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Prevalnce of Small Ruminant Lenti Viruses (SRLV) Infection in Wildlife Ruminants from Poland

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Small ruminant lentiviruses (SRLV) are widespread among domesticated sheep and goats worldwide. Infection of wildlife ruminants in close contact with infected small ruminants has been proposed to play a role in SRLV epidemiology, but studies are limited. The aim of study was to estimate true prevalence of wildlife ruminants from Poland. Samples originated from 198 wild ruminants, including 142 European red deer and 56 roe deer were serologically tested using multi-epitope recombinant antigens representing subtype A1, A13, B1 and B2 of SRLV and commercial ELISA test. Procedures were carried out with modification allowing detection of IgG in plasma of wildlife ungulates. In the adopted protocols, the conjugate antibody was replaced by the protein G peroxidase-conjugated. True prevalence of SRLV infection in wildlife was calculated, in a Bayesian framework, with models that adjusted for the misclassification of animals because of the imperfect accuracy of the ELISAs and because sera from different species were tested. We chose a Bayesian approach that allowed for the incorporation of prior knowledge by specifying prior distributions for test properties and prevalence. Overall true prevalence ranged from 5.3% (95% CI 0.3, 12.5) to 24.6% (95% CI 3.3, 38.5) for ELISA with multi-epitope antigens while true prevalence using commercial ELISA was only 2.5% (95% CI 0.2, 6.6). These results may suggest existence of new SRLV reservoir in Poland and highlight the importance of surveilling and controlling SRLV infection in domestic and wild ruminants sharing pasture areas.

Biography:

Dr. Monika Olech works at the Department of Biochemistry in the National Veterinary Research Institute (NVRI) in Pulawy in Poland. In 2014 she received Doctor of Veterinary Medical Science degree. Within last couple of years she was involved in many studies concerning genetic and anitigenic characterization of Small Ruminant Lentiviruses (SRLV) in sheep, goats and wildlife ruminants. The special effort was directed to molecular analysis of field strains of SRLV as results of cross species infection and genetic recombination.