

The Grass is Gangrene-r on the Other Side: Shewanella Bacteremia Rooted in the Subtropical Soil

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[Supplemental Video](#)

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Introduction: *Shewanella putrefaciens* is a bacterium notorious for producing the well-known putrid smell from rotting fish. Typically thriving in marine environments and contaminated foods, it can also be found in coastal soils, and more recently has emerged as a potential source of nosocomial pneumonia given its ability to create biofilms. *Shewanella* is rarely pathogenic in humans, with less than 300 cases ever reported, with the majority of them being in tropical environments, and only a fraction being isolated in blood specimens. This case highlights the importance of proper diabetic foot care and an instance of a rare pathogen unique to living in a subtropical region.

Case: A 62-year-old Caucasian male with history of type 2 diabetes (A1c 7.0%), hypertension, and morbid obesity (BMI 51) presented after being found down at home by a friend who had last seen him 3 days ago. Patient stated he generally had not felt well for the past several days. Initial vitals were 99/65mmHg, 163bpm, 98.1F, respiratory rate 12, pulse oximetry 96% on room air. Exam revealed necrotic wounds to bilateral feet consistent with dry gangrene as well as nonpurulent cellulitis of the pannus and scrotum. Labwork was notable for leukocytosis of 26.8K/uL with 16% bands, lactate 7.0mmol/L, and creatinine 3.02mg/dL. The patient was admitted to the intensive care unit with severe sepsis, borderline septic shock, and provided aggressive fluid resuscitation and broad-spectrum antibiotics. Clinically, the soft tissue infections were consistent with streptococcus, however blood cultures grew gram negative rods in 2/2 sets, raising concern for prevotella. Speciation revealed *shewanella putrefaciens*, resistant to imipenem and aztreonam. Patient denied recent saltwater exposure or seafood consumption, however stated he rarely wears shoes and frequently walks outdoors barefoot.

Diagnosis: *Shewanella putrefaciens* bacteremia secondary to contaminated soil exposure of bilateral feet dry gangrene.

Management: Antibiotic coverage was narrowed to cefepime per sensitivities (14-day course) and surgical debridement of gangrenous toes performed. Repeat blood cultures were negative at 5 days. The patient's hospital course was complicated by development of gastrointestinal bleed and acute systolic heart failure requiring a 55-day hospitalization, and was ultimately discharged home with self-care.

Learning Objectives

- Know more about emerging relevant human pathogens, how to recognize them clinically, and how to appropriately treat them.
- Identify preventive measures included in proper diabetic foot care and identify potential advanced complications.