BACTERIAL DISEASES

BBD-080

APPLICATION OF QUANTITATIVE PCR FOR STREPTOCOCCUS SUIS SEROTYPES 2 AND 9 ON TONSIL AND SALIVA SAMPLES IN PIGS UNDER FIELD CONDITIONS

N. Dekker [1], E. Willems [2], M. Martens [2], T. Tobias [3], J. Wagenaar [1].

[1] Department of Infectious Diseases and Immunology, Faculty of Veterinary Medicine, Utrecht University, Utrecht, Netherlands; [2] Topigs Norsvin International, Vught, Netherlands; [3] Utrecht University, Faculty of Veterinary Medicine, Department of Farm Animal Health, Utrecht, Netherlands.

Introduction

Streptococcus suis infections are important indications for antimicrobial treatment in pigs. To control *S. suis* infections, it will be helpful to develop a practical test to assign a *S. suis*-status to farms. In this research we addressed the following questions:

- Can qPCR be used for detection of *S. suis* serotype 9 infection in life pigs in the field?
- What is the sensitivity of a convenient sampling method (saliva-swabs) compared to tonsil-brushing under field conditions?
- What is the effect of enrichment in the culture procedure prior to qPCR on sensitivity?

Material & Methods

On two farms 60 piglets (Farm A: 15x6 weeks, 45x9 weeks; Farm B: 60x9 weeks old) were sampled. Farm B reported episodes of clinical *S. suis* infections, Farm A did not. Per piglet 4 samples were taken:

- Tonsil-brush.
- Tonsil-brush, enriched in Todd-Hewitt-medium (eTH).
- Saliva-swab.
- Saliva-swab, eTH.

All samples were tested by a previously validated qPCR for serotypes 2 and 9.

Results

Whereas the estimated serotype 2 prevalence was 0% in both farms, serotype 9 was found in both; in Farm A 98% (95%CI:95-100%) and in Farm B 32% (95%CI:20-43%) of the animals tested positive. Serotype 9 positive test results were observed in tonsil-samples of 74 and in saliva-samples of 63 piglets. Tonsil- and saliva-samples test results showed substantial correlation, especially for enriched samples (Kappa=0.71). Enrichment resulted in a 5-fold (saliva) or 10-fold (tonsil) increase in number of positives.

Discussion & Conclusion

Although Farm A never reported clinical signs due to *S. suis* serotype 9, the estimated prevalence was significantly higher than on Farm B. Current ongoing research suggests that this may be explained by differences in pathogenicity between serotype 9 strains. Saliva-swabs (eTH) could be an effective sampling method for assessing *S. suis* serotype 9 farm status.