Case report

Pulmonary Mycobacterium simiae infection mimicking mass lesion in an immunocompetent host: a case report

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Abstract:

A 33 year old obese lady with past history of treated abdominal tuberculosis presented with protracted low grade fever. She had an anterior mass lesion on left upper lobe which yielded acid first bacilli positivity on smear examination of the aspirate. She remained non responsiveness to first line anti-tubercular drugs given for a month till the culture report of the aspirate yielded Mycobacterium simiae. Treatment with combination of co-trimoxazole, moxyfloxacin, and clarithromycin showed quick response in symptomatology and gradual resolution of the mass.

Key words: acid fast bacilli,Mycobacterium simiae, non tubercular mycobacterial, MDR tuberculosis

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Abbreviations:

NTM: non tubercular mycobacterial

AFB: acid fast bacilli

HRCT: high resolution computerized tomography

HIV-Human immunodeficiency virus

MDR-Multiple drug resistant

INTRODUCTION :

Non tubercular mycobacterial pulmonary infection is not uncommon (1) and has been reported more and more (2, 3). The presentation may be akin to that of tuberculosis or may be atypical. Although some specific pattern of affection has been identified from infection with certain non tubercular mycobacteria, many a times, the suspicion remains difficult. The diagnosis is achieved with proper isolation of the member of NTM family. Most often, mere diagnosis of mycobacterial disease is inadequate as each member has specific drug sensitivity and this may not be with the standard first line antitubercular drugs. Mycobacterium simiae is a photochromogen NTM. We have isolated it in a young lady presenting with fever and left upper lobe mass and thereafter successfully treated her with a combination of antibiotics.

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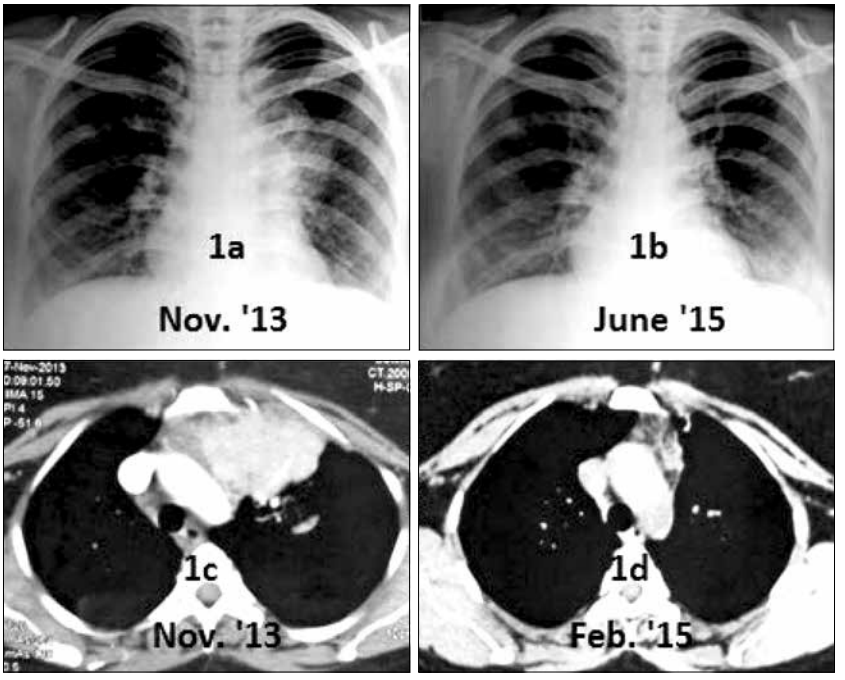
THE CASE DETAILS :

