

When Obstruction of the Main Bile Duct Reveals Abdominal Tuberculosis: A Case Report

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Abstract

Case Report

Abdominal tuberculosis may occur in association with pulmonary tuberculosis or in isolation, without any other involvement and it encompasses several forms. The disease is characterised by a wide range of clinical and paraclinical features, and can mimic many other conditions. We report the case of a 30-year-old man, where a high level of suspicion, particularly in endemic areas and based on the context, was crucial in leading to the diagnosis.

Keywords: Abdominal Tuberculosis, Cholestasis, Atypical Forms.

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INTRODUCTION

Abdominal tuberculosis remains a major public health problem worldwide, particularly in highly endemic regions such as North Africa and Morocco. Despite advances in diagnostic modalities, non-specific presentations of abdominal tuberculosis pose problems for rapid diagnosis and management. In this context, we report the case of a 30-year-old patient who was diagnosed with abdominal tuberculosis presenting atypically with obstruction of the main bile duct. In this case report, we discuss the clinical and radiological aspects of abdominal tuberculosis, as well as the treatment modalities.

CASE REPORT

A 30-year-old man, of rural origin, with no notable pathological history, was admitted to the emergency department with the appearance of cholestatic icterus associated with diffuse abdominal pain, most marked in the right hypochondrium. Physical examination revealed a patient in good general condition with frank jaundice, a fever of 38.5°C, and hepatomegaly with a liver size of 16 cm in the midclavicular line. Biological tests revealed a C-reactive protein (CRP) level of 60 mg/l, alkaline phosphatase of 400 IU/l, and Hyperbilirubinemia of 50 mg/L, predominantly due to conjugated bilirubin. The blood count showed a hyperleukocytosis of 14,000/mm³ with 73% neutrophils.

An abdominal ultrasound revealed dilatation of the main bile duct to 11 mm with adenopathy at the level of the hepatic hilum compressing the duct without lithiasis. There was also hepatosplenomegaly with macronodular lesions and a thin layer of peri-hepatic and peri-splenic effusion (Figure 1).

Abdominal and pelvic CT scan also revealed hepatosplenomegaly, with the liver and spleen riddled with macronodular lesions that were generally oval, well-defined and slightly enhanced after administration of intravenous contrast. Multiple adenopathies were present at different sites, containing hypodense areas of necrosis and calcifications, one of which compressed the main bile duct at the level of the hepatic hilum, as well as nodular thickening of the peritoneum, which showed enhancement after the injection of the contrast agent (Figure 2).

Histological specimens from an accessible liver lesion were taken. The final pathological results showed areas of caseous necrosis with several small epithelioid and gigantocellular granulomas.

The diagnosis was abdominal tuberculosis.

The patient had a biliary prosthesis and started anti-tuberculosis therapy. Clinical outcome was favourable after six months of treatment.

