Facial Swelling with Atypical Mycobacterial Infection in Immuno-Competent Patient

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Abstract A middle aged immune-competent woman presented with a facial swelling, which was excised. The histopathology showed it to be a non-caseating granuloma. PCR confirmed that the swelling was caused by mycobacterium other than tuberculosis (MOTT) infection. No relapse was seen on follow up even without chemotherapy.

Keywords MOTT · PCR · Mantoux · Non-tuberculous mycobacterium (NTM)

Introduction

Mycobacterial infections are very common in India. Most of the infections are caused by tuberculous mycobacteria. Atypical mycobacterial infections are very rare. The presentation may be variable like ulcers, lymph node swellings and soft tissue granulomas. These infections have gained interest recently with the increase in prevalence of AIDS. But atypical mycobacterial infections are very uncommon in immunocompetent persons. We are presenting a case of immunocompetent patient with a facial soft tissue swelling due to atypical mycobacterial infection. It was successfully treated by surgical excision.

Case Report

A 35 years old female, presented in the ENT department with complaint of left facial swelling. The swelling was gradually increasing in size for the last 4 years and was not painful. There was no history of fever, cough or weight loss. Three years ago, patient had a swelling near the left lower eyelid, which was excised. But histopathological report was not available.

On examination, she had a firm swelling of left cheek fixed to maxilla. It was 5 × 4 cm in size extending from ala of nose to zygomatic arch. Overlying skin was normal. Rest of the ENT and general physical examination was normal.

CT scan of para-nasal sinuses showed a hyper dense mass along the antero-lateral surface of maxillary bone on the left side (Fig. 1). There was no bone erosion found. The hematological and biochemical investigations were within normal limits. FNAC was non suggestive.

Patient was taken up for excisional biopsy. Through sublabial incision, the mass was excised completely and in toto. Histopathological examination revealed it to be a granulomatous lesion with plenty of eosinophils and without any caseation.

Subsequently Mantoux, ESR, HIV, and X-ray chest were done and found normal. PCR for tuberculosis from the excised sample was suggestive of atypical mycobacterial DNA, but mycobacterial tuberculosis was negative. Patient was followed up for 1 year. During the follow up patient had no complaints and there was no recurrence.

Discussion

Because of overwhelming clinical importance of tuberculosis, mycobacteriologists have distinguished the

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mycobacterium tuberculosis complex (consisting of *M. tuberculosis*, *M. bovis* and *M. africanum*) from all other mycobacteria. Except for mycobacterium leprae, the other mycobacteriae are referred to as atypical mycobacteria, or mycobacterium other than tuberculosis (MOTT), or non-tuberculous mycobacterium (NTM).

The mycobacterium tuberculosis infection is very common, especially in the developing countries. Recently, there has been an increase in the incidence of atypical mycobacterium infections in HIV positive or immune compromised patients. But, atypical mycobacterium infection in a healthy individual is a very rare entity. Our present case was a young, healthy, immune-competent and HIV negative patient, who had granuloma of face which was having MOTT infection [1].

The original method for classification of NTM, developed between 1950 and 1980, depends upon the speed of growth, morphology and pigmentation of colonies on solid media as well as their biochemical reactions. Although reliable and inexpensive, these procedures take a long time; a period of 12 weeks is often required for definitive identification [1]. In present case, no culture sensitivity was done.

There are many methods for the detection of mycobacteria in paraffin sections. But, the traditional histological diagnosis of mycobacterium infection in formalin-fixed and paraffin embedded (FFPE) tissues is insensitive and poorly specific. Azov and Koch [2] used polymerase chain reaction (PCR) protocols for detecting a Mycobacterium genus specific 65 kDa heat shock protein (HSP65) sequence and the *M. tuberculosis* complex specific insertion sequence IS6110 in FFPE sections. This was showing 100% sensitivity and specificity. Bruijnesteijn et al. [3] used real-time PCR in FNAC and biopsy samples from children with lymphadenitis and concluded that, the real-time PCR assay has a sensitivity of 72% for patients with lymphadenitis and a specificity of 100% for the detection of atypical mycobacterium.

The role of chemotherapy is controversial in atypical mycobacterium infection especially in immune-competent individuals. Most active agents against MAC are macrolides like clarithromycin and azithromycin. Tunkel [4] suggested that cervico-facial NTM adenitis can be treated with excision or curettage. Excision remains the treatment of choice because of high cure rate with single procedure. Curettage was done as a staged procedure for lesions in proximity to the facial nerve or with extensive skin necrosis. Lindeboom and Kuijper [5] suggested that, surgical excision is more effective than antibiotic treatment for children with non-tuberculous mycobacterium cervicofacial lymphadenitis.

Fig. 1 CT scan of para-nasal sinuses showing a hyper dense mass along the antero-lateral surface of maxillary bone on the left side

Result

Atypical mycobacterial granuloma of face is a rare entity, should be considered if other diseases had been excluded most importantly typical mycobacterium infections. PCR can provide excellent support for decision making in patients with MOTT infections.

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