

VACCINATION OF WEEK-OLD PIGLETS AGAINST PORCINE CIRCOVIRUS TYPE 2 (PCV2) DISEASE (PCVD) IN TWO PIG HERDS IN MALAYSIA

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Introduction

The control of PCVD by vaccination of sows using CIRCOVAC[®] has been shown to be highly effective in extensive field trials in Europe (1, 2). The objective of the present study is to determine the efficacy of vaccinating piglets in the first week of life with CIRCOVAC in two pig herds in Malaysia with severe losses due to PCVD.

Materials and Methods

Two farrow-to-finish farms, comprising 450 sows (Farm A) and 1500 sows (Farm B) respectively, with a previous history of PCVD were selected for the study. These farms reported a post-weaning mortality between 50 and 60%. A vaccination program with CIRCOVAC was instituted in sows according to the manufacturer's recommendation. Because of the high mortality, it was decided to vaccinate suckling piglets before the vaccinated sows start to farrow. A total of 25 and 18 litters in Farms A and B respectively were selected and divided into vaccinated and non-vaccinated groups. All piglets in the vaccinated group were vaccinated with CIRCOVAC intramuscularly at 4 to 7 days of age. At weaning, vaccinated and non-vaccinated piglets were reared in separate pens in the same house. Pigs were weaned at about 26 days of age. The study terminated when the pigs were moved out of the nursery i.e. at 47 days and 36 days after weaning in Farms A and B respectively. The body weights of the pigs from each group at the time of weaning and at the end of the study respectively, were recorded.

Results and Discussion

There was little difference in the body weight at weaning between the vaccinated and non-vaccinated piglets. Differences were observable in the pre-weaning and post-weaning mortalities and growth rates of vaccinated pigs as compared with non-vaccinated pigs (Table 1, 2). The reduction in pre- and post-weaning mortalities in both farms is consistent with previous observations that vaccination of sows with CIRCOVAC resulted in improvement in performance in all growth stages (2). In this present study, suckling piglets in the first week of life were vaccinated. The pre- and post-weaning mortalities in both farms even in the vaccinated piglets indicate that even vaccination of piglets in the first week may not be early enough to prevent early infection with PCV2 in a number of litters. Another possible explanation may be a possible interference with the maternally derived antibodies that has already been described in previous works and with other vaccines (3). This lends support to the concept of sow vaccination as a long term control measure for PCVD. Admittedly, these two farms (especially Farm A) also had a high incidence of other diseases notably *Haemophilus parasuis* and Oedema disease that contributed to the high post weaning mortality even in

vaccinated piglets. However, the improvement in all the parameters measured (Tables 1 and 2) indicated that a substantial amount of the mortalities and poor growth rate is due to PCVD. It would be interesting to see if there is an even greater improvement in performance in the progeny of vaccinated sows that are due to farrow.

Table 1: Farm A. Effect of CIRCOVAC vaccination in 4 to 7 day-old pigs on mortality and growth rate birth upto 73 days of age

	CIRCOVAC Vaccinated	Control
No. litters	12	13
No. live/litter	8.7	7.9
No weaned/litter	7.6	6.8
Pre-weaning mortality, %	12.5	14.6
Weaning weight, kg	4.4	4.5
Mortality/ culled, %	34.1%	48.9%
ADWG from wean to end of experiment, g/day	254	194
Mean weight of pigs at end of experiment, kg	16.5	13.7

Table 2: Farm B. Effect of CIRCOVAC vaccination in 4 to 7 day-old pigs on mortality and growth rate birth upto 62 days of age

	CIRCOVAC [®] Vaccinated	Control
No. litters	10	8
No. live/litter	8.6	8.1
No weaned/litter	7.7	6.8
Pre-weaning mortality, %	10.5	15.4
Weaning weight, kg	5.5	5.3
Mortality/ culled, %	13.0%	30.9%
ADWG from wean to end of experiment, g/day	387	232
Mean weight of pigs at end of experiment, kg	19.4	13.9

References

1. Joisel *et al.*, (2007), 5th Intl Symposium of Emerging and Re-emerging diseases, Krakow, 126 and 127
2. Hérin *et al.*, (2007), 5th Intl Symposium of Emerging and Re-emerging diseases, Krakow, 125
3. Roerink E. *et al.*, (2007) 5th Intl Symposium of Emerging and Re-emerging diseases, Krakow, 117

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