

## Laryngeal Tuberculosis in an Immunocompetent Subject: A Case Report

Alexandre H. Da Costa<sup>1\*</sup>, M. Beogo<sup>1</sup>, P. Mendes<sup>2</sup>, O. Salua<sup>1</sup>, E. Nordine<sup>1</sup>, B. Fouad<sup>1</sup>

<sup>1</sup>Department of ENT, Mohamed V Military Teaching Hospital of Rabat, Morocco

<sup>2</sup>Department of Pathological Anatomy and Cytology, Mohamed V Military Teaching Hospital of Rabat, Morocco

DOI: <https://doi.org/10.36347/sjams.2024.v12i12.034>

Received: 16.11.2024 | Accepted: 20.12.2024 | Published: 28.12.2024

\*Corresponding author: Alexandre H. Da Costa

Department of ENT, Mohamed V Military Teaching Hospital of Rabat, Morocco

### Abstract

### Case Report

Laryngeal tuberculosis is one of the rare forms of tuberculosis and may lead to misdiagnosis because the clinical picture is similar to that of cancers of the aerodigestive tract, sometimes leading to erroneous indications for surgery. We report the case of a 56-year-old immunocompetent patient with laryngeal and pulmonary tuberculosis treated in the ENT department of the Mohamed V military hospital in Rabat. Laryngeal tuberculosis is one of the extra-pulmonary forms of tuberculosis, accounting for approximately 1% of tuberculosis cases. Like tumours of the aerodigestive tract, laryngeal tuberculosis initially manifests itself as upper cervical discomfort, progressing to intermittent dysphonia before becoming permanent. Laryngoscopy is an essential part of the diagnosis. Computed tomography helps to make the diagnosis and most often reveals a bulging lesion located in the glottis or subglottic with more or less satellite cervical adenopathy. Smoking is thought to be a factor in laryngeal tuberculosis. Laryngeal tuberculosis is diagnosed with certainty by anatomopathological and cyto-bacteriological examination, which both rule out a tumour process and confirm positive BK contamination. Treatment is mainly medical, with standard tuberculosis treatment lasting 6 months.

**Keywords:** Tuberculosis, laryngeal, immunocompetent.

Copyright © 2024 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

## INTRODUCTION

Tuberculosis is a well-known bacterial infection, particularly in its pulmonary form. Extra-pulmonary forms have become exceptional since the advent of antibiotics. Laryngeal tuberculosis is one of the rarest forms, and can lead to misdiagnosis because the clinical picture is superimposed on cancers of the aerodigestive tract, sometimes resulting in erroneous surgical indications [1]. We report the case of a 56-year-old immunocompetent patient with laryngeal and pulmonary tuberculosis treated in the ENT department of the Mohamed V military hospital in Rabat.

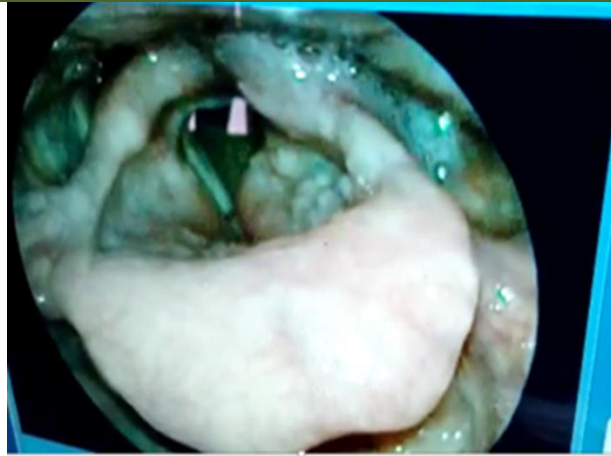
## OBSERVATION

This was a 56-year-old patient, a smoker of about 1 pack/20 days, with no known pathological history, who was referred for dysphagia and dysphonia that had been evolving for about 1 year. This dysphagia

