

Norovirus Gastroenteritis Associated with a Restaurant

February

Hennepin County

On February 9, 2011, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness in two patrons from a party of three individuals who had eaten at a restaurant in Plymouth on February 6. MDH notified the Hennepin County Human Services and Public Health Department (HSPHD) epidemiology and environmental health units on February 9, and an investigation was initiated.

MDH interviewed the original complainant group. HSPHD epidemiologists interviewed other restaurant patrons identified from credit card receipts from February 6 about food consumption and illness history. A case was defined as a restaurant patron who subsequently developed vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period) after eating at the restaurant. Stool samples collected from consenting complainant group members were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

HSPHD sanitarians visited the restaurant on February 10 to evaluate food preparation and handling procedures and to interview food workers about illness history and work duties.

Twenty-eight patrons were interviewed by HSPHD epidemiologists, and five (18%) met the case definition. Four (80%) cases reported diarrhea, four (80%) reported vomiting, three (60%) reported cramps, three (60%) reported fever, and none reported bloody stools. The median incubation period was 39 hours (range, 34 to 53 hours). The median duration of illness was 15 hours (range, 0.2 to 36 hours). A stool specimen collected from one case tested positive for norovirus GII. A stool specimen collected from another case 18 days after the case's onset of illness tested negative for norovirus. Two additional persons reported illness that did not meet the case definition. In addition, another case reported an incubation period of only 2 hours; because this is too short of an incubation for norovirus infection, this case was excluded from analyses.

The cases consumed a variety of foods. Four (80%) of the cases consumed some type of sushi. Sushi types included salmon roll (2 cases), tuna roll (1 case), California roll (1 case) and a sushi boat, which is made up of an assortment of sushi rolls (1 case). Other food items included shrimp teriyaki (2 cases), spring rolls (2 cases), shrimp hibachi dinner (1 case), a side of fried rice (1 case), a side of white rice (1 case), and a side of vegetables (1 case).

Twenty controls were interviewed and also reported eating a wide variety of foods. No food item was statistically significantly associated with illness.

Illness histories and job duty information were obtained from the 16 restaurant employees. No employees reported having had gastrointestinal illness previous to or on the implicated meal date. The head sushi chef reported abdominal pain February 4 through February 6, but denied stomach cramps, vomiting, or diarrhea. This employee only worked at the restaurant for 10 days, and February 6 was his last day of work.

HSPHD sanitarians noted several critical violations when conducting an inspection of the restaurant. Critical violations included no employee illness log; no record of proper freezing of raw fish for parasite destruction; a container of crunchy topping used to coat sushi pieces was held at room temperature instead of being refrigerated; sushi rice was held out of temperature control for more than 4 hours; a metal bowl used to mix sushi rice was not properly washed, rinsed and sanitized; and plastic wrap used to cover some of the bamboo sushi mats was not changed at least every 4 hours. Several non-critical violations were also noted, including reuse of single-use gloves, using a bare bamboo mat to roll sushi, use of a domestic microwave, inadequate food storage containers, and improper storage of wiping cloths. The sanitarians provided steps to correct the critical and non-critical violations and further stressed the importance of proper handling of food and beverages, use of gloves when handling ready-to-eat foods, good handwashing, thorough disinfection, and exclusion of ill employees.

This was a foodborne outbreak of norovirus gastroenteritis associated with eating at a restaurant. The vehicle of transmission was not identified; however, most cases ate sushi. It is possible that the sushi chef who reported mild symptoms was the source of contamination. Reusing single-use gloves and improper sanitizing of bowls and utensils could have contributed to contamination of food.