

ANSWER TO PHOTO QUIZ (PAGE 214)

DOES IT BITE?

DIAGNOSIS

The positive blood cultures indicated that sepsis with DIC was plausible. ADAMTS-13 (a disintegrin and metalloproteinase with a thrombospondin type 1 motif, member 13) activity was 26%, making TTP unlikely, and therefore, plasmapheresis was discontinued. Shigella toxin-mediated HUS was considered unlikely since the duration of diarrhoea was relatively short and the Shigella toxin PCR on stool was negative, as were cultures of urine, faeces, and sputum. Drug-induced TMA is very rare, and the anamnesis and a negative urine drugs/toxicology test indicated that a serotonin toxidrome was unlikely. Echocardiography showed no signs of endocarditis.

Our patient improved with fluid resuscitation, vasopressor therapy, and antibiotics. Creatinine temporarily increased to 666 $\mu\text{mol/l}$, but no kidney replacement therapy was needed, and creatinine normalised over time. After six days of ICU treatment, the patient was discharged to the general ward and recovered completely.

After eight days, the Gram-negative rods were characterised as *Capnocytophaga canimorsus* with matrix-assisted laser desorption/ionisation time-of-flight mass spectrometry. The isolate was susceptible to penicillin and cephalosporins. The wound on the right thumb turned out to be the result of a bite from his puppy, prior to presentation.

C. canimorsus is a fastidious, slow-growing capnophilic Gram-negative rod and inhabits oral cavities of dogs, cats, and other animals. It can cause human infections, usually after a dog bite, but also after licks or just close proximity to animals. Septicaemia often has a fulminant course and a mortality rate up to 31%.^{1,2} Severe cases of septic shock, diffuse purpura, and DIC, as in our patient, have been previously reported.^{3,4} Although severe infections usually occur in immunocompromised patients (e.g., asplenia, alcohol abuse), this was not the case in our patient.

This case and other cases show that diagnosis of *C. canimorsus* septicaemia is challenging due to incomplete history taking regarding contact with animals, and slow growth of this bacterium.^{1,3,5}

C. canimorsus isolates are typically susceptible to penicillin, although there is evidence for increasing resistance due to emerging β -lactamase production. First-line treatment in severely ill patients should be with β -lactamase inhibitor combination, cephalosporins, or carbapenems. When susceptibility to penicillin is proven, a switch can be made, and less severe infections can be treated with clindamycin.^{6,7}

DISCLOSURES

The authors have no conflicts of interest to declare.

REFERENCES

1. van Dijk PR, Ham JC, Bloembergen P, et al. Capnocytophaga canimorsus bacteraemia: not just caused by animal bites. Tijdschr Infect. 2013;8:22-6.
2. Mader N, Lührs F, Langenbeck M, et al. Capnocytophaga canimorsus – a potent pathogen in immunocompetent humans – systematic and retrospective observational study of case reports. Infect Dis (Lond). 2020;52:65-74.
3. Claassen RI, Savelkoul C, Schouten MA, et al. Pets are a risk for asplenic patients: Capnocytophaga canimorsus infection in an asplenic patient. Ned Tijdschr Geneesk. 2016;160:D240.
4. Ahmad S, Yousaf A, Inayat F, et al. Capnocytophaga canimorsus-associated sepsis presenting as acute abdomen: do we need to think outside the box? BMJ Case Rep. 2019 Mar 14;12(3). pii: e228167. doi: 10.1136/bcr-2018-228167.
5. Janda JM, Graves MH, Lindquist D, et al. Diagnosing Capnocytophaga canimorsus infections. Emerg Infect Dis. 2006;12:340-2.
6. Lion C, Escande F, Burdin JC. Capnocytophaga canimorsus infections in human: review of the literature and cases report. Eur J Epidemiol. 1996;12:521-33.
7. Jolivet-Gougeon A, Sixou JL, Tamanai-Shacoori Z, et al. Antimicrobial treatment of capnocytophaga infections. Int J Antimicrob Agents. 2007;29:367-73.