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A challenging diagnosis in a patient with Odynophagia

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ABSTRACT

Tuberculous retropharyngeal abscesses are rare but potentially life-threatening manifestations of tuberculosis. We present herein a case of an 18-year-old male patient, a migrant from Somalia, accusing fever, odynophagia and neck pain. CT scan and MRI study of the neck showed a retropharyngeal and prevertebral abscess from C1 to D1 with the involvement of epidural space and spondylitis. Resolution of the abscess with few signs of residual spondylitis was achieved after surgical evacuation and antitubercular treatment.

Keywords: Retropharyngeal abscess; Odynophagia; Tuberculosis

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INTRODUCTION

Extrapulmonary tuberculosis (TB) accounts for 25% of newly diagnosed cases worldwide, of which 10-35% manifest in the head and neck region ^[1,2]. It has been reported that 1-5% of all patients hospitalized for TB have skeletal TB, with only 7% of these involving the cervical spine ^[3]. Retropharyngeal abscess caused by tuberculosis is rare, even in the presence of extensive pulmonary tuberculosis, and is often but not always secondary to chronic TB of the cervical spine as pus spreads directly through the anterior longitudinal ligament ^[3-6]. Tuberculous spondylitis frequently affects the thoracic and lumbar spine; involvement of the cervical spine is a less frequent manifestation ^[3,7]. Here we describe the case of a young migrant from Somalia, with fever,odynophagia, and neck pain whose correct diagnosis has been delayed. Delays was due to the fact that the doctors treating him believed a tumor diagnosis or pyogenic infection more likely.

CASE REPORT

An 18-years old man from Somalia, living in a Sicilian reception center for asylum seekers from 2017, presented to the emergency department of a primary hospital complaining of fever,odynophagia, throat foreign body sensation, cervical and neck pain. The pain has started two weeks before and had gradually worsened. He had experienced a history of blows in the back while in Libya and injuries because of the car accident while crossing the Sahara. Antibiotic therapy with ceftriaxone 2 grams once daily was promptly initiated in the primary hospital and continued for 5 days before the patient was transferred to our infectious disease department due to persistence of symptoms. At admission, on physical examination, his body temperature was 37°C; heart rate 100 beats/min, blood pressure 110/70 mmHg. Palpation of the right side of the neck revealed tenderness and heat with palpable lateral cervical bilateral lymph nodes and a red and bulging posterior pharynx wall. The lungs were clear to auscultation and neurological examination revealed normal findings. Ear-nose-throat evaluation with nasal endoscopy showed a posterior wall pharyngeal swelling exten-

ded to the retro-cricoid area.

Laboratory studies revealed a hemoglobin level of 11.4 g/dL, white blood cell count of 5750 cells/ μ L (lymphocytes of 1890 cells/ μ L with absolute CD4T and CD8T cell count of 950 cells/ μ L and 560cells/ μ L respectively), sodium of 138 mmol/L, albumin of 34.4g/L, alanine aminotransferase of 27 U/L, aspartate aminotransferase of 13U/L and total bilirubin of 0.18mg/dL. C reactive protein was increased (61.9 mg/L) with negative procalcitonin. HIV serology was negative. Tuberculin skin test and Quantiferon TB Gold were performed yielding a positive result. Three sputum samples were obtained and all resulted negative for acid-fast bacilli; sputum cultures were also negative for *Mycobacterium tuberculosis*. Chest radiography was done not showing pathological findings.

A contrast-enhanced CT scan of the neck, lungs, and abdomen showed a multiloculated hypodense retropharyngeal fluid collection with peripherally enhancing rim from C1 to D1 and extending to prevertebral and epidural space at the levels of C1-C4, with inflammatory signs in C3 vertebral body (focal destruction). These lesions caused a significant narrowing of the nasopharyngeal airways. The esophagus and the right jugular vein were compressed. No lesions were highlighted in lung and abdomen images of the scan.

Based on neurosurgical advice, a magnetic resonance imaging (MRI) study of the neck and the cervical column was performed showing signs of spondylitis from C2 to C7, with low signal in T1W sequences, a high signal in T2W sequences, and inhomogeneous enhancement of endplates after gadolinium injection; C3 body was the most affected, with the destruction of the anterior part. Prevertebral and epidural abscesses were confirmed, with no hyperintensity of the spinal cord. Due to the personal and clinical history, standard antitubercular treatment with isoniazid 300 mg once daily, rifampicin 600 mg once daily, ethambutol 1200 mg once daily, pyrazinamide 1500 mg once daily was started and a surgical evacuation of abscess without decompression or vertebral body fusion was carried out. The patient w-

as placed in a Philadelphia collar.

