Gastroduodenal Ulceration In Horses

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What Is It, Why Does It Matter

Ulcers, both gastric and duodenal, are very important for horse owners to be aware of. Up to 90% of racehorses examined suffer from ulcers, and as many as 60% of performance horses in other disciplines examined suffer from ulcers (6). Of foals examined, roughly 50% had ulcers. For foals with illnesses or high stress levels, the level of affected foals rises to over 60% of those examined (1). Ulcers can affect a horse's performance, health, or attitude. Ulcers are lesions or damaged areas of the digestive tract wall (7).

It is important to be aware of ulcers since the side effects are so potentially severe. In the Hunter discipline, conditions are prime for the development. Horses are usually stabled and fed concentrated rations, and lead high stress lives, including frequent hauling and horse shows full of new stimuli. Preventative steps can be effective at reducing or preventing ulcers for a healthier horse that can perform to their maximum. Many other disciplines are as high stress, so horse owners should be ready to do what they can to improve the health of their horse.

Signs, Symptoms

While it is common to see ulcers in foals, many affected foals show no sign of having ulcers. Possible signs foals may have ulcers include: a potbellied appearance, poor body condition, intermittent nursing, laying on or rolling on their back, intermittent colic, diarrhea, and excessive salivation (3). Most of the foals examined that cribbed had ulcers (9).

With adult horses, as with foals, many individuals do not show physical signs or symptoms. The first the owners know of a problem is the horse is dead in the pasture after suffering from an acute rupture and peritonitis (4).

Often the first signs of a potential ulcer problem appear in the form of behavioural changes in otherwise symptom free horses. Cribbing and misbehaving when being tacked or groomed when previously the horse was well behaved are possible signs of ulcers in adult horses. A general bad temper, restlessness, and box walking in the stall are other behavioural signs of possible ulcers (7).

If the horse has a poor appetite, has difficulty maintaining weight, develops a poor coat, or suffers from chronic colic, the horse may have ulcers (9). The presence of either diarrhea or reduced athletic performance when compared to the horse's previous abilities could also be indicators of ulcers. Other possible symptoms include back pain, reluctance to go forward under saddle, and unspecific hind limb lameness (7). Ulcers, while having potentially life threatening consequences, may have very subtle symptoms.

Causes

Most foals with ulcers have duodenal ulcers, and the occasional yearling has been diagnosed as well (7). Horses tend to suffer from ulcers located in the margo plicatus (the area between the upper and lower stomach) or nearby in the upper stomach (2). The lower section of the stomach in horses is protected by the glandular mucosa, but only in the lower third of the stomach. The upper portion of the stomach is protected by the squamus mucosa, which provides less protection than the glanular mucosa. Since as the horse consumes food and the stomach distends, the lower portion of the stomach is what expands to accommodate the food, the

glandular mucosa protects the area most in contact with the stomach acid. If the horse has defective mucosal production, ulcers tend to form from gastric glandular lesions. If the horse has excessive stomach acidity the gastric squamus mucosa will usually have lesions (7).

The stomach produces constant small amounts of acid to continually digest the forage a hose was designed to consume throughout the day. An absence of forage allows the acid to contact the stomach walls without any buffering or absorbing effect forage may provide, so the acid affects the stomach lining. Sudden larger meals would absorb the acid and allow it to contact the less well protected upper portion of the stomach, damaging the lining there (9). A large meal followed by a horse going hours without feed allow the acid to contact the upper area followed by the lower stomach being empty of the protection of forage. The stomach acid would then be in direct contact with the lower stomach lining, and would cause damage and eventually, ulcers (6). Poor quality forage seems to play a role in the presence of ulcers (4). Fescue that is infested with endophytes can cause ulcers (9). Fasting before exercise will also increase stomach acidity, and leave the stomach unprotected (3).

Grain consumption can contribute to ulcers. Larger grain based meals given without forage will lack enough fibre to absorb enough stomach acid. This leads to an increase in stomach acidity and lesions as previously mentioned (9). Grains and pelleted concentrates with grain content can increase the production of gastrin. Gastrin is a hormone that stimulates the production of gastric acid, which is another way to increase stomach acidity (3).

Stress seems to affect stomach acid production in horses. Horses experiencing stressful situations are more likely to have ulcers than horses leading a low stress life in a pasture (4). Stall confinement plays a role in horses developing ulcers, whether it is due to stress or inadequate food consumption, as many stall bound horses do not get to graze as continuously as pastured horses. Horses who find hauling stressful, or who are moved to different herds regularly and who must reestablish their place in the pecking order are more likely to have ulcers than the pasture horses who lead steady lives (5).

Possible causes of ulcers in foals include inadequate milk consumption. It is believed that a lack of milk in the stomach leaves the lining unprotected, like in older horses. Stress is also believed to be a cause or major factor in whether a foal has ulcers, as many foals under stress, such as with weaning, have ulcers when examined. (6). Ill foals and foals with musculoskeletal problems are more likely to have ulcers than healthier foals (3).

