

P.9.- Evaluation of Prionics Check – LIA Test for the screening of PrPSc in the lymphoreticular system of sheep.

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The aim of the study was to investigate the presence of PrPSc in the lymphoreticular system (LRS) of Italian Scrapie infected sheep. For this purpose, we tested the performance of a luminescence immunoassay (Prionics check LIA), already approved from EU for the active surveillance of TSE, on lymphoid tissue. We first applied this test to lymph nodes, positive for PrPSc with a highly sensitive Western blot (WB) based on NaPTA precipitation, of six sheep coming from different Italian Scrapie outbreaks. All animals were positive by confirmatory tests performed on central nervous tissue (CNS). Subsequently, the Prionics check LIA was used for the screening of a Piedmont scrapie outbreak, comparing the results obtained with NaPTA WB. The trial was carried out on 101 Biellese sheep with ARQ/ARQ (74), ARR/ARQ (13), ARQ/AHQ (9), ARQ/VRQ (4), ARQ/ARH (1) genotypes, four of which Scrapie positive. For the screening of the LRS lymph nodes, tonsil, spleen, ileum and ileumcaecal valve were analyzed. To warrant comparable results, the samples of spleen and ileum were cut in small pieces by two scalpels without any buffer, until the tissue appeared homogeneous. The resulting homogenate was split in two aliquots for the two methods, while lymph nodes and tonsils were simply cut in half part and used at random.

The results showed a complete agreement between Prionics-Check LIA and NaPTA WB (that can reach an analytical sensitivity 3 logs more than routine WB). It was however noted that critical points on phases of homogenation and resuspension of pellet can imply a decrease in luminescence unit values. LRS positivity and CNS negativity, due to a preclinical status of the animals, was never detected while; among four sheep positive at CNS (genotype ARQ/ARQ), only 3 resulted positive to LRS. Our results show that Prionics-Check LIA test is a reliable tool for the screening of the disease-specific form of PrP in ovine lymphoid tissue.

Keywords

Evaluation, rapid tests, TSE, lymphoreticular system, sheep.