RESUMO SIMPLES - PROTOZOÁRIOS E AGENTES TRANSMITIDOS POR VETORES DE IMPORTÂNCIA EM SAÚDE

STUDY OF BABESIA VOGELI IN DOGS FROM THE UNAÍ MICROREGION, NORTHWESTERN MINAS GERAIS

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Canine babesiosis is a tick-borne disease widely distributed around the world and caused by protozoa of the genus Babesia. It currently represents a growing challenge to animal health due to the variability of its clinical manifestations and the limited sensitivity of traditional diagnostic methods, especially blood smear examination, which shows low sensitivity for detecting asymptomatic cases or infections with low parasitemia. Babesia vogeli is the most prevalent species in South America. In this context, the present study aimed to determine the occurrence of B. vogeli in dogs from the Unaí microregion, Northwestern Minas

Gerais, using Polymerase Chain Reaction (PCR) as a high-precision tool to contribute to regional epidemiological understanding and to improve disease control strategies, highlighting the relevance of molecular diagnosis as the gold standard for achieving accurate detection. To achieve this objective, 459 blood samples from dogs suspected of hemoparasitosis were collected, prepared, and stored at –20°C until molecular analyses were initiated. DNA extraction was performed using the commercial Wizard Genomic DNA Purification Kit (Promega®), following the manufacturer's instructions, and the integrity of the genetic material was confirmed through conventional amplification of the endogenous mammalian GAPDH gene, yielding a 400-base-pair (bp) fragment. After this step, the samples were subjected to PCR assays targeting the detection of B. vogeli DNA, using primes for the 18S gene, wich amplify na 800-bp fragmente. The amplified products were visualized on a 2% agarose gel, allowing confirmation of positive reactions among the 459 processed samples, 12 showed specific amplification for the protozoan, indicating the presence and circulation of B. vogeli in the local canine population and suggesting that its occurrence may be underestimated when low-sensitivity methods are used in clinical routines. PCR proves to be essential for the accurate diagnosis of canine babesiosis, especially in areas where tick control is difficult and there is a high occurrence of asymptomatic dogs that can maintain the circulation of the parasite. Molecular identification reinforces the need for integrated epidemiological surveillance, strengthening of vector control measures, and preventive actions. Thus, the detection of B. vogeli in the Unaí microregion confirms the importance of PCR for disease monitoring and highlights the relevance of expanding molecular studies that support the understanding of local transmission and the development of more effective control strategies.

Palavras-chave: babesia vogeli; pcr; dogs; epidemiology; hemoparasitosis.