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Cas Clinique

Unknown pulmonary tuberculosis revealed by laryngeal tuberculosis

Tuberculose pulmonaire méconnue révélée par une tuberculose laryngée

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Résumé

Les cas de tuberculose oto-rhino-laryngologique représentent moins de 1% des cas de tuberculose extrapulmonaire, la localisation laryngée est la plus fréquente et généralement associée à une localisation pulmonaire.

Nous rapportons le cas d'un patient de 67 ans, femme au foyer, diabétique de type 1, qui a eu une dysphonie, une dysphagie et une toux sèche depuis deux mois.

Examen endoscopique objectif un bourgeon ventriculaire bilatéral localement ulcérée et une masse blanchâtre sur le bord libre de l'épiglotte. La radiographie thoracique montre un syndrome réticulo-nodulaire. La tomodensitométrie thoracique montre, des condensats parenchymateux dont certains sont excavés. L'imagerie par résonance magnétique laryngée montre un épaissement des deux cordes vocales, une biopsie a été réalisée pour soutenir le diagnostic de tuberculose laryngée, trouvant un foyer caseo-folliculaire.

La recherche de BAAR dans les crachats est revenue positive, une quadrithérapie anti-tuberculose est alors établie.

La tuberculose laryngée est, avec la tuberculose pulmonaire, la principale source de transmission; elle constitue rarement une colonisation isolée et se développe à l'ombre de la tuberculose pulmonaire.

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Mots clés : Tuberculose laryngée ; tuberculose pulmonaire ; nasofibroscopie.

Abstract

Cases of tuberculosis otorhinolaryngology represent less than 1% of cases of extrapulmonary tuberculosis, Laryngeal tuberculosis is closely associated with pulmonary tuberculosis and serves as a primary source of transmission. It is rarely isolated and typically develops secondary to pulmonary involvement. Prompt diagnosis and treatment are essential to manage this condition effectively. This case describes a 67-year-old female patient, unemployed and diagnosed with type 1 diabetes, who presented with dysphonia, dysphagia, and a persistent dry cough lasting two months. An objective endoscopic examination revealed a bilaterally ulcerated mass on the ventricular folds and a whitish lesion on the free edge of the epiglottis. Chest radiography identified an interstitial reticulonodular pattern, while thoracic computed tomography showed parenchymal condensations, some with cavitations, resembling the floral appearance of Mimosa. Laryngeal magnetic resonance imaging revealed thickening of both vocal cords, which were biopsied and confirmed caseofollicular laryngeal tuberculosis. Acid-fast bacilli (BAAR) were detected in the sputum, leading to the initiation of a quadrithérapie anti-tuberculosis regimen.

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Keywords : Laryngeal tuberculosis, pulmonary tuberculosis, nasofibrosocopy.

Introduction

Tuberculosis remains one of the most prevalent infectious diseases globally.

In 2021, the World Health Organization reported over 10 million new cases and 1.6 million deaths attributed to tuberculosis. In Algeria, the Ministry of Health documented 19,133 new cases in 2023, corresponding to an incidence rate of 42.4 cases per 100,000 inhabitants. Extrapulmonary tuberculosis accounts for 69.16% of all tuberculosis cases in the country.

Laryngeal tuberculosis, often associated with pulmonary disease, persists worldwide despite *Bacillus Calmette-Guérin* (BCG) vaccination and is rarely complicated by recurrent laryngeal involvement. Extrapulmonary forms are increasingly diagnosed, although laryngeal localization remains rare. Laryngeal tuberculosis constitutes only 1% of all extrathoracic tuberculosis cases and represents 46% of tuberculosis affecting the upper airways.

This report presents the case of a 67-year-old female homemaker with no significant medical history who experienced dysphonia, dysphagia, and a persistent dry cough for two months. These symptoms highlight the need for heightened clinical suspicion and thorough investigation in diagnosing rare forms of extrapulmonary tuberculosis such as laryngeal involvement.

Medical observation

We report the case of a 67-year-old, non-smoking, non-alcoholic patient, a homemaker with a history of type 1 diabetes managed with insulin, who presented with a two-month history of dysphonia, inspiratory dyspnea, and dysphagia to solids. The onset of symptoms

was insidious, with no initial report of systemic symptoms.

Upon further questioning, the patient reported unquantified weight loss. There was no known TB exposure, and the patient had no BCG vaccination scar. Clinical examination revealed an average general condition with fever and night sweats. The patient's weight was 38 kg, height 1.62 meters, and BMI 14.5 kg/m². Chronic dysphonia and dysphagia to solids were noted. No peripheral lymphadenopathy, hepatosplenomegaly, or other significant physical signs were present. Pleuro-pulmonary examination was unremarkable except for a dry cough.

Nasofibroscope revealed a bilateral ventricular bud mass with ulceration and edema of the laryngeal margin, along with reduced mobility of the left larynx (Figure 01). Laryngeal magnetic resonance imaging showed thickening of the vocal cords, more pronounced on the left and extending to the anterior commissure, paralaryngeal fat contacting the epiglottis, and multiple suspected bilateral necrotic adenopathies (Figure 02).

