



## Introduction

- *Capnocytophaga* is a gram-negative rod native to oral flora of canines.
- Subclinical infection in humans; rarely severe septic shock, meningitis, endocarditis, and osteomyelitis.
- Only 450 cases reported in the literature to date.
- Risk factors for fulminant infection include asplenia, alcohol abuse, or immune suppression.

## Patient Presentation

- 50-year-old unhoused man with HTN, heroin insufflation, cocaine use presented with 3-day history of progressive bilateral leg pain and weakness.
- Reported dog bite on left hand 3 days prior.
- Endorsed fevers, chills, diffuse abdominal pain, and rash on legs and abdomen (Figure 1).
- Pertinent vitals include tachycardia, tachypnea, and temperature of 100.2.
- Initial labs revealed leukocytosis, rhabdomyolysis, acute renal failure, acute liver failure, thrombocytopenia, and anion gap metabolic acidosis (Table I).

## Clinical Course



**Figure 1.** Peripheral gangrene and purpura fulminans lesions of nose, fingers, hands, arms, legs, and feet

- Initial CTA: no perfusion below popliteal arteries, renal infarcts, splenic infarct, and mesenteric ischemia.
- Ultrasound: bilateral DVTs of femorals veins.
- Clinical status rapidly deteriorated requiring intubation.

**Table I. Lab values on admission.**

Lab Studies	Values on admission
WBC	30,000
Platelet Count	5,000
Creatinine Kinase	56,000
Phosphorus	9.3
Potassium	5.4
Calcium	5.5
Creatinine	5.6 (baseline 1.2)
BUN	117
AST	1087
ALT	535
PTT	34.6
D-Dimer	8,076
Fibrin Split	>20
Protein C	39
Protein S	36
Lactate	13.3
Bicarbonate	7
Anion Gap	40
pH	7.05

**Table II. Antibiotics given.**

Antibiotic	Days Administered
Piperacillin-Tazobactam 4.5g daily	Day 1, Day 2
Metronidazole 500mg q12	Day 1, Day 2, Day 22-48
Clindamycin 900mg q8	Day 2, Day 3
Vancomycin 1500 mg, 1000 mg	Day 2, Day 5
Meropenem 500 mg IV	Day 2-Day 14, Day 17-22
Daptomycin 8 mg/kg q48	Day 5, Day 36-48
Linezolid 600 mg q12	Day 6-Day 36
Fluconazole 800 mg IV	Day 7
Amphotericin 360 mg daily	Day 8, Day 9
Anidulafungin 200 mg daily	Day 9-Day 48
Cefepime 2g q8	Day 22-48

- Initial blood cultures positive for MRSA and *Proteus* on day 2. Positive for *Capnocytophaga* on day 10.
- Hemorrhagic bullae and purpura progressed to sacral and genital ischemia and necrosis.
- Fungal infiltration of nares with blood cultures (Day 4) positive for *Candida albicans*.
- Extubation on day 6 with stabilization of renal function and platelet count.
- Diarrhea and diffuse abdominal pain developed on day 14, GI pathogen panel negative.
- Cough developed on day 11; CXR with bilateral infiltrates.
- TEE with vegetation on mitral valve.
- Repeat blood cultures positive for *Citrobacter* on day 13.
- B/I AKA and multiple digit amputations.
- Discharged on day 51.

## Discussion

- Clinical picture of septic shock with multiorgan failure, DIC, purpuric rash, and peripheral gangrene is classic for purpura fulminans.
- Chronic opioid dependence has been implicated in diminished immune response to pathogens.
- *Capnocytophaga* is a slow growing bacteria, maintaining clinical suspicion in the immunocompetent is vital.
- Treatment of genitals with tadalafil, nitroglycerine paste prevented surgical intervention for necrosis.