Case Report

Maxillary Sinus Tuberculosis: Various Presentations

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ABSTRACT

Tuberculosis (TB) of the maxillary sinus is rare. We describe the clinical presentation, management and outcome in two human immunodeficiency virus (HIV) seronegative patients with histopathologically confirmed maxillary sinus TB. One of the patients who presented earlier in the course of the disease could be managed with antituberculosis treatment alone, while the other who presented late required surgical intervention as well. **[Indian J Chest Dis Allied Sci 2013;55:175-177]**

Key words: Extra-pulmonary, Maxillary sinus, Tuberculosis.

INTRODUCTION

During the last three decades, extra-pulmonary tuberculosis (EPTB) has gained special attention because of human immunodeficiency virus (HIV) pandemic.[1] *Mycobacterium tuberculosis* most frequently reaches the lung and rarely involves paranasal sinuses and nasopharynx. It reaches nose and facial bones through blood stream or lymphatics.[2] Involvement of long bones and vertebral column by tuberculosis (TB) is common but the disease rarely affects flat bones.[3] TB mostly involves maxillary sinus and other sinuses are less frequently involved.[4] Maxillary sinus TB resembles other granulomatous or neoplastic diseases and remains an under-diagnosed entity. Three types of sinonasal TB have been described: (i) mucosal involvement leading to formation of polyps with minimal pus discharge; (ii) bony involvement and fistula formation with abundant discharge of acid-fast bacilli (AFB); and (iii) hyperplastic changes with formation of tuberculoma.[5]

CASE REPORT

Case 1

A 66-year-old female presented with complaints of nasal obstruction, nasal discharge and a gradually increasing swelling over her face on the anterior aspect of left cheek for the past six months. The nasal discharge was mostly mucopurulent and was sometimes mixed with blood. She had received several courses of antibiotics and other symptomatic treatment from local general practitioners for four months without any improvement. On examination, there was non-tender swelling in nasolabial area (Figure 1A) and a smooth fleshy growth in left nasal cavity (Figure 1B) causing marked septal deviation towards the right side. Computed tomography (CT) of the paranasal sinuses revealed a homogeneous mass filling the left maxillary antrum with widening of osteum (Figure 1C). Left ethmoid sinuses were hazy due to collection. A biopsy of nasal mass was obtained under local anaesthesia through transnasal route and histopathological examination revealed areas of granuloma with necrosis with Langhans' giant cells suggestive of TB (Figure 1D). Patient was started on daily self-supervised antituberculosis treatment with isoniazid, rifampicin, ethambutol and pyrazinamide for two months followed by isoniazid and rifampicin for the subsequent four months. During follow-up visits, patient showed significant improvement.

Case 2

A 30-year-old male presented with complaints of progressive disfigurement of right side of face and nasal discharge with crusting and epistaxis from the right side of the nose for the past one year. There was a gradual loss of facial contour on the right side. He had received treatment from the local practitioners but did not get any relief. He developed a small ulcerative lesion on the right nasolabial fold that progressed gradually involving the entire right half of the face (Figure 2A). History of nasal regurgitation and epiphora was present. At the time of presentation, patient had a defect in the mid face on the right side. Anterior rhinoscopy showed erosion of

