When blood cultures surprise: an unsuspecting case of *Vibrio vulnificus* bacteremia

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Introduction:
Vibrio vulnificus is a gram-negative bacillus known for causing severe infections, including necrotizing fasciitis and septic shock. Transmission occurs via ingestion of contaminated seafood or wound exposure to brackish water. Infections typically present as primary sepsis, wound infection, or gastroenteritis. Patients with septicemia frequently develop rapidly progressive skin lesions, and case-fatality rates have been reported as high as 50%. Although the overall incidence of *V. vulnificus* infections is low, it accounts for the highest number of seafood-related deaths in the United States each year. In Louisiana, 17 infections and 4 deaths have been reported as of July 2025, markedly above the 10-year average of 7 infections and 1 death annually.

Case:
A 72-year-old male with a history of end-stage renal disease on hemodialysis, prosthetic aortic valve, atrial fibrillation, type 2 diabetes mellitus, and hypertension who presented for fever and fatigue that started two days prior. He denied gastrointestinal or respiratory symptoms. On arrival, he was afebrile but mildly hypotensive. Physical examination was significant for a holosystolic murmur, a right upper extremity arteriovenous fistula, and a non-functioning left upper extremity arteriovenous graft that was previously used for dialysis. His skin exam was unremarkable. Labs revealed a leukocytosis of 26.89/microliter. Initial workup, including a chest radiograph and viral testing, was negative. Empiric vancomycin, cefepime, and metronidazole were started for sepsis of unknown origin. Blood cultures grew gram-negative rods, initially raising concern for an intra-abdominal source of infection, though non-contrast computed tomography of the chest, abdomen, and pelvis was unrevealing. Ultrasound of the left upper extremity graft excluded septic thrombus, and an echocardiogram showed no valvular vegetations. On day three, blood cultures speciated to *V. vulnificus*. Upon further questioning, the patient reported frequent consumption of raw shellfish, including raw oysters 48 hours prior to symptom onset. He recalled feeling nauseated and vomiting that evening, though he had not remembered this on initial presentation. Antibiotics were transitioned to doxycycline and cefepime. Repeat blood cultures were negative. He was discharged on day six with doxycycline and ceftazidime.

Discussion:
Bacteremia is common in *V. vulnificus* infections, but most patients develop classic skin manifestations such as cellulitis, bullae, or necrotizing fasciitis within 24 hours of symptom onset. Our patient's isolated bacteremia, despite multiple comorbidities, is atypical. His nonspecific presentation of fever and fatigue without dermatologic findings made the diagnosis of *V. vulnificus* bacteremia unexpected. This case highlights that *V. vulnificus* infections can present without dermatologic findings and should be considered early in the diagnostic workup when the clinical context is suggestive.