Tuberculous Laryngitis: A Case Report of an Uncommon Form of Upper Airway Tuberculosis

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Introduction

- Laryngeal tuberculosis (LT) is rare (1% incidence), commonly originating from pulmonary dissemination (20%). [1]
- LT and laryngeal carcinoma share clinical characteristics. [2,3]
- This case demonstrates laryngeal TB's presentation.

Case Presentation

- A 60-year-old male presents for dysphagia, weight loss, fever and dyspnea.
- CT imaging revealed a supraglottic laryngeal mass, pulmonary nodules, and enlarged cervical lymph nodes.
- Laryngoscopy visualized a left-sided arytenoid and laryngeal lesion with endolaryngeal mucopurulent exudate.
- Histopathology of the lesion revealed necrotizing tissue and granulomatous inflammation; AFB Rite stain showed microscopic rods.
- PCR analysis was significant for mycobacterium TB without resistance to rifampin.
- RIPE therapy was initiated with total treatment duration of nine months.

References

1.Prasad, K., Sreedharan, S., Chakravarthy, Y., & Prasad, S. (2007). Tuberculosis in the head and neck: Experience in India. The Journal of Laryngology & Otology, 121(10), 979-985. doi:10.1017/S0022215107006913
2.Nishike, S., Nagai, M., Nakagawa, A., Konishi, M., Sakata, Y., Aihara, T., & Harada, T. (2006). Laryngeal tuberculosis following laryngeal carcinoma. The Journal of Laryngology & Otology, 120(2), 151-153. doi:10.1017/S0022215105005955
3.Thaller SR, Gross JR, Pilch BZ, Goodman ML. Laryngeal tuberculosis as manifested in the decades 1963-1983. Laryngoscope. 1987 Jul;97(7 Pt 1):848-50. PMID: 3600137.
4.Topak, M., Oysu, C., Yelken, K. et al. Laryngeal involvement in patients with active pulmonary tuberculosis. Eur Arch Otorhinolaryngol 265, 327–330 (2008). https://doi-org.ezp.slu.edu/10.1007/s00405-007-0459-x
5.Global Tuberculosis Report 2022. World Health Organization 2022. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022.
6.Hasibi M, Yazdani N, Asadollahi M, Sharafi M, Dehghan Manshadi SA. 2013. Clinical features of laryngeal tuberculosis in Iran. Acta Med Iran 51:638–641.
7.Gupta R, Fotedar S, Sansanwal P, Yadav SP, Gupta A, Gupta KB, Saini K. 2008. Obstructing mass lesion of epiglottis: it can be tubercular. Indian J Tuberc 55:100–103.
8.Rizzo PB, Da Mosto MC, Clari M, Scotton PG, Vaglia A, Marchiori C. Laryngeal tuberculosis: an often forgotten diagnosis. Int J Infect Dis. 2003 Jun;7(2):129-31. doi: 10.1016/s1201-9712(03)90008-7. PMID: 12839714.
9. Ruas, A., Rolla, V., De Araújo-Melo, M., Moreira, J., & Valete-Rosalino, C. (2010). Vocal quality of patients treated for laryngeal tuberculosis, before and after speech therapy. The Journal of Laryngology & Otology, 124(11), 1153-1157. doi:10.1017/S0022215110001106
10.Miglioreli A, Mazzocco T, Bonsembiante A, Bugada D, Fantini M, Elli F, Stacchini M. Laryngeal tuberculosis: a case report with focus on voice assessment and review of the literature. Acta Otorhinolaryngol Ital. 2022 Oct;42(5):407-414. doi: 10.14639/0392-100X-N2091. PMID: 36541378; PMCID: PMC9793137.