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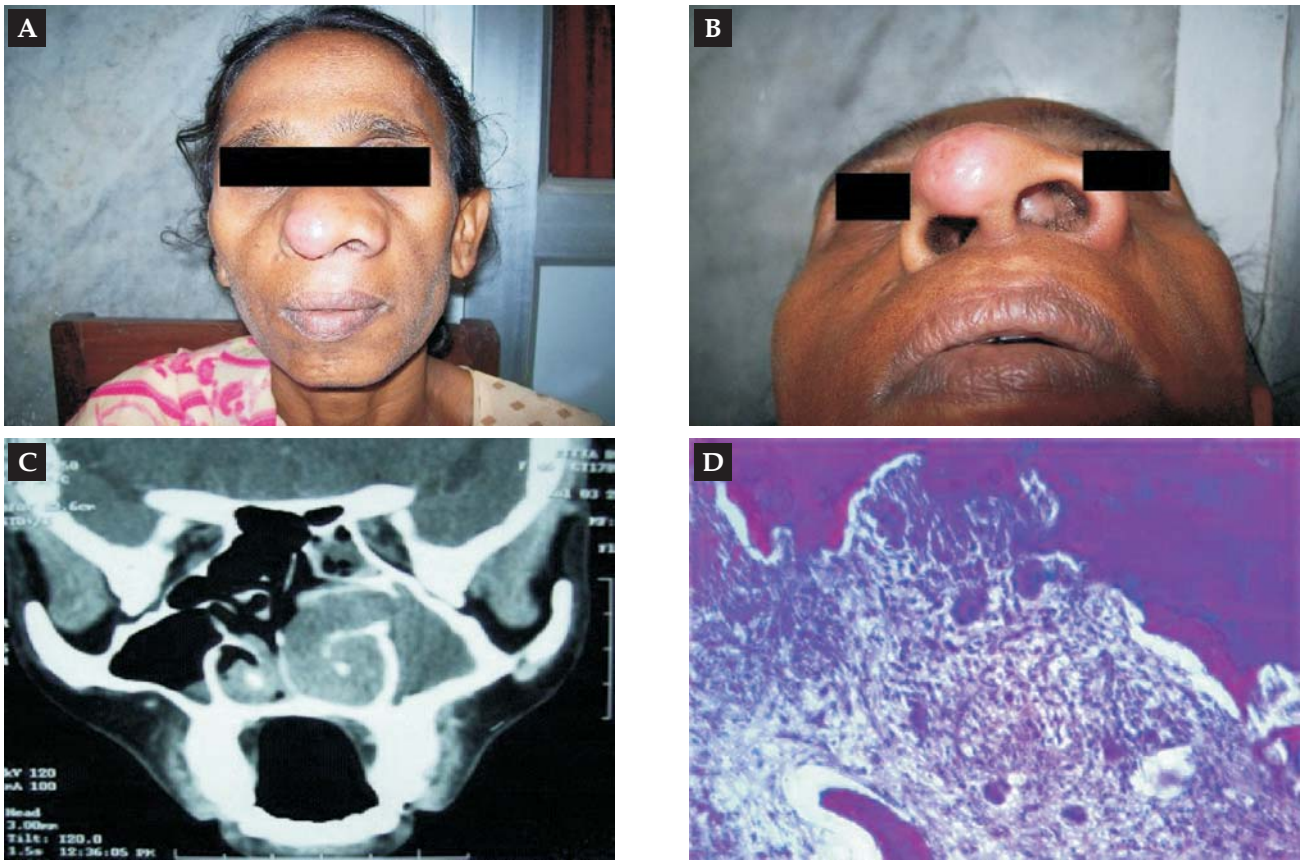

Figure 1. Clinical photographs showing (A) swelling on nasolabial area and (B) growth in left nasal cavity; computed tomography of sinuses (C) showing a homogeneous mass filling the left maxillary antrum with widening of osteum; and photomicrograph (D) showing areas of granuloma with necrosis with Langhans' giant cells suggestive of tuberculosis (Haematoxylin and Eosin×100).

the right lateral wall of the nose. On examination of oral cavity hard palate was eroded. Vision was normal in both the eyes. Routine investigations including chest radiograph (postero-anterior view) were normal. CT of face and paranasal sinuses showed complete loss of all the bony walls of maxilla (Figure 2B). Mucor mycosis or TB of maxilla was considered as differential diagnosis and tissue biopsy from defective margins was obtained for AFB staining, fungal element and histopathological examination (Figure 2C) that confirmed the diagnosis of TB. The patient was started on daily self-supervised standard antituberculosis treatment with isoniazid, rifampicin, ethambutol and pyrazinamide. The mid-face defect was reconstructed using temporalis flap (Figure 2D). The patient was discharged after 10 days of surgery. The patient did not return for follow-up.

DISCUSSION

EPTB is not uncommon but the facial bones are unusual sites for involvement by TB. Very few cases of maxillary sinus TB have been reported till date.[6,7] TB of paranasal sinuses is usually a disease of adults.[8] Most commonly, it presents as nasal discharge, stuffiness of nose, crust formation and sometimes with epistaxis. It is usually associated with pulmonary TB.[9]

Out of three types of paranasal sinus TB, hyperplastic type has granuloma formation and mimicks a malignancy.[10] Occasionally it may be associated with a malignancy.[8] It can also present as fluctuant swelling, i.e., Potts puffy tumour and may resemble a malignant lesion.[5] If not treated early, it can lead to complications like brain abscess and deterioration of vision.[5] When the diagnosis of TB can be established early, the disease can be treated conservatively.[11] Although it is rare and its clinical diagnosis is delayed because its early symptoms are non-specific and patients are treated incorrectly as pyogenic sinusitis. A high degree of suspicion is needed to diagnose it early. Antral lavage examination for AFB and culture for *Mycobacterium tuberculosis* can facilitate early diagnosis thereby avoiding surgical intervention.[11]

In the present case series, the first patient present early in the course of the disease, bony destruction was not evident and the patient responded to medical management with antituberculosis treatment alone. However, the second patient presented at a much later stage and needed surgical intervention in addition to antituberculosis treatment.

