

Norovirus Gastroenteritis Associated with a Wedding

May

Wright County

On May 10, 2011, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness in people who attended a wedding in Annandale on May 6. The wedding was held at a park and was catered. Approximately 120 persons attended the wedding. The MDH St. Cloud district office was notified on May 10, and an investigation was initiated.

MDH obtained a list of wedding attendees and interviewed them about food consumption and illness history. A case was defined as a person who attended the wedding and subsequently developed vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period). Stool specimens were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

On May 11, an MDH sanitarian visited the caterer to evaluate food preparation and handling procedures and to interview food workers about illness history and work duties.

Fifty-three wedding attendees were interviewed, and 32 (60%) met the case definition. All 32 cases reported diarrhea, 20 (63%) reported vomiting, 12 (38%) reported cramps, 6 (19%) reported fever, and none reported bloody stools. The median incubation period was 37 hours (range, 8.0 to 71.5 hours). The median illness duration was 47.5 hours (range, 18.0 to 81.0 hours). Two cases visited a medical provider; one of the two cases went to an emergency room and the other case was hospitalized overnight.

Four stool specimens (from three wedding attendees and one employee) were submitted to MDH and all tested positive for norovirus GII. Three of the positive specimens (two attendee specimens and the employee specimen) could be sequenced, and all three had identical nucleic acid sequences. All specimens tested negative for *Campylobacter*, *Salmonella*, Shiga toxin-producing *E. coli*, *Shigella*, and *Yersinia*.

Food items prepared at the caterer included sliced ham, chicken breasts, garlic mashed potatoes, California-blend vegetables, Italian pasta, dinner rolls, pickles, butter, coffee, and lemonade. Cookies and wedding cake were purchased from a bakery in Cold Spring, Minnesota. Tootsie rolls and peanuts were purchased by the wedding party and placed in bowls on the guest tables. Bottled water, beer, and pop were also purchased by the wedding party. All the foods from the caterer were self-serve on a buffet line, except for the head table, for which food was plated and served by the catering staff.

By univariate analysis, consuming garlic mashed potatoes (32 of 32 cases vs. 17 of 21 controls; odds ratio [OR], undefined; 95% confidence interval [CI], undefined; $p = 0.02$) and peanuts (22 of 30 cases vs. 9 of 21 controls; OR, 3.7; 95% CI, 1.1 to 12.3; $p = 0.03$) were significantly associated with illness. A multivariate analysis using logistic regression could not be conducted because of the zero cell in the mashed potato analysis.

Illness histories and job duty information were obtained from the five caterer employees. No employees reported having had gastrointestinal illness previous to or on the implicated meal date. One employee, who prepared the mashed potatoes, vegetables, and noodles for the Italian pasta, initially reported having ill household members over the weekend of the event but later reported that the ill household members

had an onset date similar to the patrons. This employee denied having any illness herself. Another employee (the one who tested positive for norovirus) became ill with an onset date similar to the attendees (incubation period from the reception of 36 hours). This employee reported eating ham, garlic mashed potatoes, dinner rolls, lemonade, wedding cake, and cookies at the wedding reception.

There were no reports of vomiting at the event. Of the 52 dinner attendees interviewed, no one reported being ill during or prior to the event. There was mention of a child being ill the week prior to the event; however, this information could not be verified with the child's parents.

MDH sanitarians stressed the importance of proper handling of food and beverages, use of gloves when handling ready-to-eat foods, good handwashing, thorough cleaning and disinfection, and exclusion of ill food handlers.

This was a foodborne outbreak of norovirus gastroenteritis associated with eating at a wedding dinner. Because 60% of interviewed attendees were ill, there likely was extensive contamination of one or more food items. The likely source of contamination was a food worker who might have been exposed to ill household members before preparing the mashed potatoes.