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Primary tuberculosis of nasopharynx (adenoid)– A rare presentation

Chandrakant Patil*, Rashmi Kharat (Patil), Prasad Deshmukh, Jyotirmoy Biswas, Bassin John

Department of E.N.T, J.N.M.C, Sawangi(m), Wardha, Maharashtra 442004, India

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ABSTRACT

Tuberculosis has global presence and no part of human body is immune to it, most frequent site beings lungs. Nasopharyngeal tuberculosis is a rare type of extrapulmonary tuberculosis comprising only less than 1% of tuberculosis found in the upper respiratory tract. The authors are presenting here a case of primary tuberculosis affecting the nasopharynx (adenoids) which is one of the rare differential diagnosis of nasopharyngeal mass. Isolated nasopharyngeal tuberculosis is a rare condition even in the endemic areas. In literature there are varied clinical presentations of nasopharyngeal tuberculosis. Tuberculosis should be one of the differential diagnosis of nasopharyngeal lesion. Biopsy and histologic study should be performed in every patient to avoid misdiagnosis. When treated properly, nasopharyngeal tuberculosis carries a excellent prognosis, and complete resolution of disease is the rule.

1. Introduction

Tuberculosis is a prevalent and chronic infectious disease known to the mankind since the age of Hippocrates. Tuberculosis has global presence and no part of human body is immune to it, most frequent site beings lungs. Nasopharyngeal tuberculosis is a rare type of extrapulmonary tuberculosis comprising only less than 1% of tuberculosis found in the upper respiratory tract[1]. Up to 10% of tuberculosis cases have some manifestation in the head and neck region[2]. Tuberculosis can involve the nasopharynx primarily without affecting any other system or secondary to pulmonary or extrapulmonary involvement[3]. Primary nasopharyngeal tuberculosis is described as isolated infection of the nasopharynx in the absence of pulmonary or systemic disease. It is an even more unusual condition, with just a few case reports in the English language literature[4].

It has a wide spectrum of clinical presentation depending on the anatomical site involved and presents as a diagnostic dilemma even for physicians with a great deal of experience in the field.

We are presenting here a case of primary tuberculosis

affecting the nasopharynx (adenoids) which is one of the rare differential diagnosis of nasopharyngeal mass.

2. Case report

A 31 year old female presented in ENT outpatient department of AVBR Hospital, JNMC Wardha with chief complaints of bilateral nasal discharge and nasal blockage since one year. It was progressive and not relieved by routine medication given by a general practitioner. There was history of recurrent tonsillitis and upper respiratory tract infection, with no history of epistaxis, evening rise fever, weight loss, trauma, or contact with tuberculous patients. No significant past medical or surgical history could be elicited.

On local examination minimal deviation of nasal septum on rt side with pale nasal mucosa was seen. Grade III hypertrophy of tonsill with post. Nasal drip on examination of throat was noticed. Nasopharyngeal endoscopy showed pale pink mass obstructing bilateral choana (Figure 1). Mild retraction of both tympanic membrane was seen.

Routine blood counts with haemogram were normal save raised erythrocyte sedimentation rate (ESR) (95 mm/1st hr). X-ray chest was normal and sputum was negative for AFB

*Corresponding author: Chandrakant Patil, Department of E.N.T, J.N.M.C, Sawangi(m), Wardha, Maharashtra 442004, India.

E-mail: dr_chandupatil@rediffmail.com

so also ELISA for HIV and VDRL. CT scan was suggestive of a well defined soft tissue nasopharyngeal mass measuring 3.8 cm×2.7 cm×4.0 cm in the nasopharyngeal roof, extending up to the choana bilaterally with no bony erosion (Figure 2).

With the provisional diagnosis of chronic adenotonsillitis the patient was taken for adenotonsillectomy. Adenidectomy was done with the help of a microdebrider and tonsillectomy by dissection method. Adenoid tissue thus obtained was sent for histopathology, which unveiled multiple intense chronic inflammatory reaction along with multiple granulomas, caseous necrosis with Langerhans giant cells and epithelioid cells (Figure 3 a). Special stains were employed and it revealed the presence of acid fast bacilli (Figure 3 b). As patient was not having any pulmonary symptoms and no cervical lymphadenopathy. Final diagnosis of primary tuberculosis of nasopharynx (adenoiditis) was made and the patient was put on anti tubercular treatment as per WHO recommendation (CAT I for six months).

Close follow up of patient was done, patient responded to treatment and recovered well.

3. Discussion

Nasopharyngeal lesions have plethora of differential diagnosis which includes malignancy (squamous cell carcinoma, lymphoma), fungal infection (aspergilosis, mucormycosis), granulomatous inflammation (sarcoidosis, leprosy, syphilis, tuberculosis), autoimmune disease (polyarteritis nodosa, Churg Strauss and Wegener's granulomatosis) [5].

