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GRANULOMATOUS HEPATITIS DUE TO *BARTONELLA HENSELAE* MIMICKING STAGE IV MALIGNANCY

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ABSTRACT

Introduction: Hepatosplenic cat-scratch disease (HS-CSD) is a rare manifestation of *Bartonella henselae* infection in immunocompetent adults and may closely mimic haematological malignancy.

Case description: A 62-year-old woman with a history of breast cancer presented with an eight-week history of fever, night sweats and weight loss. A fluorodeoxyglucose positron emission tomography-computed tomography (FDG PET/CT) revealed hypermetabolic hepatosplenic lesions, retroperitoneal lymphadenopathy and a focal acetabular bone lesion, strongly suggesting stage IV lymphoma or metastatic disease. Bone marrow biopsy showed no evidence of malignancy; liver biopsy revealed caseous necrotising granulomas. Mycobacterial polymerase chain reaction (PCR) and cultures were negative. Bartonella serology demonstrated a high IgG titre (>1:1.280), while tissue PCR was borderline positive. Treatment with azithromycin and rifampicin for four weeks resulted in clinical improvement and resolution of constitutional symptoms.

Conclusion: HS-CSD can closely mimic advanced malignancy. In patients with prolonged fever, visceral lesions and feline exposure, *B. henselae* infection should be considered early in the diagnostic workup.

KEYWORDS

Granulomatous hepatitis, *Bartonella henselae*, cat-scratch disease, lymphadenopathy

LEARNING POINTS

- HS-CSD may closely mimic advanced malignancy.
- Feline exposure should prompt consideration of *Bartonella henselae* infection in patients with prolonged fever and visceral lesions, to avoid unnecessary investigations or inappropriate treatments.

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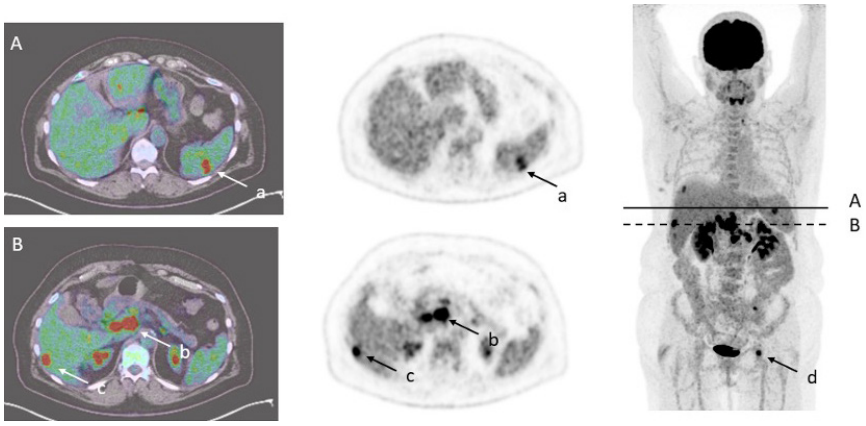


Figure 1. *FDG PET/CT. Maximum-intensity projection and axial fused images demonstrating A) hypermetabolic splenic lesions; B) hypermetabolic retroperitoneal lymphadenopathy; C) hypermetabolic hypodense hepatic lesions and D) a focal bone lesion involving the left acetabulum.*

INTRODUCTION

Cat-scratch disease (CSD) is the most common clinical manifestation of *Bartonella henselae* infection and is usually self-limited. Hepatosplenic involvement is uncommon, particularly in immunocompetent adults, and may present as granulomatous hepatitis and/or necrotising splenitis. We report a case of hepatosplenic cat-scratch disease (HS-CSD) mimicking stage IV malignancy in an immunocompetent adult.

CASE DESCRIPTION

A 62-year-old woman was admitted with an eight-week history of fever, night sweats and unexplained weight loss. Her medical history included breast cancer in remission; she lived at home with cats. Previous treatment with amoxicillin and clavulanate had been ineffective.

Laboratory investigations showed markedly elevated C-reactive protein (197 mg/l; reference <8 mg/l), mild normocytic anaemia (haemoglobin 11.9 g/dl) and elevated lactate dehydrogenase (310 U/l; reference <246 U/l). Blood cultures remained sterile. Computed tomography (CT) imaging demonstrated retroperitoneal lymphadenopathy and hypodense hepatosplenic lesions.

