

05/2011

A retrospective study of pestivirus infection in Pyrenean chamois



In 2001, the population of Pyrenean chamois was an outbreak of an unreported to date disease, which is associated with the introduction of a new virus, specifically a pestivirus (family Flaviviridae) viruses group of Border Disease or "Border Disease Virus (BDV). Molecular studies on samples collected between 1990 and 2000 conducted by UAB researchers show that the onset of the disease in 2001 was not due to the introduction of a new virus, but to other factors unknown to date.

In 2001 a new Pestivirus (Family *Flaviviridae*) was associated with an outbreak of a previously unreported disease in Pyrenean chamois (*Rupicapra pyrenaica*) in the Pyrenees (NE Spain). Molecular characterization assigned this virus to the Border Disease Virus (BDV) cluster, BDV-4 genotype.

A retrospective study was performed in archived sera and spleen of 74 Pyrenean chamois and in archived sera of 28 mouflon (*Ovis ammon*), 56 red deer (*Cervus elaphus*), 43 roe deer (*Capreolus capreolus*) and 29 fallow deer (*Dama dama*) from the Pyrenees between the years 1990 and 2000. Thirty six of 74 (48.6%) sera of Pyrenean chamois, one of mouflon and one of red deer were positive by an ELISA antibody test.

Comparative virus neutralization tests were performed on 26 seropositive chamois, one mouflon and one red deer, using five pestivirus strains. An ELISA antigen test was performed on 37 seronegative chamois and yielded positive results in one chamois and inconclusive result in two. RT-PCR and virus isolation performed on spleen samples from these three animals gave positive results in the positive and one inconclusive animal.

Sequence analysis in the 50 untranslated region revealed that they were grouped into the BDV-4 genotype. Virological and serological data of the present study indicate that BDV infection has been present in the chamois population since at least 1990, 11 years before the first outbreak of disease. Therefore, the emergence of the disease in 2001 is apparently due to other factors rather than the introduction of a new virus in the chamois population.

Ignasi Marco Sánchez

Servei d'Ecopatologia de Fauna Salvatge (SEFaS)

ignasi.marco@uab.cat

References

"Retrospective study of pestivirus infection in Pyrenean chamois (*Rupicapra pyrenaica*) and other ungulates in the Pyrenees (NE Spain)". Marco, I., Cabezón, O., Rosell, R., Fernández-Sirera, L., Allepuz, A., Lavín, S. (2011). *Veterinary Microbiology* 149, 17-22.

[View low-bandwidth version](#)