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Large Abdominal Mass Revealing a Tuberculous Mesenteric Cyst: A Case Report

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ABSTRACT

Mesenteric cyst is a benign intra-abdominal tumor, most often discovered incidentally. Its association with *Mycobacterium tuberculosis* infection is rare and may lead to diagnostic difficulties due to a polymorphic clinical presentation.

Objective: To describe the diagnostic, therapeutic, and outcome aspects of mesenteric cyst complicated by tuberculosis.

Case report: A 31-year-old patient was hospitalized for the management of a large abdominal mass. The diagnosis of tuberculous mesenteric cyst was confirmed by histopathological examination of the cystectomy specimen. Antituberculous treatment including rifampicin, isoniazid, pyrazinamide, and ethambutol was initiated, resulting in marked clinical and radiological improvement.

Conclusion: Tuberculous mesenteric cyst is a rare entity with a non-specific clinical presentation, making diagnosis challenging. Laparoscopy with biopsy allows confirmation of the diagnosis, and management is based on cystectomy combined with antituberculous therapy.

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KEYWORDS:

Tuberculous mesenteric cyst; Cystectomy; Antituberculous treatment.

INTRODUCTION

Mesenteric cyst (MC) is a benign intra-abdominal tumor that is often discovered incidentally. Its complication by infection with *Mycobacterium tuberculosis* remains rare. It is frequently misdiagnosed because of its variable clinical presentation.

The aim of our study is to describe the diagnostic, therapeutic, and evolutionary aspects of mesenteric cysts complicated by tuberculosis.

Case REPORT

This is a 31-year-old patient who had been treated in 2021 for peritoneal tuberculosis over a 9-month period, based on peritoneal biopsy findings showing epithelioid and giant-cell granulomas with caseous necrosis. Two years later, he presented with progressive abdominal distension and a sensation of heaviness, without abdominal pain or other associated symptoms.

Physical examination revealed a large, non-tender abdominal mass occupying almost the entire abdomen, with regular borders and a firm, resilient consistency (Figure 1). Abdominal ultrasound showed a cystic mass measuring 28 cm in diameter. Abdominopelvic CT scan revealed a large cystic lesion with regular contours, enhancing after contrast injection, containing fluid, measuring 30 × 17 cm and extending over 34 cm. It displaced bowel loops on both sides and compressed the right ureter inferiorly and to the right, causing uretero- hydronephrosis, along with a small amount of ascites (Figure 2). This appearance was in favor of a large abdominopelvic mesenteric cyst.

Hydatid serology and tumor markers, including CEA and CA 19-9, were normal. Laboratory tests were unremarkable. Surgical management was therefore decided. Laparoscopic exploration revealed a huge retroperitoneal mesenteric cyst, which was completely resected (Figure 3).

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Histopathological examination of the surgical specimen showed a benign mesenteric cyst with a fibrous wall, disrupted by hemorrhagic suffusions and lined by a dense inflammatory infiltrate, often organized in epithelioid and giant-cell granulomas with areas of caseous necrosis (Figure 4). These findings confirmed the diagnosis of a mesenteric cyst associated with tuberculosis.

The patient was started on anti-tuberculous treatment (rifampicin, isoniazid, pyrazinamide, and ethambutol) according to the Moroccan national protocol, with marked clinical and radiological improvement.

Image 1: Distended abdomen on examination.

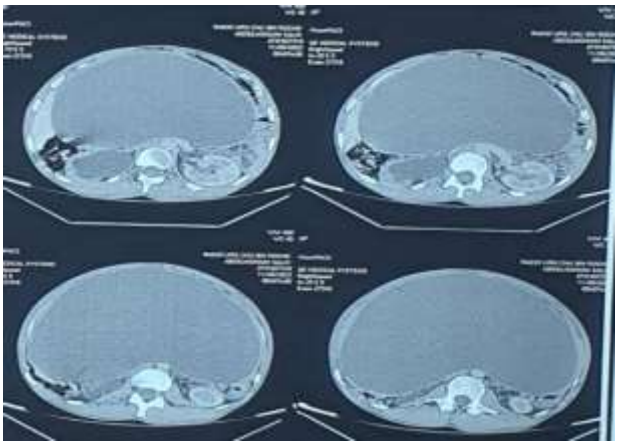


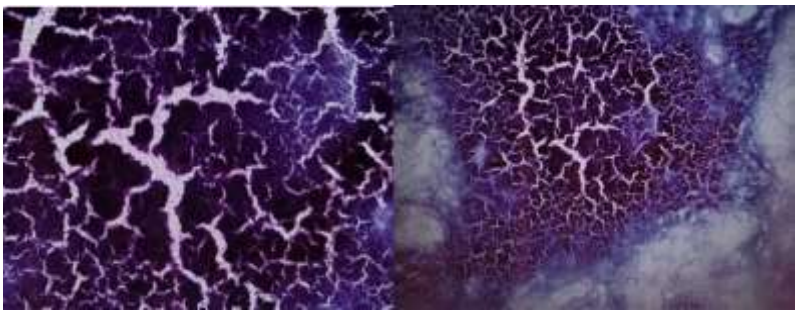
Image 2: CT appearance of the cyst on a transverse

A

B

Image 3: Macroscopic appearance of the mesenteric cyst
A: Cyst wall emptied of its content, with a congestive surface showing purplish areas.
B: On section, the wall is thickened and fibrous, partially lined with friable whitish material.