RK, 33F, obese, had protracted low to moderate grade fever for few months. She was detected to have mediastinal widening at the left para-aortic area in Chest X-ray in November, 2013 which was further elaborated by HRCT Chest as a soft tissue density in the anterior part of the left upper lobe abatting the chest wall. (picture 1a and 1c) it was adjacent but clearly separated from the arch of aorta. (picture 1c). Her routine haematological (haemoglobin, total and differential count, peripheral smear) and biochemical (fasting glucose, creatinine, bilirubin , liver enzymes, serum protein, uric acid) parameters were all within normal limits except a raised ESR of 86 mm in 1st hour. She was sero-negative for HIV infection. The fine needle aspiration revealed presence of AFB on smear examination with a background feature of chronic inflammation. pending the availability of the AFB culture report of the aspirate, she was put on first line anti-tubercular drugs (rifampicin, isoniazid, ethambutol, and pyrazinamide) in adequate dosages as per the body weight. She had a history of treatment of abdominal tuberculosis fourteen years ago in 2010 AD.



Picture 1 (a, b, c, d): The panel of pictures showing the lesion in the anterior aspect of the left upper lobe and its resolution. The upper panel (picture 1a and 1b) shows the Chest x-rays done before and after completion of treatment of 15 months. The lower panel (picture 1c and 1d) depicts the HRCT cuts done before and after three months of treatment. There is complete resolution of the abnormality in chest x-ray after 15 months and significant resolution in HRCT chest after 3 months.

The fever continued unabated and after a month of treatment there was no resolution in the radiological abnormality. Meanwhile the AFB culture of the aspirate had grown mycobacteria and subsequently it was identified as Mycobacterium simiae.

On availability of the presence of Mycobacterium simiae, a non tubercular mycobacteria, the treatment regimen was changed to co trimoxazole (Bactrim DS- one tab thrice daily), clarithromycin (500 mg twice daily), and moxifloxacin (400 mg daily) as soon as the report was available following literature survey. In addition, a proton pump inhibitor was added.

Her fever responded in 10 days and she had gradual but consistent improvement with the return of well being. A repeat chest X-ray after 2 months and HRCT chest after 3 months showed significant regression of the swelling (picture 1c and 1d). The medications were continued for one and a half year with complete subsidence of the radiological abnormality.

DISCUSSION :

Different NTM (non tubercular mycobacterial) can cause symptomatic or asymptomatic pulmonary infection[1], and the prevalence of NTM infection has been found to be on rise[1, 2,3]. Mycobacterium simiae is one such non tubercular mycobacterial and it is a slow growing and photochromatic (rust colour) in culture behaviour. It can cause both human and animal infections[4]. It is found to affect people commonly with diabetes, having past history of tubercular infection[5, 6, 7], cardiovascular diseases, malignancy, and HIV infection. Individuals from the Middle-East are found to be ethnically prone to suffer from M simiae infection more frequently[5].

Cough, sweating, low grade fever and weight loss are the common symptoms (5), however, they are reportedly mild compared to those produced by Mycobacterium tuberculosis infection[8].

The common radiological picture shows nodular lesions, cavitation, and bronchiectasis[9,10]. Incidentally our patient did not have any such.

It presented as a mass in the upper lobe of left lung. Such presentation is atypical and diverts the clinicians from considering a possibility of infection. It was apt to consider a search for AFB in smear and culture in this case. Mere smear examination would have lead to treatment failure and possibility consideration of MDR infection.

The organism (Mycobacterium simiae) is incidentally resistant to common first line anti-tubercular drugs. Hence, the initial lack of response to the treatment in our patient is easily understood. In a case series, high success of therapy has been observed on treatment with a regimen consisting of clarithromycin, ofloxacin and co-trimoxazole. 24 of 26 patients were cured on 12 month therapy (11).

We offered prolonged treatment to the ensure 'cure". The case elaborated the successful diagnosis and treatment with Mycobacterium simiae, a NTM presenting with fever and anterior chest mass. It also elaborated the importance of sending tissue sample for determination of AFB in both smear and culture not only in all cases of clinicoradiological suspicion but also in an atypical radiological presentations with index of suspicion for infective etiology.

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