

Choleoimeria rochalimai (Apicomplexa: Eimeriidae) a pseudoparasite of the dog – Case report*

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ABSTRACT. Leal P.D.S., Ramos M.I.M., Barbosa L.L. deO., Lopes B. doB. & Lopes C.W.G. *Choleoimeria rochalimai* (Apicomplexa: Eimeriidae) a pseudoparasite of the dog – Case report. [*Choleoimeria rochalimai* (Apicomplexa: Eimeriidae) um pseudoparasito das fezes do cão – Relato de Caso]. *Revista Brasileira de Medicina Veterinária*, 37(Supl. 3):14-16, 2016. Programa de Pós-Graduação de Ciências Veterinárias, Anexo 1, Instituto de Veterinária, Universidade Federal Rural do Rio de Janeiro. BR 465 km 7. Campus Seropédica, 23.890-000, RJ, Brasil. E-mail: pauloleal@ctiveterinario.com.br

The report a five month old male, Kavalier K C Spaniel was admitted to the Veterinary Health Centre at Barra da Tijuca in the City of Rio de Janeiro, RJ, Brazil. According to the owner description the puppy has a history of sialorrhea with prostration and episodes of vomiting. Next to this information the owner commented that the animal had the habit of walking in the garden. Stool examination was recommended where the presence of sporulated oocysts of *Choleoimeria rochalimai* as a pseudoparasite of the dog due to the coprophagic habit to eat feces of the house geckos *Hemidactylus mabouia*, very common at human dwellings, associated to normal parasites of the dog *Cystoisospora canis* and *Giardia intestinalis* oocysts and cysts respectively.

KEY WORDS. Pseudoparasites, *Choleoimeria rochalimai*, dog feces, house geckos.

RESUMO. O relato de um macho de cinco meses, Kavalier K C Spaniel, foi admitido em um Centro de Saúde Veterinária da Barra da Tijuca, no Rio de Janeiro, RJ. De acordo com a descrição do proprietário, o filhote tem uma história de sialorréia com prostração e episódios de vômitos. Ao lado desta informação o proprietário comentou que o animal tinha o hábito de andar no jardim. O exame de fezes foi recomendado onde à presença de oocistos esporulados de *Choleoimeria rochalimai* como um pseudoparasito do cão foi observado, devido ao hábito coprofágico de comer fezes das lagartixas *Hemidactylus mabouia*, muito comum em habitações

humanas, associado à presença de parasitos normais do cão *Cystoisospora canis* e *Giardia intestinalis* oocistos e cistos, respectivamente.

PALAVRAS-CHAVE. Pseudoparasitas, *Choleoimeria rochalimai*, fezes de cão, lagartixa.

INTRODUCTION

The insectivorous habit of some vertebrates by ingesting invertebrates is essential for some coccidia parasites to develop, because they dependent of the feeding habits of their predators to ensure that will be dispersed (Teixeira et al. 2003, Lopes et al. 2006, Berto et al. 2010, Lopes et al. 2013). Be-

* Received on July 21, 2016.

Accepted for publication on November 17, 2016.

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side that, wild carnivorous are also reported to be infected with oocyst of the genus *Eimeria* (Arther & Post 1977, Gressler et al. 2009, Kusma et al. 2015) as pseudoparasites. Even when pets are well treated and that living in well cleaned neighborhoods, but may live with other animals as stray dogs and other vertebrates by infecting with other parasites by defecating in their houses and surrounding areas. Eating and drinking outside the home directly from the ground and can eat feces from other animals predisposes to infection by other parasites (Bowman & Lucio-Forster 2010).

Coprophagy is a type of common pica in dogs that can eat their own feces or other dog feces. The causes are unknown. One preventive measure is to take your dog's stools daily in order to minimize the opportunity to eat their own feces (Woodard 2017) or other animals.

The objective of this case report is to point out the presence of a pseudoparasite in a dog feces by unusual fed habits.

