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Case Report

Laryngeal Tuberculosis: an uncommon but important cause of odynophagia

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ABSTRACT

Tuberculosis can occur as pulmonary tuberculosis or as extrapulmonary tuberculosis. The commonest forms of extrapulmonary tuberculosis include the pleural tuberculosis and the lymph node tuberculosis. Here we are describing an interesting case of laryngeal tuberculosis which presented to us with odynophagia. The diagnosis was suspected on basis of chest x-ray and CT thorax, but it could only be confirmed after direct visualization of the larynx on fibreoptic bronchoscopy and by taking biopsy from the epiglottis under direct visualization.

Keywords: Epiglottis, Fibreoptic bronchoscopy, Laryngeal tuberculosis, Odynophagia

INTRODUCTION

Tuberculosis affecting the lung parenchyma and tracheobronchial tree is known as pulmonary tuberculosis and when it affects other organ systems outside the lung parenchyma it is known as extrapulmonary tuberculosis. The commonest forms of extrapulmonary tuberculosis include the pleural tuberculosis in the form of pleural effusion and lymph node tuberculosis.[1,2] Extrapulmonary tuberculosis is more common in HIV seropositive patients in comparison to HIV seronegative patients.[3] Here, we are describing an interesting case of laryngeal tuberculosis which presented to us with odynophagia rather than any dysphonia.

CASE REPORT

A 63-year-old male patient presented to us with chief complaints of fever and cough with scanty expectoration for 2 months and pain on swallowing(odynophagia) along with loss of appetite for 1 month. There was no previous history of antitubercular treatment or diabetes mellitus in the patient. Patient had no other co-morbid illness. The general examination of the patient revealed presence of pallor. The respiratory system examination revealed presence of bilateral vesicular breath sounds with bilateral fine crepts in suprascapular and infrascapular areas. The systemic examination was normal in the patient.

Investigation

The blood examination revealed Hb%-8.6gm/dl, TLC-10,600/mm^3, Platelet- 1.8 lakh/ mm^3. Liver function test and kidney function test were normal in the patient. Blood sugar was also normal in the patient. Patient's viral markers for HIV, HCV and HbsAg were all negative. Mantoux test was positive in the patient with an induration of 18mm after 72 hours. Chest x-ray revealed bilateral patchy opacities in bilateral upper and middle

zones. High resolution computed tomography(HRCT) of chest revealed bilateral patchy consolidation in right upper lobe, middle lobe and lower lobe and left upper lobe and lower lobe with bilateral centrilobular nodules (Figure 1 and 2). Sputum examination for acid fast bacilli was negative in the patient. Hence, fibreoptic bronchoscopy was done in the patient which revealed swollen epiglottis (Figure 3) with multiple irregular nodules on the laryngeal surface of the epiglottis (Figure 4).

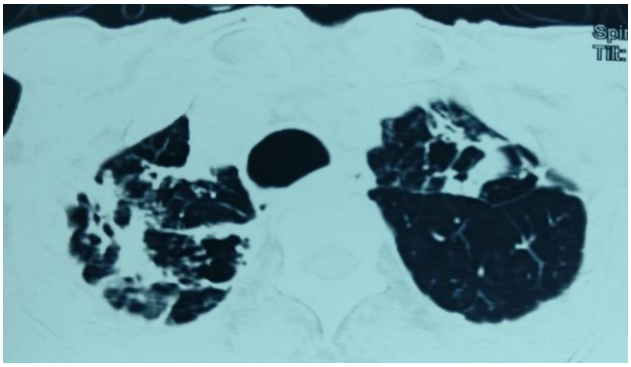

Figure 1: **CT scan Thorax showing bilateral upper lobe involvement**.

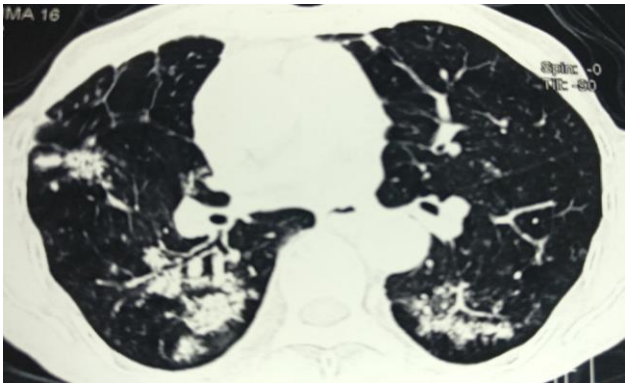

Figure 2: **CT scan Thorax showing bilateral lower lobe involvement**.

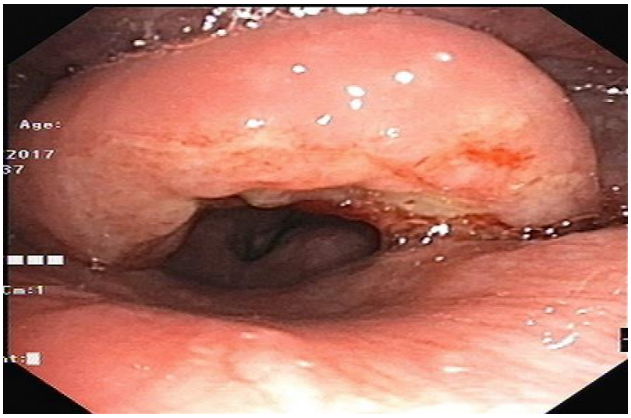

Figure 3: **Fibreoptic bronchoscopy showing swollen epiglottis**.

