

No influence of maternal antibodies on piglet serological IgM response to PCV2 vaccination



J. van Helmond¹, M. van der Zanden¹, M. Steenaert²

¹Varkensartsen Zuid, the Netherlands; ²Boehringer Ingelheim Animal Health Netherlands bv



INTRODUCTION

Several field cases in the Netherlands showed varying proportions of PCV2-IgM positive piglets at 3-5 weeks post vaccination (pv) with Ingelvac CircoFLEX[®] (own data). This finding was surprising since vaccination against PCV2 does not consistently induce a seroconversion and IgM is transferred to the offspring via colostrum only at very low levels (4).

Keller (7) described that after Ingelvac CircoFLEX[®] vaccination only 3/20 pigs show positive PCV2-IgM results at 4 weeks pv. Koinig et al. (9) showed positive IgM results in 4/12 piglets at 24 days pv with Ingelvac CircoFLEX[®].

A possible explanation for the variation in serological IgM results after vaccination is the level of maternal antibodies (MDA), as in some studies apparently MDA interferes with the humoral immune response after vaccination (6, 11).

The aim of the study was to have an indication of the percentage of positive IgM results in the first weeks after Ingelvac CircoFLEX[®] vaccination, with regards to high and low MDA, under field conditions.

MATERIALS AND METHODS

In a Dutch farm 26 sows of parity 1 to 3 were tested for PCV2-IgG (Ingenasa) one week after farrowing. Sows were classified according to their PCV2 antibody status: IgG positive (high MDA) and IgG negative (low MDA). In every litter 2 piglets of good condition were included and tested serologically at 2, 4 and 9 weeks of age (woa) for PCV2 IgG and IgM (Ingenasa) and by PCR for PCV2 in pools of 5. All piglets were vaccinated with 1 ml of Ingelvac CircoFLEX[®] (CF) at 2.5 woa. After weaning at 4 woa the piglets were all placed into one nursery room.

RESULTS

Figure 1: IgG results in mother sows and in piglets 2 days (-2) before vaccination CF

