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USE OF *ACTINOBACILUS PLEUROPNEUMONIAE* (APP) DETECTION AND SEROTYPING MOLECULAR TOOLS TO SUPPORT DIAGNOSIS ON APP CLINICAL CASES

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Introduction

App causes important losses to the pig industry through respiratory disease and >30% mortality in growing pigs if left untreated. App infection does not always produce disease and asymptomatic carriage in the tonsil may be difficult to detect. Recent refinements to published PCR tools now allow detection and molecular serotyping of App without requiring isolation.

Materials & Methods

We followed a farrow to finish farm with severe App clinical problems in 12-to-18 week old pigs. Serum samples were collected from 4-to-20 weeks-old pigs to measure App (anti-ApxIV) antibodies. Group level oral fluids were collected at 8, 10 & 12 weeks of age for PCR. Bacteriology culture were done on lung tissue from affected animals.

Results

Anti-ApxIV antibodies declined around 8 - 10 weeks of age with S/P ratios <40 (negative) between the 12 - 14 week of age (most severe clinical sings occurred in this age) to become >50 (positive) in older ages. App was isolated on lung samples from fatalities. Samples of oral fluid were positive for App by PCR in all the groups tested, including in 8 and 10 week-old pigs without any respiratory signs. Oral fluid samples and lung isolates presented similar molecular signatures, when typed by PCR, as serotype 8.

Discussion & Conclusion

Oral fluids are easy to collect and they can be useful to detect the involvement of pathogens in respiratory problems on pigs. Here, App was detected and typed by PCR in infected pigs before clinical signs, prior to an outbreak, and during the outbreak as well. Although reliance on oral fluid testing alone is not sufficient for diagnosis of App disease, we highlight the value of optimised PCR techniques on this medium as a potentially valuable surveillance and supplementary pre-purchase testing tool.