

Tuberculous infection in Renal Transplant (Immunocompromised) patients

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Abstract

Introduction: Mycobacterium Tuberculosis infection in immunocompromised patient is a diagnostic challenge. Tuberculosis of the bone, constituting 10 to 20 percent of all tuberculosis, is a well-recognized clinical condition that is easily diagnosed and managed by physicians and orthopaedic surgeons with an excellent outcome.

Case Report: 45 yrs old male presented to OPD with swelling over the dorsum of right foot at the base of little toe. The patient had undergone renal transplant one year back and was on immunosuppressant drugs and steroids. Clinically the swelling was non-tender, not fixed to bone or skin, lobulated and firm in consistency. Local temperature was not raised. Investigations in the form of aspiration and excision biopsy confirmed tuberculous infection.

Conclusion: Rare and unusual locations of osteoarticular TB often pose a problem of differential diagnosis. Meticulous history and Clinical examination helps in reaching the diagnosis. Start of AKT drugs as soon as reports show presence of tubercular bacilli plays a vital role in treatment as well as functional outcome of the patient.

Keywords: Immunocompromised, Tuberculosis, Infection.

Introduction

Tuberculosis remains a major public health problem in India today. Osteoarticular TB constitutes 1.7-2% of all tuberculosis. Active TB in the post-transplantation setting can pose a number of challenges: atypical presentation leading to a delay in diagnosis, therapy associated with drug interactions and toxicities, graft rejection, and formidable morbidity and mortality [1]. The early diagnosis and prompt treatment is of utmost importance for good clinical outcome.

Case Report

45 yrs old male presented to OPD with swelling over the dorsum of right foot at the base of little toe. The patient had undergone renal transplant one year back. The creatinine level was 12 and patient was pale and toxic. The patient is currently on immunosuppressant drugs and steroids [Fig 1]. Clinically, the swelling was non-tender, not fixed to bone or skin, lobulated and firm in consistency [Fig 2]. Local temperature was not raised. The patient was further investigated. Investigations showed raised ESR with lymphocytosis. The patient was retro and Australia antigen negative. Aspiration biopsy and smear stained with

zeil nelson stain [Fig 3] showed presence of multiple tuberculous bacilli. Anti-Kochs treatment was started immediately and patient was kept under closed observation and was treated conservatively [Fig 4]. Four drugs (HRZE) for the period of 12 months were given. Radiographs and blood tests were performed every 3 months until treatment completion. Non-weight bearing was advised, and foot was protected in a below knee slab for 6 weeks. Partial weight bearing was allowed at 6 weeks and progressed to full weight bearing at 10 weeks. Two years follow-up didn't show any increase in the size of the lytic lesion.

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Author's Photo Gallery



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Handwritten list of immunosuppressant drugs including Tacrolimus, Cyclosporin, Mycophenolate, Azathioprine, Prednisolone, and others.

Figure 1. Immunosuppressant Drugs



Figure 2. Clinical photograph

Microbiology Laboratory report for Mr. D. Z. Patil, 51 years old, male. Specimen: Pus for c & s, fungus. Report: g.s.: no organism seen. z.n.stain: AFB seen. (25 to 30 in entire smear, please correlate clinically) KOH mount and Lactophenol cotton blue prep: fungal elements not seen.

Figure 3. Microbiology report

Handwritten treatment schedule detailing the use of Rifampin, Isoniazid, Ethambutol, and Pyrazinamide, along with monitoring instructions.

Figure 4. Treatment schedule



Figure 5. Clinical photo at 2 yrs



Figure 6. X-ray at 2 yrs

Clinically, pain and swelling subsided and skin lesion had completely healed [Fig 5]. Patient's general condition also improved. Radiographs at 2 years follow-up showed healed lesion [Fig 6].

Discussion

Extrapulmonary M. tuberculosis is also reportedly on the rise, and may manifest itself at a number of sites in the body, including the peripheral skeleton. In solid-organ transplant recipients, the incidence of Mycobacterium tuberculosis (MTB) infection worldwide ranges between 0.35% and 15%, depending on the level of endemicity. This rate can be 36 to 74 fold greater than that in the general population [2]. The majority of TB cases after transplantation represent reactivation of latent tuberculosis infection. Acquisition of primary TB infection post-transplant and transmission of TB via the transplanted organ are infrequent possibilities. Because reactivation of latent tuberculosis infection

represents the majority of post-transplant cases of active TB, it is prudent to screen and identify such patients before transplantation for consideration of appropriate therapy.

Tuberculosis and HIV infection are two serious problems, which associated condition is one another negative. Immunocompromised patients are more likely to progress to tuberculous disease and to have extrapulmonary manifestations; diagnostic tests are also of lower yield in this population. Anti-tubercular drugs are the main treatment modality. A minimum of 12 months of AKT is necessary to prevent recurrence. Surgical exploration should be reserved for cases resistant to AKT or for those with deformity or painful joint. In such cases surgery has a limited role, except for biopsy

Conclusion

Patient on immunosuppressant drugs can have opportunistic infection like TB and

fungal infection. Conservative treatment with AKT has excellent results without any complications.

Clinical Message

Patient on immunosuppressant drugs can have opportunistic infection like TB and fungal infection. These pathologies can be conserved with strict supervision on doses of AKT and blood profile.

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