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Laryngeal tuberculosis in a 64-year old patient

Gruźlica krtani u 64-letniego pacjenta

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Streszczenie

Wstęp: Gruźlica jest stosunkowo często występującą chorobą. Jej występowanie zmniejszyło się w ostatnich latach dzięki wprowadzeniu terapii przeciwprątkowej, zwiększeniu standardu życia oraz świadomości wśród populacji. Pierwotna gruźlica krtani występuje bardzo rzadko, częściej pojawia się, jako wtórna choroba w przebiegu gruźlicy płuc. Pierwotna gruźlica stanowi mniej niż 1% wszystkich pozapłucnych postaci choroby. Głównymi objawami są chrypka, suchy, drażniący kaszel oraz osłabienie siły głosu.

Opis przypadku: 64-letni mężczyzna, cierpiący na utrzymującą się od dwóch miesięcy chrypkę oraz przewlekłe przerostowe zapalenie krtani, został przyjęty do szpitala w celu przeprowadzenia badań. Wideolaryngoskopia wykazała nieregularną i pogrubioną prawą strunę głosową. Ocena badania histopatologicznego potwierdziła gruźlicę serowatą Tuberculosis caseosa. Pacjent został poddany leczeniu przeciw gruźlicy.

Wnioski: Opis przypadku ma na celu podniesienie świadomości wśród lekarzy w zakresie gruźlicy krtani, której objawy mogą być często mylone z przewlekłym zapaleniem lub rakiem krtani.

Słowa kluczowe: krtań, gruźlica, prątek gruźlicy, chrypka, fałd głosowy

Abstract

Background: Tuberculosis is a relatively common disease though its prevalence has been decreasing in the last few years due to effective anti-tuberculosis therapy and improvement in public health. Primary tuberculosis of the larynx is very rare and occurs as a secondary manifestation of the disease. Primary laryngeal tuberculosis accounts for less than 1% of extrapulmonary tuberculosis. Among the symptoms are hoarseness, dry hacking cough, and weakness of voice.

Case report: This case report describes a 64 year old male with a two month history of hoarseness and chronic hypertrophic laryngitis. He was admitted to the hospital. Video laryngoscopic examination revealed an irregularly shaped and thickened right vocal cord. Treatment was began on the basis of histopathological assessment which revealed a caseating granuloma secondary to tuberculosis.

Conclusions: The aim of this study is to raise awareness of laryngeal tuberculosis since its symptoms can often be misdiagnosed and attributed to chronic non-specific laryngitis and laryngeal carcinoma.

key words: laryngeal tuberculosis, Mycobacterium, hoarseness, vocal fold

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Introduction

The case report concerns tuberculosis, which on the one hand is the common disease, on the other hand the prevalence of primary tuberculosis of larynx is very rare. Factors increasing the risk of tuberculosis include: poverty, famine, malnutrition, homelessness, limited access to the health care, drug addiction and immunodeficiency [1].

The case report reveals how vital adequate diagnosis is, based on the patient's general condition, laryngoscopic image and histopathology. Nevertheless, laryngeal tuberculosis, due to its rareness, is often misdiagnosed.

The aim of this study is to raise awareness of the importance of the disease and take into consideration all symptoms and possible examinations.

Case report

A 64-year-old man, carpenter, was admitted to otolaryngological clinic in October 2010 with two–month–long hoarseness.

Patient's medical history disclosed hypoacusia, recurring otitis media and radical bilateral ear surgery with tympanoplasty, performed twice in 60s. In addition, gastroesophageal reflux disease and duodenal ulcers were presented.

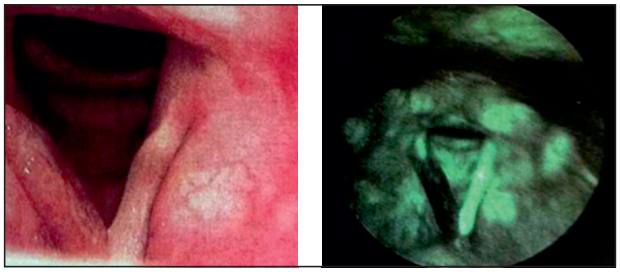

Fig. 1: Endoscopic image. Thickened, reddening right vocal fold

Patient gave history of smoking 20-40 cigarettes a day for over a dozen years, he used to drink alcohol. At present he doesn't smoke. The family history of tuberculosis was negative.

