CASE REPORT

# LARYNGEAL TUBERCULOSIS AT THE KENYATTA NATIONAL HOSPITAL: A RARE EXTRAPULMONARY OCCURRENCE: CASE REPORT

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## ABSTRACT

Laryngeal tuberculosis is a rare disease often misdiagnosed as laryngeal carcinoma. We present a case report of a 37 year old male with laryngeal complaints and a laryngeal lesion mistakenly diagnosed as laryngeal carcinoma which however turned out to be laryngeal tuberculosis. We present this case report to raise the clinicians index of suspicion of laryngeal tuberculosis as a differential diagnosis.

**Key words**: Laryngeal tuberculosis

## INTRODUCTION

Laryngeal Tuberculosis (LTB) is a rare extra-pulmonary entity. Its prevalence has reduced from 25-40% in the pre-antibiotic era to less than 1% [1-3]. It is often misdiagnosed as laryngeal carcinoma. The treatment of the two varies immensely and so does the prognosis. Correct diagnosis requires a high index of suspicion. Kenya is ranked among the top 30 countries with a high tuberculosis burden with an incidence of 299/100000[4]. Laryngeal tuberculosis should hence be taken strongly into consideration as a differential for laryngeal lesions.

We present this case report as a way of raising the clinicians index of suspicion of laryngeal tuberculosis as a differential diagnosis of laryngeal carcinoma like presentation.

## CASE REPORT

The case report is of a 37 year old male patient who was referred to Kenyatta National Hospital (KNH) with grade IV dysphagia and a presumptive diagnosis of a left supraglottic laryngeal carcinoma with spread to the left pyriform fossa following an OGD (Figure 1) at a peripheral facility. The patient was referred for gastrostomy tube insertion and further management. ENT review in KNH noted hoarseness of voice for 1 year and unintentional weight loss (73kgs to 42kgs) with progressive dysphagia (not swallowing saliva) and odynophagia for 8 months. There was no history of chronic cough, chest pains or night sweats. There were also no otologic or nasal complaints. He had a 3.5 pack years smoking history and a history of alcohol consumption (mixed alcoholic brews for 16 years). He was a plumber by profession and was married with three children. There was no history of contact with a person with tuberculosis prior to presentation.

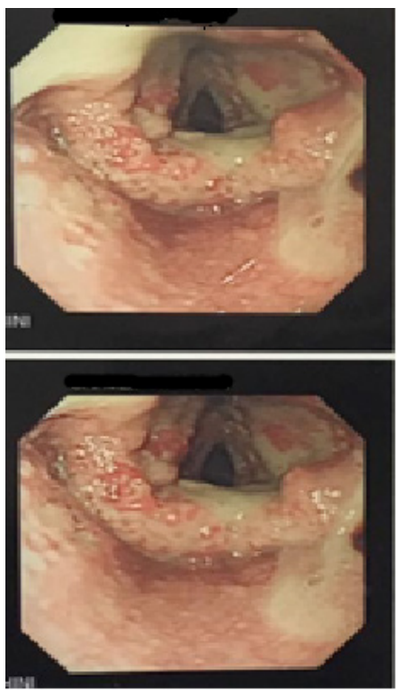


**Figure 1**: Image of OGD done at a peripheral facility

On examination he was sick looking, wasted, dehydrated, however he was not in respiratory distress. On oral exam, he had poor oral hygiene with pooling of saliva in the oral cavity. There was no oral thrush or oral cavity lesions. His tonsils were not enlarged and were also not inflamed. Nasal and otologic examination were normal. There was no cervical lymphadenopathy and he had a normal laryngeal framework and crepitus. Chest exam revealed bilateral reduced breath sounds.

Laboratory and radiological investigations were requested. The haemogram and renal function tests were normal. Tripple serology (HIV, HBsAg, HCV) was negative. CT scan neck done showed fullness of

the left pyriform sinus with suspicious ulceration of the left supraglottic region (Figure 2). Chest X-ray done showed a miliary pattern (Figure 3). The patient was then scheduled for a direct laryngoscopy, biopsy, oesophagoscopy and gastrostomy tube since the OGD on referral reported obstruction at the cricopharyngeus. Direct laryngoscopy revealed bilateral oedematous aryepiglottic folds worse on the right with a right false cord ulcerofungating mass. There was also an isolated right tip of epiglottis cookie bite lesion. Oesophagoscopy noted oedematous pyriform fossa bilaterally, however there was no physical obstruction and a 12x 16x30 oesophagoscpe passed freely into the oesophagus. Multiple biopsies of the laryngeal lesions were taken and a feeding gastrostomy tube fashioned.

