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Case Report

A case of retropharyngeal tuberculosis: the simple management of a serious case

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ABSTRACT

The challenge in management of chronic retro-pharyngeal abscess lies in its proximity to vascular and neurological structures, the access to the abscess should be possible after evaluation of neurological stability and integrity of vascular structures. Tuberculous chronic retro-pharyngeal abscess is an unusual situation. And due to its scarcity, it is not considered in differential diagnosis which delays its management: this could lead to permanent neurological deficit and higher rates of mortality. This the case of a young 29-year-old male, already undergoing anti-tuberculosis treatment for 2 months for a tuberculous lymphatitis, and no history of immuno-suppression, presenting with a large retropharyngeal abscess, with no neurological symptoms or any other specific symptoms. The management of this disease can be simple provided the diagnosis is not delayed, the patient had no complications, and the follow up is performed by a team: otolaryngologist, a neurosurgeon and a phthisiology specialist.

Keywords: Tuberculosis, Extra-pulmonary, Retro-pharyngeal

INTRODUCTION

One of the rarest clinical forms of extra-pulmonary tuberculosis is the retropharyngeal abscess of tuberculosis, which can be life-threatening.[1]

The retropharyngeal space communicates bilaterally with the para-pharyngeal spaces and backwards with the danger space. Due to this close interaction, infections of the retropharyngeal space can be fatal. Intradural extramedullary tuberculosis is a rare entity with few cases described in the world literature, and a history of tuberculous meningitis or anti-tuberculosis treatment is generally present in patients. The lymph nodes, pleura, genitourinary tract, bones and joints, meninges, peritoneum and pericardium are the common sites of extrapulmonary tuberculosis in decreasing order of frequency.[1,2] We report a case of abscessed tuberculosis retropharyngeal treated by surgical drainage and medical treatment with antibacillaries.

CASE REPORT

A 29-year-old male, well-build well nourished, who is being treated for tuberculous lymphadenitis is referred to otolaryngology consultation with fever, odynophagia, dysphagia, and cervical pain and stiffness since 1 week, he had no history of immune deficit, or other recurrent infections, he was a non-alcoholic, non-smoker, with no history of exposition to tuberculosis, no history of weight loss. The clinical examination found normal neurological state, a midline bulge in the posterior wall of the pharynx with healthy pharyngeal mucosa.

Laboratory findings have shown an infectious syndrome, Laboratory findings showed hemoglobin, platelets were

normal, and chest X-ray were under normal limits. Human immunodeficiency virus (HIV) serology was negative and was normal.

A cervical Computer tomography (CT) scan (Figure 1 and 2) has shown a large well defined collection in the retropharyngeal space, measuring 4.2×0.0×2.3 cm (volume 45 cc) without septations, posterior to the oropharynx and nasopharynx, with no vertebral abnormalities, centimetric lymph nodes were spotted in zones 1a, 1b, and III. A cervical Magnetic resonance imaging (MRI) showed no alterations in vertebral structures, it showed an abscess that occupied the midline of the prevertebral space and came in contact with the mucosa of the posterior wall of the pharynx.

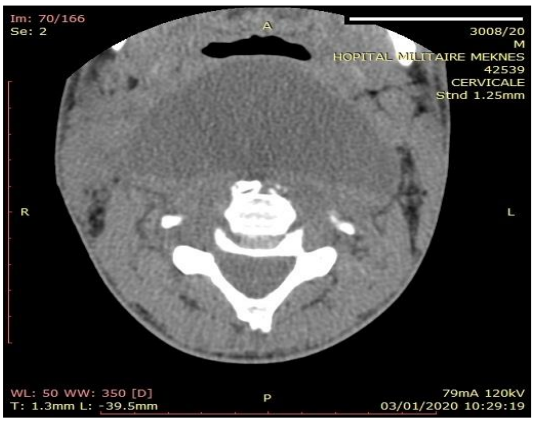

Figure 1: CT axial: collection in the retropharyngeal space.

Figure 2: CT coronal: retro-pharyngeal collection.

The patient was admitted for surgical drainage under general anesthesia. Through an oropharyngeal incision, 45 ml of pus was drained, and the cavity was cleansed with hydrogen peroxide. And the incision was maintained, and a nasogastric tube was placed for 15 days.

Ziehl Nielsen's (ZN) staining did not reveal acid-fast bacilli (AFB). Aerobic culture of the material for pyogenic bacteria and fungus yielded no growth (Figure 3). Detection of deoxyribose nucleic acid of Mycobacterium tuberculosis complex by real-time polymerase chain reaction (RT-PCR) was positive. Based on these findings the patient was started on short course anti-tuberculous drug therapy (ATT) for 12 months. After 2 months of anti-tuberculosis treatment, the symptoms subsided.

Figure 3: Incision of the posterior pharynx wall.

