MIS-PP-08

TITLE

UNUSUAL HISTOPATHOLOGICAL FEATURES OF THE TYMUS IN PORCINE PERIWEANING FAILURE-TO-THRIVE SYNDROME

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CONTENT

BACKGROUND AND OBJECTIVES

Porcine periweaning failure-to-thrive syndrome (PFTS) is a clinical condition affecting nursery pigs that occurs within 2 to 3 weeks of weaning. Characteristic histological lesions include thymic atrophy, superficial lymphoplasmacytic fundic gastritis, villous atrophy of the small intestine, superficial colitis, lymphocytic and neutrophilic rhinitis, and mild nonsuppurative meningoencephalitis. This work describes the appearance of unusual histopathological features in thymic Hassall´s corpuscles associated with the disease.

MATERIAL & METHODS

Six 5-6 weeks old pigs from 3 different farms of the same commercial company with significant loss of body condition were submitted for anatomopathological evaluation. Piglets were humanely sacrificed and necropsies were performed. Samples of thymus, lung, small and large intestine, stomach, liver, kidney, spleen, inguinal superficial lymph nodes, tonsil, nasal turbinates, cerebrum and cerebellum of all animals were fixed in 10% neutral buffered formalin and routinely processed for histopathology. An immunohistochemical study using the ABC method was performed in order to discard the presence PCV2 and PRRSV.

RESULTS

Microscopically, all the pigs presented thymic atrophy, lymphocytic superficial fundic gastritis, atrophic enteritis, superficial colitis and neutrophilic and lymphocytic rhinitis. In the pigs from 2 of the farms many of the Hassall´s corpuscles had infiltrations of polymorphonuclear neutrophils and degenerate cells in different degrees, in some cases breaking the corpuscle and infiltrating the surrounding parenchyma. No positive immunostaining was seen in the thymus of any animal.

DISCUSSION & CONCLUSION

PCV2 and PRRSV were discarded as possible causes of the thymic atrophy. Although the presence of neutrophils in Hassall´s corpuscles has been associated to an involution process, in this case was discarded due to the age of the animals. Neutrophil infiltration of the thymic Hassall´s corpuscles associated to PFTS has not been previously described.