Survey of the occurrence of *Sarcocystis* spp. in cattle from the state of São Paulo, Brazil

Michel dos Santos Pinto[1], Karine Emanuelli da Silva[1], João Alfredo Biagi Camargo Neto[1], Maria Carolina Corrêa Leite Gimenes de Almeida[2], Thais Mioto Martinel[3], Leonardo Quintana Lourenço[1], Maria Julia Hernandes de Freitas[1], Michelle Santos Sabioni[1], Laura Bresciani Padovan[1], Alex Akira Nakamura[1], Gustavo Felippelli[1], Katia Denise Saraiva Bresciani[1]

[1]Universidade Estadual Paulista, Unesp, Faculdade de Medicina Veterinária, Araçatuba, São Paulo, Brasil. [2]Universidade Estadual Paulista, Unesp, Faculdade de Ciências Agrárias e Veterinária, Jaboticabal, São Paulo, Brasil. [3]Frigorífico Better Beef, Araçatuba, São Paulo, Brasil.

Sarcocystosis is a disease of Public Health relevance and of great economic importance. However, in Brazil, studies on the occurrence of *Sarcocystis* spp. in bovines are scarce, with few reports in the literature. Given the above, we aimed to survey the occurrence of *Sarcocystis* spp. in cattle from the state of São Paulo, Brazil. A total of 336 samples (esophagi and hearts) from 168 male, aged between 18 and 30 months, from four municipalities (Araçatuba, Monções, Ouro Verde and Pongaí) in the state of São Paulo, Brazil, were investigated in this study. The parasitological investigation of *Sarcocystis* spp. was performed by scarification of the muscles. The prevalence with a 95% confidence interval was calculated using the Wilson score method and the diagnostic agreement between the evaluated samples was obtained using Cohen's Kappa test. Of the animals investigated, 150 were positive, resulting in an occurrence of *Sarcocystis* spp. in 89.29% (CI 83.70% - 93.11%). Regarding the samples analyzed, we observed a higher occurrence of sarcocysts in the cardiac muscle 140/168 (83.33% [CI 76.97% - 88.21%]) when compared to the esophageal muscle 119/168 (70.83% [CI 63.56% - 77.18%]), being statistically significant (P = 0.0092). Cohen's kappa test (0.324) demonstrated reasonable agreement (76%) between the positivity and negativity of the samples used in the diagnosis of bovine sarcocystosis. Of the four properties evaluated in the municipalities of Araçatuba, Monções, Ouro verde and Pongaí, the occurrence of *Sarcocystis* spp. was, respectively, 95% (CI. 76.39% - 99.11%), 100% (CI. 95.47% - 100%), 77.78% (CI. 61.92% - 88.28%) and 70.97% (CI. 53.41% - 83.90%). In this study, we identified *Sarcocystis* spp. in 89.29% of the cattle investigated, with an infection rate of 100% in a herd in the state of São Paulo, Brazil. The high percentage of tissue cysts, mainly in bovine esophageal fragments, may suggest infections caused by *Sarcocystis hominis*, which has zoonotic potential. However, molecular studies will still be performed to confirm the species, but it is worth highlighting that only the macroscopic diagnosis of Sarcocystosis is carried out by federal inspection services.

Keywords: slaughterhouse, protozoosis, diagnosis.