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Case Report

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MDR TB of Knee Joint: A Rare Case Presentation

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Abstract

Tuberculosis may develop in the skeletal system apart from its primary location, the lungs. Tuberculous (TB) arthritis accounts for approximately 1-3% of all cases of tuberculosis and for approximately 10-11% of extrapulmonary cases. A 26-year-old male patient presented with complaints of severe pain and swelling in the left knee and difficulty in walking. The symptoms first appeared one year before and he underwent MRI scanning. MRI findings suggestive of infective arthritis of left knee joint, probably tubercular. He was started on anti-tuberculosis chemotherapeutic regimen for previously treated case. He took treatment for 9 months. The patient had some degree of relief from the pain however the movement of the knee joint was restricted. The restriction increased progressively. Now the patient presented with high grade fever, swelling in the left knee joint. On further investigation he was found to have a recurrence of tuberculosis along with rifampicin resistance. Treatment for drug resistant tuberculosis was initiated.

Keywords: Tuberculous arthritis, MDR tuberculosis, Rifampicin resistance

Introduction

India accounts for one fourth of the global TB burden. In 2015, an estimated 28 lakh cases occurred and 4.8 lakh people died due to TB. India has highest burden of both TB and MDR TB based on estimates reported in Global TB Report 2016. An estimated 1.3 lakh incident multi-drug resistant TB patients emerge annually in India which includes 79000 MDR-TB Patients estimates among notified pulmonary cases¹. Osteoarticular tuberculosis accounts for 1

to 5 percent of all tuberculous infection with spine being most commonly affected constituting about half of the patients followed by hip and knee respectively [2,3]. Knee tuberculosis or commonly called TB knee accounts for nearly 8% percent of all skeletal tuberculosis. Musculoskeletal tuberculosis is most common in first three decades of life although no age is immune and cases are seen from neonates to 80 years of age. Musculoskeletal tuberculosis is distributed almost equally among males and females. Infection of the bone and joints is caused by haematogenous

spread from a primary lesion elsewhere mostly of the respiratory tract, GI tract or Genito-urinary tract; it may occur shortly after the primary infection or may be seen years later as a disease reactivation⁴. The incidence of skeletal TB is increasing due to the emergence of multidrug resistant mycobacteria, increase in the number of immune-compromised patients and the AIDS pandemic.

Case Report

We report a case of 26 year old male, gym trainer who presented with pain and swelling of left knee joint, high grade fever for last 1 year. fever was high grade and continuous with evening rise of temperature. He had history of fall during training hours and there was associated pain and swelling of the left knee. The symptoms gradually worsened that he was unable to extend his knee. He has history of pulmonary tuberculosis 1.5 year back for which he took dots category 1 on sputum positive basis. He was completely cured. His appetite is normal and no history of weight loss. He was admitted in Guru Nanak Dev Hospital Amritsar department of orthopaedics. MRI knee joint was taken. It showed erosive arthritis with degenerative changes ? infective /inflammatory arthritis, joint effusion with large bakers cyst formation. They started DOTS category 2. He completed the treatment. Now patient presented with swelling and fixed flexion deformity of the left knee.

Physical examination revealed a visible swelling on left knee, tenderness present. temperature is raised, distal pulses felt, distal movement is restricted. There is no visible wound, no bleeding, no sinus or discharge. Examination of the right hip, right ankle, and left knee were normal. A chest radiograph was interpreted as normal. Left knee x ray shows erosion of articular margin of femur and tibia. MRI of left knee joint suggestive of infective arthritis, probably tubercular. A tissue is excised from the knee swelling and sent for histopathology. The result came as tubercular pathology. Aspiration of the Swelling was done and sent for GeneXprt and AFB culture. Test came as mycobacterium tuberculosis positive and Rifampicin resistance is detected.

The patient was started on DOTS category 4. now the patient is improving.

