RES-OP-03

CYTOKINE PROFILES IN PERIPHERAL BLOOD MONONUCLEAR CELLS OF PIGLETS BORN FROM *PORCINE CIRCOVIRUS 2* VACCINATED AND NON-VACCINATED SOWS

S. Oliver-Ferrando 1, J. Segales 2, M. Sibila 3, I. Diaz 3.

1 CReSA-IRTA and Ceva, Barcelona, Spain; 2 CReSA-IRTA and UAB, Bellaterra, Spain; 3 CReSA-IRTA, Bellaterra, Spain.

Introduction

The passive transfer of PCV2-specific cells through colostrum to the offspring has hardly been investigated. In consequence, this study was aimed to evaluate the effect of *Porcine circovirus 2* (PCV2) sow vaccination on humoral and cell-mediated immune responses in sows and their progeny.

Material & Methods

At 7 weeks before farrowing, 15 PCV2 PCR negative pregnant sows with medium-low S/P ELISA values were selected and distributed in two groups. Seven sows were vaccinated with a commercial PCV2 vaccine (CircovacR) and 8 were injected with PBS at 6 and 3 weeks before farrowing. Blood samples were taken from sows at farrowing and their offspring at 48-72 hours of life. Presence of PCV2 DNA and antibodies were tested in sera (n=90; 6 piglets per litter). Cytokine (IFN-α, IFN-γ, IL-12p40, TNF-α, IL-1β, IL-8, IL-4, IL-6 and IL-10) levels of 2 piglets per litter (n=30) were assessed in supernatant from cultured peripheral blood mononuclear cells using ProcartaPlex Porcine Cytokine & Chemokine Panel 1 (Affymetrix).

Results

All sows and piglets were negative by PCV2 PCR throughout the study. Significantly higher PCV2 antibody levels were detected in vaccinated sows after vaccination and in their offspring after colostrum intake compared to the non-vaccinated counterparts. Vaccinated sows did not show significant differences in cytokine secretion levels at farrowing compared to unvaccinated dams. In contrast, piglets from vaccinated sows had significantly higher levels of PCV2-specific cytokines linked to Th1 memory cells (IFN-γ and TNF-α) in comparison to the ones from non-vaccinated

dams.

Discussion & Conclusion

PCV2 sow vaccination pre-farrowing, apart from triggering a humoral immune response in sows and antibody transfer to their progeny, might be associated to an increased transfer of cells linked to Th1 memory responses from the dam to the piglet.

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