



Bulletin No. 20
August 29, 1980
Giardiasis

Giardia lamblia is a flagellated intestinal protozoan which may cause abdominal bloating and discomfort, steatorrhea, diarrhea, fatigue, and weight loss - or no symptoms at all.

In recent years, a number of outbreaks in the lower forty-eight have been traced to drinking water. Many of these outbreaks were related to fecal contamination of surface water by people or animals. *Giardia* cysts may survive for two or three months in cool, fresh water. While careful filtration methods can remove most of the cysts, chlorination may not be effective.

Obviously the conditions for waterborne *Giardia* transmission are well met all across Alaska, so it is not surprising that we are seeing cases. Transmission also occurs directly from person-to-person in certain situations. Some of our cases (as well as cases reported from other areas) are related to day-care centers, where scrupulous hygiene is difficult to maintain. There is also a growing literature on *Giardiasis* as a venereal disease among homosexual men.

The disease is contracted by ingesting the *Giardia* cyst. Passage of the cysts through the acid stomach initiates the process of excystation. The trophozoite emerges and divides in the duodenum or jejunum where it attaches to the luminal wall. Reproduction continues and symptoms appear, usually 1-4 weeks after exposure. As trophozoites dislodge themselves and move downstream, some of them secrete a capsule to form cysts. Others remain unencysted. Both forms may be discovered in stool specimens, but only the cyst remains viable outside of the human or animal host. While cysts may survive freezing or chlorination at the usual levels used in water supplies (0.5 ppm of free chlorine), they are killed effectively by iodine compounds, hyperchlorination (to more than 2 ppm of free chlorine), and boiling.

Diagnosis is made most simply by stool examination for cysts or trophozoites. Three specimens collected on different days are usually sufficient. Duodenal aspirates and mucosal biopsies probably are more reliable, but hardly routine. There are no serological tests.

Treatment is generally recommended even for asymptomatic carriers. Quinacrine (Atabrine) is the drug of choice at a dosage of 2 mg/kg/day p.o. T.I.D. to a maximum of 300 mg/day for 7 days. Although not currently approved for *Giardiasis* by the FDA, Metronidazole (Flagyl) is used commonly and is effective at a dose of 5 mg/kg/day p.o. T.I.D. to a maximum of 750 mg/day for 10 days. All of these drugs may produce side effects and none should be used in pregnant women if at all avoidable.

The Section of Communicable Disease Control is concerned over a dramatic increase in the number of persons diagnosed as having *Giardiasis*. Although *Giardiasis* is not currently a reportable disease, we are very interested in defining the magnitude of the problem and instituting effective control measures.

We strongly encourage you to report all cases of *Giardiasis*! Reporting is accomplished most easily by using the Rapid Telephonic Reporting System which is available 24 hours a day by asking the operator for our toll free number, ZENITH 1700 (in the Anchorage area - 279-5534). Most offices and clinics already have an identified report coordinator who will be able to incorporate *giardiasis* case reports into routine scheduled reporting.

If any questions arise about diagnosis or treatment of *Giardiasis*, feel free to call Charles Ryan, M.D., or John Middaugh, M.D., Section of Communicable Disease Control, Anchorage 272-7534.