

Comparative study of serological response of one-shot and two-shots Swine Influenza vaccines

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INTRODUCTION

Swine Influenza (SI) is one of the most important respiratory diseases in pigs¹. In endemically infected farms, vaccination can play a crucial role in the prevention of the clinical impact of the infection². Humoral response to vaccination is a key factor for developing the clinical protection in front of the infection of SIV³. Currently, inactivated both single and double-dose vaccines are commercially available in the Asian market. In this study, we compared the humoral response of a single-dose commercial SI vaccine in front of a double-dose vaccine (GRIPORK®).

MATERIALS AND METHODS

34 ten weeks old SI seronegative pigs were randomly distributed in 3 groups and vaccinated with either a 1-shot commercial vaccine at day (d) 0 (n=15) or with a 2-shots (GRIPORK®, HIPRA) vaccine at d0 and d21 (n=15). At same time, 4 pigs were kept unvaccinated and used as negative controls.

Humoral immunity was assessed during 55 days trial. Blood samples were taken from all pigs included in the study at d0, d21, d35 and d55. IDEXX influenza A Ab ELISA kit was used to measure vaccine humoral immunity. Percentage of seropositive pigs and average of serological titers (sample/negative control ratio) were compared between groups at different sampling times.

RESULTS

At d35 of the study, 100% of pigs vaccinated with GRIPORK® showed seroconversion and they were still all seropositive at d55. On the other hand, just 6.67% of pigs vaccinated with one-dose vaccine were positive just at d35 (see Table 1). Despite no significant differences were observed on average titer values between groups, a clear increase of titres in GRIPORK® group was observed from d35 (see figure 1).

Table 1. Percentage of positive pigs, IDEXX ELISA kit.

	Day 0	Day 21	Day 35	Day 55
CONTROL	0%	0%	0%	0%
One dose	0%	6.67%	0%	0%
(GRIPORK®)	0%	6.67%	100%	100%

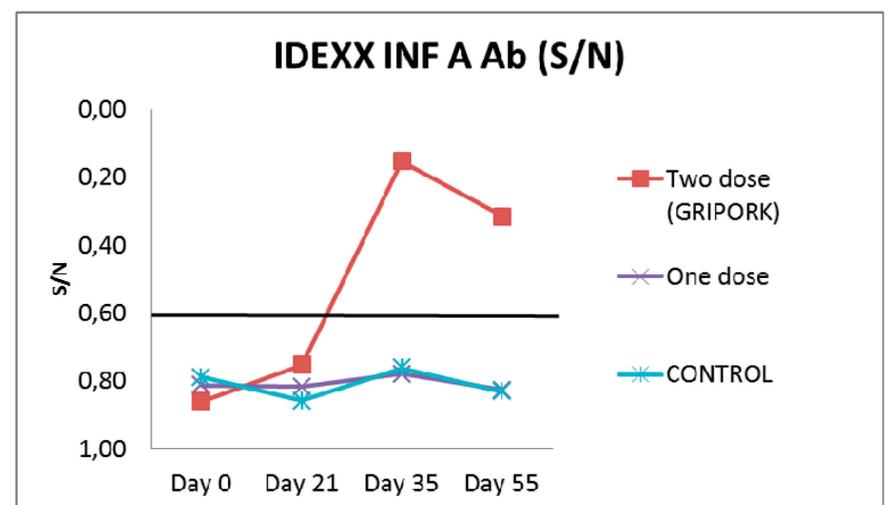


Figure 1. Average IDEXX sample/negative control ratio (S/N). Test cut-off: S/N ≥ 0.6 = negative; S/N < 0.6 = positive

DISCUSSION

These results demonstrated a very poor and short seroconversion in SI seronegative pigs when vaccinated with 1-shot vaccine. Contrarily, 2 shots of GRIPORK® provided strong immunity to all vaccinated pigs from 2 weeks after completed vaccination program. Thus, in endemically infected regions such as Asia, vaccination with GRIPORK® could be a very useful tool for the prevention of SI in endemically infected farms.

REFERENCES

- [1]. Olsen C.W., (2006). Diseases of Swine, 469–482.
- [2, 3]. Matthew R (2015) Vaccines, 3, 22-73



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