ABSTRACT

In vitro culture, spectrophotometry, agarose gel electrophoresis and polymerase chain reaction were used to detect *Babesia equi* parasites. A ten-fold serial dilution of a 10% parasitemic culture was done to simulate low levels of parasitemia characteristic of sub-clinical and chronic infections in live animals. The various dilutions were cultured in horse erythrocytes suspended in 60% M199 growth medium, 40% horse serum and incubated in microaerophilus environment. In 3 days, parasitemia could be detected in dilutions of up to 0.1% while it took 5 days for dilutions up to 0.001%. Absorbance readings of DNA extracted from 7 day old cultures read at 260nm in a spectrophotometer corresponded directly with levels of parasitemia. Similar observation was made when such DNA material was examined in 1.5% agarose gel electrophoresis. Polymerase chain reaction of these cultures and purified genomic DNA yielded 260 base pair fragments diagnostic of *B. equi* infection. Spectrophotometry and agarose gel electrophoresis only indicate presence of DNA material in the sample, but in vitro culture and PCR are specific for *B. equi* and can be used as alternative diagnostic methods for low parasitemic levels