Norovirus Gastroenteritis Associated with a Restaurant

January Olmsted County

On January 9, 2020, Olmsted County Public Health Services (OCPHS) received a complaint of gastrointestinal illness from two people from different households who ate at a restaurant on January 6. The two reported vomiting and diarrhea approximately 30 and 33 hours after their meal. This information was reviewed by OCPHS staff, the Minnesota Department of Health (MDH) was consulted, and an investigation was initiated.

On January 21, OCPHS received an additional complaint of gastrointestinal illness from a complainant who became ill after eating at the restaurant on January 18.

OCPHS Environmental Health (EH) staff visited the restaurant on January 9 to conduct an environmental assessment, interview food workers, and collect patron information from January 6 using the restaurant's reservation system and credit card receipts. Food and beverage menus were obtained directly from the restaurant, including specials served on January 6.

A case was defined as someone who developed vomiting and/or diarrhea (≥3 loose stools in a 24-hour period) after eating at the restaurant. Stool samples from consenting individuals were submitted to the MDH Public Health Laboratory (PHL) for bacterial and viral testing.

Sixteen patrons were interviewed, and eight (50%) met the case definition. Seven cases had a meal date on January 6 and one case on January 18. The median age of cases was 47.5 years (range, 26 to 61 years). The median incubation period was 30 hours (range, 17 to 34 hours). All eight cases reported diarrhea, six (75%) abdominal cramps, six (75%) fever, and four (50%) vomiting. No cases reported bloody diarrhea, visiting a healthcare provider for their illness, were hospitalized, or died. The two cases who had recovered at the time of interview had illness durations of 49.5 and 55 hours. Three cases, including the one complainant who ate on January 18, submitted stool samples to the MDH PHL, and all tested positive for norovirus GII.1[P16] with identical nucleic acid sequences.

Cases reported eating a wide variety of menu items, including oysters, calamari, BLT iceberg wedge salad, filet mignon, mac and cheese, buffalo Brussels sprouts, chocolate cake, and mixed cocktails. OCPHS conducted statistical analyses to determine if any menu items or category of food was significantly associated with illness. In the univariate analysis, none of the menu items were significantly associated with illness.

OCPHS EH staff interviewed 78 (96%) of 81 restaurant employees. Other than one employee who reported nausea, no employees reported any recent gastrointestinal illness or that anyone in their household was recently ill. No employees submitted a stool sample for testing.

Several norovirus interventions were implemented during the January 9 visit by OCPHS EH staff, including evaluating the restaurant's illness policy, discarding open containers of ready-to-eat foods, cleaning and sanitizing the restaurant, and screening employees for illness. The restaurant is located within a hotel, so all facilities that the restaurant shares with the hotel – employee bathrooms, locker space, lobby bathrooms – were cleaned and sanitized as well. All employees who were observed handling ready-to-eat food were wearing gloves, and appropriate handwashing was observed. No issues regarding bare-hand contact with ready-to-eat foods were noted. After receiving the second complaint on January 21, OCPHS EH staff instructed restaurant management to thoroughly clean and sanitize for norovirus, provide employees with additional education about norovirus and prevention strategies, and continue employee illness screening.

This was an outbreak of norovirus gastroenteritis associated with eating at a restaurant. The vehicle of transmission and source of contamination were not identified. The third lab-confirmed case had a meal date 12 days after other cases and 9 days after the first round of norovirus interventions were implemented, suggesting the first round of interventions were unsuccessful at preventing further transmission.