Case 12281

Eurorad

Bartonellosis

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Section: Abdominal imaging
Area of Interest: Thorax Abdomen
Procedure: Diagnostic procedure
Imaging Technique: CT-High Resolution
Special Focus: Infection Case Type: Clinical Cases
Authors: Madrid JM, Vivas I, Caballeros FM, Bartolomé P, Millor M, Cano D
Patient: 27 years, male

Clinical History:

27-year-old farmer, male, without familiar history, was admitted to the emergency department with fever of 39ºC with evening predominance, chills and night sweating, for three weeks. Blood analysis only revealed increase of inflammatory parameters. Blood culture didn't show pathogen growth.
Imaging Findings:

A Multidetector Computed Tomography of thorax and abdomen was performed.
The only abnormality detected was a medium splenomegaly of 14.5 cm with multiple small hypodense nodules that did not enhance after iv contrast administration, and left axilar adenopathies up to 1.8 cm.
Discussion:

Solid splenic lesions represent a diagnostic challenge for the radiologist because of its wide differential diagnosis, where we can include: metastasis, lymphoma, splenic primary tumours (malignant fibrous histiocytoma, epithelioid tumour, angiosarcoma, among others), granulomatous diseases (sarcoidosis, tuberculosis and histoplasmosis) or abscesses (most frequently by gram negative bacteria, fungi (candida and Aspergillus) or parasites such as Echinococcus granulosus [1].

Furthermore, unilateral axillary lymphadenopathy is also a common finding in many diseases, because it corresponds to the lymphatic drainage station of the arm, chest wall and breast. Malignant disease like breast cancer, melanoma or sarcoma should be included as differential diagnosis; as well as autoimmune, inflammatory, and infectious diseases (rheumatoid arthritis, lupus or Sjögren's syndrome) and diseases such as HIV, bursitis, sporotrichosis or bartolenosis, among others [2].

In our case the clinical blood test and physical state of the patient guided us to an infectious aetiology or lymphoma. In addition, the patient reported that four days before the onset of the fever he had been scratched by a cat.

Cat scratch disease (CSD) is caused by Bartonella Hansae, a gram negative bacteria, which is becoming a more frequent cause of fever of unknown origin, with negative cultures [3].

Clinically CSD is usually presented with a papule at the inoculation site and locoregional lymph nodes, most commonly in the upper limbs, axilla and neck [3, 4]. In fact it is the most common cause of chronic benign lymphadenopathy in children and adolescents [5].

In 15% of the patients, especially immunocompromised, the disseminated form may occur [5] with generalized

lymphadenopathy and systemic involvement [6, 7]. In the abdomen it can produce both hepatic and splenic granulomas, with or without splenomegaly.

Radiological manifestations: in ultrasound, granulomas appear as hypoechoic lesions with irregular edges and poorly defined contours [3]. Some of them may have internal echoes, or hyperechoic edges, which disappear or calcify after antibiotic treatment [6].

On enhanced-CT granulomas are hypodense nodules [6, 7]. In some cases with a peripheral enhancement on delayed phase because of necrotic centres [6]. The diameter of these lesions may range from 3 mm to 3 cm or more.

After several weeks or months after antibiotic treatment, these lesions resolve or calcify [6, 7]. In our patient the CT was performed 5 weeks after treatment and a decrease of the splenomegaly was observed.

The definitive diagnosis is made by serology (IgG) or B. Hansae DNA detection in blood by the polymerase chain reaction (PCR) like in our case [3].
Differential Diagnosis List: Polymerase chain reaction demonstrated Bartonellosis., Sclerosing angiomatoid nodular transformation, Littoral cell angioma, Lymphangiomatosis, Hamartoma, Haemangioma, Infarcts, Siderotic nodule, Infectious: Bartonella, Echinococcus, Mycobacterium tuberculosis, Candida, Metastasis, Lymphoma

Final Diagnosis: Polymerase chain reaction demonstrated Bartonellosis.

