CASE REPORT

Isolated Laryngeal Syphilis with Bilateral Vocal Fold Immobility: A Rare Clinical Presentation

Henrique Rodrigues Teixeira[1], Mariana Branco Lopes[2], Lília Ferraria[3], Maria Helena Rosa[4], Luis Antunes[5]

Abstract

Aim: Report a case of a very rare clinical presentation of syphilis, manifesting exclusively in the larynx.

Background: Syphilis is a sexually transmitted disease, usually with multisystemic involvement, that has seen an increase in incidence over the past two decades. The disease can present in four different stages and can mimic many other diseases. Laryngeal manifestations are rare and can result from different mechanisms, such as direct damage to the larynx, vagal neuropathy, and central nervous system dysfunction. Syphilis can affect the larynx along its course, but an isolated manifestation of syphilis in the larynx is extremely rare, with only few cases reported in the literature.

Case description: We present a case of a 45-year-old man who initially presented with an isolated lesion in the aryepiglottic fold which was biopsied and diagnosed as a syphilitic lesion. Despite adequate medical treatment, he progressively developed a bilateral vocal fold immobility requiring tracheostomy, and subsequently a laser posterior cordectomy for definitive treatment.

Conclusion and clinical significance: The global incidence of syphilis is increasing, and although it can have laryngeal manifestations, an isolated presentation of syphilis in the larynx is extremely rare. Therefore, a high index of suspicion is needed by otorhinolaryngologists for a timely diagnosis and treatment in order to prevent the sequelae of this disease.

Keywords: Airway obstruction, Infectious diseases, Laryngology, Syphilis, Vocal fold paralysis

Otorhinolaryngology Clinics: An International Journal (2021): 10.5005/jp-journals-10003-1385

Background

Syphilis is a sexually transmitted disease caused by the bacterium *Treponema pallidum*, with variable and frequently multisystemic manifestations. Along its course, the disease can present in four different stages and can mimic many other diseases, hence being classically referred to as "the great imitator." Laryngeal manifestations are rare, particularly as a sole presentation, and can result from different pathophysiologic mechanisms, such as direct damage to the vocal folds and cartilages, subglottic stenosis, vagal or recurrent laryngeal nerve neuropathy, and central nervous system dysfunction.[1,2]

In this study, we report a case of isolated laryngeal syphilis with subsequent development of bilateral vocal fold immobility, in which there was a need for tracheostomy and later laser posterior cordectomy.

Case Description

We present a case of a 45-year-old man, construction worker, with a history of alcohol abuse but without any other relevant medical history. The patient was initially evaluated for complaints of sore throat lasting a few months. Laryngoscopy showed a lesion in the left aryepiglottic fold, which was biopsied and later diagnosed as a syphilitic lesion. He underwent treatment with three intramuscular penicillin injections, with subsequent resolution of laryngeal lesions. There were no other lesions present throughout the body.

About three years after this episode, the patient went to the emergency room of our otorhinolaryngology department with complaints of gradually worsening dyspnea with episodes of stridor. According to him, these complaints started only a few months after the syphilis treatment and had been progressing ever since.

[1–5]Department of Otorhinolaryngology, Hospital Garcia de Orta EPE, Almada, Portugal

Corresponding Author: Henrique Rodrigues Teixeira, Department of Otorhinolaryngology, Hospital Garcia de Orta EPE, Almada, Portugal, Phone: +351933100672, e-mail: henrique.teixeira@hgo.min-saude.pt

How to cite this article: Teixeira HR, Lopes MB, Ferraria L, *et al*. Isolated Laryngeal Syphilis with Bilateral Vocal Fold Immobility: A Rare Clinical Presentation. Int J Otorhinolaryngol Clin 2021;13(3):124–125.

Source of support: Nil

Conflict of interest: None

Upon evaluation, bilateral paralysis of the vocal folds in a paramedian position was observed, without the presence of mucosal lesions or pharyngo-laryngeal masses, as shown in Figure 1. There were no neck masses or scars, no complaints of dysphagia or dysphonia, and no other neurological signs or symptoms.

A tracheostomy was proposed but initially refused. Meanwhile, a comprehensive investigation was performed, namely an extended analytical study for infectious diseases and autoimmunity; cranioencephalic, neck and chest computed tomography, and cranioencephalic magnetic resonance imaging. The only alteration identified was a positive treponema pallidum hemagglutination test and a positive rapid plasma reagin test. The lack of improvement under medical treatment with progressively more frequent stridor episodes, even at rest, led to the tracheostomy.

