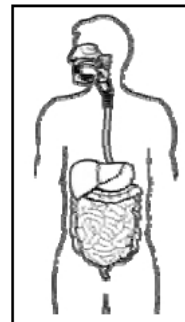


Clinical Definition:

Shigellosis, also known as **bacillary dysentery** in its most severe manifestation, is a foodborne illness caused by infection by bacteria of the genus *Shigella*. There are four species of *Shigella*: *boydii*, *dysenteriae*, *flexneri*, and *sonnei*. Shigellosis is unique among bacterial enteropathogens in that a very low dose of the organism readily produces disease in humans. This may account for the high secondary attack rate in families.

**Source of Infection and Transmission:**

- ◆ Most infections are the result of the bacteria passing from the stools or unwashed hands of an infected person to the mouth of another person, when good hygiene and proper hand washing techniques are not followed.
- ◆ *Shigella* can also be passed in contaminated food, when infected food handlers do not wash their hands after using the toilet.
- ◆ Flies can breed in infected stool and then land on and contaminate food. Contaminated food may look or smell fine.
- ◆ Water can also be contaminated if sewage runs into it or someone with shigellosis swims in it.
- ◆ Sexual contact.
- ◆ Contaminated milk, water.
- ◆ Infection is most common in children 1 to 4 years of age (daycare centers).
- ◆ Predisposing factors: crowded living conditions, low hygienic standards, travel to countries with low standards of food sanitation.
- ◆ Infective dose may be as low as 10 – 100 organisms.
- ◆ Shedding of bacteria usually ends within 4 weeks.

Incubation Period:

- ◆ Varies from 1 to 7 days but is usually 2 to 4 days.

Symptoms:

- ◆ Abrupt onset of diarrhea, fever, fever, nausea, and occasionally toxemia, vomiting, cramps and tenesmus;
- ◆ Illness ranges from mild to severe.
- ◆ Blood and mucus (dysentery) are typically present in stools.
- ◆ Bacteraemia is uncommon.
- ◆ Mild and asymptomatic infections occur.

Major Complications:

- ◆ Convulsions may be an important complication in young children.
- ◆ *Shigella dysenteriae* 1 is often associated with toxic megacolon and Hemolytic Uremic Syndrome (case-fatality rates have been as high as 20% among hospitalized cases). Certain strains of *shigella flexneri* can cause reactive arthropathy (Reiter syndrome) especially in persons who are genetically predisposed.
- ◆ Bacteremia and pneumonia may occur but are uncommon.
- ◆ There is a rare fulminated form of bacillary dysentery secondary to a massive small intestine invasion by the bacteria. This may be seen in children.

Diagnosis and Treatment:

- ◆ Diagnosis is made by stool culture.
- ◆ Correct fluid and electrolyte imbalances.
- ◆ Mild: Often self-limiting, lasting 48-72 hours. Focus on preventing spread of organism.
- ◆ Moderate: Multi-drug resistance is common, so antimicrobial treatment depends on the isolated strain. Drugs of choice include Ciprofloxacin or TMP/SMX or Azithromycin or Erythromycin. Please refer to the current edition of "Bugs and Drugs" for dosage and duration.
- ◆ Antibiotics may shorten the carrier phase. Carrier state may persist for months or longer.
- ◆ Antimotility agents are not recommended as they may prolong the course of disease.

Public Health Measures:

- ◆ All cases and symptomatic contacts should be excluded from food handling and the care of children or patients until diarrhea ceases, and two negative stool cultures not less than 24 hours apart are obtained.
- ◆ Investigation of all contacts and source of infection should be done.
- ◆ Shigellosis is a very common in individuals with AIDS.
- ◆ Breastfeeding is protective for infants and young children. A degree of immunity can be demonstrated in those who have recovered.
- ◆ Secondary attack rates in households have been shown to be as high as 40%. Assess for history of similar symptoms in other members of the household.
- ◆ Suspected contaminated food may be held to prevent risk of consumption
- ◆ Suspected contaminated food may be destroyed.
- ◆ Exclusion while symptomatic, if questionable hygiene practices, exclude until 48 hours after two consecutive stools are negative.
- ◆ Contact the OCMHO or an Infection Disease Specialist about treatment and exclusion for suspected contacts. Cell # is 867-445-3410.

Reporting and Follow-Up:

- ◆ All suspect or confirmed cases are to be reported to the Office of the Chief Medical Health Officer (OCMHO) within 24 hours.
- ◆ The Environmental Health Officer (EHO) is to be notified of all suspect and confirmed cases.
- ◆ *Food and Waterborne Investigation Form* is to be completed by EHO or designate.

If outbreak occurs then Outbreak Control Protocol is to be implemented.

Public Education: (Key Messages)

- ◆ Educate public in personal hygiene, such as handwashing.
- ◆ Education regarding pasteurization of dairy products and refrigeration of food.
- ◆ Avoid swallowing recreational water (pools, hot tubs, lakes or rivers). Keep diapered children or anyone with diarrhea out of swimming pools.
- ◆ Avoid using ice or drinking untreated water when travelling in countries where the water supply might be unsafe.
- ◆ Educate about the risk of sexual practices that permit fecal-oral contact. Educate on condom use for safer sex.
- ◆ Test private water supplies for presence of bacterial contamination.
- ◆ Infected people should not bath with others.

Epidemiology:

- ◆ 600,000 deaths per year worldwide. Two thirds of cases occur in children under 10 years of age.

SHIGELLOSIS in the NWT 1989 - 2005

