Gastric Ulceration in horses

Gastric ulceration is an extremely common condition of horses with over 70% of racehorses and between 40% and 69% of horses used for a variety of other purposes reportedly affected.

Gastric ulceration is currently considered to occur as two separate syndromes:

Non-glandular ulceration
The top part of the horse's stomach is lined with 'non-glandular' mucosa. This mucosa is very easily damaged if it comes into contact with stomach acid. This may happen as result of the stomach remaining empty for periods of time and the effect may be exacerbated if the horse exercises on an empty stomach causing the acid to 'splash' upwards.

Glandular ulceration
The lower glandular region of the stomach is where the acid is produced. This part of the stomach is protected from acid by a mucus lining. This lining may be compromised by periods of prolonged stress and may be affected by excess acid production following feeding of high concentrate diets. Ulceration of the underlying mucosa then occurs.

Risk factors
The risk of ulceration of the non-glandular mucosa increases as the intensity of work increases, with the highest prevalence reported in thoroughbred racehorses. However, severe ulcers do occur in horses at pasture and should still be considered as a cause of disease in all horses with compatible clinical signs. Other management changes, which are likely to increase the risk of gastric ulceration, include high concentrate/low roughage diets, fasting, stress, stabling and reduced access to water.

In contrast, ulceration of the glandular mucosa does not appear to be related to the intensity of work or stabling and these ulcers are seen just as frequently in horses at pasture. It appears that these ulcers are more likely to be related to high concentrate/low roughage diets, however it is likely that there are other factors involved which will hopefully become clear as research into the condition continues.

Clinical Signs

Clinical signs of gastric ulceration include:

- Recurrent colic
- Poor performance
- Behavioural changes
- Pain on tightening of the girth
- Poor appetite
- Weight loss
- Hair coat changes

Some horses may have gastric ulceration without showing obvious symptoms. However many of these horses show changes in their behaviour, improvements in appetite and/or performance when their ulcers are treated.

It is our opinion that due to the high prevalence of gastric ulceration in horses, any horse with even vague clinical signs should be investigated for gastric ulcers. In addition we believe that the

presence of gastric ulceration should be considered in any horse which shows signs of colic for which the cause cannot be determined, especially in those horses which colic recurrently.

Diagnosis

Currently the only accurate way to diagnose gastric ulcers in horses is by means of gastroscopy. Gastroscopy allows direct visualisation of the lining of the horse's stomach via a video endoscope. In addition to confirming the presence of ulcers, and allowing assessment of severity, gastroscopy allows differentiation between ulceration of the squamous and glandular mucosa, which helps in designing an effective treatment plan.

In order for gastroscopy to be carried out the stomach must be empty. Horses should be given their normal evening feed, before hay and any edible bedding are removed.

Ulcers are graded between 1 and 4 in terms of severity, however it seems that the correlation between grade and clinical signs is inconsistent and some horses with mild ulcers show marked improvements following treatment.

Treatment

Non-Glandular Ulcers

Medical treatment focuses on acid suppression. **Omeprazole** (GastroGard, Ulcergold) is the most effective and best studied of available drugs, it acts by reduced the amount of acid present in the stomach. This improves the horse's comfort levels and allows the damaged mucosa to heal. Healing rates following a 28 day treatment period with GastroGard were shown to be about 80%. While this is a reasonably good rate, 1 in 5 horses will still have ulcers at the end of this time; therefore it is highly advisable to repeat the gastroscopic examination in order to check that complete healing has occurred.

Glandular Ulcers

Ulceration of the glandular mucosa has proven to be more difficult to treat than the non-glandular mucosa. While **omeprazole** is still the mainstay of medical treatment, often much longer courses are required than for non-glandular ulcers and additional medication may be necessary.
Sucralfate is a drug, which binds to damaged mucosa, increases protective mucus secretion and also stimulates the horse's body to produce prostaglandin E2.

Corn oil at a dose of 150-250ml for a 500kg horse has been shown to decrease gastric acid production and is likely to have other beneficial effects on healing of non-glandular ulcers. It is important to feed a supplement containing vitamin E when using corn oil at these doses.

Feed Supplements A number of commercially available feed supplements claim to be effective in treating gastric ulcers. Most of these products contain antacids which have a very short lived effects (less than two hours) in the horse's stomach and for this reason are unlikely encourage healing of ulcers.
One possible exception (Equitop pronutrin) contains pectin-lecithin complexes, which act as mucosal protectants, however there is mixed evidence regarding its usefulness as a treatment.

Management
Management changes should be tailored to individual horses. Strategies should include reducing stress, ensuring constant access to forage and reducing the concentrate portion of the diet.

Some things to consider include:

- Spend some time thinking about what stresses your horse i.e. travel, long periods of time in the stable, movement of companions/neighboring horses or being fed last. Try to limit these where possible.

- Some periods of stress cannot be avoided (for example travel to a new yard or competitions). If so it may be possible to treat with a prophylactic dose of omeprazole on these occasions.

- Dietary assessment by your vet to identify risk factors and help you develop a better feeding protocol.

- Do not ride on an empty stomach. Offer a small feed (e.g. 2 handfuls of alfalfa) prior to exercise to help line the stomach.

- Ensure constant access to water; remember some horses will dramatically reduce their water intake in winter when buckets are cold or even frozen over!