

SEARCH FOR *TRYPANOSOMA CRUZI* IN ANAL GLANDS OF NATURALLY INFECTED DOGS

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Trypanosoma cruzi epimastigotes and trypomastigotes were found in the anal glands of naturally and experimentally infected *Didelphis marsupialis* (Deane et al., 1984, *Mem. Inst. Oswaldo Cruz*, 79: 513-515; Steindel et al., 1988, *Mem. Inst. Oswaldo Cruz*, 83: 135-137; Naiff et al., 1987, Resumos, X Cong. Soc. Bras. Parasitol., Salvador, Bahia, 2-6, julho.); of naturally infected *Didelphis albiventris* (Fernandes et al., 1987, *Mem. Inst. Oswaldo Cruz*, Suppl. Vol. 82: 65) and of experimentally infected *Lutreolina crassicaudata* (Steindel & Carvalho Pinto, 1988, *Mem. Inst. Oswaldo Cruz*, 83: 397). Another trypanosome, *Trypanosoma freitasi*, was also shown to undergo a similar reproduction cycle in *D. marsupialis* and *D. albiventris* (Deane & Jansen, 1986, *Mem. Inst. Oswaldo Cruz*, Suppl. 81: 53; Fernandes et al., 1987, *loc. cit.*). All these findings raised the issue that anal glands could act as a seclusion site where trypanosomes could evade humoral and cellular immune responses and even reproduce (Lenzi et al., 1984, *Mem. Inst. Oswaldo Cruz*, Suppl. 79: 13-18).

Since dogs and opossums present the common characteristic of a persistent *T. cruzi* parasitemia (Gürtler et al., 1986, *Rev. Inst. Med. Trop. São Paulo*, 28: 213-219; Zeledón et al., 1970, *J. Parasitol.*, 56: 38-respectively), we decided to investigate whether parasite seclusion in the anal glands could explain the behavior of parasitemia in naturally infected dogs.

Anal glands of 15 males and 2 females *T. cruzi*-infected dogs from the endemic rural

area of Amamá, Santiago del Estero, Argentina, with ages ranging from 2 to 10 years, were randomly chosen for examination in March 1987.

The study subjects had been previously found seropositive to *T. cruzi* by indirect immunofluorescence and hemagglutination techniques and had at least one positive xenodiagnosis in October 1986. Detection procedures have been already described (Gürtler et al., 1986, *loc. cit.*). Given that the study area was sprayed with deltamethrin in September 1985 and since then kept under entomological surveillance, it might be assumed that all seropositive dogs had acquired the infection prior to spraying, and therefore, had progressed to a chronic stage.

After anesthetizing dogs with xylazine (Rompún-Bayer) at a dose of 1 ml/10 kg, anal glands were reached from outside by a lubricated probe and its contents aspirated with a syringe. Shortly afterwards, wet preparations were microscopically observed at 400X and two thin films for each subject were fixed and stained with Giemsa or May-Grünwald-Giemsa. Culture or inoculations could not be carried out under field conditions.

Ephitelial cells but no *T. cruzi* forms were found in the study samples, indicating that canine anal glands may not be a favorite or frequent site for trypanosomes in the dog. Therefore, persistence of *T. cruzi* parasitemia in dogs cannot be explained on the basis of parasite seclusion and reproduction in anal glands. However, since all the examined dogs were presumably in the chronic stage of infection, and only one examination of anal glands was performed on each one, we cannot exclude that these glands may harbor the parasite in a transient way during a different period of infection.

It should be noted that body temperature of dogs (37.5-39.5 °C) is higher than that of didelphid marsupials (32-36 °C) and this has been indicated as a limiting factor of epimastigotes reproduction (Mello & Deane, 1976, *Ann. Trop. Med. Parasitol.*, 70: 381-388). Under this scope, no double cycle of development of trypanosomes in the anal glands of eutherian

mammals is expected to be found.

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