Case Report

Immune reconstitution disease or mycobacteria other than tuberculosis or both: A dilemma in a patient of AIDS

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Abstract

A 35-year-old male diagnosed as HIV with tuberculous lymphadenopathy, presented with acute increase in size of neck swelling and fever. The patient was on antiretroviral therapy and antitubercular treatment. Investigations revealed raised CD4 counts and the pus from swelling showed mycobacteria other than tuberculosis (MOTT) on bacteriological examination.The patient was started on steroids, azithromycin, and ciprofloxacin to which he responded well. We report this case to highlight the occurrence of immune reconstitution disease in HIV patients and also to bring out the fact that atypical infection like MOTT may confound the diagnosis even in regions like ours where MOTT is rarely reported.

Key words: Atypical mycobacteria, antiretroviral therapy, immune reconstitution disease

INTRODUCTION

Immune reconstitution disease (IRD) among HIV-infected patients is an adverse consequence of restoration of immune responses during the initial months of antiretroviral treatment (ART). Previous subclinical infections are "unmasked" or preexisting opportunistic infections clinically deteriorate during this period.[1]

Tuberculosis lymphadenitis is the commonest form of extrapulmonary tuberculosis. There are several reports from other countries that have shown mycobacteria other than tuberculosis (MOTT) to be responsible for a significant proportion of tuberculosis lymphadenitis in patients of HIV; however, it has been rarely reported in our country.

Access this article online

Quick Response Code:

Website: www.ijstd.org

DOI: 10.4103/0253-7184.93824

Since opportunistic infections are a major cause of mortality and morbidity in HIV seropositive patients, an early diagnosis and effective treatment are required to tackle them.[2]

Even though in our country there is a low reported prevalence of MOTT, especially when a patient of AIDS with tuberculosis comes with exacerbation of symptoms apart from a suspicion of IRD, we should look out for MOTT infections which might have been missed in the earlier diagnostic work up.

Here, we describe a case in which a patient developed acute increase in bilateral neck swelling as a result of IRD who turned out to be having MOTT infection also.

CASE REPORT

A 35-year-old male presented to us with acute increase in bilateral neck swelling since 5–6 days, neck pain, fever, and weight loss.

Patient had first noticed the swelling 2 months ago. It started as multiple neck swellings which were initially small. He did not take any treatment for it. Later on he was admitted for altered sensorium.

How to cite this article:
Shah A, Stani A, Adalja M, George A. Immune reconstitution disease or mycobacteria other than tuberculosis or both: A dilemma in a patient of AIDS. Indian J Sex Transm Dis 2012;33:44-6.

His serology for HIV was positive andfine needle aspiration cytology of swelling was suggestive of tuberculosis. CD4 count was 48 cells/mm. Magnetic resonance imaging of brain was normal. He was given category 1(2HREZ+4HR) under RNTCP and Anti Retroviral antiretroviral therapy (3TC+d4T+EFV), with septran and fluconazole for prophylaxis against pneumocystis carinii and fungal infections. He improved symptomatically after the drugs were started, even though there was no appreciable change in the number and size of swelling.

After about 2 months of treatment there was acute aggravation of complaints for which the patient presented to us. There was a history of increase in size of swelling during the past 1 week. On examination of the neck swellings, there were multiple, discrete, firm, mobile, tender, nonwarm, nonreducible, nonpulsatile swellings on both sides of the neck involving all lymph node groups [Figure 1, 2]. The swellings were of different sizes ranging from 2 to 12 cm in maximum dimension. There was no enlargement of any other lymph node groups in the body. Ultrasonography of the neck revealed multiple bilateral enlarged conglomerated nodes in levels 2, 3, 4, and 5. Chest X ray was normal. Sputum examinations of two morning samples were negative for acid fast bacilli. CD4 count was 100 cells per cubic millimeter of blood.

At this stage considering the fact that in spite of treatment with ATT+ART, the patient had presented with increase in size of neck swelling, we were considering a differential diagnosis of infection with drug-resistant bacilli, infection by MOTT, and IRD.

Tablet prednisolone 25 mg once daily was added to his treatment and it was tapered over a period of 3 weeks. The swelling gradually became soft; skin over swelling became tense and red. About 100 cc pus was aspirated from neck swelling and sent for mycobacterial culture and sensitivity. AFB culture report (BACTEC/L-J) was suggestive of M. avium complex (MAC) on the basis of NAP (ρ-nitro-α-acetyl amino-β-hydroxy-propiophenone) and morphology. AFB culture and sensitivity report showed sensitive to all first line drugs. The patient had a diagnosis of AIDS, he was on antiretroviral therapy with increase in CD4 count and worsening of preexisting disease; hence, the diagnosis was IRD.

