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# A Large Tuberculous Abscess Mimicking an Abdomino-pelvic Cystic Mass: A Case Report

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## *Abstract*

***Introduction:*** *Tuberculosis can involve any part of the gastrointestinal tract or the peritoneum and is the sixth most frequent site of extrapulmonary involvement. The pseudotumoral form is relatively rare and several predisposing factors are mentioned, a significant differential diagnostic problem with malignant tumor pathology is exposed , often considered first when encountering an abdominal or pelvic mass in the context of overall deterioration.*

***Presentation of case:*** *We report a rare case of a huge retroperitoneal TB abscess mimicking an abdomino-pelvic cystic mass.*

***Discussion:*** *Abdominal tuberculosis represents 1 to 2% of all locations and 31 to 58% of abdominal locations. The pseudotumoral form is relatively rare and are uncommon in immunocompetent patients. Tuberculosis abscess can present with variable radiologic features. It is difficult to differentiate it from malignant pathologies. Invasive explorations, such as laparoscopy or laparotomy, play a crucial role in confirming the diagnosis. Peritoneal cavity exploration may reveal whitish granulations, peritoneal nodules, peritoneal hyperemia, filamentous peritoneal adhesions, and intestinal adhesions. Histological examination of biopsies are the key to the diagnosis. The treatment of peritoneal tuberculosis relies on a combined therapy of antitubercular drugs .*

***Conclusion:*** *As TB remains endemic in our country and with the continued increase in multidrug-resistant TB infections, it is important to know various presentations and diagnosis forms features of extrapulmonary TB including TB abscess as the treatment remains basically the same combining anti-tuberculosis drugs and the recourse to surgery.*

**Key Words:** Tuberculous abscess, Abdomino-pelvic cystic mass, Abdominal tuberculosis.

## INTRODUCTION

Tuberculosis (TB) remains a major health problem in Morocco, since its incidence has not decreased significantly in recent decades. Indeed, tuberculosis remains endemic in our country with 30 000 new cases reported annually (1). The incidence of extrapulmonary TB has increased along with the growing number of immunocompromised patients (2). Cervical lymphadenitis is the most common presentation of extrapulmonary TB. However, extrapulmonary TB lacks specific clinical manifestations and can mimic many diseases; thus, the diagnosis may be intricate (3). TB abscess also shows variable findings in imaging studies; hence, it is often difficult to radiographically distinguish it from the other neoplasms (4).

We report a rare case of a huge retroperitoneal TB abscess mimicking an abdomino-pelvic cystic mass. The mass was diagnosed as TB abscess by histopathologic examination after surgical excision. No active pulmonary involvement was identified.

The patient was successfully treated with anti-TB medications.

## AIM OF THE ARTICLE:

The purpose of this work is to describe our experience in managing abdominal tuberculosis, focusing on one of its most atypical forms.

We will delve into diagnostic challenges and outcome achieved, thus contributing to the clinical understanding of this uncommon manifestation.

## PRESENTATION OF CASE

Here, the case of a 30-year-old male patient is presented, without specific medical history, no history of tuberculosis exposure in the surroundings, or toxic habits. He had been experiencing progressive abdominal distension for 2 years without abdominal pain, digestive issues, vomiting, or digestive bleeding, accompanied by a weight loss of 14 kg in 1 year.

Upon clinical examination, the patient was in good general condition, with an abdominal examination revealing a resilient abdominopelvic mass measuring 30 cm in its longest axis. There were no other detectable physical signs, and the rectal examination showed no particularities.

In the paraclinical assessment, an abdominal ultrasound revealed a massive fluid-filled formation occupying the entire abdomen and extending to the pelvis, with thick content and a regular wall, without septation or detectable vegetations, and no other notable anomalies.

A subsequent abdominal CT scan showed a large abdominopelvic cyst measuring 30x17 cm and extending over 34 cm, displacing the digestive loops anteriorly contraindicating a potential puncture and compressing the right ureter posteriorly. (Figure 1,2)

