Tuberculous laryngitis mimicking supraglottic carcinoma – A case report

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Abstract: Primary tuberculous laryngitis is a rare disease with features such as hoarseness of voice, dysphagia and similar symptoms which mimic carcinoma. Incidence of tuberculosis of larynx has greatly reduced as a result of improved health care and effective antitubercular therapy. Direct laryngoscopy and histopathology along with ZN staining (20%) are considered as gold standard in the diagnosis of tuberculous laryngitis. Tuberculous laryngitis can present as white ulcerative lesions, nonspecific ulcerative lesions, polypoidal masses or ulcerofungating mass lesions. Treatment of tuberculous laryngitis comprises of standard antitubercular regimen with very good results. Thorough investigations for tuberculosis as well as carcinoma should be undertaken to rule out carcinoma. We here present a case of a 70 year old male with hoarseness of voice, dysphagia and other symptoms, who on examination had a mass in the supraglottic region. On histopathology, diagnosis of primary tuberculous laryngitis was given.

Keywords: Laryngitis, tuberculosis, carcinoma, supraglottis, laryngoscopy, antitubercular therapy.

I. Introduction

Primary tuberculous laryngitis is an extremely rare occurrence. The incidence of tuberculous laryngitis has been estimated to be less than 1% of all the cases of tuberculosis.¹ Tuberculosis is the most common disease involving the upper aerodigestive tract specifically the larynx. Tuberculous laryngitis is generally secondary to pulmonary infection or from some other site in the body. Most common site of Mycobacterium tuberculosis infection is the lung, however any other site in the body can be involved primarily or secondarily. Various awareness and treatment programmes have led to decrease in the prevalence, morbidity and mortality associated with tuberculosis in India.¹,² Tuberculosis of larynx classically develops as a result of direct spread of the tubercle bacilli from contaminated sputum or can also occur haematogenously.³,⁴ It presents as a solid proliferative growth and can mimic carcinoma. Thus, proper investigations and histopathology play a vital role in the diagnosis.⁵

II. Case report

We present a case 70 year male who presented to the OPD with along history of hoarseness of voice and dysphagia for solids. He also complained of low grade fever, decrease appetite and weight loss. He was a chronic smoker for the past two decades. Dietary history is unremarkable. Physical examination revealed an average built, type II diabetic elderly male with mild pallor, grade I hypertension and he had no lymphadenopathy or any other cardiovascular, respiratory or GI related abnormality. On local examination, Indirect laryngoscopy showed an approximately 3x2x1 cm growth involving the supraglottis. Direct fiber optic laryngoscopy revealed an ulceroproliferative growth over the left true vocal cord along with congestion and oedema of epiglottis, arytenoids and surrounding tissues. The vocal cords and arytenoids showed near normal movements due to presence of oedema.

Routine hematological investigations revealed microcytic hypochromic anemia with rest of the parameters within normal limits. The erythrocytic sedimentation rate was 40 mm at the end of 1 hr. Radiological investigations revealed an unremarkable chest X-ray. USG of neck as well as abdomen revealed no lymphadenopathy. An axial contrast enhance CT scan of neck revealed 4x3x2.5 cm tumor in left supraglottis. A diagnosis of supraglottic laryngeal carcinoma was considered based on the above mentioned findings. Biopsy was performed and the specimen was send for histopathological examination. We received multiple(3), soft to firm, irregular, grey white to grey brown bits of tissue which were processed according standard histopathological protocols. Slides stained with routine hematoxylin and eosin (H & E) stain were studied under light microscope. Surprisingly, microscopy revealed abundant caseous necrosis and numerous granulomas composed of confluent epitheloid cells surrounded by color of mature lymphocytes, fibroblasts and few inflammatory cells (Figure 1, F
Numerous Langhan’s type of giant cells were also noted (Figure 3, Figure 4). Ziehl-Neelsen (20%) stain revealed numerous acid fast bacilli which confirms diagnosis of mycobacterial infection.

Further microbiological investigation confirmed the diagnosis of mycobacterial tuberculosis infection.
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III. Discussion

Primary tuberculosis of larynx is rare disease entity caused by Mycobacterium tuberculosis. Tuberculosis of the upper aerodigestive tract specifically of the larynx which is accounted to less than 1% of all tuberculosis cases is very rare. Absence of pulmonary disease or evidence of tuberculosis anywhere in the body points towards a lesion being primary. Our case presented with old age, hoarseness of voice, dysphagia, low grade fever, loss of weight and tumor in the supraglottis. All these findings were in concordance with a malignant diagnosis. Tuberculous laryngitis is most commonly seen in males with an incidence of 2:1 in the head and neck region is more commonly accounted in immunocompromised patients. Our’s was a healthy elderly male.

Tuberculous laryngitis according to Shin et al. can be categorized into 4 types (A) Polypoidal seen in 22% cases (B) Ulcerative in 40.9% cases (C) Nonspecific seen in 27.3% cases (D) Ulcerofungating growth seen in 9.1% cases of laryngeal tuberculosis cases. Our case presented with an ulceroproliferative growth in the supraglottis. The anterior part of larynx is most commonly involved. True vocal cords are most commonly affected s
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ites followed by false vocal cords, aryepiglottic folds, arytenoids, interarytenoids folds and ventricular bands. Fernandes et al. reported the true vocal cords most common site to be involved (50-70%).[11]

However tuberculosis and carcinoma can coexist in the same patient. Hence proper and complete investigations should be performed to arrive at the correct diagnosis. Tuberculous laryngitis is most common ENT presentation seen in tuberculosis infection.[12]

Investigations such as direct laryngoscopy are mandatory to arrive to a diagnosis where as histopathology in the form of caseating necrosis, granuloma consisting epitheloid cells, langhan’s type of giant cells, lymphocytes and fibroblasts are gold standard in a diagnosis of tuberculous laryngitis.[13] Owing to clinical presentation such as age mass in the upper aerodigestive tract and supporting evidence, malignant should be thoroughly ruled out as tuberculosis carcinoma can coexist in the same patient. Those patients presenting with hoarseness of voice without any pulmonary symptoms and living in endemic regions should be suspected of having laryngeal tuberculosis.[5]

Appropriate and aggressive antituberculous therapy generally cures the disease without any sequel with most of lesions disappearing during the treatment period.

IV. Conclusion

Primary tuberculous laryngitis is a rare disease entity. Tuberculosis of larynx should be suspected in patients presenting with hoarseness of voice and dysphagia which generally point towards laryngopharyngeal carcinoma, as treatment protocols and prognosis are different for both the conditions. However tuberculous laryngitis carries good prognosis owing to effective antitubercular therapy. Histopathology with ZN staining (20%) is gold standard in the diagnosis of laryngeal tuberculosis.

References