Comparison of Single Versus Boosted Vaccine Protocols for a Modified Live and Killed Virus Vaccine in Inducing Serologic Response Against Equine Influenza in Performance Horses of Different Ages

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Vaccine combinations including boosted intranasal modified live virus vaccines and intramuscular killed vaccines may be used to induce greater serologic response and may provide greater protection against equine influenza. Authors’ addresses: 15881 Toro Hills Avenue, Salinas, California 93908 (McCormick); University of Arizona, Department of Veterinary Science and Microbiology, 1117 E. Lowell, Tucson, Arizona 85721 (Collins); Intervet Inc., 405 State Street, PO Box 318, Millsboro, Delaware 19966-0318 (Barnett); and Gluck Equine Research Center, Department of Veterinary Science, University of Kentucky, Lexington, Kentucky 40546-0099 (Holland, Chambers, Tudor); e-mail: jlazysix@gmail.com. © 2009 AAEP.

1. Introduction
This field study examined the serological responsiveness and clinical efficacy of an intranasal modified live virus (MLV) and an IM killed virus (EIV) among different age groups of performance horses (racing and show).

2. Materials and Methods
Three hundred horses divided into six groups were primed with an IM killed EIV or an intranasal MLV vaccine. At day 30, horses were boosted: IM-IM, IM-Intranasal (IN), IN-IN, IN-IM vaccines. Two groups of horses were not boosted. Hemagglutination (HI) titers to EIV Kentucky 93 and clinical signs of disease were recorded at days 14, 0, 30, 60, 90, 120, and 150.

3. Results
All vaccinated horses exhibited a measurable increase in antibody titers after day 30 prime and up to day 120. At days 60 and 120, titers in the IM-IM were significantly higher than those in the IM prime group. At day 60 and 120, IN-IN titers were higher than IN prime. No vaccinated horses displayed clinical signs severe enough to warrant medical support during the first 5 mo of the study.
4. Discussion

Results of this study showed a significant serological benefit to using multiple influenza vaccination practices. Serologic responses varied between groups receiving one vaccine and those vaccinated and boosted. Intranasal and IM groups showed a comparable response. Despite the difference in HI titers, clinical disease was not prevalent in vaccinated horses.

Footnotes

aIntranasal modified live virus, Intervet Inc., Millsboro, DE 19966-0381.
bIntramuscular killed virus, Intervet Inc., Millsboro, DE 19966-0381.