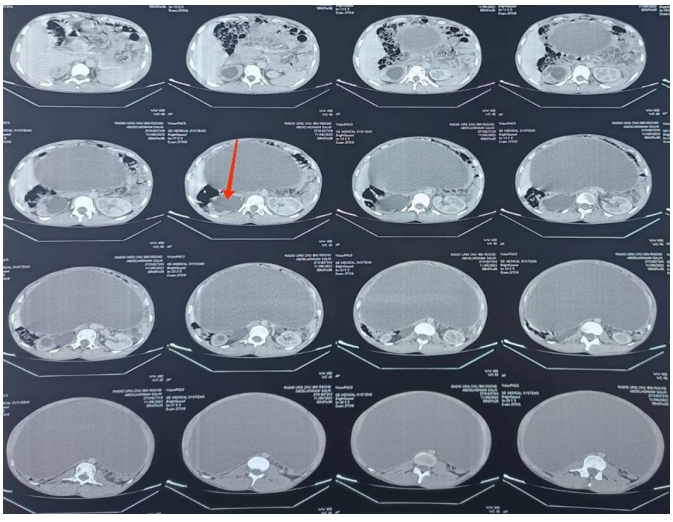

Figure 1: CT scan showing the abdomino-pelvic cystic mass and the right uretero-hydronephrosis (red arrow)

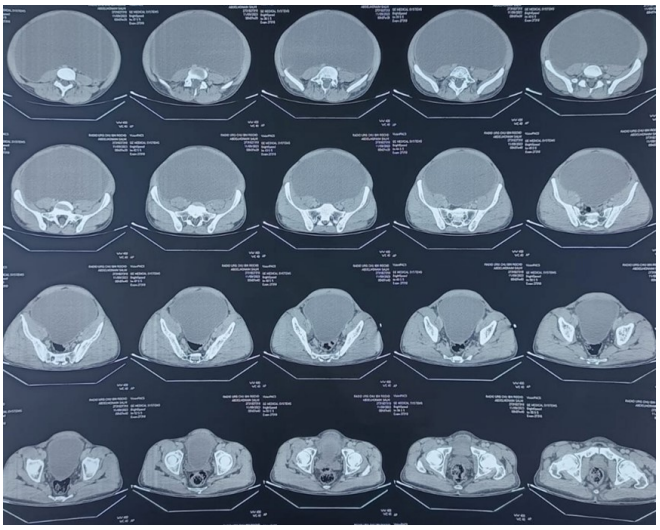

Figure 2: CT scan showing the extension of the abdomino-pelvic cystic mass

A double-J ureteral stent diversion was performed then the patient underwent surgery, involving the resection of the voluminous abdominopelvic cyst larger than 30 cm in its longest axis, containing approximately 14 liters of frank pus (collected and drained), followed by pelvic drainage. (Figue 3,4,5,6 and 7)

Figure 3: Intraoperative image showing the abdomino-pelvic cystic mass before its incision

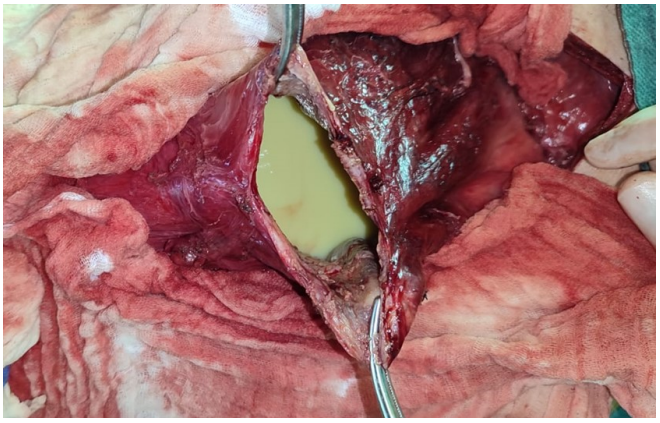

Figure 4: Intraoperative image depicting the cystic mass after it's incision and exposure of its contents

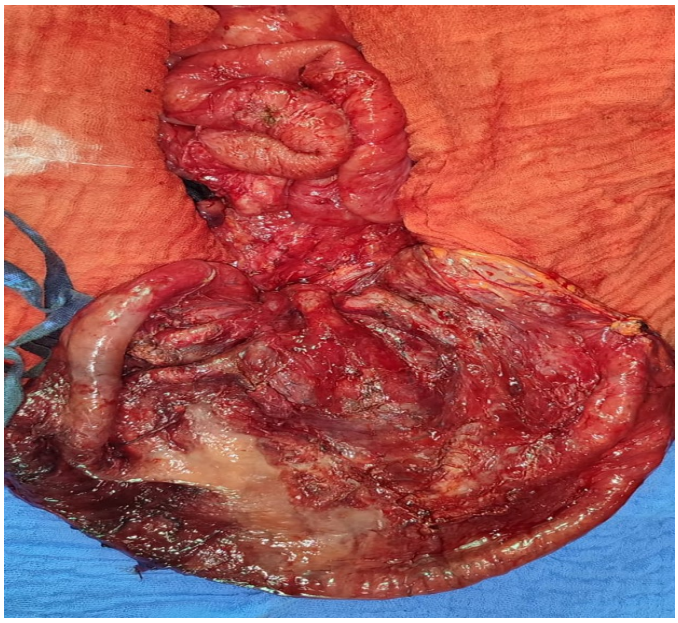

Figure 5: Intraoperative image showing the shell of the cystic mass after its drainage