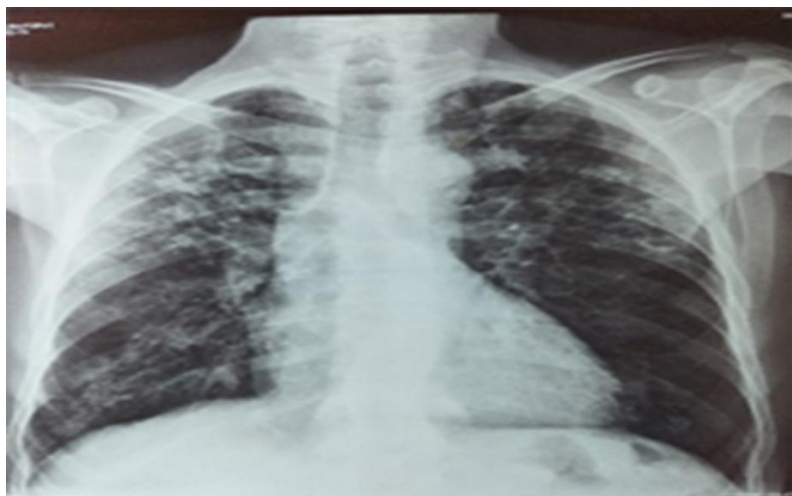
was first intermittent, then permanent, associated with odynophagia and a dry cough. The patient also reported anorexia and night sweats. On admission, the clinical examination revealed a conscious patient in poor general condition, with poor oral hygiene and a small group IIb adenopathy. The rest of the endobuccal and oropharyngeal examination was unremarkable.

A CT scan revealed a subglottic laryngeal process with left cervical adenomegaly, and laryngoscopy revealed a lesional process budding from the vocal cord and left ventricular bands, with invasion of the ipsilateral arytenoid (Fig 1).

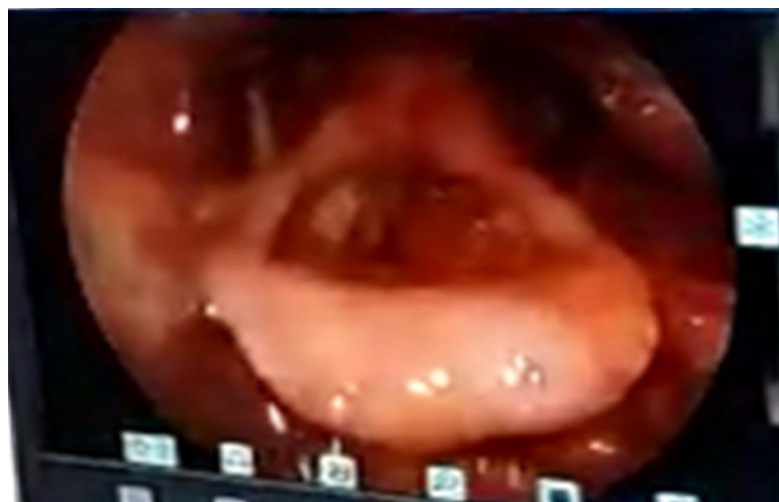
During the period of exploration, the patient presented with a vesperal fever and persistent dry cough, a bilateral pulmonary condensation syndrome prompting a chest X-ray which showed multiple opacities in two lung fields, predominantly at the apices, suggestive of pulmonary tuberculosis (Fig 2 & 3).



**Figure 1: Appearance of tissue formation on laryngoscopy**



**Figure 2: Chest X-ray showing opacities in both pulmonary fields**



**Figure 3: Control laryngoscopy after antibacillary treatment**

## DISCUSSION

Laryngeal tuberculosis is one of the extra-pulmonary forms of tuberculosis, accounting for around 1% of tuberculosis cases [1, 2]. It was first described in 1820 by Boyle and Broussais. Its pathophysiology can be varied, ranging from contamination by contiguity

(bacilliferous aerosol) to lymphatic or hematogenous vascular dissemination [1].

Laryngeal tuberculosis accounts for around 20% of cases reported in the literature [3]. Like tumors of the aerodigestive tract, it manifests itself first as upper

cervical discomfort, evolving with dysphonia that is intermittent at first, before becoming permanent [4]. It is generally accompanied by a dry or chronic cough, depending on whether or not a pulmonary form is associated [5-7]. This was the case in our patient, in whom there were bilateral foci of pulmonary opacities, some of which were excavated and associated with bronchogenic micronodules.

Initial localization in the vocal cords is frequently reported in the literature [8]. Laryngoscopy is essential for diagnosis, revealing a dirty appearance of the larynx, with poorly circumscribed, ulcerating or even polypoid masses of an inflammatory nature, which may even lead to stenosis of the larynx [1].

In order of frequency, this location is reported in the vocal cords in 50-70% of cases, the ventricular bands in 40-50% of cases, then the arytenoids [9].

Computed tomography (CT) helps to make the diagnosis, and most often reveals a budding lesion located in the glottis subglottis, with more or less satellite cervical adenopathy [1, 8, 10].

According to several authors, smoking is a factor in the laryngeal localization of tuberculosis [1, 11, 12].

Laryngeal tuberculosis is diagnosed with certainty by anatomopathological and cytbacteriological examination, which both rule out a tumoral process and confirm BK-positive contamination [13].