As the exact moment when vocal fold immobility set in was unknown, we decided for a 6-month wait-and-see period before deciding on a more definitive treatment. The patient was also assessed by the speech therapist but there was no improvement

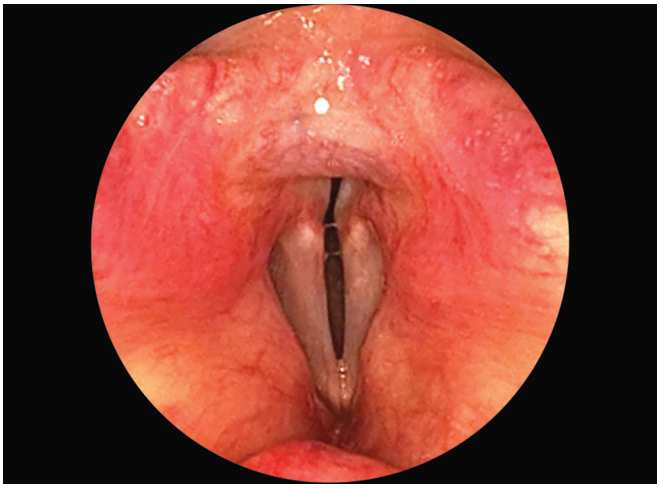

Fig.1: Laryngoscopy performed in the emergency department with bilateral vocal fold immobility without the presence of mucosal lesions

in the mobility of the vocal folds. For this reason, and after discussing the therapeutic options with the patient, a laser posterior cordectomy was proposed. The procedure was performed on the right vocal fold and it was uneventful, with the patient being decannulated after complete healing. As would be expected, a degree of dysphonia appeared in the postoperative period that resolved with speech therapy, and there was a resolution of the dyspnea and stridor episodes, with full recovery of the ability to carry out daily activities without complaints.

Discussion

Syphilis typically has a multisystemic involvement, and from an otorhinolaryngology standpoint it can affect any part of the head and neck region. In the last decades we have seen an increase in the incidence of syphilis,[3] but laryngeal syphilis is nowadays a rare condition and syphilitic lesions presenting exclusively in the larynx is even rarer. There are very few cases reported in the literature of isolated laryngeal syphilis, to the best of our knowledge only two reports in the last 30 years.[4,5]

Most cases of laryngeal syphilis occur in the secondary or tertiary stage. In the secondary stage, diffuse laryngitis is present particularly in the supraglottic region. The tertiary stage usually manifests many years later with granulomatosis inflammation, fibrosis, and scar formation, that can result in stenosis, adhesions, or arytenoid fixation.[6] Neurosyphilis can cause cranial nerve involvement or central nervous system dysfunction, which may affect laryngeal innervation with subsequent vocal fold palsy (VFP).[1]

Our case has the particularity that, in addition to the initial lesion located only in the larynx, there was a later development of bilateral vocal fold immobility. In general, bilateral VFP comprises about one-third of all VFP. It is mainly caused by iatrogenic surgical injury, particularly thyroid and other neck surgeries, laryngeal or extra laryngeal malignancies, and variable neurologic disorders.[7] Infectious diseases such as tuberculosis or syphilis can cause unilateral or bilateral VFP, but these etiologies are responsible for less than 1% of cases.[5]

In the case presented here, the most likely cause for vocal fold paralysis is fibrosis and fixation of the arytenoids, following the initial presentation of the laryngeal lesion. Despite this, we cannot exclude the hypothesis of a neurosyphilis because cerebrospinal fluid (CSF) analysis was not performed. When we discussed the case with the infectious diseases department, it was decided that there would be no indication for CSF collection as the serological result was compatible with the syphilis diagnosed and treated 4 years earlier.

Conclusion/Clinical Significance

We report an interesting and rare case of syphilis presenting solely in the larynx, primarily with an isolated lesion in the aryepiglottic fold and later with bilateral vocal fold immobility. Laryngeal syphilis is a rare manifestation but the global incidence of syphilis is increasing and otorhinolaryngologists must be aware of the multitude of manifestations of this disease because early diagnosis and treatment can have a significant impact and avoid the sequelae that arise in untreated cases.

References

1. Pletcher SD, Cheung SW. Syphilis and Otolaryngology. Otolaryngol Clin North Am 2003;36(4):595–605, vi. DOI: 10.1016/s0030-6665(03)00025-2.
2. Klein TA, Ridley MB. An Old Flame Reignites: Vagal Neuropathy Secondary to Neurosyphilis. J Voice 2014;28(2):255–257. DOI: 10.1016/j.jvoice.2013.08.018.
3. White M, Meenan K, Patel T, et al. Laboratory Evaluation of Vocal Fold Paralysis and Paresis. J Voice 2017;31(2):168–174. DOI: 10.1016/j.jvoice.2016.07.022.
4. Lahav G, Lahav Y, Ciobotaro P, et al. Laryngeal Syphilis: A Case Report. Arch Otolaryngol Head Neck Surg 2011;137(3):294–297. DOI: 10.1001/archoto.2011.16.
5. Asha'ari ZA, Razali MS, Ahmad RA. Bilateral Vocal Cord Palsy as the Sole Presentation of Acquired Syphilis. Malays J Med Sci 2010;17(2):56–60. PMCID: PMC3216158.
6. Kluger N, Saint-Guily JL, Aractingi S. Dysphonia Revealing Early Syphilis. Acta Derm Venereol 2008;88(2):167–168. DOI: 10.2340/00015555-0352.
7. Li Y, Garrett G, Zealear D. Current Treatment Options for Bilateral Vocal Fold Paralysis: A State-of-the-Art Review. Clin Exp Otorhinolaryngol 2017;10(3):203–212. DOI: 10.21053/ceo.2017.00199.