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Molecular detection of Babesia equi in infected and carrier horses by polymerase chain reaction

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Twenty-three blood samples were used in this study; five were from five naturally infected horses with Babesia equi (B. equi), while eighteen were from asymptomatic horses with equine babesiasis from different localities in Egypt. All samples were subjected to microscopic examination, indirect fluorescent antibody test (IFA) and polymerase chain reaction (PCR). The carrier animals were microscopically detected in 7 out of 18 samples (38.8%) and in 9 of 18 by using IFA (50%), whereas PCR revealed that 14 samples were positive (78%). Two synthetic oligonucleotide primers, based on the B. equi merozoite antigen gene (EMA-1) were used. A 819 bps DNA fragment is specifically amplified from the gene encoding EMA-1 of B. equi. Our results demonstrate that PCR is a valuable technique for routine detection of B. equi in chronically infected horses, even at low parasitaemia levels.