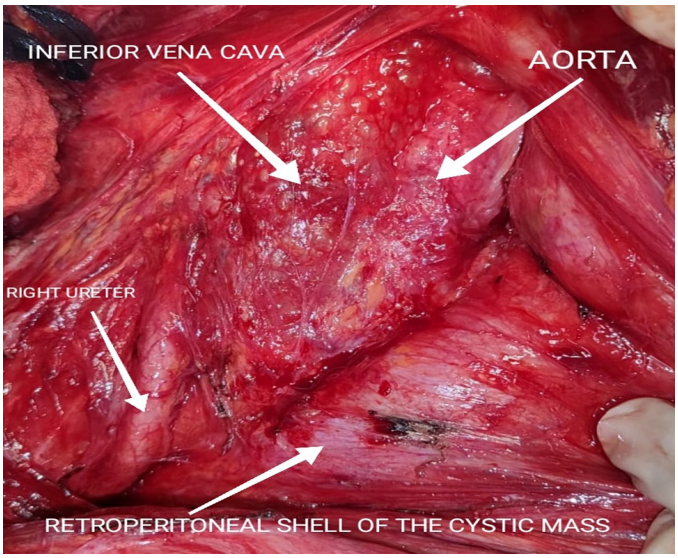


Figure 6: Peropératoire image of the shell of the cystic mass

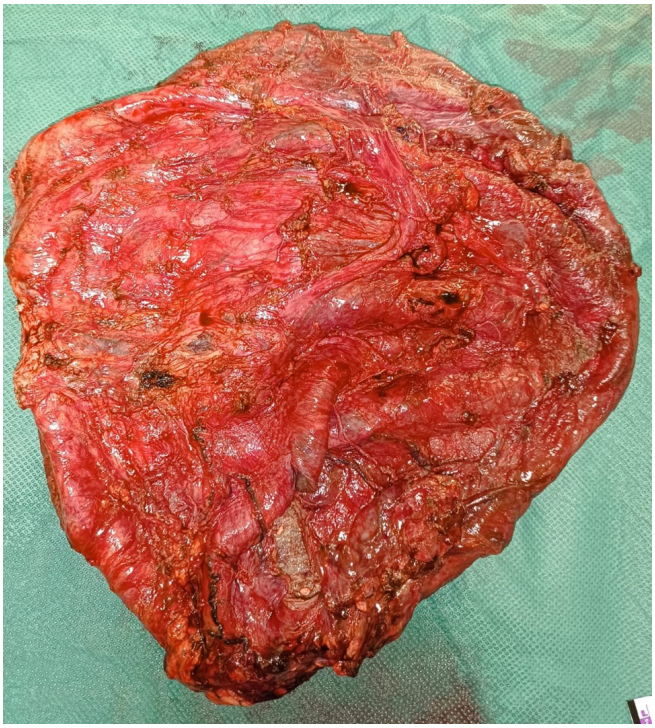

Figure 7: postoperative image of the shell of the cystic mass

Postoperative recovery was uneventful, and the patient was discharged on the 4th postoperative day. The pathological examination revealed epithelioid granuloma with caseous necrosis compatible with peritoneal tuberculosis.

Anti-tuberculosis therapy with rifampicin, isoniazid, pyrazinamide, and ethambutol for 2 months, followed by a two-drug regimen: rifampicin and isoniazid for an additional 4 months. After the completion of treatment, the patient did not develop any further symptoms during the follow-up.

## DISCUSSION:

The incidence of tuberculosis in Morocco is 29,000 to 30,000 new cases per year, with a prevalence in young subjects aged 21-45 years (5,6). Abdominal tuberculosis represents 1 to 2% of all locations and 31 to 58% of abdominal locations (6).

The pseudotumoral form is relatively rare, accounting for 15% of abdomino-pelvic locations. Several predisposing factors are noted: HIV, prolonged corticosteroid therapy, low socioeconomic status, treatment with immunosuppressants, and BCG therapy. However, abdominal TB abscesses are uncommon in immunocompetent patients, which was the case for our patient.

