

### *Clinical case*

#### **Tuberculosis miliaria complicated by laryngeal tuberculosis: a case report**

Miliaire tuberculeuse compliquée d'une tuberculose laryngée

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#### **Abstract**

Laryngeal tuberculosis is the most common granulomatous disease of the larynx. It is usually associated with a pulmonary cavity and represents an extremely serious prognostic element and may be complicated by extreme dysphagia and pain. Among all extra pulmonary localizations, isolated laryngeal localization is rare. A 32-year-old man, chronic smoker, admitted for dysphagia and dysphonia evolving for two months and associated with a fatty cough with whitish sputum, headache, night sweats in a context of uncalculated fever and emaciation. Objectively, we noted the presence of left sub-mandibular adenopathies, mobile, 1.5 cm in diameter, oval in shape and left cervical adenopathies sub-centimetric. The chest X-ray was in favor of a tuberculosis miliaria. The cervico-thoracic CT scan showed diffuse thickening of the glottic and supraglottic levels with necrotic adenopathies in T2 and bilateral excavated lesions associated with bilateral diffuse confluent nodules and micronodules. The HIV serology was negative and the presence of Acid-Alcohol Resistant Bacilli (AARB) was confirmed by sputum staining and culture. Antibacillary treatment was instituted under RHEZ with a good clinical and biological evolution. Laryngeal tuberculosis is a significant diagnostic

hypothesis in a long-lasting fever associated with dysphonia, even in an immunocompetent patient. Its treatment is above all medical, accessible nowadays and based on polychemical antibacillary therapy. We report a case of tuberculosis miliaria complicated by laryngeal tuberculosis in an adult  
Keywords: Dysphagia, Dysphonia, Larynx, Tuberculosis Miliaria.

#### **Résumé**

La tuberculose laryngée est la plus fréquente des maladies granulomateuses du larynx. Elle est généralement associée à une cavité pulmonaire et représente un élément de pronostic extrêmement grave et peut se compliquer d'une dysphagie et de douleurs extrêmes. Parmi toutes les localisations extra-pulmonaires, la localisation laryngée isolée est rare. Un homme de 32 ans, fumeur chronique, admis pour une dysphagie et une dysphonie évoluant depuis deux mois et associées à une toux grasse avec expectorations blanchâtres, des céphalées, des sueurs nocturnes dans un contexte de fièvre non calculée et d'émaciation. Objectivement, nous avons noté la présence d'adénopathies sub-mandibulaires gauches, mobiles, de 1,5 cm de diamètre, de forme ovale et d'adénopathies cervicales gauches sub-

centimétriques. La radiographie pulmonaire était en faveur d'une tuberculose miliaire. Le scanner cervico-thoracique montrait un épaississement diffus des étages glottique et supraglottique avec des adénopathies nécrotiques en T2 et des lésions excavées bilatérales associées à des nodules et micronodules confluents diffus bilatéraux. La sérologie VIH était négative et la présence de bacilles acido-alcool-résistants (BAAR) a été confirmée par coloration et culture des crachats. Un traitement antibacillaire a été institué sous RHEZ avec une bonne évolution clinique et biologique. La tuberculose laryngée est une hypothèse diagnostique non négligeable devant une fièvre prolongée associée à une dysphonie, même chez un patient immunocompétent. Son traitement est avant tout médical, accessible de nos jours et basé sur la polychimiothérapie antibacillaire. Nous rapportons un cas de tuberculose miliaire compliquée de tuberculose laryngée chez un adulte.

Mots-clés : dysphagie, dysphonie, larynx, tuberculose miliaire.

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## Introduction

Tuberculosis is a worldwide public health problem, no longer limited to endemic areas in developing countries with the emergence of acquired immunodeficiency syndrome [1]. Tuberculosis mainly affects the lungs (Pulmonary Tuberculosis) but can occur in any organ (Extra-Pulmonary Tuberculosis). Laryngeal tuberculosis (LTB) accounts for less than 2% [2] and is one of the rarest forms of extrapulmonary tuberculosis constituting an extremely serious prognostic element and complicated by extreme dysphagia and pain [3].

