

# HUMAN INFECTION WITH *DIPYLIDIUM CANINUM* LINNAEUS (PLATYHELMINTHES: CESTODA) IN RHODESIA

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The dog tapeworm, *Dipylidium caninum* Linnaeus is commonly found in dogs, cats and various wild carnivores, and its distribution seems to be cosmopolitan.<sup>1-3</sup> However, only about 100 cases of human infection with this worm have been recorded, mostly from Europe<sup>4-8</sup> while other records are from the Antilles, Philippine Islands, China, South Africa, Australia,<sup>9</sup> Argentine,<sup>8</sup> Puerto Rico,<sup>4</sup> and Rhodesia.<sup>10</sup> Recent work by Gleason<sup>11</sup> has brought the number of recorded cases from America up to 32 and Thompson<sup>12</sup> has recorded further cases.

Most of the human cases recorded have been children,<sup>6,7,9,10,13</sup> and the quoted records of Blanchard<sup>4,14</sup> show that, at the time of his work, about 75% of infections were found in children aged from several weeks to 3 years, and 30% were in children under 6 months of age.

Cases are mostly reported as being asymptomatic<sup>6,12</sup> but Faust, Beaver and Jung<sup>15</sup> state that infestation can result in fever, diarrhoea, unrest, a significant eosinophilia and, rarely, convulsions. Faust and Russell<sup>8</sup> also mention such symptoms as loss of appetite, indigestion and toxic nervous effects.

Proglottids containing egg capsules each with 5-30 eggs<sup>1</sup> pass out with the faeces and the eggs are picked up by the intermediate hosts, *Trichodectes canis* (de Geer) (the biting dog louse); larvae of *Ctenocephalides canis* (Curtis) (the dog flea); *Ct. felis* (Bouche) (the cat flea) or *Pulex irritans* Linnaeus (the human flea) where a cysticercus develops.<sup>2,3,6</sup> When the lice or adult fleas are ingested by dogs or man, the adult worm develops in the small intestine. Some workers have placed the worms which have *T. canis* as the intermediate host in a separate species, *D. sexcoronatum* v. Ratz. (For a discussion on this see Wardle and McLeod<sup>1</sup> and Hyman.<sup>16</sup>)

It is claimed that children probably become infected when dogs nip fleas or lice and then lick the children,<sup>5,9</sup> although it is also possible that children could become infected if they

accidentally swallow a flea or dog louse.<sup>9,17,18</sup> In some cases, infestations have been traced back to infected cats (Rendtorff<sup>10</sup> and Vacca as cited by Riley and Wallace<sup>14</sup>).

Recently, tapeworm proglottids from a 7-month-old White girl sent to the Zoology Department of the University College of Rhodesia and Nyasaland were identified as those of *D. caninum*. The child's doctor, Dr. B. Zilberg (personal communication), stated that she had been passing proglottids since the age of about 4 months. He said that her general health had been good and that she had been previously treated on 2 occasions with Yomesan without success. The proglottids collected were found after treatment with *Filix mas* and magnesium sulphate.

The first record of this species of tapeworm being recovered from humans in Rhodesia is that of Blackie<sup>10</sup> who collected one specimen from an African girl during a helminthological survey. Unfortunately he gave no indication of the age of the patient.

In a survey at present in progress in the Salisbury area, postmortem examinations of dogs which had been destroyed for various reasons, have shown that, of 25 dogs examined, 19 (76%) were infected with *D. caninum*—one containing about 268 worms (as judged on scolex counts). It thus appears that there is a ready reservoir for human infection in this area. This supports the statement by Chandler<sup>5</sup> that the parasite is probably more common in humans than the records would indicate, since many cases escape detection.

## SUMMARY

Human infestation by *Dipylidium caninum* Linnaeus is discussed and a recently diagnosed case is recorded from Rhodesia. Preliminary results of a helminthological survey of dogs in the Salisbury area are given.

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