COMPARATIVE STUDY OF THE SAFETY OF THREE REPRODUCTIVE VACCINES IN GILTS

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INTRODUCTION

Vaccination against Swine Erysipelas (SE), Porcine Parvovirus (PPV) and *Leptospira* infections in sows during lactation is part of the infertility prevention plan on pig breeding farms[1-3]. The safety of reproductive vaccines is a concern, because the risk of post-inoculation side effects during this phase may affect the sow's milk production and consequently, the piglets' performance.

ERYSENG® PARVO is a new vaccine against SE and PPV adjuvanted with HIPRAMUNE® G[d].

The aim of this study was to compare the safety of ERYSENG® PARVO versus two commercial reproductive vaccines against SE, PPV and *Leptospira* in gilts.

MATERIALS AND METHODS

Safety was assessed in 4 groups (G1-G4) of 10 gilts each. G1-G3 were injected intramuscularly with vaccine A (ERYSENG® PARVO), vaccine B or vaccine C, respectively. The vaccines were administered twice (V1 and V2) three weeks apart, following the manufacturer's instructions. The control group (G4) received PBS. Safety was evaluated by recording rectal temperatures (RT) and systemic and local reactions after each shot.

RESULTS

The highest mean RT values were recorded at 6 hours post-vaccination (hpv). They exceeded the physiological range (>40ºC) in G2 and G3, and were significantly higher than G1 and G4 ($p<0.05$). At this point, ≥ 80% of sows in G2 and 100% in G3 showed a substantial increase in RT (>40ºC) after each shot.

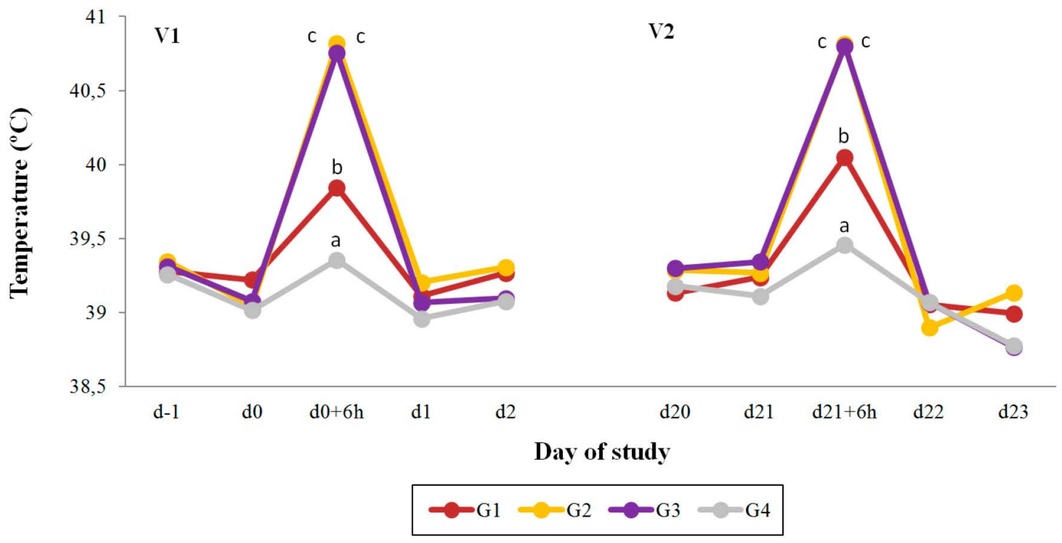

Figure 1. Mean RT (ºC) after V1 and V2. Different superscripts show statistically significant differences (Mann-Whitney U test; $p<0.05$).

Similarly, the rise in RT over the basal RT (pre-V1 and pre-V2) in G2 and G3 at 6 hpv, showed a statistically significant increase compared to G1 and G4 in V1 and V2 ($p<0.05$).

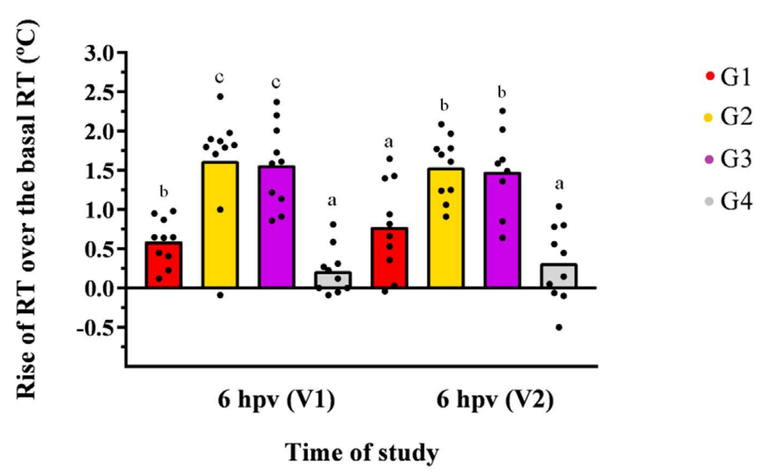

Figure 2. Individual RT (dots) and mean RT (bars) at 6 hpv after V1 and V2. Different superscripts show statistically significant differences (Mann-Whitney U test; $p<0.05$).

As regards local reactions after injection, G3 had a larger number of affected animals (> 80.0%) and longer lasting local reactions (>72 hpv) than G4 ($p<0.05$). No significant differences between G1 and G2 were observed in comparison with G4. Two sows in G3 showed depression at 6 and 24 hpv after the booster (V2).

CONCLUSIONS

This study reveals significant differences between three widely used reproductive vaccines in terms of post-injection side effects under field conditions. The data presented shows the optimum performance obtained with the new vaccine ERYSENG® PARVO, with safer results than its competitors.

Further studies would be required to identify if the causes of these safety differences are due to *Leptospira* antigens and/or the adjuvant of each vaccine.

These differences may be important during the lactation period because they could trigger lower feed intake by the sow, affect the sow's milk production[4] and consequently result in a lower weight gain by the piglets.

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