

## Parasitological and molecular diagnostic of a clinical case of piroplasmosis in donkeys from Sicily

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Equine piroplasmosis in donkeys is a serious problem of economic importance (1). Infection caused by *Theileria equi*, *Babesia caballi* and *Anaplasma phagocytophilum* are endemic disease in Sicily, although very few data are available on the prevalence of these tick borne parasites in donkeys from Sicily. The possible risk factors are seasons, activity, grazing and the living area (2). Aim of this study is to report a case of theileriosis and babesiosis in donkeys from Sicily, with haematological alterations and abortion. Twenty-eight donkeys, used for pet therapy in a sicilian farm, were included in this study.

Blood and serum samples were collected for parasitological and haematological exams. Blood smears, coloured with may grunwald giemsa stain, evidenced the presence of *Theileria* spp. Sera and EDTA blood samples were analyzed to detect IgG antibodies and DNA of *A. phagocytophilum*, *T. equi* and *B. caballi* using respectively commercially available IFAT kits and PCRs end point.

Clinical examination of all donkeys showed anemia and weight loss. The prevalence of *Theileria equi* infection in donkeys tested with PCR was 98%. Immunofluorescence assays tested positive for *B. caballi* in 19 of 28 donkeys. All samples tested negative for *A. phagocytophilum*. Infections in donkeys included in this study was associated with decreased red blood cell count, haemoglobin concentration, haematocrit and platelet count, and with increased mean corpuscular haemoglobin. These altered haematological parameters can lead to a decrease in working capacity and production performance.

In agreement with data previously reported in Italy from horses (3) and in other countries from equids (4-1), these data show that *T. equi* is the most prevalent pathogen in donkeys from Sicily.

Further molecular research and long-term monitoring of equine piroplasmosis in Sicily, with clinical and haematological data, is needed.

(1) Davitkov D. *et al.*, 2017. A molecular and haematological study of *Theileria equi* in Balkan donkeys. *Acta Vet Hung.* 2017;65(2):234-241. (2) Moretti A. *et al.*, 2010. Prevalence and diagnosis of *Babesia* and *Theileria* infections in horses in Italy: A preliminary study. *Vet J.* 2010;184(3):346-50. [3] Zanet *et al.*, *Vet Parasitol.*;236:38-41, 2017. [4] Vieira *et al.*, *Acta Trop.*;179:81-87. 2018. [3] Afridi *et al.*, *Iran J Parasitol.* 12(4):597-605, 2017.