Enterobius vermicularis

Taxonomy, Common Name, Disease

- CLASS: SECERNENTEA
- SUBCLASS: RHABDITIA
- ORDER: RHABDITIDA
- SUBORDER: RHABDITINA
- SUPERFAMILY: OXYUROIDEA
- FAMILY: OXYURIDAE

Scientific name - Enterobius vermicularis

Common name - pinworm

Historical

The common name was derived from the typically slender, sharp-pointed tails, especially of females.

Hosts

Humans are the only common host of E. vermicularis. Dogs and cats are not hosts of pin worm. Other species of pinworm infect horses, mules, zebra, sheep, goat, antelope, rabbits, rodents, elephant, and primates.

Distribution

Pin worm infections are common in humans throughout the world, but survive best in the temperate zones.

Life Cycle

The adult worms feed on the mucosa of the large intestine. When females are fully gravid they migrate from the anus and deposit fully embryonated eggs in the perianal region. These eggs are the infective stage and when ingested by man pass through the stomach to the duodenum where they hatch. The immature worms remain in the small intestine undergoing 2 molts. On becoming adults they migrate to the large intestine where the females attach to the mucosa until they are fully gravid. A single female may contain up to 20,000 fully embryonated eggs (eggs with fully developed juveniles); the average is about 10,000.

Symptoms-Pathogenicity

Ordinary infections cause relatively mild symptoms, usually intense itching in the perianal region. Vaginitis may be caused by pin worm in young girls. Massive
infections may cause intestinal blockage but this is rare. In children loss of appetite, insomnia and restlessness are the usual symptoms associated with pin worm infections. Egg laying begins about 50 days after infection.

Management

Prevention - Humans become infected by ingesting eggs from contaminated fingers, food, or inhaling eggs in dust. Infections are more common in members of the same family or in crowded living groups. Good sanitation and personal cleanliness. Clothing and bedding should be thoroughly laundered.

Treatment of Host - Vermox or Pyrantyl Pamoate are the drugs of choice. Treating all members of a family should be considered when control by drugs is undertaken.

Diagnosis - is by the use of the "NIH" swab. Eggs and worms adhere to the sticky surface of the swab when it is applied to the perianal region.

Importance

In the United States it is estimated that infections in children average about 35%. In some European countries it may reach 60%. The rates of infection are lower in tropical areas. Worldwide it is estimated that 500 million people are infected.

Characteristics

All pinworms have a conspicuous muscular bulb on the posterior end of the esophagus. Both sexes of *E. vermicularis* have three lips surrounding the mouth, followed by a cuticular inflation of the head. Males have a single spicule which is 100 to 141 um long. Males are 1 to 4 mm long and have the posterior ends strongly curved ventrad. The conspicuous caudal alae are supported by papillae. Females measure 8 to 13 mm long and have the posterior end extended into a long, slender point. The vulva opens between the first and second thirds of the body. When gravid, the two uteri contain thousands of eggs, which are elongate-oval and flattened on one side, measuring 50 to 60 um by 20 to 30 um

References