A



B

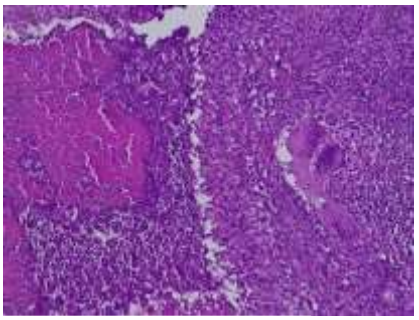


Image 4:
A: Cytological view of the cyst.
B: High-power view showing epithelioid cells with a multinucleated giant cell, as well as

DISCUSSION

Mesenteric cysts are rare intra-abdominal tumors. Their incidence is increasing due to the widespread use of imaging techniques [1,2]. The incidence is estimated at 1 per 100,000. In Africa, the incidence is low; most reported cases involve Caucasian patients. Most authors describe a wide age range between 22 and 46 years [3–4]. Our patient fell within this age group.

Their association with *Mycobacterium tuberculosis* infection is rare. Nos P. et al. described cases of isolated mesenteric

tuberculosis in 1992 among HIV-infected individuals [5]. Vijaya et al. reported a case of mesenteric tuberculous abscess that may have resulted from asymptomatic pulmonary tuberculosis [6]. Despite the high incidence of tuberculosis infection, few studies have described its association with mesenteric cysts [7,8].

Clinical manifestations are highly variable and nonspecific, often posing a diagnostic challenge. Half of the patients with mesenteric cysts present with abdominal pain and abdominal distension and/or a palpable mass [9]. In cases of tuberculous infection, constitutional symptoms such as fever, weight loss, and night sweats may accompany abdominal symptoms. In our patient, abdominal distension was the main reason for consultation. Most patients can only be diagnosed after laparotomy.

Although there is no typical imaging appearance of a tuberculous mesenteric cyst, ultrasound, CT scan, or MRI play a crucial role in diagnosis. They may reveal a thickened mesentery or a cystic structure associated with nodules and sometimes loculated ascites [10,11,12]. In our case, the CT scan showed a mesenteric cyst without thickening or nodules, with a small amount of ascites.

Other tests can contribute to the diagnosis, including a positive tuberculin skin test (TST), interferon gamma release assay, and molecular tests such as GeneXpert or sputum smear microscopy for Koch's bacilli [10]. A chest X-ray is routinely performed, as it can detect abnormalities in nearly half of cases, pointing to possible pulmonary tuberculosis [13]. In addition, HIV screening is recommended for all patients, given the increased risk of co- infection. For our patient, laboratory tests and chest X-ray were normal.

The diagnosis of tuberculous mesenteric cyst remains challenging because no clinical, biological, or radiological finding is specific [14]. A high degree of clinical suspicion is therefore necessary to avoid diagnostic and therapeutic delays that may increase morbidity and mortality [15]. In patients with compatible medical history, suggestive clinical presentation, and supportive radiological findings, laparoscopy is a valuable tool, allowing both confirmation of diagnosis and therapeutic management. It allows biopsies of the cyst and/or bacteriological examination of the purulent contents of the KM itself to be performed in order to confirm the presence of giant cell epithelioid granuloma with caseous necrosis (GCEGN) or to isolate Mycobacterium tuberculosis [16,17].

As in our patient, the diagnosis of mesenteric tuberculous cyst was made during laparoscopic exploration, confirming the presence of GEGNC in biopsies of the mesenteric cysts.

Differential diagnoses include ascites, ovarian cysts, hepatic cysts, pancreatic pseudocysts and other causes of abdominal masses [18,19].

The treatment of choice for a tuberculous mesenteric cyst is complete cystectomy when the lesion is large, combined with anti-tuberculous therapy consisting of rifampicin, isoniazid, pyrazinamide, and ethambutol [7,20]. Laparoscopy and laparotomy are two possible approaches for the management of mesenteric cysts [21,22]. Our patient underwent complete cystectomy with histological findings consistent with tuberculosis. Anti-tuberculous therapy was initiated according to the Moroccan national protocol, with very favorable clinical evolution.

The prognosis of tuberculous mesenteric cysts is generally good. In 3 % of cases, mesenteric cysts may undergo malignant transformation [23]. Most cases correspond to sarcomas, with only a few reported adenocarcinomas [4,24,25]. However, in our patient, no signs of malignancy were observed on histological examination.

CONCLUSION

Mesenteric cyst is a rare intra-abdominal tumor. Its association with tuberculosis is scarcely reported in the literature. Clinical features are highly variable and non-specific, making diagnosis and management challenging. Laparoscopy with cyst biopsy is the reference modality for diagnosis. Treatment mainly combines complete cystectomy with anti- tuberculous therapy. Evolution is generally favorable.

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