

# Cold Abscess of the Anterior Abdominal Wall: An Unusual Primary Presentation

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## ABSTRACT

Tuberculosis is considered as ubiquitous disease as it involves any organ, but primary involvement of abdominal muscles is very rare. In most cases, the muscle involvement is secondary and is caused 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. Antitubercular therapy is main form of management. Surgical intervention is always secondary in the form of either sonography or computerized tomography-guided aspiration or open drainage which is usually reserved for patients in whom medical treatment has failed. A case is hereby reported about primary tubercular anterior abdominal wall abscess without any evidence of pulmonary, skeletal or gastrointestinal tuberculosis in an apparently healthy individual with any past history of contact or previous antituberculosis therapy.

**KEYWORDS:** Anterior abdominal wall, antitubercular therapy, primary tuberculosis

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## INTRODUCTION

There are only limited case reports of isolated tubercular involvement of the parietes even though tuberculosis is a rampant in developing countries and with the rapid spread of acquired immune deficiency syndrome (AIDS) it has made inroads into the developed nations as well. The common organs of involvement are the lungs, kidneys, bones, and gastrointestinal tract. The varied manifestations seen in tuberculosis are because of the difference in the number and virulence of bacilli, the routes of infection and the host's immune status.

## CASE REPORT

A 62-year-old male presented to outpatient department of surgery with a painless, gradually increasing swelling over anterior abdominal wall for the last three years. There were no other symptoms and the patient did not have any other past medical history suggestive of tuberculosis. Physical examination revealed a nontender swelling (7 cm × 5 cm) on the anterior abdominal wall to left of midline which extended from left hypochondrium above to the umbilicus below [Figure 1]. The swelling was soft and cystic in consistency and failed to disappear while making the

anterior wall muscles taut. Rest of the abdominal examination was normal. There was no associated lymphadenopathy and systemic examination was normal. Routine blood and urine examinations were normal. Chest radiograph and blood chemistry including human immunodeficiency virus (HIV) test did not reveal any abnormality. Ultrasonography and computerized tomography (CT) Scan examination revealed two cystic masses one 3.7 × 5.2 cm and another 7.4 × 5.4 cm abdominal parietal wall mass (predominantly cystic) of mixed echogenicity, one in right hypochondrium and another in left hypochondrium extending to umbilical region with peripheral enhancement [Figure 2]. contrast enhanced computerized tomography (CECT) abdomen and pelvis was normal. The differential diagnosis multiple hydatid cyst of anterior abdominal wall was excluded once indirect hemagglutination test was reported to be negative. Fine needle aspiration cytology revealed caseating granuloma with central necrosis, lymphocytes and giant cells, consistent with tuberculosis. The patient was diagnosed to have multiple tubercular cold abscess of anterior abdominal wall. Patient responded favorably to antitubercular drugs and anti gravity needle aspiration.

## DISCUSSION

Only isolated cases of tuberculosis of skeletal muscle have been reported in the medical literature). Culotta found only four cases in his 2224 autopsies.<sup>[1]</sup> The incidence of primary muscular tuberculosis was reported as 0.015% by Petter.<sup>[2]</sup> Skeletal muscle involvement occurs in two forms: Most commonly the tubercular abscess spreads into the muscle through extension from the neighboring structures like lymph nodes, bone, joint or tendon,



**Figure 1:** Clinical presentation of anterior abdominal wall cold abscess

etc.<sup>[3]</sup> A tubercular abscess arising from a costochondral junction may track down, either lateral or medial to the linea semilunaris. If it extends lateral to the rectus, it spreads down 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. This case is of interest because he seems to have a primary tubercular anterior abdominal muscular lesion without any history of contact or previous anti tubercular therapy.<sup>[4]</sup> 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, the abundant blood supply and the highly differentiated state of muscle tissue.<sup>[5,6]</sup> 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. *Ziehl-Neelsen* (Z-N) staining or culture of the aspirate may also help in confirming the diagnosis.<sup>[5,7]</sup> 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. Present 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



**Figure 2:** CT scan of the abdomen showed two cystic collections in the anterior abdominal wall with peripheral enhancement

those areas where tuberculosis is endemic or where the disease is rampant.<sup>[8,9]</sup>

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