Biopsy was taken from few of these nodules and bronchoalveolar lavage (BAL) was taken from right and left upper lobes. BAL was positive for acid fast bacilli (AFB) stain and biopsy from the nodules on the epiglottis revealed multiple granulomas with Langhans giant cells and necrosis (Figure 5).

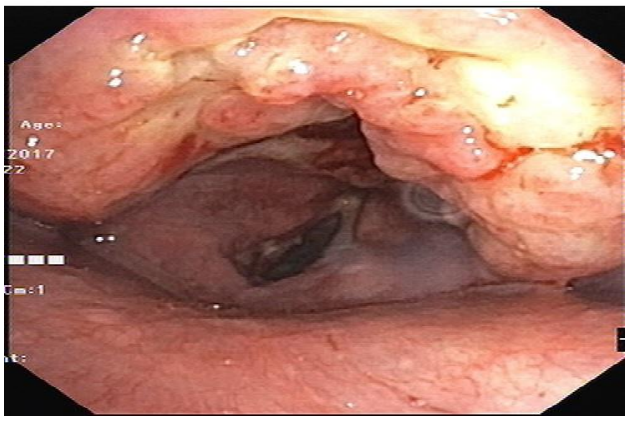

Figure 4: **Fibreoptic bronchoscopy showing irregular areas on the laryngeal surface of epiglottis**.

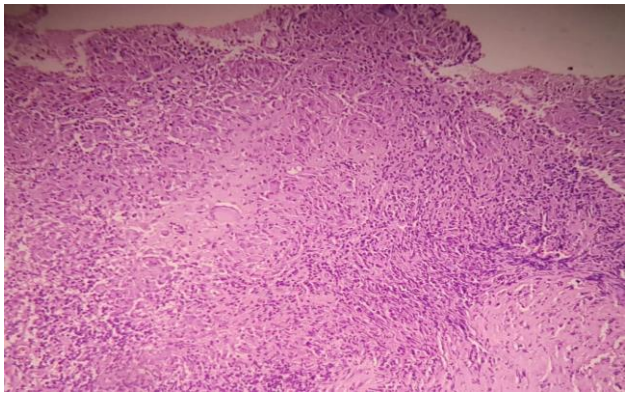

Figure 5: **Microscopy showing nectrotising granuloma with langhans giant cells**.

Treatment and follow up

Hence, the patient was initiated on four drug antitubercular treatment comprising of Rifampicin (600mg), Isoniazid (300mg), Ethambutol (1000mg) and Pyrazinamide (1500mg) according to weight with gradual subsidence of fever and relief in odynophagia in the next three weeks.

Differential diagnosis

- Laryngeal carcinoma
- Chronic laryngitis
- Laryngeal tuberculosis
- Laryngeal papillomatosis
- Benign laryngeal tumors
- Kimura disease of epiglottis

- Autoimmune disease of larynx
- Sarcoidosis of larynx
- Mycosis of larynx

DISCUSSION

Laryngeal tuberculosis is an uncommon form of extrapulmonary tuberculosis but is the most common granulomatous disease affecting the larynx. The most common symptom of laryngeal tuberculosis is hoarseness or change of voice.[4,5]

However, in our case the patient presented to us with odynophagia with no change in voice. Laryngeal tuberculosis can be primary or secondary. In primary laryngeal tuberculosis there is no evidence of tuberculosis in the lungs while in secondary laryngeal tuberculosis there is concomitant pulmonary tuberculosis. The patient in our case had secondary laryngeal tuberculosis with the computed tomography of chest showing patchy consolidation in bilateral lungs and the bronchoalveolar lavage fluid being positive for acid fast bacilli stain.

The vocal cords are most commonly involved in laryngeal tuberculosis in more than 50% cases while epiglottis is involved in only about 20% of the cases.[6,7]

Epiglottis was the only part of the larynx involved in our case with the true and false vocal cords, arytenoids and inter arytenoid region being normal on Fibreoptic bronchoscopy.

As there was no involvement of vocal cords in our case, hence it probably led to the normal voice of the patient. Direct visualization of the lesions in laryngeal tuberculosis can be whitish ulcerative, nonspecific inflammatory, polypoidal or ulcerofungative.[8] In our case the laryngeal surface of the epiglottis showed multiple polypoidal lesions with the upper part of the epiglottis diffusely swollen and erythematous.

As laryngeal tuberculosis often mimics laryngeal carcinoma,[9] hence a biopsy is required from the lesion to confirm the lesion. The biopsy from the polypoidal lesions on the epiglottis revealed granulomas with presence of Langhans giant cells and necrosis. Bronchoalveolar lavage fluid positive for acid fast bacilli stain further aided in confirming the diagnosis. Diagnosis of laryngeal tuberculosis has also been reported to be made by stool culture.[10]

CONCLUSION

The most common symptom of laryngeal tuberculosis is dysphonia or hoarseness of voice, but it can also present as odynophagia. Laryngeal tuberculosis may occur with or without pulmonary involvement. Fibreoptic bronchoscopy with biopsy from involved area may be required for the confirmation of the diagnosis of laryngeal tuberculosis.

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