Empirical corticosteroid therapy with methylprednisolone (64 mg/day) resulted in transient clinical improvement, followed by relapse after withdrawal. A fluorodeoxyglucose positron emission tomography-computed tomography (FDG PET/CT) subsequently demonstrated hypermetabolic retroperitoneal lymphadenopathy, hepatosplenic lesions and a focal lesion of the left acetabulum *(Fig. 1)*. Given these findings and the patient's oncological history, stage IV lymphoma or metastatic disease was strongly suspected.

The patient was referred to the haematology unit. Bone marrow examination showed no evidence of malignancy. Liver biopsy revealed portal hepatitis with caseous necrotising granulomas on haematoxylin and eosin staining *(Fig. 2)*. ZiehlNeelsen staining was performed, and polymerase chain reaction (PCR) tests for the Mycobacterium tuberculosis complex and mycobacterial cultures were negative.

Autoimmune serology and serological testing for other granulomatous infectious diseases were negative. Indirect immunofluorescence assay demonstrated a high Bartonella IgG antibody titre (>1:1280), strongly suggesting infection. Specific PCR performed on liver tissue yielded a borderline-positive result; transthoracic echocardiography showed no evidence of infective endocarditis.

Based on the clinical presentation, feline exposure, histopathological findings, positive serology and borderline-positive tissue PCR, a diagnosis of HS-CSD was established. Azithromycin and rifampicin were administered for four weeks, resulting in clinical improvement and complete resolution of constitutional symptoms.

DISCUSSION

HS-CSD is an uncommon manifestation of *B. henselae* infection in immunocompetent adults. It may present with fever, constitutional symptoms, granulomatous hepatitis, splenic lesions and, rarely, disseminated involvement such as osteomyelitis[1–3].

This case illustrates the substantial diagnostic overlap between HS-CSD and advanced malignancy. Fever, night sweats, weight loss, elevated lactate dehydrogenase and FDG-avid hepatosplenic, and nodal and bone lesions strongly suggested disseminated cancer, particularly given the patient's history of breast cancer. The acetabular lesion further supported the suspicion of metastatic disease.

Histology initially raised the possibility of tuberculosis because of the presence of caseous necrotising granulomas. However, mycobacterial PCR and cultures

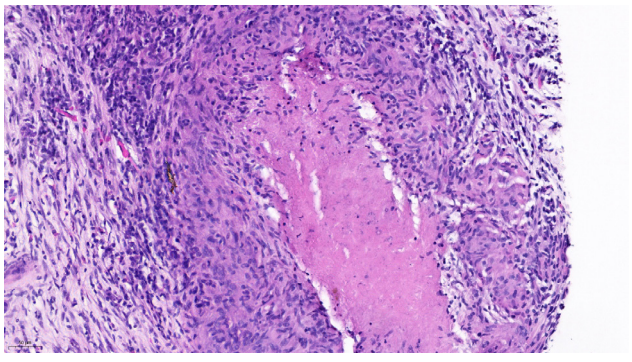


Figure 2. *Liver biopsy. Haematoxylin and eosin staining showing caseous necrotising epithelioid granulomas with portal hepatitis: cross section × 40 magnification.*

were negative. The diagnosis was ultimately supported by the combination of feline exposure, characteristic clinical and radiological findings, high Bartonella IgG titre and borderline-positive tissue PCR. Serology remains an important diagnostic tool, while tissue PCR may provide complementary evidence in diagnostically challenging cases[3].

Although uncomplicated CSD is generally self-limited, antimicrobial treatment is considered in systemic or visceral disease. Treatment courses of approximately four to six weeks have been reported for visceral involvement[4]. In this case, four weeks of azithromycin and rifampicin were associated with complete clinical resolution.

CONCLUSION

HS-CSD should be considered in the differential diagnosis of prolonged febrile illness with hepatosplenic and lymph node lesions, particularly in patients with feline exposure. Early recognition may prevent unnecessary invasive investigations and inappropriate oncological treatment.

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