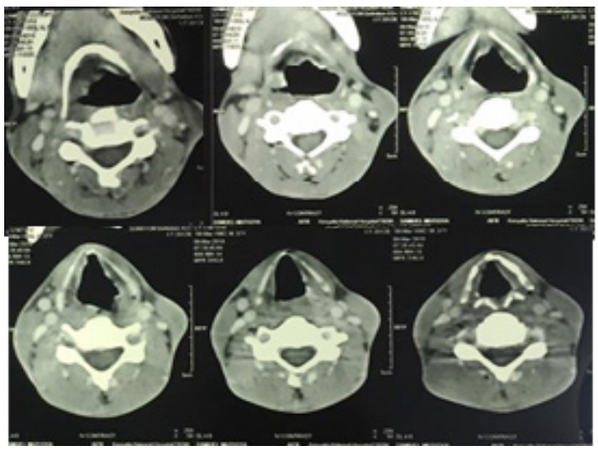


**Figure 2**: CT scan neck finding axial cuts showing fullness of left pyriform sinus with left supraglottic ulceration

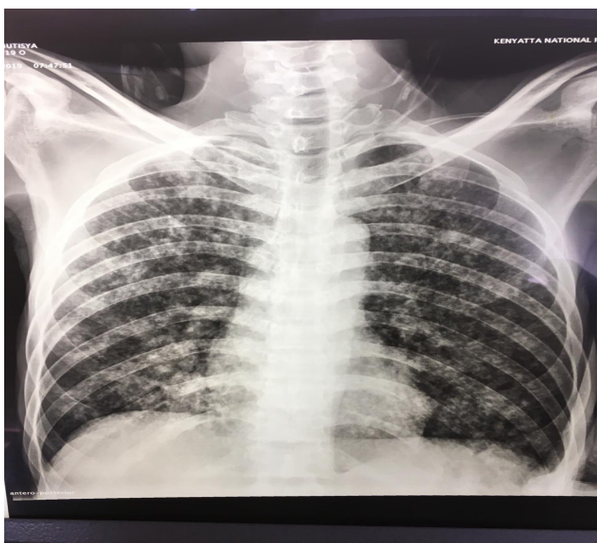


**Figure 3**: Chest radiograph of the same patient showing a miliary picture (diffuse millet seed sized nodular opacities)

Biopsies were sent for histology and ZN staining. Histology showed chronic inflammation and ZN staining was positive for Acid fast bacilli. Sputum gene x pert and AFB were positive for tuberculosis.

The patient was diagnosed with laryngeal tuberculosis secondary to pulmonary tuberculosis and started on intensive phase of TB treatment with rifampicin, pyrazinamide, isoniazid, ethambutol for 2 months, followed by a continuation phase of rifampicin pyrazinamide for 4 months.

## DISCUSSION

Laryngeal tuberculosis is the commonest cause of granulomatous diseases affecting the larynx[5]. The larynx may be affected either through primary or secondary spread. Primary tuberculosis of the larynx arises from direct colonization of the larynx by the mycobacterium bacillus. Secondary tuberculosis of the larynx is through spread from a primary site usually the lungs either through air droplets or haematogenous spread[6]. In the case of the patient in review, the spread to the larynx was more likely secondary given the active lung tuberculosis and the miliary picture.

Laryngeal tuberculosis commonly affects males in the age group of 30 - 84 years[7]. The most common presentation of laryngeal tuberculosis is hoarseness[2,8,9], odynophagia[10,11] and dysphagia[11]. Other symptoms include cough, dyspnea, stridor and haemoptysis[8]. The patient in question only had hoarseness and dysphagia. These symptoms are also characteristic of laryngeal carcinoma. The patient had a positive smoking and alcohol intake history that further added weight to the diagnosis of laryngeal carcinoma as a differential. Laryngoscopy findings in laryngeal tuberculosis mirror those of laryngeal carcinoma. Findings include ulcerofungating mass lesions, whitish ulcerative lesion non -specific inflammatory lesion and polypoid lesion. The patient had a left false vocal cord ulcerofungating mass lesion. He however had another cookie bite lesion on the right tip of his epiglottis. Shin *et al*[12] reported noting two or more laryngeal lesions in secondary laryngeal tuberculosis as opposed to one lesion in primary laryngeal TB.

The chest radiograph of this patient showed a miliary pattern (diffuse millet seed sized nodular opacities). His sputum for AFB was also positive for tuberculosis. He however did not have the other classic features for active pulmonary tuberculosis i.e. chronic cough and night sweats. Miliary tuberculosis is disseminated tuberculosis and it commonly occurs in the immunocompromised[13]. The patient was not seropositive nor diabetic. He however was malnourished which could be attributed to the prolonged odynophagia and dysphagia post infection. The chest X-ray findings triggered the testing for sputum for AFB and the consideration of laryngeal tuberculosis as the cause of the laryngeal disease. The patient had been symptomatic for 1 year. Had the chest X-ray been done earlier, the diagnosis of laryngeal tuberculosis may have been clinched earlier.

## CONCLUSION

Laryngeal tuberculosis may be misdiagnosed as laryngeal carcinoma. A high index of suspicion is needed to diagnose it and this is aided by chest X-ray findings in secondary laryngeal tuberculosis. Demonstration of mycobacteria bacilli on ZN staining of laryngeal lesion biopsies is the definitive diagnosis for laryngeal tuberculosis.

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