

## VVD-PP-14

### TITLE

CO-INFECTION BY PORCINE CIRCOVIRUS TYPE 2 (PCV2) AND PORCINE PARVOVIRUSES 1-7 (PPV1-7) IN SERUM OF PIGS

Dagmara Milek<sup>1</sup>, Aleksandra Wozniak<sup>1</sup>, Tomasz Stadejek<sup>1</sup>

<sup>1</sup> *Department of Pathology and Veterinary Diagnostics, Faculty of Veterinary Medicine, Warsaw University of Life Sciences, Warsaw, Poland*

### CONTENT

#### Background&Objectives

PPV1 is considered as a co-factor of porcine circovirus type 2 associated diseases (PCVD). A link between PCV2 and PPV2 or PPV4 was also suggested.

The aim of the study was to investigate the correlation between the presence of PCV2 and PPV1-7 in serum of pigs.

#### Material&Methods

The serum samples (n=740) were obtained from 3-21-week-old pigs, from 11 farms in Poland. From each age group 6-10 samples from random pigs were collected. DNA was extracted after pooling by 3-5. Real-Time PCR was performed to detect PCV2 and PPV1-7. The chi-square test was used to determine prevalence differences (statistical significance level was set at p<0.05).

#### Results

Overall, 60.7% of serum pools tested negative for PCV2 (NEG-PCV2). The positive pools (POS-PCV2) were divided into LOW-PCV2 (Ct>30, 21.3%), MEDIUM-PCV2 (Ct=25-30, 12.0%) and HIGH-PCV2 (Ct<25, 6.0%). PPV1-PPV7 DNA was detected from 6.0% (PPV1) to 54.7% (PPV2) of pools. All PPVs, except PPV4, were more prevalent in POS-PCV2 compared with NEG-PCV2, but the differences were significant only for PPV3, PPV5, PPV6 and PPV7 (PPV3–33.9% vs. 7.7%, PPV5–37.3% vs. 12.1%, PPV6–49.2% vs. 22.0%, PPV7–44.1% vs. 17.6%, respectively). PPV2, PPV5 and PPV7 were more prevalent in HIGH-PCV2 compared with LOW-PCV2 or MEDIUM-PCV2 (PPV2–77.8% vs. 56.3% or 55.6%, PPV5–55.6% vs. 31.3% or 38.9%, PPV7–66.7% vs. 43.8% or 33.3%), but no significant differences were noted.

#### Discussion&Conclusion

The prevalence of PPV3, PPV5, PPV6 and PPV7 was significantly higher in POS-PCV2 than in NEG-PCV2. Although PPV2, PPV5 and PPV7 detection was higher in HIGH-PCV2 than in LOW-PCV2 or MEDIUM-PCV2, it was not statistically significant. The striking differences between co-infections by PCV2 and PPVs warrant further studies on the possible role of such infections for pig pathology.

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