Nasopharyngeal tuberculosis is a rare condition even in endemic tuberculosis areas [6]. Primary nasopharyngeal involvement probably occurs due to reactivation of dormant acid fast bacilli in the adenoids or due to direct mucosal infection after inhalation of the bacilli [5]. It may be commoner than secondary involvement, which usually occurs in conjunction with pulmonary tuberculosis [3].

In literature there are varied clinical presentations of nasopharyngeal tuberculosis. The patient may either be completely healthy, without underlying disease and no history of contact, or may present with a sore throat [7]. Other presentations include epistaxis, running nose, chronic cough, postnasal drip and nasal obstruction. Cervical lymphadenopathy is a common accompaniment [6,8], followed by nasal discharge and obstruction similar to our case. Many a times tuberculosis of nasopharynx is underdiagnosed due to less obvious signs and symptoms in all the cases [3]. Atypical presentations with diplopia, and sleep apnoea have also been reported [5,9].

Endoscopic examination may reveal a polypoidal

mass, ulceration, plaque, or diffuse mucosal thickening of the nasopharynx [10–12]. All these findings may suggest nasopharyngeal carcinoma, lymphoma, or Wegener's granulomatosis. Infections such as syphilis, leprosy, and fungal disease may have a similar appearance. Tuberculosis may coexist with malignancy and has even been described to appear after radiotherapy [3].

Although there are few cases of primary nasopharyngeal tuberculosis mentioned in the literature, what sets our case apart is no lung involvement or lymphadenopathy. Although ESR was raised (95/1st hr) and CT scan showed mass in nasopharynx, an accurate diagnosis of nasopharyngeal tuberculosis on imaging findings alone is difficult [3]. It should mainly be distinguished from undifferentiated carcinoma and the granulomatosis mentioned, by biopsy and histological and bacteriological studies [13–15]. There is a role of new diagnostic technologies, such as polymerase chain reaction analysis to detect bacterial DNA [16].

In our case, as histopathology of nasopharyngeal tissue confirmed the diagnosis of tuberculosis by demonstrating granuloma and acid fast bacilli on special stains. Hence it is primary nasopharyngeal involvement by tuberculosis.

Tuberculosis should be one of the differential diagnosis of nasopharyngeal lesion. Biopsy and histologic study should be performed in every patient to avoid misdiagnosis. When treated properly, nasopharyngeal tuberculosis carries an excellent prognosis, and complete resolution of disease is the rule.

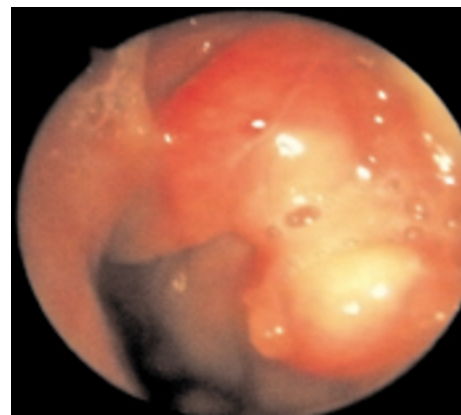


Figure 1. Pale mass (adenoid) obstructing the choana.

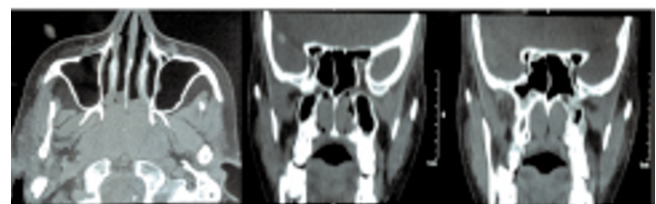


Figure 2. CT scan PNS showing well defined soft tissue nasopharyngeal mass (3.8 cm×2.7 cm×4.0 cm) extending up to the choanae bilaterally without bony erosion.

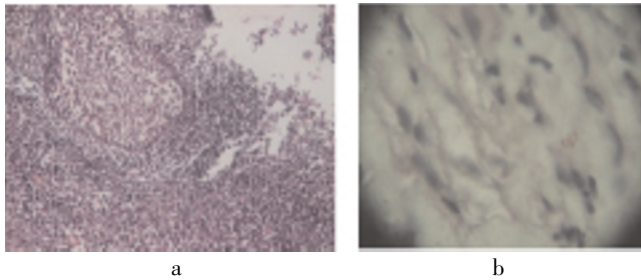


Figure 3. Histopathological result.

a. H/P showing multiple intense chronic inflammatory reaction along with multiple granulomas, caseous necrosis with Langerhans giant cells and epitheloid cells.

b. Special stains were done and it revealed acid fast bacilli.

Conflict of interest statement

We declare that we have no conflict of interest.

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