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TITLE

CASE REPORT OF TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS INFECTION ASSOCIATED WITH SMALL INTESTINE AND BRAIN LESIONS

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CONTENT

Background and Objectives

This case study reports a transmissible gastroenteritis coronavirus (TGEV) infection in newborn piglets of a commercial pig herd, including histopathological examinations in affected piglets.

Material & Methods

The clinical signs of infection appeared in newborn piglets, including medium morbidity and low rate mortality rate. Rectal swabs were collected from 5 different affected litters for laboratory examinations (Real-time polymerase chain reaction-RT PCR, cultural examinations and antibiotic sensitivity tests). In addition, three of the aforementioned piglets with symptoms were euthanized and they were sent to laboratory for necropsy and histopathological examinations. In addition, three of the aforementioned piglets with symptoms were euthanized and they were sent to laboratory for necropsy and histopathological examinations.

Results

All faecal samples were TGEV positive by Real time PCR. Necropsy revealed non-specific gross lesions. The histopathological examinations revealed villi fused with denuded tips and severe villus atrophy, leading to extensive epithelial flattening in middle and lower small intestine. The architecture pattern of villi presented columnar and cuboidal poorly differentiated enterocytes with mild subepithelial oedema. In some of these pycnotic nuclei were detected. The examined tissue sections from the brain revealed diffuse gliosis in the area of pia matter with mild congestion of the meningeal and parenchymal vessels and neuronal degeneration.

Discussion & Conclusion

This case study reported a TGEV infection in newborn piglets, characterized by typical histopathological lesions in small intestine, as well as the typical pattern of viral brain lesions, suggesting that TGEV has neurotropic effect.