

Capnocytophaga Infection in an Asplenic Patient

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Introduction

- Capnocytophaga species is a rare cause of sepsis in humans
- 72- 74% infections are in men (peak age 50-70), and half have history of a dog bite
- 0.67 cases per million a year, case fatality rate 31%

Case Presentation

- 57 year old male with a history of carpal tunnel syndrome, seizure, stroke, post-splenectomy who was bitten by a dog and developed syncope episodes.
- At outside ED, CT scan showed adrenal mass, otherwise negative, so patient was discharged on hydrocodone.
- 2 days after discharge patient developed AMS, dyspnea, chills, visual changes, and his bilateral upper and lower extremities started turning purple and was admitted to ICU with acute renal failure and septic shock.
- Physical exam notable for kussmaul respirations, dry oral mucosa, tachycardia, hypotension (85/61), tachypneic to 55, bite marks on right thumb, purpura bilateral UE, LE, face.
- Laboratory studies at admission significant for:
 - WBC 44.49
 - Hemoglobin 12.7, Platelets 84
 - Creatinine 3.47, BUN 86, GFR 17
 - Alkaline phosphatase 118
 - AST 519 and ALT 224
 - CPK 18328, Lactic acid 1.6, proBNP 14583
 - CRP 37.7, Procalcitonin >200
- Initially treated with IV Zosyn, doxycycline, clindamycin, and vancomycin

Hospital Course:

- Hospital day 4 patient's hemoglobin dropped to 9.9 and platelets dropped to 26, blood culture from outside hospital turned positive for gram negative bacteremia. Antibiotic coverage narrowed to IV piperacillin-tazobactam and levofloxacin.
- Hospital day 5 patient developed worsening hypoxia on nonrebreather and was placed on BiPAP, creatinine normalized and WBC continued to downtrend. CT neck negative for epiglottitis, ECHO negative for endocarditis, EF 55-60%.
- Hospital day 7 patient transitioned to room air, clinically improved
- Hospital day 12 patient discharged on IV piperacillin-tazobactam and PO levofloxacin.

Clinical Follow-up

- Completed a total of 44 days of antibiotics. While outpatient patient continued IV Zosyn and PO levofloxacin, antibiotic treatment course was extended due to concern of persistent infection.
- Blood culture took 23 days to grow from the outside hospital



Follow-up

- Patient's wound closed and he has nearly full range of motion, see below.



Discussion:

- Capnocytophaga should be considered on the differential for patients who are immunocompromised with a history of dog bite
- When there is the presence of a slow growing gram-negative organism, treatment to cover Capnocytophaga should be done, as infection can progress rapidly and result in death in 24-72 hours due to microvascular injury and endothelial damage.

References

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