References:

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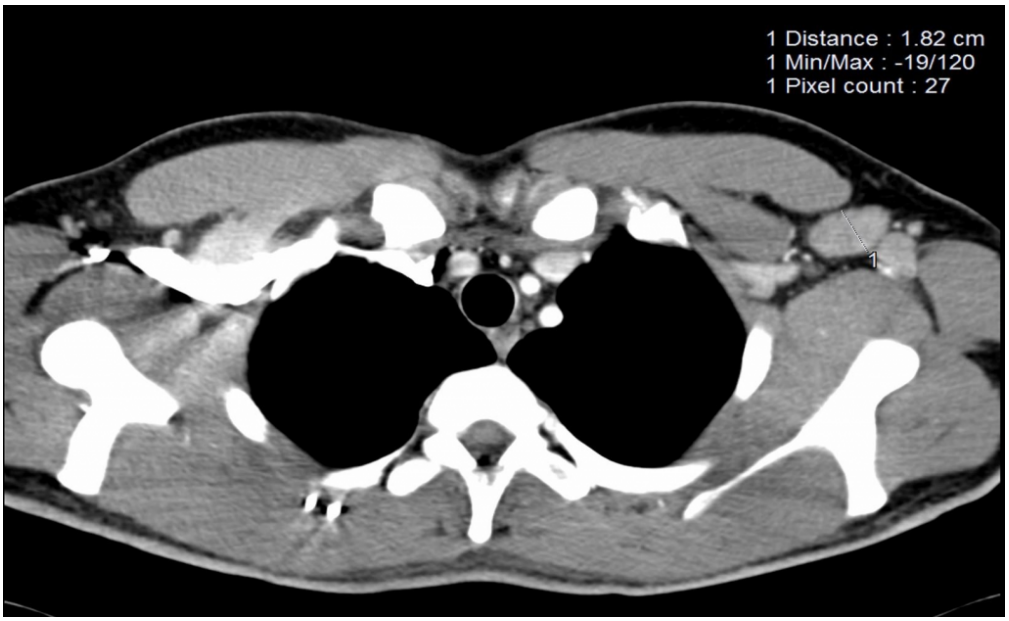
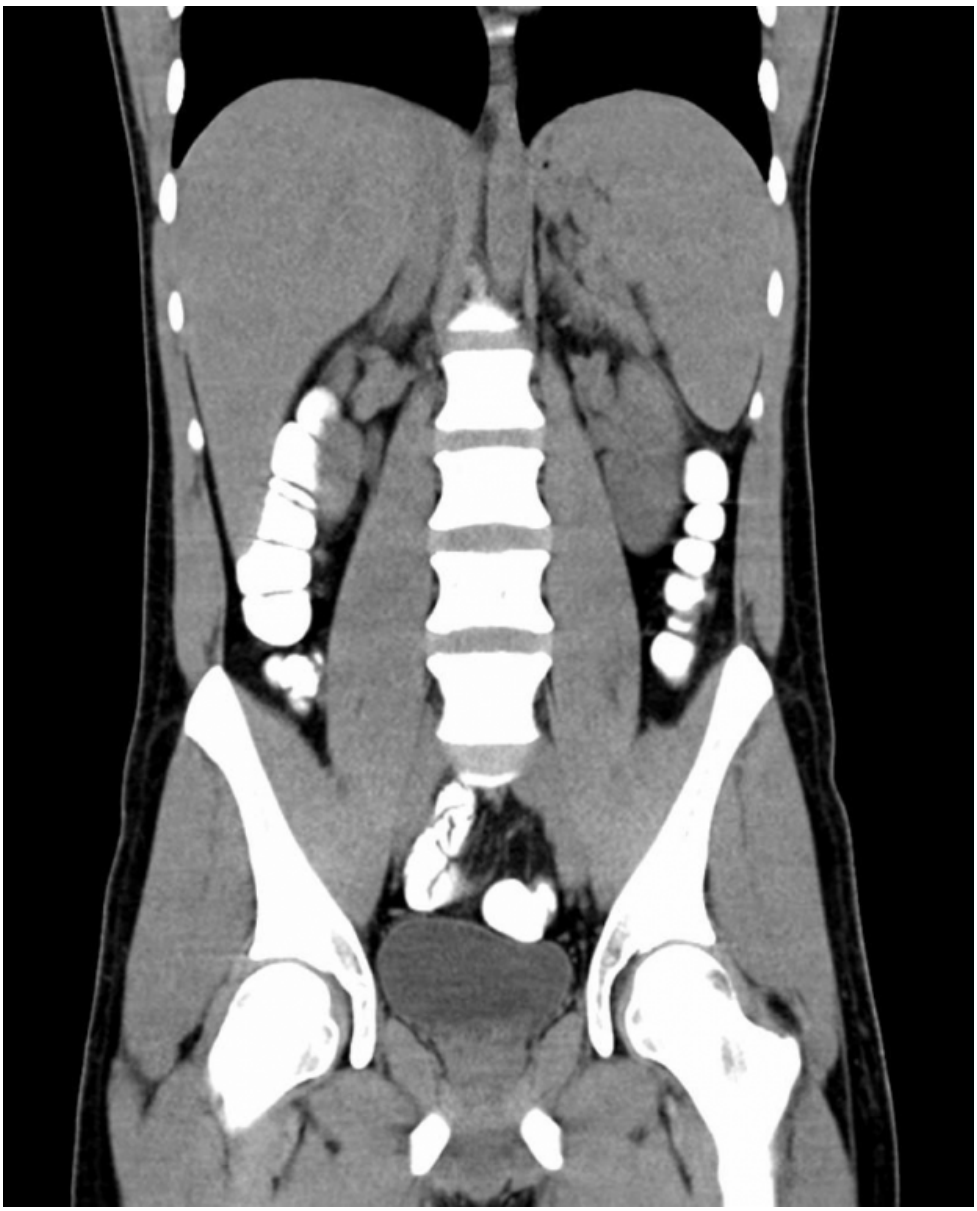
Figure 1

