Gastroenteritis Associated with an Event at a Hotel

December Ramsey County

On December 7, 2011, a hotel in Saint Paul received a complaint of gastrointestinal illness among a group of patrons that ate at the holiday lunch held at the restaurant on December 4. The complaint was forwarded to the City of Saint Paul Environmental Health, which forwarded the complaint to the Minnesota Department of Health (MDH). An investigation was initiated.

City of Saint Paul Environmental Health sanitarians visited the restaurant on December 9 to evaluate food preparation and handling procedures, interview food workers, and collect a reservation list of additional event attendees. MDH staff interviewed event attendees about food consumption and illness history. A case was defined as a holiday lunch attendee who developed vomiting or diarrhea (≥3 loose stools in a 24-hour period) after eating at the event. Stool samples collected from consenting attendees were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

Twenty-three event attendees were interviewed and 12 (52%) met the case definition. Three additional patrons reported illness that did not met the case definition and were excluded from analysis. The median incubation period for the cases was 13 hours (range, 2.5 to 39 hours). The median duration of illness was 2 days (range, 12 hours to 8 days). All 12 cases reported diarrhea, 9 (75%) reported cramps, 4 (33%) reported fever, and none reported vomiting or bloody stools. Stool samples submitted by six ill patrons tested negative for *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, Shiga toxin-producing *E. coli*, enterotoxigenic *E. coli*, norovirus, sapovirus, rotavirus, adenovirus, and astrovirus. Additional testing indicated that all six specimens were negative for enteropathogenic *E. coli*, enteroinvasive *E. coli*, and diffusely adherent *E. coli*. Three of six stool specimens were positive for enteroaggregative *E. coli*. Two of the three enteroaggregative *E. coli* isolates from unrelated cases (i.e., they did not attend the event together) had indistinguishable PFGE patterns.

By univariate analysis, consuming the Black Forest ham and Liptauer chive cheese wrap was significantly associated with illness (12 of 12 cases vs. 11 of 18 controls; odds ratio [OR], undefined; 95% confidence interval [CI], undefined; p = 0.02). Consuming the turkey and orange tarragon butter finger square (12 of 12 cases vs. 13 of 18 controls; OR, undefined; 95% CI, undefined; p = 0.07), whipped butter (7 of 12 cases vs. 4 of 18 controls; OR, 4.9; 95% CI, 0.8 to 32.7; p = 0.06), or black

currant tea (10 of 12 cases vs. 7 of 18 controls; OR, 7.9; 95% CI, 1.1 to 88.2; p = 0.06) approached statistical significance.

City of Saint Paul Environmental Health sanitarians interviewed 12 hotel employees, and one reported recent gastrointestinal illness. The employee reported becoming ill on November 30 with diarrhea and cramping and recovered on December 1. The employee worked on December 4 but reported job duties of taking out the trash and cleaning and did not prepare food.

This was a foodborne outbreak of gastroenteritis associated with a holiday lunch held at a hotel in Saint Paul. Extensive testing ruled out numerous common as well as more uncommon pathogens. Three stool specimens were positive for enteroaggregative *E. coli*, and two isolates were indistinguishable by PFGE. This suggests that enteroaggregative *E. coli* was an etiologic agent in this outbreak. However, many of the case incubation periods were shorter than the 20-48 hour incubations previously reported for enteroaggregative *E. coli*. Black Forest ham and Liptauer chive cheese wrap was identified as the vehicle. Enteroaggregative *E. coli* is thought to be a human-only pathogen suggesting that a food item in the Black Forest ham and Liptauer chive cheese wrap was contaminated by an infected food worker either at the restaurant, or from a human source prior to the restaurant. However, the original source of the contamination was not identified.