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Case Report

Is Experience Better than Evidence? Tuberculous Laryngitis: A Case Report

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I N F O

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A B S T R A C T

Introduction: Tuberculosis seldom affects the larynx without a lung infection. But in recent times, the incidence of laryngeal tuberculosis has risen due to HIV infection, conditions, and medications causing immunosuppression, resistant organisms and atypical mycobacteria. Although rare, this is the most common laryngeal granulomatous disease. This rare case report shows a patient with a laryngeal lesion who responded to empirical antitubercular medication after all tests were negative for tuberculosis.

Case Presentation: A 21-year-old woman reported to the otorhinolaryngology outpatient clinic with a 3-month history of insidious hoarseness of voice, dry cough, and foreign body sensation in the throat with associated right cervical lymphadenopathy.

Management And Outcome: Video laryngoscopy showed a nodular lesion in the anterior commissure extending to the whole of the anterior 2/3rd right vocal cord. Microlaryngeal surgery was done but the biopsy specimen was negative for tuberculosis. On ruling out other granulomatous diseases, anti-tubercular therapy was administered with which the patient recovered fully.

Keywords: Tuberculosis, Immunosuppression, Laryngeal Lesions, Tubercular Laryngitis, Anti-Tubercular Therapy

Introduction

Tuberculosis is a persistent bacterial infection caused by bacteria that belongs to the *Mycobacterium tuberculosis* complex. Tuberculosis seldom affects simply the larynx without any concomitant lung infection. Laryngeal tuberculosis (LTB) represents just 1% of all TB cases.[1] Nevertheless, the occurrence of laryngeal tuberculosis has consistently risen as a result of the growing frequency of HIV infection, conditions and medications causing immunosuppression, the emergence of species that are immune to antibiotics, and atypical mycobacteria. It is the most prevalent form of laryngeal granulomatous illness. Here, we see a rare instance where a patient with a laryngeal lesion that was initially thought to be a neoplastic lesion on video laryngoscopy but biopsy revealed to be a granulomatous lesion and after ruling out other conditions, ultimately responded to empirical therapy of antitubercular drugs.

Case Presentation

A 21-year-old female presented to the otorhinolaryngology outpatient department with a 3-month history of hoarseness of voice, which was insidious in onset and progressive in nature with an intermittent history of dry cough and foreign body sensation in the throat. There was also a history of swelling on the right side of the neck for the past 2 months. The patient is a known case of dextrocardia and is also a known asthmatic for which she is on regular medication.

Local examination of the neck revealed a right jugulo-digastric node of size 2 x 1 cm which was firm and mobile without any warmth or tenderness. Video laryngoscopy showed a nodular and congested lesion seen in the anterior commissure extending to the whole of the anterior 2/3rd of the right vocal cord. The left vocal cord was mobile and free and other structures were normal on VLS.

Management

Routine blood investigations with chest X-rays were normal. CECT neck showed a fairly, defined soft tissue density nodule with homogenous enhancement in the anterior 2/3rd of right true vocal cord measuring 7.5 x 5.0 mm projecting into laryngeal vestibule with no involvement of anterior commissure. It also revealed enlarged upper deep cervical nodes showing a non-enhancing area. Microlaryngeal surgery under general anaesthesia was planned and carried out, the lesion occupying the anterior 2/3rd of the right vocal cord was visualised which was excised completely and sent for HPE (Figures 1 and 2). Biopsy was suggestive of the granulomatous lesion but negative for acid-fast bacilli in Ziehl-Neelsen staining, CBNAAT, and mycobacterial tubercular culture. CT Chest with liver screening was normal. Flow cytometric dihydrorhodamine assay and nitroblue tetrazolium assay were normal but ESR was elevated. FNAC of the right jugulo-digastric lymph node revealed only reactive changes. ANCA and rheumatoid factor were also negative.

Pulmonology opinion was obtained and the patient was empirically started on Anti-tubercular medications and the patient was discharged and followed up. During a 2-month intensive phase, she took a daily dose of 3 tablets containing isoniazid (75 mg), rifampicin (150 mg), pyrazinamide (400 mg), and ethambutol (275 mg), with a daily dose of vitamin B6 at 20 mg. Subsequently, a maintenance phase was commenced during which she was administered oral isoniazid at a dosage of 300 mg, rifampicin at a dosage of 600 mg, and vitamin B6 at a dosage of 20 mg once per day. The patient improved symptomatically at 3 months and at 6 months there was complete relief of hoarseness of voice and dry cough. Repeat video laryngoscopy after 6 months of treatment showed completely normal vocal cords (Figure 3).