Imaging

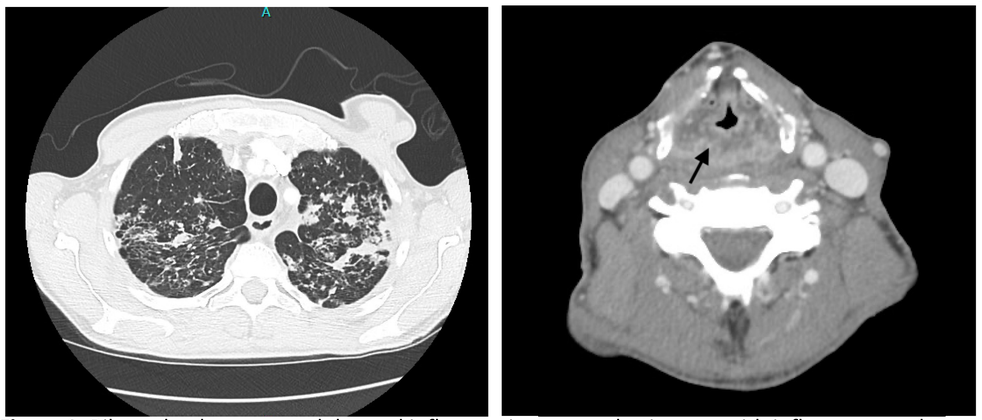

Figure 1: Bilateral pulmonary nodules and inflammation; supraglottic mass with inflammatory changes

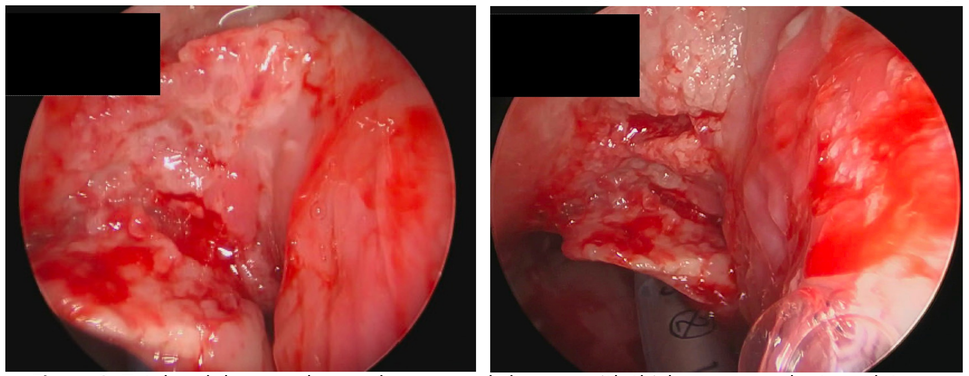

Figure 2: Total endolaryngeal, granular, mucosal changes with thick, mucopurulent exudate

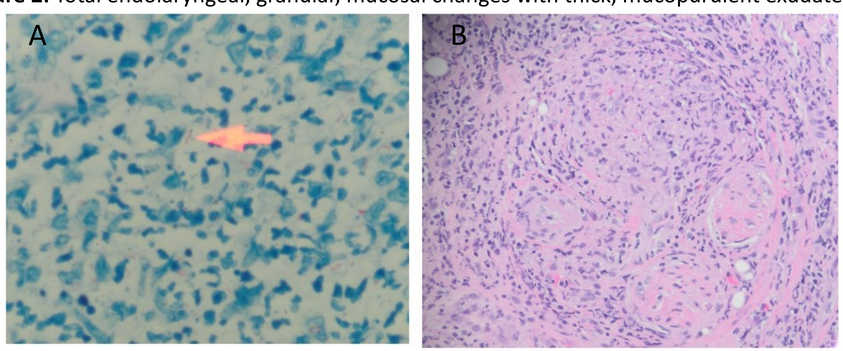

Figure 3: A – Rite staining B – H&E staining

Discussion

- Laryngeal tuberculosis is the most common form of TB involving the upper respiratory tract; it confers high infectivity.
- Patients present with dysphonia, odynophagia, and dysphagia. LT closely resembles malignancy. [4]
- Incidence of TB increased 4.5% due to resistance, living conditions, and endemic travel. [5]
- LT appears as perichondritic, ulcerative, granulomatous, or polyploid lesions, affecting the vocal cord (46%) or ventricular bands (18%). [6,7]
- The larynx is seeded either hematogenously (anteriorly) or directly by secretions (posteriorly). [8]
- Disease progression can result in airway stenosis. Early treatment can prevent life-threatening obstruction. [3,7,9,10]

Conclusion

- TB laryngitis should be considered in patients with dysphagia and hoarseness, often presents similarly to malignancy.
- LT is a relatively uncommon form of TB which is a highly infective form of the disease.
- It typically has an excellent response to antitubercular treatment: rifampicin, isoniazid, pyrazinamide, and ethambutol.

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