

Norovirus Gastroenteritis Associated with a Restaurant

December

Anoka County

On December 13, 2012, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness in two meal companions from separate households who ate lunch at a restaurant in Blaine, Minnesota on December 11. Both ill patrons consumed lettuce salads and reported onset of gastrointestinal illness on December 13. Anoka County Community Health & Environmental Services (ACCHE) was notified on December 13 and an investigation was initiated.

ACCHE sanitarians visited the facility on December 17 to conduct an environmental health assessment and interview employees regarding job-duties and illness histories. The manager of the facility was asked to provide contact information from patron credit card receipts from the suspected meal date of December 11.

Patrons were interviewed by MDH staff to obtain information on food and beverage consumption the restaurant and illness history. A case was defined as a restaurant patron who developed vomiting and/or diarrhea (≥ 3 stools in a 24-hour period), or with laboratory-confirmed norovirus infection, after eating at the restaurant. Stool samples from consenting patrons were submitted to the MDH Public Health Laboratory (PHL) for bacterial and viral testing.

Four (17%) of 24 patrons interviewed reported illness that met the case definition. The median incubation for cases was 32 hours (range, 14.5 to 34.5 hours). The median duration of illness was 43 hours (range, 26 to 52.5 hours). All four cases reported diarrhea, three (75%) reported abdominal cramps, two (50%) reported vomiting, one (25%) reported bloody stools, and one (25%) reported fever. No cases were hospitalized or sought medical attention. Three patron stool specimens were submitted to the MDH PHL; all three tested positive for norovirus GI. All three stool specimens were negative for *Campylobacter*, *Salmonella*, Shiga toxin-producing *E. coli*, and *Shigella*.

All four cases reported eating a salad made with either chopped romaine lettuce mixed with spring mix (n=2), or chopped romaine alone (n=2). In the univariate analysis, consumption of romaine lettuce (4 of 4 cases vs. 4 of 20 controls; odds ratio, undefined; $p = 0.01$) was associated with illness.

ACCHE sanitarians interviewed 52 (65%) of 80 employees of the restaurant; of these, three (6%) reported recent gastrointestinal illness. No employees reported illness onset before the implicated meal date of December 11. One employee had onset of vomiting on December 12, one had onset of diarrhea on December 14, and one did not report an onset date but was excluded from work on December 15 due to recent vomiting. The employee who reported onset of diarrhea on December 14 was out of the country for the week preceding onset of symptoms. No employee reported working while ill. No stool specimens were submitted by employees for viral or bacterial testing.

The restaurant had a routine inspection on December 6, 2012. At that time, both improper holding temperatures in the salad preparation refrigerator and a lack of supplies at several handwashing sinks were reported. During the evaluation conducted on December 17 as part of the outbreak investigation, all handwashing sink violations had been corrected, and the salad preparation refrigerator had been serviced and was holding foods at temperatures between 39 and 41° F. Food workers preparing salads were observed wearing gloves and washing hands frequently. The spring mix served is a pre-cut bagged product. Romaine lettuce is cut and prepared at the restaurant daily.

As a result of this investigation an employee illness screening form was put into place and ill employees were excluded until 72 hours after the resolution of gastrointestinal symptoms.

This was a foodborne outbreak of norovirus gastroenteritis associated with a restaurant in Blaine, Minnesota. Consumption of romaine lettuce was significantly associated with illness. The source of the contamination was not identified. However, based on the presence of ill food workers after the implicated meal date, the most plausible source of the contamination was an unidentified infected food worker who contaminated the lettuce used to make the salads.