VIRAL DISEASES

VVD-061

PREVALENCE OF ENTERIC PATHOGENS IN OUTBREAKS OF NEONATAL DIARRHEA IN PIG FARMS OF SPAIN

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Introduction

Neonatal diarrhea is one of the major causes of economic losses in porcine production and many infectious agents can be involved. In this study, outbreak cases of diarrhea were tested for a panel of major enteric pathogens in suckling piglets in Spain.

Material and methods

Twenty-six outbreaks of neonatal diarrhea were investigated (February-November 2017). Fecal samples (n=239) from 1-2 week-old piglets (180 cases and 59 controls) were bacteriologically cultured and tested by PCR for: porcine epidemic diarrhea virus (PEDV), rotavirus A (RVA), transmissible gastroenteritis virus (TGEV), *E.coli* genes, *C.perfringens* (α,β,β2) and *C.difficile* toxins (TcdA, TcdB). For *E.coli* isolates sensitivity tests were performed for 21 antimicrobials.

Results

In 23 of the cases more than one pathogen was found in diseased animals. RVA (20/26) was always found in combination with other pathogens except in one case. In the outbreaks where RVA was not found (6/26), diseased animals were positive for: TcdA and *E.coli* (15%), PEDV (4%), and TcdA (4%). All farms were positive to *C.perfringens* α and β2-toxins. PEDV was found in 5 farms and TGEV in one associated to RVA. Regarding bacterial pathogens, 85% and 76% of *C.perfringens* were positive for α- and β2-toxins, respectively, and 34% of *C.difficile* was TcdA and/or TcdB positive. For *E.coli*, the frequency of the examined toxins (LT, Sta, Stb, VT1, VT2) and fimbriae (F4, F5, F6, F18, F41) was < 5%, except for genes EAST1 (88%), *eae* (16%), Stb (10%).

Pure isolation of *E.coli* was obtained from 94 samples. More than 50% of the isolates were resistant to 10 drugs, being aminopenicillins and tetracyclines the less effective antimicrobials, while lower resistance was found for colistin (3%), apramycin (7%) and ceftriaxone (16%).

Conclusion

Multiple enteric pathogens are simultaneously detected in diarrhea outbreaks in Spain. However, RVA and toxigenic *C.difficile* seem to be increasingly important.