

Hymenolepis diminuta infection in a young boy from rural part of Northern India

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ABSTRACT

Hymenolepis diminuta (*H. diminuta*) is primarily a parasite of rats and mice. Humans are infected by eating meal contaminated with these arthropods. This infection is not seen commonly in Indian population. We present here a case report of infection with *H. diminuta* in a young boy from a rural area of the North India.

Keywords: *Hymenolepis diminuta*, intermediate host, parasite

Introduction

Hymenolepis diminuta (*H. diminuta*) is primarily a parasite of rats and mice. It is not found commonly in humans beings. Humans and rats acts as a definitive host. Various species of arthropods harbors infective larval forms and serves as intermediate host. Immature fleas, flour moths, or beetles are common arthropods which act as intermediate host for this parasite. Humans are infected by eating meal contaminated with these arthropods which have cysticercoids larva of *H. diminuta*.^[1,2]

H. diminuta parasitization rates are around 0.001–5.5% in various surveys.^[3]

The adult worm is present in the small intestine, and the eggs are passed in the stool. Infections are diagnosed when the eggs are detected in feces.^[4] The eggs are around 70 µm in diameter; they are bile stained. There is the presence of hexacanth embryo, but the polar filaments are absent; the feature differentiated it from *Hymenolepis nana*.^[5] This infection is not seen commonly in the Indian population, and very few case reports have been published from India. We present here

a case report of infection with *H. diminuta* in a young boy from a rural area of North India.

Case Report

An 11-year-old male child was presented in outpatient department with complaints of pain in the abdomen. Stool examination was advised. Stool examination showed the presence of eggs. The eggs were bile stained, thick walled, approximately around 70–75 µm in size in wet mount preparation. An embryo could be identified with six hooklets without polar filaments [Figure 1]. The eggs were identified as of *H. diminuta*. The peripheral smear showed eosinophilia.

Discussion

H. diminuta infections have been reported worldwide and the majority of cases being children. There are few cases reported from Iran, Spain, Malaysia, and Italy. In many parts of rural India, rats and cockroaches habiting in household is a common phenomenon. Rats and rodents are the reservoirs and definitive hosts of this parasite thus contributing to the infection.^[2,3,5,6] There are some sporadic case reports about infection by *H. diminuta* in Indian literature. A survey was done

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Access this article online

Quick Response Code:



Website:
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DOI:
10.4103/2249-4863.184655

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How to cite this article: Mane P, Sangwan J. *Hymenolepis diminuta* infection in a young boy from rural part of Northern India. J Family Med Prim Care 2016;5:166-7.

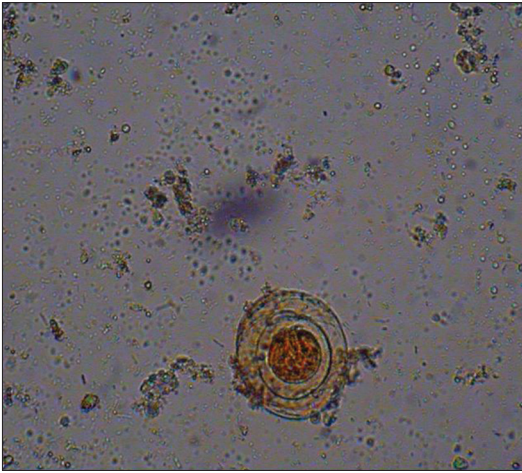


Figure 1: Saline wet mount showing bile stained, thick walled egg with hexacanth embryo and without polar filaments

on 10,000 stool samples; in which *H. diminuta* was detected in 23 cases.^[7-9]

Clinically, these infections may be asymptomatic or may present with mild abdominal pain, pruritus, or eosinophilia.^[3,6,9] Our case also had a similar presentation. The patient in our case was living in rural area. When asked he gave a history of the presence of rodents in house. Probably, the heavy presence of rodents and cockroaches helps in spread of this parasitic infection. The personal hygiene and care in rural areas are poor because of many factors such as illiteracy, lower socioeconomic status; further increasing chances of infections.

Worldwide, the parasitic infections have lower down due to improved personal hygiene and awareness. Some of these parasitic infections are almost never seen in routine clinical practice. This case report highlights that even though this parasitic infection is rare; it can still be found in rural areas of India.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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