

## A case report of *Hymenolepis diminuta* infection in a Malaysian child

Rohela, M.<sup>1,2\*</sup>, Ngui, R.<sup>1</sup>, Lim, Y.A.L.<sup>1,2</sup>, Kalaichelvan, B.<sup>3</sup>, Wan Hafiz, W.I.<sup>2</sup> and Mohd Redzuan, A.N.<sup>2</sup>

<sup>1</sup>Department of Parasitology, Faculty of Medicine, University of Malaya, 50603, Kuala Lumpur, Malaysia

<sup>2</sup>Parasite Southeast Asia Diagnostic (Para:SEAD) Laboratory, Department of Parasitology, Faculty of Medicine, University of Malaya, 50603, Kuala Lumpur, Malaysia

<sup>3</sup>Poliklinik Suhaimi, No 88 Jalan 1/27F, Pusat Bandar Wangsa Maju, 53300, Kuala Lumpur, Malaysia

\*Corresponding author email: rohela@ummc.edu.my

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**Abstract.** We report a case of *Hymenolepis diminuta* infection in a 2-year-old Malaysian child. This case was initially reported as 'normal' after the examination of proglottids shed from the anus of the child at a private laboratory on two occasions. The putative proglottids shed was then referred to the Parasite Southeast Asia Diagnostic (Para:SEAD) Laboratory, Department of Parasitology, Faculty of Medicine, University of Malaya for further examination. Microscopic examination confirmed that the child was infected with *H. diminuta* based on the characteristic eggs found in the proglottids. She was treated with a single dose praziquantel (20 mg/kg of body weight) and recovered well.

### INTRODUCTION

*Hymenolepis diminuta* also known as rats and mice tapeworm is rarely found in humans and is acquired by accidentally ingesting infected intermediate host, i.e., arthropods containing the cysticeroid larvae. To date, more than 20 different species of arthropods including beetles, fleas, caterpillars and other insects have been identified as intermediate hosts for the development of the cysticeroid larvae (Andreassen *et al.*, 1999; de Carneri, 2004). The most important are flour moths and flour beetles. *Hymenolepis diminuta* is commonly found in areas where large amounts of rat's favourite food such as grain and other dry food product are stored. Inside the arthropod, the hexacanth embryo will emerge from the egg and develop into a metacestode stage called cysticeroid. Once the arthropod containing the infective stage (cysticeroid) is ingested by the definitive host, i.e., rat and human, it will grow into the adult form in the small intestine and its eggs will be passed out in

the stool of the host (Andreassen *et al.*, 1999; de Carneri, 2004).

The size of adult worm is usually 20 to 50 cm in length and approximately 4 mm in width. The scolex bears four suckers and a small rostellum without hooks. Diagnosis is based on the characteristic eggs in the stool. Eggs are approximately 70 µm in diameter, slightly ovoid and brown with relatively thick shell. Sometimes, fine concentric striations may be observed in the outer membrane shell. The inner membrane is thin containing six central hooklets but no polar filaments. The absence of polar filaments readily differentiates this species from *Hymenolepis nana*.

*H. diminuta* infection in humans is rare, typically occurring in isolated cases such as case reports describing a single affected individual (Levi *et al.*, 1987; Varghese *et al.*, 1998). Few cases have been reported especially in children with the prevalence rates ranging between 0.001% and 5.5% (McMillan *et al.*, 1971; Naquira *et al.*, 1973; Panpiglione *et al.*, 1987; Lo *et al.*, 1989;