

Hemolytic Uremic Syndrome

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Hemolytic Uremic Syndrome (HUS) is characterized by three distinct clinical signs: acute renal failure, thrombocytopenia and microangiopathic hemolytic anemia. It was first described in 1955 and was associated with infections of shiga-toxin producing *Shigella dysenteriae*¹. However, the cause of many cases of HUS remained unexplained. In the 1980's it was discovered that more than 100 strains of *Escherichia coli*, often referred to as STEC, VTEC or EHEC, produce a similar (shiga-like) toxin¹. In the United States *E. coli* O157:H7 is the most well known and perhaps most important of these strains. It occurs naturally in the gastro-intestinal tract of cattle and other animals and humans become infected through contaminated food products or water². In humans, the bacterial toxins destroy the intestinal lining which results in a watery or bloody diarrhea. The toxin may then spread through the blood stream to the kidneys where it causes the damage leading to HUS.

Patients with HUS often have a history of bloody diarrhea with fever a few weeks prior to onset. Early symptoms include oliguria, edema, pallor and some also develop seizures. People with severe renal injury often require supportive hospital treatment. Most patients recover from HUS; however, 12-30% develop sequelae such as chronic kidney problems and hypertension. The mortality rate is 3-5%. The disease is more common in children less than 10 years old, in the elderly and in patients treated with antimotility drugs.¹

There have been several well publicized outbreaks of HUS in recent years. Most were associated with *E. coli* O157:H7 in undercooked meat, but unpasteurized milk, cider, drinking water and poorly chlorinated water for recreational use have also been implicated as vehicles for bacterial spread.³ The Centers for Disease Control and Prevention estimates that the annual incidence of HUS in the United States is around 3 per 100,000 children less than 5 years old. The incidence in adults is unknown.⁴ HUS became a reportable disease in Florida in 1995.⁵ The number of reported cases is small but it has increased from 3 in 1995 to 10 in 1998. The cases ranged in age from 3-89 years with a median age of 9. Five cases (23%) were less than 5 years old.

References

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