

## Case Report

# INTERDISCIPLINARY APPROACH TO A RARE OCCURRENCE OF NASAL TUBERCULOSIS-AN OTOLARYNGOLOGY CASE REPORT

\*Lata Mahadevan<sup>1</sup> and Apurva Pawde<sup>2</sup>

<sup>1</sup>Department of Tribal Health, MUHS Regional Center, Govt. Medical College, Nagpur,

<sup>2</sup>Department of ENT, Govt. Medical College, Nagpur

\*Author for Correspondence

## ABSTRACT

Tuberculosis is one of the most important infectious diseases. In 2009 estimate 9 million new cases were registered worldwide, mortality due tuberculosis reached 1.5 million (Markowski *et al.*, 2011). Tuberculosis may infect any part of the body, but most commonly occurs in the lungs (known as pulmonary tuberculosis) (Dolin *et al.*, 2010). Extra pulmonary TB occurs when tuberculosis develops outside of the lungs. Extra pulmonary TB may coexist with pulmonary TB as well (Dolin *et al.*, 2010). The under diagnosis of extra pulmonary tuberculosis lesions, along with an emerging global resistance to antitubercular drugs, warrants an increased awareness of the involvement of Mycobacterium tuberculosis in atypical lesions (Yadav *et al.*, 2012).

**Key Words:** Nasal Tuberculosis, Nodular Lesions, Asymptomatic, Histological Confirmation, Rare, Extrapulmonary

## INTRODUCTION

Tuberculosis, captain of all these men of death, is still the biggest health challenge of the world. It continues to be a major health problem in developing countries with enormous social and economic implications. The World Health Organization declared TB a "global health emergency" in 1993 (Lawn and Zumla, 2011), and in 2006, the Stop TB Partnership developed a Global Plan to Stop Tuberculosis that aims to save 14 million lives between its launch and 2015 (World Health Organization, 2011). The high prevalence is compounded by the coexistence of HIV and tuberculosis and the emergence of drug resistant mycobacteria. This has resulted in the worldwide resurgence of tuberculosis labeling it as a dreaded disease. In 15–20% of active cases, the infection spreads outside the lungs, causing other kinds of TB (Jindal, 2011). Extra pulmonary tuberculosis is rare (7% of overall morbidity) and most commonly affects pleura, lymph nodes, bones, joints and genitourinary system. Head and neck tuberculosis is rare (Markowski *et al.*, 2011). Laryngeal tuberculosis used to be a common complication in advanced pulmonary tuberculosis. However, it has become a rare occurrence in developed countries since the introduction of antituberculous agents. Moreover, the pattern of the disease has changed over the years. Nowadays, it more closely resembles a laryngeal carcinoma than any other laryngeal illness (Smulders *et al.*, 2009).

Clinical symptoms and signs should be reviewed in every case of chronic otitis media keeping the possibility of tuberculosis in mind. Otorrhoea in a patient with known or suspected active pulmonary tuberculosis should be assumed to be TOM until proven otherwise (Aremu and Alabi, 2010).

Tuberculosis of the nasal cavity and paranasal sinuses is a very rare occurrence. The mucous membrane is markedly resistant to invasion by mycobacterium tuberculosis. Local trauma such as nose picking or atrophic rhinitis starts the genesis of tuberculosis by producing ulceration in the nasal cavity. Tuberculosis of the nose may be nodular or ulcerative. It may be primary but is usually secondary to tuberculous affection of the lungs. Tuberculosis of nose starts in the cartilaginous part of the septum or the anterior extremities of turbinate, seldom involving floor of nasal cavity or lateral nasal wall. Nasal lesion may be asymptomatic. Usually it presents as discharge, slight pain and partial obstruction, sometimes epistaxis and crustation. Tuberculosis of nose follows rapid course of ulceration which leads to perforation of septum, Nasal lesions exhibit pale granulations. The discharge is usually thin. Tuberculosis of the nasal

### **Case Report**

cavity has to be essentially differentiated from the other granulomatous diseases of nose and paranasal sinuses.

### **CASES**

A twenty year old female of Gond tribal origin, presented at the outpatient department with complaints of swelling over the left nose since two months. On examination of the case it revealed swelling over the left nose, with patency of the nasal cavity reduced markedly on the left side. Anterior rhinoscopy showed swelling present on the left lateral wall of nose and was fixed (Figure 1).

