



## Answer to Photo Quiz: *Capnocytophaga canimorsus*

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**KEYWORDS** *Capnocytophaga*, animal bite, asplenia, sepsis

Asplenic patients are at risk for postsplenectomy sepsis with pathogens such as encapsulated bacteria (*Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Neisseria meningitidis*), *Babesia*, and *Plasmodium falciparum* (1, 2). *Capnocytophaga canimorsus* is a zoonotic Gram-negative bacillus that is associated with fulminant infections in asplenic patients with histories of dog bites or scratches. Other risk factors include alcohol abuse and immunosuppression (3). Besides a thorough review of the patient's medical history, including animal exposure, Wright-Giemsa staining of a peripheral blood smear or a buffy coat provides a diagnostic clue of *Capnocytophaga* sepsis (4). The presence of Howell-Jolly bodies, which are the basophilic DNA remnants of red cells, nucleated red blood cells, and Pappenheimer bodies, all indicate inadequacy of splenic function for filtering these cells. *Capnocytophaga* is a slender, medium-to-long, Gram-negative bacilli with tapered ends, which is different from other common pathogens in the differential diagnoses of these patients.

*Capnocytophaga* is a fastidious bacterium often taking 48 to 72 h to reach 2 to 4 mm in diameter and usually requires incubation in 5 to 10% CO<sub>2</sub>. It can grow on blood and chocolate agars but not on MacConkey agar. Since it has no flagella, it is nonmotile on motility test medium. However, *Capnocytophaga* can move slowly with gliding motion, producing spreading edges and finger-like projections at the periphery of the colonies (5). Zoonotic strains like *C. canimorsus* and *C. cynodegmi* are distinguishable from human strains by positive catalase, oxidase, and arginine dihydrolase tests as well as lack of pigmentation (6). Phenotypic characterization, however, has limitations in identifying *Capnocytophaga* to the species level. 16S rRNA gene sequencing is an accurate identification method for a wide variety of bacterial species, including *Capnocytophaga* species (7). Our isolate exhibited 100% homology to *C. canimorsus*. Matrix-assisted laser desorption ionization–time of flight mass spectrometry (MALDI-TOF MS) is a recently developed diagnostic tool. Unfortunately, *C. canimorsus* is not included in the current database of the Vitek MS system (bioMérieux, Durham, NC). There is no standardized method of susceptibility testing, but *Capnocytophaga* is considered broadly susceptible to many antibiotics, including beta-lactam/beta-lactamase inhibitor and extended-spectrum cephalosporins (6). The patient was discharged after a 4-week course of ceftriaxone, but she still suffered from digital ischemia as sequelae of sepsis.

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**Citation** Plongla R, Gilligan PH. 2017. Answer to Photo Quiz: *Capnocytophaga canimorsus*. *J Clin Microbiol* 55:1601–1602. <https://doi.org/10.1128/JCM.01867-15>.

**Editor** P. Bourbeau

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