American cutaneous leishmaniasis in two cats from Rio de Janeiro, Brazil: first report of natural infection with *Leishmania* (*Viannia*) *braziliensis*

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Summary. We describe the isolation of *Leishmania* (*Viannia*) *braziliensis* from two female cats with American cutaneous leishmaniasis in Rio de Janeiro, Brazil. The isolates were identified as *L. (V.) braziliensis* by isoenzyme electrophoresis.

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1. Introduction

Published reports of feline leishmaniasis are uncommon suggesting that the disease is rare in cats. Lareul-Magallon (1996; cited by Hervas et al., 2001) reviewed 40 cases dating as far back as 1911. In tropical America the diagnosis of leishmaniasis in cats has been based on detection of amastigotes in smears or the isolation of the parasite from either viscera or skin lesions (Bonfante-Garrido et al., 1991; Chagas et al., 1938; Mello, 1940). The following parasites have been found from feline cutaneous lesions: *Leishmania* (*Leishmania*) *mexicana* in Texas, USA (Barnes et al., 1993; Craig et al., 1986), *L. (Viannia)* sp. in Brazil (Passos et al., 1996) and *L. (L.) infantum* (Ozon et al., 1998; Poli et al., 2002) in southern France and Italy. In Rio de Janeiro, Brazil, American cutaneous leishmaniasis (ACL) is caused by *L. (V.) braziliensis* and, in addition to occurring in humans, has also been found in dogs and horses (Aguilar et al., 1987) and is considered a re-emerging zoonosis (Marzochi and Marzochi, 1994). However, to date no infections of *L. (V.) braziliensis* have been described in cats from this endemic focus.
In the present report, six autochthonous cases of cutaneous leishmaniasis were found in two cats (Felis catus), three dogs, and one human in the domestic habitat of an endemic area of Rio de Janeiro city, Brazil. The first cat, a 4-year-old female, had a cutaneous ulcer of 6 months duration measuring 0.5 cm in diameter and an enlargement of the planum nasale. In addition, two smaller ulcers (each 0.3 cm in diameter) were observed on the left side of the face (Fig. 1). The second cat, a 5-year-old female, had a papule on the bridge of the nose and a vegetating lesion on the nasal mucosa of 3 months duration (Fig. 2). The two cats had no other alterations, were active, and in good condition. Haematological and biochemical tests were normal, except for eosinophilia (2870 cell/mm$^3$) and neutrophilia (13 530 cell/mm$^3$) observed in one of them. No antibodies against feline immunodeficiency virus (FIV) or feline leukaemia virus (FeLV) antigen were detected. In both cases, a mononuclear and neutrophilic inflammatory infiltrate of the dermal tissue was seen in haematoxylin and eosin-stained histological sections. Additionally, scanty amastigotes were seen in histological sections made from the lesions of one cat, one dog, and the human. Parasites were isolated by inoculating small fragments of the lesions into biphasic medium (NNN and Schneider’s Drosophila Medium) supplemented with 10% fetal calf serum. The tubes were incubated at 26–28 °C and promastigotes from each of the positive cultures were characterized by isoenzyme electrophoresis as described by Cupollo et al. (1994). The following enzymes were used: 6PGDH (E.C.1.1.1.43), GPDH (E.C.1.1.1.49), PGAM (E.C.1.4.1.9), NH (E.C.3.2.2.1), G6PDH (E.C.1.1.1.37), and MDH (E.C. 1.1.1.37). The enzyme profile of all the isolates was compared with those of reference strains: L. (V.) braziliensis MHOM/BR/1975/M2903, L. (L.) chagasi MHOM/BR/1974/PP75, and L. (L.) amazonensis IFLA/BR/1967/PHB. All five isolates from the two cats (MFEL/BR/2003/809, MFEL/BR/2003/791) and from the 3 dogs (MCAN/BR/2003/793, MCAN/BR/2003/797) were identified as L. (V.) braziliensis.

In Rio de Janeiro, ACL should be differentiated from sporotrichosis, which occurs in the form of a zoonosis mainly affecting cats, dogs, and humans (Schubach et al., 2003). The detection of two cats with ACL in a domiciliary outbreak indicates the need for further investigations as to their possible epidemiological role in domestic foci (Bonfante-Garrido et al., 1991).

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