Case Report

تقرير حالة طبية

TUBERCULOSIS IN A CERVICAL NODE IN A CHILD

سل في عقدة لمفية رقبيّة عند طفلة

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ملخص الحالة

يعتبر داء السل أحد أقدم الأمراض المعروفة التي تصيب النوع البشري وأحد الأسباب العشرة الرئيسية للوفيّات حول العالم بحسب التقارير الأخيرة لمنظمة الصحّة العالميّة WHO. العامل المسبب للسل هو جرثومة المتفطّرة السليّة والتي تؤثر غالباً على الرئتين كمكان مفضل للتوضّع، لكنها قد تأخذ توضعاتٍ أخرى خارج رئوية. لا يزال السل خارج الرئوي يشكل تحدّياً بسبب كون العينات المطلوبة من التوضّعات المحتملة قليلة العصيّات، الأمر الذي ينقص حساسيةّ الاختبارات التشخيصية. التهاب العقد اللمفية السلي هو الشكل الأشيع للسل خارج الرئوي إذا استثنينا السل الجنبي، وتعتبر العقد اللمفاويّة الرقبيّة هي المكان الأشيع للإصابة. ازدادت نسبة حدوث السل خارج الرئوي في السنوات العشرين الأخيرة. سيتم هنا تقديم حالة فتاة بعمر 15 سنة، لديها انتفاخ في الجانب الأيسر من العنق تمت إزالته جراحياً وتوبع بشوط علاجي (HRZE). نوصي من خلال هذه الحالة بضرورة الأخذ بالاعتبار تشخيص التهاب العقد اللمفاوية السلي في أي انتفاخ رقبي عند مريض في المناطق الموبوءة.

ABSTRACT

Tuberculosis is one of the oldest diseases known to humankind and one of the top ten causes of death worldwide, according to the last reports of world health organization (WHO). Tuberculosis is caused by bacteria (Mycobacterium tuberculosis) that most often affects the lungs as the favorable site, but it can takes extrapulmonary sites. Extrapulmonary tuberculosis remains challenging because clinical samples obtained from relatively inaccessible sites may be paucibacillary, thus decreasing the sensitivity of diagnostic tests. Tuberculosis lymphadenitis is the most common form of extrapulmonary tuberculosis exceptionally tuberculous pleuritis, and cervical lymph nodes constitute the most common site of involvement. The incidence of extrapulmonary tuberculosis increases in the last twenty years. We describe the case of a 15-year-old girl with a swelling in the left side of her neck, which was removed surgically, and we continue on HERZE regimen. Clinicians must suppose tuberculosis lymphadenitis in any swelling in the neck in patients lives in endemic regions.

INTRODUCTION

Tuberculosis affects on third of the world's population.[1] Extra pulmonary TB accounts for about 7-30% of TB cases, and lymphadenitis accounts for 17-43% of cases.[2] Tubercular lymphadenitis is the commonest form of extrapulmonary tuberculosis.[3] In a latter study which performed in India, the most common type of extrapulmonary case was pleural effusion followed by miliary tuberculosis, tubercular lymphadenopathy and tubercular empyema.[4]

Tuberculosis lymphadenitis presents as a painless, slowly progressive swelling of a single group of nodes,

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and in 85% of cases involvement is unilateral (as our case presented).[5]

The incidence of mycobacterial lymphadenitis has increased along side with the increase in the incidence of mycobacterial infection worldwide, and the highest burden of the disease is found in Asia and Africa.[6-8] We present this case of a primary cervical tuberculosis lymph-adenopathy in a healthy 15-year-old sero-negative female with no evidence of previous or active pulmonary TB, and no evidence of TB detected elsewhere in the body.

CASE PRESENTATION

A case report of a 15-years-old female who presented in the outpatient clinic with a history of swelling in the left side of neck of two month duration.

The swelling gradually increased in size and was painless. There was a history of low-grade fever at beginning which stop later, but no cough, night sweats or weight lose, and no last inflammations in neck or laryngeal. The patient complains only from some feeling of fatigue and this swelling.

Physical examination revealed a healthy female, left neck swelling that measured 4×4 cm in diameter, mildly tender, smooth surfaced, and mobile. No axillary lymphadenopathy and no nodular enlargement. Investigations carried out included complete blood count: Hemoglobin 12.4 g/dl, White blood cell, 7.09X10^3/ul): Lymphocytes 29.9%, monocytes 8.9%, neutrophils 57%. The erythrocyte sedimentation rate (ESR) was normal and also C-reactive protein (CRP). No abnormalities in peripheral blood smear. Acid-Fast Bacilli (AFB) smear and culture of sputum performed and gives negative results. Chest X-ray (CXR) showed clear lung fields, and tuberculin test also negative.

Ultrasonography (US) revealed four hypoechoic lymph nodes scattering along the left lower jugular chain, with a matting pattern, the largest one diameters 4.4 cm. Most of them showed increased internal echo and thin echogenic layers at periphery, Figure 1. The borders of the involved lymph nodes became blurred because of adjacent tissue reaction, and an anechoic pocket extended superficially to the subcutaneous region.

Tuberculosis cervical lymphadenitis (TCL) was highly suspected based on these US features, and US-guided FNA to the abscess was obtained. Excisional biopsy has been suspected as a diagnostic line and a treatment. The histological changes of biopsy shows abscess wall with granulomatous inflammation, reactive lymphadenopathy, and no evidence of caseous necrosis, Figure 2. TB abscess is suspected and no malignancy.

