

ANSWER TO PHOTO QUIZ (PAGE 303)

SEPTICAEMIA AND LIVER ABSCESSSES AFTER A SKIN ULCER IN THE TROPICS

DIAGNOSIS

We made a diagnosis of *Chromobacterium violaceum* bacteraemia with liver abscesses. *C. violaceum* is a Gram-negative facultative anaerobic coccobacillus that is motile, catalase-positive, and oxidase positive. The violet pigment violacein is produced by most strains, but unpigmented (sub)strains are also observed. Growth at 37 °C distinguishes *C. violaceum* from *Iodobacter fluvialis* and *Janthinobacterium lividum*, which also produce violacein but require lower growth temperatures.¹

C. violaceum occurs in soil and stagnant water in tropical and subtropical areas, but very rarely leads to human disease. If it does, it frequently causes rapid sepsis with metastatic abscesses in the liver, lung, or spleen. This explains the high case-fatality rate of approximately 50%. The incubation time is 3-14 days. Pathogen introduction typically occurs via a skin wound. Approximately 70% of patients have skin lesions, either from previous trauma or pustules.²

The high virulence of certain strains of *C. violaceum* possibly originates from elevated superoxide dismutase and catalase levels, providing relative protection against phagocytosis by leucocytes.³ Consequently, patients with chronic granulomatous disease (CGD) have a higher risk of acquiring a symptomatic infection with *C. violaceum*, although over 90% of published cases have occurred in an immunocompetent host.⁴

C. violaceum is generally susceptible to antibiotics such as carbapenems, fluoroquinolones and aminoglycosides, among others. Based on one retrospective cohort study describing antimicrobial susceptibility and clinical outcome, septic patients are treated with a combination of a carbapenem and a fluoroquinolone to achieve the highest efficacy.²

The site of entry for the *C. violaceum* in our patient was likely the skin ulcer. He was first treated with monotherapy meropenem, but because of persistent bacteraemia, ciprofloxacin was added. After two weeks of combination therapy, he continued with ciprofloxacin monotherapy for three months. As our patient had no history of recurrent infections at his age, we performed no additional test to formally rule out CGD. He recovered completely.

This case describes a rare but potentially fatal cause of liver abscesses in the tropics. It is good clinical practice to account for low-risk/high-probability pathogens as well as high-risk/low-probability pathogens.

We propose that, in cases of liver abscesses in the tropics, especially in the presence of a recent skin trauma, infection with *Chromobacterium violaceum* should be considered, due to its high virulence and significant risk of relapse.

DISCLOSURES

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