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When an App laboratory diagnostic leads to wrong interpretation

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Introduction

Eradication is not an easy task, but to demonstrate it is more difficult or even impossible. The goal of this study was to examine why an evaluation based on laboratory analysis could lead to a wrong interpretation of eradication success.

Material and methods

Actinibacillus pleuropneumoniae (App) eradication was done, using some modifications of the Swiss system, on a 600-sow Spanish farm, in March 2005 using Marbofloxacine (Marbocyl ® Vetoquinol). Before eradication, App presence was confirmed by clinical signs, slaughter check lesions, performance, and a laboratory analysis (ELISA, Microbiological culture, and PCR on a tonsil culture).

Results

In January 2006, no clinical signs were observed and production improve remarkably (Table 1). However, PCR results indicated presence of App.

	Before	After
Num. Of animals	2.145	2.044
Feed conversión	3,213	2,789
ADG (grms)	601	662
Mortality (%)	7,31	4,67
Cost	0,651	0,499
Days in	140,8	126,6

(Table 1)

Three years after the eradication, no clinical signs and lesions at slaughter house were found. In addition, the performance was still good. In November 2008, we used a new PCR specific technique (1) developed to verify the presence of *Actinobacillus porcinotonsillarum* and to differentiated it from pathogenic strains of *Actinibacillus pleuropneumoniae*. We conduct this analysis on forty swine tonsils from a slaughterhouse. In addition to the specific PCR analysis, we conducted a generic PCR (similar to that conducted in 2005) and a bacteriological analysis.

Results from bacteriological analysis showed that there was no evidence of a single colony compatible with those described for *Actinobacillus spp*. Nevertheless, results from the generic PCR showed that 9 out of the 40 samples were positive for *Actinobacillus spp*. The specific PCR for *Actinobacillus porcitonsillarum* was then performed on these 9 samples. Results showed that all these samples were positive for *Actinobacillus porcitonsillarum.*.

Discussion

When eradication was conducted, there wasn't any laboratory analysis available to differentiate non pathogenic *A. porcinotonsillarum* from the pathogenic strains of *A. pleuropneumoniae*. In addition, at that time there was a lack of knowledge on the different resistance of *A. porcinotonsillarum* to some antibiotics. This has recently been demonstrated (2) .

Lack of this information and available analysis by the time of eradication led us to a wrong evaluation of the eradication when in fact was successful.

References

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