Norovirus Gastroenteritis Associated with a Restaurant

December Hennepin County

On December 17, 2012, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness among a party of three individuals who had eaten at a restaurant in Minneapolis, Minnesota on December 15. The complainant reported that all three individuals, from three different households, had become ill. Hennepin County Public Health Protection – Epidemiology (PHP-Epi) and Minneapolis Environmental Health (MEH) was notified immediately and an outbreak investigation was initiated.

MDH interviewed the original complainants, and MEH environmentalists obtained credit card receipts for December 15 from the establishment to obtain contact information for additional patrons. A case was defined as a person who ate the restaurant in Minneapolis on December 14 or December 15 and subsequently developed vomiting and/or diarrhea (≥3 loose stools in a 24-hour period).

On December 17, MEH environmentalists visited the restaurant to evaluate food preparation and handling procedures and to interview employees regarding illness history and job duties. On December 18, PHP-Epi staff began interviewing patrons identified from credit card receipts.

During the course of the investigation MDH received three additional complaints: one from a party of two who ate at the establishment on December 14; a second from a party of three who ate at the establishment on December 15; and a third from an individual who had eaten several meals at the establishment on December 14, 15, and 16.

Thirty-seven patrons were interviewed (3 patrons from December 14 and 34 patrons from December 15), and 14 (38%) met the case definition. One patron reported illness that did not meet the case definition and was excluded from analyses. The median incubation period for cases was 35 hours (range, 12 to 43 hours). The median duration of illness for the three cases who had recovered at the time of the interview was 24 hours (range, 15 to 33 hours). Fourteen cases (100%) reported diarrhea, 11 (78%) reported vomiting (78%), 10 (77%) reported abdominal cramps, 3 (21%) reported fever, and none reported bloody stools.

Eight stool specimens (from seven patrons and one employee) were submitted to MDH. The seven samples submitted by patrons tested positive for norovirus GII and were negative for *Campylobacter*, *Salmonella*, Shiga toxin-producing *E. coli*, and *Shigella*. The seven positive specimens were sequenced, and all specimens had an identical nucleic acid sequence. The employee stool sample tested negative for norovirus and for the mentioned bacterial pathogens.

Patrons reported eating a variety of different menu items. In a univariate analysis, consuming spring rolls was significantly associated with illness (10 of 13 cases vs. 9 of 22 controls; odds ratio, 1.6; 95% confidence interval, 1.0 to 22.6; $p = 0.04$). No other foods were associated with illness.

Illnesses histories and job duty information were obtained from 20 restaurant employees. None of the employees reported having had a gastrointestinal illness previous to or on the implicated meal date. One

employee reported a fever on December 15; this was the employee whose stool sample was tested at MDH.

During the establishment visit, MEH environmentalists viewed bare-hand contact with mint and lettuce (both are ingredients in the spring rolls). MEH environmentalists issued a glove order and stressed the importance of proper handling of food and beverages, use of gloves or utensils when handling ready-to-eat foods, good handwashing, and exclusion of ill food handlers to restaurant employees. Based on the number of patrons who were reporting illness, the facility sanitized all surfaces and equipment with a strong bleach solution (5,000 ppm) as recommended by MDH Environmental Health.

Management implemented all corrections and trained staff on minimizing bare-hand contact with ready-to-eat foods and proper handwashing.

This was a foodborne outbreak of norovirus gastroenteritis associated with eating at a restaurant in Minneapolis, Minnesota. The spring rolls were statistically associated with illness. The source of contamination was not identified.