Repeated examination of natural sapovirus infections in pig litters raised under experimental conditions - DTU Orbit (08/12/2018)

Repeated examination of natural sapovirus infections in pig litters raised under experimental conditions

Porcine sapovirus, belonging to the family Caliciviridae, is an enteric virus that is widespread in the swine industry worldwide. A total of 14 sapovirus genogroups have been suggested and the most commonly found genogroup in swine is genogroup III (GIII). The goal of the present experiment was to examine the presence of sapovirus in 51 naturally infected pigs at two different time points. The pigs were kept under experimental conditions after weaning. Previous studies on sapovirus have primarily been of a cross-sectional nature, typically prevalence studies performed on farms and abattoirs. In the present study, faecal samples, collected from each pig at 5½ weeks and 15-18 weeks of age, were analysed for sapovirus by reverse transcriptase polymerase chain reaction and positive findings were genotyped by sequencing. At 5½ weeks of age, sapovirus was detected in the majority of the pigs. Sequencing revealed four different strains in the 5½ week olds belonging to genogroups GIII and GVII. Ten to 13 weeks later, the virus was no longer detectable from stools of infected pigs. However, at this time point 13 pigs were infected with another GIII sapovirus strain not previously detected in the pigs studied. This GIII strain was only found in pigs that, in the initial samples, were virus-negative or positive for GVII. At 5 weeks of age 74% of the pigs were infected with sapovirus. At 15-18 weeks of age all pigs had cleared their initial infection, but a new sapovirus GIII strain was detected in 25% of the pigs. None of the pigs initially infected with the first GIII strain were reinfected with this new GIII strain, which may indicate the presence of a genogroup-specific immunity.

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