Norovirus Gastroenteritis Associated with a Restaurant

November Ramsey County

On November 6, 2012, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness among a group of 41 co-workers who ate food provided by a restaurant in St. Paul at a retirement party on November 2. No other foods were provided at the event. City of St. Paul Environmental Health (CBPEH) and MDH Environmental Health (EH) were contacted, and an investigation was initiated immediately.

CBPEH and MDH EH sanitarians visited the restaurant on November 6 to evaluate food preparation and handling procedures, interview food workers, and collect contact information for additional November 2 catering orders. A case was defined as a restaurant patron who developed vomiting and/or diarrhea (≥3 loose stools in a 24-hour period) after eating food from the restaurant. Stool samples collected from consenting individuals were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

Twenty-eight party attendees from the original complaint were interviewed, and 16 (57%) met the case definition. One party attendee reported illness that did not met the case definition and was excluded from analysis.

Four additional November 2 catering orders were contacted, and one group reported six individuals ill with gastrointestinal symptoms after their meal of lasagna, tortellini, focaccia, dessert bars, and a chop salad. A restaurant employee, who does not work in food service, reported that she had ordered a chop salad on November 3 to serve at a private gathering. Subsequently, 4 of 15 individuals at that gathering developed gastrointestinal illness.

A total of 36 patrons from the three groups were interviewed, and 24 met the case definition (16, 4, and 4, respectively). The median incubation period for cases was 30.5 hours (range, 15 to 55 hours). The median duration of illness for the 18 cases who had recovered at the time of interview was 2 days (range, 1 to 4 days). Twenty-two (92%) cases reported diarrhea, 20 (83%) vomiting, 15 (63%) cramps, 9 (38%) fever, and none bloody stools. Stool samples submitted by five ill restaurant patrons, including the ill restaurant employee, tested positive for norovirus GII. Nucleic acid sequencing was conducted on all five positive norovirus samples; the nucleic acid sequences were identical.

Among the retirement party attendees, consuming the grilled asparagus with roasted red peppers and kale was significantly associated with illness (15 of 16 cases vs. 3 of 11 controls; odds ratio, 40.0; 95% confidence interval, 2.9 to 1,890; $p < 0.001$). A small number of non-ill controls interviewed among the two other groups who reported illness precluded a meaningful analysis of food exposures. However, both groups ordered the chop salad, which was the only food item reported by the majority of cases in both groups (4 of 4 and 3 of 4, respectively).

CBPEH and MDH sanitarians interviewed 157 restaurant employees, and 15 reported recent gastrointestinal illness. These employees reported becoming ill on October 11, 14, 19, 22, 26, 27, November 4, 5, 7, 9, 10 (n=2), 11 (n=2), and 13, respectively. The restaurant did not have a glove use policy; while gloves are available to staff, they do not require glove use when handling ready-to-eat foods. The restaurant had received a complaint from the retirement party but had not forwarded to the City of St. Paul as required. Sanitarians found the employee illness policy at the restaurant inadequate.

Management stated that sick employees are sent home if they have visible symptoms. However, the facility had not provided education or training on the handwashing or the exclusion of food workers who have diarrhea and/or vomiting. Sanitarians also noted that a number of hand sinks in the restaurant were missing soap. The grilled asparagus with roasted red peppers and kale was grilled the evening of November 1. The dish was then assembled and packaged the following morning. The sanitarians discussed the importance of handwashing and minimizing bare-hand contact with ready-to-eat foods for the prevention of norovirus transmission, and all employees with vomiting and/or diarrhea were excluded from work until 72 hours after the resolution of symptoms. Stool collection kits delivered to two ill food workers were not returned. As a result of the outbreak, the restaurant implemented a new policy requiring the use of gloves when working with ready-to-eat foods and a new employee illness policy including training of employees on the exclusion policy.

This was a foodborne outbreak of norovirus gastroenteritis associated with a restaurant in St. Paul. Grilled asparagus with roasted red peppers and kale was associated with illness for one catering order, and the chop salad was consumed by the majority of cases in the two additional orders who reported illness. Numerous restaurant employees reported recent gastrointestinal illness, and an infected food worker was the likely source of the contamination.