

## **A Pain in the Gut-Gastric Ulcers**

By Chrissy Wimer, DVM, MS

Gastric ulcers are highly prevalent in equine athletes of all ages, breeds, and disciplines. As with other equine diseases anatomy plays a role. Horse's stomachs consist of two distinct areas. The upper one-third is the non-glandular portion and has an epithelial lining that provides poor protection from acid. The remainder is the glandular portion. It secretes hydrochloric acid (HCl), which aids in digestion, and it also secretes mucus and bicarbonate that provide protection from acid. Horses are grazers, so HCl is continuously secreted into the stomach and neutralized by a steady supply of roughage and saliva. Acid exposure is thought to be the primary cause of gastric ulceration. Most ulcers (80 percent) occur in the non-glandular portion of the stomach, but may also occur in the terminal esophagus, glandular portion, or duodenum (small intestine).

Risk factors for gastric ulcers include intermittent feeding schedules, high grain diets, high levels of training and competition, stress, and treatment with non-steroidal anti-inflammatory drugs. Intermittent feeding causes gastric pH to drop and secondary exposure of the non-glandular mucosa to acid. Low-roughage, high hydrolyzable carbohydrate diets (grain) lead to gastric fermentation, and fermentation products act with the HCL to cause damage. Stress induces release of endogenous cortisol (steroid) that breaks down the protective barriers produced by the gastric lining. Nonsteroidal anti-inflammatory drugs such as phenylbutazone (Bute) and Flunixin Meglumine (Banamine) reduce blood flow to the stomach lining and reduce secretion of the protective mucous/bicarbonate barrier.

Clinical signs of gastric ulcers include signs of mild colic, picky eating, intermittent anorexia, weight loss, attitude changes, depression, diarrhea, poor hair coat, and poor performance. In a recent study gastric ulcers were

identified in 88 to 92 percent of horses with a history of the above clinical signs.

Diagnostics for gastric ulcers may include history, physical examination, and a variety of tests. However, the only definitive diagnosis of gastric ulcers is made via gastroscopy. With this procedure, the gastric lining is examined visually with a video endoscope (camera) that is passed up the horse's nostril, down the esophagus and into the stomach. While this procedure requires specialized equipment, it is quick and painless. Treatment can be costly and prolonged so definitive diagnosis is recommended prior to instituting therapy.

The goal of treatment is to reduce any contributing risk factors, and increase the gastric pH above 4 to prevent further damage and allow healing. Omeprazole (Gastrogard) is a once daily oral treatment that reduces HCl secretion in the stomach for 24 hours. Although Omeprazole is the most effective treatment, full resolution usually takes 28 days. Other treatments are available but they require more frequent administration and more prolonged therapy.

Management changes for both treatment and prevention should be aimed at reducing stress and providing a more natural diet. Allow grazing on good quality pasture when possible. If not possible, horses should have hay fed at least every 5 to 6 hours to prevent stomach pH from dropping dangerously low. Grains and concentrates should be fed sparingly. Feeding alfalfa hay may be beneficial. Limit NSAID use whenever possible. Consider prophylactic ulcer treatment when these management measures cannot be adhered to. Monitor your horse closely and if you see signs consistent with gastric ulcers a gastroscopy may be indicated and you should contact your veterinarian.

Contact Brandon Equine Medical Center at 813-643-7177 or email [info@brandonequine.com](mailto:info@brandonequine.com) with any questions regarding this topic.

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