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Bovine Neosporosis: Epidemiology and markers of risk of abortion from a clinical perspective

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Neospora caninum is a protozoan parasite closely related to *Toxoplasma gondii* with a wide host range but with a preference for cattle and dogs. Since the description of *N. caninum* as a new genus and species in 1988, bovine neosporosis has become a disease of international concern as it is today a leading cause of abortion in cattle worldwide, yet it remains unclear why not all infected cows abort. At present there is no effective treatment or vaccine. Epidemiological and clinical data from the cattle herds need to be considered. Importantly, the selective use of semen from beef breeds, mainly Limousin, in seropositive dairy cows has been linked to a very low incidence of abortion. This has an important practical aspect which not only reduces the risk of replacements from *Neospora*-infected heifers, but also reduces the risk of abortion. In order to increase the sensitivity of a positive diagnosis of *N. caninum*-associated abortion, the use of more than one technique is recommended. The markers used to diagnose the disease and, more importantly, to assess the risk of abortion in infected cows, including those based on specific antibodies, antibody titers and antibody subtypes, along with cellular immunological markers, hormones and other pregnancy-related proteins will be described. The identification of parasite molecules specific to aborting cows could provide insight into mechanisms of parasite-associated abortion and help control this devastating disease. The final result of our bovine neosporosis control programs has been an acceptably reduced effect on the abortion rate from this disease.

Biography

Sonia Almería completed her D.V.M and her Ph.D. degrees at the Veterinary School of the University of Zaragoza, Spain. She completed postdoctoral fellowship training in immunoparasitology at the Agriculture Research Service (ARS), USDA, in Beltsville, MD, USA. Currently she is an Associate Professor of Parasitology in the Veterinary School of the Autonomous University of Barcelona (UAB) and a Research Associate in the Center for Research in Animal Health (CReSA-IRTA) in Barcelona, in Spain. She has published more than 80 papers in reputed journals and has been serving as an editorial board member of Research in Veterinary Science since 2010.

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