CASE STUDY

Primary Rhinopharyngeal Tuberculosis: An Unusual Location

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Abstract We describe a primary rhinopharyngeal tuberculosis case in a woman who presented with an asymptomatic mass found incidentally on a MRI scan. Histopathological examination of the biopsy specimen showed granulomatous inflammation and caseous necrosis. Anti-tuberculosis therapy was applied for a 6-month period, after which nasopharyngeal examination was normal. This case supports the necessity of including tuberculosis in the differential diagnosis for a rhinopharyngeal mass.

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INTRODUCTION

Up to 10% of tuberculosis (TB) cases have some manifestation in the head and neck region. The upper respiratory tract is the entry point of Mycobacterium tuberculosis, its involvement is rare (less than 2%) and a nasopharyngeal location is exceptional and generally isolated, with no pulmonary or systemic involvement.

The most frequent form of presentation is high jugular adenopathy (50%-90%), followed by nasal obstruction, snoring, rhinorrhea, serous otitis, hearing loss, tinnitus, and otalgia.

Endoscopy can present a varied range, from an apparently normal mucosa, to an evident mass, or a mucosa with an adenoid or swollen appearance, ulcers, leukoplakic areas, and various combinations thereof.

Radiologically, there are 2 patterns: either a polypoid mass or a diffuse thickening of the nasopharyngeal walls. Extension to the prevertebral musculature, skull base bone, etc. is infrequent.

The symptoms (high cervical adenopathy and rhinopharyngeal mass) and the radiological findings make it difficult to distinguish from undifferentiated carcinoma, especially...
in areas where both are endemic, such as Southeast Asia, making it necessary to carry out a biopsy for histological and bacteriological studies.\textsuperscript{1,7}

**Clinical Case**

We present the case of a female patient, 72 years old, with no history of interest, with an incidental finding on an MRI performed due to headaches (finally diagnosed as tension headache), of an asymptomatic mass on the posterior rhinopharyngeal wall. The mass had cystic areas, post-contrast enhancement, and no deep invasion (Fig. 1). No cervical adenopathy was observed on the MRI scan. The patient did not present systemic or pulmonary symptoms and the chest X-ray was normal.

Nasofibroscopy revealed a polypoid lesion occupying the entire rhinopharynx, with mucosa of normal appearance (Fig. 2).

Biopsy under local anaesthesia and the subsequent anatopathological analysis of the tissue showed granulomas with histiocytic, epithelioid, and giant multinucleated Langhans cells, as well as caseous necrosis (Fig. 3). Ziehl-Neelsen staining was positive for acid-fast bacilli (AFB). After the patient received a positive intradermal tuberculin test, we introduced treatment with rifampicin, isoniazid, and pyrazinamide for 6 months, after which the endoscopy was normal and the biopsy showed unaltered respiratory epithelium.

Radiological and immunological tests carried out on the patient’s close contacts revealed no other TB cases in any localisations, so it was not considered necessary to administer treatment to these individuals.

**Discussion**

To date, only 4 series (including between 7 and 17 cases) and the odd case of rhinopharyngeal TB have been described in the English-language literature,\textsuperscript{8-10} mainly in young patients and endemic areas.

The presentation form in over 50% of cases is the presence of cervical adenopathy, followed by other nasal symptoms (airway obstruction, rhinorrhoea, snoring, etc.) or otological symptoms (hearing loss, autophony, and sensation of blockage). In our patient, we did not detect any of the commonly referred symptoms or signs because, as explained, a chance discovery led to the performance of the various tests leading to the final diagnosis.

Pulmonary or systemic involvement associated to this location is rare (25%-30%)\textsuperscript{2} and was absent in the case of this patient. Conversely, rhinopharyngeal involvement is very unusual in pulmonary TB.\textsuperscript{3,11} Nasopharyngeal TB is consequently generally considered primary (by direct inhalation of *Mycobacterium*). In the rest of the upper aerodigestive tract (such as the larynx), lung involvement is very high (95%), because spread takes place through sputum from the pulmonary lesions.\textsuperscript{12}
The most frequent endoscopic image is the combination of over-elevated areas accompanying a frank mass (70%-75%). In our case, the mass occupied the entire space of the cavum, without areas of other type.

Diagnosis is based on the histological finding of granulomas of Langhans cells with caseous necrosis or the detection of AFB in Ziehl-Neelsen staining (less common).

Other causes of granulomas to be considered are sarcoidosis, Wegener's disease, fungal infections, reactions to carcinomas, lymphomas (especially Hodgkin's) and radiotherapy, among others. Finding AFB in Lowenstein culture or staining distinguishes them.

We conclude that it is necessary to consider TB in the differential diagnosis of nasopharyngeal lesions (even when asymptomatic and without lymph node involvement, as in this case). As indicated above, it should mainly be distinguished from undifferentiated carcinoma and the granulomatosis mentioned, by biopsy and histological and bacteriological studies.

Conflict of Interests

The authors have no conflicts of interest to declare.

References