Endoscopic biopsy under general anesthesia with anatomopathological study showed laryngeal localization of a specific granulomatous inflammatory lesion with epithelioid and giant cells, and caseous necrosis (Figure 03). Chest X-ray showed diffuse reticular-micronodular opacities (Figure 04). Thoracic computed tomography revealed bronchial dissemination of micronodules, a "flower appearance in Mimosa" pattern, parenchymal condensations with cavitation, and infracentimetric Baret's lymphadenopathy (Figure 05). Sputum smear for acid-fast bacilli was richly

positive (1-9 AFB/field). Biological evaluation revealed normochromic anemia. Liver, kidney, and blood ionogram were normal. The intradermal tuberculin reaction (Mantoux test) was 8 mm. The patient was placed in isolation and initiated on first-line anti-tuberculosis therapy (2RHZE/4RH: Rifampicin, Isoniazid, Pyrazinamide, Ethambutol). Family screening was negative .



Figure 01:Laryngeal Tuberculosis (nasofibroscopy).

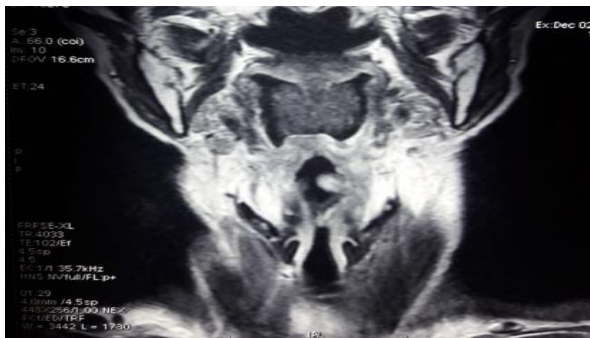


Figure 02 : Laryngeal magnetic resonance imaging.

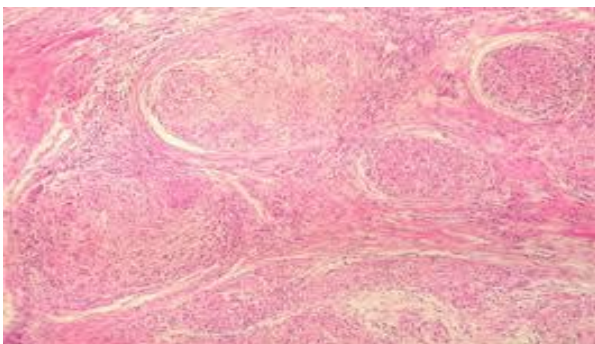


Figure 03 : lesion epithelioid and gigantocellular with caseous necrosis.



Figure 04 : diffuse reticular-micronodular opacities.



Figure 05 : parenchymal condensations some of which are excavated (Thoracic CT).

Discussion

Laryngeal tuberculosis, while a rare manifestation, typically presents as a complication of pulmonary tuberculosis (PT). A significant proportion of patients with laryngeal tuberculosis exhibit concurrent active PT, with sputum positivity rates ranging from 90 to 95% [4]. In multifocal presentations, laryngeal tuberculosis can be the solitary site of infection or occur in conjunction with other extrapulmonary localizations [5,6]. Notably, concomitant laryngeal and pulmonary involvement is more frequently observed than isolated laryngeal

tuberculosis [7,8]. The vocal cords represent the most common anatomical site of involvement, followed by the arytenoid cartilages, false vocal cords, and epiglottis [9].

The pathogenesis of laryngeal tuberculosis may arise from either aerosolized dissemination of the causative organism in the context of pulmonary disease or through hematogenous and lymphatic spread [10]. Immunosuppression is generally not a significant predisposing factor in the development of laryngeal tuberculosis. Clinical suspicion for tubercular laryngitis is warranted in the presence of dysphonia characterized by hoarseness and chronic odynophagia. These symptoms are typically preceded by a persistent cough. Dyspnea, although infrequent, signifies advanced disease progression [8- 11, 12].

Computed tomography imaging often reveals diffuse bilateral lesions without substantial destruction of the laryngeal architecture. Amputation of the free border of the epiglottis, when observed, is suggestive of tuberculosis [8]. Laryngoscopic examination may demonstrate papillomatous or ulcerative lesions, which can mimic laryngeal carcinoma due to the shared anatomical location. Consequently, repeated biopsy sampling is recommended to mitigate the risk of diagnostic oversight [8].

Conventional antituberculosis therapy constitutes the standard treatment modality. Lesion resolution typically occurs within several months, with symptomatic improvement observed within weeks [10, 11]. Surgical intervention is reserved for exceptional cases, primarily addressing laryngeal fibrosis, which can result in significant functional impairment [12].

In rare instances of airway obstruction, tracheotomy may be necessitated [8].

Conclusion

Despite its relative infrequency, laryngeal tuberculosis should be considered in the differential diagnosis of ulcerative lesions or non-neoplastic pseudotumors of the larynx. Thorough evaluation for concurrent pulmonary involvement is imperative. Endoscopic findings are non-specific, necessitating mycobacterial and histological confirmation. This diagnostic approach facilitates the implementation of appropriate contact tracing and targeted antituberculosis therapy.

Conflict of Interest Statement

The authors declare that they have no competing interests.

CONSENT

Written informed consent was obtained from the patient

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