

GIARDIASIS

[Most common intestinal protozoan parasite of people in the U.S.]

SPECIES: dogs, cats, NHP, most likely

AGENT: Giardia lamblia Has both a cyst (infective) and trophozoite form

RESERVOIR AND INCIDENCE: The parasite occurs worldwide and is nearly universal in children in developing countries. Humans are the reservoir for Giardia, but dogs and beavers have been implicated as a zoonotic source of infection. In psittacines, the disease is commonly found in cockatiels and budgerigars. Giardiasis is a well-recognized problem in special groups including travelers, campers, male homosexuals, and persons with impaired immune states. However, Giardiasis does not appear to be an opportunistic infection in AIDS.

TRANSMISSION: Only the cyst form is infectious by the oral route; trophozoites are destroyed by gastric acidity. Most infections are sporadic, resulting from cysts transmitted as a result of fecal contamination of water or food, by person-to-person contact, or by anal-oral sexual contact. After the cysts are ingested, trophozoites emerge in the duodenum and jejunum. They can cause epithelial damage, atrophy of villi, hypertrophic crypts, and extensive cellular infiltration of the lamina propria by lymphocytes, plasma cells, and neutrophils.

DISEASE IN ANIMALS: Giardia infections in dogs and cats may be inapparent or produce weight loss and chronic diarrhea or steatorrhea, which can be continuous or intermittent, particularly in puppies and kittens. Calves with clinical giardiasis have been reported. Feces are usually soft, poorly formed, pale, and contain mucus. Gross intestinal lesions are seldom evident, although microscopic lesions, consisting of villous atrophy and cuboidal enterocytes, may be present.

DISEASE IN MAN: Most infections are asymptomatic. In some cases, acute or chronic diarrhea, mild to severe, with bulky, greasy, frothy, malodorous stools, free of pus and blood. Upper abdominal discomfort, cramps, distention, excessive flatus, and lassitude.

DIAGNOSIS: Diagnosis is by identifying cysts or trophozoites in feces or duodenal fluid. Unless they can be examined with an hour, specimens should be preserved immediately in a fixative. Three stool specimens should be examined at intervals of 2 days or longer. A stool ELISA test or IgM serology are available.

TREATMENT: Tinidazole, Metronidazole (FLAGYL), quinacrine, or furazolidone. Alternative drugs are Tinidazole or albendazole.

PREVENTION/CONTROL: Fecals to screen dogs and NHP's. Hygiene, protective clothing, when handling animals. Prevention requires safe water supplies, sanitary disposal of human feces, adequate cooking of foods to destroy cysts, protection of foods

from fly contamination, washing hands after defecation and before preparing or eating foods, and, in endemic areas, avoidance of foods that cannot be cooked or peeled.

BIOSAFETY LEVEL: BL-2

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