LONGITUDINAL STUDY OF *MYCOPLASMA HYOPNEUMONIAE* INFECTION IN NATURALLY INFECTED PIGS

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Introduction

The objective of this work was to study the dynamics of *M. hyopneumoniae* (*M.hyo*) infection along the life-time of three groups of naturally infected pigs from the same farm and correlate it with sow parity and antibody titers at farrowing, seroconversion, appearance of macroscopic and microscopic lung lesions.

Materials and Methods

A one-site 240-sow, farrow-to-finish herd with continuous flow production suffering from *M.hyo* related respiratory problems was selected. A total of 600 pigs born from 72 sows in six different farrowing batches throughout the year are under study.

So far, 277 pigs from three groups have been analyzed. Two groups were born in September (A, n=96 pigs; B, n=97 pigs) and 1 group in April (C, n=84 pigs). Nasal swabs and blood samples were taken at 1, 3, 6, 9, 12, 15, 18, 22, and 25 weeks of age. Six to nine pigs were necropsied at all sampling times but week 1. The remaining pigs were slaughtered at 25 weeks of age.

Lung samples were collected from each animal during necropsy or at slaughter. Pneumonic areas were recorded in a diagram (3). Lung samples were examined histopathologically using a light microscope and scored in a blinded fashion. Microscopic lesions were scored from 0 to 4, following the previously described criteria (2). Histologic scores 3 and 4 were considered Enzootic Pneumonia-diagnostic lesions.

DNA from nasal swabs was extracted and amplified as previously described (1). A monoclonal blocking ELISA (CIVTEST SUIS MYCOPLASMA HYOPNEUMONIAE, Laboratorios HIPRA) was used for *M. hyo* antibody detection.

Results and Discussion

Different dynamics of infection (Figure 1), seroconversion and time of appearance of microscopic and gross lung lesions (Figures 2 and 3) were observed between the three analysed groups within the same farm. All these variables are currently being statistically analysed and will be completed with results from the other 3 groups of pigs.

These differences between groups could be explained by: 1) maternal effect; 2) season's birth; and/or 3) presence of other pathogens co-infection. These results may have practical implications since the decision to vaccinate against *M.hyo* is usually based on punctual analyses, and maybe other approaches should be followed.

Fig 1: Percentage of + pigs by nPCR and Serology by age in the three tested groups

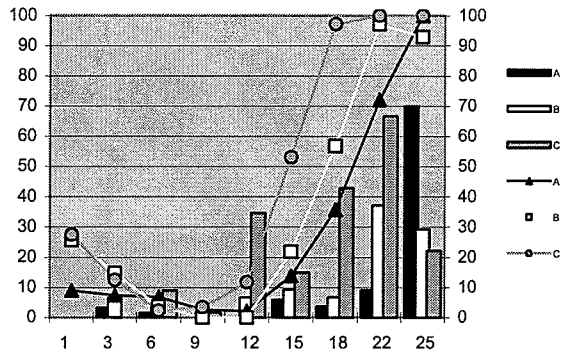


Fig 2: Percentage of pigs with microscopic lung lesions score 3-4

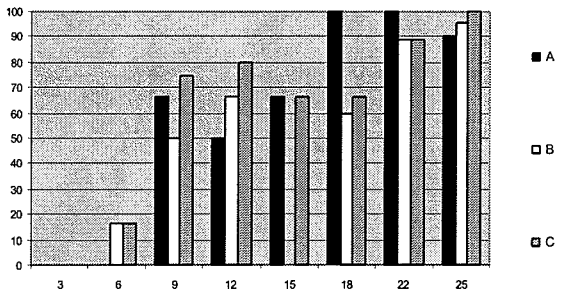
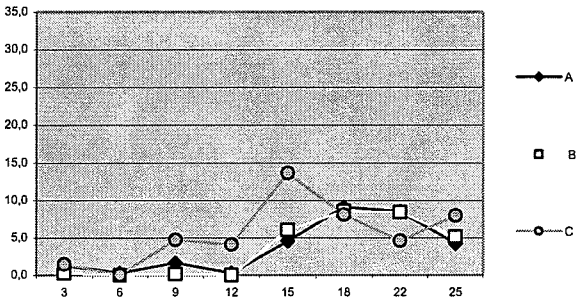


Fig 3: Mean of macroscopic lung lesions by age in the three tested groups



References

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