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Information for Clinicians regarding E. coli serotype 0157:H7

Epidemiology:

The organism is present as bowel flora in up to 10% of cattle. Animals, meat, water, and vegetables can subsequently become contaminated with faecal flora. Food borne outbreaks are well described with undercooked ground beef being the most common source. Ingestion of only a small number of organisms (10-100) is required to cause illness. The average incubation period is 3-4 days, but may range from 1-9 days.

Clinical:

The clinical hallmark is bloody diarrhea: in one study, 91% of E. coli 0157 patients experienced bloody diarrhea at some point during their illness. Other diagnostic clues include a blood leukocyte count of >10, and severe abdominal pain and tenderness. While the absence of fever is more common with E. coli 0157 than with other causes of bloody diarrhea¹, the presence of fever does not exclude the diagnosis.

In studies of patients with visibly blood diarrhea, E. coli 0157:H7 accounted for 10-39 percent of cases. Other less common bacterial causes of bloody diarrhea included Shigella, Campylobacter and Salmonella². Parasitic diseases and inflammatory bowel disease should also be considered in the differential diagnosis.

Hemolytic uremic syndrome (acute renal failure, microangiopathic hemolytic anemia, and thrombocytopenia) and thrombotic thrombocytopenic purpura (hemolytic uremic syndrome (HUS) in the presence of fever and neurologic symptoms) occur in up to 9% E. coli 0157:H7 infections³. Roughly two thirds of E. coli 0157:H7 related HUS occur in children less than 10; however it can occur in any age group.

Diagnosis:

A clinical diagnosis of E. coli 0157:H7 should be considered in patients with typical symptomatology. An epidemiologic link to a known outbreak is also helpful.

Stool samples should be sent for bacterial culture in all patients with bloody diarrhea and the laboratory should be informed that E. coli 0157:H7 is suspected. It is suggested you speak with your medical microbiologist for difficult to diagnose cases.

Stool samples should also be sent for ova and parasites in patients with bloody diarrhea where intestinal amebiasis is suspected.

¹ Ann Intern Med 1997 Apr 1;126(7):505-13.

² Clin Infect Dis 2001 Feb 15;32(4):573-80. Epub 2001 Feb 9.

³ JAMA 1994 Nov 2;272(17):1349-53

Treatment:

Treatment is supportive and may require hospital admission. Patients should be treated using contact precautions for the duration of their illness to prevent person to person transmission.

Antibiotic therapy and antimotility agents are not recommended in patients with suspected or proven E. coli 0157:H7 infection because of a possible increased risk of hemolytic uremic syndrome⁴.

Empiric antibiotics may be considered in systemically ill patients with bloody diarrhea whose presentation is not typical of E. coli 0157:H7. Stool cultures can be helpful in making this differentiation.

⁴ Lancet 2005 Mar 16;365(9464):1073-86

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This document is intended to assist physicians in clinical decision-making by describing a range of generally acceptable approaches for diagnosis and management. This document should not be considered inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the same results. The ultimate judgment regarding care of a particular patient must be made by the physician in light of the individual circumstances presented by the patient. OAHPP is not responsible for the results of the use by anyone of this document.