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Select Abstract:

Tri-National Outbreak of Salmonella enterica Serotype Braenderup — The California Experience, July–September 2012

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Background: Salmonella is a leading cause of foodborne infections and hospitalizations in the United States. An increasingly globalized food market has led to potential for multinational outbreaks of Salmonella. In August 2012, the California Department of Public Health, CDC, and Canadian health officials identified clusters of Salmonella Braenderup infections with indistinguishable pulsed-field gel electrophoresis patterns. CDPH initiated an investigation to determine the outbreak source and prevent further illness.

Methods: A case was defined as an outbreak strain isolate of Salmonella Braenderup from a California resident on or after July 1, 2012. We conducted an age- and ethnicity-matched case-control study. Control patients were selected from the state Salmonella registry among persons without the outbreak strain. Purchase information was collected from interview respondents to assist in a traceback investigation.

Results: Of 127 cases identified in the United States, 102 (80%) were California residents; of these, 78% were Hispanic. Fresh mango was the only food significantly associated with illness in a matched case control study of 37 case-patients and 46 control patients (odds ratio = 4.6; P value: 0.001). A traceback investigation identified a mango producer in Mexico as the source of mangoes consumed by case-patients in California, other U.S. states, and Canada. These mangoes were voluntarily recalled by distributors beginning in late August and placed on import alert on September 13, 2012. Although Salmonella was isolated from recalled mangoes tested by the U.S. Food and Drug Administration, the outbreak strain was not detected.

Conclusions: The epidemiologic investigation conducted in California identified the source of a multistate, trinational outbreak of Salmonella Braenderup. Findings were shared with U.S., Canadian, and Mexican health officials. This investigation highlights the increasing importance of transnational communication when outbreaks cross borders.

Keywords: Salmonella, foodborne diseases, mango, case control studies