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**Case Report**

# A mimic of nasopharynx carcinoma turned out to be primary nasopharynx tuberculosis

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## ABSTRACT

Nasopharyngeal tuberculosis is indeed a rare manifestation of extrapulmonary tuberculosis. The general symptoms of nasopharyngeal tuberculosis are nasal obstruction, neck mass, epitaxis, rhinorrhoea, otalgia and hearing loss. Constitutional symptoms may present in almost 12-30% of nasopharyngeal tuberculosis cases, hence it often disguise as nasopharyngeal carcinoma in patients. Apart from that, most cases of nasopharyngeal tuberculosis usually occur with combined active pulmonary tuberculosis or systemic infection. Hereby presenting a case of nasopharyngeal tuberculosis in a lady who is otherwise healthy presented with neck mass for duration of two months with no obstructive symptoms. Upon proceeding with rigid nasal endoscopy, obliteration of fossa of rossenmuller was noted and biopsy confirmed tuberculosis. Patient was immediately started on antituberculosis therapy. Upon subsequent follow ups, resolution of the neck mass was noted. Hence, it is crucial to have a high index of suspiciousness to rule out nasopharyngeal tuberculosis as this is a curable disease and failure to do so can pave way for the deathly pathogen to disseminate in its host and cause mortality.

**Keywords:** Nasopharynx, Tuberculosis

## INTRODUCTION

Tuberculosis is certainly one of the oldest infection ever known to mankind and is still prevalent till this era of modern medicine. According to the WHO report, about 10.0 million people newly diagnosed with tuberculosis in 2017.[1] Besides lungs being the most commonest organ to be infected by tuberculosis, the virulent pathogen can invade in other extrapulmonary organs in human body. Nasopharyngeal tuberculosis is a rare type of extrapulmonary tuberculosis encompassing less than 1% of tuberculosis found in the upper respiratory tract.[2] Tuberculosis can infect the nasopharynx primarily without affecting any other organs or secondary to pulmonary or extrapulmonary involvement.[3] Primary nasopharyngeal tuberculosis can be defined as isolated infection of the nasopharynx in the absence of pulmonary or systemic tuberculosis. There is limited depiction of this entity in the classic otolaryngology textbooks.[4,5] Nasopharyngeal tuberculosis has a broad spectrum of clinical presentation depending on the affected anatomical site, thus presents as a great diagnostic dilemma while handling it.

## CASE REPORT

A 28-years-old lady with no known medical illness, presented our otorhinolaryngology clinic for left neck swelling for 2 months. She had no nasal obstruction, no nasal bleeding, no throat symptom and no history of prolonged cough. Patient denied any constitutional symptoms such as loss of weight, loss of appetite and

night fever. There was no family history of malignancy or blood dyscrasias. Clinical examination revealed palpable left cervical lymph node measuring 2cmx2cm with well-defined margin and non-tender. Full blood count was unremarkable. The Mantoux test noted to be markedly positive with induration of 25mm. The sputum test for acid fast bacilli was negative. Besides that, the chest radiograph was normal with no pulmonary tuberculosis changes. Fine needle aspiration cytology (FNAC) was taken and the result showed no malignancy cells seen.

