20th International Pig Veterinary Society Congress

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We are delighted that the International Pig Veterinary Society Congress 2004, decided to select South Africa as the host country for the 20th IPVS Congress. The Pig Veterinarians of South Africa will ensure that this congress lives up to the best traditions of previous congresses; incorporating an interesting and topical scientific programme, fascinating accompanying persons tours and an excellent social programme, allowing delegates the opportunity to network with their overseas colleagues.

This, the first IPVS congress on the African continent, will undoubtedly be of enormous benefit in generating solutions to the emerging pig veterinary challenges, especially those related to exotic and changing viral diseases, decreased use of antimicrobials and nutritional advances. The congress is important to further pig veterinary science in South Africa, to encourage younger veterinarians to join the pig industry, as a vehicle to generate funds for research and to improve the pig industry in Southern Africa.

South Africa is a magnificent and beautiful country, and offers tourists value for money. Thus, pre and post congress tours will be a major attraction for delegates to come to South Africa. Durban, in KwaZulu Natal, is a vibrant multi-cultured city with magnificent beaches, easily accessible game parks, theme villages and a moderate winter climate making it an ideal tourist destination. We urge our colleagues throughout the world to use this opportunity to get a glimpse of the continent’s rich and fascinating wonders and to enjoy the hospitality of their African friends.

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MYCOPLASMA HYOPNEUMONIAE INFECTION IN SUCKLING PIGS: AN EXPLORATORY FIELD STUDY

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Introduction
This study had two main exploratory objectives: 1) to determine the prevalence of Mycoplasma hyopneumoniae infection at different levels of the respiratory tract in naturally infected suckling piglets, and 2) to analyse the relationship among parity number and sows’ serologic status, colostral humoral immunity and piglet colonisation.

Materials and Methods
A 240-sow farrow-to-finish herd with respiratory problems in fattening units was selected to conduct this study. A total of 70 sows and 507 piglets from 6 farrowing batches (A to F) were studied. All piglets from each sow were ear-tagged at 1 week of age. At 1 and 3 weeks of age (still in the farrowing units), nasal swabs and blood samples were taken from all piglets. Moreover, from these 507 animals, 37 randomly selected pigs were necropsied at 3 weeks of age. Apart from the abovementioned samples, bronchial and tonsillar swabs were also taken. From sows, only blood sample from caudal artery at 1 week post-farrowing was collected. DNA extraction and M. hyopneumoniae nPCR were performed as previously described (1). A monoclonal blocking ELISA test (Laboratorios HIPRA, Girona, Spain) to detect M. hyopneumoniae antibodies was used on serum samples.

Relation between sow parity number with sow serologic status, piglet serologic status and piglet colonisation, were performed using the Chi-square test or Fisher’s exact test. Sow parity variable was divided into 1, 2-4, 5-7 and more than 7 farrows (2). Significance was set at p-values lower than 0.05.

Results
M. hyopneumoniae DNA was detected in nasal swabs of pigs from all farrowing tested batches either at 1 or 3 weeks of age, but batch C. The global percentage of pigs with M. hyopneumoniae detection in nasal swabs at 1 and 3 weeks of age was 1.5% (8/507) and 3.8% (19/507), respectively. None of the 8 animals with the positive nPCR nasal swab at 1 week of age had a positive nasal swab at 3 weeks of age.

On the other hand, piglet’ seropositivity was statistically related with sow’ seropositivity at 1 (p<0.0001) and 3 (p<0.0001) weeks of age.

Piglets with a nasal nPCR positive swab at 1 or 3 weeks of age were born from 21 (30%) different sows: fifteen (21.4%) and six (8.5%) sows had one and two nPCR positive piglets, respectively. Most of those piglets were seronegative (6/8 and 18/19, at 1 and 3 weeks, respectively) and the higher proportion of them (5/8 and 11/19, respectively) came from seronegative sows.

From the 37 necropsied pigs, there was one piglet (1/37, 2.7%), with nPCR positive tonsillar swab from a seronegative sow, another piglet (1/37, 2.7%) with a positive bronchial swab from a seropositive sow and, finally, a third pig (1/37, 2.7%) with nPCR positive nasal and bronchial swabs from a sow with unknown serologic status. No significant gross or microscopic lung lesions compatible with EP were detected in any of the necropsied pigs.

No statistical significant relationship (p>0.05) either at 1 or 3 weeks of age was observed between sow parity and M. hyopneumoniae sow seropositivity, piglet seropositivity and piglet colonization.

Discussion
The present study indicates that M. hyopneumoniae can be present, although in a low proportion of pigs, at the lower respiratory tract of suckling pigs, without association to pulmonary lesions. On the other hand, percentages of M. hyopneumoniae detection in nasal cavities in the present study were similar or lower than those reported in weaning pigs (2,3). On the contrary, other results (4) reported a wide range of prevalence (from 2.5 to 51.8%) also in weaned pigs, supporting the marked variability of M. hyopneumoniae vertical transmission in sow herds.

In the present study, as expected, M. hyopneumoniae serologically positive piglets came mainly from M. hyopneumoniae seropositive sows. The fact that most of the piglets with nasal swab nPCR positive were M. hyopneumoniae seronegative and came from seronegative sows, would support a beneficial effect of having detectable anti-M. hyopneumoniae antibodies in the sows to prevent piglet-to-piglet or sow-to-piglet colonisation. The effect of sow parity number on sow seropositivity, piglet seropositivity or piglet infection, still remains unclear. Results from our and previously published studies do not clarify which sows provide greater protection against M. hyopneumoniae infection to their piglets (1,4).

In summary, we can conclude that M. hyopneumoniae may infect upper and lower respiratory sites of suckling piglets coming from sows with different M. hyopneumoniae serological status and with different parity numbers. Moreover, no significant associations were found between sow parity, M. hyopneumoniae sow seropositivity and piglet colonisation.

References