

IMAGES IN EMERGENCY MEDICINE

Infectious Disease

Purpura fulminans

Florian Reizine MD^{1,2}  | Lea Picard MD^{1,2} | Caroline Piau PharmD³ |
 Jean-Marc Tadié MD, PhD^{1,2}

¹ Infectious Diseases and Intensive Care Unit, University Hospital of Rennes, Rennes, France

² University of Rennes, Rennes, France

³ Department of Bacteriology, University Hospital of Rennes, Rennes, France

Correspondence

Florian Reizine, MD, Infectious Diseases and Intensive Care Unit, University Hospital of Rennes, F-35033 Rennes, France.

Email: florian.reizine@chu-rennes.fr

CASE PRESENTATION

A 62-year-old man was brought to the hospital because of altered mental status associated with fever and an extensive purpuric rash 5 days after a dog bite. He rapidly became hypotensive despite fluid resuscitation, norepinephrine, and broad-spectrum antibiotic agents (cefotaxime initially then meropenem). Admission laboratory results showed disseminated intravascular coagulation and acute renal failure. Examination of a peripheral blood smear evidenced multiple extracellular and intracellular bacilli, but prolonged blood cultures remained negative despite no prior antibiotic administration (Figure 1). Transthoracic echocardiography revealed a marked reduction in left ventricular contraction. He experienced a brief cardiac arrest, which was successfully resuscitated and led us to place this patient under venoarterial extracorporeal membrane oxygenation (VA-ECMO) (Figure 2). Patient data were anonymized, and his relatives provided written consent.

DIAGNOSIS

Capnocytophaga canimorsus

Finally, 16S rRNA gene sequencing directly from blood allowed the identification of *Capnocytophaga canimorsus* with >98% sequence similarity. As a result of improving cardiac function, VA-ECMO was removed 5 days later, and he was weaned off of norepinephrine at day 10.

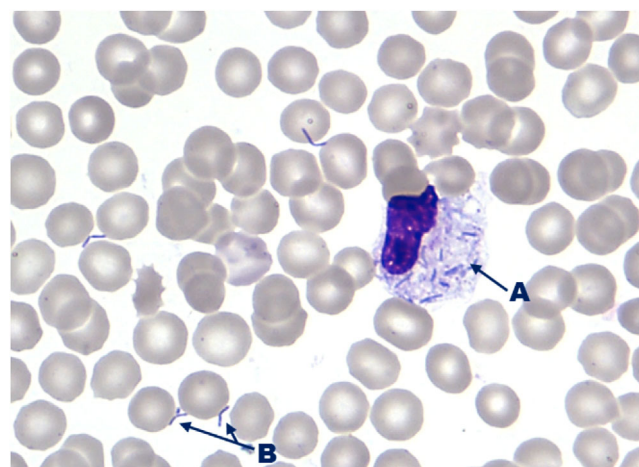


FIGURE 1 Intracellular (A) and extracellular (B) bacilli on blood smear at admission (May-Grunwald-Giemsa staining, ×1000)

DISCUSSION

Capnocytophaga canimorsus is a commensal Gram-negative rod of dog and cat saliva.¹ Bacterial diagnosis is challenging since these pathogens are fastidious facultative anaerobic bacteria. Blood smear microscopy and molecular tools were the cornerstones of this diagnosis. Supportive therapy with ECMO should be considered as a salvage therapy in such a situation.²

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2021 The Authors. *JACEP Open* published by Wiley Periodicals LLC on behalf of American College of Emergency Physicians



FIGURE 2 Symmetrical extensive purpura fulminans of legs and arms with emerging gangrene of fingers

ORCID

Florian Reizine MD  <https://orcid.org/0000-0002-7288-7769>

REFERENCES

1. Suzuki M, Imaoka K, Haga Y, et al. Characterization of three strains of *Capnocytophaga canis* isolated from patients with sepsis. *Microbiol Immunol*. 2018;62(9):567-573.

2. Ventetuolo CE, Muratore CS. Extracorporeal life support in critically ill adults. *Am J Respir Crit Care Med*. 2014;190(5):497-508.

How to cite this article: Reizine F, Picard L, Piau C, Tadié J-M. Purpura fulminans. *JACEP Open*. 2021;2:e12423. <https://doi.org/10.1002/emp2.12423>