

EQUINE SERUM AMYLOID A RESPONSE FOLLOWING VACCINATION AGAINST INFLUENZA AND TETANUS

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Introduction

Serum amyloid A (SAA) is a major acute phase protein in horses reflecting trauma, infection and inflammation by increased serum concentration. The aim of this study was to assess the SAA response after vaccination against equine influenza and tetanus using 2 commercially available equine vaccines.

Materials and Methods

Nine horses from a heterogeneous population (horses and ponies, age 4-22 years) were assigned to one of two vaccination groups after stratification for age and stable. After 5 daily clinical examinations and blood samplings, 4 horses were vaccinated against influenza and tetanus using inactivated (Equip® FT Vet., Schering-Plough, injection volume 2 ml) and 5 horses using live recombinant (ProteqFlu™-Te, Merial, injection volume 1 ml) vaccines. The horses were examined and blood samples obtained 9, 24, 48, 72 and 96 hours after vaccination. Serum was tested for SAA using a human Turbidometric ImmunoAssay (1).

Results

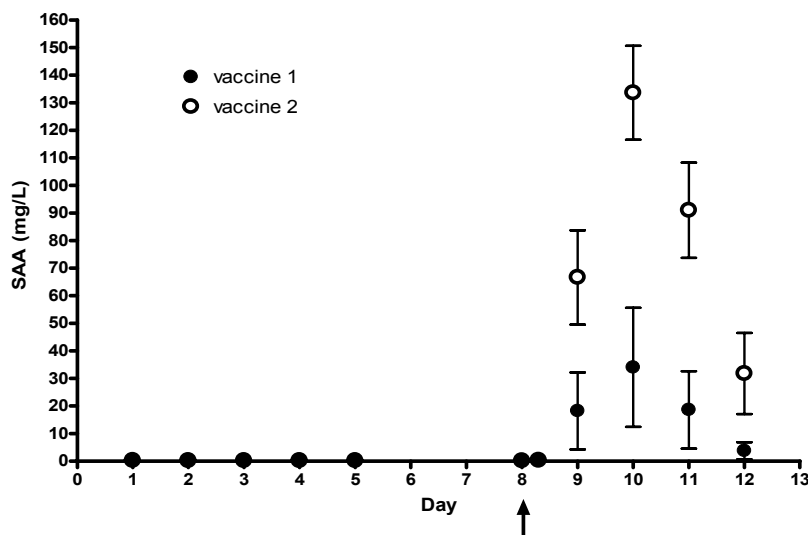


Figure 1. The equine serum SAA response following vaccination against influenza and tetanus using 2 different vaccines, a live recombinant virus vector vaccine (1) and an inactivated ISCOM vaccine (2). The horses were vaccinated on day 8 (black arrow).

Before vaccination, the median serum SAA concentration was 0.2 mg/L (5% quartile 0.0 mg/mL, 95% quartile 0.4 mg/L). All serum SAA concentrations from 24 hours after vaccination were significantly higher than before vaccination ($p < 0.001$) and the serum SAA concentration between the 2 vaccination groups were significantly different ($p = 0.030$). There was no interaction between vaccine type and time after vaccination ($p = 0.10$).

Discussion and Conclusion

The serum SAA concentration in horses increased following vaccination against influenza and tetanus. The increase persisted for 96 hours and the magnitude depended on type of vaccine. The SAA response was higher for the 2 ml inactivated vaccine than for the 1 ml live recombinant vaccine. Differences in adjuvant, injection volume or influenza virus types are some possible reasons for the differences in the response.

Reference

1. Jacobsen S, Kjelgaard-Hansen M, Petersen HH, Jensen AL. Equine serum amyloid A measurements using a commercially available turbidometric immunoassay. 5th Colloquium on Acute Phase Proteins, Dublin, 2005.