Scholars Journal of Medical Case Reports

OPEN ACCESS

Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559(Online)
Journal homepage:https://saspublishers.com

Isolated Splenic Tuberculosis - A Rare Condition: A Case Report

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DOI: 10.36347/sjmcr.2021.v09i06.003 | **Received:** 09.04.2021 | **Accepted:** 17.05.2021 | **Published:** 03.06.2021

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Abstract **Case Report**

Tuberculosis remains one of the most prevalent and fatal infectious diseases in spite of considerable improvements in medical science. Tuberculosis is an important health problem in developing countries. There are few cases of solitary splenic tuberculosis reported in the literature internationally Here we report a case of surgically confirmed mass-forming solitary splenic tuberculosis in a 54-year-old woman who presented with abdominal discomfort for 4 months, but with no other symptoms. Laboratory data provided no specific information for diagnosis. Abdominal ultrasonography revealed a large hypoechoic lesion within the spleen. Computed tomography scan of the abdomen showed a solitary hypodense lesion.

Keywords: Splenic Tuberculosis, tuberculosis, PCR.

INTRODUCTION

Isolated splenic localization of tuberculosis is very rare. It presents in 5 to 11% of cases in the form of long-term fever, and is observed especially in the immunocompromised, its diagnosis can be bacteriological or histological.

Ultrasound and CT scans help to identify the radiological aspects of the disease, which however remain without specificity. Percutaneous biopsy of these lesions contributes to a better diagnostic and therapeutic approach.

PATIENT AND OBSERVATION

This is a 54-year-old patient who was referred for a long-term fever that has progressed for 4 months for which he received probabilistic antibiotic therapy without significant improvement.

In this history, there is no notion of tuberculosis contagion, nor risk of hepatitis. On clinical examination, we found generally asthenia, fever estimated at 38.7 ° C, weight loss of 7 kg, abdominal pain, isolated splenomegaly, Laboratory examinations revealed pancytopenia made of normochromic normocytic anemia at 10.5 g / 100 mL, thrombocytopenia at 13G / L and a low reticulocyte level at 48380 / m3. CRP was elevated to 130 mg /L, with first hour sedimentation rate accelerating to 85 mm. The tuberculin intradermal reaction was negative and the chest x-ray was normal.

The abdominal ultrasound found out a splenomegaly 16 x 12 cm, heterogeneous, seat of multiple badly limited areas, scattered, heterogeneous hypoechoic, confluent, and not vascularized by color Doppler, without ascites or lymphadenopathy. A subcapsular collection was associated with it, seeming to communicate through a channel with one of the areas described above (**Fig. 1**).

The CT scan find out the exact topography of the lesions which were visible at the splenic level extended to the fundic wall of the stomach in the form of nodular formations confluent in plaques, spontaneously hypodense and not enhancing after injection of PDC. A spontaneously hypodense neighboring sub-capsular collection was associated with it, discreetly enhanced after injection, measuring 75 x 19.3 mm (**Fig. 2**).

In order to further the investigations, an immunological assessment, an HIV and hepatic serology were requested and were found to be negative. Moreover, the quantiferonassay as well as the PCR

were found to be positive, which enabled the diagnosis of isolated splenic tuberculosis to be retained.

The patient was put on antibacillary treatment (isoniazid, rifampicin and pyrazinamide) for 6 months. The outcome was favorable with a gradual improvement in the general condition, a disappearance of fever, splenic lesions, drying up of the collection and a normalization of the sedimentation rate.

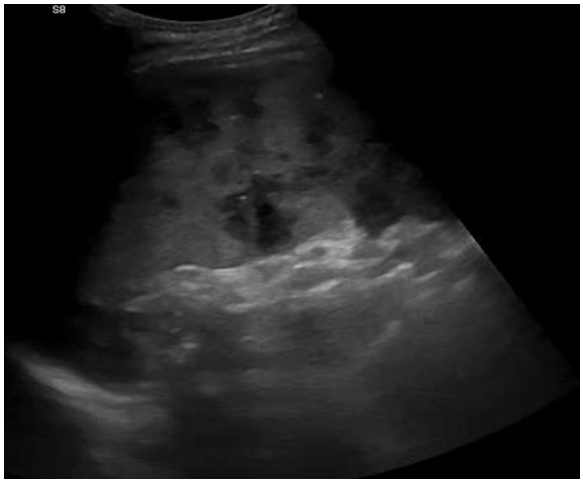

Fig-1: Abdominal ultrasound; Spleen enlarged in size (16cm x 12cm), containing hypoechoic plaques of varying size

