

Tuberculous retropharyngeal abscess as a cause of oropharyngeal dysphagia

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Received 18 May 2011

Abstract

Tuberculosis is known to affect almost every organ in the body, but its manifestations in the head and neck region are quite rare. A tuberculous retropharyngeal abscess is a very rare condition and can be the cause of oropharyngeal dysphagia. It is usually secondary to tuberculosis of the spine and has the potential of significant morbidity and mortality if not treated appropriately. We present a case of a 74-year-old man with a retropharyngeal abscess with no evidence of spinal tuberculosis.

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1. Introduction

Retropharyngeal abscess primarily occurs in children, but it can also be seen in adults, although it is quite rare. It is usually associated with direct extension from adjacent structures, penetrating trauma, granulomatous disease, and cervical spine spondylodiscitis [1]. On the other hand, in recent years, we have witnessed an increasing incidence of extrapulmonary tuberculosis in developed countries that has been attributed to immigration from endemic areas and the rising number of immunocompromised individuals. Although described, a tuberculous retropharyngeal abscess without evidence of cervical osteomyelitis is an uncommon condition [2].

2. Case report

A 74-year-old man, nonsmoker, with no significant medical history, was admitted to our hospital with a 2-month history of progressive oropharyngeal dysphagia. The patient described that a solid food bolus could not be propelled successfully within 1 second after swallowing, whereas liquid swallowing sometimes caused coughing. The

initial diagnosis by his general practitioner was reflux disease. His symptoms did not improve after the administration of proton pump inhibitors, so he consulted a gastroenterologist in our hospital. The patient underwent an upper gastrointestinal endoscopy that revealed nothing but a bulging mass originating from the retropharyngeal wall. Subsequently, he was referred to the Ear Nose and Throat (ENT) department.

The patient did not mention any other symptoms. Physical examination performed in the ENT department otherwise showed nothing remarkable. The patient was afebrile and did not mention any night sweating. Flexible endoscopy of the vocal cords, auscultation of the lungs, and neurologic examination were also normal.

Laboratory investigations revealed white blood cell, 7 K/ μ L (Neutrophils, 63.9%; Lymphocytes, 28.6%); Hemoglobin, 13.2 g/dL; Hematocrit, 39.5; primed lymphocyte typing, 215 K/ μ L; and erythrocyte sedimentation rate, 42 mm/h. C-reactive protein was 3 mg/dL (<1 mg/dL). Hepatitis B surface antigen and antibodies for HIV and hepatitis C virus were negative. The rest of the laboratory examinations were unremarkable. The lung x-ray was normal. Tuberculin (Mantoux) test was negative.

A magnetic resonance imaging of the neck was performed, which revealed the presence of a mass in the retropharyngeal wall, infiltrating the anterior surface of the C1 to

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Fig. 1. Magnetic resonance imaging of the neck showing a mass in the retropharyngeal wall infiltrating the anterior surface of the C1 to C2 vertebrae.

C2 vertebrae (Fig. 1). A biopsy of the mass performed under general anesthesia revealed that the mass consisted of a purulent collection limited in 1 side of the pharynx. Drainage of the abscess was performed through an intraoral vertical incision in the posterior pharyngeal wall. Specimens were taken to perform Ziel Nielsen staining, Gram staining, cytologic examination, cultures, polymerase chain reaction for *Mycobacterium tuberculosis*, and histologic examination of the tissue obtained. The cytologic examination showed absence of neoplastic cells and presence of 70% lymphocytes. Ziel Nielsen staining and Gram staining were negative. Cultures were negative for common bacteria. Histology showed no evidence of malignancy. Polymerase chain reaction for *Mycobacterium tuberculosis* was positive. The culture of the pus revealed acid-fast bacteria after 4 weeks of inoculation. The patient received isoniazid (300 mg), rifampicin (600 mg), pyrazinamide (1500 mg), and ethambutol (1200 mg) for 2 months, followed by isoniazid (300 mg) and rifampicin (600 mg) for 4 months. The patient made an uneventful postoperative recovery with complete remission of the lesion.

3. Discussion

The retropharyngeal space is a potential space bounded anteriorly by the pharyngeal muscles and their investing fascia and posteriorly by the alar layer of the prevertebral fascia. It extends from the skull base into the mediastinum, whereas laterally, it is bounded by the carotid sheath. This space contains 2 vertical paramedian chains of lymph nodes that drain lymph from the oropharynx, teeth, maxillary sinuses, and ears and regress by the age of 6 years [1,3]. Acute retropharyngeal abscesses are usually

seen in children caused by spread of infection and suppuration of these nodes [4]. In adults, it may arise as a result of a direct infection caused by some penetrating injury or foreign body. Chronic retropharyngeal abscess is usually seen in adults and is caused by a tuberculous infection of the cervical spine as pus spreads directly through the anterior longitudinal ligament [5]. Alternatively, it may be due to tuberculous process involving the retropharyngeal lymph nodes [6]. Retropharyngeal tuberculous abscess is a rare presentation of tuberculosis, even in patients with extensive pulmonary disease. The continuation of the retropharyngeal space in the superior and posterior mediastinum explains its importance for the spread of infection to the chest [7].

In our patient, there was no evidence of spinal tuberculosis. The diagnosis was delayed for 2 months. The classic symptoms of patients with retropharyngeal abscess are dysphagia, odynophagia, and airway obstruction. In more severe cases, external neck swelling or neck rigidity may be present. Sometimes, hoarseness and stridor may also develop either due to anterior displacement of the posterior pharyngeal wall by the abscess or secondary laryngeal edema [8]. The classic symptoms of tuberculosis such as weight loss, night sweats, and cachexia are usually not seen [9]. Patients with tuberculosis of the spine (Pott disease) present with restricted movements of the neck and pain at the back of the neck. As the abscess expands, it may bulge anteriorly into the airway and cause respiratory obstruction, or it may compress the spinal cord and cause weakness of the extremities [5].

The diagnosis is based on a high index of clinical suspicion, especially in an endemic area, a positive tuberculin (Mantoux) test, radiologic features, aspiration of the mass for bacteriologic examination and culture, biopsy for histopathologic examination, enzyme-linked immunosorbent assay, and polymerase chain reaction [4]. A lateral soft tissue radiograph of the neck on inspiration can provide a simple and useful aid to the diagnosis. Suspicion should be raised when there is increased thickness of the prevertebral tissues, air or air fluid level in the soft tissue, and loss or reversal of the cervical spine curvature [8]. Ultrasonography can provide a simple, cheap, and nonirradiating investigation, but a negative result cannot rule out a deep space abscess in the neck [7]. Computed tomographic scan is also a useful tool for the diagnosis that can define the abscess dimensions, location, and possible extensions but has limitations in distinguishing cellulitis from an abscess and can lead to false-positive results. Magnetic resonance imaging scanning can diagnose any complications more accurately, such as vein thrombosis [7]. Extrapulmonary tuberculosis is common among HIV-infected patients; therefore, all patients should be screened for the disease [9].

Aggressive treatment with antitubercular therapy along with early surgical intervention is necessary to prevent further complications such as mediastinitis and great vessel

involvement or a spontaneous rupture of the abscess that can lead to tracheobronchial aspiration and stridor [5].

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