

Primary Cold Abscess Of The Anterior Abdominal Wall: An Unusual Site Of Presentation

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Citation

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Abstract

Tuberculosis may involve any organ in the body but involvement of abdominal muscle is uncommon and, in most cases, is caused by spread of the infection by either hematogenous route or direct inoculation from a tuberculous abdominal lymph node or extension from underlying tubercular synovitis and osteomyelitis. Autopsy studies have shown abdominal wall involvement in less than 1% of patients who died of tuberculosis. Management of this entity is mainly in the form of anti-tubercular therapy. Surgical intervention in the form of either sonography or CT-guided aspiration or open drainage is usually reserved for patients in whom medical treatment fails.

We are presenting a case of primary tuberculous abdominal wall abscess without any evidence of pulmonary, skeletal or gastrointestinal tuberculosis in an immunocompetent patient.

INTRODUCTION

Tuberculosis may involve any organ in the body but involvement of abdominal muscle is uncommon and, in most cases, is caused by spread of the infection by either hematogenous route or direct inoculation from a tuberculous abdominal lymph node or extension from underlying tubercular synovitis and osteomyelitis. ¹ Autopsy studies have shown abdominal wall involvement in less than 1% of patients who died of tuberculosis. Extra-pulmonary tuberculosis is most common in HIV-seropositive patients. ²

CASE REPORT

A 42-year-old female presented to the outpatient department of surgery, with a complaint of a progressive swelling in the right upper abdomen for the last three months. There was no history of preceding trauma, fever, cough, malaise or pain. There was no history of any past anti-tubercular treatment or contact with any case of tuberculosis.

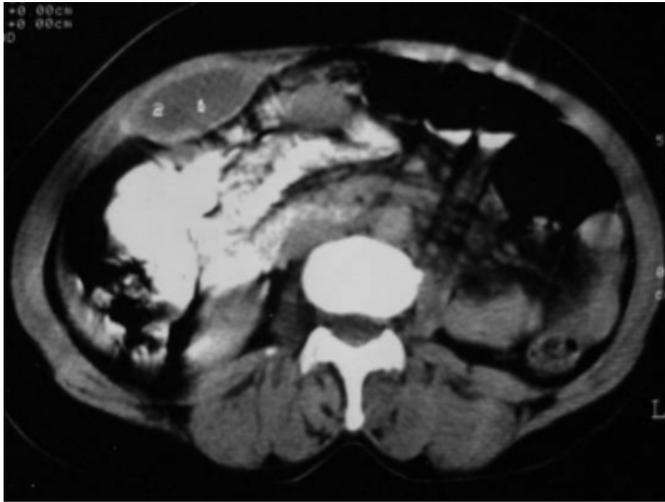
On examination, the swelling was situated in the right hypochondrium measuring 5x5cm in size, non-tender with smooth and ill-defined margins and a normal overlying skin. The swelling was firm in consistency and moved with respiration. Examinations of the cardiovascular and respiratory system were within normal limits.

Laboratory investigation revealed: haemoglobin 11.5g%; total leukocyte count 8510/cumm with a differential count of

54% neutrophils, 42% lymphocytes and 4% eosinophils; Erythrocyte Sedimentation Ratio 70 mm; Mantoux test positive (16mmx14mm) and ELISA for HIV negative. The chest radiograph was unremarkable. Other biochemical blood investigations were within normal limits. Ultrasonography of the abdomen revealed a 4.5x5.5cm right hypochondrial cystic mass with a liquefied necrotic center in the anterior abdominal wall. Computed Tomography scan of the abdomen showed an abscess in the right antero-lateral portion of the abdominal wall limited to the muscle layer (Figure-1).

