

COMPARATIVE SAFETY AND EFFICACY STUDY OF TWO ATROPHIC RHINITIS VACCINES IN GILTS

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INTRODUCTION

The aim of this study was to evaluate and compare the efficacy and safety of two commercially available vaccines for the prevention of atrophic rhinitis (AR) in swine by comparing the serological response and the body temperature increase after vaccination.

RHINISENG[®] is a vaccine for the prevention of progressive and non-progressive AR in swine, which contains HIPRAMUNE[®] G^d as an adjuvant. The other commercial vaccine used in this study is based on dl- α -tocopherol and is only indicated against progressive AR.

MATERIALS AND METHODS

Eighteen eight-month-old gilts, clinically healthy and free from antibodies against *P. multocida* toxin (PMT) were randomly assigned to 3 groups of 6 animals each. Groups 1 and 2 were vaccinated twice intramuscularly 3 weeks apart prior to farrowing under field conditions.

	Vaccine	Dose
	RHINISENG [®]	2ml
	Group 2	2ml
	Group 3	2ml

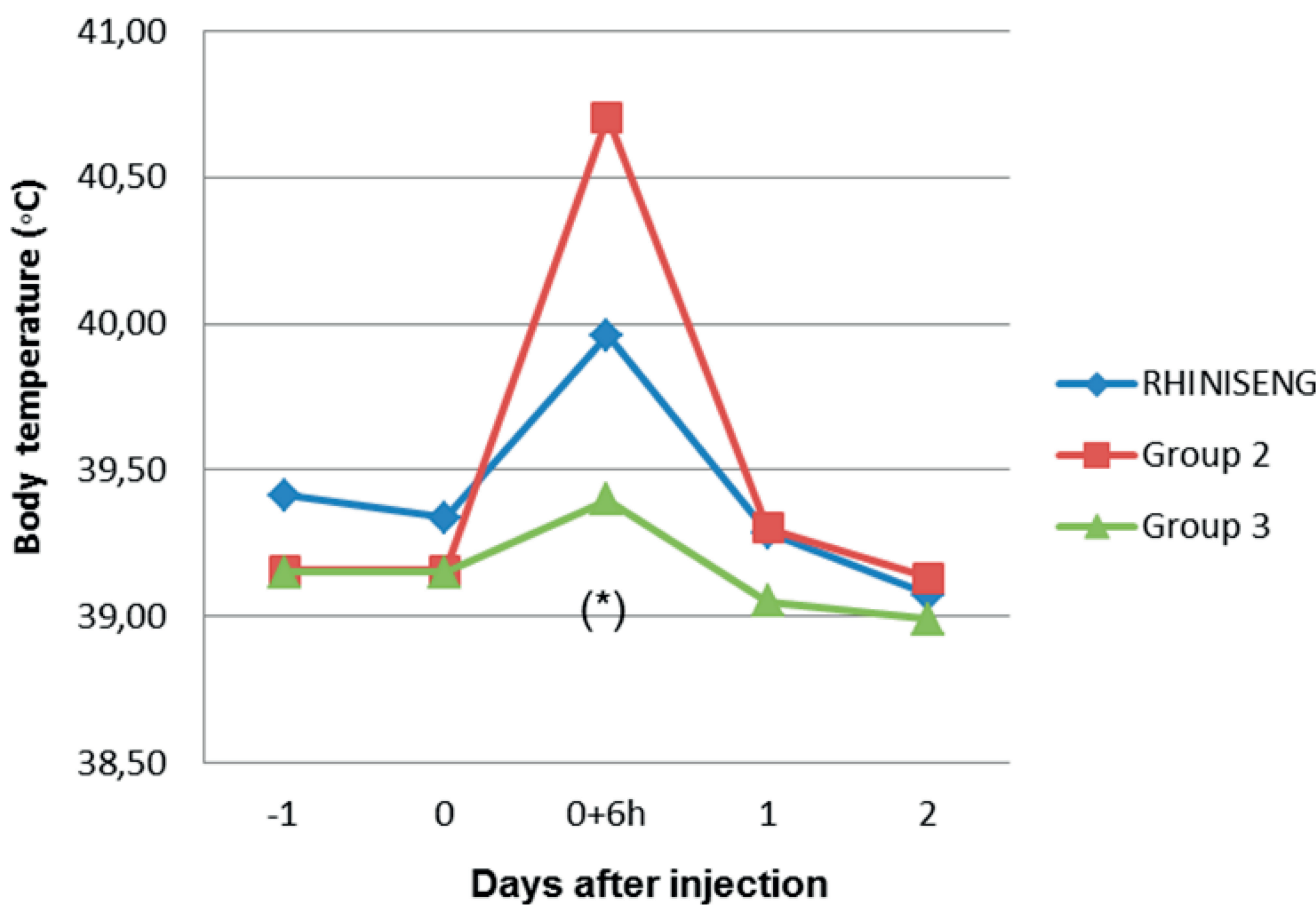
Group 1 was vaccinated with RHINISENG[®] (2 ml/dose per animal) and group 2 was vaccinated with a commercially available vaccine based on dl- α -tocopherol (2 ml/dose per animal). Group 3 received a 2 ml dose of PBS twice as a placebo.

