Risk Factors for *Streptococcus equi* SeM-Specific Antibody Titers ≥ 1:1600 in an Academic Field Service Population

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Age and breed should be considered when deciding whether or not to measure SeM-specific antibody levels before vaccinating for *Streptococcus equi*. An increased risk of rising titers occurs with each year of age and is associated with being a Warmblood or Thoroughbred. Authors’ addresses: Section of Field Service, Department of Clinical Studies, New Bolton Center, University of Pennsylvania, 382 West Street Road, Kennett Square, PA 19348 (Boyle, Kristula); Section of Epidemiology and Public Health, Department of Clinical Studies, New Bolton Center, University of Pennsylvania, 382 West Street Road, Kennett Square, PA 19348 (Smith); and Section of Medicine, Department of Clinical Studies, New Bolton Center, University of Pennsylvania, 382 West Street Road, Kennett Square, PA 19348 (Sweeney); e-mail: boylea@vet.upenn.edu (Boyle). © 2007 AAEP.

1. Introduction

Purpura hemorrhagica is a life-threatening possible sequela to the *Streptococcus equi* vaccination and may occur more frequently in horses with concurrent high titers. The purpose of this study was to determine the historical markers that had a strong relationship with *S. equi* SeM-specific antibody titers ≥ 1:1600.

2. Materials and Methods

Single samples for *S. equi* SeM-specific antibody enzyme-linked immunosorbent assay (ELISA) were obtained from 99 horses without strangles vaccinations and 90 horses with attenuated live intranasal *S. equi* vaccinations in the New Bolton Center Field Service population. Known exposure history to strangles, strangles history in the patient, and strangles disease history of the farm were obtained for ≥ 3 yr. Multivariate logistic regression analysis of the data was performed.

3. Results

For unvaccinated horses, the odds of having a titer ≥ 1:1600 were increased 1.06 times for every 1 yr of age. For vaccinated horses, the odds of having a titer ≥ 1:1600 were increased 1.1 times for every 1 yr of age. For unvaccinated horses, the odds of having a titer ≥ 1:1600 were 3.69 times greater for Warmblood and Thoroughbred horses than for all other breeds. For vaccinated horses, the odds of having a titer ≥ 1:1600 were 5.99 times greater for Warmblood and Thoroughbred horses than for all other breeds.
4. Discussion

Both age and breed should be considered when determining whether or not a *S. equi* SeM ELISA should be obtained before vaccination.

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