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Brucellosis: A lymphoma-like presentation

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ABSTRACT

Brucellosis is one of the most common zoonotic infections worldwide caused by gram negative bacilli of the genus *Brucella*. It is transmitted to humans by contact with infected animals or derived food products such as unpasteurized milk. Brucellosis' clinical presentation varies widely from multi-systemic involvement to asymptomatic infection. We present the case of a 52-year-old Lebanese male who was admitted to our hospital with a 3-week history of fever (up to 40 °C), chills, night sweats and abdominal pain. Abdominal CT scan revealed the presence of several mesenteric lymphadenopathies and some retroperitoneal lymphadenopathies. Blood cultures came back positive for *Brucella melitensis*, and a follow-up CT of the abdomen done after treatment revealed complete resolution of the lymphadenopathies. To our knowledge, this is the first case in the literature of brucellosis presenting as retroperitoneal and mesenteric lymphadenopathies. In endemic areas, the diagnosis of brucellosis should always be raised in front of any long duration fever even in the absence of a typical clinical presentation.

1. Introduction

Brucellosis is one of the most common zoonotic infections worldwide caused by gram negative bacilli of the genus *Brucella* [1]. It is transmitted to humans by contact with infected animals or derived food products such as unpasteurized milk [1,2]. Four species have been reported to cause human disease: *Brucella melitensis* (being the most common cause), *Brucella abortis*, *Brucella suis* and *Brucella canis* [1]. It is essentially prevalent in many Middle Eastern countries, the Mediterranean region and the Arabian Peninsula [3]. Brucellosis's clinical presentation varies widely from an asymptomatic presentation to a multi-

organ involvement and can mimic any disease, making the diagnosis difficult [2,4]. The most common symptoms are fever (in 99% of the cases), night sweats, chills, headaches and joint pain [2,4]. The infection can also affect some other organs including the heart, the lungs, the central nervous system, the kidneys, the liver and the spleen [2,4]. Brucellosis has been described in other exceptional cases as an isolated infection of the eyes, the skin and the esophagus [5,6]. However, Brucellosis presenting with isolated abdominal lymphadenopathies is very rare [1]. To our knowledge, this is the first case in the literature of brucellosis presenting as retroperitoneal and mesenteric lymphadenopathies.

2. Case report

We present the case of a 52-year-old Lebanese male with a past medical history significant for hypertension and benign prostatic hyperplasia who was admitted to the hospital with a 3-week history of fever (up to 40 °C), chills, night sweats and abdominal pain. On physical examination, the patient was

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febrile at 38 °C with chills and he was tachycardic at 115 beats per minute. The remainder of his physical exam was unremarkable and in particular, his abdomen was soft, with mild diffuse abdominal pain on palpation. No palpable cervical, axillary or inguinal lymphadenopathies. Blood cultures were drawn on admission and initial blood tests revealed a white blood cell count of 4440 cells/ μ L (66.3% neutrophils, 24.6% lymphocytes), a hemoglobin of 14.1 g/dL and a platelet count of 204 000 cells/ μ L. Liver enzymes were within normal range. Abdominal CT scan (Figure 1) revealed the presence of a lymph node of 2.5 cm surrounding the mesenteric vessels in the middle part of the abdomen and infiltrating the mesenteric fat with the presence of several mesenteric lymphadenopathies reaching 13 mm in diameter and some retroperitoneal lymphadenopathies. The patient was scheduled for lymph node biopsy for diagnostic purposes. Meanwhile, the blood cultures came back positive for *B. melitensis* and the patient was started on rifampin 300 mg orally twice daily, doxycycline 100 mg orally twice daily and gentamicin 240 mg intravenously daily. Wright serology came back positive at 1/1280. All serology for EBV, CMV, hepatitis B and C as well as HIV came back negative. CEA and Ca 19-9 were within normal range. The patient subsequently improved and was discharged on gentamicin (to complete 2 weeks of treatment), doxycycline and rifampin (to complete 6 weeks of treatment). The patient's symptoms resolved completely and a follow-up CT of the abdomen done after treatment revealed complete resolution of the lymphadenopathies as well as a negative Wright serology.



Figure 1. Abdominal CT scan showing the mesenteric lymphadenopathies.

3. Discussion

Our patient was admitted to our facility with abdominal pain, night sweats and high grade fever. An abdominal CT

scan revealed the presence of a lymph node of 2.5 cm surrounding the mesenteric vessels in the middle part of the abdomen and infiltrating the mesenteric fat with the presence of several mesenteric lymphadenopathies and some retroperitoneal lymphadenopathies. His clinical presentation was highly suspicious of lymphoma. A careful and extensive review of the literature did not reveal any case report of brucellosis presenting as mesenteric and retroperitoneal lymphadenopathies in an endemic country like Lebanon. Brucellosis was then confirmed by serology and by blood cultures results. A biopsy of the lymph nodes was never done but the patient's response to the treatment and the complete resolution of the lymphadenopathies on the CT scan validates the diagnosis of brucellosis.

Lymphadenopathies are found in only 10%–20% of the cases of brucellosis, cervical lymph nodes being the most common site of involvement [1]. Varona *et al.* reported a case of *Brucella* presenting with isolated cervical lymphadenopathies [1]. We have found no similar cases where only the mesenteric and retroperitoneal lymph nodes were involved.

In endemic areas, the diagnosis of brucellosis should always be raised in front of any long duration fever even in the absence of a typical clinical presentation.

Conflict of interest statement

The authors declare that there is no conflict of interests.

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