Discussion

The incidence of skeletal tuberculosis is increasing due to emergence of multidrug resistant strains of mycobacteria, increase in the number of immunocompromised patients and the AIDS pandemic. MDR (multi drug resistant) TB is the name given to TB when the bacteria that are causing it are resistant to at least isoniazid and rifampicin, two of the most effective TB drugs. In May 2016 WHO issued guidance that people with TB resistant to rifampicin, with or without resistance to other drugs, should be treated with an MDR-TB treatment regimen. This group of patients (effectively an expanded MDR-TB group), is sometimes referred to as MDR/RR-TB.⁵ Globally in 2016 the World Health Organisation (WHO) estimated that 4.1% of new cases and 19% of previously treated cases of TB were of MDR/RR-TB.⁶

Musculo skeletal tuberculosis is more common in children than in adults, probably owing to the greater amount of bone marrow present in immature bone. In adults, TB shows a preponderance to the spine (40%), then the hip (25%), and finally the knee (8%).^{7,8} While extrapulmonary manifestations of TB are common, accounting for around 15–20% of cases in immunocompetent patients,⁹ . *Mycobacterium bovis* is the causative agent of osteoarticular tuberculosis in 80% of cases in western countries but almost all cases in India are due to mycobacterium tuberculosis¹⁰

In the present case we could demonstrate AFB on primary smear of the synovial fluid, which is observed in approximately 16% of cases only¹¹. Culture positivity varies from 30.4% - 87% of cases.¹⁰ In the present case, human tubercle bacillus was isolated on LJ Medium which is a significant finding. The histopathological examination was done previously which showed features of tubercular pathology, but the diagnosis was confirmed by culture on LJ Medium.

Tuberculous arthritis is usually monoarticular, sparing no joint. Lower extremity tends to be involved more commonly. It may present as chronic pain, swelling, local tenderness, warmth and progressive loss of function. Cold abscess,

sinuses and constitutional symptoms are also seen in many cases. In the present case, cold abscess and sinuses were present and a history of high grade fever was also present. Musculoskeletal involvement is through haematogenous spread from a primary focus, frequently in the lungs rarely in the kidney or in the lymphnodes¹². In our case, the patient was treated for pulmonary tuberculosis previously on sputum positive basis, the radiographic changes in the lungs was indicative of tuberculous focus suggesting the primary site.

As the possibility of tuberculous synovitis is often over looked during clinical examination, it is necessary to increase clinical awareness to ensure early diagnosis and treatment. Microbiological investigations help in correct diagnosis. Culture and identification of mycobacteria is required to start anti-tubercular treatment (ATT). Mycobacteria resistant to first line ATT require MDR TB regimen. In this case patient came as rifampicin resistant on CBNAAT and was started on MDR regimen.

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References

1. <https://tbcindia.gov.in/WriteReadData/TB%20India%202017.pdf>
2. Sharma V, Anjum R, Choudhary V, Singh TP. Epidemiological pattern of Osteoarticular Tuberculosis in a Teaching hospital of Rural India: A prospective study. *International journal of biomedical research*. 2016 May;7(5):273-5.
3. Halsey JP, Reeback JS, Barnes CG. A decade of skeletal tuberculosis. *Ann Rheum Dis* 1982; 41:7-10.
4. Enache SD, Pleasea IE, Anusca D, Zaharia B, Pop OT. Osteoarticular tuberculosis—a ten years case review *Rom. J Morphol Embryol*. 2005, 46:67– 72.
5. Falzon D, Schünemann HJ, Harausz E, González-Angulo L, Lienhardt C, Jaramillo E, Weyer K. World Health Organization treatment guidelines for drug-resistant tuberculosis, 2016 update. *European Respiratory Journal*. 2017 Mar 1;49(3):1602308.

6. Global Tuberculosis Report 2017”, WHO, Geneva, 2016 www.who.int/tb/publications/global_report/en
7. Mittal R, Trikha V, Rastogi S. Tuberculosis of patella. *The Knee*. 2006;13:54–6. [PubMed]
8. Adler AC. Tuberculosis: Old World treatment for New World disease. *Clin Imaging*. 2009;33:136.[PubMed]
9. Sharma SK, Mohan A. Extrapulmonary tuberculosis. *Indian J Med Res*. 2004;120:316–53. [PubMed]
10. Lakhanpal V.P., Tuli S.M., Singh H., Sen P.C. — The Value of histology, Culture and guineapig Examination in Osteoarticular Tuberculosis. *Acta Orthop Scand*. 45 : 36-42, 1974.
11. Wanjari K., Baradkar VP, Mathur M., Kumar S. — Tuberculous Synovitis in a HIV Positive Patient. *IJMM*. 27 : 72-75, 2009.
12. Emily S.L. — Tuberculous synovitis of the knee with unusually thick synovial granulation tissue: A Case report *Int. J Orthop Surg*. 6 : 1531-2968, 2007.

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