Infectious and rearing-system related risk factors for chronic pleuritis in slaughter pigs -
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Chronic pleuritis (CP) in Danish pigs for slaughter is by far the most frequent finding at the routine post-mortem meat
inspection. An initial investigation published in 1990 demonstrated infectious and management-related risk factors.
Serological testing for additional infectious agents, as well as the need to consider the effect of disease clustering at the
herd level, required a re-analysis of the data. Our re-analysis used a representative sample of 4800 pigs originating from
623 Danish herds. Each pig was examined for the presence of CP and progressive atrophic rhinitis (PAR). The gender of
the pig, the weight of the carcass, and the herd of origin were also recorded. Individual blood samples were examined for
seropositivity for Actinobacillus pleuropneumoniae (AP) serotypes 2, 6, 7, 12, Haemophilus parasuis, Mycoplasma
hyopneumoniae (MYC) and swine influenza (SI). Herd-level information retrieved through a questionnaire included health
status, production type, herd size (i.e. pigs per year) and vaccination procedures. Associations between CP and infectious,
individual and herd-related factors were investigated by logistic regression with random effects. Among pigs from herds
with conventional health status, seropositivity for AP serotypes 2 and 6, and MYC had odds ratios (ORs) of CP of 9.0, 1.6
and 1.8, respectively. Neither seropositivity for AP serotype 7 nor SI were associated with CP by themselves, but
interacted: OR of CP of 5.3 (1.8) when present at the same time among pigs exhibiting (not exhibiting) PAR. An
association of PAR with CP was found, and PAR interacted with AP serotype 7: OR = 10.0 (4.3) when both factors were
present among pigs exposed (non-exposed) to SI. The OR (0.97) for an increase of carcass weight by 1 kg was negligible.
In pigs from specific pathogen-free (SPF) herds, seropositivity for MYC and herd size were associated with CP Moreover,
for a herd size of 1000 pigs, CP was associated with exposure to MYC by an OR of 3.3 (decreasing to 1.9 when the herd
size was increased by 1000). Farrow-to-finish as opposed to finishing herd had an OR of CP of 3.2. In conventional herds,
seropositivity for AP serotype 2 and MYC were associated with 51% and 29% of the occurrence of CP. In SPF herds,
farrow-to-finish as opposed to finishing herds was associated with 47% of the occurrence of CR Seropositivity for MYC
was associated with 33% (39%) of the occurrence of CP in herds with a size > (less than or equal to) 1500 pigs.

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