

THE CLINICAL PICTURE

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Necrotizing fasciitis after a watercraft accident

Despite IV antibiotics and surgical debridement, his right leg had to be amputated



Figure 1. Left leg: bullous lesions from *Vibrio vulnificus* infection.

A 57-YEAR-OLD MAN was transferred to our hospital with leg pain and confusion. His family reported that he had injured his leg while launching a motorized personal watercraft at the North Carolina seashore 2 days before. He had a history of cirrhosis secondary to hepatitis C and alcohol abuse.

Physical examination revealed rashes on his legs with hemorrhagic bullous lesions and ecchymosis (**Figure 1**). He was hypotensive and had lactic acidosis, with blood lactate levels as high as 9.4 mmol/L (reference range 0.5–2.2 mmol/L). Despite aggressive hydration and broad-spectrum antibiotics provided at a previous hospital, he needed increasing vasopressor treatment.

Given his septicemia and recent marine exposure, *Vibrio vulnificus* infection was suspected, and antibiotics were switched to doxycycline and ceftazidime. He underwent urgent surgical debridement, ultimately requiring above-the-knee amputation of his right leg. He also required additional surgeries on his left leg.

Blood and wound cultures eventually grew *V vulnificus*, and surgical pathology confirmed the diagnosis of necrotizing fasciitis (**Figure 2**).

RISE IN *V VULNIFICUS* INFECTIONS IS ATTRIBUTED TO GLOBAL WARMING

V vulnificus infection occurs most commonly from consuming raw shellfish, especially oysters, but it also occurs after exposure of an open wound to contaminated salt water. The pathogen is a gram-negative bacterium that resides in coastal waters worldwide, but in the United States it is usually seen on the Pacific and Gulf coasts¹ during the summer.²

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Although only 58 cases of *V vulnificus* infection were reported to the US Centers for Disease Control and Prevention in 1997, the number more than doubled to 124 in 2014.¹ This rise is suspected to be due in part to warmer coastal waters associated with global warming.²

Various marine pathogens can cause wound infections, but *V vulnificus* is most commonly implicated in deaths and hospitalizations.² Immunocompromised patients and those with liver disease are at particularly high risk of rapid progression to septic shock.

First-line antibiotics are doxycycline plus a third-generation cephalosporin.³ Studies have shown a direct correlation between delay of antibiotics and death,⁴ and early surgery is critical.⁵

Given the rising incidence of *V vulnificus* infection, it is increasingly important for providers across the United States to be aware of this infection. ■

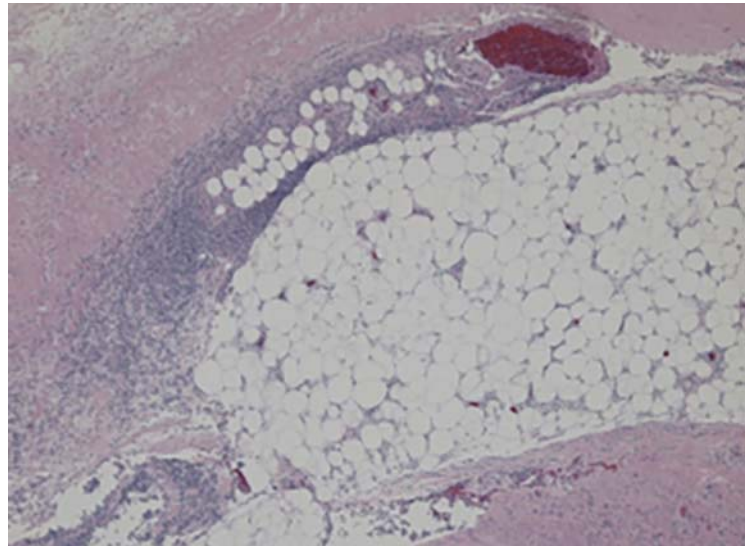


Figure 2. Necrosis of deep dermis, subcutaneous fat, and fascial tissue with polymorphonuclear cell infiltration (hematoxylin and eosin, × 200) .

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