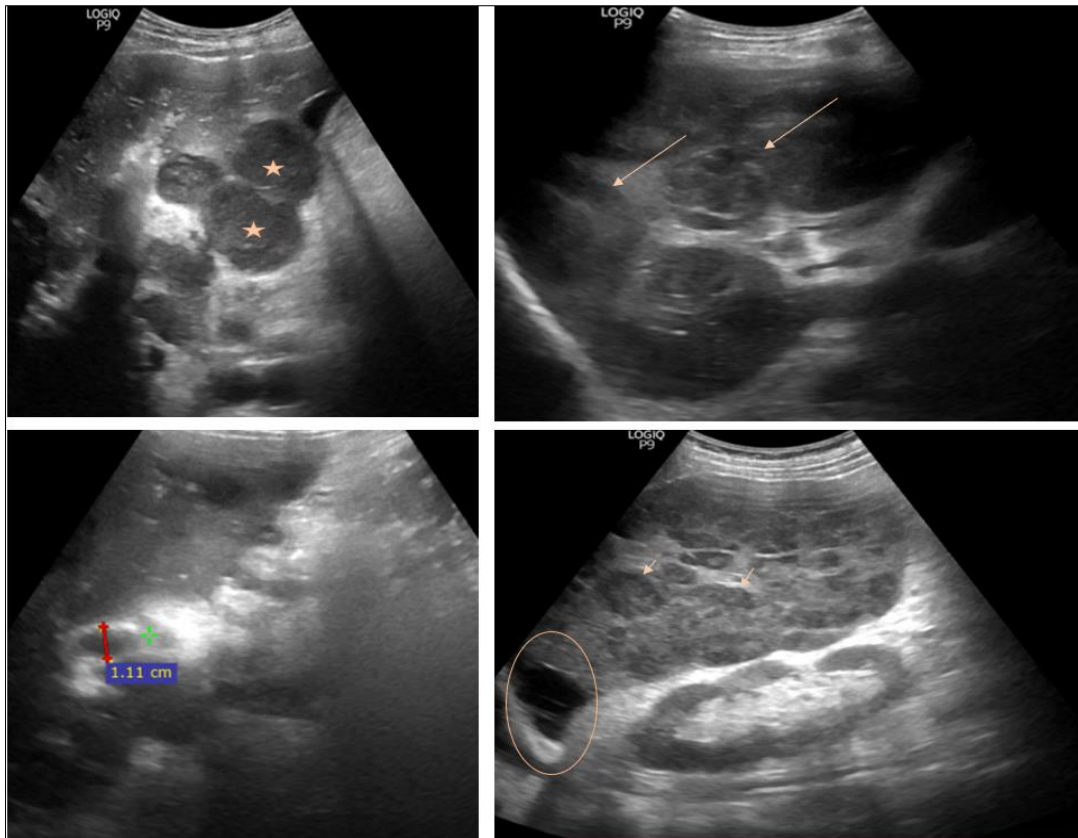


Figure 1: Abdominal ultrasound using a deep probe showing hepatosplenomegaly with macronodules in the liver (long arrow) and spleen (short arrow), with an effusion (circle), dilatation of the main bile duct and adenopathies in the hepatic hilum (star)

