found, has to be started early so as to minimize the destruction of articulating surfaces. Our patient could only be diagnosed per-

operatively of having osteoarticular tuberculosis. This could not be confirmed whether she developed this disease during the preceding 5 years or the disease became reactive after remaining quiescent for about 10-11 years, as the patient got no proper treatment in the past and there were no available records. Detailed history was taken from the patient regarding of taking any anti-TB treatment in the past. Tuberculosis is considered quiescent after a gap of 10 years of remission while some authors prolong the duration to 20 years [7, 8]. In our case if the patient had tuberculosis of hip in her early childhood, then it had relapsed after 10-11 years of alleged remission.

Ramos C.G. *et al.* presented an immunocompetent patient, a 58 years old female, with chronic progressive monoarthritis due to tuberculosis of the hip without systemic symptoms for 3 years [9]. Our patient too presented as an immunocompetent patient without having any systemic symptoms for 5 years. However we accept our failure in not getting MRI of the hip done which could have diagnosed the possibility of tuberculosis with much certainty. As already mentioned MRI could not be carried out because of financial constraints.

CONCLUSION

From the presentation of this case it can be concluded that sometimes tuberculosis of hip can present as an immunocompetent patient without having any systemic symptoms and history of primary tuberculosis in the past.

Abbreviations

TB: Tuberculosis; HIV: Human immunodeficiency virus; THA: Total hip arthroplasty; PPD: Purified protein derivative; CRP: C- reactive protein; ESR: Erythrocyte sedimentation rate, MRI: Magnetic resonance imaging.

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