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 LAWSONIA INTRACELLULARIS IN MICE CAPTURED IN PIG FARMS WITH THE OCCURRENCE OF PORCINE PROLIFERATIVE ENTEROPATHY

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Introduction
Lawsonia intracellularis (L. i.) is a causative agent of porcine proliferative enteropathy (PPE) and the domestic pig (Sus scrofa domesticus) is considered to be the principal host species. Among free-living animals, the bacterium has been detected mainly in the wild pig (Sus scrofa) (1), and on rare occasions in red deer (Cervus elaphus), grey wolf (Canis lupus), and red fox (Vulpes vulpes) (2). Data on the occurrence of this organism in wild rodents are still insufficient. Diseases caused by L. i. have been, however, found in laboratory animals, e.g. in the golden hamster (Mesocricetus auratus) (3). Considering the wide range of known host species, we supposed that L. i. may also affect the mice in pig farms with PPE. The aim of the present study was to detect the presence of L. i. in the intestines of the mice (Mus musculus) and other wild rodents from pig farms with PPE and to demonstrate the possible role of these animals in the transmission of the infection.

Materials and Methods
Between May and November 2005, we snap-trapped and examined mice in 7 selected pig farms with the occurrence of PPE confirmed by the nested PCR (nPCR) assay. The modified technique by Boom (4) was used for the extraction of the bacterial DNA from the intestine of mice (pooled samples of parts of the ileum, cecum, and colon). Extracts were examined using primers and nPCR as described by Jones et al. (5).

Results
The results are summarized in the Table 1.
In the farm A area, four repeated captures were carried out in a hall with growing pigs over a two-month period. L. i. was detected in 20 (71.4 %) mice out of 28 mice examined. In the farm B, also in growing pigs, 3 mice were positive (27.3 %) out of 11 animals captured inside the hall and there was 1 positive mouse of three individuals captured in the vicinity of the farm. We also found L. i. in the intestines of the mice captured inside the halls with growing pigs in the farms E, F, G. Only in the farm C, where 11 mice were captured inside the farrowing house, no L. i. was detected. During the whole study, 40 (50 %) mice captured in 5 of 7 farms of a total of 80 examined animals were positive for L. i.. Out of two captured common voles (Microtus arvalis), one individual was positive (farm D). Four brown rats (Rattus norvegicus) from the farms A and D, two wood mice (Apodemus sylvaticus) and one yellow-necked mouse (A. flavicollis) captured near the farm B were all negative.

Discussion
The high occurrence of L. i. in the intestines of the mice captured inside the halls with growing pigs suffering from chronic form of PPE reflect the extent of their exposure to infection. Our results correspond to the susceptibility to the experimental infection confirmed earlier in both the laboratory mice and rats – Charles River Wistar (6). The demonstration of L. i. in the intestines of the house mouse is of practical importance for the disease control in the farms and also for the eradication of the causative agent from the farm environment. In the farm A, the occurrence of mice with L. i. was recorded repeatedly over a one-month period. On the basis of these data, we can assume that the positivity of the murine population in the farms with PPE will be of long-term duration.

Conclusions: These results indicate that the mouse and the common vole represent additional host species of L. i. and suggest that rodents may act as a reservoir species for this bacterium, or they can participate in its spreading among domestic pigs or between pigs and wild animals.

Table 1 Results of the examination of mice and pigs for the presence of L. intracellularis using the nPCR assay

<table>
<thead>
<tr>
<th>Farm</th>
<th>D.M.</th>
<th>Treatment</th>
<th>Pigs total / positive (%)</th>
<th>Mice total / positive (%)</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>4.10</td>
<td>none</td>
<td>6/3 13/10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13.10</td>
<td>none</td>
<td>NT 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>none</td>
<td>NT 7/7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.11</td>
<td>yes</td>
<td>6/3 7/2</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>30.9</td>
<td>none</td>
<td>NT 14/4</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2.6</td>
<td>none</td>
<td>5/5 11/0</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>18.10</td>
<td>none</td>
<td>NT 1/0</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>29.9</td>
<td>none</td>
<td>4/0 NT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.11</td>
<td>none</td>
<td>NT 8/5</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>14.10</td>
<td>none</td>
<td>NT 18/11</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>21/11 (52.4)  80/40 (50.0)</td>
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</table>

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References