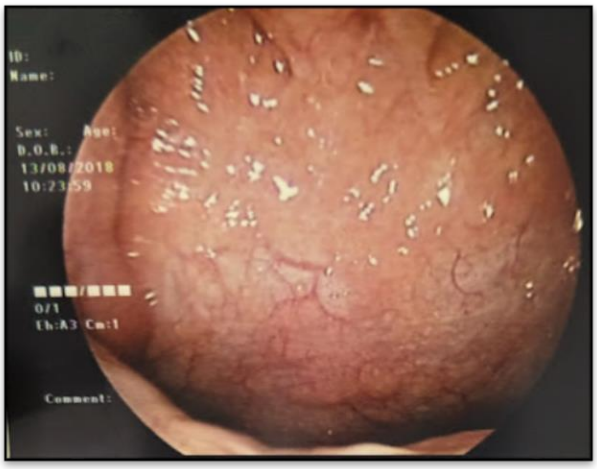


**Figure 1: Obliteration right fossa of rosenmuller.**

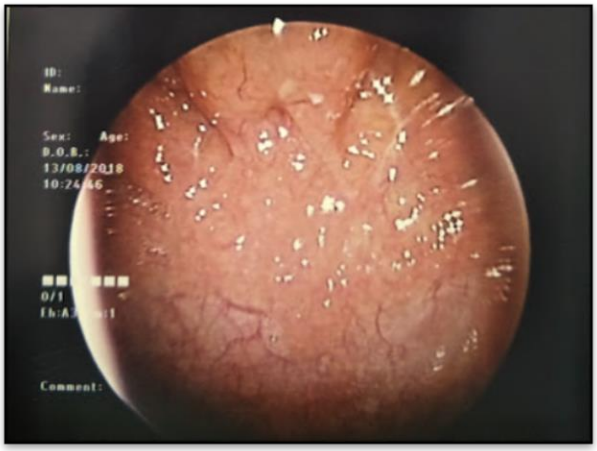


**Figure 2: Obliteration left fossa of rosenmuller.**

Subsequently, upon proceeding with rigid nasopharyngeal endoscopy, obliteration right Fossa of Rosenmuller (Figure 1) and obliteration left Fossa of Rosenmuller (Figure 2) was noted and biopsy was taken. The histopathology examination showed granulomatous inflammation with scattered epithelioid granulomas containing multinucleated giant cells, otherwise there was no caseous necrosis and no evidence of malignancy seen. Ziehl Neelson stain detected acid fast bacilli in tissue biopsy. The diagnosis of primary nasopharyngeal tuberculosis was made and this patient was referred for treatment of antituberculosis. During our subsequent follow ups, patient noted to be responding well to oral anti-tuberculosis regime as there is drastic shrinking in cervical lymph noted. Repeated rigid nasopharyngeal endoscopy showed less obliterated bilateral fossa of rosenmuller.

## DISCUSSION

Tuberculosis, one of the ancient diseases in mankind which till today persist as a common misery causing infection and considered to be deadly to humans. Even in endemic tuberculosis areas, nasopharyngeal tuberculosis is considered a rare diagnosis. Nasopharyngeal tuberculosis is seen more frequently in women and in 5$^{th}$ - 6$^{th}$ decades of life. Besides that, in those of smokers and with low socio-economic status, the prevalence of the nasopharyngeal tuberculosis is increased.[6] Nasopharyngeal tuberculosis usually tend to be a complication of pulmonary tuberculosis. Since upper respiratory tract is in contact with the lung secretions, the infection ascend to the upper respiratory tract easily. Nasopharyngeal tuberculosis coexist in 1.9% of patients with pulmonary tuberculosis. In contrast, primary nasopharyngeal tuberculosis without the lung involvement is very rare as reported in our case report.[7]

The clinical symptoms of the nasopharyngeal tuberculosis are cervical lymphadenopathy, rhinorrhoea, epistaxis, nasal obstruction, serous otitis media, and hearing loss.[8,9]

Nasopharyngeal lesions have numerous differential diagnosis such as nasopharyngeal carcinoma, nasopharyngeal mycosis, granulomatous inflammation (tuberculosis, sarcoidosis), and autoimmune diseases.[10] Primary nasopharyngeal can occur due to due to direct mucosal infection after inhalation of the bacilli or reactivation of dormant acid fast bacilli in the adenoids.[10] In nasopharyngeal tuberculosis, endoscopic examination may reveal a polypoidal mass, plague, ulceration, or diffuse mucosal thickening of the nasopharynx.[11] All these findings may suggest nasopharyngeal carcinoma, Wegener's granulomatosis or lymphoma. Infections such as leprosy, syphilis and fungal diseases may have a similar appearance as well. Therefore, diagnosis of the nasopharyngeal tuberculosis is based on the pathological and microbiological examination of the biopsy. Nasopharyngeal tuberculosis, because of symptoms and clinical findings, can mimic nasopharyngeal cancer. Epitheloid giant cells and granulomatous inflammation characterized by caseous necrosis are the pathological findings of the tuberculosis. Isolation of acid-phase bacilli is a very difficult procedure in the nasopharyngeal tuberculosis.[12] In our case, as histopathology of nasopharyngeal tissue confirmed the diagnosis of nasopharyngeal tuberculosis by demonstrating granuloma and acid fast bacilli on Ziehl Neelson stain. Hence it is primary nasopharyngeal involvement of tuberculosis. Tuberculosis has to be counted as one of the differential

diagnosis of nasopharyngeal lesion. Biopsy and histologic study should be performed in patients presenting with nasopharyngeal lesions to avoid misdiagnosis.

The standard treatment of tuberculosis consist of first two months with initial phase encompassing isoniazid, rifampicin, pyrazinamide, and ethambutol, followed by next four months of continuation phase consist of isoniazid and rifampicin. The treatment for nasopharyngeal tuberculosis is the same as for pulmonary tuberculosis.[13] When treated correctly, nasopharyngeal tuberculosis carries an excellent prognosis with complete resolution. Our patient noted to be responding well to oral anti-tuberculosis as repeated rigid nasopharyngeal endoscopy showed less obliterated bilateral fossa of rosenmuller with resolution of cervical lymphadenopathy in subsequent visits to our clinic.

## CONCLUSION

Nasopharyngeal tuberculosis is a rare manifestation of extra pulmonary tuberculosis. High index of suspiciousness to rule out nasopharyngeal tuberculosis will avoid mortality and good outcome with early treatment of anti-tuberculosis.

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