

Case Report

**A Case of *Dipylidium caninum* Infection in an Infant  
– The First Case Found in Miyazaki Prefecture, Japan –**

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*Dipylidium caninum* is principally a cestoda parasite of dogs and cats. However, this cestoda occasionally parasitize the intestine of human beings, especially of babies and infants, usually without particular symptoms (Faust *et al.*, 1970). Since a total of over 200 human cases of infection with this cestoda has been reported from various places in the world, this parasite is considered as one of important cosmopolitan pathogens of zoonoses (Yoshida, 1991). As far as we could gather, only 11 dipylidiasis cases were reported in Japan (Morishita, 1964; Kagei, 1982). Here we report an additional case of dipylidiasis recently found in Miyazaki Prefecture, the first case in this Prefecture.

**Case Report**

In August 1992, a mother brought a tiny yellowish white colored, melon seed-like creature to the Department of Pediatrics, Saisei-kai Hyuga Hospital. Unfortunately the specimen had been already broken into pieces so that identification was impossible at that time. She stated that she found this creature around the anus of her 7-month-old boy and that similar creatures were

occasionally found in the stool of a pet cat kept in their home since 2–3 months ago. Next day she brought her son with two more specimens, one of which she found in the perianal area of the son and the other from the anus of the cat. During inspection, the attendant pediatrician found another creature in the perianal area of the patient. The baby boy looked healthy and had no particular clinical signs nor symptoms. Laboratory examinations were not carried out. Since the doctor suspected these creature as a trematoda or cestoda parasite, all three specimens were kept in saline and send to the Department of Parasitology, Miyazaki Medical College together with the fresh stool of the patient.

Neither worms nor eggs were seen in the stool of the patient. The parasites sent were yellowish white in color and their shape was like melon seed (4–8 mm × 2–3 mm in size). One of them was still alive showing crawling movement. Numerous egg packets were seen in the saline. Each egg capsule contained 8–15 eggs which were pale yellow in color, thin-shelled, and contained hexacanth embryo (Fig. 1). After an inspection under a dissecting microscope, the parasites were fixed in 70% ethanol, stained with aceto-carmine, and embedded flatly. They were the gravid plerocystids having two genital pores, one at each lateral margin (Figs. 2a, b). From these morphological characteristics, the parasite was identified as *D. caninum*.

The patient was treated with a single administration of praziquantel (10 mg/Kg body

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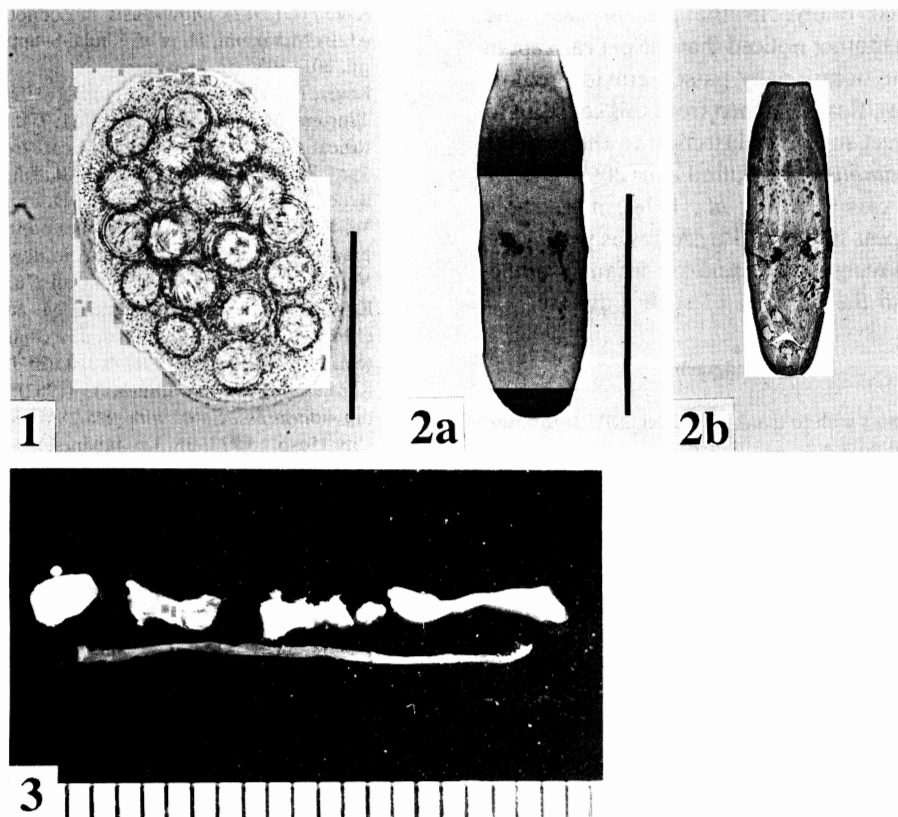


Fig. 1 Egg capsule containing 8–15 eggs. Scale bar = 100  $\mu$ m

Fig. 2 Gravid proglottid spontaneously passed by the patient (a) and by the cat (b).  
Scale bar = 5 mm

Fig. 3 Strobilae and proglottides purged by the treatment.

weight) with a purgative. Two hours after the treatment, the purged stool was collected, mashed, and drained through a stainless sieve. A parasite was found as several fragmented strobilae and proglottides, all of which were severely damaged by the drug (Fig. 3). From the morphology of these strobilae and proglottides, the parasite was identified as *D. caninum*. Although scolex was not found in the purged stool, relapse was not noted by now, 2 months after the treatment.

Dipylidiasis is considered as the zoonotic disease of childhood because a majority of previously reported cases were the infections in infants or young children (Chappell *et al.*, 1990). In Japan, 10 out of 11 previously reported cases

were of infants and children (Kagei, 1982). The patient reported here also was a 7 months-old baby boy. In Kyusyu District, two cases were reported from Nagasaki Prefecture (Kusano *et al.*, 1960; Kusano and Awamura, 1962) and one case from Kagoshima Prefecture (Ono *et al.*, 1977). Therefore, the present case is the fourth case in Kyusyu District and the first one in Miyazaki Prefecture. The patient was successfully treated with praziquantel. Although this drug was originally developed for the treatment of trematoda infections, its efficacy to *D. caninum* infection has been reported (Kruckenberg *et al.*, 1981).

As the route of *D. caninum* infection to human beings, fleas having cysticercoid should

be ingested orally. In the present case, the patients's mother noticed that the pet cat kept in their home occasionally passed gravid proglottides. Thus, fleas detached from this cat seem to be the direct source of infection to the patient. Since *D. caninum* was found over 20% of stray dogs and cats (Kagei *et al.*, 1978), more cases would appear in future. Physicians as well as the parents having babies and/or infants should aware with the presence of such a disease.

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