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PROCEEDINGS



## Profile of porcine respiratory disease complex associated with *Pasteurella multocida* in Minas Gerais state, Brazil

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### Introduction

Porcine Respiratory Disease Complex (PRDC) is an important syndrome worldwide (4). In Brazil, PRDC is associated with *Mycoplasma hyopneumoniae*, Porcine Circovirus type 2 (PCV2), Influenza type A, *Pasteurella multocida*, *Actinobacillus pleuropneumoniae*, *Streptococcus suis*, *Haemophilus parasuis* and *Bordetella bronchiseptica* (2;3). *P. multocida* is one of the most frequent involved bacteria (1;4). These infections can lead to several economic losses, and it is important to determine which agents are involved regionally (4). This study shows a profile of PRDC associated with *Pasteurella multocida* in Minas Gerais state, Brazil.

### Material and methods

Lung samples from 28 herds, 14 obtained from farms with history of respiratory disease, and 14 collected in slaughterhouses, summarizing 44 samples were studied. Only samples from where *P. multocida* was isolated were included in this study. Lung fragments were processed by routine histology procedures, and submitted to immunohistochemistry (IHC) technique to detect PCV2 (polyclonal antibody) (3) and Influenza type A antigen (monoclonal antibody) (5), using streptavidin labeled with peroxidase. IHC for detection of *M. hyopneumoniae* was performed in EMBRAPA Suínos e Aves using a polyclonal antibody against P36.

### Results

Forty four samples were analyzed, and the results are summarized in Table 1.

### Discussion and Conclusion

Thirteen herds (46.4%) had mixed infections with Influenza virus and *M. hyopneumoniae* in addition to *P. multocida* infection corroborating with the concept of multifactorial syndrome (1;2;3;4). PCV2 was not detected any of the herds suggesting a possible control of the disease in the region, probably due to vaccination programs, contrasting with several previous reports about the participation of PCV2 in the PRDC in Brazil(3).

In seven herds (25%), only *P. multocida* was detected. In these herds, *P. multocida* is likely the major cause of respiratory disease and death of finishing pigs. Despite the fact of being part of the swine respiratory tract normal flora and had been considered an opportunistic agent (1;4), in these cases, it seems to play a major role.

**Table 1.** Infectious agents detected in lung samples by IHC associated with the isolation of *Pasteurella multocida*.

Agents	Samples	Herds
PCV2	0	0
Influenza type A	8	2
<i>M. hyopneumoniae</i>	11	6
Influenza A and <i>M. hyopneumoniae</i>	12	13
<i>P. multocida</i> only	13	7
<b>Total</b>	<b>44</b>	<b>28</b>

Up to three animals were sampled from each herd and some of these animals within the same herd had different respiratory pathogens associated with lesions. This finding reinforces the importance of taking more than one sample per farm.

In Minas Gerais state there is circulation of several agents involved in the PRDC, and it seems that PCV2 has lost importance in the field, but it is not clear if vaccination programs may be suspended. On the other hand, *P. multocida* emerges as a primary pathogen, contrasting older concepts.

### References

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