

# THE EFFECTIVENESS OF ONCE DAILY ULCERGUARD® (RANITIDINE) ADMINISTRATION FOR THE TREATMENT OF EQUINE GASTRIC ULCER SYNDROME (EGUS)

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Gastric ulceration has been recognized as a common, performance-limiting ailment of racing horses and due to its complicated and multifactorial nature, the term Equine Gastric Ulcer Syndrome (EGUS) has been used to describe the disease. Equine Gastric Ulcer Syndrome has been reported to effect between 58-100% of adult Thoroughbred and Standardbred horses in training (Ferrucci *et al*, 2003; Bell *et al*, 2007; Begg and O'Sullivan, 2003), with 75-80% of lesions being found in the squamous portion of the stomach, particularly along the margo plicatus. Gastric ulceration is also a highly prevalent disorder in foals (Murray *et al*, 1990) and non-performance adult horses (Murray *et al*, 1989), whereby clinical signs may or may not be present and are often non-specific, including loss of appetite, weight loss/poor body condition, poorly formed faeces, dull coat and stereotypies such as wind-sucking.

The equine gastric squamous epithelial mucosa is highly susceptible to peptic injury, because it has minimal intrinsic mucosal protective mechanisms and is frequently exposed to a highly acidic environment (Murray, 1990). Histamine H<sub>2</sub> receptor antagonists such as ranitidine, inhibit hydrochloric acid secretion by competing with histamine for receptor sites on the parietal cell (Kitchen, 1998).

This study has examined the effectiveness of once daily Ulcerguard® (ranitidine) administration of the resolution of gastric ulcers and improvement of clinical signs associated with gastric ulceration in Thoroughbred racehorses. A total of 50 Thoroughbred horses (mean age=3.8 years) participated in this study, whereby horses were assessed via gastroscopy on Day 0 and objectively graded for gastric ulceration scores/sites of ulceration and subjectively assessed for clinical/sub-clinical signs of gastric ulceration. All feed was withheld for a minimum of 12 hours prior to gastroscopy and hay access restricted during this time period. All horses participated in morning work prior to gastroscopy and were manually restrained with a lip twitch and sedated with 0.5mL Calmant® IV (detomidine hydrochloride) for the procedure. Horses were administered 30mL Ulcerguard® (ranitidine 295.5mg/mL) once daily for 14 consecutive days and re-assessed with a repeat of the aforementioned procedures on Day 14. During the trial period, horses were fed standard full racing grain based diets and worked as per normal.

Gastric lesions were scored on a scale of 0-5, with 0 being a normal stomach and 5 being the worst severity of gastric lesion. In concordance with previous research, the highest prevalence of lesions (94%) occurred along the margo plicatus and an ulcer lesion score of (3) was assigned as the average lesion severity score. Between Day 0 and Day 14, 42 horses (84%) were followed through time to Day 14 of treatment and of these, 38 horses (90.5%) were found to be free of clinical signs. Additionally, an ulcer lesion score of (1) was assigned as the average lesion severity score, indicating an average improvement of two lesion grades over the 14 day treatment period.

In conclusion, 90.5% of horses which had exhibited clinical signs at Day 0 no longer exhibited clinical signs at Day 14 of treatment and an average improvement of two ulcer severity grades was experienced over the 14 day treatment phase. Furthermore, 7/42 (17%) of horses were followed through to Day 38 of treatment whereby all horses had resolution of clinical signs and 6/7 (86%) presented with an ulcer severity grade of zero. It is therefore concluded that once daily administration of Ulcerguard® for 14 days results in significant improvement in ulcer severity.

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