Fig-2: Abdominal CT after intravenous injection of contrast product showing multiple low density ranges, not enhanced by the contrast product

DISCUSSION

Isolated splenic tuberculosis is an extremely rare clinical entity [1], thus constituting a diagnostic challenge. It often has a chronic etiology and is usually manifested by a painful mass in the upper left quadrant associated with fever, general malaise, weight loss [2, 3]. The majority of cases of splenic tuberculosis reported in the literature is often found in immunocompromised patients or patients with miliary tuberculosis [3]. In very rare situations, it can be isolated as reported in the literature Abbas et al. reported a case of splenic tuberculosis isolated in a patient for whom no other focus was found [4]. Our patient was immunocompetent and presented with fever of unknown etiology. Indeed, physiopathologically, contamination of the spleen occurs through the blood and / or lymphatic route from a primary infection site, generally thoracic lymph node, more rarely abdominal (primary complex) [7, 8].

The variability of clinical signs of isolated splenic tuberculosis as well as their non-specificity often makes diagnosis difficult.

In almost all of the reported cases, the diagnosis was first suggested by radiological signs, followed by an anotomopathological examination following a fine needle puncture, a splenic biopsy or a splenectomy [4]. This splenectomy is performed because of the fever throughout and the splenomegaly which may be moderate or severe [9].

The biological assessment, admittedly disturbed, does not provide any element in favor of the diagnosis. The sedimentation rate is often accelerated, the blood count and formula reveal moderate anemia and hyperleukocytosis, or even pancytopenia [2]; these elements are non-specific. The tuberculin skin test is neither sensitive nor specific [4].

In our observation, as in most cases reported in the literature, the clinical and biological signs have no localizing value. The imaging means are then useful for topographic diagnosis.

Ultrasound can confirm splenomegaly, detect and characterize focal lesions, find out other associated pathological sites and guide percutaneous biopsy punctures [9]. Most commonly, focal single or multiple hypoechoic splenic lesions, splenic abscesses, calcification and isolated splenomegaly are found [10].

CT also help to know the exact location of the lesion and helps plan treatment strategies, such as percutaneous drainage [7], since tuberculosis can be the cause of splenic abscess, although rare [11]. CT-guided splenic puncture is efficient and is the ideal diagnostic approach [12]. In our case, CT showed objectified confluent nodular formations in plaques, spontaneously hypodense and not enhancing after injection of PDC.

Chest radiography is generally unremarkable according to the literature [9, 13]. Our patient also presented no lesions on the chest x-ray.

The diagnosis of splenic tuberculosis remains difficult in the absence of other accessible tuberculosis focus [7]. The differential diagnosis of splenic tuberculosis includes sarcoidosis; fungal infections such as histoplasmosis, brucellosis or berylliosis; Hodgkin's disease; parasitic diseases; and metastatic carcinoma [14]. But when the quantiferonassay as well as the PCR prove to be positive, as is the case of our observation,

the diagnosis of splenic tuberculosis is more open to discussion. The quantiferonassay as well as the PCR were found to be positive. We are therefore entitled to question the usefulness of a splenic puncture guided by ultrasound or scanner,

Treatment of splenic tuberculosis is based on antibiotics, possibly combined with percutaneous drainage of abscesses and surgery [15]. Our patient was put on antibacillary drugs and the evolution was favorable, without having to resort to drainage of the collection under capsular which he presented.

The healing criteria are clinical: disappearance of clinical' signs, return to normal temperature and improvement in general condition; biological: normalization of the sedimentation rate; possibly ultrasound: disappearance of splenic lesions [7].

Splenectomy will be considered for diagnostic purposes: situation necessary when percutaneous procedures are contraindicated (haemostasis disorder), inconclusive or technically impracticable (lack of equipment or experience, etc.); or to eradicate a septic focus resistant to medical treatment or in the event of a complication such as splenic rupture [15, 16].

CONCLUSION

Isolated splenic tuberculosis is a rare pathology whose clinical signs are not specific; thus posing the problem of multiple differential diagnoses. Quantiferon assay, PCR, and directed biopsy are of great help to avoid unnecessary splenectomy.

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