

CASE REPORT

Bacillary angiomatosis: A rare finding in the setting of antiretroviral drugs

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An HIV-positive 39-year-old man presented with generalised nodular lesions. He was afebrile and normotensive, with a normal respiratory rate. The rest of the examination was normal. He had been on antiretroviral therapy for >4 years; most importantly, he was on a second-line regimen (lopinavir/ritonavir (Aluvia) based). The appearance of the lesions, together with the history, led to the following possible diagnoses: bacillary angiomatosis, cutaneous cryptococcosis, nodular Kaposi sarcoma or cutaneous histoplasmosis.

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Investigations revealed the following:

- absolute CD4 count: $15 \times 10^6/L$ (500 - 2 010)
- HIV viral load: 1 764 copies/mL
- blood cultures: aerobic and anaerobic – negative
- full blood count: normocytic anaemia, with haemoglobin: 8 g/dL (14.3 - 18.3)
- urea and electrolytes: normal
- liver function test: normal
- calcium, magnesium and phosphate: normal
- urine microscopy culture and sensitivity: negative
- sputum for GeneXpert for tuberculosis: negative
- bone marrow trephine biopsy: multifactorial cause of anaemia, no obvious infiltrates
- skin biopsy – vascular proliferative lesions in keeping with *Bartonella*, substantiated by a polymerase chain reaction (PCR)
- tissue culture: no growth
- chest radiography: normal.

A diagnosis of bacillary angiomatosis is clinical and can be confirmed by serology, blood culture and histology.^[1-3] It is difficult to culture *Bartonella*;^[1,2] serology cannot



Fig. 1. Bacillary angiomatosis lesions on the forehead.

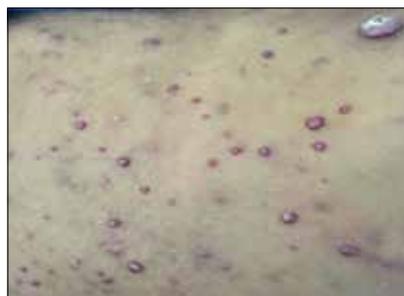


Fig. 2. Bacillary angiomatosis lesions on the back.

differentiate between species.^[1,2] Warthin-Starry silver staining is the gold standard for diagnosis, revealing clusters of bacilli.^[1,2]

Vascular proliferative lesions are typical histological features.^[1,2] In our case, however, Warthin-Starry silver staining did not reveal the bacilli; therefore, tissue was sent for PCR testing, which confirmed the diagnosis. Nested PCR yielded 19 positive results from 188 specimens from HIV-positive patients.^[4] After being treated with erythromycin and rifampicin for 1 month, our patient's lesions regressed.



Fig. 3. Vascular lesions of bacillary angiomatosis on the right elbow.



Fig. 4. Vascular lesions of bacillary angiomatosis on the right knee.

Discussion

There are >30 different species of *Bartonella*,^[1,2] of which 13 have been isolated in humans.^[1,2] *Bartonella* species are fastidious, facultative, intracellular, slowgrowing Gram-negative bacteria that cause a broad spectrum of diseases in humans.^[1] The two most commonly associated with HIV are *B. quintana* and *B. henselae*.^[1,2,5] Transmission of *Bartonella* to humans occurs via a cat scratch that is contaminated with *Bartonella*-infected fleas.^[1,2,5,6] The prevalence of *Bartonella* in HIV-positive persons is reported to be very

low.^[1,2,6] Various organs or systems may be involved in *Bartonella* infection, ranging from skin, subcutaneous tissue, bones, mucosa, central nervous system, lymph nodes, liver and spleen.^[1,2,7-10] Unspecific manifestations, such as bacteraemia, endocarditis and unexplained fever, have also been reported.^[1,2]

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