Endoscopic examination revealed regular laryngeal skeleton, bilateral movable vocal folds and thickened, hypertrophic, irregular right vocal fold. The image resembled chronic hypertrophic laryngitis (Fig. 1).

The patient was referred to the hospital in order to remove a sample of his right vocal fold. On 30th of November chest X-ray was performed in order to rule out coexisting pulmonary diseases. Radiological description confirmed no evidence of any focal area of consolidation and no presence of abnormal shadow (Fig. 2).

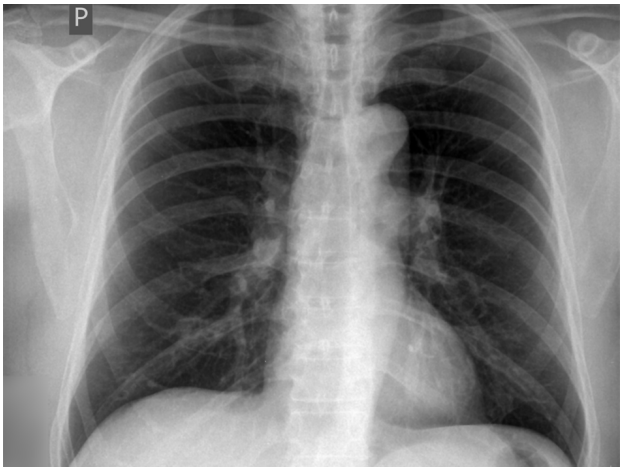

Fig. 2: Chest X-ray performed in November 2010

Endoscopy performed on 1st of December 2010 confirmed presence of hypertrophic lesions on the right vocal fold (Fig. 3).

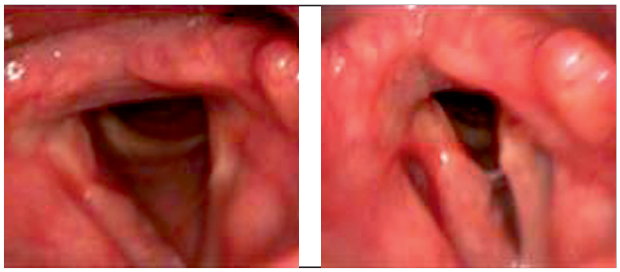

Fig. 3: Presence of nodule on the thickened right vocal fold

Tissue sample was taken via direct laryngoscopy. Histopathological examination revealed Tuberculosis caseosa.

On 20th of December the patient was admitted to Lung Diseases Center, to Department of Tuberculosis, in order to start the treatment. Anti-tuberculosis therapy was administered. The treatment included isoniazid, rifampicin, pyrazynamide and ethambutol. Moreover, Phenazolin, Amertil, Thiocodin, Allupol, neb. Mucosolvan, Nidrazid, Vit. B6, Heparegen, for which the patient responded well.

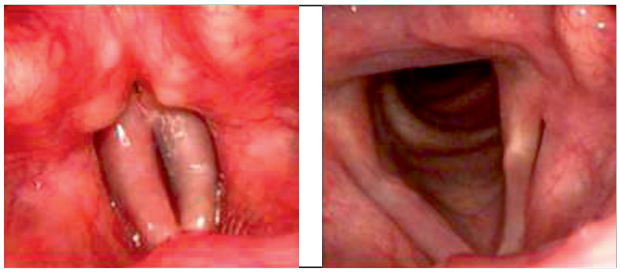

Fig. 4: Image after anti-tuberculous therapy [1]

On 11th of January 2011 chest radiograph was performed and showed well aerated lungs, no evidence of any focal area of consolidation, calcified hilar and pulmonary vasculature and increased aortic arch calcification, heart size within normal limits. Image of larynx showed redding, thickened but

smooth surface of right vocal fold. Anti-tuberculosis treatment was continued for 6 months, after that, no signs of disease were detected (Fig. 4).