DISCUSSION

The high incidence of tuberculosis in developing countries is a public health issue, it is in most cases a pulmonary and lymphadenitis. Even though anti-tuberculosis drugs are available, the complicated forms are one of the leading causes of deep neck infectious diseases.[1] The retropharyngeal space is in between facial planes: the bucco-pharyngeal fascia, and the pre-vertebral fascia. It contains prevertebral lymph nodes in children, and areola tissue.[2] Acute retropharyngeal abscess are common in children, but not very common in adults and older children.[2,3,5]

Tuberculosis can affect any organ; one of every 5 cases manifest as extra-pulmonary involvement or dissemination.[4,5] Primary oropharyngeal infection is very rare, 0.9% of tuberculosis of upper respiratory tract tuberculosis. It is one of the most ancient diseases, it was found in 5000-year-old Egyptian mummies.[2] In developing countries, chronic cases of retropharyngeal abscesses can be due to tuberculosis, especially in patients with immigrating from developing countries.[2] The onset is generally insidious, with as common symptoms: dysphagia, hoarseness, dyspnea, neck stiffness, sensation of foreign body.[2,3,5] This presentation is quite rare in immuno-competent patients.[3]

Potts disease, which is the spinal tuberculoma, was first described by Pott in 1778, cervical forms represent 2-3% of spinal tuberculosis, the most dangerous complications are neurological deficits and spinal instability.[2] Mycobacterium's dissemination is either hematogenous or lymphatic, which leads to osteomyelitis through migration to subchondral areas in the body of the vertebrae.[2] The infection then spreads to the periosteum and longitudinal

ligaments which are dissected away from the vertebrae. Necrosis and formation of the abscess are to follow.[2,4]

The anatomical constraint in the spinal canal is a factor that contributes to neurologic deficit, along with local inflammation reaction, vascularitis and ischemia, subluxation of vertebrae, abscess on the nerve root or the spinal cord, and the discs lesions.[2,4]

Al Mulhim et al states that at most 50% proposed that less than 50% narrowing produces mild to moderate neurologic deficit and greater than 75% narrowing causes severe neurologic impairment.[2] The abscess may be perceived in the clinical examination as a midline bulge in the posterior wall of the pharynx, causing odynophagia, dysphagia, and in some cases, dyspnea and palsies of the hypoglossal nerve.[2,3] Pyogenic retropharyngeal abscesses are generally lateral.[3,5]

The diagnosis is suspected according to clinical examination and history, especially in endemic countries to regarding tuberculosis, in cases refractory abscesses after proper drainage and medical treatment abscesses the unusual presentation in deep neck spaces is dangerous due to its proximity to the mediastinum; therefore any delay in treatment could resort in severe rates of morbidity.[1,5]

While CT scan is useful to differentiate an abscess from cellulitis, magnetic resonance imaging provides better information about evaluation of soft tissues and vascular structures, and is the most sensitive diagnostic tool of spinal tuberculosis.[1,2,5] However, simple cervical X-radiography (X-ray) could be of important help about vertebral lesions first hand, other explorations being beyond the reach of most patients, it could reveal lysis of vertebral bodies, narrowing of disc, or paradisc spaces, kyphosis, paraspinal soft tissue shadow or granular tissue.[2]

The lack of guidelines for accurate management strategy of deep neck tuberculosis and retropharyngeal abscesses, makes the incidence of complications considerably severe.[1,2] Considering deep neck infectious collections, tuberculosis is not the most frequent diagnosis: no specific symptoms are cited, neurological signs may be infra-clinical, which delays the diagnosis. PCR technique in clinical samples is sensitive not only for detection of mycobacterium, but also for identification of resistant strains.[1,5]

Other tests are available such as interferon-γ release assays; however, evidence is yet to be established. Although surgical drainage relieves the pressure.[1] Surgery is however undeniably required in the cases of patients with vertebral lesions and neurological deficits.[2]

Medical treatment considering extra-pulmonary tuberculosis is based on anti-tuberculosis drugs in cases including bone involvement 9-12 months of isoniazid and rifampicin, supplemented in the first 2 months with pyrazinamide and ethambutol.[1,5] High success rates are associated with anti-tuberculosis therapy; surgical drainage is decided upon clinical and radiological criteria, which indicate involvement of deep neck compartments.[5]

CONCLUSION

Tuberculosis should be considered as a differential diagnosis, among etiologies of retro-pharyngeal abscesses because of the high rate of morbidity related to complications, especially neurological deficits. There is no pathognomonic clinical presentation, unless complications have already taken place. In the one hand, curative treatment is based on anti-tuberculous drugs, which have great rates of success, and in the other hand surgical treatment is indicated to relief compression and to repair damage inflicted to spinal structures. However, management of this disease can be simple provided the diagnosis is not delayed,

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