Surgery was performed by a team of neurosurgeons and otolaryngologists. By using a cervical approach, they entered the retropharyngeal space; here they isolated the abscessed walls from neck tissues and cut them, allowing a high viscosity, caseous compound to get out. Microbiological analysis showed: negative culture for bacteria and fungi, negative acid-fast stains but positive GeneXpert MTB/Rif without rifampicin resistance. Histology confirmed the suspicion of tuberculous origin of abscess too and the antitubercular treatment was continued for further nine months.

Three months after surgery, an MRI study showed a significant reduction of heterogeneous enhancement of vertebral bodies, with the absence of retropharyngeal, prevertebral and epidural abscesses.

DISCUSSION

The common sites of extrapulmonary tuberculosis include the lymph nodes, osteoarticular areas, abdominal organs and central nervous system. When spinal tuberculosis occurs, it affects lumbar, thoracic and cervical vertebrae in decreasing order of frequency. Oropharyngeal manifestations of tuberculosis are uncommon and account for only 0.05 to 0.5% of total tuberculosis cases seen [9-11].

Unusual presentation and the paucibacillary nature of the retropharyngeal abscess caused by *Mycobacterium tuberculosis* make the diagnosis difficult and requiring a high index of suspicion [2,4,7]. Odynophagia and dysphagia are the principal symptoms of a retropharyngeal abscess but neck rigidity, external neck swelling, and airway obstruction may occur in more severe cases [3,5-8]. Early diagnosis is essential to prevent the complications of the retropharyngeal abscess and Pott disease consisting of vertebral collapse and neurological deficits, jugular venous thrombosis, erosion into the carotid artery, spontaneous rupture of abscess, tracheobronchial aspiration, and spread into the mediastinum with septic shock [7-8]. Standard laboratory examinations (white cell count, tuberculin skin test, C – reactive protein, Quantiferon TB Gold assay) are

helpful but not significant in making the diagnosis. Diagnosis is mainly based on radiological features, aspiration of the mass for bacteriological culture, biopsy for histopathologic examination, and molecular methods. CT scan is a useful diagnostic tool but MRI can diagnose any complications more precisely such as vein thrombosis [8,12,13]. An excisional biopsy followed by histological examination can differentiate cancer and also identify TB and cancer [2, 14,15]. Surgical intervention in Pott disease is indicated if there is a neurologic deficit, a spinal deformity with instability or pain, no response to antitubercular therapy, or a large paraspinal abscess [16]. Our patient presented without the classic symptoms of tuberculosis such as night sweats, bodyweight loss, and cachexia and without lung involvement but we were aware of the possibility of tuberculosis because he came from Somalia, a country with a very high incidence of tuberculosis and because of the radiological picture of destructive lesions of the cervical vertebrae. Neurological examination was normal and surgical drainage of the abscess was sufficient to cure together with medical treatment for two months with isoniazid, rifampicin, ethambutol, and pyrazinamide followed by other ten months with isoniazid and rifampicin without side effects.

Retropharyngeal abscess commonly occurs in children due to suppurative infection of retropharyngeal lymph nodes [17]. Adult retropharyngeal abscess is unusual as these lymph nodes degenerate after the age of five years. In adults, retropharyngeal abscess is often pyogenic and may result from penetrating injury, endotracheal intubation, foreign body or endoscopic procedures [17].

Retropharyngeal abscess is a rare entity in which *Mycobacterium tuberculosis* etiology is still present. Diagnosis of the retropharyngeal abscess and associated cervical Pott disease is not simple, because symptoms are subtle and tuberculosis remains a “diagnosis dilemma” for many doctors.

Because the early manifestations of head and neck tuberculosis (HNTB) are often similar to neoplasms or inflammation and because the

systemic symptoms of tuberculosis may not be obvious, clinical consideration of HNTB usually occurs only after an ineffective anti-inflammatory treatment, biopsy, or even surgical resection^[14]. Simultaneously, head and neck tuberculosis may reflect general body conditions, such as a comorbidity with malignancy or HIV infection, therefore concurrent systemic diseases should be investigated when a diagnosis of head and n-

eck tuberculosis is established^[14].

Treatment should be based on antitubercular medications, while surgery has a role only in selected cases^[8].

To sum up, tuberculous etiology should always be considered, even in the absence of pulmonary involvement, in patients presenting a pharyngeal expansive process. The prognosis is favorable if the diagnosis is made early.

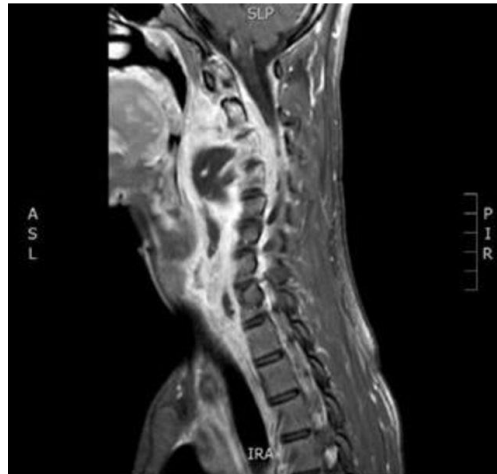


Figure 1. T1 weighted -SPAIR image showing prevertebral abscess and posterior abscess spreading, with loss of cervical lordosis.

