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Quantitative analysis of brucella spp in aborted bovine fetuses by real-time PCR

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Background: Brucellosis is a highly contagious zoonotic disease that has serious implications on human and animal health. In animals, brucellosis affects reproduction, causing abortion mainly in cows. The aim of this study was to determine the prevalence of brucellosis in different tissues of the bovine fetuses and to analyze whether the amount of the DNA detected changes after formaldehyde treatment and putrefication.

Methods & Materials: The material studied was composed of 70 aborted cattle fetuses brought to Adana Veterinary Control and Research Institute during 3-year period. From each fetus, tissues from lung, liver, kidney, heart, spleen and abomasus were analyzed freshly, after 15 days of 10% formaldehyde treatment and after 15 days stay at 20 °C using commercial *Brucella* genus detection kit on Real-time PCR device (Roche Light Cycler 2.0).

Results: *Brucella* spp. was found positive in all of the tissues of 10 (14%) of the fetuses, lung revealing the highest DNA amount and both putrefication and formaldehyde treatment reduced significantly the DNA that could be detected by PCR, results after formaldehyde being better than putrefied material.

Conclusion: Real-time PCR is safe and sensitive technique for the detection of *Brucella* in tissues of abortus materials of infected animals.

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