

Complex Bovine Parasitic Sadness: its distinction between disease-causing agents

Fábio Darlan Bernardo¹, Adolfo Firmino da Silva Neto², Carina Franciscato²

¹Acadêmico de Medicina Veterinária da Universidade Federal da Fronteira Sul (UFFS), Realeza – PR, Brasil.

²Docente do Departamento de Medicina Veterinária, Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora – MG, Brasil

Complex Bovine Parasitic Sadness complex is a disease responsible for high morbidity and mortality rates and comprises two different diseases: babesiosis, caused by the protozoa *Babesia bovis* and/or *B. Bigemina*; and anaplasmosis, caused by the rickettsia *Anaplasma marginale*. Those blood parasites infect red blood cells directly resulting in intra or extra-vascular hemolysis and causing fever, hemolytic anemia, hemoglobinuria, jaundice and, in extreme cases, death. Its treatment differs in relation to the type of the hemoparasite: for babesiosis, it is administrated diminazene diacetate or imidocarb dipropionate; for anaplasmosis, the indicated medicine is oxytetracycline. This study had as objective to identify and differentiate the agents of Complex Bovine Parasitic Sadness in bovine showing disease clinical signs. So, it was used a group of twenty bovine clinically suspected of being infected by hemoparasites, from Salto do Lontra, Nova Prata do Iguaçu, Realeza and Francisco Beltrão, cities in the southwest of Paraná, Brazil. Those animals had already been showing clinical signs as apathy, anorexia, hyperthermia and jaundiced conjunctiva and vaginal mucous membranes. Blood samples were collected through ear marginal vein puncture for making blood smear. Hemoparasites research was performed through direct exam of the agent in the blood of the animals using blood smears stained by quick panoptic. Microscopic examination was made in 100 fields per smear with immersion objective (1000 x). Examinations were performed in Veterinary Clinical Analysis Laboratory of Universidade Federal da Fronteira Sul (UFFS), Campus Realeza – PR, and the study was approved previously by Ethics Committee on Animal Use of that institution (CEUA, protocol nº 23205.002072/2013-77). Blood smear showed efficacy in identifying the agent causing Bovine Parasitic Sadness. Twenty infected animals showed some blood cells with little spherical and dark points in peripheral location consistent with intra-erythrocyte corpuscles formed by *Anaplasma marginale* rickettsia. It was not found parasites similar to *Babesia* sp in any blood sample. Data showed that laboratory diagnosis of hemoparasites through blood smear analysis is able to differentiate agents causing Bovine Parasitic Sadness complex, this way avoiding the use of unnecessary medicine, since the treatment is distinct for each agent. Furthermore, in spite of the small sampling, this study has epidemiological impact in the place it was developed, because it has showed the predominance of *Anaplasma marginale* affecting the cattle. However, that data is preliminary and the study should be continued with the evaluation of a larger number of suspected animals clinically in order to confirm the disease.

Keywords: *Anaplasma marginale*; blood smear; bovine; hemoparasite.