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First description of postweaning multisystemic wasting syndrome (PMWS) in Chile

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Introduction

PMWS has been reported in most if not all intensive swine producer countries (Segalés et al., 2005). In Chile, the disease was officially recognized during the second semester of 2006 by the Servicio Agrícola y Ganadero, in commercial farms located mainly in the central region of the country. The objective of the present work is to describe the clinical and pathological presentation of the disease in Chile, together with the establishment of the final diagnosis based on clinical signs, microscopic lesions and detection of PCV2 by *in situ* hybridization (ISH).

Material and Methods

Samples from 30 pigs (60 to 140 days of age), with clinical and gross pathology suspicions of PMWS were collected from 5 commercial herds. At the necropsy, lung, heart, liver, small intestine, colon, kidney, and lymphoid tissues (tonsil, mediastinal and mesenteric lymph node, spleen, and ileum Peyer's patches) samples were collected for histopathology. On the other hand, lymphoid tissue, lung and liver samples were studied by PCV2 ISH. Based on the results obtained from this analysis, the animals were classified as: A. PMWS affected pigs (moderate to severe lymphocyte depletion and granulomatous infiltration in lymphoid tissues, associated with moderate to high amounts of viral DNA); B. Subclinical PCV2 infection (lymphoid tissue with slight lesions associated to a low amount of viral genome); and C. Pigs without PCV2 infection (normal lymphoid tissues and lack of viral DNA) (Segalés *et al.*, 2005).

Results and Discussion

Clinically, the animals in study showed mainly growth retardation, emaciation and generalized lymphadenopathy.

Histopathologically, 73% of the pigs showed lymphocyte depletion with histiocytic infiltration, 33% showed multinucleated giant cells and 13% contained intracitoplasmatic inclusion bodies. Additionally, catarrhal-purulent bronchopneumonia (47%), interstitial

pneumonia (40%), periportal hepatitis (17%), interstitial nephritis (40%), enteritis (67%) and colitis (43%) were also described. In regards PCV2 ISH, 83% of the pigs have positive reaction, mainly in tonsil (88%), mediastinal and mesenteric lymph nodes (92%), spleen (72%), lung (36%) and liver (32%). Table 1 summarizes the number of pigs and the percentage of them according to the used classification.

Table 1: Pigs classification according to the PMWS diagnostics.

| Classification | Total pigs | % pigs |
|---------------------------------|------------|--------|
| A (pigs with PMWS) | 15 | 50 |
| B (subclinical PCV2 infection) | 10 | 33 |
| C (pigs with no PCV2 infection) | 5 | 17 |

Gross lesions, histopathological findings and the presence of PCV2 observed in this study are characteristics of PMWS according to the descriptions of different authors (Segalés et al., 2005; Chae, 2004). From the histopathological point of view, the lymphocyte depletion, the presence of giant cells and the inclusion body in histiocytes represent the most characteristic lesions. The PMWS diagnosis was confirm by the presence of high amount of PCV2 DNA closely associated to compatible histopathological lesions (Segalés, 2002).

This is the first report of PCV2 infection and PMWS in Chile. However, more research is needed to establish the real PMWS prevalence in the country. The presence of this disease in Chile is a new challenge for the national swine production that should search for new strategies to minimize the effect of the disease.

References

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