



Primary Nasopharyngeal Tuberculosis Mimicking Carcinoma

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Abstract

Primary nasopharyngeal Tuberculosis (TB) is extremely rare. However, it must not be excluded from the differential diagnosis of nasopharyngeal lesions. Nasopharyngeal tuberculosis has an excellent prognosis and it has complete resolution if treated properly. Nasopharyngoscopy is easy to learn, safe, painless, convenient to perform, and readily accepted by patients. Furthermore, it also allows direct visualization and evaluation of both the lesion and the nasopharynx and larynx anatomy, under local anesthesia. It thus allows for early diagnosis and treatment. Unexplained and prolonged upper respiratory manifestations with mass or ulcerative lesions at the nasopharynx give suspicion of nasopharyngeal tuberculosis. We report here a case of 28-year old female who presented with mild symptoms related to the nasopharynx which turned out to be tuberculosis of nasopharynx.

Keywords: Primary tuberculosis; Nasal endoscopy malignancy; Nasopharynx

Introduction

Tuberculosis is a chronic infectious disease of the human being known since Hippocrates time. Tuberculosis has worldwide presence and no part of the human organ is immune to it and the most common site being involved is lungs. Nasopharynx is a rare site for extra pulmonary tuberculosis comprising less than one percent of tuberculosis at upper respiratory tract. Most clinician do not consider tuberculosis in their differential diagnosis when patient present with Otorhinolaryngological symptoms, so often miss the diagnosis and lead to inappropriate treatment. We report here a case of 28-years-old female who presented with mild symptoms related to the nasopharynx which turned out to be tuberculosis of nasopharynx.

Case Presentation

A 28-years-old women flight attendant by profession presented with postnasal drip and right ear pressure and fullness since 2-months duration referred from medical centre with failed conservative treatment. On Endoscopic examination of the nasopharynx revealed irregular proliferative mucosal lesion on the right lateral and posterior wall of the nasopharynx (Figure 1), which was covered with yellow discharge presenting as postnasal drip. Tympanometry suggestive of right sided type C tympanogram. Computed Tomography (CT) demonstrated enhanced soft tissue area in the right lateral and posterior wall of the nasopharynx (Figure 2). Histopathological examination from the nasopharyngeal lesion biopsy revealed granulomatous formation with caseous necrosis. Ziehl-Neelsen staining directly could not detect acid-fast bacilli (Figure 3 and 4). Pulmonology referral and Chest X-ray ruled out the pulmonary tuberculosis. Mantoux test was positive based on these findings; we diagnosed it as primary nasopharyngeal tuberculosis. Patient was referred to DOT's centre for anti-tuberculosis therapy.

Discussion

Nasopharyngeal lesions have many differential diagnoses including malignancy (squamous cell carcinoma, lymphoma), fungal infection (aspergillosis, mucormycosis), granulomatous inflammation (sarcoidosis, leprosy, syphilis, tuberculosis) and autoimmune disease [1,2].

Nasopharyngeal tuberculosis is a rare entity, even in endemic tuberculosis areas [3-5]. Two potential pathways of infection have been described. In primary nasopharyngeal tuberculosis, infection occurs directly *via* nasal ventilation. In secondary disease, infection spreads from site which is mostly lungs, or via hematogenous or lymphogenous spread [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*, [2] or contact with the lung secretions the

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Figure 1: Endoscopic examination showing nasopharyngeal irregular.



Figure 2: CT showing enhanced soft tissue area in the right lateral and posterior.

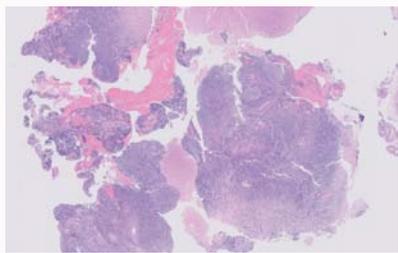


Figure 3: Histology.

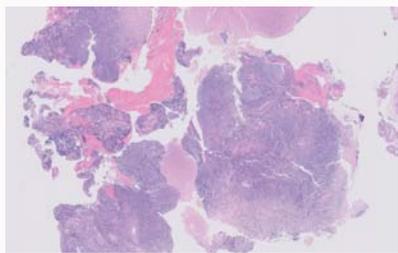


Figure 4: Histology.

infection spreads to the nasopharynx. Nasopharyngeal tuberculosis appears in 1.9% of patients with pulmonary tuberculosis.

The most common symptoms of nasopharyngeal tuberculosis are cervical lymphadenopathy, weight loss, fever, epistaxis, nasal obstruction, hearing loss, otalgia, tinnitus, postnasal drip and night sweats [7]. In the present cases, the main symptoms were postnasal drip and right ear pressure and fullness. No cervical lymphadenopathy was found, and no lesion of pulmonary tuberculosis was noticed on X-ray chest. Nasal endoscopy can show ulcerative lesion mimicking malignancy. Nasopharynx CT scan commonly shows either diffuse mucosal thickening or a moderately enhancing polypoidal mass in the roof of the nasopharynx, which may be ulcerated [8]. Our CT scan shows the mass in the posterolateral wall with effacement of

the fosse of Rosenmuller which was in favor of nasopharyngeal carcinoma, but the distinguishing features were no extension of the growth in to adjacent structures, no contrast enhancement and no bony decalcifications of skull base.

The diagnosis of nasopharyngeal tuberculosis is based on the histopathological and microbiological findings from biopsy material [9]. Histopathological examination typically reveals granulomatous inflammation with epithelioid giant cells and caseous necrosis. Ziehl-Neelsen staining can reveal acid-fast bacilli but biological culture after four to six weeks is more sensitive. The Polymerase Chain Reaction (PCR) test is the gold standard of identifying the tuberculous bacilli. With oral samples, sensitivity increase from 2% to 17 % on culture to 89% to 100 % on PCR. In our cases, PCR have not been used due to its inaccessibility.

The treatment of nasopharyngeal tuberculosis is anti-tuberculous triple therapy including isoniazid, rifampicin and ethambutol, or quadritherapy with pyrazinamide for at least six months [5].

When treated correctly, nasopharyngeal tuberculosis carries an excellent prognosis, and complete resolution of disease is the rule [3].

Conclusion

Primary nasopharyngeal tuberculosis is extremely rare and it may mimic a malignancy. Tuberculosis of the nasopharynx is a rare condition, even in endemic areas. In patients with unexplained upper respiratory tract complaints, with detected masses in the nasopharynx, tuberculosis should be considered in the differential diagnosis of the ulcerated lesions. Complete clinical, radiological and histopathological examinations are required to confirm the diagnosis of TB instead of a malignancy. We recommend endoscopic examination for patients suffering from chronic postnasal drips to avoid inappropriate diagnosis.

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