Along with category-1 ATT and ART, azithromycin and ciprofloxacin were added for MOTT. Patient was kept on fortnightly follow-up. At the time of sending this publication the patient had completed 4 months of treatment and the patient is symptomatically better with marked reduction in size of the swelling [Figure 3].

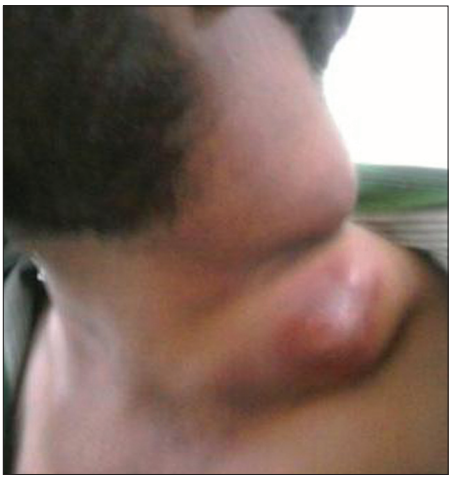

Figure 1: Clinical photograph of patient before treatment

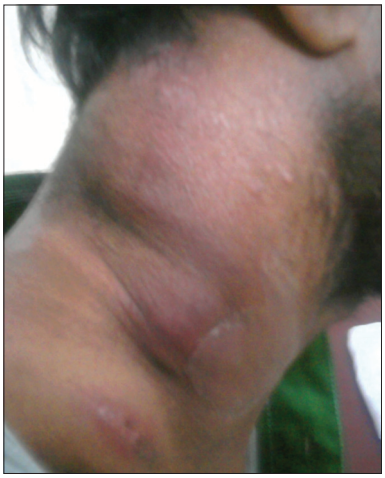

Figure 2: Clinical photograph of patient before treatment (left-side view)

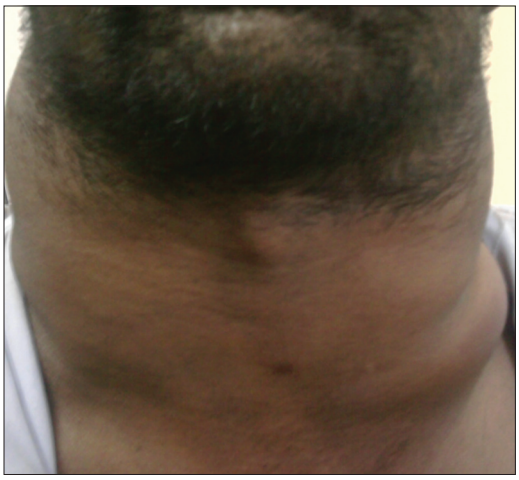

Figure 3: Clinical photograph of patient 6 weeks after treatment

DISCUSSION

Immune reconstitution inflammatory syndrome (IRIS/IRD) is a clinical entity characterized by excessive inflammatory response to a preexisting antigen or pathogen and a paradoxical deterioration in clinical status after initiation of antiretroviral therapy. IRIS presents in two different ways 1) the paradoxical worsening of symptoms of a known disease, either at a new body site or 2) the unmasking of an occult opportunistic infection, in which disease that was not clinically apparent prior to ART manifests during ART.[3]

Lewis *et al*. reported an incidence range of 10–23% of IRIS in patients who have started ART.[3] Suman *et al*. in their study has reported 4% of patients with HIV –TB develop paradoxical TB-associated IRIS after starting HAART.[4] In some observational studies, IRD occurred in up to 4% of disseminated MAC patients on ART with pretreatment CD4 <100 cell/ul.[5]

Till date no single clinical factor has been identified which can predict development of IRD; a high index of clinical suspicion is still the key for an early diagnosis of IRD.[4]

MOTT has been less common in parts of world like India where tuberculosis is more prevalent perhaps because of cross-reactive immunity or perhaps because end organ disease caused by tuberculosis tends to occur earlier in the course of HIV.[5] There have been widely varying statistics about the incidence of MOTT in India. While some studies report very low incidence ranging from 0 to 8.4%, other studies from limited geographical areas have reported higher incidence of 17.4%.[6] One prospective study of tuberculosis in seropositive patients reported 0% incidence of MOTT.[7] But still when the recovery of the patient, started on antitubercular treatment is not going on expected lines one should consider other causes including MOTT.

CONCLUSION

IRD and MOTT infections have very low reported incidence. However, they should be actively suspected and investigated for in cases of HIV with tuberculosis who are not recovering on expected lines after start of standard treatment.

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Source of Support: Nil. **Conflict of Interest:** None declared.