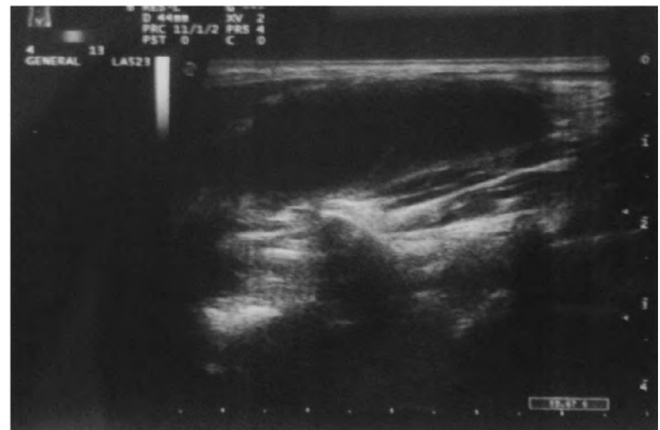

Figure 1. The ultrasonography of the swelling.

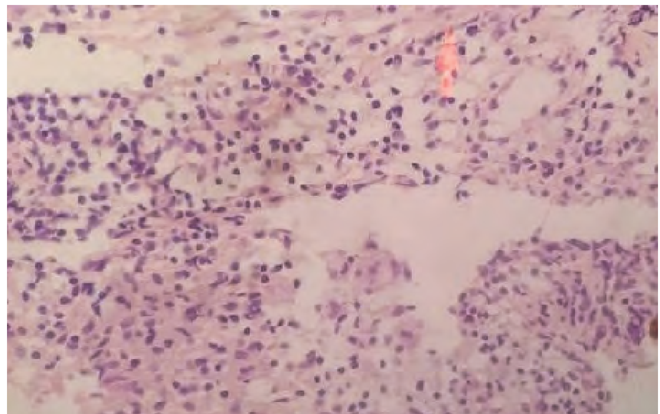

Figure 2. The arrow refers to granulomatous inflammation.

She was started on a fixed-dose combination chemotherapy with HERZ (Isoniazid, ethambutol, rifampin, and pyrazinamide). After 3 months of therapy,

the neck tumors are now clinically undetectable, and she is still receiving HERZ.

DISCUSSION

Although an increasing number of cases have been reported in the past few decades, head and neck tuberculosis (HNTB) remains a challenge for many doctors. HNTB patients may present with no specific sign, have less severe systemic symptoms, and have negative results for some tubercular tests. Simultaneously, HNTB may reflect general body conditions, such as comorbidity with malignancy and HIV infection, and the most common site of HNTB was the cervical lymph nodes.[9] Most serial HNTB cases were reported by otorhinolaryngologists or oral and maxilla-facial surgeons. However, approximately 48% of laryngeal TB patients had concurrent pulmonary TB.[10] Cervical tuberculosis lymphadenitis (CTL), classically known as scrofula, presents as a progressive unilateral neck swelling over weeks to months.[11]

Ultimately, while there is a robust literature on HIV, TB, and extra-pulmonary tuberculosis (EPTB), there are relatively few studies on the specific association of EPTB and HIV.[12] Clinical manifestations are variable, and diagnosis may be challenging because of the negative of traditional assays. A positive tuberculin test may suggest active TB, past infection, BCG vaccination, or sensitization by environmental myco-bacteria. A negative result may not necessarily exclude TB, as false negatives can be seen in immune-suppressant conditions.[13]

In our case the tuberculin was negative, but that doesn't exclude TB, at last she gets benefit from TB treatment. Ultrasonography is a cheap procedure for suspecting TB in cervical nodes, especially after studies suggests manifestations for TB nodes.

The key US features of TCL include hypo-echogenecity, strong internal echoes, echogenic thin layers, nodal matting, soft tissue changes, and displaced hilar vascularity. When CTL is suspected under US, US guided procedures such as FNA can be conducted concomitantly to obtain the microscopic or pathological prof.[14]

Excisional biopsy has the highest sensitivity at 80%, but fine-needle aspiration is less invasive and may be useful, especially in immune-compromised hosts and in resource-limited settings.[5]

The role of surgical treatment of tuberculous cervical lymph-adenopathy shows that total excision of lymph nodes ≥3 cm in diameter, our patient has a node with diameter 4.4 cm, modified neck dissection of multiple enlarged cervical lymph nodes at one site, and at multiple anatomic sites, and excision of small tuberculous abscesses can be done safely as a primary procedure. Surgery prior to drug therapy for TCL gave good results.[15]

From another side, is there a risk of surgery in cases like that? There is a higher likelihood of injury to the neurovascular structures, many of which form the abscess wall. The structures which are particularly at risk are the internal jugular vein, spinal accessory nerve, subclavian vein and brachial plexus.[16]

CONCLUSIONS

Diagnosing extra-pulmonary tuberculosis needs a suspicion, and lymph nodes are common location for it. It is important to suspect tuberculosis in every young who has a tumor in the neck, especially in epidemic areas. Negative tuberculin doesn't exclude TB; and positive test can't confirm the diagnosis.

Ultrasonography can direct to diagnosis and gives the key of it. Excisional biopsy is the procedure of choice in selective cases, especially in cases of nodes ≥3 cm in diameter, and in persistent symptoms even though the anti-tubercular treatment.

Consent: Written informed consent was obtained from the brother of patient for publication of this manuscript, and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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