That being said, this rare clinical presentation raises several probable diagnoses such as perforated appendicitis, diverticulitis, perforated colonic or duodenal cancer, Crohn's disease of the bowel, pancreatitis, or trauma. They are often caused by polymicrobial infections, and the common pathogens are Escherichia coli, Klebsiella pneumoniae, Enterococcus spp., and Staphylococcus aureus.

Pathogenesis of such cases can be through hematogenous or lymphatic dissemination from active pulmonary TB or a direct extension from an adjacent organ (14).

Peritoneal tuberculosis has a subacute course, with an average consultation delay of 2 to 4 months (7). The typical clinical presentation includes ascites with abdominal pain and signs of tuberculin sensitivity. Other signs such as menstrual disorders for women, digestive or urinary disturbances should be investigated (8). Association with other locations, especially pulmonary or digestive, should be sought.

The tuberculin skin test can guide the diagnosis but has many false negatives (15 to 60%) (8). Adenosine deaminase (ADA) activity measurement with a threshold of 30 IU/L has a sensitivity of 96% and specificity of 98%. It is cost-effective, rapid, and its measurement is recommended by the

French Society of Pneumology (9). Interferon-gamma measurement remains limited in routine practice (10,11). Polymerase Chain Reaction (PCR) and gene amplification reaction by LCR can isolate the Mycobacterium tuberculosis in 24 to 48 hours, but their cost is high with reduced sensitivity (6). In its pseudotumoral form, peritoneal tuberculosis presents a solid-cystic heterogeneous pelvic image that can fistulize to neighboring organs (8).

Extrapulmonary TB abscess can present with variable radiologic features. It is difficult to differentiate it from lymphoma, malignant tumors, or various inflammatory conditions. Furthermore, the differential diagnosis becomes more complex when extrapulmonary TB presents as a soft tissue mass, showing involvement of the peritoneum, or an abscess. Epstein and Mann (15) discussed that it is important to differentiate other neoplasms from TB abscess.

When faced with a suggestive clinical and radiological presentation, other locations, particularly pulmonary, should be investigated (12). Imaging methods can guide percutaneous biopsy, especially in the case of omental thickening (9)

Surgery is necessary in cases of signs of digestive or urinary compression or in fistulized forms. Invasive explorations, such as laparoscopy or laparotomy, play a crucial role in confirming the diagnosis, allowing for biopsies. Peritoneal cavity exploration may reveal whitish granulations, peritoneal nodules, peritoneal hyperemia, filamentous peritoneal adhesions, and intestinal adhesions. Conversely, peritoneal carcinomatosis nodules are umbilicated, retracted, of variable size, with non-inflammatory peritoneum.

Some authors recommend adding corticosteroids to reduce inflammatory phenomena and accelerate ascites resorption (6).

Histological examination of biopsies reveals epithelioid giant cell granulomas with typically caseous necrosis (7).

The treatment of peritoneal tuberculosis relies on a four-drug anti-bacillary regimen: rifampicin, isoniazid, pyrazinamide, and ethambutol for 2 months, followed by a two-drug regimen: rifampicin and isoniazid for an additional 4 months (13)

The pseudotumoral form poses a significant differential diagnostic problem with malignant tumor pathology often considered first when encountering an abdominal or pelvic mass in the context of overall deterioration (12).

However, under well-conducted anti-bacillary treatment after surgery, patients show favorable clinical and biological outcomes as described in the literature (6).

## CONCLUSION:

As we presented here a rare case of TB abscess presenting as a large abdomino-pelvic cystic mass without active pulmonary, it is important we remind that abdominal tuberculosis is defined as infection of the peritoneum, hollow or solid abdominal organs with Mycobacterium tuberculi. The peritoneum and the ileocaecal region are the most likely sites of infection and are involved in the majority of the cases by hematogenous spread or through swallowing of infected sputum from primary pulmonary tuberculosis (or not!),this latter one is apparent in less than half of the patients. . The diagnosis was based on CT imaging and histo-

pathology. It is important to know various imaging features of extrapulmonary TB including TB abscess.

A high index of suspicion in populations where TB is common (eg Morocco), timely diagnosis using radiology, imaging and endoscopy, and judicious management with a combined therapy of antitubercular drugs and conservative surgery can reduce the mortality of this curable yet potentially lethal disease.

## PROVENANCE AND PEER REVIEW:

Not commissioned, externally peer reviewed.

## CONSENT

As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

## CONFLICTS INTERESTS

Authors have declared that no competing interests exist.


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None


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