Anti-inflammatory medications including Bute, Aspirin, and Panamine can cause ulcers if use is continued for great lengths of time or too frequently. When the drugs are used under veterinary advice the risk of ulcers is very low. Indescriminate anti-inflammatory drug use by owners can lead to ulcers by not following dosing instructions necessary to prevent ulcers (4).

Changes In Diet Needed

Changing the diet of a horse will both aid in treating and preventing ulcers. Diets should be high in fibre, and may be either free choice hay or pasture (2). By adding salts containing magnesium or calcium, both of which are excreted in excess, an antacid effect may be achieved (9). Another dietary remedy which may assist in reducing acidity in the stomach is to add 2 tablespoons of calcium carbonate each meal (9). The most effective dietary remedy is to encourage fibre consumption, and horses who have free choice pasture or hay are significantly less likely to experience ulcers, so it is a very effective preventative measure (2). Lowering the starch content of a horse's diet may help prevent or treat ulcers. More pasture time may also

help reduce stress factors in a horse's life, as removing stress has shown to be helpful in treating ulcers (9).

Medical treatments may be tried in addition to dietary changes to speed the recovery of the dietary tract from ulcers. Antacid medications will reduce stomach acidity temporarily and must be given frequently, but may play an important role in raising stomach pH, and in combination with high forage diets are effective in allowing ulcers to heal (8). There are horse specific antacids such as Neighlox and Tractguard that are dose sized for horses (9). Neighlox comes in an easy to feed pellet for administration (6). Human antacids may be used but are needed in high doses and may need to be administered every one or two hours to be effective, and are not as effective as feeding more fibre to reduce stomach acidity and upset (3).

Medications for stomach acid reduction are usually used only when signs of ulcers are present or stresses on the horse are not preventable. In combination with other methods acid reduction drugs are an effective treatment (5). For preventative purposes products like Gastroguard are effective when given even once a day, whether the horse is in training or not (1). When all other methods of treatment fail, the horse may require gastroenterostomy surgery may be used. There is long term post operative care involved with the surgery, and acid suppressant or gastrointestinal stimulatory drugs may be needed for continued care (7).

The only way to confirm the presence of ulcers is through endoscopic examination. The size, location, and severity of ulcers can be evaluated and treatment can be decided on more effectively (7).

Take Home Points, Prevention & Management Summary

1. Provide a high fibre diet for horses, preferably with many smaller meals
2. Lower the starch content of meals, or make sure there is forage provided with or around grain meals, to protect the stomach lining
3. Ensure the horse does not go extended periods without food, even when exercising, to more closely meet the horse's digestive needs
4. Reduce stress in the horse's life whenever possible, and ensure time is spent in pasture with regular equine buddies if possible
5. If ulcers are suspected, have the digestive tract examined to avoid treating another condition ineffectively and prolonging the discomfort of the horse
6. Changes in a horse's personality or performance can be an indicator of ulcers, and the horse should be examined for the possibility of ulcers
7. Ulcers are common in foals and if any symptoms are present then treatment may be advisable for improved health of the foal

References

1. Austin, Scott M. DVM, MS Diplomate ACVIM. *Gastric Ulcers in Horses.* http://www.wisconsinequineclinic.com/html/Gastric%20Ulcers.htm

2. *Equine Gastric (Stomach) Ulcers.* http://www.surgi-carecenter.com/topics/200408equineulcers.pdf#search='gastric%20Ulcers%20horse'

3. *Equine Gastric Ulcer Syndrome.* Horse Sport October 1999.
http://www.horse-canada.com/html/articles/Hsulcer.htm

4. Giffin, James M. M.D., and Tom Gore, D.V.M. **Horse Owner's Veterinary Handbook 2cnd Edition.** Howell Book House, New York, NY. 1989.

5. McClure, Scott, DVM. *Equine Gastric Ulcers:Special Care and Nutrition.*
http://www.xcodesign.com/aaep/displayArticles.cfm?ID+255

6. Pagan, Joe D. DR. and Dr Peter Huntington. *Gastric Ulcers in Horses: A Widespread but Manageable Disease*. 2005
http://www.equinecentre.com.au/health_diseases_ulcers.shtml

7. Riegel, Ronald J., DVM, &Susan Hakola, B.S., R.N., C.M.I. **Illustrated Atlas of Clinical Equine Anatomy and Common Disorders of the Horse Volume 2.** Equistar Publications, Limited. Marysville, Ohio, 2001.

8. Siegal, Mordecai, Ed. **Book of Horses, A Complete Medical Reference Guide For Horses and Foals**. Harper Resource, New York, NY. 1996.

9. Worth, Melyni. **Storey's Guide To Feeding Horses.** Storey Publishing. 2003

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