

PRESENCE OF *DEMODEX BOVIS* IN BOVINE FECES- CASE REPORT*

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ABSTRACT

This paper reports a finding of *Demodex bovis* in cattle feces in Brazil. A calf of about six months old, from a dairy establishment of the municipality of Paty do Alferes, Rio de Janeiro State had their stools examined by parasitological methods for the investigation of intestinal parasites. This fact suggests that the calf has ingested the mite during breast feeding, having gone to the parasite's digestive system and mixed with the stool.

Keywords: *Demodex bovis*, bovine, feces.

INTRODUCTION

The *Demodex bovis* is the etiological agent of bovine follicular mange or demodicosis bovine (STILES, 1892). The natural transmission can occur in animals of all ages, by direct contact (MATTHES, 1994; JONES et al., 1996), between mother and calf shortly after birth or during breast feeding in the first days of life (FISHER, 1973), and can also occur by contact between infected and highly susceptible cattle (KENNEDY, 2001).

The bovine demodicosis can occur in two forms: a chronic subclinical form with a few small nodules and widespread with dozens of nodes (MATTHES, 1994). The chronic subclinical damage to the host's skin causes glosses in the manufacturing and market in goat fleather as the generalized form can be fatal (MBUTHIA et al., 1994).

Several factors such as malnutrition (GRIFFITHS, 1945), physiological stress caused by pregnancy and lactation (BAKER and FISHER, 1966; HUTYRA et al., 1973), presence of other infestations/infections, racial differences (NOORUDDIN and RAHMAN, 1985) may be linked to outbreaks of bovine demodicosis.

Younger animals are more susceptible, especially under the age of 12 months (CHAKRABARTI and PRADHAN, 1985). And the females have more parasitization than males (CHAKRABARTI, 1984; CHAKRABARTI and PRADHAN, 1985).

This parasite has a cosmopolitan distribution. However, in Brazil, reports are rare and mostly above the 60's. Since in Brazil there are more reported cases of the chronic form subclinical in cattle in the states of Pernambuco, São Paulo, Mato Grosso, Minas Gerais and Rio de Janeiro (TORRES, 1938; ROCHA and PARDI, 1954; FREITAS et al., 1958). But there were wide spread reports of bovine demodicosis in the State of Paraíba (FACCINI et al., 2004).

Traditionally the biopsy of the nodules is the material of choice for the pathological diagnosis of demodicosis (GEARHART et al., 1981; JUBB et al., 1993; WELLS et al., 2012) and the direct examination. Its contents may be obtained from a deep scraping the infected area, or compression at the base of the nodules (ABU-SAMRA et al., 1984; FREITAS et al., 1984; KENNEDY, 2001), and the content can be kept in a solution of equal volumes of ethanol-glycerol (ABU-SAMRA et al., 1984).

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However the diagnosis of demodicidosis remains a challenge, due, in part, to the clinical presentation, which is often variable and non-specific. Therefore, the development of rapid assays based on serodiagnosis or molecular tests is still required. In this regard, *Demodex*-specific antigens which react with antibodies in the serum of infested pigs have been identified, suggesting that an immunodiagnostic assay is feasible (WELLS et al., 2012).

Given the etiology of infection in general the parasite located in skin lesions, is rare find in your stool. This study aims to report a finding of *Demodex bovis* in cattle feces, processed for routine fecal analysis.

CASE REPORT

A calf of about six months old, from a dairy establishment of the municipality of Paty do Alferes, Rio de Janeiro State (22° 25' 44" S 43° 25' 08" W) had their stools examined by parasitological methods for the investigation of intestinal parasites.

It was found in routine stool examination by the technique of centrifugal flotation with zinc sulphate solution ($d = 1.18\text{g/cm}^3$), the mite *Demodex bovis*, measuring 215mm in length by 45mm in width with a semitransparent, elongated body that consists of two fused segments and eight short, segmented legs attached to the first body segment.

There are few reports in the literature on bovine demodicosis, either by their low clinical expression (SANTOS, 1979; KENNEDY, 2001; LEMOS et al., 2005) or the possibility of spontaneous remission (GEARHART et al., 1981), factors that contribute to have no clinical suspicion and consequently, few reports of the disease (KENNEDY, 2001).

Despite the fact that the parasite has a worldwide distribution, and is relatively common in stabled animals, little is known about its epidemiology in the National Territory. Faccini et al. (2004) related that both the European and zebu breeds can be parasitized, as well as gender and age are not limiting factors. The parasitic disease is rarely fatal, and only debilitated animals die under certain

stressful conditions. Although the parasite does not seriously compromise the health of the animal, can compromise your appearance as well as generate losses in the manufacturing and marketing of leather. The bovine demodicosis usually subclinical, and only a few times, the findings appear in biopsies or post mortem seeking other skin diseases (ABU-SAMRA et al., 1984; LEMOS et al., 2005).

Given the particularity of the finding and its unusual location implies that the calf has probably ingested the mite during breast feeding, having gone to the parasite's digestive system and mixed with the stool. So, there were no animals with skin lesions in the region of the udder.

PRESENÇA DE *DEMODEX BOVIS* EM FEZES DE BOVINO- RELATO DE CASO

RESUMO

O presente estudo descreve o achado do ácaro *Demodex bovis* em fezes de bovino, no Brasil. Uma bezerra com aproximadamente seis meses de idade, de uma criação de leiteira do município de Paty do Alferes, Rio de Janeiro teve suas fezes examinadas por métodos coproparasitológicos de rotina. O achado sugere que o ácaro tenha sido ingerido durante o aleitamento.

Palavras chave: *Demodex bovis*, bovinos, fezes.

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