

Health Alerts

Health Advisory #188 - GASTROINTESTINAL ILLNESS CAUSED BY E. COLI O157 - 12/08/2006

BACKGROUND

As of December 7, 2006, 58 cases of E. COLI O157 have been reported to the CDC from 6 states: New York (19), New Jersey (28), Pennsylvania (8), Delaware (1), South Carolina (1), and Utah (1). These reported cases are probable or confirmed cases. Probable cases have either laboratory evidence of infection with E. COLI O157 or hemolytic uremic syndrome (a type of kidney failure), AND they reported eating at a Taco Bell within 7 days prior to their onset. Confirmed cases meet the probable case definition, but also have a PFGE ("fingerprinting") result that matches the outbreak strain.

In addition, other cases of possible E. COLI O157:H7 infection are under investigation by state and local public health officials. These "suspected," or "potential," cases are individuals who have reported illness after eating at a Taco Bell restaurant but they do not have laboratory evidence of infection at this time.

Among the confirmed and probable cases, 48 (83%) were hospitalized and 7 (12%) developed hemolytic uremic syndrome (HUS). Illness onset dates have ranged from November 20th to December 2nd.

The NYSDOH is asking providers to consider E. COLI O157:H7 infection when evaluating patients with gastrointestinal illness, particularly bloody diarrhea. Testing for E. COLI O157:H7 should be specifically requested on stools collected from suspect cases.

EPIDEMIOLOGY OF E. COLI O157:H7 DISEASE

E. COLI O157:H7 infection has emerged as an important cause of bloody diarrhea and hemolytic uremic syndrome (HUS). Infection commonly occurs through ingestion of the bacteria, usually through contaminated food products of bovine origin such as undercooked ground beef. Outbreaks have also been associated with consumption of foods other than ground beef including lettuce, alfalfa sprouts, unpasteurized juices, and most recently, fresh spinach. In such cases, washing fresh foods may not be adequate to prevent infection. Any food that can be contaminated by beef, cow manure, contaminated water, or an infected food handler may be a potential source of infection. Because the infectious dose is low, person-to-person transmission can be quite common, particularly in settings where handwashing facilities after toileting are inadequate. There is no race or sex predilection.

CLINICAL ILLNESS

Physicians evaluating patients presenting with gastrointestinal illness, particular bloody diarrhea, should include E. COLI O157:H7 in their differential diagnosis. Infection can be entirely asymptomatic or can present with a wide range of clinical features, including watery diarrhea, bloody diarrhea, HUS or thrombocytopenic purpura (TTP). The absence of high fever, presence of grossly bloody stools, and severity of abdominal findings can lead to the mistaken diagnosis

of intussusception in children, and inflammatory bowel disease or ischemic colitis in the elderly. Illness typically begins 3-4 days and ranges from 1-9 days after exposure. Patients usually develop watery diarrhea; in 25-75% of patients, the diarrhea resolves without progression and the illness is mild. In those with progressive illness, bloody diarrhea usually begins on the second or third day, with stool content ranging from blood streaks to all blood.

TESTING

Because many clinical laboratories still do not test for E. COLI O157:H7 as part of routine stool bacterial examination, it is incumbent on the physician to request such testing when infection is suspected, especially for patients with bloody diarrhea or HUS. E. COLI O157:H7 is not detected by standard methods used for other common bacterial enteric pathogens. The medium of choice for isolation is sorbitol-MacConkey (SMAC) agar. Any isolates positive for E. COLI O157:H7 should be forwarded to the NYSDOH Wadsworth Bacteriology Laboratory for confirmation and PFGE analysis. IF a patient specimen tests NEGATIVE for E. COLI O157:H7 and the submitting provider has a high clinical suspicion for E. COLI O157:H7 disease, laboratories should forward the original stool specimens to Wadsworth Bacteriology Laboratory for organism isolation.

Laboratories that perform a Shiga toxin detecting assay (e.g., EIA) routinely are asked to forward original stool specimens to Wadsworth Bacteriology Laboratory for organism isolation. Specimen broths positive for Shiga toxin should be subcultured to SMAC for E. COLI O157:H7 isolation or forwarded to Wadsworth Bacteriology Laboratory.

REPORTING

Any confirmed or suspected cases of E. COLI O157:H7 infection or HUS should be reported promptly to the local health department where the patient resides. Cases among Erie County residents should be reported to the Erie County Health Department should be notified immediately of any suspect case at (716) 858-7697 (Monday - Friday 8:30 AM - 4:30 PM) or (716) 898-4225 (Evenings, weekends, and holidays).

FURTHER INFORMATION

Further information is available at the following websites:

[NYSDOH website - http://www.health.state.ny.us/nysdoh/communicable_diseases/en/e_coli.htm](http://www.health.state.ny.us/nysdoh/communicable_diseases/en/e_coli.htm)
[CDC website - http://www.cdc.gov/ncidod/diseases/submenus/sub_ecoli.htm](http://www.cdc.gov/ncidod/diseases/submenus/sub_ecoli.htm)