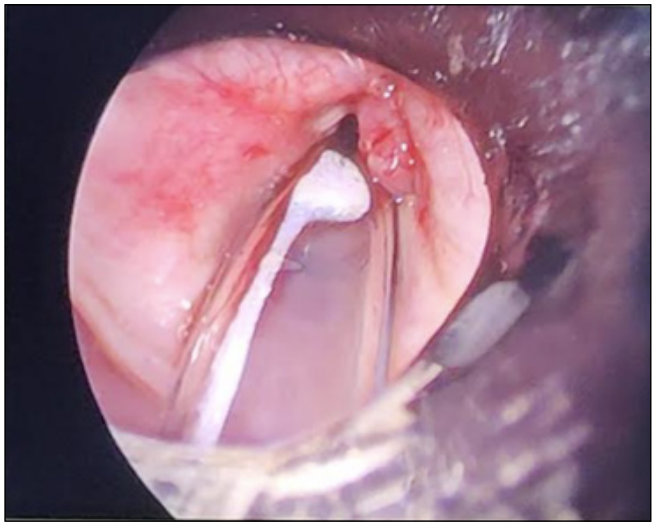

Figure 1.Intra-Operative Picture showing the Lesion Occupying the Anterior 2/3rd of the Right Vocal Cord

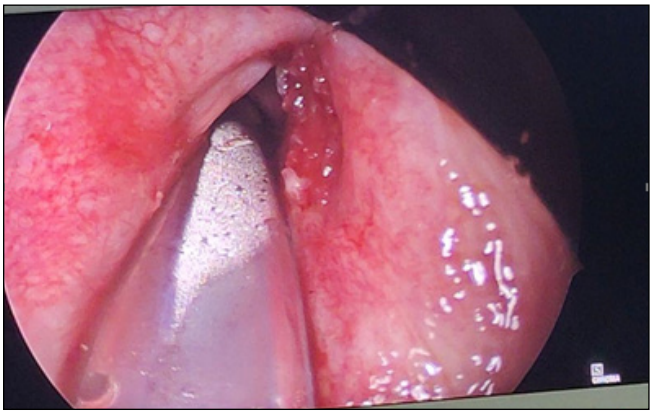

Figure 2.Intra-Operative Picture of the Vocal Cords After Removing the Lesion

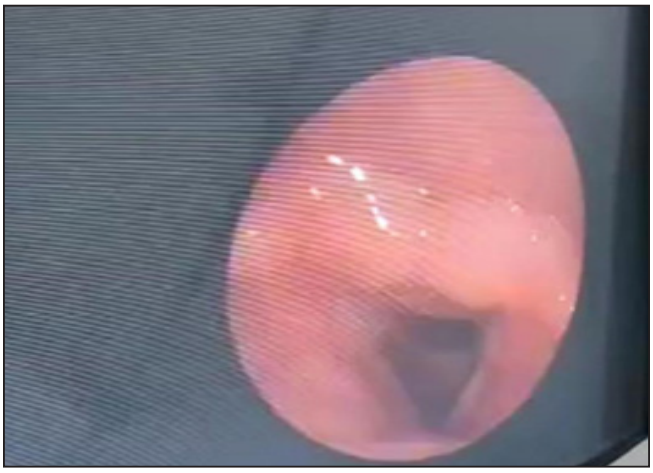

Figure 3.Video Laryngoscopy showing Completely Normal Vocal Cords After Administration of 6 Months of Anti-Tubercular Medications

Discussion

Laryngeal tuberculosis can occur as a result of pulmonary tuberculosis, although it can also be confined to the larynx

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as the affected site without damaging the lungs. The latter is believed to be caused by the direct invasion of the larynx through inhalation. Laryngeal tuberculosis is an uncommon condition, representing fewer than 1% of all reported cases. The cause of this disease can be elucidated by numerous theories. The cause of this condition is the larynx being directly invaded by mycobacteria that are inhaled, and not because of spread from the lower airways.[2,3] It can also get infected through the transfer of bacteria or viruses through the bloodstream or lymphatic system.[4,5]

Primary Laryngeal Tuberculosis (PLTB) commonly affects the true vocal folds, specifically the 3rd, 5th, and 6th ones. Nevertheless, the morphological description differs depending on whether there is a predominance of a single exophytic or ulcerative lesion at the vocal fold, ranging from 67% to 73%.[6] Polypoid and non-specific lesions are linked to the transmission of pathogens through the bloodstream. The unusual presentations that resemble a polyp, tumour, or laryngitis, often lead to incorrect diagnosis.[4]