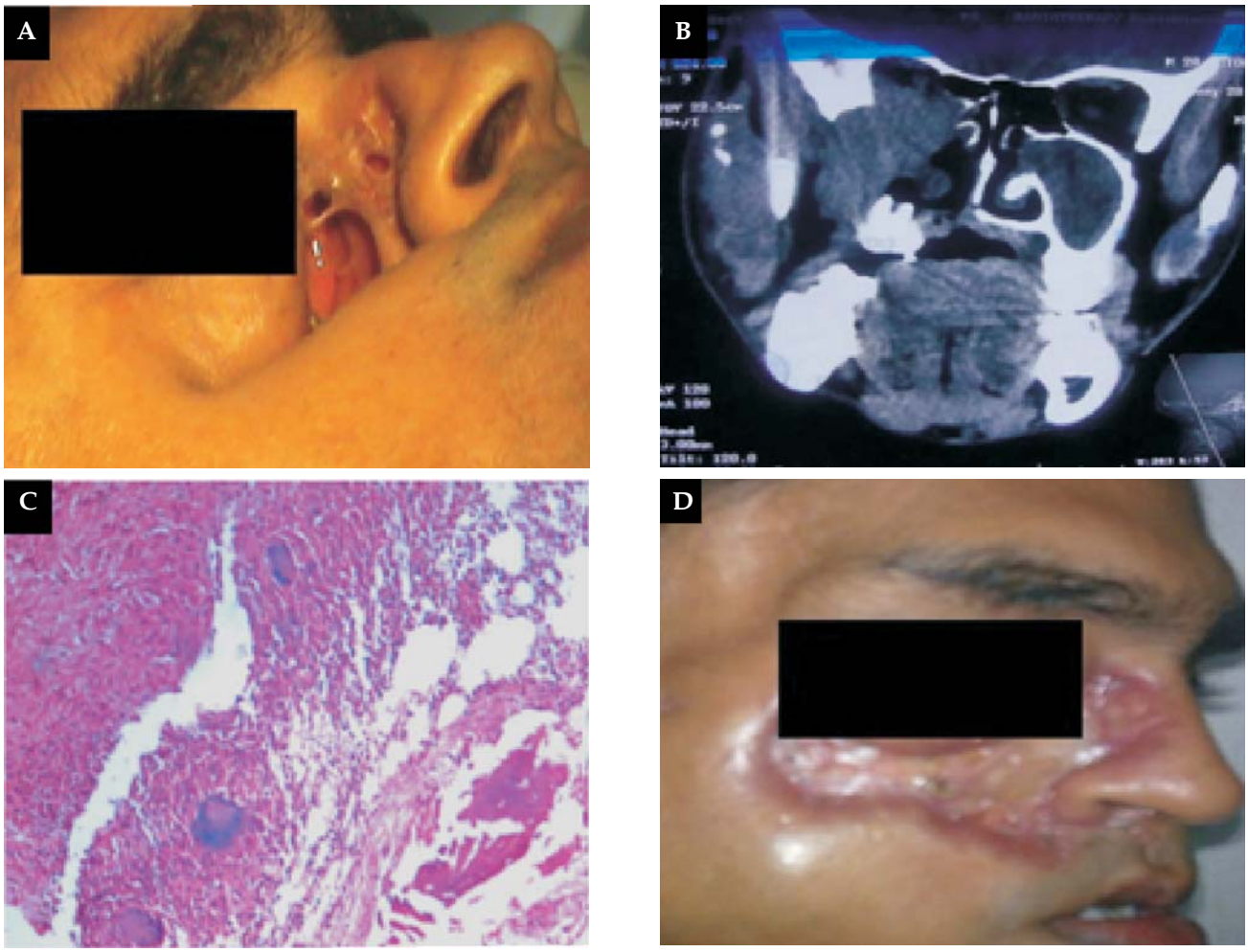

Figure 2. Pre-operative clinical photograph (A) showing extensively disfigured face of the patient; computed tomography of face and paranasal sinuses; (B) complete loss of all the bony walls of maxilla; photomicrograph (C) showing caseation necrosis suggestive of tuberculosis (Haematoxylin and Eosin×100) ; and post-operative clinical photograph (D) of the patient after the 10th day of temporalis flap reconstructive surgery.

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