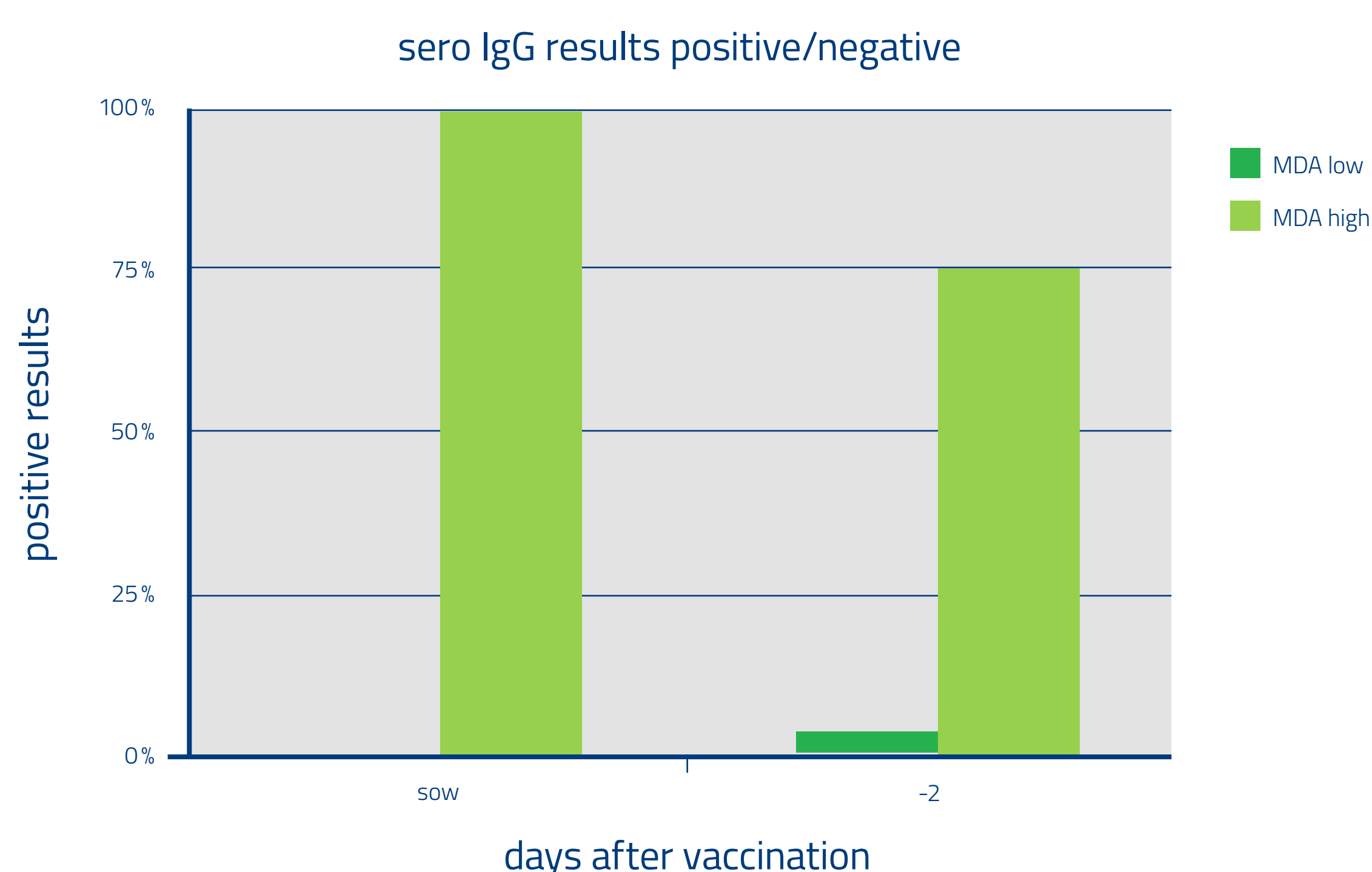
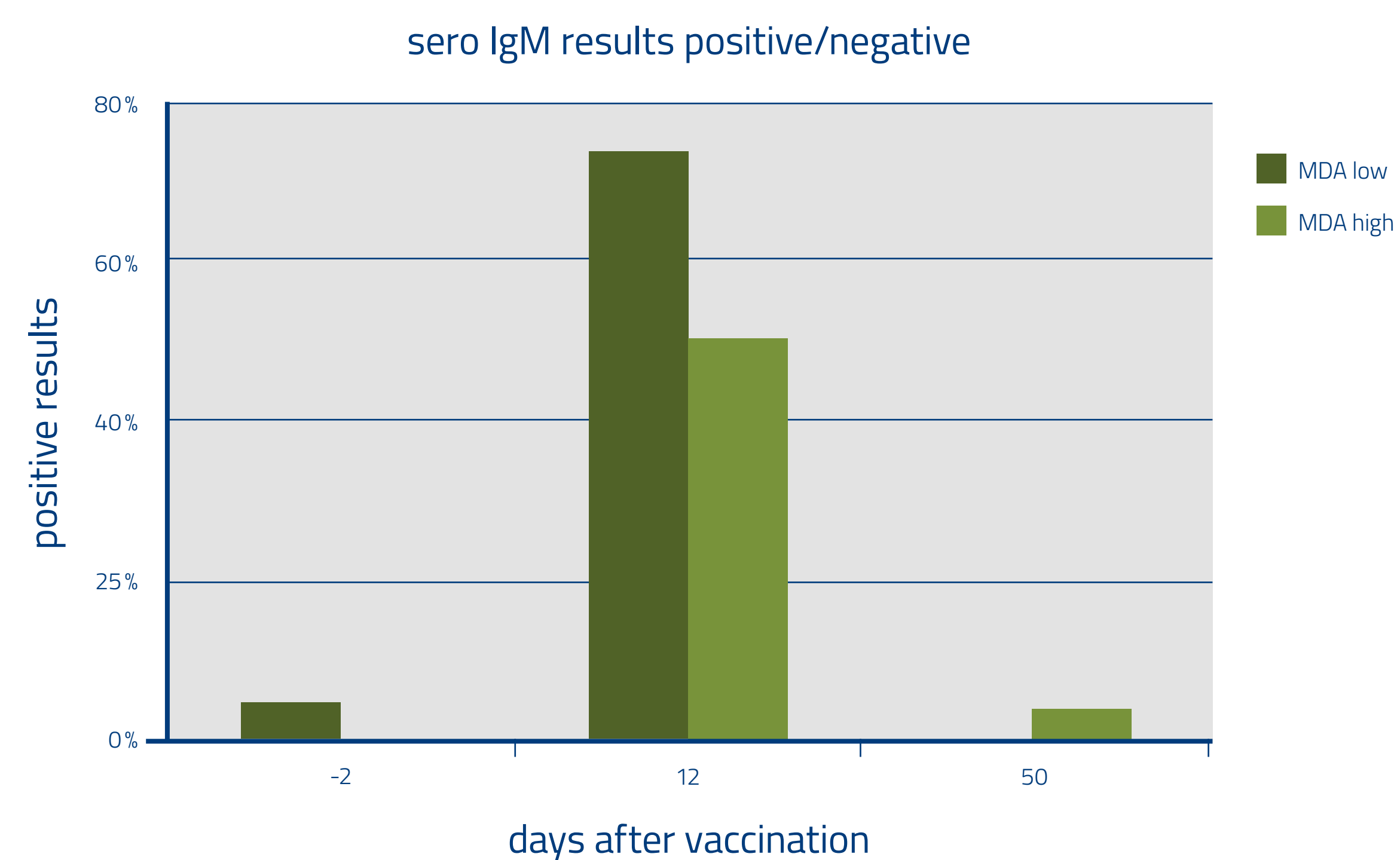


Figure 2: IgM results at different ages; shortly before vaccination CF and after vaccination CF



All samples were tested negative for PCV2 by PCR.

DISCUSSION AND CONCLUSIONS

It has been repeatedly demonstrated that Ingelvac CircoFLEX vaccination is efficacious even in face of high levels of MDA (1, 2, 3, 5, 8, 10, 11). PCV2 serology does not predict the level of protection.

The IgG results of the piglets before vaccination reflect the sow's IgG status (fig.1) without significant levels of IgM in the same piglets (fig.2). After vaccination no difference in IgM response was seen between 'MDA high' and 'MDA low' piglets. (fig.2). This result was seen in both the % of IgM-positive animals results (fig. 2) as well as in the calculated %OD IgM value (data not shown).

In this case we found no influence of level of maternal antibodies on the IgM response following Ingelvac CircoFLEX[®] vaccination.

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