Increase in Vibrio Alginolyticus in the United States, 1988-2012

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Summary: *Vibrio alginolyticus* infections are increasing, especially on the Gulf coast. Surprisingly, 86% of infections are NOT foodborne -- most are infections of the ear or leg related to swimming or exposing a skin wound to water.

Abstract:

Background: Vibrio alginolyticus, a halophilic bacterium, causes gastrointestinal and severe soft tissue infections. Little information about alginolyticus infection exists. We aimed to describe the epidemiology of alginolyticus infections, to facilitate recognition and prevention.

Methods: Lab-confirmed Vibrio infections are reported to the Cholera and Other Vibrio Illness Surveillance (COVIS) system, from which we analyzed alginolyticus data, categorizing specimen sites and determining transmission routes (non-foodborne or foodborne). We described demographic and clinical characteristics of cases (1988–2012) and calculated annual incidence using US Census Bureau estimates since vibriosis became nationally notifiable (2007).

Results: From 1988 through 2012, 1,331 alginolyticus infections were reported, with the highest percentage (40%) from Gulf Coast states and the highest incidence (1.7 per 100,000 population in 2012) from Hawaii. Since 2007, incidence increased in all coastal regions; the most pronounced increase was on the Gulf Coast—from 0.04 per 100,000 in 2007 to 0.13 in 2012. Most infections were non-foodborne (86%), with 74% of patients reporting exposure to a body of water and 67% reporting a wound, either pre-existing or sustained during water exposure. Skin and soft tissue infection was most frequent (50% [lower extremity 34%]), followed by ear (33%). Fever (20%) and cellulitis (39%) were the most common clinical findings. Twenty percent of patients were hospitalized, and 12 died (1%). Complications of the non-foodborne infections included debridement, amputation, skin grafting, and hearing loss.

Conclusions: Alginolyticus infections have increased throughout the coastal United States. Prevention efforts should target non-foodborne infections, which are usually associated with injury and/or wounds present during water exposure. Understanding the epidemiology surrounding the increasing incidence may help prevent infection and improve early recognition and treatment.