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TITLE

FREQUENCY OF PORCINE CIRCOVIRUS 3 DETECTION IN SERUM OF PIGS WITH RESPIRATORY AND DIGESTIVE DISORDERS

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CONTENT

Introduction. In 2015 a novel porcine circovirus (PCV), named as PCV-3, was found by next generation sequencing methods from animals with different disease conditions. Although its pathogenicity has not been clearly established yet, it has been linked with reproductive and respiratory disorders. Therefore, the objective of the present study was to assess the frequency of PCV-3 in cases of respiratory and digestive disorders compared to healthy animals.

Material and Methods. A total of 315 swine serum samples from different farms were analyzed for PCV-3 detection by conventional PCR. The samples were obtained from 4 week- to 4 month-old pigs clinically affected by respiratory disorders (n=129) and diarrhea (n=126). A group of healthy age-matched animals (n=60) served as negative control. Pigs with respiratory clinical signs had a wide variety of pulmonary lesions including catarrhal-purulent bronchopneumonia, interstitial pneumonia, fibrinous-necrotizing pneumonia and/or pleuritis. Animals with enteric clinical signs had histopathological findings of villi atrophy and fusion, catarrhal enteritis and/or catarrhal colitis.

Results. The presence of PCV-3 DNA was confirmed in 19 out of 315 analyzed samples (6%). Such percentages of detection were 6.2% (8 out of 129) and 5.6% (7 out of 126) in pigs displaying respiratory and digestive disorders, respectively. No apparent association was observed between frequency of infection and type of histopathological lesion. The frequency of PCV-3 PCR positive among healthy pigs was 6.7% (4 out of 60).

Discussion and conclusion. PCV-3 was found in serum of the three groups of animals in similar percentages. The lack of different frequency of detection of this virus at a systemic level does not point out a potential association of PCV-3 with respiratory or enteric disorder occurrence.

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