HIV serology is essential, as these are opportunistic pathologies in immunocompromised patients. This association is not shared by all authors [1, 14]; it was negative in our patient.

Management is mainly medical, with standard tuberculosis treatment for 6 months [15, 13].

Progress is generally favourable when the patient is seen early and the diagnosis is followed by appropriate treatment and follow-up.

**Conflicts of Interest:** No conflicts of interest have been declared.

## CONCLUSION

Laryngeal tuberculosis is a rare localization of tuberculosis, which constitutes a health problem in developing countries. It should be diagnosed in the presence of dysphonia and odynophagia more or less associated with cough, but above all with signs of tuberculosis impregnation. Even if it's not a very common condition, a diagnostic approach to its detection could easily obviate the need for surgical intervention. It

requires multidisciplinary management (ENT, radiology, infectious diseases, physiology and pathology).

## REFERENCES

1. Arrivé, F., Roncato-Saberan, M., Beuvon, C., Martellosio, J. P., & Meriglier, E. (2017). Une tuberculose laryngée. *Médecine et maladies infectieuses*, 47(2), 174-175.
2. Chen, H. K., & Thornley, P. (2012). Laryngeal tuberculosis: a case of a non-healing laryngeal lesion. *The Australasian medical journal*, 5(3), 175-177.
3. Menon, K., Bem, C., Goulesbrough, D., & Strachan, D. R. (2007). A clinical review of 128 cases of head and neck tuberculosis presenting over a 10-year period in Bradford, UK. *The Journal of Laryngology & Otology*, 121(4), 362-368.
4. Benwill, J. L., & Sarria, J. C. (2014). Laryngeal tuberculosis in the United States of America: A forgotten disease. *Scandinavian Journal of Infectious Diseases*, 46(4), 241-249. <https://doi.org/10.3109/00365548.2013.877157>
5. Fsadni, P., & Fsadni, C. (2014). Primary laryngeal tuberculosis: An unusual cause of hoarseness. *Ear, Nose, & Throat Journal*, 93(10-11), E15-7. PMID : 25397382.
6. Difficulté diagnostique d'une tuberculose laryngée isolée chez une femme diabétique | Pan African Medical Journal [Internet]. [cité 9 juin 2024]. Disponible sur: <https://www.ajol.info/index.php/pamj/article/view/134007>
7. Wang, C. C., Lin, C. C., Wang, C. P., Liu, S. A., & Jiang, R. S. (2007). Laryngeal tuberculosis: a review of 26 cases. *Otolaryngology—Head and Neck Surgery*, 137(4), 582-588.
8. El Ayoubi, F., Chariba, I., El Ayoubi, A., Chariba, S., & Essakalli, L. (2014). La tuberculose primitive du larynx. *Annales françaises d'Oto-rhino-laryngologie et de Pathologie Cervico-faciale*, 131(6), 347-350.
9. Kurokawa, M., Nibu, K. I., Ichimura, K. I., & Nishino, H. (2015). Laryngeal tuberculosis: a report of 17 cases. *Auris Nasus Larynx*, 42(4), 305-310.
10. Nalini, B., & Vinayak, S. (2006). Tuberculosis in ear, nose, and throat practice: its presentation and diagnosis. *American journal of otolaryngology*, 27(1), 39-45.
11. Touati, M. M., Darouassi, Y., Chihani, M., Lakouichmi, M., Tourabi, K., Ammar, H., & Bouaity, B. (2014). La tuberculose extra-ganglionnaire primitive de la sphère ORL: à propos de 15 cas. *Pan African Medical Journal*, 19(1), 179. doi:10.11604/pamj.2014.19.179.4597
12. Mocanu, A. I., Mocanu, H., Moldovan, C., Soare, I., Niculet, E., Tatu, A. L., ... & Nechifor, A. (2022). Some Manifestations of Tuberculosis in Otorhinolaryngology—Case Series and a Short Review of Related Data from South-Eastern

- Europe. *Infection and Drug Resistance*, 15, 2753-2762.
13. Rubin, F., Jameleddine, E., Guiquerro, S., & Laccourreye, O. (2024). Laryngeal tuberculosis in the early 21st century. Literature review of clinical, diagnostic and therapeutic data, according to SWiM guidelines. *European Annals of Otorhinolaryngology, Head and Neck Diseases*, 141(3), 147-152.
14. Bhat, V. K., Latha, P., Upadhya, D., & Hegde, J. (2009). Clinicopathological review of tubercular laryngitis in 32 cases of pulmonary Kochs. *American journal of otolaryngology*, 30(5), 327-330.
15. Qidwai, W., & Rehman, S. (2004). A young man with hoarseness of voice. *Journal of Ayub Medical College*, 16(2), 73-74.