Norovirus Gastroenteritis Associated a Restaurant

January Hennepin County

On January 3, 2011, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness from a party of three individuals who had eaten at a restaurant in Excelsior on January 1. On that same date, the Hennepin County Human Services and Public Health Department (HSPHD) epidemiology unit received a call from the restaurant's manager reporting two additional illness complaints from two parties who also ate at the restaurant on January 1. MDH notified the HSPHD epidemiology and environmental health units on January 3, and an investigation was initiated.

MDH interviewed the original complainant. HSPHD epidemiologists interviewed other restaurant patrons 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 January 4 to evaluate food preparation and handling procedures and to interview food workers about illness history and work duties.

Three patrons from two of the complainant groups (three separate households) were interviewed, and all three met the case definition. All cases reported cramps, diarrhea, and fever; two (67%) reported vomiting; and none reported bloody stools. The median incubation period was 38 hours (range, 32 to 40 hours). The median duration of illness was 18 hours (range, 10 to 31 hours). Stool specimens collected from two cases tested positive for norovirus GI.

A lack of non-ill controls precluded a statistical analysis of specific food exposures. Two (67%) of the cases ate a variety of appetizers (chicken wings, steak bites, and green beans) and drank tap beer. The third case only drank a mai tai with fresh fruit garnish. The third case reported that several of his friends also had drinks and appetizers at the restaurant on January 1, and many had subsequent gastrointestinal illness. HSPHD epidemiology requested that he pass along the unit's telephone number to his acquaintances, but no calls were received.

Three additional dining parties reported illness to the restaurant during the course of the outbreak investigation, but none of these patrons could be reached for interview. According to the restaurant manager, two patron groups who dined on January 1 reported gastrointestinal illness. The first group was celebrating a birthday party, and most patrons just had beverages; at least two patrons in this group reported subsequent gastrointestinal symptoms. The other patron group shared appetizers and flatbread pizzas, and several reported subsequent gastrointestinal illness. A third complainant group of four patrons dined on January 3 and ate firecracker shrimp and two types of sandwiches and became ill with gastrointestinal symptoms a few days after the meal.

Illness histories and job duty information were obtained from the 48 restaurant employees who worked on January 1. Five employees reported having had gastrointestinal illness previous to or on the implicated meal date. A dishwasher reported vomiting and cramps beginning on December 23 and ending on December 29; a bartender reported diarrhea and cramps beginning on December 30 and ending on January 2; a server who cut garnishes while not wearing gloves reported diarrhea and cramps starting on December 30 and ending on January 3; a server who set up the dining room and served tables reported diarrhea, vomiting, and cramps beginning on January 1 and ending on January 5; and another employee who worked in the kitchen and on the grill reported vomiting beginning and resolving on January 1.

In addition to food workers reporting illness previous to and on the implicated meal date, several secondary transmission food worker cases were identified during the course of the outbreak investigation. Four food workers reported gastrointestinal illness with onsets ranging from January 3 to January 5. Restaurant management screened employees daily for gastrointestinal symptoms and excluded all ill employees for 72 hours after the resolution of the last symptom.

HSPHD sanitarians noted overall compliance with food code requirements for food preparation; however, education was provided to eliminate bare-hand contact with ready-to-eat foods. The sanitarians 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, but the source of contamination was one or more of the ill food handlers who reported gastrointestinal symptoms previous to or on the implicated meal dates and who had contact with ready-to-eat foods.