Prevalence of Gastric Ulcers in Elite, Heavy Use Western Performance Horses

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The rate and severity of gastric ulceration in elite, heavy use western performance horses is lower than expected based on the extent of travel, training days, numbers of events in which each horse performed, and rates previously presented regarding other breeds and uses. In fact, the rate of gastric ulceration in this study (40%) compares to horses not in training or use (36%). However, in horses with an owner clinical complaint, the rate of ulcers increased to 88%. Author’s Address: 8315 Elk Ridge Lane, Middleton, ID 83644. © 2000 AAEP.

1. Introduction
Awareness of gastric ulcer syndrome in horses has been greatly enhanced in recent years by the availability of adequate length endoscopes to thoroughly examine the adult equine stomach. These developments have facilitated prevalence studies of gastric ulceration in horses conducted primarily in Thoroughbred racehorses. Comprehensive studies of Thoroughbred racehorses identified that 66 to 93% of horses in active training had gastric ulcers.1–5 A study of active show horses indicated that the rate was lower.6

It can be postulated that high-level western performance horses are exposed to a greater intensity of stressors, speculated to be associated with gastric ulcer disease, than Thoroughbred racehorses. It is safe to assume that elite western performance horses are transported more frequently and for longer distances and are used with greater frequency. In general, many of these horses travel from one event to the next throughout the rodeo season, essentially living out of their trailers. There are no data available that address the prevalence of gastric ulceration in elite, heavily used, western performance horses.

2. Study Objective
The objective of this study was to identify the prevalence of gastric ulceration in western performance horses under heavy use.

3. Materials and Methods
Test Animals
One hundred fifty-six 3-year-old, or older, horses engaged in active western performance under heavy use were included in this study. Heavy use was defined as a minimum participation in 6 western performance events and a minimum of 300 miles of travel over the last 28 days before endoscopic examination. Horses were included if the horse riders and/or owners were members of the Professional Rodeo Cowboy Association, Idaho Cowboy Association, Snake River Team Penning Association, Idaho Girls Rodeo Association, Gem State Rodeo Associa-
tion, National Barrel Horse Association, United States Team Roping Corporation, Idaho Reined Cow Horse Association, National Cutting Horse Association, Idaho Cutting Horse Association, National Intercollegiate Rodeo Association, Team Penning Association, National Reining Horse Association, or other organizations that were indicative of the level of performance expected of these horses. Sex and breed were documented, but not used as entrance criteria.

Procedures
A clinical history of the previous 3 months, including medication, travel, event participation, transportation, and dietary information, was gathered prior to examination. Each horse underwent a routine physical examination. The entered horses were examined for the presence of gastric ulcers using a 330 cm video endoscope. Prior to the procedure, the horses were fasted for 6 to 12 hr and water was withheld for 2 hr. They were sedated with xylazine (0.5 to 1 mg/kg) and physically restrained (lip twitch) for the endoscopic examination.

Gastric lesions were recorded and described according to location and severity using the system indicated in Table 1 and used in other published information. Twenty-five horses with gastric ulceration and an owner complaint were medicated with omeprazole (4 mg/kg, q 24 h for 28 d) if there was an owner complaint prior to examination, and gastric lesions were identified. These horses were then evaluated at the end of the treatment period.

Management
There was no attempt to control the environment. Management practices were captured for the purposes of description. All animals were handled with due regard for their welfare.

Statistics
Descriptive statistical analysis was completed.

4. Results
One hundred fifty-six horses entered the study and were evaluated. There were 85 geldings (54%), 61 mares (39%), and 10 stallions (6%). One hundred fifteen horses had no complaint prior to treatment (73%). Owners of 41 horses had apparently minor complaints prior to evaluation (23%). Of these, 36 also had gastric ulceration (88% of horses with complaints). There were 5 horses (12% of horses with complaints) with complaints that did not have gastric ulceration. Complaints in horses with gastric ulcers included 1) loss of, or inadequate, energy (n = 13); 2) stretches often to urinate (n = 7); 3) poor weight maintenance (n = 8); and 4) loss of attention in competition (n = 5). The average ulcer score was 2.3 ± 0.2. All horses medicated with omeprazole had complete resolution of evident gastric lesions at the end of the evaluation period. In addition, the owners indicated that...
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5. Discussion
The rate and severity of gastric ulceration is lower than expected based on the extent of travel, training days, numbers of events in which each horse performed, and rates previously presented regarding other breeds and uses.1−6 Clearly, the rate of ulceration in this study more closely resembles the rate in active show horses (58%).4 In fact, the rate of gastric ulceration in this study (40%) is closer to horses not in training or use (36%).3 There are several possibilities. Firstly, there may be a breed difference since other studies with high performance horses dealt with Thoroughbred and Standardbred stock. Secondly, age differences may be an issue. These horses were younger than horses in other studies with higher prevalence rates.1−4 Thirdly, levels and intensity of performance, travel and other management factors may have no effect on the rate of gastric ulcers. Fourthly, horses intended to perform in these high intensity western events that developed gastric ulcer syndrome and the associated clinical signs were culled prior to reaching this level of competition. Fifthly, there are significant feeding differences between these horses (alfalfa hay as the major roughage source) and what is found in typical racehorse management situations (grass hay, pelleted diets, high concentrate rations, etc.). Other theories can easily be postulated.

Thirty-six of 62 horses (58%) with gastric ulcers and 5 of 100 horses (8%) without gastric ulcers had a client complaint at presentation. In another study, 93% of horses with gastric ulcers had obscure clinical signs, while 52% of horses with obscure clinical signs did not have gastric ulceration. This would imply that a non-specific client complaint is highly indicative of gastric ulceration. In fact, all owners of horses with gastric ulcers that were medicated with omeprazole indicated that the pretreatment complaint resolved (n = 25). Clearly, the likelihood for bias under these circumstances is great and this conclusion should be interpreted cautiously.

This project was sponsored by Merial Animal Health, Inc. Technical support provided by Billi Mingo, Kelly Dobson, and Andrea Baumert.

References and Footnotes

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References and Footnotes


*Equine Gastroscope, Scope Source, Miami Springs, FL.

aTranquived, Vedco, Inc., St. Joseph, MO.

AG-EP50 Color Video Printer and MPS50 Ink Cassette/Paper Set, Panasonic, Osaka, Japan.

Gastrogard™, Iselin, New Jersey.