HERD HEALTH MANAGEMENT & ECONOMY

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BLASTOCYSTOSIS IN WEANER PIGS ASSOCIATED WITH PROFUSE DIARRHEA

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Introduction

Blastocystis sp. often is found as a ubiquitous protozoan parasite in the intestine of humans and animals, such as pigs. Although this protozoan was first described in 1911, pathogenesis and pathogenicity are still not clarified. Moreover its role in diarrheic processes in swine is not yet fully understood.

Material & Methods

In March 2015, a piglet producing farm in Lower Austria struggled with profuse diarrhea in weaners. Except fulminant diarrhea and wasting, no other clinical symptoms could be observed. Therapy with common antimicrobials was unsuccessful and therefore one piglet was euthanized to perform necropsy and further diagnostics. Tissue samples were obtained for pathohistological examination and further investigations, including PCR and in- situ hybridization (ISH). To exclude PCV-2 associated enteritis, ISH was carried out on FFPE gut tissue samples. Feces from large intestine were subjected to a triplex PCR for simultaneous detection of *Lawsonia intracellularis*, *Brachyspira hyodysenteriae* and *Brachyspira pilosicoli*. For identification of coccidian oocysts and protozoal parasites, fluorescence microscopy and conventional light microscopy of feces was conducted.

Results

Histologically, gut tissue samples showed physiological architecture and no pathological alterations could be observed. In close proximity to epithelial cells and within luminal material, numerous vacuolar forms of *Blastocystis* sp., with no evidence of attachment or invasion, could be discovered. In addition, neither molecular methods nor bacteriological and parasitological methods identified any other known pathogenic agent. Deoxynivalenol was found in maize silage. Antimicrobial therapy using paromomycin was the only effective measure which led to cure.

Discussion and Conclusion

The fact that in all investigated samples none of the common enteropathogenic agents in piglets could be found, suggests a major etiological role of the massive *Blastocystis* sp. infestation. It is supposed that a continuous exposure to deoxynivalenol at high levels led to immunosuppression, which enabled *Blastocystis* sp. to unfold its pathogenic potential.