Nasopharyngeal Tuberculosis

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ABSTRACT

Tuberculosis is a well-known communicable infectious disease and can involve almost any organ of the body. Upper respiratory tract involvement is seen in only 1.9% and involvement of the nasopharynx is even rarer, accounting for only 0.1%. The occurrence of nasopharyngeal tuberculosis (NPTB) is very rare even in endemic areas. Herein, we report two cases of NPTB in which patients had the previous history of chronic ear infection; and later were found to have NPTB. Initial symptoms of NPTB can be vague and easily be misdiagnosed. The literature is scarce on NPTB. To the best of our knowledge, no such cases have ever been reported from Pakistan. Although the incidence of NPTB is very low since we live in a country where tuberculosis incidence is really high, its possibility should be kept in mind as one of the differential diagnoses.

Key Words: *Nasopharyngeal, Tuberculosis, Otitis media, Fungal, Infection.*

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INTRODUCTION

Tuberculosis (TB) is one of the most common chronic infections and can involve any part of the human body. It is an endemic disease of lower middle-income countries (LMIC) like Pakistan. The most common site involved is the lung. Nasopharyngeal TB (NPTB) is considered as one of the rare types of extra-pulmonary TB. Upper respiratory involvement is not common; whereas, the prevalence of NPTB is 0.1% only.[1] NPTB has a similar clinical presentation as that of nasopharyngeal carcinoma, which makes the diagnosis more complicated and challenging. Hence, histopathologic evaluation is essential for its accurate diagnosis.[2]

Herein, we report two cases of NPTB in which patients had the previous history of chronic ear infection; and later were found to have NPTB.

CASE 1

A 55-year man, a known case of diabetes mellitus and hypertension, presented with complaints of right cheek swelling and purulent discharge from the right ear for two years. He also complained of significant weight loss of 12-14 Kgs in past two months. He had a history of right mastoid exploration, which showed fibrosed granulation tissue.

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Multiple biopsies were taken from the nasopharynx that showed dense inflammation and giant cells with granulation tissue. On physical examination, there was purulent discharge from the right ear and decreased vision in the right eye with ptosis and weak extra-ocular muscles. The facial nerve was intact with no hearing loss. Rigid nasal endoscopy was done, which showed edematous mucosa in the right nasopharynx with pus. Magnetic resonance imaging (MRI) showed soft tissue density mass in right postero-lateral nasopharyngeal wall anteriorly extending to the nasopharynx, encasing the carotids and progressing to infra-temporal fossa with associated oto-mastoiditis. Chest X-ray showed infiltrates in the right upper zone. Sputum for acid-fast bacilli and gene expert was sent, which was positive. The patient was diagnosed as having NPTB with pulmonary involvement. He was started on anti-tuberculous treatment and his response was monitored by repeating MRIs on follow-up visits as an outpatient. The patient showed marked clinical improvement.

CASE 2

A 68-year man, smoker, a known case of diabetes mellitus, hypertension and ischemic heart disease with three vessels coronary artery disease; and on conservative management since long, presented with complaint of right earache with purulent discharge. There was also history of significant weight loss in the past two months. On neurological examination, he had right-sided facial weakness, loss of hearing from the right ear, right eye corneal reflex was absent with deviation of uvula on the left side. The rest of his systemic examination was unremarkable. MRI head showed right skull base lesions involving external auditory canal, middle ear, posterior cranial fossa, pterygoid fossa; and causing encasement of the right

internal carotid artery. Initially, he was treated for malignant otitis media with antibiotics and antifungals. A few weeks later, he developed worsening earache, headache, cough and shortness of breath. The chest X-ray showed few bilateral reticular infiltrates in lower zones. Computed tomography (CT)-guided biopsy of lesions, which were present at the base of the skull, was done, which showed focal mild acute and chronic non-specific inflammation; however, smear showed acid-fast bacilli. On the basis of all these findings, diagnosis of TB was made.

He was started on anti-tuberculous treatment; and the response was monitored by repeating MRI in follow-up visits as an outpatient. The patient recovered gradually and made an uneventful recovery with some residual deafness.

DISCUSSION

As per global data, Pakistan has been currently ranked at fifth position amongst countries with the highest burden of TB with incidence of 231/100,000, producing about 420,000 new cases annually. Despite this fact, NPTB is not common even in endemic areas. The patients may present with non-specific signs and symptoms ranging from sore throat, epistaxis, running nose, postnasal drip, nasal obstruction, diplopia, and chronic cough to completely healthy individuals with no history of prior TB contact or underlying disease.[3,4] Constitutional symptoms are present in 12-30% of the cases of NPTB.[5]

The unique presentation and involvement of different sites by disease make the diagnosis of TB in the head and neck region an interesting field of research. It may mimic malignancy and can easily be misdiagnosed.[6] In addition, NPTB presents concomitantly in 1.9% of patients with pulmonary TB.[7] The upper respiratory tract is generally resistant to TB due to the defensive mechanism by the ciliary movements and bactericidal effects of the mucosal components, which explains the low incidence of primary NPTB.[8]

Tissue biopsy must be performed in cases of space-occupying lesion at nasopharynx and should be checked for acid-fast bacilli smear and cultures. Histology shows granulomas with giant cells, with or without caseous necrosis.[9] Radiographically, NPTB presents with two main patterns: a) polypoid masses and b) diffuse mucosal thickening.[10]In present cases, it was represented by mucosal thickening with invasion into underlying tissues.

Similar to pulmonary TB, upper airway TB is also highly contagious; therefore, early recognition of the disease and correct diagnosis are very important. The clinical presentation of TB of the head and neck region can be very confusing, which can easily mislead the physicians. Therefore, it is important that clinicians should consider it in their differential diagnosis. Accurate and specific diagnostic tests, which can detect the disease early, are the need of the hour.

NPTB is a rare entity and can remain either under- or mis-diagnosed easily as patients usually present with nonspecific symptoms. Therefore, TB should always be one of the differential diagnoses of nasopharyngeal lesions, especially in our country.

PATIENTS' CONSENT:

Informed consents have been obtained from the patients to publish the data concerning this case.

CONFLICT OF INTEREST:

The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:

SA: Conceived the idea and wrote the first draft of the manuscript.
SMM, FI: Worked on discussion part.
BJ: Reviewed and finalised the final case report.

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