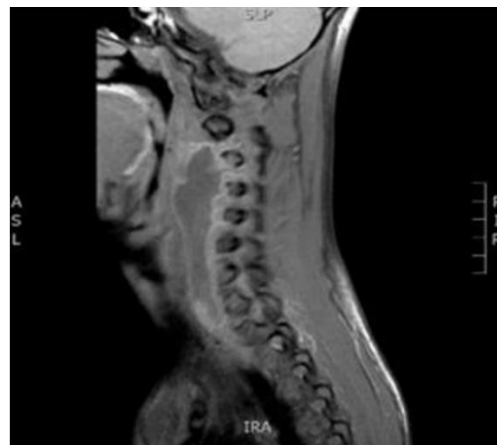


Figure 2. T1 weighted-SPAIR sagittal image.



Figure 3. T2 weighted sagittal image showing prevertebral abscess

Conflicts of interest: none

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REFERENCES

- [1] ECDC, Tuberculosis surveillance and monitoring in Europe, 2019.
- [2] Quian X, Albers AE et al. Head and neck tuberculosis: literature review and meta-analysis. *Tuberculosis*, 2019; 116: S78-S88.
- [3] Fang D, Leong JC, Fang HS. Tuberculosis of the upper cervical spine. *J Bone Joint Surg Br*, 1983; 65:47-50.
- [4] Mizumura K, Machino T, Sato Y et al. Tuberculous retropharyngeal abscess associated with spinal tuberculosis well controlled by fine-needle aspiration and anti-tuberculous chemotherapy. *Inter Med* 2010; 49:1155-1158. DOI: 10.2169/internalmedicine.49.3353.
- [5] Nalini B, Vinayak S. Tuberculosis in ear, nose and throat practice: its presentation and diagnosis. *Am J Otolaryngol*, 2006; 27:39-45.
- [6] Alazigha N, Oghu DS, Oyan BO et al. Primary tuberculous retropharyngeal abscess. *Advances in Applied Science Research*, 2020; (11) 1:1. DOI: 10.36648/0976-8610.11.1.1
- [7] Kamath MP, Bhojwani KM, Kamath SU et al. Tuberculous retropharyngeal abscess. *Ear Nose Throat J*, 2007; 86:236-237.
- [8] Hsu HE, Chen CY. Tuberculous retropharyngeal abscess with Pott disease and tuberculous abscess of the chest wall. A case report. *Medicine*, 2019; 98:27 (e16280).
- [9] Zahedi FD, Husain S, Primuharsa Putra Sabir Husin Athar. Oropharyngeal and hypopharyngeal tuberculosis with consequence of intestinal tuberculosis. *International Medical Journal*, 2016; 23(3): 296-297.
- [10] Dadgarnia MH, Baradaranfar MH, Yazdani N et al. Oropharyngeal tuberculosis: an unusual presentation. *Acta Medica Iranica* 2008; 46(6): 521-524.
- [11] Kakisi OK, Kechagia AS, Kakisis IK et al. Tuberculosis of the oral cavity: a systemic review. *Eur J Oral Sci* 2010; 118: 103-109.
- [12] Vaid S, Lee YPP et al. Tuberculosis in the head and neck – forgotten differential diagnosis. *Clinical Radiology* 2010; 65: 73-81.
- [13] Christoforidou A, Metallidis S, Kollaras P et al. Tuberculous retropharyngeal abscess as a cause of oropharyngeal dysphagia. *Am J Otolaryngol* 2012; 33: 272-274.
- [14] Pang P, Duan W, Liu S et al. Clinical study of tuberculosis in the head and neck region—11 years' experience and a review of the literature. *Emerging Microbes and Infections*, 2018; 7:4.
- [15] Mouhsine A, Temsamani H, Belkouch A et al. Pharyngeal tuberculosis: report of 5 cases. *Acta Otorrinolaringol Esp* 2016; 67 (3): 162-6. DOI: 10.1016/j.otorri.2015.05.004.
- [16] Shumy F, Mursel Anam A, Chowdhury MAJ et al. Multifocal extensive spinal tuberculosis with retropharyngeal abscess. *BSMMU J* 2011; 4: 128-130.
- [17] Thomas K, Gupta M, Gaba S et al. Tubercular retropharyngeal abscess with Pott's disease in an elderly male patient. *Cureus*, 2020; 12(5):e8256. DOI 10.7759/cureus.8256

