

Primary isolated nasopharyngeal tuberculosis in an otherwise healthy individual: a case report and mini review of the literature

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ABSTRACT:

— Nasopharyngeal tuberculosis is a rare disease usually secondary to pulmonary tuberculosis. Its indolent and subtle presentation makes it very difficult to diagnose in the absence of either pulmonary tuberculosis or a predisposing condition.

In the present article we describe a case of primary isolated nasopharyngeal tuberculosis in an otherwise healthy individual.

— **Key words:** *Nasopharyngeal tuberculosis, Mycobacterium tuberculosis.*

INTRODUCTION

Nasopharyngeal tuberculosis is a rare disease, even in endemic areas, and it is usually secondary to pulmonary disease⁽¹⁻⁷⁾. Immunosuppressive conditions, ageing, transplants and HIV infection may lead to atypical presentations of tuberculosis and sometimes extra-pulmonary manifestations, which result in delayed diagnosis and treatment⁽¹⁻²⁾. It often has a silent and indolent course and most commonly mimics nasopharyngeal carcinoma. In the absence of concurrent pulmonary involvement, it is often misdiagnosed and/or diagnosed only after a biopsy has been taken⁽²⁾. This report presents an unusual case of primary nasopharyngeal tuberculosis.

CASE REPORT

In May 2012, a 57-year-old woman presented with a one-year history of hemoptysis and dysphagia, without fever, sweating or weight loss, to the Division of Infectious Diseases of the Garibaldi-Nesima Hospital of Catania. A previous nasopharyngoscopy showed a lesion of the nasopharyngeal wall, and its histopathological examination showed a chronic micronodular granulomatous inflammation with multinucleated Langhans giant cells and focal necrosis. The CT scan of chest showed two small calcifications in the lower lobe of the left lung. Mantoux intradermal reaction and *QuantiFERON-TB Gold test* were positive. Direct observation of acid-fast bacillus

(AFB) in the smear and bronchoalveolar lavage (BAL) and AFB cultures were negative. The AFB cultures of a new pharyngeal biopsy was positive for *Mycobacterium tuberculosis* complex. All first line regimen antituberculosis drugs were active with the exception of streptomycin. The patient was treated with rifampicin (RIF) 600 mg/die, isoniazid (INH) 200 mg/die, pyrazinamide (PZA) 750 mg/die and ethambutol (ETB) 500 mg/die for nine months obtaining a complete clinical and endoscopic recovery; PZA and ETB were stopped after the first three months.

After one year of follow-up, there was no evidence of recurrence.

DISCUSSION

Tuberculosis of the upper respiratory tract is rare (1.8%) and is usually secondary to pulmonary disease. Primary tuberculosis of the nasopharynx is a rare entity, seen in 0.12% of all patients with tuberculosis, and it is defined as an isolated tuberculosis infection of the nasopharynx in the absence of pulmonary or systemic tuberculosis¹⁻³.

The upper respiratory tract is generally resistant to tuberculosis due to the defensive mechanism by the ciliary movements and bactericidal effects of the mucosal components, which explains the low incidence of primary nasopharyngeal tuberculosis. Furthermore, saliva by virtue of its cleansing action is thought to have an inhibitory effect on tubercle bacilli. Extra-pulmonary localizations of tuberculosis are rare, commonly encountered in patients with poor host immune-reaction due to chronic alcoholism, HIV infection, immunosuppression, etc. Predisposing factors for primary oral tuberculosis include poor oro-dental hygiene, dental extractions, periodontitis and leukoplakia.

Our patient neither had any chronic illness nor was immune-compromised and did not have any predisposing factor. Nasopharyngeal tuberculosis seems to be more frequent in woman than men. It occurs in adults, with two peaks of frequency: between 15 and 30 years of age and between 50 and 60 years of age¹⁻⁷. Two modes of acquisition are described for this disease: 1) through the airway (either directly through nasal ventilation, or secondarily through canalized bacillary expectoration); 2) haematogenous or lymphatic, from a primary site, most often pulmonary⁽¹⁻³⁾; the presenting symptoms of nasopharyngeal tuberculosis are cervical lymphadenopathy,

epistaxis, hearing loss, tinnitus, otalgia, nasal obstruction, post-nasal drip, snoring, cough, sore throat, diplopia or osteomyelitis of the clivus. Constitutional symptoms occur in 12-30% of cases of nasopharyngeal tuberculosis. Direct visualization of nasopharynx may show 3 main patterns of involvements: 1) normal nasopharynx; 2) diffuse inflammation and ulceration of respiratory mucosa; 3) polypoidal mass lesion¹⁻⁵. Hystopathological examination of the lesion shows granulomatous inflammation with epithelioid cells, langhans giant cell with or without caseation. Definite diagnosis can be established by demonstrating AFB or positive culture for *Mycobacterium tuberculosis*¹⁻⁴. The differential diagnosis of nasopharyngeal mass includes nasopharyngeal carcinoma, Wegener's granuloma, midline granuloma, syphilis, leprosy, fungal infection and lymphoma. Therefore, definitive diagnosis by pathologic confirmation of a nasopharyngeal mass is of paramount importance. Anti-tuberculosis therapy invariably remains the mainstay of treatment, usually leading to a remarkable response.

CONFLICT OF INTEREST

The Authors declare that they have no conflict of interests.

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