EFFICACY AGAINST A PORCINE PARVOVIRUS INFECTION IN GILTS VACCINATED WITH THE MIXED ADMINISTRATION OF ERYSENG® PARVO AND UNISTRAIN® PRRS

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INTRODUCTION

The aim of this study was to evaluate the efficacy against PPV of the combined administration of ERYSENG® PARVO and UNISTRAIN® PRRS in gilts after a challenge with a pathogenic PPV strain.

MATERIALS AND METHODS

Twenty six-month-old gilts, clinically healthy and free from antibodies against PPV, *E. rhusiopathiae* and PRRSV, were randomly assigned to group 1 (n=12) and group 2 (n=8). Animals in group 1 were vaccinated following the recommended protocol; they were immunised intramuscularly with ERYSENG® PARVO (2 ml/dose, on day 0) and revaccinated three weeks later with the combination of ERYSENG® PARVO and UNISTRAIN® PRRS (2 ml/dose, the freeze-dried tablet of UNISTRAIN® PRRS was reconstituted with ERYSENG® PARVO, on day 21). Revaccination was done four weeks before mating. Animals in group 2 (placebo) received PBS following the same schedule as group 1.

Blood samples were obtained on days 0, 21, 76 and 90 and antibody titres against PPV in serum were determined by the haemagglutination inhibition (HI) assay. Animals in both groups were challenged intravenously and intranasally on day 40 of gestation (day 90 of the study) with a 4 ml $10^{6.1}$ $CCID_{50}$ of a pathogenic PPV strain. All animals were humanely sacrificed to perform necropsy on day on day 90 of gestation (day 140 of the study). The appearance of the foetuses was evaluated and blood samples as well as lung, liver and intestinal tissue were collected for virus detection (by haemagglutination, HA) and antibody detection (by HI). The differences in antibody titres between groups were assessed using the T-test ($p<0.05$) and reproductive parameters were assessed using the chi-square test ($p<0.05$).

RESULTS

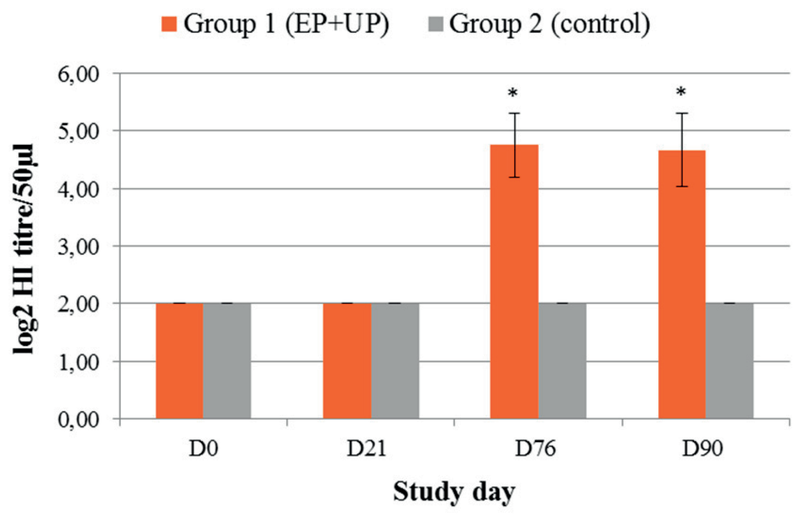

Figure 1. Mean log_2 HI titres against PPV. * Statistically different within the same day (T-test; $p<0.05$).

From day 76 until the end of the trial, the titres of PPV-specific HI antibodies were statistically significantly different between vaccinated and placebo-injected gilts.

	% foetuses normal appearance	Average number piglets / litter	% foetuses infected with PPV
Group 1 (EP+UP)	99.25*	12.00*	0.00*
Group 2 (control)	26.51	3.14	92.77

Figure 2. Appearance of foetuses and PPV detection.
* Statistically different (chi-square test; $p<0.05$).

Regarding the appearance of the foetuses, the percentage of normal foetuses per litter and the number of piglets per litter were 99.25%/12 in the vaccinated group and 26.51%/3.14 in the placebo group, with significant differences ($p<0.05$). Whilst 92.77% of the foetuses in the placebo group were infected by PPV, no infection was detected in any of the foetuses from the vaccinated group ($p<0.05$).

CONCLUSIONS AND DISCUSSION

Vaccination with the combination of ERYSENG® PARVO and UNISTRAIN® PRRS effectively protects animals from transplacental infection caused by PPV.

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