The **Reference** in **Prevention** for **Animal Health**

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EVALUATION OF THE SAFETY AND EFFICACY OF GUMBOHATCH® VACCINE ADMINISTERED IN OVO ON A BELGIAN FARM COMPARED TO AN INTERMEDIATE PLUS DRINKING WATER VACCINE

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INTRODUCTION

GUMBOHATCH® is a new immune-complex vaccine against Infectious bursal disease (IBD) developed by HIPRA (Spain). The present field trial was performed to compare its efficacy and safety with an intermediate plus drinking water vaccine.

MATERIALS AND METHODS

The trial was conducted on a commercial broiler farm with two identical houses. A total of 106,312 chicks were monitored. Birds of one house were vaccinated in ovo (18 days of incubation) in a hatchery with GUMBOHATCH® (n=53,099). Birds of the other house were vaccinated with a commercial intermediate plus drinking water vaccine (n=53,213) as a reference vaccine, following the manufacturer instructions. The vaccination age was based on IBDV titers of day-old chicks. Presence of wild and vaccine strains was determined with the Kylt® IBDV Screening Real-Time RT-PCR detection kit on two pools of 5 Bursa samples per group at 28 and 35 days of age (Poulpharm). Antibody titers at 0, 28 and 35 days of age to IBD virus were determined on 40 blood samples per group with BIOCHEK® IBD ELISA (Poulpharm). Macroscopic bursa lesions and bursa to body weight ratio were evaluated by a blinded veterinarian at necropsies of 16 birds per group at 21, 28 and 35 days of age. Differences in titer to IBD virus and bursa to body weight ratio were studied using linear regression models stratified per day.

RESULTS

No clinical outbreak of IBD occurred in any of the groups. Very virulent IBD virus was detected in birds vaccinated with the reference vaccine but not in birds vaccinated with GUMBOHATCH®. Antibody titers to IBD virus were significantly higher in the GUMBOHATCH® group compared to the reference vaccine group at 28 days of age ($P < 0.01$) and 35 days of age ($P<0.05$; Figure 1A). The Bursa to body weight ratio was similar for both groups. Mild petechiae inside the Bursa were observed in 12.5% of the 48 necropsies in both groups (Figure 1B). Two Bursa's of the reference vaccine group showed abnormal consistency (Figure 1C). The prevalence of macroscopic lesions was the highest at 21 and 28 days of age in the GUMBOHATCH® and reference vaccine group, respectively.

CONCLUSIONS

On the studied farm, GUMBOHATCH® showed superior efficacy compared to an intermediate plus drinking water vaccine as demonstrated by higher titers to IBD virus and absence of wild strains. Safety parameters were similar.

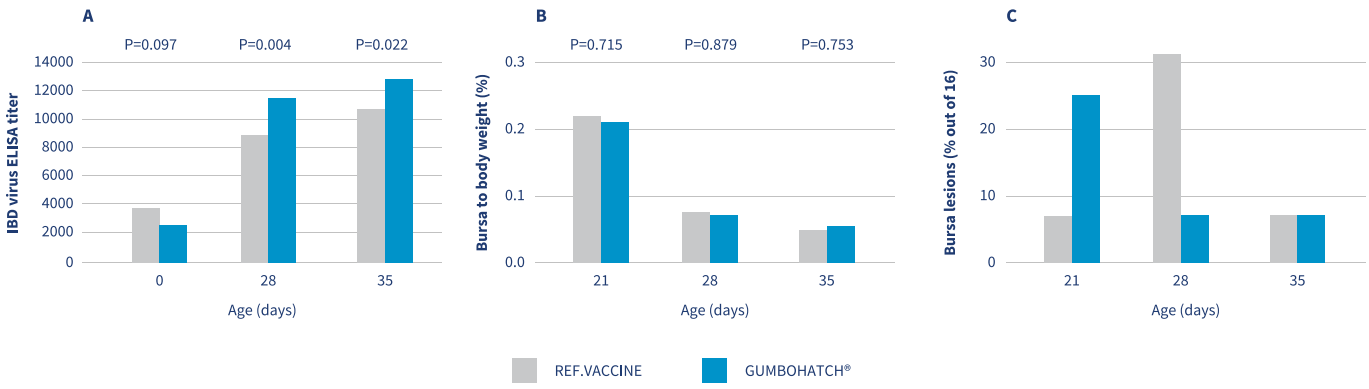

Figure 1. Serological response (A), bursa to body weight (B, least squares means ± 95% confidence interval) and macroscopic Bursa lesions (C) after vaccination with GUMBOHATCH® or a reference vaccine.