

Case Report Of Secondary Nasopharyngeal Tuberculosis

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SUMMARY

Nasopharyngeal tuberculosis is a rare entity among the extrapulmonary manifestation of tuberculosis infection. It can be challenging to diagnose as it can mimics malignancy it when endoscopic examination shows left fossa of Rosenmuller mass. It presents as nasopharyngeal mass mimicking nasopharyngeal carcinoma.

Here we report a case of secondary nasopharyngeal tuberculosis with laryngeal, trachea-bronchial tree, pulmonary and cervical nodal involvement is reported.

Prompt diagnosis can be achieved with combination of endoscopic, bacteriological and imaging investigations.

Good treatment outcome was achieved with following 9 months of anti-tubercular medications.

INTRODUCTION

Tuberculosis (TB) infection caused by bacterium *Mycobacterium tuberculosis* remains a constant threat to Malaysian public and healthcare workers.

Based on WHO's global TB database for the year of 2020, the TB incidence rate in Malaysia was estimated at 92 cases per 100000 population and the TB mortality rate was estimated at 4 cases per 100000 population per year. ⁽¹⁾ Out of this, the majority of TB infection are pulmonary TB infection at 84%.⁽¹⁾

Extrapulmonary TB is an uncommon presentation, and nasopharyngeal TB is more rare comprising less than 1 percent of tuberculosis found in the upper respiratory tract. ⁽²⁾ Tuberculosis of the nasopharynx may be primary, without involvement of any other system, or secondary to pulmonary or other extrapulmonary involvement. ⁽³⁾

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CASE REPORT

A 27 years old lady, presented with hoarseness of voice for 3 months, productive cough with yellow sputum for 2 months, loss of weight and appetite for 1 month.

Endoscope examination by Ear, Nose and Throat specialist shows nasopharyngeal and infraglottic masses (Fig 1). Bacteriological examination with sputum acid fast bacilli smear shows positive 1+.

Subsequently, histopathological examination from the left fossa of Rosenmuller (FOR) area of thickening shows granulomatous inflammation with necrosis. No evidence of malignancy.

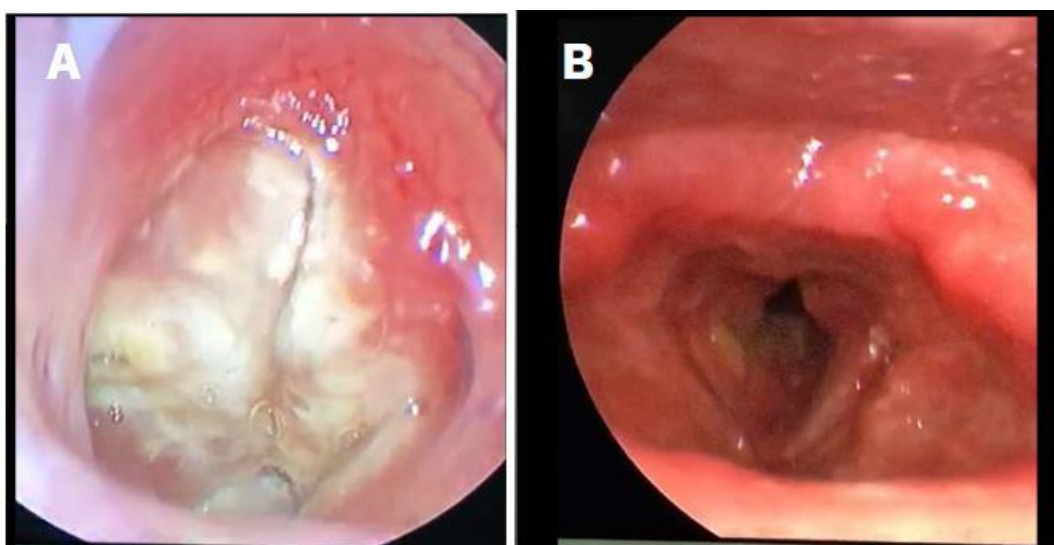


Figure 1: Nasolaryngoscope acquired pictures: A: left fossa of Rosenmuller mass. B: Bilateral aryepiglottic fold thickening, glottic and infraglottic lesions.

On contrasted computed tomography (CT) Neck and Thorax, the left FOR is effaced with a heterogeneously enhancing lesion along the left nasopharyngeal wall. (Fig 2A) Irregular thickening of bilateral aryepiglottic fold (Fig 2B), vocal cords, posterior laryngeal wall and extending into the tracheobronchial system. Circumferential involvement of the extra- and intrathoracic trachea not sparing the posterior tracheal membrane noted. More extensive circumferential soft tissue thickening noted at left main bronchus and the left lower lobe bronchi causing bronchial stenosis. Resultant total left lower lobe collapse with bronchiectasis and bronchocoele within.

