TpE - BABESIA BIGEMINA INFECTION IN BEEF CATTLE AND IN RHIPICEPHALUS (BOOPHILUS) MICROPLUS.

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In the present study, Polymerase Chain Reaction (PCR and nPCR) based methods were used to assess the prevalence of *Babesia bigemina* in pure Bos indicus, in three of *Bos indicus* x *Bos taurus* crosses and *Rhipicephalus (Boophilus) microplus* female ticks that engorged in these animals, in order to verify if *B. indicus* genetics interferes with the transmissibility of *B. bigemina*. Blood samples and engorged female ticks were collected from 120 animals of four same-frame-sized genetic groups of beef cattle composed of 15 cows and 15 calves. One group was of pure *Bos indicus* (Nelore) and the other three were: Angus x Nelore, Canchim x Nelore, and Simmental x Nelore. Blood samples from the jugular vein and from auricular vessels were taken for DNA extraction and blood smears, respectively. At the same time, a maximum of ten standard-sized female ticks (? 4.5 mm) were collected from each animal. Thin blood smears were stained with Giemsa for assessment of parasitemia. All DNA samples extracted from ticks were submitted to amplification by nPCR whereas only negative PCR blood samples were submitted to this second amplification. Microscopic examination of blood smears and tick hemolymph (eighteenth day after collection from cattle) revealed that merozoites of *B. bigemina* (6/60) as well as kinetes of *Babesia spp.* (9/549) were only detected in samples (blood and ticks, respectively) originated from calves. PCR-based methods for specific detection of *B. bigemina* revealed 100% infection in both calves and cows, regardless the genetic group. Tick infection was detected by nPCR amplifications showing that the frequency of *B. bigemina* was higher ($P < 0.01$) in female ticks collected from calves (134/549) than in those collected from cows (52/553). The frequency of B. bigemina was similar in ticks collected from animals, either cows or calves, of the four genetic groups ($P > 0.05$). Considering the data presented here, we may assume that under suitable abiotic conditions to tick development, the state of endemic stability could not be disrupted by resistant cattle biotypes, confirming previous report that in Brazil the maintenance of endemic stability of *B. bigemina* requires a minimum of tick challenge.

Key words: PCR, *Babesia bigemina*.