## Clinical case

Mr HO, 32 years old, chronic smoker with 28 packs per year for 15 years presented dysphagia and dysphonia evolving for two months associated with a cough with whitish sputum, headaches and night sweats in a context of fever and weight loss of more than 10%

of his body weight. He was admitted on August 10, 2022 to the department of infectious diseases of the CHU Ibn Rochd.

Clinical examination on admission found a conscious patient with GCS 15/15, BP 130/80 mm Hg, normocardial at 85 bpm, eupneic at 20 cpm, febrile at 39°C. The lymph node examination revealed left sub-mandibular adenopathies, mobile, 1.5 cm in diameter, oval in shape and left cervical adenopathies sub-centimetric. Clinical examination of the lymph nodes revealed the presence of sub-mandibular left adenopathies, mobile, 1.5 cm in diameter, oval in shape and sub-centimetric left cervical adenopathies.

The chest X-ray performed on 10 August 2022 showed diffuse micronodular opacities in both lung fields in favor of tuberculosis miliaria (Figure 1). The cervico-thoracic CT scan showed thickening of the vocal cords and aryepiglottic folds and filling of the piriform sinuses with complete cartilage associated with necrotic adenopathies in T2 (Figure 2) and bilateral diffuse confluent nodules and micronodules in favor of tubercular miliaria (Figure 3). The biological work-up revealed: hyperleukocytosis with 12,470 elements, predominantly neutrophil with neutrophils at 8529, lymphopenia at 3230 and an elevated CRP at 74.1. HIV-1 and HIV-2 serology was negative and acid-alcohol Resistant Bacilli (AARB) were detected by Ziehl-Neelsen staining and sputum culture.

The treatment consisted of two RHEZ tablets per day for a weight of 48 kg and corticosteroid therapy of 500 mg bolus for three days, followed by 240 mg and 120 mg for three days and a relay by oral route of 1mg/kg/day. Pyridoxine is associated with the initial treatment of tuberculosis.

The evolution was marked by an improvement of the dysphonia and dysphagia and the persistence of the cough with whitish sputum after two months of attack treatment. The chest X-ray was always in favor of a tubercular miliaria.



Figure 1: Diffuse micronodular opacities in both lung fields in favor of miliary tuberculosis (chest x-ray in frontal view)

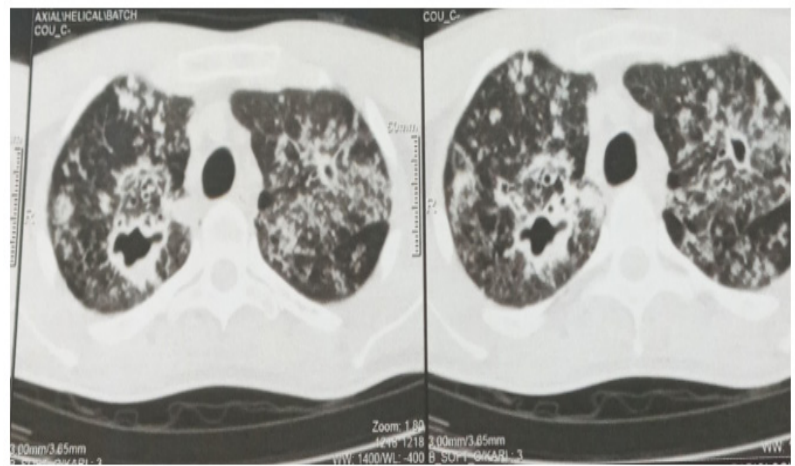


Figure 3: bilateral diffuse confluent nodules and micronodules in favor of tubercular miliary (Cervico-thoracic CT scan at the thoracic level)

