Toxigenic Virbio Cholerae Serogroup non-O1, non-O139 Infections in the United States, 1984-2014

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Summary: Certain strains of *Vibrio cholerae* cause cholera, but even those that do not can cause severe illness. 52 cases of these non-cholera infections have been reported to CDC from 1984 through 2014—most linked to seafood, especially raw oysters from the U.S. Gulf Coast.

Abstract:

Background: Toxigenic Vibrio cholerae can cause life-threatening watery diarrhea. Serogroups O1 and O139 have been responsible for cholera epidemics, but other serogroups—such as O75 or O141—are also toxigenic and can cause severe illness and death. We describe 30 years of surveillance for non-O1, non-O139 infections in the United States.

Methods: Since 1984, local and state public health departments have conducted surveillance for suspected V. cholerae cases and submitted isolates to CDC for confirmation, serogrouping, toxin testing, pulsed-field gel electrophoresis (PFGE), and antimicrobial susceptibility testing.

Results: Between 1984 and 2014, 52 cases of non-O1, non-O139 V. cholerae infection were reported to CDC, including 30 of serogroup O75, 21 of O141, and one untypeable. Nearly half of the cases (25/52) were among women. Median age was 49 years (range 12 to 86). Few underlying conditions were reported, but included immunodeficiency syndromes and gastric diseases. Symptoms included diarrhea (46/46), abdominal cramps (33/35), and nausea (28/33). Fourteen patients were hospitalized, and one died. Most patients ate seafood (38/43), especially raw oysters (23/38); a few had recreational contact with water (9/27). Twenty-one states—predominantly coastal—reported cases, including Florida (8), Louisiana (8), and Georgia (5). Most isolates (47/52) were susceptible to all antimicrobials tested. Yearly case counts are typically low (1.7 average), but PFGE identified one outbreak, which occurred in 2011 involving O75 infections in 11 patients who ate raw oysters harvested from Apalachicola Bay, Florida.

Conclusions: Toxigenic V. cholerae non-O1, non-O139 infections are rare in the United States, but can cause severe illness and are associated with raw oyster consumption. Additional oyster bed monitoring and messaging regarding the risks of eating raw oysters may be warranted.