Association between the presence of porcine reproductive and respiratory syndrome virus (PRRSV) in semen, serum and testis at different times during an acute infection in boars

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Background and Objectives

In July 2019, a PRRSV-free boar station was infected with PRRSV-1. There is only limited knowledge of the association between the presence of PRRSV in serum, testis and semen, in naturally infected boars. Therefore the aim of the present study was to compare the presence of PRRSV in serum, semen and testicular tissues from boars euthanized shortly after the outbreak.

Materials and Methods

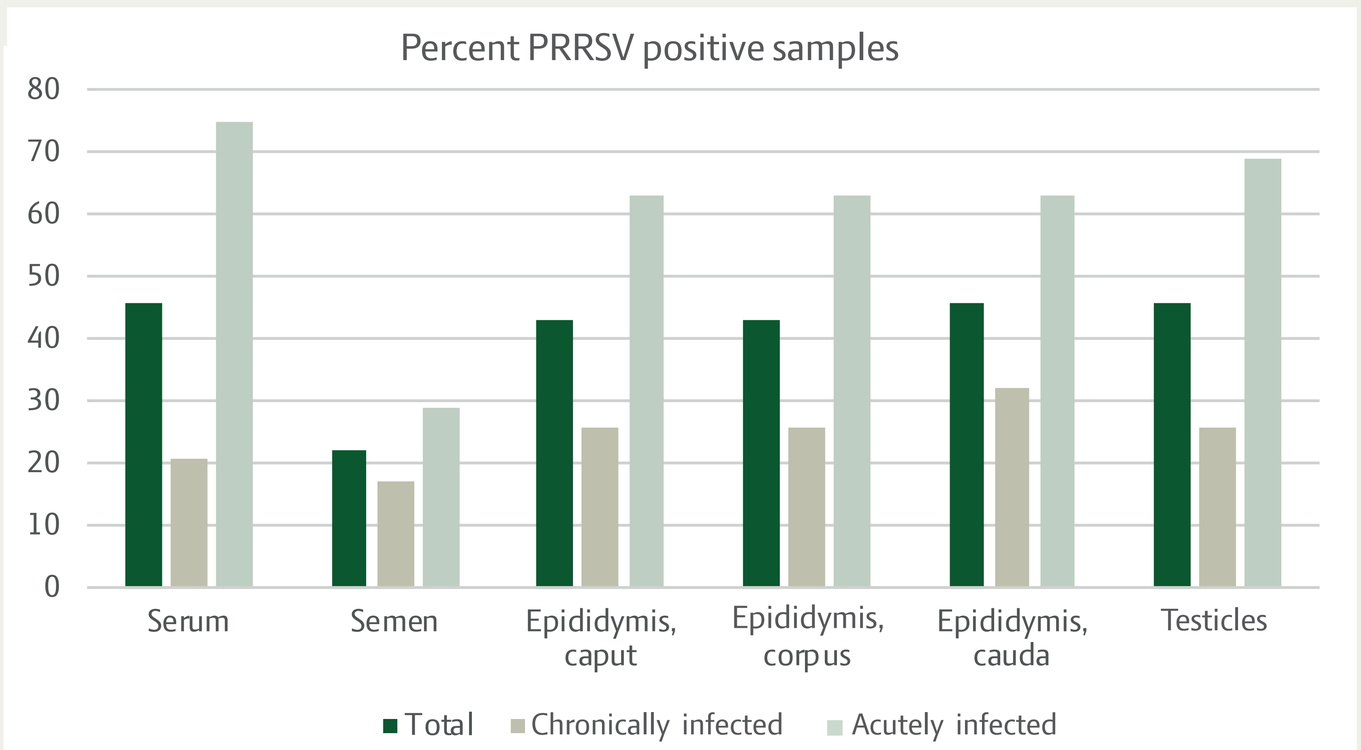
In total, 35 boars were included in the study: 19 had been infected for weeks (chronically infected), 16 only within the last week (acutely infected). Semen was collected the day before euthanasia. Immediately after euthanasia, blood and testis including epididymis were collected. All serum, semen and testis samples were tested for PRRSV by RT-qPCR.

Results

None of the 35 boars showed any clinical signs during the infection. Of the boars that had been infected for weeks, four boars were positive in serum, but negative in semen, while three boars were PRRSV-positive in semen, but negative in serum. Among boars that were infected within the last week, seven boars were PRRSV-positive in serum, but negative in semen, and only one boar was positive in semen and negative in serum. Samples from testicles and epididymis were more often PRRSV-positive than semen samples and more samples from boars that were infected within the last week were positive.

DISCUSSION AND CONCLUSION

Material collected from natural PRRSV-infected boars seems to reveal that serum is the most sensitive sampling material for the detection of PRRSV. However, a negative test of serum does not necessarily indicate that other tissues are PRRSV negative. The results should be taken into consideration when control programs for boar stations are designed.



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