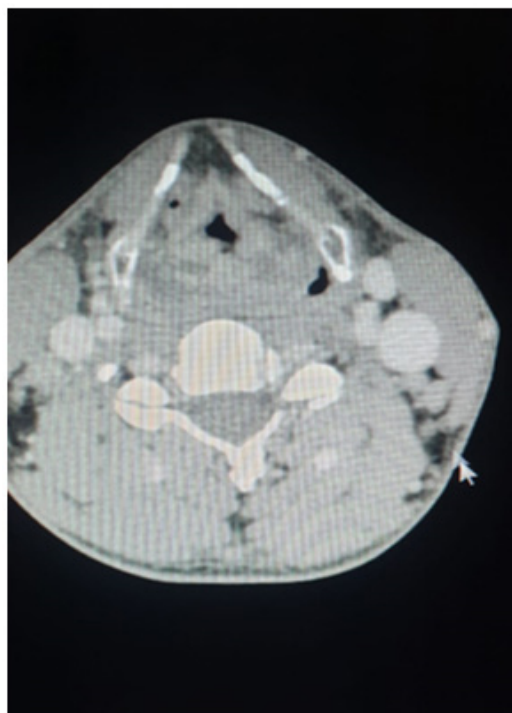


Figure 2: thickening of the vocal cords and aryepiglottic folds and filling of the piriform sinuses with complete cartilage associated with necrotic adenopathies in T2 (Cervico-thoracic CT scan at Cervical stage)

### Discussion

Laryngeal tuberculosis represents less than 2% of extrapulmonary tuberculosis [2]. It can be seen at any age, but especially in young adults between 20 and 50 years of age [5]. Some authors are convinced of the existence of a primary form of laryngeal tuberculosis [1, 6]. They suggest a primary inoculation of the larynx by air. The bacilli that settle, multiply and are responsible for the laryngeal symptoms in the absence of any pulmonary point of call. For these authors, a possible pulmonary tuberculosis after the laryngeal tuberculosis would be only a dissemination from close by. Like other authors, we think that the plausibility of this hypothesis would have as epidemiological consequence a prevalence of laryngeal tuberculosis as of pulmonary tuberculosis in the endemic areas. This is probably not the case [7]. The few cases of laryngeal tuberculosis reported in the literature are thought to be associated with primary latent pulmonary tuberculosis [3]. Laryngeal tuberculosis almost always evolves under the shadow of pulmonary tuberculosis [9]. Three routes of contamination of the larynx from a pulmonary focus have been described: the lymphatic route, the blood route and the retrograde air route. Smoking is one of the risk factors for laryngeal tuberculosis [8]. The symptomatology of laryngeal

tuberculosis is essentially dysphonia and dysphagia [8]. The search for AARB by direct examination after Ziehl-Neelsen staining is one of the bacteriological methods that should be used to confirm the diagnosis of tuberculosis [9]. Other methods are nowadays of primary importance, especially in the case of extrapulmonary tuberculosis, namely biomolecular methods (GeneXpert MTB/RIF), especially for the detection of resistance [11, 12]. The lesions of laryngeal tuberculosis are almost always located in the glottic region, with involvement of the supraglottic and subglottic regions in 10 to 30% of cases, depending on the series [3, 10]. This glottic location explains why dysphonia is the main symptom found in all cases [3]. HIV serology is justified, given the frequency of coexistence of both HIV and tuberculosis infections, and will be systematically proposed [4].

## Conclusion

Although laryngeal tuberculosis is rare, it can be the first symptom revealing pulmonary tuberculosis in the presence of any dysphonia associated or not with dysphagia with a notion of fever during the long course, even in an immunocompetent patient. Its treatment is above all medical and accessible nowadays, based on antibacillary polychemotherapy.

## Contributions of the authors

-HASSAN KAMENA MWANAYILE: Design, writing and literature reviews

-BADI HANANE: Design and Literature Reviews

-HOUDA LAHRICHI: Design

- ACHTA ADAM FADOUL: Interpretation of radiological and scannographic images

-LATIFA MARIH, MOUSTAPHA SODQI, AHD OULAD LAHSEN, FATIMA

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**Conflict of interest :** None

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