Diagnostics

The diagnosis was based on thorough observation of the patient general condition, laryngoscopic image and histopathological examination of tissue with identification of caseating granuloma.

Differential diagnosis

The differential diagnosis of laryngeal tuberculosis included early neoplasmatic lesions and chronic non-specific laryngitis.

Medical treatment results

There was remarkable improvement of the disease following anti-tuberculosis therapy and after 6 months patients was cured.

Discussion

Tuberculosis is a relatively common, highly contagious disease caused by Mycobacterium tuberculosis. The most often localization are lungs. Primary tuberculosis of the larynx is very rare, usually occurs as a secondary disease in the course of pulmonary tuberculosis. In presented case there was an isolated tuberculosis of the larynx with negative radiological chest examination and history. Radiographic differentiation is not sufficient due to possible absence of primary tuberculosis in the lungs. Therefore, histopathologic examination is necessary to be performed in order to confirm diagnosis [2].

Inflammation of larynx and violation of mucosa are high risks of laryngeal tuberculosis and they often precede the disease. Our patient is a carpenter, former smoker and drinker. Mentioned factors could contribute to the disease. Additionally, male population is two times more frequently affected by tuberculosis than female [3].

The prominent presenting symptoms in laryngeal tuberculosis are hoarseness, dry hacking cough and weakness of voice which were also presented in our patient [4].

Mycobacterial infections affects usually posterior part of the larynx (posterior commissure), arytenoid cartilage and one of the vocal fold (monochorditis) [5]. In our patient the lesion involved right vocal fold what could suggest carcinoma. Therefore, in our differential diagnosis neoplasm should always be ruled out at the beginning [2]. When tuberculosis is unilateral it can be misleading for doctors and may imitate carcinoma.

Moreover, the infiltration from the posterior wall of larynx and epiglottis passage to tissues that surround the oesophagus, what leads to pain during swallowing (odynophagia) [5].

Expanding infiltration of the larynx causes difficulties in diagnosis of laryngeal tuberculosis. It is often mistaken with nonspecific chronic laryngitis and early neoplasmatic lesions [6]. Histopathological examination is the most specific examination that our diagnosis should be based on.

Conclusions

In the differential diagnosis, it is important to take into consideration laryngoscopic image, histopathological examination of tissue with infiltration and thorough observation of the patient general condition [6].

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Comment:

The article is particularly important because tuberculosis of the larynx may often be confused with laryngeal carcinoma. Radiological findings are very important to obtaining the proper diagnosis. Laryngeal tuberculosis is rare and currently accounts for less than 1% of all cases of tuberculosis.

In the early 20^{th} century, laryngeal tuberculosis was commonly associated with advanced pulmonary tuberculosis. Laryngeal involvement was often the distressing terminal event in up to 84% of fatal cases of pulmonary tuberculosis. Recent studies have shown that laryngeal tuberculosis is less often associated with active pulmonary tuberculosis. The

true vocal cord is the most commonly involved site followed by the false vocal cord and epiglottis. The visual appearance of the larynx is variable and lesions may appear as ulcerative, ulcerofungative, non-specific inflammatory or polypoid.

Macroscopically, laryngeal tuberculosis may be indistinguishable from laryngeal carcinoma which is at least 40 times more common. Clinical features of laryngeal tuberculosis include hoarseness, odynophagia, and dyspnoea.

Macroscopically, laryngeal tuberculosis may mimic laryngeal carcinoma, chronic laryngitis, or laryngeal candidiasis. The diagnosis is often delayed due to a low index of clinical suspicion and hence may pose a significant public health risk. Laryngeal tuberculosis should be considered in the differential diagnosis of patients who present with any form of laryngeal lesion.

prof. dr hab. Wiesław Konopka