

Association between presence of DNA and antibody in the serum during vertical transmission of *Neospora caninum*

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Abstract

Neospora caninum is an intracellular parasite causing abortion and reproductive failure in cattle. The aim of this study was to determine the association between serum parasitemia and seropositivity in cows with no sign of abortion and their full term calves. For this purpose, 49 serum samples of normal full term delivering dairy cattle and their precolostral new born calves were tested by using PCR, nested-PCR and a new developed whole cell-based ELISA. Fourteen of 49 mothers (28.57%) and 6 of 49 calves (12.24%) showed anti-*Neospora* serum antibodies and *Neospora* DNA, concurrently. All infected calves were born from infected mothers and the vertical rate of transmission among all samples was 6 out of 49 (12.24%) and from infected mothers 6 out of 14 (42.84%), based on different serum analyses. Eight out of 14 calves (57.14%) born from infected mothers were *Neospora* free. In conclusion, despite the presence of anti-*Neospora* serum antibodies in infected cows and calves, the parasite was not completely removed from the blood and so it seems that the presence of antibodies is not necessarily a sign of effective immunity.

Key words: *Neospora caninum*, Antibodies, DNA

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