
Communications

Giardia Lamblia: A Clinical-Epidemiological Case Report

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In recent years, *Giardia lamblia* has become recognized as the most common intestinal parasite in the United States.¹ This case report details one encounter with epidemic giardiasis in a family practice center located in a northern Midwestern city. A family physician's approach to the individual patient, his family, and their community setting is illustrated by this report.

Case Report

A 23-month-old white boy and his mother presented to the Family Practice Center with a complaint of intermittent diarrhea of two months' duration. This single-parent family of two had joined the practice four months previously, having moved from southern California. The mother noted that her son had intermittent diarrheal stools every two weeks. The number of stools varied from four to eight per day. For the two weeks prior to the visit, the child had persistent diarrhea with six to eight large, bulky, mucous stools each day, and his mother reported a weight loss of approximately 3 to 4 pounds in spite of an excellent appe-

tite. The child was requiring two naps per day whereas he had previously taken only one. There was no history of any other family members or close friends with an illness. The child attended a day care center while the mother worked as a packager in a nearby factory. They were currently living in an apartment complex within the Family Practice Center service area.

On physical examination the child was alert and active, though mildly irritable. His height and weight were both within the 10th percentile for his age. The child had lost 1 ounce in weight from his last visit two months previously. Head, eyes, ears, nose, and throat were normal except for mild tonsillar hypertrophy. Lungs were clear to auscultation; the cardiovascular examination revealed a regular rhythm without abnormal sounds. The abdomen was soft and nondistended with normal bowel sounds. The liver and spleen were not palpable, and there were no abdominal masses. A rectal examination was normal and the stool guaiac was negative.

Laboratory data revealed a total white blood count of 9,000/mm³. The differential showed 2 percent bands, 35 percent polymorphonuclear neutrophils, 55 percent lymphocytes, 1 percent basophils, and 7 percent monocytes. No eosinophils were found. Hemoglobin was 12.8 g/100 mL, hematocrit 37.8 percent, mean corpuscular volume 78.1 μm^3 , and mean corpuscular hemoglobin concentration 33.9 g/100 mL. Because of the his-

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tory of prolonged recurrent diarrhea and lack of weight gain, stool was sent for culture and examined for ova and parasites. This revealed an abundance of *Giardia lamblia*, an absence of normal *Escherichia coli* flora, and the presence of 80 percent pseudomonas, and 20 percent gram-negative nonfermenting species. The child was treated with quinacrine in a dose of 6 mg/kg/d for 5 days with resolution of the diarrhea and clearing of the stools of *Giardia*. He demonstrated active weight gain of 3 pounds in the subsequent three weeks. Stool cultures and examination for ova and parasites performed on the mother were found to be negative.

Because the mother's tests were negative, it was decided to explore a community site for infection. Consultation was obtained with the Public Health Department and screening was begun at the day care center attended by the child and in the child's apartment complex. As a result of this screening, 14 additional cases were discovered, with all but one of these cases occurring in children. Seven of the 14 cases were symptomatic with diarrhea as the major symptom. All family members were screened and found negative except for one parent. Water sampling at the day care center and the apartment complex proved negative. Two pet gerbils at the day care center were sampled and found negative. Only one case was not associated with the day care center. This case occurred in a child whose playmate attended the center. Table 1 summarizes the screening within the day care center.

Patients with positive stools and their family members were treated with quinacrine and hygiene measures were reviewed with day care center staff by the public health workers.

Comment

This case report illustrates some common principles regarding giardiasis. The clinical presentation of this child reflects a typical presentation for *Giardia*. Symptoms of malaise, weight loss, steatorrhea, diarrhea, and cramping are typical. The physical examination is generally normal, though in severe cases there may be stigmata of malnutrition and emaciation. The blood count

Age	Number Positive For <i>Giardia</i> (%)
18 mo to 2.5 yr (n=24)	6/20 (30)
2.5 to 3 yr (n=56)	2/33 (6)
4 yr and above (n=50)	4/28 (14)
Adult staff (n=21)	1/19 (5)
Total (n=151)	13

is generally normal, though occasionally a mild hypochromic microcytic anemia is found.

Diagnosis of giardiasis is based upon examination of stool for cysts and trophozoites. In up to 50 percent of *Giardia* infections, neither cysts nor trophozoites are found in the stools²; thus, a single negative stool does not rule out the disease. The recommended diagnostic procedure calls for the examination of three different stools collected over a one-week period.³ Duodenal intubation and small intestinal biopsy may also be useful for diagnostic purposes when infection is suspected but stools are negative.²

The treatment of choice for giardiasis in adults and children is quinacrine (Atabrine).⁴ This drug is felt to be 80 percent effective, though its use is often complicated by dizziness, headache, nausea, and vomiting. Metronidazole (Flagyl) is also used to treat *Giardia* but is less effective. Its carcinogenic and teratogenic effects in rats make it contraindicated in pregnancy. It is recommended for use when quinacrine is not effective.

The community aspects of this case also reflect some principles of epidemic giardiasis. The outbreak occurred primarily in children associated with a day care nursery. This correlates with other reported epidemics.⁵ Water supplies were sampled, but no cyst contaminants were detected. Animal carriers have been reported, and although screening of animal contacts occurred, no animal vector was detected. It was concluded that the source of infection was person-to-person contact.

The family physician who encounters *Giardia lamblia* in an individual or family must ask whether the case is confined to a particular family or household, or whether it is part of a wider outbreak. This question can lead the physician beyond the individual patient to the community

served by the practice. Cooperation with the public health department in the initiation and follow-through of a community screening effort provides a true service to the community.

References

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Hysterical Paralysis

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Case reports of hysterical paralysis without psychiatric orientation are rare in the literature. One of the reviews by Dubowitz and Hersov¹ presented five case reports of children who had had countless diagnostic tests prior to their workups, but who, once the diagnosis of hysterical paralysis was made, showed marked improvement after intense rehabilitation and psychological counseling. It is important to recognize the psychosomatic aspects of this entity and to list it in the differential diagnosis of disorders that cause muscle weakness or paralysis.

Case Report

A 15-year-old boy was referred by his scout master, who was also a physician. The patient said

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that he had always had difficulty with coordination from childhood and had never really been able to keep up with other children. Because of this, he had had no physical education in school for many years and was involved in very little physical exercise. He had had several episodes during the previous years when he could not move very well, particularly when he got overexcited, was exposed to cold weather, or had had more exercise than usual. He had one particular episode the year prior to being seen when he was trying to learn to ski in the mountains with some other boys. He had fallen and for a short time seemed unable to get up. He said that this had occurred several times in the past, once on a hiking trip with his scout troop. The longest period of time that he was "paralyzed" was two or three hours. This was accompanied by a feeling of being sick, difficulty in breathing, a dry throat, and coughing. No fever accompanied these episodes. His only previous medical workups were several x-ray films showing a spondylolisthesis and protruding acetabula. System review was negative except for a history of epistaxis, hemorrhoids, syncope with exercise, a

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