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A new model for the study of abortion in catt farms infected with Neospora caninum

Researchers from the Department of Animal Health and Anatomy at the UAB an from the Department of Animal Production at the University of Lleida observe that the infection in laboratory of the *N. caninum* parasite in pregnant cows alread in their second trimester can cause abortions, imitating that which has been see to happen under farm conditions. The study demonstrates that it is an adequat model for the study and understanding of the pathogeny of abortion associate with this parasite, and useful for the control of this relevant disease.

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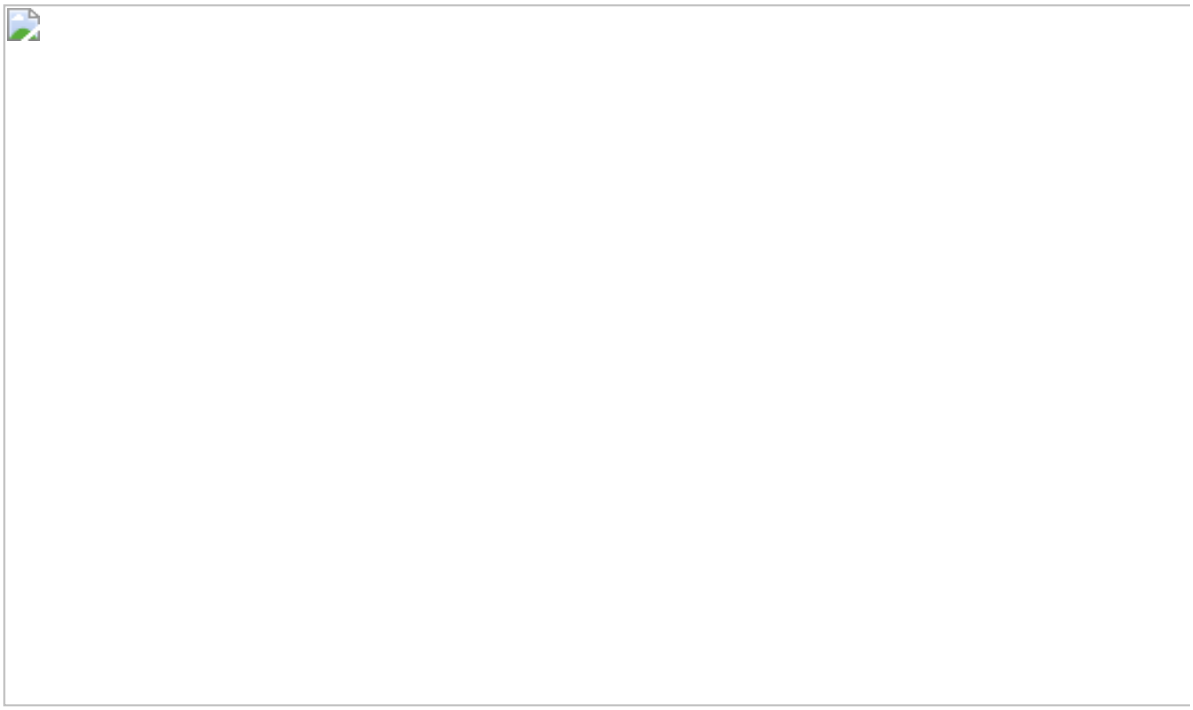
Neospora caninum is an intracellular obligate parasite whose infection is a leading cause of abortion in worldwide. The pathogenesis of bovine neosporosis, particularly during the second term of gestation most abortions occur in naturally infected dams, is poorly understood.

In the present study foetal death was observed in 3 of 6 experimentally infected dams at 110 da gestation after 6 weeks of experimental period. All experimental heifers were febrile between 3 and 5 post infection (dpi). Inoculated dams seroconverted by 3-4 weeks post-infection with higher mean ant titres in aborting dams compared to non-aborting heifers, although differences were not signif *Neospora caninum* DNA was detected in all infectedfoetuses and placentas, and three infected foe also had *N. caninum* antibodies. The parasite burden was higher in the brain of dead/aborted foetuses

in live foetuses. Interestingly, high IFN-γ production was detected in foetal fluids of a dead foetus found euthanasia of its dam, while no IFN-γ was observed in amniotic, allantoic and/or foetal fluids in the infected foetuses that were alive upon maternal euthanasia.



Interestingly, in this study we were able to describe some parasitological and immunological differenc experimentally infected dams carrying live or dead foetuses. In dams, both groups of infected dams h similar febrile response yet biphasic temperature increases were observed in 2 dams with dead/ab foetuses which could suggest increased replication of the parasite in these dams; lower antibody levels observed in dams with live foetuses than with dead/aborted foetuses and, one dam with an aborted f was the only animal to show plasma IFN-γproduction.

In conclusion, our findings confirm the occurrence of abortion in response to the experimental infecti naïve cows with 107 tachyzoites of the *N. caninum* strain Nc-Spain7 at 110 days of pregnancy with experimental period of 6 weeks after infection. The fact that some dams aborted and some did r relevant to understand *N. caninum* induced pathogenesis of abortion in naturally infected cows in the se term of gestation, when most abortion occurs under field conditions.

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References

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