The standard diagnostic tests for pulmonary tuberculosis (PTB), including X-ray of the chest, analysis of sputum, tuberculin sensitivity test, and serum Erythrocyte sedimentation rate, do not reveal any significant findings in patients with PLTB. The conventional chest radiograph is still the primary imaging method used for screening pulmonary tuberculosis. Performing a CT scan of the thorax is not a standard procedure while investigating primary laryngeal tuberculosis if the X-ray is normal.[7] The diagnosis of PLTB mostly relied on histological evaluation and mycobacterial culture of tissue biopsy specimens. However, only 34% of histopathological examination results showed persistent granulomatous inflammation with caseous necrosis, a characteristic sign of tuberculosis.[4] In this case report, the excised specimen was negative in Ziehl-Neelson staining. Xpert MTB/ RIF assay test can help in the rapid identification of Mycobacterial tuberculosis DNA and the sensitivity status of the organism to rifampicin in the specimen in no more than a few hours. It is an automated cartridge-based nucleic acid amplification test which gives a quick and conclusive diagnosis, but this was also negative in our case and thus other granulomatous diseases were considered but ruled out subsequently.

Thus empirical treatment was started and the patient was routinely followed up. According to the standards of the WHO, laryngeal tuberculosis should be treated with a 4-drug regimen for a duration of two months, followed by a two-drug regimen for the subsequent four months. The medication regimen employed comprises isoniazid, rifampicin, ethambutol, and pyrazinamide. Prior to starting ATT, it is necessary to do a thorough evaluation of the patient's condition and closely monitor any issues that may arise during treatment. PLTB exhibit a favourable response to anti-tuberculous therapy during a period of 18 weeks.[8] Nevertheless, it is advisable to conduct extended monitoring in order to observe any issues affecting both the larynx and areas outside of it. PLTB has the potential to develop into disseminated tuberculosis, which is associated with a worse prognosis. In our case, the patient recovered completely and is doing well.

To our knowledge, there are no documented cases in the literature where an empirical treatment was administered for suspected tubercular laryngitis without any confirmed diagnostic proof and this treatment led to a full recovery in the patient. This shows that sometimes clinical acumen reigns supreme, especially in light of the absence of any investigative evidence.

Conclusion

Otolaryngologists in countries where PLTB is prevalent should exercise increased caution when evaluating patients who exhibit a change in voice and modest findings in the larynx, due to the occurrence of PLTB with unusual clinical symptoms. Primary laryngeal tuberculosis should be considered in cases presenting with an irregular vocal fold lesion on one side. In this case, anti-tubercular therapy can be initiated after ruling out other conditions. Administering anti-tubercular medications promptly and ensuring long-term monitoring leads to a positive prognosis, effectively curing the condition without any consequences.

Ethical Approval

As per university standards, written ethical approval has been obtained and preserved by the author(s).

Consent

Participants' written consent has been collected and preserved by the author(s) as per the university standards.

Conflict of Interest: None

References

1. Ayoubi FE, Chariba I, Ayoubi AE, Chariba S, Essakalli L. Primary tuberculosis of the larynx. Eur Ann Otorhinolaryngol Head Neck Dis. 2014;131(6):361-4. [PubMed] [Google Scholar]
2. Saldanha M, Sima NH, Bhat VS, Kamath SD, Aroor R. Present scenario of laryngeal tuberculosis. Int J Otorhinolaryngol Head Neck Surg. 2018;4(1):242-6. [Google Scholar]
3. Pandiyan H, Sivanand N, Kumar SS. Isolated laryngeal tuberculosis: a diagnostic dilemma. Indian J Otolaryngol Head Neck Surg. 2020;74(Suppl 2):2308-10. [PubMed] [Google Scholar]
4. Ponni S, Venkatesan SK, Saxena SK, Suryanarayanan G. Primary laryngeal tuberculosis-changing trends and masquerading presentations: a retrospective study. Int J Otorhinolaryngol Head Neck Surg. 2019;5(3):634.

ISSN: 0019-5138
DOI: https://doi.org/10.24321/0019.5138.202477

5. Guan LS, Jun TK, Azman M, Baki MM. Primary laryngeal tuberculosis manifesting as irregular vocal fold lesion. Turk Arch Otorhinolaryngol. 2022;60(1)47-52. [PubMed] [Google Scholar]
6. Lim JY, Kim KM, Choi EC, Kim YH, Kim HS, Choi HS. Current clinical propensity of laryngeal tuberculosis: review of 60 cases. Eur Arch Otorhinolaryngol. 2006;263(9):838-42. [PubMed] [Google Scholar]
7. Nachiappan AC, Rahbar K, Shi X, Guy ES, Barbosa Jr EJ, Shroff GS, Ocazionez D, Schlesinger AE, Katz SI, Hammer MM. Pulmonary tuberculosis: role of radiology in diagnosis and management. Radiographics. 2017;37(1):52-72. [PubMed] [Google Scholar]
8. Ling L, Zhou SH, Wang SQ. Changing trends in the clinical features of laryngeal tuberculosis: a report of 19 cases. Int J Infect Dis. 2010;14(3):e230-5. [PubMed] [Google Scholar]

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