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USE OF BRONCHO-ALVEOLAR LAVAGES FOR THE DIAGNOSIS OF SRD AND ANTIBIOTIC CHOICE

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Introduction

Bacteria collection methods play a major role in the prudent use of antibiotics by helping in the identification of pathogens and in the choice of appropriate antibiotic treatment. This study aimed at assessing the performance of bronchoalveolar lavages (BAL) for Swine Respiratory Disease (SRD) diagnosis and at assessing how diagnostic correlates with the outcome of gamithromycin therapy.

Material & Methods

On ten Italian farms experiencing SRD episodes, 20 sick pigs weighing 12-15kg (2 farms) or 40-50kg (8) were selected. BAL were performed in each pig for bacterial culture. The pigs were allocated to two groups according to a clinical score based on rectal temperature, depression and respiratory signs. One group was treated with gamithromycin (ZACTRAN). The second group was left untreated while respecting animal welfare considerations. Clinical scoring was performed again one (one farm:two) day(s) following treatment.

Results

Following gamithromycin treatment, clinical signs decreased in 7 farms as compared to untreated pigs ($p<0.001$ to 0.02 for 6 farms): as early as one day post-treatment, only 6% treated pigs vs 55% controls still showed moderate clinical signs. On these farms, 26% BAL fluids were positive, predominantly evidencing *Pasteurella multocida (57%), Streptococcus suis (38%)*. On 2 farms, either self-recovery in controls or absence of early recovery in treated animals could be linked to an absent or irrelevant bacterial burden. On the last farm, the low therapeutic effect could be associated to a high bacteria load (40% positives) of mixed origins.

Discussion & Conclusion

This study shows that BAL is an effective method for bacterial isolation in SRD cases. In addition, the nature and prevalence of bacteria species well correlated with the clinical outcome following therapy. The contribution of *Streptococcus suis* could be debated and it could not be excluded a variable susceptibility to gamithromycin could have contributed to differentiated therapeutic outcomes.