Enterohaemorrhagic E. coli

What is Enterohaemorrhagic E. coli?

- *Enterohaemorrhagic E. coli (EHEC)* is a bacterium that can cause severe foodborne disease.
- Primary sources of *EHEC* are raw or undercooked meat, milk and faecal contamination of vegetables.
- In most cases, the illness is self-limiting, but it may lead to a life-threatening disease including haemolytic uraemic syndrome (HUS), especially in young children and the elderly.

Where does it occur?

Cattle are the primary reservoirs of shiga toxin-producing *Escherichia coli (STEC)* including the zoonotic STEC known as *enteroheamorraghic E. coli (EHEC)* strains. species of livestock or together with wildlife. The disease occurs in cattle older than 3 years.

What are the signs of Enterohaemorrhagic E. coli?

Cattle show no signs for *E. coli* since these bacteria normally live in the intestines healthy animals. But in humans the following symptoms could be seen:

- Bloody diarrhoea, a visibly bloody stool specimen without fever.
- Abdominal tenderness.
- Watery diarrhoea.
- Bloody diarrhea (haemolytic colitis).
- Abdominal cramps.
- In severe cases, blood tinged urine (HUS).
- Fever and vomiting may also occur. If fever occurs, it may not be prominent.

Children and the elderly are more likely to develop severe illness and hemolytic uremic syndrome (HUS) than others, but even healthy older children and young adults can become seriously ill.

How is bovine Enterohaemorrhagic E. coli transmitted?

- Transmission is through eating of undercooked contaminated ground meat and consumption of unpasteurized (raw) milk or milk products, raw vegetables or fruits contaminated by water.
- Consumption of water that has not been disinfected.
- Contact with cattle or feces of infected people.
- Eating food prepared by people with contaminated hands.

Which people are susceptible to Enterohaemorrhagic E. coli?

- People of any age can become infected.
- The condition affects especially children who are under 5 years of age, immune compromised patients, people who are on treatment that destabilises the normal intestinal flora and individual who feed on high fibre foods.

What is the public health risk?

Cattle are just reservoirs but humans suffer the illness as a result of infection with the strains of bacteria.

How is Enterohaemorrhagic E. coli diagnosed?

Test samples of meat, milk, vegetables and other products using:

- *E. coli* strips to pronounce the foods or drinks free from *E.coli.*
- Culturing on enrichment broth like modified EC *(E. coli)* broth or modified tryptic soy broth (mTSB).
- Culturing on chromogenic agar.
- Polymerase chain reaction (PCR).

How do we prevent and control Enterohaemorrhagic E. coli?

- The prevention of infection requires control measures at all stages of the food chain, from agricultural production on the farm to processing, manufacturing and preparation of foods in both commercial establishments and household kitchens.
- Farmers should compost livestock manure.
- EHEC is heat-sensitive. In preparing food at home, be sure to follow basic food hygiene practices such as "cook thoroughly".
- Following the WHO 5 keys to safer food is a key measure to prevent infections with foodborne pathogens such as *EHEC.*

For more information: National Livestock Resources Research Institute (NaLIRRI) P.O. Box 96, Tororo; Tel: +256-45444830; and Email: nalirri@gmail.com