

TITLE

EFFICACY OF A NOVEL VACCINE AGAINST PORCINE REPRODUCTIVE AND RESPIRATORY SYNDROME VIRUS (PRRSV) IN NEONATAL PIGLETS

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CONTENT

Background and Objectives: PRRSV is still one of the most important viruses in the global swine industry and is often controlled by the use of modified live virus (MLV) vaccines in sows and piglets. Recently, a novel MLV for active immunization of clinically healthy piglets from the first day of age onwards has been approved in Europe (Suvaxyn® PRRS MLV). The aim of the present study was to test the efficacy of this vaccine against experimental infection with a recent, virulent PRRSV-1 field isolate (PRRSV AUT15-33 or Acro PRRSV) by evaluating lung lesions and weight gain after infection.

Material and Methods: Forty-one piglets, either vaccinated with 2ml Suvaxyn® PRRS MLV intramuscularly or sham-treated on the first day of life, were intranasally infected with PRRSV AUT15-33 at 28 days of age.

Piglets were followed for two weeks after challenge before necropsy was performed. Five different histologic lung lesions (pneumocytic hypertrophy and hyperplasia, septal infiltration with mononuclear cells, necrotic debris, intraalveolar accumulation of inflammatory cells and perivascular accumulation of inflammatory cells) were scored according to their severity and extension within each of the seven lung lobes by a blinded investigator.

Results: Differences between the two groups were statistically significant for all five investigated histologic lesions. Median scores for all five lesions ranged between 12-13 for vaccinated piglets and 29-30 for non-vaccinated pigs. Vaccinated piglets also showed significantly higher average daily gain (ADG) during the two weeks after infection (mean ADG 250 grams) compared to non-vaccinated piglets (mean ADG 170 grams).

Conclusion: A single dose of Suvaxyn® PRRS MLV administered to one-day-old piglets was able to significantly reduce lung lesions and increase ADG after experimental infection with a virulent PRRSV-1 field isolate in comparison to non-vaccinated challenged pigs.