

A Rare Case of Tuberculosis of the Anterior Abdominal Wall: A Diagnostic Challenge

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Abstract

Case Report

Tuberculosis, typically a pulmonary infectious disease, can sometimes affect other organs in the form of extrapulmonary tuberculosis. However, primary involvement of the abdominal muscles is extremely rare. Diagnosis is often challenging due to the unusual location and lack of typical symptoms. This report presents a unique case of primary tuberculosis of the anterior abdominal wall in a 13-year-old girl, admitted with abdominal pain and a palpable mass. After image-guided biopsy and histopathological analysis, the diagnosis of tuberculosis was confirmed. A combined treatment of surgical drainage and antituberculous therapy led to recovery without postoperative complications. This case highlights the importance of considering tuberculosis in atypical locations.

Keywords: Tuberculosis, anterior abdominal wall, abdominal mass, CT scan.

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INTRODUCTION

Extrapulmonary tuberculosis is a less common form of this bacterial infection, with involvement of the abdominal muscles being extremely rare. While cases of thoracic wall tuberculosis have been documented, very few reports concerning the abdominal wall exist in the literature. The diagnosis of muscle tuberculosis is often delayed due to its atypical clinical presentation and the absence of classic pulmonary symptoms, complicating management. This article aims to raise awareness among clinicians about the possibility of primary muscular involvement by tuberculosis, even in the absence of classic clinical signs of the infection.

CASE REPORT

A 13-year-old girl, with no significant medical history, was admitted to the hospital for chronic and progressive abdominal pain lasting about six months. The pain was localized in the anterior abdominal wall. A physical examination revealed a palpable, tender mass measuring approximately 6 cm by 3 cm in the right hypochondrium (HCD), associated with a firm, non-

reducible swelling. There were no clinical signs of systemic infection or fever at the time of admission, and pulmonary examinations were normal.

Abdominal ultrasound showed a cystic mass at the level of the right internal oblique muscle. Computed tomography (CT) confirmed the presence of a cystic mass measuring 8.5 cm by 4 cm, associated with the internal oblique muscle, with no other visible anomalies (Figure 1). Ultrasound-guided aspiration was attempted, but the lesion persisted, necessitating fine-needle biopsy for confirmation.

The biopsy revealed caseating granulomatous inflammation, a classic indicator of tuberculosis. Microbiological culture confirmed the presence of *Mycobacterium tuberculosis*. Immunological evaluation, including the Mantoux test and interferon-gamma release assay (quantiferon), was positive, supporting the tuberculosis diagnosis. Interestingly, this patient had no history of pulmonary tuberculosis or known contact with tuberculosis cases, highlighting the primary nature of this muscular involvement.

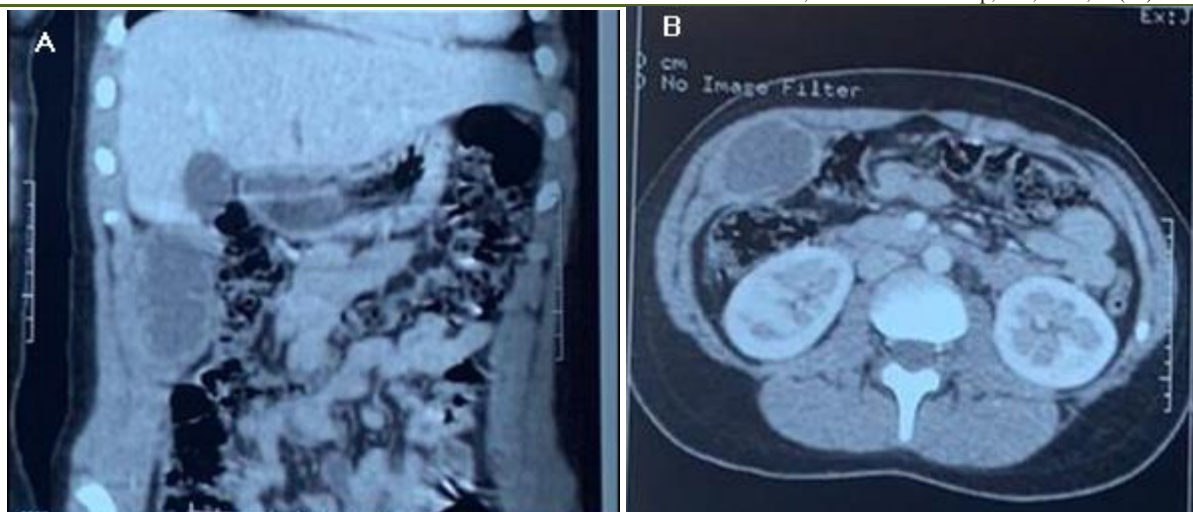


Figure 1: (A) Frontal CT scan image showing a cystic mass of the right internal oblique muscle. (B) Transverse CT scan image showing a cystic mass of the right internal oblique muscle.

DISCUSSION

Tuberculosis of the abdominal wall is extremely rare and poses several diagnostic challenges, particularly due to its unusual location. The dissemination route to the abdominal muscle can be hematogenous or lymphatic, originating from latent tuberculosis infection in nearby lymph nodes. In this case, the clinical presentation of a tender abdominal mass, without associated respiratory symptoms, made diagnosis particularly difficult [1].

The primary differential diagnoses in this context include muscular abscesses, benign or malignant tumors, and congenital anomalies. CT and MRI are useful tools for identifying the cystic nature of the mass, but only biopsy can confirm tuberculosis [2]. Clinicians must be aware of this unusual presentation of tuberculosis to avoid diagnostic delay, especially in children living in endemic areas [3].

Due to the nature of the mass and its impact on surrounding abdominal structures, surgical treatment was performed to drain the lesion and excise the cystic mass. This was followed by standard antituberculous quadritherapy (isoniazid, rifampicin, ethambutol, and pyrazinamide) for a total duration of 9 to 12 months. This treatment led to complete remission without recurrence in the medium term [1,4].

CONCLUSION

Tuberculosis of the abdominal wall is a rare but important clinical presentation to consider in patients with chronic abdominal pain and localized masses. This

case demonstrates that accurate diagnosis relies on a combination of advanced imaging and guided biopsy, followed by microbiological confirmation. Surgical management is often necessary to remove the mass and alleviate symptoms, but it must be combined with prolonged antituberculous therapy to prevent recurrence. This case report emphasizes the need for increased clinician awareness of atypical tuberculosis presentations, even in the absence of pulmonary symptoms.

Ethical Considerations:

Informed consent for publication was obtained from the patient's guardians, ensuring compliance with ethical standards.

REFERENCES

1. Sabat, D., & Kumar, V. (2009). Primary tuberculous abscess of rectus femoris muscle: a case report. *The Journal of Infection in Developing Countries*, 3(06), 476-478.
2. Rebai, W., Chebbi, F., Bouassida, M., Azouz, H., Ksantini, R., Makni, A., ... & Bensafta, Z. (2010). Tuberculosis of the abdominal wall: a rare localization.
3. Malhotra, M. K. (2012). Cold abscess of the anterior abdominal wall: an unusual primary presentation. *Nigerian Journal of Surgery*, 18(1), 22-23.
4. Desai, N., Patil, S., Thakur, B. S., Das, H. S., Manjunath, S. M., & Sawant, P. (2003). Abdominal wall abscess secondary to subcapsular tubercular liver abscess. *Indian Journal of Gastroenterology: Official Journal of the Indian Society of Gastroenterology*, 22(5), 190-191.