a



Description: A thoracic computed tomography with intravenous contrast media showed left axilar adenopathy enlargement up to 1.8cm. **Origin:** Dra Vivas. Department of Radiology. Clinica Universidad de Navarra, Pamplona, Spain.

b



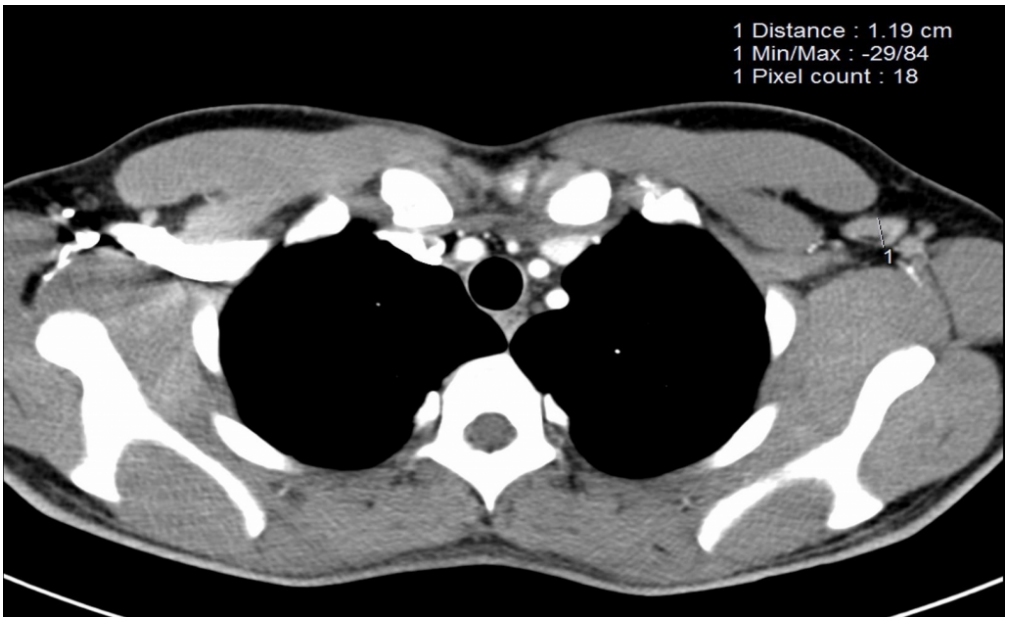
Description: Abdominal computed tomography without intravenous contrast media showing splenomegaly up to 14.5 cm. **Origin:** Dra Vivas. Department of Radiology. Clinica Universidad de Navarra, Pamplona, Spain.

c

Description: Abdominal computed tomography with intravenous contrast media in portal phase (60-70s) showing multiple non-enhanced spleen nodules compatible with microabscesses. **Origin:** Dra Vivas. Department of Radiology. Clinica Universidad de Navarra, Pamplona, Spain.

