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CASE REPORT

ISOLATION OF RAT TAPE WORM (*HYMENOLEPIS DIMINUTA*) FROM A 3 YEARS OLD CHILD IN KOLKATA: A CASE REPORT

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ABSTRACT

Infection with *Hymenolepis diminuta* is rarely reported in humans(Tena 1998). In Eastern India only one case had been reported till now from Odisha (Tadepalli Karuna, 2014). So we are reporting this case of isolation of *Hymenolepis diminuta* from a 3 year old child who was referred to our laboratory for examination of stool sample. To the best of our knowledge this is the first case of human infection reported from West Bengal (Tadepalli Karuna, 2014).

INTRODUCTION

Hymenolepis diminuta is a cyclophyllidean cestode commonly known as rat tapeworm. It is a common parasite of rat and mice. Human infection is extremely rare and almost always occurs after accidental ingestion of rat fleas and other arthropods like Lepidoptera and Coleoptera. Parasitization rates in humans range between 0.001% and 5% (Tena, 1998). It is highly prevalent in countries like Malaysia, Thailand, Jamaica and Indonesia (Mc Millan, 1971). In India only few cases are reported from the southern and western province. In Eastern province only a single case has been reported from Odisha in June 2014 (Tadepalli Karuna, 2014). So we are keen to report this case.

The Case

A 3 years old boy was referred to the Helminthology clinic of Calcutta School of Tropical Medicine with complaints of recurrent pain in the abdomen, vigorous appetite (Perverted appetite)and altered bowel habits since the last 2 months.

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Clinical Examination

Body weight-15Kg.
Arm circumference : 13cms.
Chest circumference : 44cms.
Vitals: Within normal limits.(Pulse-110/min,BP-100/70mmHg, Respiratory rate: 24/minute, Afebrile).
Moderate Pallor++
No icterus.
All other systemic examinations: Unremarkable.
We advised stool examination for ova and parasites.

MATERIALS AND METHODS

STOOL SAMPLE:

A. Gross appearance:

Foul smelling.
Hard in consistency.

B. Microscopy

For mol Ether concentration of stool sample revealed spherical, thick shelled eggs (70-80 µmx 60-70µm) that contained 6 central hook lets but no polar filaments which is typical of Hymenolepis diminuta (Marangi, 2003). We prescribed Praziquantel suspension. We also advised to collect 24 hours stool sample from the morning

succeeding the night dose of Praziquantel and to submit it in the laboratory. Unfortunately on examining the 24 hours stool sample we did not find any adult worm.

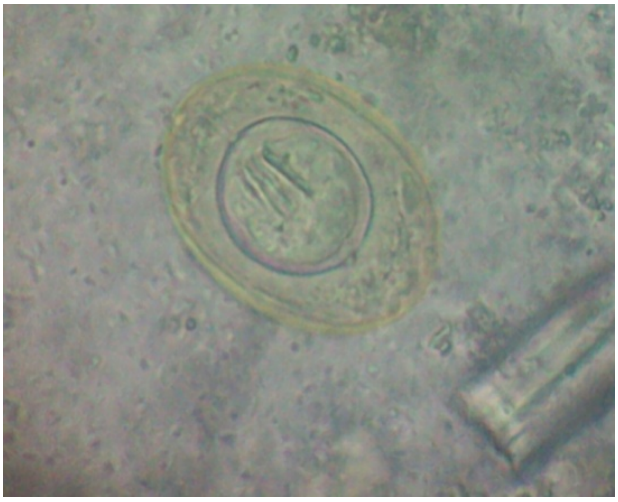

Fig. Eggs of *Hymenolepis diminuta*

DISCUSSION

Rat tapeworm infection occurs throughout the world mainly in areas with temperate to tropical climates(Foresi, 1967). It is also prevalent in areas where there is lack of proper sanitation. Till now < 500 cases have been reported worldwide (Tena,1998). The infection is prevalent in Malaysia, Thailand, Jamaica and Indonesia (Mc Millan,1971).In India it is common in the southern and western part only (Tadepalli Karuna, 2014). Infection is mainly confined in children population (Hamrick, 1990). Principal hosts of rat tapeworm are rodents and intermediate hosts are fleas, cockroaches and beetles (Garcia, 1997).Human infection almost always occurs after accidental ingestion of these intermediate hosts which is not surprising in case of children as they are not very self conscious.

Children accidentally ingest these fleas by putting the contaminated hands in their mouth while playing in soil. This child has a history of hyperphagia and appetite perversion. So acquiring the infection is not at all unusual for him. Infection in human being are usually indicated by noting the presence of eggs in the stool (Watwe, 2008). Recovery of the adult worm from the 24 hours stool sample after Praziquantel therapy would have given us more support to our diagnosis but visibility of the eggs alone without the recovery of the adult worm is also not a major pitfall.

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