

## Abstract Detail

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# PORCINE RESPIRATORY DISEASE COMPLEX IN SOUTHERN BRAZIL: PATHOGENS AND ASSOCIATED HISTOPATHOLOGY

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Eighty-six lungs from suckling (6%), nursing (65%), and fattening (29%) pigs with respiratory signs from pig farms in southern Brazil were submitted to a diagnostic laboratory for necropsy and/or histopathological examination and screening of respiratory agents involved in the porcine respiratory disease complex (PRDC). Lung samples were positive for influenza A virus (IAV) using real-time RT-PCR (RT-qPCR) (65%); the majority of the cases (95%) were also positive for A(H1N1)pdm09 matrix gene using RT-qPCR, and 14% were positive for porcine circovirus-2 (PCV-2) using PCR. Forty-three samples (50%) had histopathological lesions associated with IAV characterized by necrotizing bronchiolitis/bronchitis and/or bronchointerstitial pneumonia with bronchiolar/bronchial hyperplasia. In those cases, 58% (25/43) were positive by immunohistochemistry (IHC) for IAV antigen. RT-qPCR testing was more sensitive than IHC in detecting IAV. Twenty-seven lung samples (31%) were positive for *Mycoplasma hyopneumoniae* (*Mhyo*) using IHC. Coinfection of IAV and *Mhyo* was seen in 17 (20%) cases. The hallmark lesion of *Mhyo* infection was peribronchial and peribronchiolar lymphoid hyperplasia. The most common isolated bacteria were *Pasteurella multocida* type A (8/18), followed by *Haemophilus parasuis* (4/18), *Actinobacillus pleuropneumoniae* (3/18), and *Salmonella Choleraesuis* (3/18). Most bacterial infections were associated with suppurative bronchopneumonia and/or pleuritis. Interstitial pneumonia was the typical lesion observed with *Salmonella Choleraesuis* and PCV-2 infections. All samples were negative for porcine reproductive and respiratory syndrome virus (PRRSV) using RT-qPCR. Influenza A virus and *Mhyo* infections were the most common agents found in PRDC in pigs in southern Brazil. Furthermore, the screening for PRRSV did not detect this agent, consistent with the PRRSV-free status of Brazil.