A Case Series of Shewanella Bacteremia

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Introduction:

Shewanella are gram-negative motile bacilli that are found in soil and water, especially in warm climates. There are many species of Shewanella, but most commonly *S. algae and S. putrefaciens* are associated with human disease and are considered emerging human pathogens. Shewanella are known to cause ear infections, skin and soft tissue infections, hepatobiliary disease, intrabdominal infections, and bacteremia. Risk factors for infection include malignancy, hepatobiliary disease, kidney disease, diabetes, immunodeficiency, and chronic wounds. Shewanella species are often found as part of a polymicrobial infection, which has clouded the clinical significance of Shewanella and its pathogenicity.

We present 6 cases of Shewanella bacteremia in New Orleans, Louisiana hospitals. 4 of the 6 cases isolated *Shewanella algae*. The fifth case isolated *Shewanella putrefaciens*. The last case did not distinguish between Shewanella species. Five of the six cases had patients with either chronic lower extremity wounds or lower extremity skin and soft tissue infection. Two of the cases featured patients with cirrhosis of the liver. One of the cases featured environmental water exposure and a bullous necrotizing skin infection. Other risk factors associated with Shewanella infections in patients discussed in these cases are diabetes, hypertension, kidney disease, and trauma. Treatments varied between cases as did outcomes. The cases presented in this case series highlight important risk factors for Shewanella infections so that other physicians can identify and treat these infections.

Discussion

Shewanella infections have the ability to cause severe disease, but as a less common pathogen can be overlooked. Physicians should consider Shewanella infection especially in patients with aquatic exposure or in chronic lower extremity wounds. Shewanella species are generally susceptible to 3rd and 4th generation cephalosporins, beta-lactam/beta-lactamase inhibitors, aminoglycosides, fluoroquinolones, and carbapenems. Resistance varies greatly among strains and and treatment should be guided by sensitivity testing.