Tree in bud nodules noted at right upper lobe, right middle lobe and apicoposterior segment of left upper lobe. (Fig 2C) Enhancing cervical nodes seen largest at left cervical level III measuring 1.1cm in short axis.

The overall imaging findings and histology results therefore supports the diagnosis of nasopharyngeal TB secondary to pulmonary TB infection.

Patient was subsequently treated with anti-tubercular medications for total 9 months with Directly Observed Treatment under local health clinic. The follow-up contrasted CT Neck and Thorax at 1 month later, shows resolution of the left FOR, laryngeal, tracheobronchial soft tissue thickening with less pulmonary tree-in-bud nodules. (Fig 2D - F).

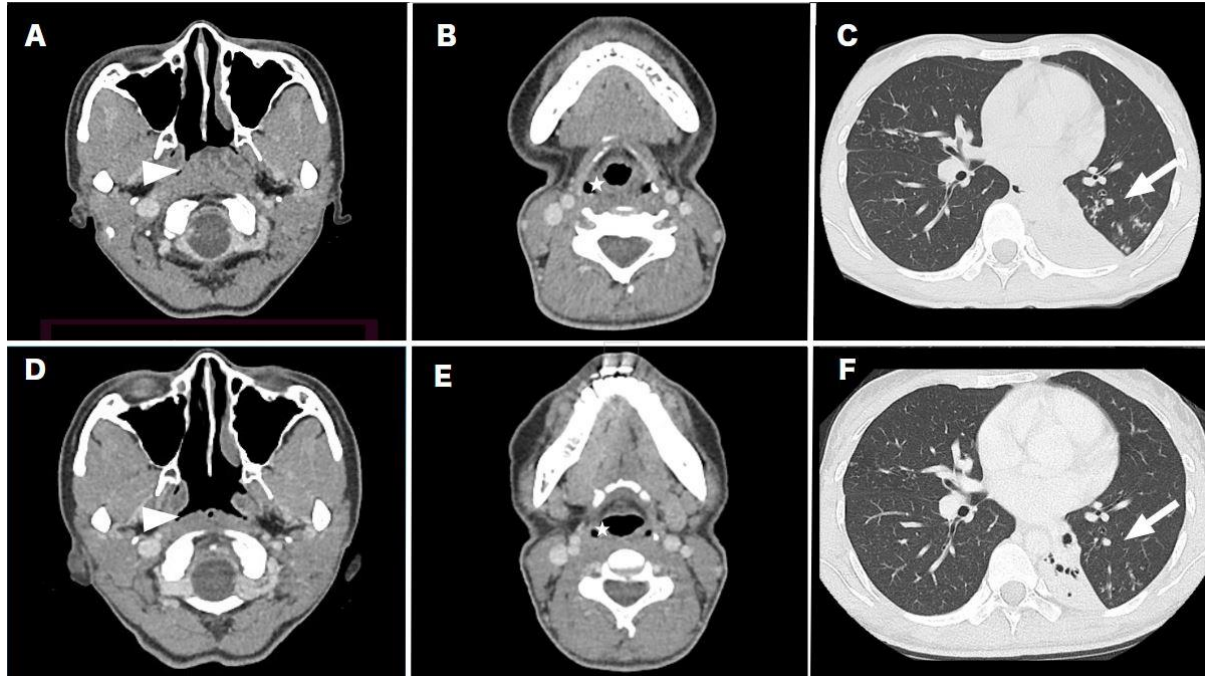


Figure 2: Selected CT images of neck and thorax acquired prior to and after 1 month of antitubercular treatment. Prior to treatment: A: white arrowhead shows left FOR mass with low density streaks within. B: white star shows aryepiglottic fold thickening. C: white arrow shows tree in bud nodules in apicoposterior segment of left upper lobe with adjacent left lower lobe lung collapse. Post 1-month antitubercular treatment: D: resolved left FOR mass. E: resolved aryepiglottic fold thickening. E: Lesser left upper lobe tree-in-bud nodules. Persistent left lower lobe collapse.

DISCUSSION

The treatment outcome of concurrent secondary upper and lower respiratory tract tuberculosis with pulmonary TB remains good if prompt diagnosis is made with early initiation of anti-TB. (4)

In terms of imaging perspective, the presence of tree-in-bud nodules in typical locations of pulmonary TB with involvement of larynx and tracheobronchial tree should help to differentiate secondary nasopharyngeal TB from other causes of nasopharyngeal mass such as nasopharyngeal carcinoma, lymphoma or Wegener granulomatosis.

In the case of primary isolated nasopharyngeal TB without pulmonary involvement, imaging alone may be inadequate and more common causes of nasopharyngeal mass such as nasopharyngeal carcinoma must be excluded before considering TB.(5)

Nasolaryngoscopy is recommended in patient with chronic nasopharyngeal complaints to avoid missing the diagnosis of isolated primary nasopharyngeal TB. (6)

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CONFLICT OF INTEREST

None to declare.

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