

Hepatosplenic Cat-Scratch Disease

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Abstract

Although cat scratch disease (CSD) is not uncommon it goes underdiagnosed frequently. Transmission to humans occurs via cat scratches or bites. Classic lymph node involvement is spontaneously resolved in immunocompetent patients. There are disseminated forms including the hepatosplenic form which is more common in children. Our case study is of a 12-year-old girl with hepatosplenic involvement as well as lymph node involvement. The diagnosis was confirmed by IgM and IgG serology. The treatment was based on antibiotic therapy using doxycycline for a period of 28 days with a good clinical and ultrasound evolution.

Keywords: Cat-scrath Disease; Bartonella henselae; hepatosplenic disease; children.

Introduction

Cat scratch disease is caused by Bartonella Henselae, a small Gram-negative bacillus, most often transmitted by cat scratches or bites. It is a mild and common infection. It is most often identified by a swollen and firm lymphadenopathy in the draining area of a wound, but systemic involvement is possible even in immunocompetent patients. [1]

Observation

A 12-year-old girl, presenting with right crural adenopathy with a medical background that shows evident contact with cats. The history of the disease went back to 3 weeks before her hospitalization starting with a prolonged fever at 38.5 - 39°C and abdominal pain that spread to the back, then, a week later, by the appearance of a *Right crural adenopathy with inflammatory signs* gradually increasing in volume. The admission examination found the patient to be afebrile at 37.5°C, eupneic and normocardic. The clinical examination found a superficial inflammatory right inguino-crural lymphadenopathy, measuring 5cmx5cm, the other lymph nodes were fine. (Figure 1)

Abdominal examination found mild tenderness upon palpation, painful hepatomegaly with a soft lower border and a 3cm splenic overflow with no palpable mass. The rest of the examination was unremarkable



Fig. 1: Right crural adenopathy with inflammatory signs on admission (left) and on D5 of treatment (right)

On paraclinical assessment, ultrasound of the right inguinal region found multiple centimetric and infracentimetric adenopathies, the largest of which is of preserved shape. And heterogeneous echostructure in places with central hypervascularization on color Doppler measuring 28x16mm extended over 44mm. Abdominal ultrasound revealed three lesions in the liver, rounded and poorly limited (hypoechoic) and nonvascularized on color Doppler, the largest of which is located in segment IVa measuring 22x23 mm, as well as five nodular lesions in the spleen well limited (hypoechoic) whose largest upper side measures 10.6x4.5 mm, in addition to numerous coelio-mesenteric, mesenteric and subcentimetric hepatic hilar adenopathies. (Figure 2) Bartonella Hanselae serology was positive: IgG and IgM.

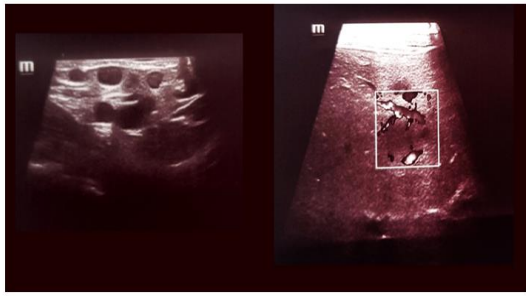


Fig.2. Ultrasound images showing well-defined hypoechoic nodules in the spleen (left) and liver (right)

The patient was treated for 4 weeks with doxycycline and showed a good clinical response with an improvement by the fifth day of the medication, as well as an abdominal ultrasound that revealed no significant abnormalities at the end of the treatment.

Discussion

The incidence of cat scratch disease is underestimated since the clinical signs are not pathognomonic and the disease may go unnoticed. [2]

This condition is most commonly seen in immunocompetent patients by adenopathies of 1 to 5 cm in diameter, which can grow to 8 to 10 centimeters and regress spontaneously in one to four months, but can remain for several years in rare cases. In 10% of instances, local suppuration is evident. [3]

The hepatosplenic forms occur more frequently in children aged 2 to 11 years. In these cases, the clinical presentation includes twenty-day fever between 38 and 41 C, coupled with hepatic and/or splenic abscess, stomach discomfort, and weight loss. [3]

We generally detect a moderate biological inflammatory syndrome. [3] Serology, which has a sensitivity of 88% and a specificity of 97%, can be used to confirm the diagnosis [2], using either indirect immunofluorescence or the immunoenzymatic ELISA technique to identify IgG and IgMs. [4] PCR on lymphadenopathy biopsy or abscess aspiration is the most sensitive test. [2]

Lymph node or liver biopsy is rarely performed since it is invasive, it helps rule out differential diagnosis, mostly of malignant origin [3], and it detects granulomatous hepatitis lesions with visualization of the bacilli with Warthin Starry staining. [5] Samples are frequently negative due to the slow growth of the germ and the difficulties in isolating it. [2]

Imaging often reveals multiple round lesions smaller than 20 mm in diameter spread to the liver and spleen, suggesting micro-abscesses. [6]

In 90% of cases, cat scratch disease resolves spontaneously. Because of the possibility of developing cutaneous fistula,

adenopathies should not be incised or drained. [4] Nevertheless hepatosplenic involvement should be treated. [5]

Antibiotics that can be used in monotherapy or dual therapy include Macrolides, Ciprofloxacin, Doxycycline, Rifampicin, and Trimethoprim-Sulfamethoxazole. [5] According to some studies, Gentamicin and Rifampicin are bactericidal, as opposed to other antibiotics that are bacteriostatic [5], which would allow for a quicker resolution of general symptoms. [1] The duration of antibiotic therapy is 21 to 28 days. [2]

Surgery may be considered in cases where medicinal therapy is ineffective, and splenectomy is occasionally required. [1] Therapeutic surveillance is based on clinical and ultrasound. [2]

Prevention of cat scratch illness remains challenging, as there is presently no vaccination available. [3]

Conclusion

The clinical symptoms of cat scratch disease are not pathognomonic. It should be considered in the case of contact with cats, even in the absence of scratches, especially since serological confirmation is easy, which allows the patient to avoid additional expensive or invasive examinations, or long-term treatment.

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