

Cutaneous nodules and hepatosplenic lesions caused by bacillary angiomatosis in a patient with AIDS

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Accepted 2 February 2023

DESCRIPTION

A man in his 30s with AIDS and CD4 count of 11 cells/ μ L presented with fever, malaise, vomiting and asymptomatic nodules on his right forearm. Over the month prior to presentation, the patient noticed two growing nodules over his right distal forearm. He reported occasional bleeding of the lesions with trauma but denied associated pain or pruritus. Over-the-counter salicylic acid gel for treatment of presumed warts did not improve his symptoms. Further history revealed he had been off antiretroviral therapy for one year and had been potentially scratched by a cat prior to the development of the cutaneous nodules. On examination, he had two violaceous, umbilicated nodules with overlying haemorrhagic crust on his right distal forearm without regional lymphadenopathy (figure 1). Abdominal examination was unremarkable. Laboratory testing demonstrated a mildly elevated aspartate aminotransferase (55 U/L), and normal alanine aminotransferase, alkaline phosphatase and total bilirubin. Complement fixation antibody titer for *Histoplasma* yeast was 1:8, but urine *Histoplasma* antigen was undetectable. Rapid plasma reagin was unreactive, and interferon-gamma release assay for tuberculosis was negative. *Bartonella henselae* and *Bartonella quintana* antibody



Figure 1 Violaceous, umbilicated nodules with overlying haemorrhagic crust over the right distal forearm.

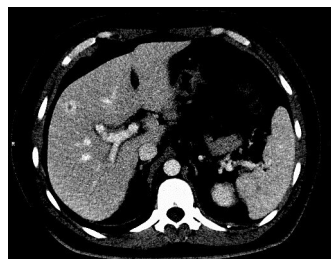


Figure 2 CT of the abdomen and pelvis revealing numerous hepatosplenic hypodensities.

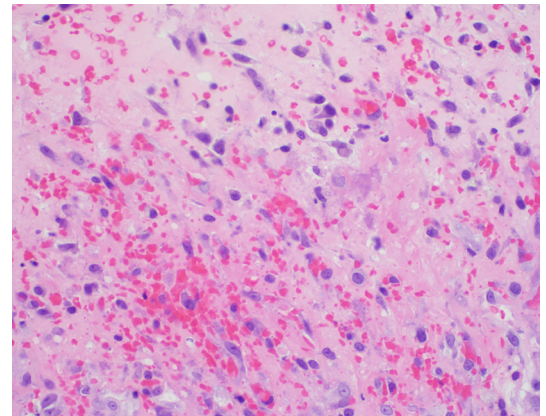


Figure 3 Punch biopsy with H&E staining, demonstrating vascular proliferation and clusters of pleomorphic basophilic bacilli in the stroma.

titers were negative. Abdominal and pelvic CT displayed two subcentimeter hepatic hypodensities with peripheral enhancement and numerous splenic hypodensities associated with abdominal lymphadenopathy (figure 2). A punch biopsy of the skin was performed (figure 3), and Warthin-Starry staining demonstrated clusters of bacteria, confirming the diagnosis of bacillary angiomatosis (BA) (figure 4). HHV8 staining was negative. In addition to the cutaneous lesions, his hepatosplenic lesions were thought to represent bacillary peliosis, a rare manifestation of splenic and hepatic involvement of *Bartonella*, most commonly *B. henselae*.^{1 2} Parenteral therapy is generally recommended for bacillary peliosis; however, because of the patient's initial improvement on oral doxycycline 100 mg two times per

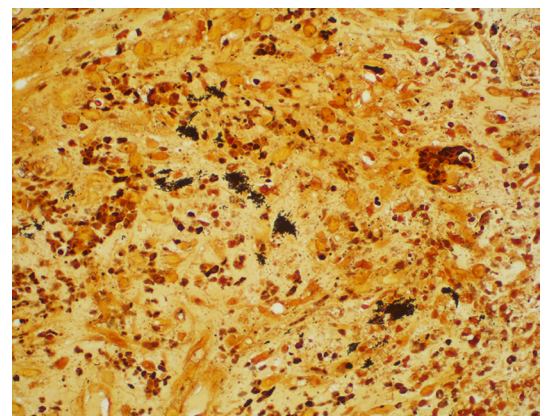


Figure 4 Positive Warthin-Starry stain revealing clusters of bacteria.



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To cite: Nguyen K, Kim A, McKesey J, et al. *BMJ Case Rep* 2023;**16**:e252489. doi:10.1136/bcr-2022-252489

day, the infectious diseases team recommended oral doxycycline for 3 months. Doxycycline was chosen over erythromycin because of its more favourable side effect profile, but either can be used in treatment based on consensus guidelines.^{3 4} At a six-month follow-up visit, the skin lesions and fevers had resolved.

Bacillary angiomatosis is a vasoproliferative disease caused by *B. henselae* and *B. quintana*. Cats are a reservoir for *B. henselae*, and cat licks, scratches and bites often precede BA development.² *Bartonella* spp replicate within erythrocytes and can spread haematogenously to the skin, bone, lymph nodes and brain.^{1 5} Cutaneous lesions present as friable red-purple papules, nodules or ulcers.^{2 6} The differential diagnoses of BA include pyogenic granuloma, atypical mycobacterial infection, cutaneous tuberculosis, endemic fungal infection and Kaposi's sarcoma (KS). Cutaneous lesions of KS can be clinically indistinguishable from BA and must be considered in the differential in HIV-infected patients. Thus, histopathology is required for diagnosis. BA pathology shows lobular capillary proliferation with endothelial swelling, neutrophils and leucocytoclasia. Bacteria aggregates are detected with Warthin-Starry staining.⁶ Histological features of KS include spindle cell proliferation with intervening slit-like spaces and erythrocyte extravasation.⁷ Additionally,

Learning points

- ▶ Bacillary angiomatosis, caused by infection with *Bartonella henselae* or *B. quintana*, is characterised by violaceous papulonodules on the skin and is most commonly seen in the setting of AIDS.
- ▶ The cutaneous lesions of bacillary angiomatosis may mimic Kaposi's sarcoma, and skin biopsy is necessary to distinguish these two diagnoses.
- ▶ Rarely, bacillary angiomatosis can be complicated by splenitis or hepatic involvement, termed bacillary peliosis.

HHV8 staining is typically positive. Treatment with oral or intravenous erythromycin or doxycycline is recommended with close monitoring for relapse.^{3 4}

Contributors KN, AK and JM drafted and reviewed the manuscript. AK, JM and CT cared for the patient. CT revised the manuscript and supervised every process.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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