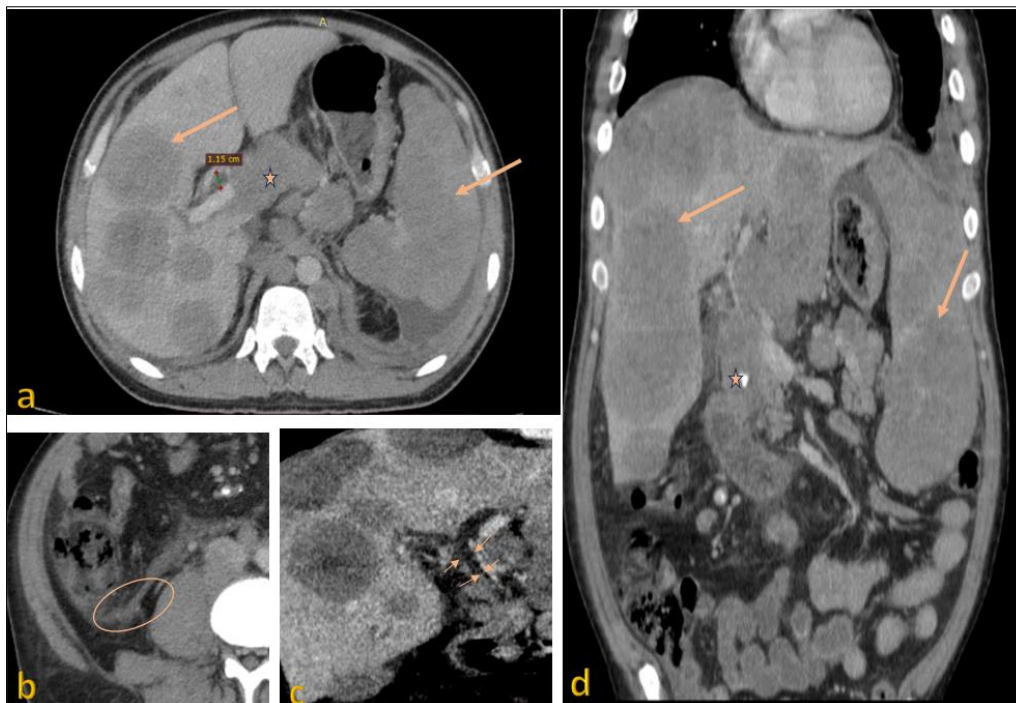


Figure 2: abdominal CT scan in portal venous phase in axial (a,b) and coronal (c,d) sections, showing hepatosplenomegaly with hepatosplenic macronodules (long arrow), dilatation of intrahepatic bile ducts and the main bile duct upstream of compression by adenopathy (short arrow), adenopathies with areas of necrosis and calcification (star) and nodular thickening of the peritoneum (circle)

DISCUSSION

Tuberculosis is a contagious microbial disease with essentially human-to-human transmission caused by the *Mycobacterium tuberculosis* complex.

It is endemic in North Africa, particularly Morocco, and is a global public health problem, accounting for 1.25 million deaths in 2023. It is a notifiable disease and its control is a priority for the World Health Organization [1].

Abdominal tuberculosis is the third most common extra-pulmonary form of tuberculosis, after lymph node and pleural tuberculosis, and presents a variety of clinical forms. Concomitant pulmonary tuberculosis can be found in up to 54% of patients. Although it can occur at any age, it is more common between the ages of 15 and 40 [2].

Abdominal tuberculosis can be transmitted through hematogenous, endogenous, exogenous, or lymphatic pathways, or by direct extension from infected foci [3].

The onset of tuberculosis is often insidious, and the symptoms and signs of abdominal involvement vary according to the site affected, the type of lesion and the mode of presentation [4]. In our patient, it was hepatic cholestasis secondary to obstruction of the main bile duct that revealed this pathology.

Abdominal tuberculosis can involve the peritoneum, which is the most common abdominal form, the digestive tract, particularly the ileo-caecal region, lymph nodes and solid organs such as the liver, spleen and pancreas [5].

Imaging plays an important role in the diagnosis of abdominal tuberculosis, often revealing ascites and peritoneal thickening associated with micronodules in peritoneal forms [6]. In the case of gastrointestinal tract involvement, stenosis and digestive parietal thickening may be found, but endoscopy remains the ideal examination, enabling lesions to be visualised and biopsies to be taken [3]. In solid organ disease, imaging often reveals hypoechoic or hypodense nodular lesions in the liver and spleen, or sometimes a pancreatic mass with an enlarged pancreas in pancreatic disease [7]. Adenopathies with areas of necrosis and calcification are frequently found.

Biological abnormalities guide the diagnosis, even if they are not specific. Histology enables a definitive diagnosis to be made, with inflammatory granulomas in the various samples, which are pathognomonic of tuberculosis [8].

Treatment of abdominal tuberculosis is currently well established, and treatment recommendations are the same regardless of the site

affected, although the duration of treatment may vary depending on the organs affected or the patient's characteristics [3]. When treated correctly, tuberculosis caused by drug-susceptible strains is almost always curable. However, the emergence of multidrug-resistant strains complicates management [9].

Progression is clinically assessed by the disappearance of fever, abdominal pain and weight gain. Imaging shows the disappearance of ascites and nodular hepatosplenic lesions [9].

CONCLUSION

Abdominal tuberculosis presents a real diagnostic challenge because of its often non-specific clinical manifestations. It is therefore crucial for healthcare professionals to remain particularly vigilant in the face of the clinical and radiological diversity of this condition, and to maintain a high level of suspicion, particularly with patients from endemic areas.

Conflict of Interest Statement:

The authors declare that there is no conflict of interest. All authors confirm that they have obtained written consent from the patient for publication of the article.

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Ethical Approval: No ethical approval is required for de-identified single case reports based on our institutional policies.

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