

Norovirus Gastroenteritis Associated with a Wedding Reception at a Restaurant

September

Dakota County

On September 14, 2011, the Minnesota Department of Health's (MDH) foodborne illness hotline received a report that 70% of 230 guests developed gastrointestinal illness after attending a wedding held at and catered by a restaurant in Lakeville on September 10. The plated dinner consisted of chicken, penne pasta with white sauce, lettuce salad, and steamed vegetables. Flatbread appetizers (chicken, vegetable, and shrimp options) were passed prior to the dinner. An outbreak investigation was initiated.

A partial list of wedding guests was provided by the mother of the groom, and MDH staff conducted telephone interviews with guests using a standard questionnaire. Guests were asked about attendance and food consumption at the wedding reception, a groom's dinner that took place the night prior, and a

snack session held after the reception. A case was defined as a person who attended a wedding event and subsequently became ill with vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period).

Stool samples were collected from consenting guests and submitted to the MDH Public Health Laboratory for bacterial and viral testing.

MDH environmental health specialists visited the restaurant on September 14 to perform an environmental assessment, conduct employee interviews, and view the employee illness log. Employees were interviewed regarding recent illness history, work history, and duties at the restaurant.

Sixty-four wedding guests were interviewed, including the complainant family. Thirty-five (55%) guests met the case definition. In addition, seven guests reported illness but did not meet the case definition. Of the 35 cases, 32 (91%) had diarrhea, 23 (66%) had cramping, 16 of 32 (50%) had fever, 14 (41%) had vomiting, and 1 (3%) had bloody stools. The median incubation period was 38 hours (range, 12 to 61 hours). For the 18 cases who had recovered at the time of interview, the median duration of illness was 41 hours (range, 9 to 98 hours). One case visited an emergency department and was hospitalized.

Stool samples were collected from five wedding guests from four households. All five stool samples tested positive for norovirus GI.

By univariate analysis, eating chicken from the plated dinner (35 of 35 cases vs. 18 of 23 controls; odds ratio [OR], undefined; 95% confidence interval [CI], 2.1 to undefined; $p = 0.01$), and drinking ice water (24 of 34 cases vs. 9 of 23 controls; OR, 3.7; 95% CI, 1.2 to 11.6; $p = 0.04$) at the reception were significantly associated with illness. Neither variable was significantly associated with illness by multivariate analysis using logistic regression.

Nineteen restaurant employees were interviewed; none reported gastrointestinal illness in the several weeks prior to the wedding. One employee reported having a child with diarrhea onset 5 days prior to the wedding reception. This employee reported using bare hands to garnish plates with parsley for the reception.

Environmental health specialists evaluating the restaurant noted that a cook did not wash his or her hands prior to beginning to prepare food; no other violations were noted. Restaurant employees reported that to prepare ice water for banquets, glasses are loaded face-up into glass racks and then filled with ice and water. Glasses are then removed from the racks and placed on tables.

Credit card receipts were not available for patrons of the restaurant on September 10. The restaurant provided contact information for the hosts of another wedding that took place at the restaurant on the same night. The bride and groom were contacted and no illnesses were reported from guests of the second wedding.

This was an outbreak of norovirus gastroenteritis associated with the wedding reception held at a restaurant in Lakeville, Minnesota. Both chicken and ice water were statistically associated with illness. Employee hand contact with meal items, including parsley garnish and water glasses, is a plausible source of illness. However, the ultimate source of contamination was not identified.