

CASE REPORTS

Refer to: Cohen R, Mackey K: *Hymenolepis diminuta* unresponsive to quinacrine. *West J Med* 127:340-341, Oct 1977

Hymenolepis diminuta Unresponsive to Quinacrine

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CLINICAL INFECTION by *Hymenolepis diminuta*, the rat tapeworm, is an uncommon event in the western United States. However, because of increasing numbers of immigrants into the United States from endemic areas such as Mexico and Latin America; because *H. diminuta* infection is often subclinical, and because reporting *H. diminuta* infection is not required by law in most states, this disease may be of greater significance than presently recognized. The case described illustrates not only the clinical presentation of *H. diminuta* infection, but also problems in its treatment.

Report of a Case

On November 5, 1975, a 9-year-old Mexican-American girl was referred to the local health department by her family physician for treatment of *Hymenolepis diminuta*. The patient had emigrated from Mexico in 1972 and at that time noted the onset of episodic periumbilical abdominal pain

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usually occurring after meals and lasting 10 to 20 minutes. These episodes were often accompanied by vomiting and occasionally by an unformed black stool. The patient also had daily episodes of headache with diaphoresis, chills and abdominal distention. She was seen by her family physician who ordered a study of stool specimens for ova and parasites; *H. diminuta* eggs were found. Over the next three years the patient was treated with four separate courses of quinacrine (Atabrine®) without cure.

Upon referral to the health department in 1975, the patient said that she had lost no weight and that she felt well except for a vague abdominal discomfort. Other past medical history was unremarkable, and the patient's parents and siblings were in good health. The patient's temperature was 37.6°C (99.7°F), pulse 100, weight 28.6 kg and height 124 cm. The remainder of the findings from the physical examination were unremarkable. A study of stool specimen showed the presence of eggs of *H. diminuta*. The hematocrit was 36 percent, and the leukocyte count was 9,000 cells per cu mm with 36 polymorphonuclear leukocytes, 3 bands, 55 lymphocytes, 3 monocytes, 2 eosinophiles and 1 basophil. The Parasitic Disease Drug Service at the Center for Disease Control graciously provided niclosamide (Yomesan®)* tablets, and therapy was begun on November 18, 1975. The patient was given 1 gram the first day followed by 0.5 grams per day for six days. Following completion of therapy the patient felt better, was afebrile and denied recurrence of abdominal pain. Negative stool specimens were obtained on the first day of treatment and one week following completion of treatment; however, the three month stool specimen contained *H. diminuta* eggs.

On April 6, 1976, the patient was reevaluated. Her weight was 32.2 kg, and a second course of niclosamide was started at the increased dosage

*Niclosamide is manufactured in Germany and not marketed in the United States. It is obtainable by licensed physicians from the Parasitic Disease Drug Service, Center for Disease Control, Atlanta, GA 30333.

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schedule of 1.5 grams the first day followed by 1 gram daily for six days. The patient's only complaint of side effects during either course of niclosamide therapy was occasional abdominal cramping (relieved by bowel movement). Following the second course of therapy the patient continued to gain weight without recurrence of abdominal cramping. Tests of stool specimens after one week, one month and three months were negative for *H. diminuta* eggs.

Discussion

Rodents are the definitive hosts of *H. diminuta*. Eggs are excreted in the rodent feces and subsequently ingested by arthropods (millipedes, beetles, earwigs, rat flea larvae and others) in whom larval stage development occurs. Rodents then ingest infected arthropods to complete the worm's life cycle. Most reported human infections have been in children who are infected by eating parasitized arthropods, which are usually ingested as grain and cereal contaminants. Protection of food storage from both insects and rodents in the United States has prevented widespread human infection, although human infection has been reported in several states, particularly in the Southeast.¹

Although most human infections are asymptomatic, the case presented illustrates its clinical presentation and course which may include weight loss, anorexia, nausea, vomiting, abdominal pain and diarrhea. Diagnosis is made by finding the characteristic eggs or proglottids in the patient's feces. This report underscores the value of stool examination for ova and parasites in immigrant children from endemic areas who have gastrointestinal complaints.

Until recently quinacrine provided the most effective treatment; however, the availability of niclosamide, a more effective agent for most tapeworm infections, has enabled definitive cure in more resistant cases such as this.

Summary

This case report of a child clinically infected with the rat tapeworm, *Hymenolepis diminuta*, describes (1) a disease rarely diagnosed in the western United States and (2) the use of niclosamide to cure the infection.

REFERENCE

1. Turner JA: Other cestode infections, chap 54, *In* Hubbert WT, McCulloch WF, Schnurrenberger PR (Eds): *Diseases Transmitted from Animals to Man*, 6th Ed. Springfield, Ill, Charles C Thomas, 1975, pp 713-715

Refer to: Haddad JK, Doherty C, Clark RE: Acute gastric volvulus—Endoscopic derotation. *West J Med* 127:341-346, Oct 1977

Acute Gastric Volvulus— Endoscopic Derotation

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GASTRIC VOLVULUS is a rare, acquired condition in which the stomach rotates upon itself. Bockus,¹ in his second edition (1974), noted that there had only been 277 cases reported in the literature at that time, this number including cases of both acute and chronic volvulus. Acute gastric volvulus presents as an abdominal emergency with a high mortality rate, and usually requires immediate surgical therapy. This report describes the case of a 52-year-old woman who presented with acute gastric volvulus. After gastric decompression by nasogastric tube, the volvulus was derotated with a fiberoptic endoscope. Clinical and radiologic features in acute gastric volvulus are characteristic. Use of modern therapeutic techniques should improve treatment of this condition.

Report of a Case

A 52-year-old woman, who had been in excellent health without previous gastrointestinal symptoms, was admitted to hospital because of severe abdominal pain. The night before admission she had a small amount of Mexican food with a cocktail but did not overeat. Shortly thereafter she noted the onset of severe abdominal pain followed by repeated bouts of retching without being able to vomit. Her pain became progressively more severe and she noted abdominal distention. She was seen in the emergency room at 2 AM, eight hours after the onset of symptoms, in excruciating pain and was admitted at that time.

Her past history was unremarkable. She smoked and drank alcohol in moderation and took no medications. Family history and review of systems were unremarkable.

When first examined the patient was in excruciating pain, unrelieved by an intramuscular

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