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Case Report

Nasal Tuberculosis-A Common Disease at a Rare Site: A Case Report

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Abstract

Background: Primary nasal tuberculosis (TB) is a rare form of Tuberculosis even in country like India which had a high incidence of Tuberculosis. Moreover, the diagnosis and proper management of Nasal tuberculosis has often delayed as it is rare and presents with nonspecific clinical picture.

Case Presentation: A 47 years old man presented with a soft sessile mass in nasal cavity. The patient has no clinical evidence of any systemic diseases. Complete blood count (CBC) was normal with raised erythrocyte sedimentation rate. Chest x-ray was normal. The lesion revealed caseating granulomas, epithelioid cells, lymphocytes, and a few giant cells on histopathological examination suggestive of Tuberculosis. Anti-Tubercular therapy (ATT) was given and followed for 6 month and patient was cured.

Conclusion: Although, nasal tuberculosis is rare, one should be skeptic in the differential diagnosis of patients with chronic nasal symptoms and mass like lesion of the nose.

Keywords: *Tuberculosis; Nasal Tuberculosis; Nasal Cavity*

Introduction

Pulmonary tuberculosis is very common infectious disease in our country but primary tuberculosis of nose, nasopharynx and para nasal sinus is extremely rare [1]. Nasal TB was first described by Giovanni Morgagni in 1761 during autopsy reporting of a young man with pulmonary TB with ulcerations of the nose, soft palate, and nasopharynx [2]. As signs and symptoms of nasal tuberculosis is very similar to other nonspecific nasal inflammatory conditions therefore, its diagnosis and treatment is often delayed. However, histopathology of the nasal lesions plays an important role in the timely diagnosis of sinonasal TB [3]. We are reporting our experience of a case of nasal TB.

Case Report

A 47-year-old male patient presented with complaint of nasal obstruction for last one month and mass in nasal cavity.

Her general physical examination along with systemic examination was unremarkable. Local examination of nasal cavity reveals soft, sessile mass that was slightly bleeding to touch. There was no nasal discharge. Oral cavity, larynx and ear found to be normal on examination. There was no lymphadenopathy. A provisional diagnosis of nasal mass was made and patient undergone septo-turbinoplasty.

