20th International Pig Veterinary Society Congress
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Durban
South Africa

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.

Dr Peter Evans
Chairman: Local Organising Committee: IPVS 2008
DETECTION OF MYCOPLASMA HYOPNEUMONIAE IN BRONCHOALVEOLAR LAVAGE FLUID VS. LUNG TISSUE

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Introduction
Bronchoalveolar lavage is increasingly used as a method for sampling material from the lower respiratory tract in pigs. Several scientific investigations and clinical trials (e.g. for authorisation of pharmaceuticals) are based on the detection rate of pathogens obtained from lavage fluid. Unlike to necropsy, this method provides the opportunity for longitudinal studies. Moreover, bronchoalveolar lavage is becoming popular for routine diagnostic in breeding herds and countries such as Germany where on-farm necropsy is illegal. There is controversy about the optimal sampling site, especially for the detection of Mycoplasma hyopneumoniae (MH; 1-3). One substantial issue is the fact that lavage fluid is administered under restricted visual control and usually does not reach the lung lobes where lesions are observed (5). On the other hand more positive results were found in lavage fluid than in lung tissue from experimentally infected pigs (3). The aim of this study was to evaluate whether there is a significant difference in detection of MH between lung tissue and lavage fluid when the site of the lavage is not identical with that of the lung lesions. Bronchoalveolar lavage was conducted with limited visual control (4) and necropsy performed on the same animals to determine the sites of lavage and lesions.

Materials and Methods
The study included 34 pigs with clinical signs of respiratory disease that were submitted for necropsy. Bronchoalveolar lavage was carried out under limited visual control (4). After instillation and aspiration of 10 ml physiological saline solution (PSS), 10 ml methylene blue solution (1g 3,7-bis (dimethylamino)-phenothiaziniumchloride ad 1l PSS) were instilled and aspirated. Animals were euthanatized and dissected immediately. Lungs were scored according to the scope of the lesions that are typical for infection with MH: no lesions (0), < 10% (1), 10%-30% (2), > 30% (3). If lesions were present, a tissue specimen was prepared for PCR. Otherwise a sample was collected from a cranial lobe. The distribution of the methylene blue solution was documented photographically after sliding of the lung lobe tissue.

PCR analysis was carried out on 25 mg tissue sample and 2.0 ml lavage fluid from each animal. DNA was extracted with DNeasy® Tissue mini kit (Qiagen, Hilden, Germany) according to the manufacturer’s instruction. Primer and amplification protocol were used as described by Kurth et al. (3).

Association between lung score and results from PCR were tested by logistic regression analysis using SAS 9.1 (SAS Institute Inc., Cary, NC, USA).

Results
In all pigs, the methylene blue lavage solution was found only in the caudal lung lobes. Typical lesions of various degree were detected only in the cranial and/or middle lobes of 28 pigs. In all, 11 pigs tested positive for MH by PCR (Tab. 1).

Table 1 Detection of MH by PCR

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<tr>
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<th>Positive</th>
<th>Negative</th>
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<tr>
<td>LU*</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>LF**</td>
<td>3</td>
<td>23</td>
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*lung tissue, **lavage fluid

The analysis of effects revealed a statistically significant association between lung score and the detection of MH from lung tissue by PCR (p = 0.025). There was no association between scope of lung lesions and a positive lavage fluid result (p = 0.340; Fig. 1)

Discussion
This study was conducted to compare detection of MH by PCR in bronchoalveolar lavage fluid, which is usually obtained from the caudal lung lobes, and lung tissue from the cranial lobes where the typical lesions are mainly located. Only a substantial correlation between the results from lung tissue and lavage fluid could be observed (kappa index 0.61). There were more positive results in the tissue specimens than with lavage fluid in case of moderate and severe lung lesions (scores 2 and 3). Otherwise, MH was detected in lavage fluid from pigs with mild lesions more frequently. These results suggest that lavage fluid is the appropriate material for the detection of early stages of infection, while lung tissue should be used when typical lung lesions will be expected.

References