Treating equine gastric ulcer syndrome

By Jessica Kushnir

Introduction

Multiple endoscopic studies have revealed that 80-90% of racehorses in training and up to 60% of other performance horses have gastric ulcers (Murray, 2001b). Causes of these ulcers have largely been blamed on the unnatural periods of fasting that stabled horses undergo. Indeed, horses turned out onto pasture full-time typically have no gastric lesions (Murray, 2001a). Gastric ulcers have been associated with gastrointestinal disease, poor performance (Nieto et al., 2002) and low-grade abdominal discomfort (Murray, 2001b). Much of the research being conducted into equine gastric ulcer syndrome (EGUS) has focused on the treatment rather than the prevention of gastric ulcers, due to the traditional belief of many racehorse trainers that constant access to roughage will slow their horses down (Newby, 2001).

Discussion

Primary objectives in the treatment of EGUS are to relieve clinical signs and facilitate lesion healing. This is best achieved by suppressing acid secretion within the stomach. This can be accomplished by the use of antacids, histamine receptor type 2 (H2) antagonists or proton pump inhibitors (Murray, 2001c).

Several recent studies have been conducted in the United States into the use of omeprazole in the treatment of EGUS based on its effectiveness in the treatment of gastric ulcers in humans. The first study placed 500 thoroughbreds in active training on a course of omeprazole paste at a dose of 4 mg/kg PO daily. All horses involved were assessed endoscopically prior to the commencement of treatment. Endoscopic examination consisted of a 3-metre endoscope, used to visually diagnose gastric ulcerations. Horses were sedated and lightly restrained for the examination. Only those with mucosal erosions were included in the trial. Feeding, management and training practices were kept consistent throughout the course of the trial. After a 28-day treatment period, 94% of horses showed a favourable response to treatment and, of these, 63% were completely healed (Johnson et al., 2001). In addition, trainers noted that following initiation of treatment, horses showed improved attitude, appetite, body condition and performance. As no side effects were observed in any treated horse, researchers concluded that omeprazole was a safe and effective anti-ulcer therapy.

The promising results obtained by the use of omeprazole led another group of researchers to compare the effects of omeprazole on EGUS when given as a paste or as a compounded suspension. In a randomised controlled trial, 32 actively training thoroughbred racehorses with gastric ulcers were assigned to 1 of 2 groups based on endoscopic ulcer severity score (Nieto et al., 2002). Group-1 horses were treated with omeprazole suspension for 30 days and with omeprazole paste for an additional 30 days. Group-2 horses were treated with omeprazole paste for 30 days and omeprazole suspension for an additional 30 days. In all instances, omeprazole was administered once a day at a dose of 4 mg/kg PO. All horses were fed and watered in a similar manner. On days 30 and 60, ulcer severity score was again assessed endoscopically. On day 30, ulcer severity was significantly decreased in group-2 but not in group-1. On day 60, group-1 horses showed a significant decrease in gastric ulcers compared with assessments made on day 0 and 30. In group-2 horses, ulcer severity on day 60 was significantly lower than the day 0 score but was not significantly different from the day 30 score. Researchers concluded that the omeprazole paste formulation was effective in promoting healing in EGUS, however the administration of the compounded omeprazole suspension was ineffective. While the true reason for the different results obtained between the two treatment groups was not determined in the study, a possible cause was thought to lie in that the paste vehicle provided omeprazole with some protection from intragastric degradation that the suspension vehicle did not.

The third study reported on a range of treatments available for gastric ulcers in horses (Murray, 2001c). The aim of the study was not to find a preferred treatment, but instead give a broad overview of drugs available, including effects and dosage levels. The use of antacids was shown to be effective in reducing gastric acidity, but only for 30 to 60 minutes unless volumes larger than 240 mls were used. Treatment with H2 antagonists such as cimetidine and ranitidine were successful in inhibiting gastric acid secretion and healing gastric lesions. However, this form of treatment was only successful when accompanied by a break in training. Ranitidine was found to be most effective when given every 8 hours at a dose of 6.6 mg/kg PO. While effective doses for cimetidine had not been critically evaluated, the author recommended 20 to 25 mg/kg PO every 6 hours. Therapy for H2 antagonists needed to be continued for at least 21 days to ensure complete healing. Proton pump inhibitors such as omeprazole, pantoprazole, and lansoprazole inhibit the parietal cell H+,K+-ATPase, thus blocking gastric acid secretion. Omeprazole was found to be effective at a dose of 4 mg/kg once daily, PO.

All three studies were consistent in their findings that omeprazole given at a dose of 4 mg/kg PO daily was effective in reducing gastric acid secretion, thereby facilitating lesion healing. No side effects were found in these studies.

Conclusion

The best solution to this problem lies in educating trainers on better feeding practices, however acknowledging there is a problem with associated welfare implications has only recently been determined. As some trainers will undoubtedly remain steadfast in their ways there must be an effective treatment plan available which is both easy to administer and cost-effective. Recent studies such as those previously mentioned have shown promising results in bringing relief to horses with gastric ulcers. Further research needs to be conducted into this area, not only in finding new treatments for EGUS but also for implications of long-term drug use in controlling ulcers. Welfare issues could be further improved in finding a less invasive procedure for detecting gastric ulcers than the current use of a 3-metre endoscope.

References

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