

Case Report

Tuberculous lymphadenitis with anthracosis: an unusual cause of unilateral vocal cord paralysis

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Abstract

Background: Tuberculous lymphadenopathy is an extremely common condition in developing countries; however, vocal cord paralysis secondary to compression by enlarged tuberculous lymph node is an extremely rare presentation.

Case Presentation: In this paper, we present the case of a 72-year-old male patient who came to us with concerns of hoarseness of voice for the last eight months with fever and chills. He had been treated previously at ear, nose and throat (ENT) clinics and on evaluation, we discovered he had left vocal cord paralysis. Imaging showed multiple enlarged mediastinal and right hilar lymph nodes.

Management & Results: Mediastinoscopy with biopsy was done and after histopathologic confirmation of tuberculosis, the patient was prescribed antituberculous treatment.

Conclusion: Antituberculous treatment in such patients shows signs of clinical and radiologic improvement.

Keywords

Tuberculous Lymphadenopathy, Vocal Cord Paralysis, Antituberculous Treatment.



Introduction

Tuberculosis (TB) is a highly contagious infection caused by the aerobic, acid-fast bacillus *Mycobacterium tuberculosis* (MTB) and is an important cause of morbidity and mortality especially in the developing countries¹. However, hoarseness of voice due to vocal cord paralysis may be the only indicator of this underlying grave medical illness. Predominant causes of vocal cord paralysis include laryngeal cancers, trauma and surgery¹. Unilateral vocal cord paralysis can be identified by laryngoscopic examination, while multitude of cases are brought forward incidentally while radiologic evaluation of mediastinal masses². Some of the first line investigations for diagnosing mediastinal masses include Chest X-ray and Computerized tomography². Involvement of mediastinal lymph nodes by tuberculosis is often seen in developing countries; however this involvement leading to hoarseness, due to recurrent laryngeal nerve palsy, is a rare finding².

Tuberculosis mediastinal nodes are universally considered not to cause any serious complications, while literature is full of reports of pericardial effusions, bronchial erosions and stenosis, broncho-esophageal fistulas and superior vena cava obstruction as complications of infected nodes^{3&4}.

Case Presentation

A 72 years old male, naswaar addict, presented to Ear, Nose and Throat (ENT) clinic with the complaint of hoarseness of voice for the last 8 months. It was associated with undocumented fever with chills, weight loss and sensation of food sticking in throat. There was no history of cough, neck trauma, neck surgery, or infection. There was no history of tuberculosis or history of contact with a known case of tuberculosis.

On general physical examination, the patient was found to be vitally stable. The patient had poor dentition and a hoarse voice. The trachea was in the midline, oropharynx was clear and neck examination showed no lymphadenopathy.

Management & Results

Flexible fiberoptic laryngoscopic examination was performed in the outpatient clinic that revealed left vocal cord paralysis, which was seen in a paramedian position. On Chest X-rays patient was found to have increased interstitial prominence in bilateral lung fields. The right costophrenic angle appeared blunted possibly due to pleural thickening/effusion and a calcified lymph node was identified in the right hila.



Figure I: Chest X-Ray showing calcified hilar lymph node with blunted right costophrenic angle

CT scan of neck and thorax was done which showed multiple enlarged mediastinal and right hilar lymph nodes. Few of the lymph nodes showed calcification. The largest left paratracheal lymph node measured 10 mm. Subcarinal lymph node measured 10 mm. Right hilar lymph node measured 12 mm.



Figure 2: CT Scan Neck showing multiple enlarged lymph nodes

The patient was then referred to the thoracic surgery department. They scheduled the patient for bronchoscopy and mediastinoscopy with biopsy. Intraoperatively the patient was found to have left vocal cord paralysis. No endobronchial lesion was identified. Hard black anthracotic, sticky lymph nodes were seen in the left and right tracheobronchial regions. Recurrent laryngeal nerve was seen going through the left aortopulmonary lymph node mass. A 2 cm transverse incision was given above suprasternal notch through platysma. Strap muscles were separated, the plane developed down to carina and mediastinoscope inserted. Left tracheobronchial lymph node biopsied and the wound was closed in layers. Histopathology report showed chronic granulomatous inflammation with necrosis and anthracosis, most likely due to Tuberculosis.