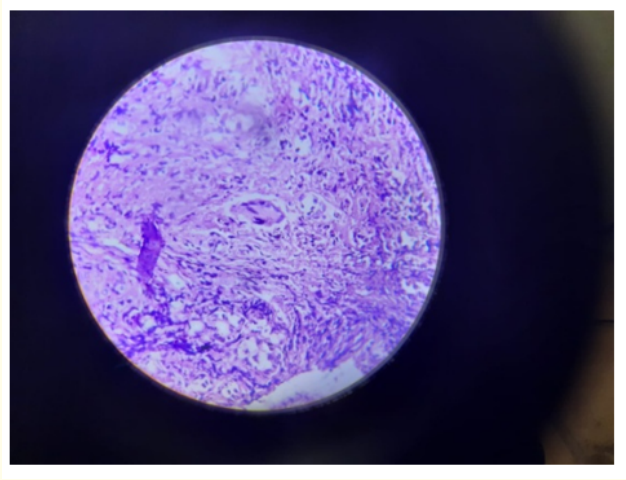

Figure 1: *Langerhans type giant cell with lymphocytic infiltration.*

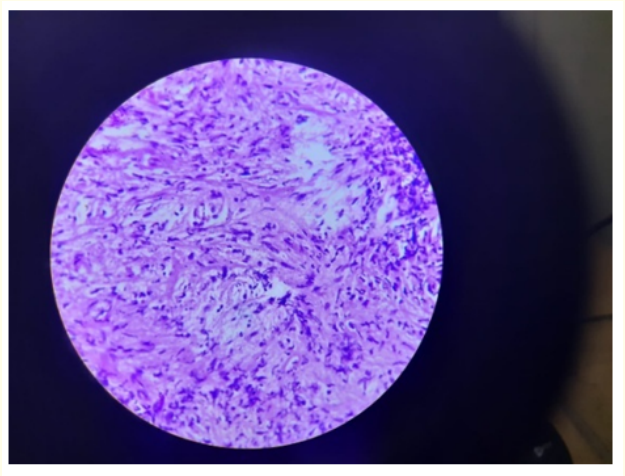

Figure 2: *Cluster of epithelioid cells with lymphocytic infiltration.*

Her investigations revealed hemoglobin 15.3 gm%, total leukocyte count 8600 cells/mm^3 (polymorphs 70%, lymphocytes 22%, monocytes 7% and eosinophils 1%), normal fasting blood sugar, renal function tests, bleeding profile and chest x-ray etc. He was HIV seronegative. X-ray Para nasal sinus showed deviated nasal septum. Mantoux test revealed positive result. Nasal endoscopy confirmed the findings of anterior rhinoscopy. On examination of nasal turbinate and sinus openings there was no abnormality or discharge.

The tissue obtained from the nasal mass that on histopathological examination revealed lymphocytic reaction of histocytes and giant cells with a granulomatous reaction. ZN staining reveals few AFB. Tissue sections were negative for 10% KOH mount for fungus and fungal culture.

On thorough examination no focus of tuberculosis other than nasal TB found in the body. He was put on ATT regimen.

Discussion

Tuberculosis of the head and neck area is rare but incidence is gradually increasing mainly due to human immunodeficiency virus co-infection [4,5]. The occurrence of primary sinonasal TB is very rare probably due to the self-protective functions of the nose, such as ciliary movement, bactericidal action of nasal secretion, mechanical filtering by nasal hairs and natural resistance of the nasal mucosa to mycobacterial growth [6]. Trauma and atrophic changes may help in lodging of *Bacilli* within the nasal lining because the protective mechanism of mucosa and cilia is breached [7].

Nasal TB can be either secondary to pulmonary TB or lupus vulgaris of facial skin or it can be primary, where no prior evidence of pulmonary TB is present [8].

Nose can become infected either directly through the air current by people coughing, sneezing or by direct inoculation by finger borne infections and by instrumentation and indirectly through blood and lymph vessels [9]. It is twice as common in females as in males and common in persons living in unhygienic surroundings with poor health [9].

The symptoms of nasal tuberculosis may not appear until it is well on its way. Bloody nasal discharge may be the earliest presenting symptom. Other common presentation is pain, nasal obstruction and dryness in the nose or throat [10].

In nasal cavity tuberculosis presents as growing ulcer or tumour mass in quadrangular cartilage of the nasal septum. Septal perforation occurs frequently but the adjoining skin is not affected as in lupus vulgaris.

Most commonly anterior portions of the inferior turbinate are involved. Involvement of posterior nares is rare and nasal floor is almost spared [11,12].

Direct spread of infection from nose to ethmoid sinus may occur and can extend into sphenoid, frontal or maxillary sinuses through the sinus ducts. The orbit and cranial cavity may also be involved [13,14].

For diagnosis of nasal tuberculosis tissue biopsy plays an important role. The following criteria have been proposed by Beltran., *et al*. for diagnosis of sinonasal TB:

- Failure of clinical response with empirical antibiotics,
- The presence of caseous granulomatous inflammatory lesions on histopathology,
- Detection of Mycobacterium bacilli in the surgical specimen [15].

Since nasal TB mimics other granulomatous diseases of nose and malignancy, there is difficulty in diagnosis. On histopathology, though both caseating and noncaseating granulomas have been described but caseating granuloma and Langerhans-type giant cells type are more common.

The important differential diagnosis for nasal tuberculosis are sarcoidosis, fungal infection, leprosy, rhinoscleroma, Wegner's granulomatosis, foreign bodies, carcinoma, natural killer-T-cell lymphoma, midline malignant reticuloma, and rhinosporidiosis [16].

Conclusion

Nasal Tuberculosis is oftently undiagnosed due to its rare incidence and non specific symptoms. Histopathological examination can play crucial role in its diagnosis and planning of therapy. Clinicians should be skeptic of this infection as a potential cause of unusual lesions in the head and neck region.

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