VVD-PP-34

TITLE
PCV2D-2 VIRUS DETECTED IN THE NETHERLANDS

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CONTENT
Background and Objectives

At the moment PCV2 can be divided into five genotypes known as PCV2a, b, c, d and e. An ongoing shift from PCV2a to PCV2b to PCV2d has been reported in many countries. The objective of this study was to identify the strains present in some clinical cases in the Netherlands.

Material & Methods

Four PCV2 PCR highly positive lymph node samples from seven fattener pigs ranging from 12 weeks to 7 months, pooled per herd, collected in August 2018 at GD Animal Health were investigated by the research lab of Ceva Phylaxia. The samples were retested using real-time PCR using QuantiNova Probe PCR Kit in a Rotor-Gene Q instrument. Full genome sequencing was performed using CBB1, CBB2, CBB3, and CSZ2 primers. DNA sequences were aligned and phylogenetic analyses were performed using MEGA 7.0 software.

Results

Microscopic examination of the lymph nodes revealed aggregates of macrophages in the parafollicular areas, mild to moderate lymphoid depletion and histiocytic infiltration of the follicles and chronic reactive hyperplasia.

The complete circular DNA sequences compromised of 1767bp, is encoding mainly for 2 ORFs. From sample 4 a sequence with 942 bp (314 aa) long ORF1 and 699 bp (233 aa) long ORF2 was identified. According to this sequence information sample 4 belonged to genotype PCV2b.

Samples 1, 2 and 3 resulted in sequences with 942 bp (314 aa) long ORF1 and 702 bp (234 aa) long ORF2. According to these sequences sample 1, 2 and 3 belonged to genotype PCV2d-2. The ORF2 was encoding for the amino acids considered as PCV2d-specific, e.g. Phe8, Ile53, Lys59, Asn68, and Lys234.

Discussion & Conclusion

This is the first report of PCV2d-2 in the Netherlands. Further research is needed for the prevalence of the different PCV2 genotypes in the Netherlands and their clinical relevance.