Prevention of Equine Herpes Myeloencephalopathy by Vaccination: A Pilot Study

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Immunization of horses with a high-antigen vaccine for equine herpes virus 1 decreased the clinical signs of equine herpes myeloencephalopathy, although the differences were not statistically significant. More definitive study of the ability of equine herpes virus 1 vaccination to protect horses from equine herpes myeloencephalopathy is warranted. Authors’ addresses: Departments of Physiological Sciences, 264 McIlroy Hall (Maxwell, McFarlane), veterinary clinical sciences, room 0026 BVMTH (Gilliam, Holbrook), veterinary pathobiology, 250 McIlroy Hall (Eberle, Snider), and Oklahoma animal disease diagnostic laboratory (Rezabek), Center for veterinary health sciences, Oklahoma State University, Stillwater, OK 74078; e-mail: lk.maxwell@okstate.edu. *Corresponding and presenting author. © 2013 AAEP.

1. Introduction
The neuropathogenic form of equine herpes virus 1 (EHV-1) has become an increasingly important problem for the equine industry. The ability of vaccination to protect horses from equine herpes myeloencephalopathy is currently unknown because the disease has occurred even in well-vaccinated horses.

2. Materials and Methods
Twelve aged mares (>20 years old) were randomized to either saline control or vaccination groups. Three intramuscular injections with a high antigen vaccinea were administered at monthly intervals, followed by inoculation with a neuropathogenic strain of EHV-1. Ataxia scores, rectal temperatures, and clinical scores were determined.

3. Results
Control horses had more severe neurological signs, with five of six control horses versus one of six vaccinated horses progressing to at least a two-grade change in ataxia (P = 0.08). Mean body temperature was lower during the biphasic fevers occurring on days 2 and 5 in vaccinates (P = 0.1). The median clinical score was also 20% lower in vaccinates as compared with control horses (P = 0.3).
4. Discussion

Immunization of horses with a high-antigen EHV-1 vaccine decreased clinical signs of infection when challenged with a neuropathogenic strain of EHV-1, although differences were not statistically significant. A larger number of horses would be needed for conclusive evidence of the ability of vaccination to protect horses from equine herpes myeloencephalopathy. However, the present pilot study provides justification for a more extensive and definitive study.

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Footnote

“Pneumabort-K®, Zoetis Animal Health, Kalamazoo, MI 49007.”