

Equine Gastric Ulcers: What Horse Owners Should Know

In the past 10-15 years, it has become clear how common gastric (stomach) ulcers are in trained horses and in the general horse population. This problem has a huge impact on the horse industry. The development and more widespread use of the 3-meter endoscope over this time has given veterinarians a tool to visualize the inside of the horse's stomach and definitively diagnose this problem. Excellent recent research helps explain the different ways gastric ulcers are caused, and sheds some light on what we can do to prevent the problem.

Gastric ulcers are very common in the performance horse population. Endoscopic studies of horses in training have shown that up to 90% of horses stabled at race barns have stomach ulcers. At least 60% of horses in other competitive disciplines have ulcers. The prevalence of ulcers in horses that are not in training is lower, but still far higher than one might expect. Gastric ulcers are also common in young horses, especially those that have other illness.

CLINICAL SIGNS OF ULCER DISEASE

The classic signs of ulcer disease in the adult horse are poor appetite, decreased performance, attitude and personality changes, poor body condition, rough hair coat, and low-grade or repeated colic episodes. In foals, the classic signs of gastric ulcers are colic, diarrhea, teeth grinding, salivation and poor body condition.

Temperament and pain tolerance can affect whether or not an individual horse shows obvious clinical signs. Some horses with mild lesions show obvious and "classic" clinical signs while others with more serious lesions may show very little sign of a problem.

In some cases, horses with gastric ulcers exhibit well-established behavior patterns that are simply considered normal for that horse. Treatment of ulcers in these cases sometimes reveals a previously unknown – and sometimes very pleasant – underlying personality.

DIAGNOSIS OF GASTRIC ULCERS

The definitive way to diagnose gastric ulcers is with the use of a 3-meter video endoscope. These scopes have been used at veterinary schools for years, but are now more common in private equine veterinary practices.

The procedure goes something like this: The horse is kept off feed for 12 hours prior to the exam. The horse is lightly sedated for the procedure. The scope, a long, narrow tube that has a video camera at its tip, is passed through the nostril and into the stomach. The stomach lining is visualized on a television screen. Ulcers appear as erosions of varying size and depth in the surface lining. Ulcers are usually found in several typical locations within the stomach. The severity of these lesions is visually recorded, and this recording serves as a baseline for studies performed during and after treatment.

We have had a 3-meter endoscope in our practice since 2001 and have found it to be a great diagnostic tool. It has allowed us to make a definite diagnosis of this common problem and to monitor the effectiveness of treatment. It has also allowed us to diagnose other problems of the stomach and esophagus, such as certain types of cancer.

Other, “simpler” methods for determining the existence of gastric ulcers have arisen in the past decade as well. A fecal blood and protein test has proven to be unreliable in adult horses. Urinary sucrose testing may have some predictive value for bleeding into the gastrointestinal tract but requires urine collection and laboratory testing. The standard diagnostic tool remains the 3-meter endoscope.

It is often proposed that rather than going to the \$300-\$400.00 expense to diagnose ulcers definitively with an endoscope, one should instead simply put horses on medication and see if they respond. One real problem with this idea is that proven ulcer medications are more costly than the testing procedure. Use of unproven medications only further confuses the situation. Also, endoscopy provides a direct view of the stomach that is the only way to diagnose other possible problems. Things like stomach cancer, outflow obstruction and congenital abnormalities cannot be diagnosed any other way.

WHY IS THIS PROBLEM SO COMMON?

Understanding how equine gastric ulcers occur gives some insight into how to manage horses to prevent this problem. Horses, unlike humans, secrete stomach acid continuously and independent of a meal. The presence of food in the stomach buffers this acid and so helps protect the lining from damage. Horses, unlike humans, have an upper portion of the stomach that has an unprotected lining and is vulnerable to damage by acid. The lower portion is the acid-producing part and is more resistant to acid damage.

Recent research has shown that when horses are exercised at a trot or gallop, the pressure in the abdomen (the space around the internal organs) increases. This raises the level of the "acid pool," which normally lies down low in the more resistant portion of the stomach, to the more sensitive upper part. This favors the formation of ulcers in this area.

There are several different and distinct ulcer "syndromes" in different classes of horses that affect either the upper or lower portion of the stomach, or both. The bacterial cause of ulcers that has been determined to be such an important causative factor in human gastric ulcers has not been found to date in horses. Nutrition plays an important role in determining the level of acid in the stomach fluid. High grain diets cause more acidity than low grain diets. Alfalfa actually causes a lower acidity than grass hay. One of the

most important points is that ulcer syndromes can be unapparent, and the signs are often attributed to other causes.

TREATMENT OPTIONS

Horses diagnosed with gastric ulcers can be treated and often make full recoveries. The most effective treatment for gastric ulcers in horses is the prescription drug omeprazole, trade names are Gastrogard® and Ulcergard®. Gastrogard® is intended for the treatment of ulcers and Ulcergard® is intended for the prevention of ulcers and is given at a lower (preventative) dose. These are specially formulated pastes developed from a drug used to treat human ulcers. They act by directly inhibiting acid production by the acid-producing cells in the stomach. They are highly effective but also very expensive.

Other medications that have historically been used to treat gastric ulcers have been shown not to be as effective, and require multiple doses per day. These medications act by a more indirect route. They include ranitidine (Zantac), cimetidine (Tagamet), and the ulcer coating agent sucralfate (Carafate). Antacid medications are marketed with great claims for success, but have been shown to only lower acidity in the horse's stomach for short periods of time. That said, they are probably better than doing nothing and the products have become quite popular.

PREVENTION

Awareness is the key to prevention. The more you know about gastric ulcers, the better you will be able to manage your horses to avoid them. I regularly suggest the following preventative measures:

- Remember that if you do make feeding changes, make them over several days.
- Feed only as much high-carbohydrate grain as is necessary for the intensity of training.

- Keep high bulk feed (hay or grazing) present for your horses as much as possible. The less time a horse spends standing around with an empty stomach, the better.
- Consider the timing of feeding versus training. Do not train your horse on an empty stomach.
- Recognize and consider that alfalfa actually lowers stomach acid, and feed it accordingly.
- Be on the lookout for subtle signs and be ready to change your management accordingly.
- Some research suggests that corn oil may be protective of the stomach lining.

If you are concerned that your horse may have gastric ulcers, discuss it your equine veterinarian. They can help make a definitive diagnosis and help you make the right management decisions.

By Douglas O. Thal DVM Dipl. ABVPBoard Certified in Equine PracticeThal Equine LLCLast Updated August 2011