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ASSOCIATION BETWEEN MYCOPLASMA HYOPNEUMONIAE DETECTION IN LARYNGEAL SWABS AND LUNG LESIONS UNDER EXPERIMENTAL CONDITIONS

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Introduction

The use of PCR analysis to detect *Mycoplasma hyopneumoniae* (*Mhp)* in live pigs provides information about the infection dynamics and it may allow the identification of infected pigs before seroconversion, observation of clinical signs and lung lesions. Besides, laryngeal swabs tested by PCR have proved to be a reliable diagnostic sample for *Mhp* detection *in vivo* during early-stage infection. The objective of this study was to investigate the potential association between early detection of Mhp in laryngeal swabs and lung lesions in pigs experimentally infected with Mhp.

Materials & methods

Twelve 5 week old Mhp negative piglets were intranasally inoculated with 15 ml of Mhp culture given in 3 consecutive days. Laryngeal swabs and blood samples were obtained weekly to up to 21 or 28 days post-inoculation (dpi), respectively. At necropsy, lung lesions were scored (Ph. Eur., monograph no.04/2013:2448) and lung lavages obtained. Detection of Mhp by PCR was performed in laryngeal swabs and lung lavages, whereas a blocking ELISA was used in blood samples to assess seroconversion.

Results

Mhp DNA was detected in laryngeal swabs as early as 7 dpi and the number of positive animals increased progressively towards the end of the study. All the inoculated animals proved to be infected by Mhp as all lung lavages were PCR positive and bronchopneumonia was observed in all of them. Remarkably, lung lesions tend to be more severe in those animals where Mhp was detected earlier in laryngeal swabs. Furthermore, an early detection of Mhp in laryngeal swabs was also linked to an earlier seroconversion.

Discussion & conclusion

Laryngeal swabs were identified as a reliable sample for PCR detection of *Mhp* during the early stages of infection. This sample type might be potentially used as a predictor of the lung lesion outcome in non-vaccinated, experimentally infected pigs.