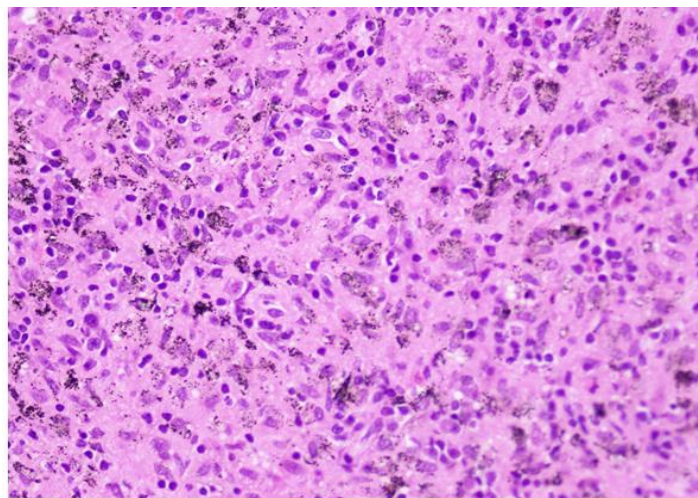


Figure 3: Mycobacteria bacilli will be bright red seen under microscope.

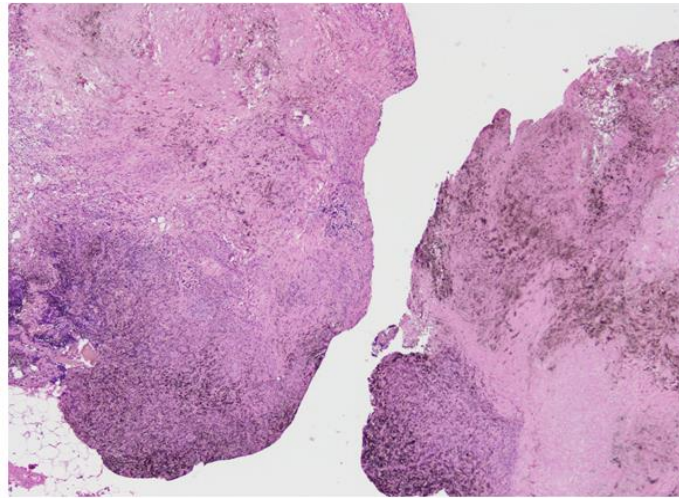


Figure 4: Lymph node biopsy showing giant cells and caseation in H/E stain by 400x.

The patient was started on antituberculosis and continued to follow up in clinic with significant improvement in hoarseness.

Discussion

Hoarseness of voice due to unilateral recurrent laryngeal nerve paralysis is not a common presenting complaint of tuberculous lymphadenitis. Other causes of hoarseness include recurrent laryngeal nerve compression that includes primary or secondary malignant invasions, such as thyroid neoplasms, lung carcinoma, esophageal carcinoma, and malignant metastases to the mediastinum⁵.

Mycobacterium tuberculosis infects lymph nodes, eliciting a T-cell dependent immune response that results in caseous necrosis and subsequent enlargement of the lymph nodes. These lymph nodes are often large enough to cause damage to the neighboring recurrent laryngeal nerve. Possible mechanisms include mechanical compression⁶, or in some cases by abscess draining from the lymph node into the nerve directly⁴. Antituberculous treatment led to partial recovery of the recurrent laryngeal nerve functions and hoarseness by reducing the mechanical compression and associated mediastinal fibrosis².

Although it is well known that developing countries have a higher prevalence of pulmonary TB; however a recent increase in the number extrapulmonary TB cases have been noticed as well with tuberculous lymphadenopathy being the most common form. The hilar and mediastinal lymph nodes are often the first lymphoid tissues to be affected⁷. CT scan of chest remains a useful initial screening modality of choice; however, histopathologic confirmation of TB is crucial as well. Early initiation of anti-tuberculous medication is the key in the successful management of tuberculous mediastinal lymphadenopathy⁸.

Conclusion

Despite being the most prevalent common dermal condition, AV and its associated psychological impacts

Conflicts of Interest

None.

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