

Question 44 – June 5

A 5 year old boy visited the local county fair. Within the next two days he develops watery diarrhea and abdominal pain, followed a day later by bloody diarrhea and fever. He is diagnosed with colitis due to enterohemorrhagic *Escherichia coli*. This infection has all of the following features EXCEPT:

- A. The colitis is caused by invasion of the epithelial cells.
- B. It requires special medium in order to culture the organism.
- C. Outbreaks are associated with ingestion of ground beef, unpasteurized dairy products or fecal contamination of water systems.
- D. It may result in hemolytic uremic syndrome or thrombotic thrombocytopenic purpura.

Answer: A

The clinical symptoms with enterohemorrhagic *Escherichia coli* are due to the production of a Shiga like toxin. Intestinal uptake of these toxins may lead to the systemic complications including HUS and TTP. Special media is required to grow the sorbitol-negative colonies. Cattle appear to be a reservoir of infection and outbreaks have been reported from infected municipal water systems.

References:

Ashkenazi S. Role of bacterial cytotoxins in hemolytic uremic syndrome and thrombotic, thrombocytopenic purpura. *Annu Rev Med* 1993;44:11.

Su C, Brandt LJ. *Escherichia coli* O157:H7 infection in humans. *Ann Intern Med* 1995;123:698-714.