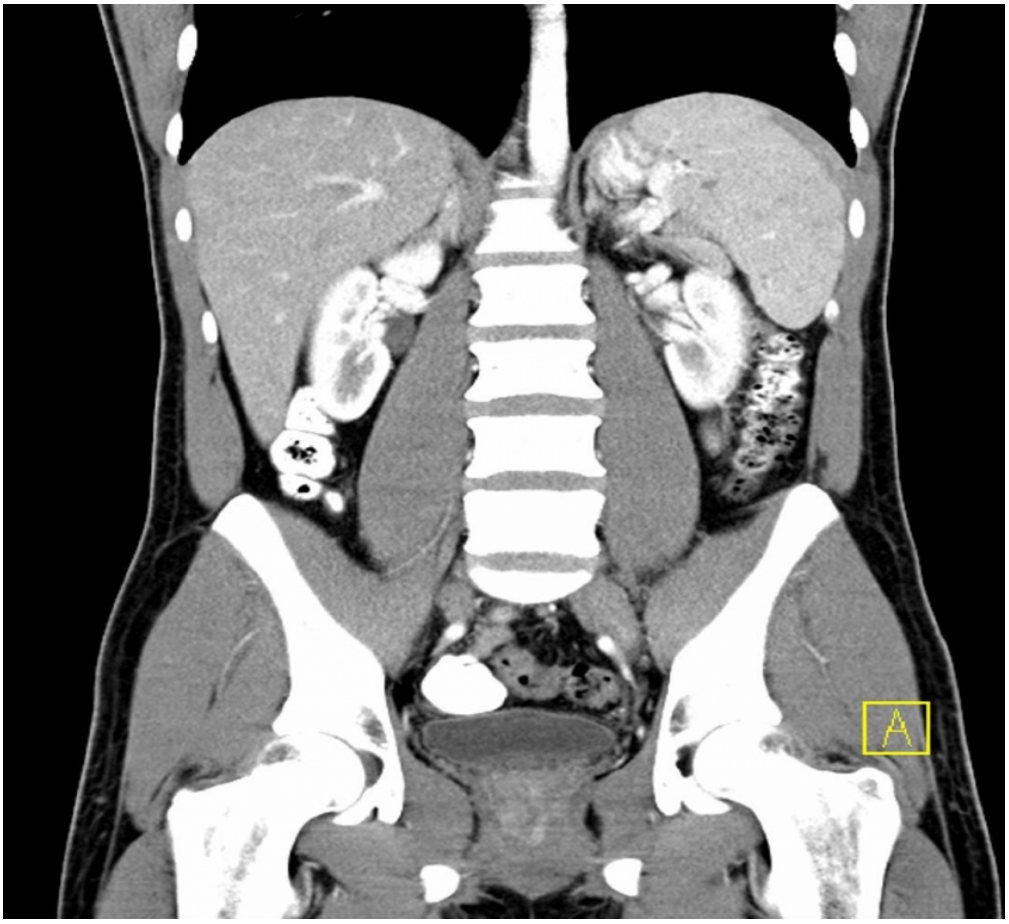
Figure 2

a



Description: Thoracic computed tomography with intravenous contrast media showing axilar adenopathy shrunken to 1.2 cm. **Origin:** Dra Vivas. Department of Radiology. Clinica Universidad de Navarra, Pamplona, Spain.

b



Description: Abdominal computed tomography with intravenous contrast media in portal phase (60-70s) showing decrease of spleen microabsceses in number and diameter. **Origin:** Dra Vivas. Department of Radiology. Clinica Universidad de Navarra, Pamplona, Spain.