

EFFICACY OF AN AUTOGENOUS VACCINE AGAINST *BRACHYSPIRA HYODYSENTERIAE*

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Introduction

Swine Dysentery (SD) results from infection of the large intestine with *Brachyspira hyodysenteriae* (*B.hyodysenteriae*). A commercial vaccine against SD is not available in Europe, but autogenous vaccines may be used. However, there is little scientific evidence for their efficacy.

Materials and Methods

Two consecutive batches of weaned pigs in a herd clinically infected with *B.hyodysenteriae* were enrolled. Within each batch (n=400), half of the pigs were injected intramuscularly at 6 and 9 weeks of age with either the vaccine (V) or physiological saline (PBS). The vaccine consisted of 3 inactivated *B.hyodysenteriae* strains isolated from the herd and aluminum hydroxide as adjuvant. Vaccinated and control pigs were housed in separated units during the finishing period. Pigs were individually weighed at day 0 (first vaccination), day 28 and before slaughter (batch 1: day 122, batch 2: day 129). Blood samples (n = 10 /batch) were taken on day 0 and 28. Fecal samples (n = 24 / batch) were taken on days 42 and 56. Parameters for comparison: average daily gain (ADG), IgG serum antibodies against *B.hyodysenteriae* (ELISA), fecal excretion of *B.hyodysenteriae* (qPCR) and mortality.

Results

ADG for batch 1 was 887 and 877 g, and for batch 2, 693 and 708 g for vaccinated and controls, respectively. The mean ELISA OD-values rose from 0.24 to 0.50 for vaccinated and from 0.20 to 0.38 for controls. Four animals were seropositive (cut-off 0.55): 3 in the vaccinated and 1 in the control group. Overall, *B.hyodysenteriae* DNA was detected in feces of only one vaccinated animal of batch 2. Mortality was 2.25% and 2.75% for vaccinated and controls, respectively. None of the results was statistically significant.

Discussion and Conclusions

In the given circumstances, vaccination with the autogenous *B.hyodysenteriae* vaccine did not lead to significant improvements.