Figure 1

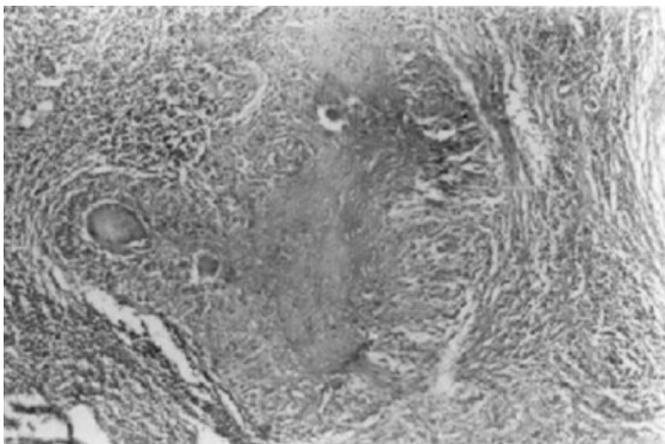
Figure 1: Focal Cystic Collection Seen In The Anterior Abdominal Wall Of The Right Hypochondrium With Mild Peripheral Enhancement



Ultrasound-guided fine-needle aspiration and cytological examination revealed caseating granuloma with central necrosis, lymphocytes, and giant cells, consistent with tuberculosis (Figure-2)

Figure 2

Figure 2: Fine-Needle Aspiration And Cytological Examination Revealing Caseating Granuloma With Central Necrosis, Lymphocytes And Giant Cells, Consistent With Tuberculosis



The patient was diagnosed to have tuberculous abscess of the anterior abdominal wall and anti-tuberculosis treatment was started. She responded well to the treatment and the abscess regressed considerably.

DISCUSSION

This case is of interest because tuberculous muscle abscess is a rare entity and only isolated cases are reported in the

literature. Culotta did 2224 autopsies on tuberculosis patients and found only four cases while Petter recorded only one case of tuberculous abscess of muscle in over 6000 cases of all types of tuberculosis. ^{3,4,5,6,7}

Two forms of skeletal muscle involvement are recognized: In the first type the tuberculous process spreads into the muscle through direct extension from a neighboring structure e.g. bone, joint, tendon, and lymph node. A tubercular abscess arising from a costochondral junction may track downward, either lateral or medial to the linea semilunaris. If it extends lateral to the rectus, it spreads downward between the internal oblique and transverse abdominis muscles, but if it extends medial to the linea semilunaris, it may spread into the rectus sheath and may extend downward behind the rectus muscle. In the second type the spread is hematogenous. Our patient is of interest because he seems to have a primary tubercular anterior abdominal muscular lesion without any evidence of immune incompetence. ¹⁰

The possible explanation for the rarity of muscle involvement in tuberculosis may be high lactic acid content, lack of reticulo-endothelial tissue in muscle, lack of lymphatic tissue and the abundant blood supply. ⁸

Swelling and pain are the main manifestations of this condition. Several muscles may be simultaneously involved in this entity. Tubercular abscess of this area may be frequently misdiagnosed as sarcoma or any benign soft-tissue tumor. ^{10,11}

Ultrasonography of the entity usually shows a parietal-wall mass (predominantly cystic) of mixed echogenicity, with irregular walls and a liquefied, necrotic center. Sometimes, an evidence of posterior acoustic enhancement with focal areas of calcification within the lesion may also be demonstrated sonographically. Computed scan of the abdomen usually shows a well-defined abscess in the abdominal wall. Ultrasonography or CT-guided aspiration followed by cytological examination usually reveals tuberculous granulomas with areas of caseous necrosis. Z-N staining or culture of the aspirate may also help in confirming the diagnosis. ^{4,9}

Management of this entity is mainly in the form of anti-tubercular therapy. Surgical intervention in the form of either sonography or CT-guided aspiration or open drainage is usually reserved to patients in whom medical treatment fails. ¹⁰

This case cautions the clinicians and radiologists about the possibility of tuberculosis in considering the differential diagnosis of any lesion even in any unlikely anatomical area, especially in those areas where tuberculosis is endemic.

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