



VIRAL DISEASES

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INVESTIGATION OF THE IMPACTS AND DYNAMICS OF SWINE INFLUENZA VIRUS IN DANISH SWINE HERDS

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Introduction/materials and methods

To investigate the impacts and dynamics of influenza a virus (IAV) in Denmark, a longitudinal study was performed in four Danish herds with production of pigs from 0-12 weeks. Four batches of pigs were included from each herd. One batch consisted of four sows with each five of their own piglets ear tagged at birth. All herds were monitored over a four month period. Blood samples and nasal swabs were collected from both sows and piglets, along with recordings of clinical examinations, mortality and individual antibiotic treatments. No IAV vaccination program was used in the herds.

Results

The results revealed that IAV was highly prevalent in all herds. Surprisingly, the highest percentage of infected pigs was found in the farrowing unit, despite that the sows were positive for IAV antibodies before farrowing. Three herds presented as endemically infected herds, where circulation of IAV was maintained in all units probably due to the current intensive production system and insufficient internal biosecurity measures. The fourth herd experienced acute infection with a new subtype during the study period, and displayed completely different dynamics and clinical impacts compared to the three endemically infected herds. Another interesting observation was a number of "chronically" IAV infected pigs present in each of the four herds, however with varying prevalence.

Discussion and conclusion

Despite that, the sows were antibody positive prior to farrowing, a high prevalence of IAV were revealed in the farrowing unit, and 98 % of all infected pigs got infected before 8 weeks of age. The findings indicate that sow vaccination programs for controlling IAV infection in piglets may be insufficient in herds with high infection pressure in the farrowing unit and underline the importance of proper diagnostics in individual herds to be able to design an efficient control program for IAV.