EVALUATION OF AN *ERYSIPELOTHRIX RHUSIOPATHIAE* EXPERIMENTAL 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 of the combined administration of ERYSENG® PARVO and UNISTRAIN® PRRS in gilts against swine erysipelas after a challenge with two different pathogenic swine *E. rhusiopathiae* strains.

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=10) and group 2 (n=10). Animals in group 1 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, on day 21). Animals in group 2 received PBS following the same schedule as group 1.

Blood samples were obtained on days 0, 21, 35 and 41 to compare the humoral immune responses between groups. Serum antibodies to *E. rhusiopathiae* (IgG) were titrated using a commercially available ELISA assay, and titres were compared between groups using an ANOVA test ($p<0.05$). On day 42, both groups were challenged with separate dorsal and intradermal injections of a 106 cfu/dose of pathogenic *E. rhusiopathiae* BRP belonging to serovars 1 and 2, and their body temperature and the diameter of skin erythema at the injection site were recorded until the end of the trial (day 48). Temperatures were compared between groups by means of an ANOVA test ($p<0.05$) and skin lesions were compared using a chi-square test.

RESULTS

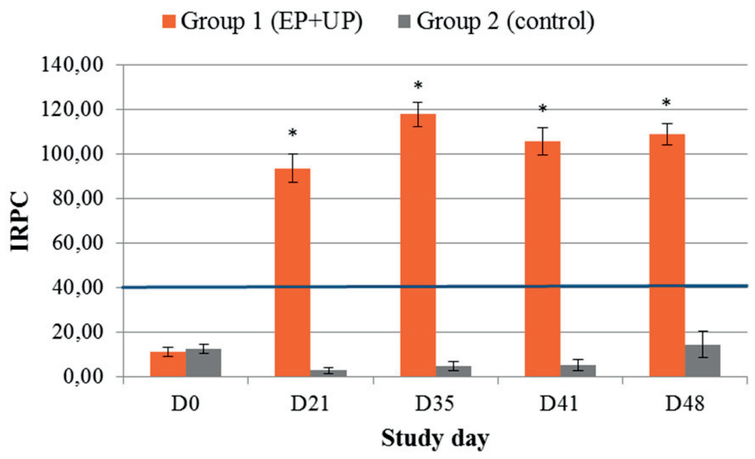

Figure 1. Mean antibody levels against *E. rhusiopathiae*. *Statistically different within the same day (ANOVA test; $p<0.05$).

E. rhusiopathiae-specific ELISA antibody titres in group 1 exceeded the cut-off value (40) from day 21 until the end of the trial. The mean antibody titre from group 1 was statistically significant from day 21 until the end of the trial. No seroconversion was detected in any of the animals in group 2.

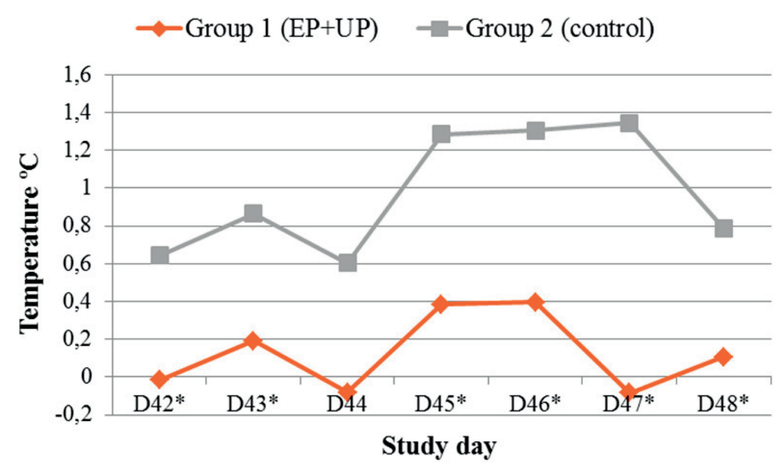

Figure 2. Average increase in body temperature (ºC) post-challenge. *Statistically different within the same day (ANOVA test; $p<0.05$).

On days 42-43 and 45-48 of the study, the mean body temperature results for the animals from group 1 showed statistically significant differences compared to group 2, reaching a peak of 40.21 °C in group 2 (control).

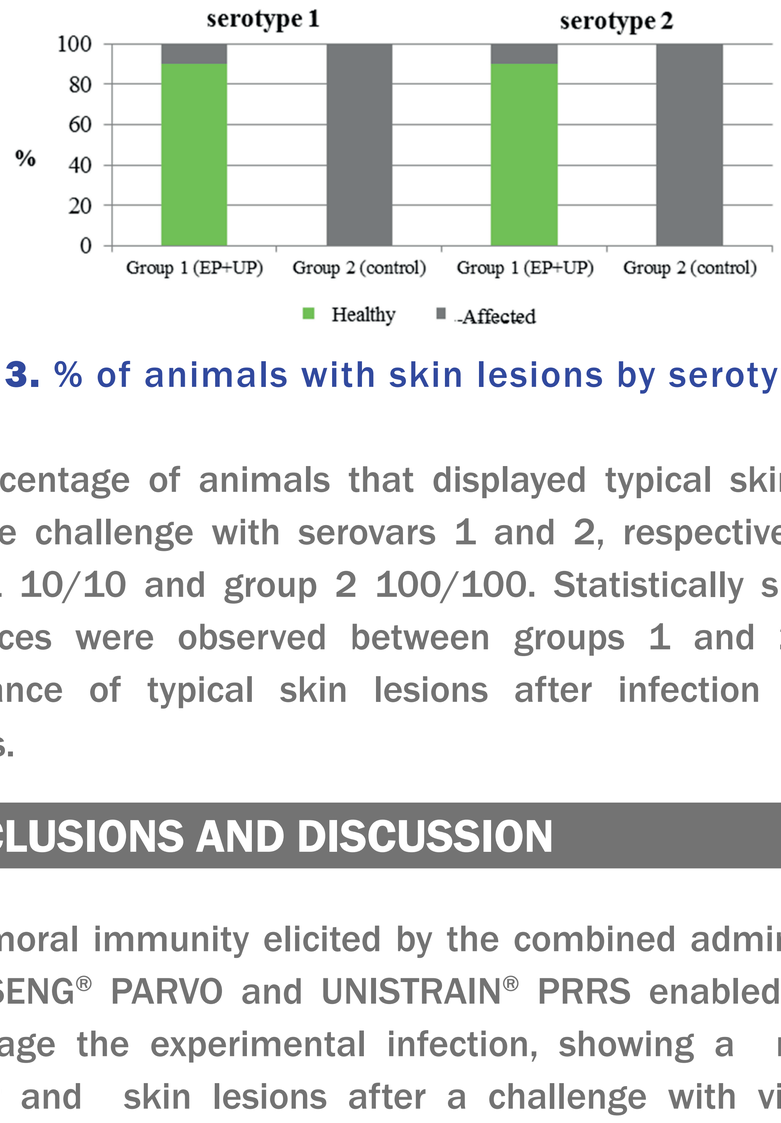

Figure 3. % of animals with skin lesions by serotype.

The percentage of animals that displayed typical skin lesions after the challenge with serovars 1 and 2, respectively, were: group 1 10/10 and group 2 100/100. Statistically significant differences were observed between groups 1 and 2 in the appearance of typical skin lesions after infection for both serovars.

CONCLUSIONS AND DISCUSSION

The humoral immunity elicited by the combined administration of ERYSENG® PARVO and UNISTRAIN® PRRS enabled animals to manage the experimental infection, showing a reduction in fever and skin lesions after a challenge with virulent *E. rhusiopathiae* strains.

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