Understanding gastric ulcers
and caring for your horse with equine gastric ulcer syndrome (EGUS)
Diagnosis, prevention and outcomes
Introduction

Equine gastric ulcer syndrome (EGUS) is a common condition in horses. Like most animals, acid is released into your horse’s stomach to help break down food, but because horses are grazing animals this acid is released constantly, even when they are not eating.

This means damage can occur in horses with a limited intake of food or on a high cereal/low forage diet. Exercising too much can also create pressure from the abdomen, compressing the stomach and forcing acid into vulnerable areas of the digestive tract.

What is EGUS?

EGUS describes a range of disorders in which there is damage (called ‘erosions’ or ‘ulcers’) caused by acid to the mucosa (lining) of the oesophagus, stomach or start of the small intestine, although usually only the stomach is involved.

What does having an ulcer mean for my horse?

Ulcers are associated with pain and other negative symptoms such as diarrhoea, weight loss and loss of appetite. Sometimes complications can arise, including bleeding or perforation, which is when food and acid leaks out of the stomach into the abdominal space and requires emergency action.

Equine stomach structure

Your horse’s stomach consists of a single large compartment that can be divided into 2 regions, differentiated by the type of mucosal lining, either ‘squamous’ or ‘glandular’. At entry, the first third of the stomach, has a squamous (or non-glandular) lining, the rest is covered with glandular mucosa.

Squamous ulceration

Occurs as a direct result of extended exposure of acid to squamous mucosa.

Glandular ulceration

Glands present in glandular mucosa can produce a protective mucus and therefore ulcers occur here when the protective mucus layer is compromised.
Symptoms and diagnosis

Many horses with EGUS show no symptoms and this often means EGUS goes unnoticed. Being alert and aware of possible gastric ulcers can help you catch things early and prevent future problems for your horse.

There is a wide range of symptoms for EGUS:\(^1,5\)
- Acute or recurrent colic
- Poor appetite or ‘picky eating’
- Weight loss
- Hair coat changes or poor coat condition
- Chronic diarrhoea
- Poor performance
- Behavioural changes (including aggressive or nervous disposition)
- Teeth grinding/jaw clenching
- Pain/distress on tightening girth

Diagnosis

There are various symptoms which can indicate EGUS but gastroscopy is the only accurate way to diagnose.\(^1\)

Advantages of gastroscopy:
- Confirms the type of mucosa affected (squamous or glandular) and the severity of the lesions
- Helps rule out other conditions that may mimic the clinical signs of EGUS, e.g. gastric impaction

Squamous or glandular?\(^1\)

It’s important to know if it is squamous mucosa, glandular mucosa or both affected because it impacts the type and length of treatment required

Gastroscopy

A gastroscope is a flexible tube with a camera and light on the end. Gastroscopic examination or ‘scoping’, using a gastroscope is relatively straightforward.\(^1\)

1. After sedation, which is given only to protect the horse from feeling nervous and the equipment used, a hollow plastic tube is placed into the oesophagus via the nose
2. The gastroscope is passed through the tube up to 2 meters until it enters the stomach
3. Air is then injected into the stomach so that a clear image can be seen of the stomach lining via the camera
4. After completing the examination, the scope is simply pulled out and the extra air added can be removed from the stomach by suction

The entire scoping procedure usually takes around 15 to 20 minutes and is not painful.

After the procedure, the vet will then review the images taken during the gastroscopy to confirm the presence of any erosion of the stomach lining or the presence of ulcers. They can then decide the course of action to take and any treatments necessary.

Preparing for gastroscopy:\(^1\)
- Restrict food intake prior to the procedure – the duration of this fasting depends on the horse’s use and its diet
- Restrict water 1 hour prior to examination if possible

Your vet will give you advice and full instructions on how to prepare your horse ahead of the procedure
Types of gastric ulcer

There are different types of ulcer and they vary in severity. Your vet will be able to identify if any ulcers are present and explain what is happening inside your horse’s stomach.

EGUS covers a wide range of ulcer severities:\(^1\)
- Inflamed but intact epithelium
- Minimal erosions or scarring
- Discreet or widespread erosions/ulcers
- Bleeding erosions/ulcers
- Deep ulcers with dying tissue
- Perforation

There is a 4 point ulcer scoring system\(^6\), with grades 2 and above considered clinically important:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The epithelium is intact and there is no appearance of hyperaemia or hyperkeratosis</td>
</tr>
<tr>
<td>1</td>
<td>The mucosa is intact, but there are areas of hyperaemia or hyperkeratosis</td>
</tr>
<tr>
<td>2</td>
<td>Small, single or multifocal lesions</td>
</tr>
<tr>
<td>3</td>
<td>Large, single or multifocal lesions or extensive superficial lesions</td>
</tr>
<tr>
<td>4</td>
<td>Extensive lesions with areas of apparent deep ulceration</td>
</tr>
</tbody>
</table>

EGUS outcomes

Treatment

If found to have gastric ulcers, treatment is available for your horse. Options can be discussed with your vet taking into consideration your horse’s needs.

These might include lifestyle management changes to do with diet, rest or exercise regimes, or your vet may recommend and prescribe medication that can be used to resolve the condition and help any ulcers present to heal. Medications may include those that reduce the amount of acid in your horse’s stomach, such as omeprazole.

Prevention

Once under control, it is important to manage lifestyle and feeding to help prevent ulcers recurring. Consider the following risk factors for your horse:

- **INTENSIVE EXERCISE**: Increased pressure from strenuous exercise can push acid around the upper section of the stomach\(^7\)
- **YOUNG AGE**: Around half of all foals will develop gastric ulcers, especially if they have poor health\(^3\)
- **DIET**: Not eating enough roughage and not eating regularly over a period of time leads to acid build-up\(^2\)
- **STRESS**: Stress can be due to overwhelming situations or boredom from stable confinement\(^8\)
- **TRAVELLING**: Traveling is stressful for horses, particularly if they travel without a companion or a mirror\(^9\)

In addition to managing the risk factors above, treatment strategies such as using a maintenance dose of omeprazole, can also prevent the development of ulcers.
Suspect EGUS?

Complete the enclosed questionnaire to assess your horse and discuss with your vet

**References**


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Merial Animal Health Ltd CM19 5TG, UK.
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