The body temperatures of the gilts were evaluated one day before and at 0, 6, 24 and 48 hours after each injection in the three different groups. Blood was taken on study day 0 (just before vaccination), 21 days later (just before re-vaccination) and on day 42 (just before farrowing). Antibody levels against PMT were quantified with a commercial ELISA (Oxoid). Both variables observed were assessed using ANOVA test ($p < 0.05$).

RESULTS

The body temperatures of the gilts increase from 0 to 6 hours after vaccination in the RHINISENG[®] group was around 0.5°C; group 2 showed an increase of more than 1°C ($p < 0.05$). At 6 hours after injection, significant differences were also detected between group 2 and groups 1 and 3. No significant differences were detected between the RHINISENG[®] group and group 3. Twenty-four hours after vaccination the temperatures returned to the baseline in all groups.

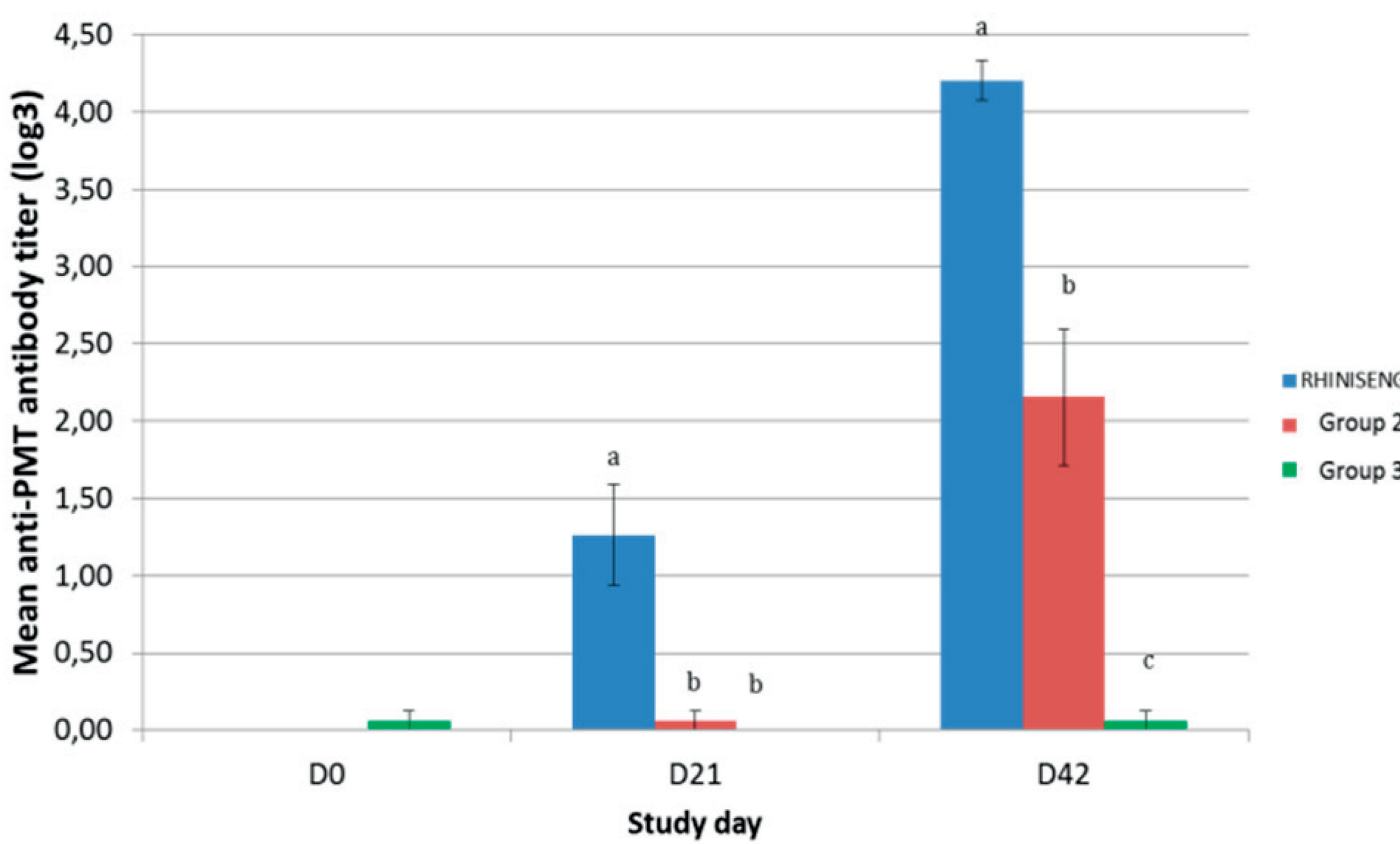
Figure 1. Mean rectal temperature (°C) after vaccinating the animals.



* Indicates statistically significant differences between groups.

The mean anti-PMT antibody titers ($\log_3$) 21 days after vaccination were statistically significantly higher in the RHINISENG[®] group than in groups 2 and 3. Just before farrowing (on day 42), the anti-PMT antibody titers in the RHINISENG[®] group were twice the antibody titers provided by the other commercial vaccine.

Figure 1. Mean $\log_3$ ($\pm$ SEM) anti-PMT antibody titers.



a,b,c Indicates statistically significant differences between groups.

CONCLUSIONS AND DISCUSSION

The results obtained by RHINISENG[®] (group 1) showed a lower body temperature increase and a higher and more homogeneous humoral immune response against PMT after vaccination than the results obtained by its competitor (group 2) under field conditions.



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