Dipylidium caninum infection in children: clinical presentation and therapeutic challenges

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Background

- *Dipylidium caninum* infection is a relatively uncommon intestinal parasitic zoonosis, affecting mainly children.
- It seems to be unknown to many general practitioners and pediatricians.
- The few and nonspecific clinical signs lead to under- or misdiagnosis.
- The transmission requires ingestion of contaminated dog or cat fleas.
- The course of the disease is quite benign and although there is effective treatment the disease can possibly be self limited.
- Prevention of the disease requires regular veterinary care of pet animals and addressing the problem of stray animals.

Materials and methods

- This retrospective study was carried out in a Tertiary Care Teaching Hospital in Southwestern Greece.
- A total of ten patients were diagnosed with dipylidiasis during the last two years and they were all included in this study.
- All cases were identified via microbiological confirmation of the *D. caninum* proglottids and eggs in fresh stool specimens.
- Laboratory diagnosis was based on microscopic characteristics of the proglottids and eggs and in one case of the macroscopic observation of the adult helminth.
- All cases were followed up at the local Pediatric Infectious Disease clinic.

Results

#1 demographics

- 4 ♀ and 6 ♂
- Mean age: 3,8years (range:7/12- 10 years)
- Middle socioeconomic and healthcare status
- All of them locals, unrelated to each other, except for the siblings.

Figure 1. Adult worms in an infant's nappy

#2 symptoms

Figure 2. Examination of fresh stool sample under*100 revealing *D. caninum* proglottids

#3 therapy

- All children were treated with the drug of choice, praziquantel, at a dose of 20mg/kg.
- 7 out of 10 yielded a negative stool parasitology for *D. caninum* after a single dose praziquantel
- 3 out of 10 required a second dose praziquantel.
- The two infants in our study were proved more challenging, since both required additional niclosamide administration.

#4 eosinophilia

#5 contact with animals

- 50% no contact
- 40% contact with pet dog
- 10% contact with a stray cat

Conclusions

- There needs to be greater awareness in the medical community for the existence of this particular parasitic disease, which is considered rare in developed countries, especially in children with gastrointestinal complaints
- We could postulate another way of transmission, supposedly through contaminated ground
- Praziquantel may not always be an effective treatment to dipylidiasis and a possible explanation could be the development of resistance in praziquantel due to widespread use in the veterinary practice or variation in the genotype of *D. caninum*
- The management of these cases in infancy can be quite challenging