



WELFARE & NUTRITION

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EFFECTS OF TWO DIFFERENT CIRCOVIRUS TYPE 2 AND *MYCOPLASMA HYOPNEUMONIAE* VACCINE COMBINATIONS ON ACUTE PHASE PROTEINS IN PIGLET

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Introduction

Acute phase proteins (APPs) have been proposed as biomarkers to monitor welfare, and inflammatory response. C-reactive protein (CRP) has recently been postulated as a potential biomarker use for vaccine safety studies and the haptoglobin (Hp) may be an indicator of average daily weight gain (ADWG) in pig farms. The aim of this study was to evaluate the response of piglets to vaccination with two different PCV2 and Mhyo vaccine combinations based on Hp, CRP and rectal temperature.

Materials and Methods

Two groups of 22 piglets (11 males +11 females) were vaccinated, at 21 days old, with CircoFLEX® (1 mL) and MycoFLEX® (1 mL) in a single injection of (A) 2 mL (FLEXcombo®; Boehringer Ingelheim, Spain, SA) or with a single injection (2 mL) of (B) Suvaxyn CIRCO+MH RTU® (Zoetis). The rectal temperature was recorded before and 8h after immunization. Serum Hp and CRP concentrations were determined at 0, 24 and 48 h after vaccination using an automatic biochemical analyzer (Olympus 2700, Germany). A two-ways ANOVA test was performed and a value of $P < 0.05$ was used to indicate significance.

Results

In relation to baseline, HP serum concentrations increased significantly ($P < 0.001$) in both groups A and B at 24h Post-V. Regarding CRP concentrations this increase was observed at 24h and 48h. In contrast, in group B both Hp and CRP concentrations were significantly higher than group A. 8h Post-V, rectal temperatures were significantly higher in the group B (39.18°C) compared to group A (38.40°C).

Conclusion

The results showed that the production of APPs has been higher and more persistent in animals of group B. In addition, this group had higher rectal temperature. Both observations indicate that these animals showed a greater inflammatory response upon vaccination and, therefore, a worse adaptation to weaning. This difference has been observed also in Iberian piglets.