HISTORICAL FINDINGS

A five month old male, Kavalier K C Spaniel was admitted to the Center for Intensive Care and Emergency 24 hours in Barra da Tijuca, Rio de Janeiro, RJ, Brazil. According to a history of sialorrhea with prostration. Feeding with dry ration for puppies; however, it was medicated with omeprazole due to episodes of vomiting. The animal had free access to the garden. He does not report if it hunts small animals or arthropods. Coming to confirm, later we already witnessed the habit of the animal eating gecko feces. Not using prophylaxis. No fever 37.8 and weight of 4.75 kg excepted an intense abdominal tenderness.

Fecal samples were examined by direct and centrifugal-flotation with Sheater sucrose saturated solution where were observed rare *Cystoisospora canis* oocysts (Figure 1A) and an expressive number of *Giardia intestinalis* cysts (Figure 1B). In addition, various cylindrical structures similar to sporulated oocysts were also observed.

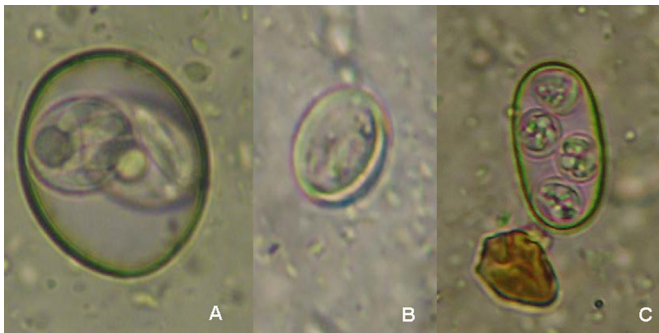


Figure 1. Parasites in a dog feces. *Cystoisospora canis* sporulated oocysts (A); *Giardia intestinalis* cyst (B); *Choleimeria rochalimai* sporulated oocysts (C). Sheater saturated sucrose solution. Obj. 40X.

The sporulated oocysts (n=4) are cylindrical with a mean length and ranging from 28.03 (25.79-29.53) and a mean width and 18.04 (16.19-23.11) μm ; oocyst shape index 1.6 (1.12-1.82). Bilayered oocyst wall. Micropyle and oocyst residuum were absent. The four sporocysts present in the sporulated oocyst, they were spherical, length and width 9.25 (8.16-11.15) by 7.7 (7.9-11.53) μm respectively; sporocyst shape index 1.05 (1.00-1.15). Sporocyst residuum was present. Stieda was presented. There were two sporozoites per sporocyst. The sporulated oocysts were similar to those sporulated oocysts described as *Choleimeria rochalimai* (Figure 1C) a gall bladder parasite of house of geckos, *Hemidactylus mabouia* by Paperna & Lainson (2000).

DISCUSSION

In general parasitic researches have been reported new genera and new species of Coccidia like Duszynski (1969) and Kawazoe & Gouvêa (1999).

According to McQuiston (1990) caution in naming the hosts when describing coccidian parasites due to the possibility of spurious parasitism derived through the diet. Thus, several descriptions as new parasites instead of considering them as coccidian parasites of other species already found in a state of complete sporulation in the predators feces (Teixeira et al. 2003, Lopes et al. 2003, Lopes et al. 2006, Berto et al. 2008, Berto et al. 2010). Several works on parasitic research have been reported new genera and new species of coccidia.

More studies and attention are necessary when working with animals, especially from human dwellings, where animals which food habits were partially or frequently unknown. In these cases, the possibility of description of pseudoparasites is very common. Coprophagy is a type of common pica in dogs that can eat different type of unknowing fecal material from other species. *Cystoisospora canis* oocysts of and *G. intestinalis* cysts were observed in the puppy feces with digestive disturbance, but a various cylindrical structures similar to sporulated oocysts were also observed. Based on its internal morphological extruturas and sizes associated to the habit to eating house gecko feces, very common at his house, mentioned by de owner they were identified as *C. rochalimai* based on Paperna & Lainson (2000).

CONCLUSION

The report describe de presence of *C. rochalimai* sporulated oocysts as a pseudoparasite of the dog with a coprophagic habit to eat feces of the house gecko *Hemidactylus mabouia*, very common at human dwellings. They were associated to normal parasites of the dog *C. canis* and *G. intestinalis* oocysts and cysts respectively.

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