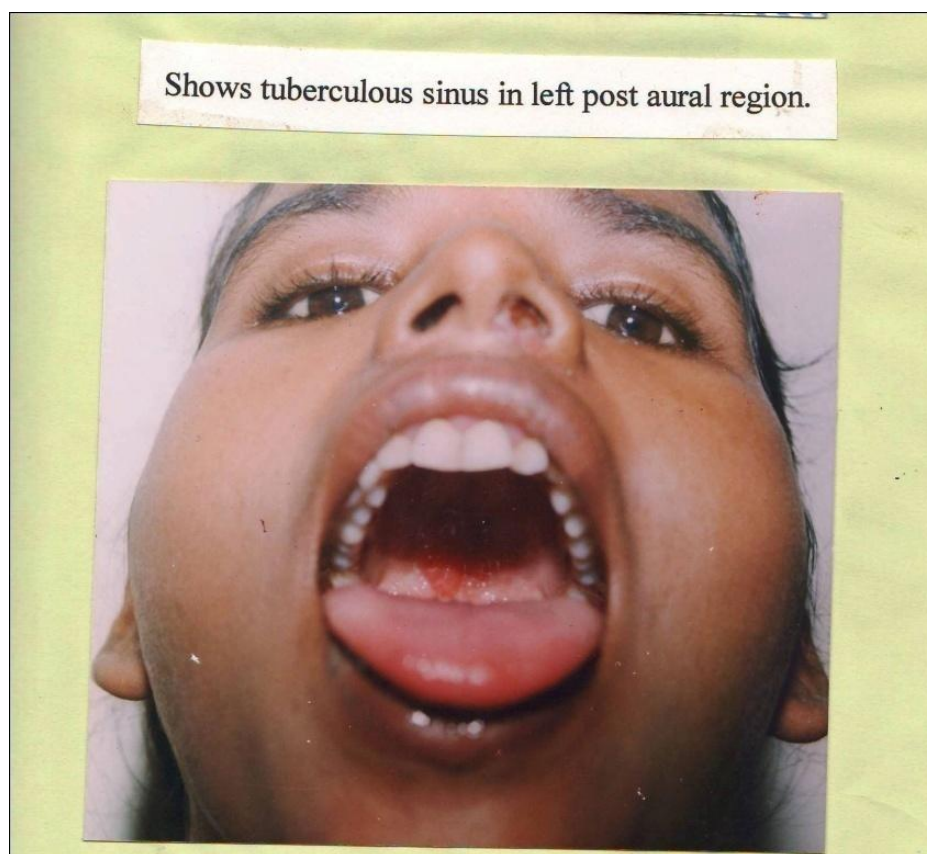
No obvious anterior or posterior nasal bleeding was noticed. A mass was present on the left nostril, on the lateral wall, single, not bleeding, soft to touch, rounded and bulging toward the palate. Posterior rhinoscopy shows extension of mass into the nasopharynx.

### **Investigations**

Nose swab, sputum examination, Montoux test, X-ray PNS and X-ray chest was done. X-ray chest showed military and features of old lesion. Discharge sent for AFB positive for acid fast bacilli. Biopsy was taken and the mass was removed and sent for histopathological examination which confirmed the diagnosis of tuberculous granuloma (Figure 2).

### **DISCUSSION**

Tuberculosis of nasal cavity and paranasal sinuses are rare. It is seen that females are more prone to tuberculosis of the nose.



**Figure 1: Shows a 20 yr old girls of nasal tuberculosis presenting with Lt. nasal mass with crusting and congestion and edema of soft palate**

### Case Report



**Figure 2:** Shows one small granuloma at lower Right corner consisting of epithelioid cells, lymphocytes and surrounded by lymphocytes and histiocytes in complete microscopic field

The patient was advised to complete anti tuberculous treatment from the DOTS center attached to her place of residence. The patient's compliance to treatment in the govt. program was poor. Rare occurrence and lack of characteristic symptoms of head and neck tuberculosis often lead to misdiagnosis. Histopathological examination is the most important diagnostic procedure (Markowski *et al.*, 2011). In previous studies patients suspected to have tuberculosis of the otorhinolaryngeal region (cervical adenitis excluded) had *Mycobacterium tuberculosis* culture-proven disease (Michael and Joy, 2011). Tuberculostatic therapy is the leading method of treatment in every case of tuberculosis.

### Conclusion

Most physicians do not consider TB in the differential diagnosis of various otorhinolaryngeal symptoms, resulting in misdiagnosis and improper treatment.

### **Case Report**

In addition, AIDS and other immunosuppressive diseases or treatments have increased the incidence and spectrum of tuberculosis (Michael and Joy, 2011).

Considering that nasal tuberculosis is a rare condition usually with a primary focus in the lung, it is essential the patient is notified to the National program and treatment for the disease is commenced as soon as possible. As tuberculosis is an airborne disease and the sites such as nose with profuse discharge could be potential cause for spread of the disease. In India all such cases detected in specialized department have to be shifted for the DOTS treatment prescribed by the RNTCP and thus the patient is then handed over to the National Program. An individual case cannot be confined as a case report but as an opportunity to investigate its spread in the community through contacts. The public health importance of finding such a case enormously contributes to devising preventive action at the community level.

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