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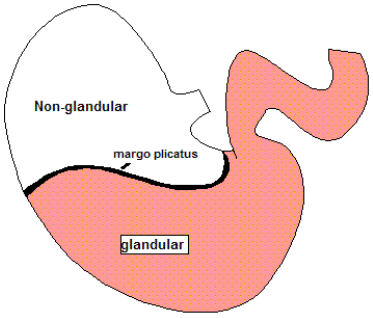
Gastric Ulcers: Equine Squamous Gastric Disease

The most common conditions in the equine stomach are classified as either ESGD (equine squamous gastric disease) or EGGD (equine glandular gastric disease), in relation to the affected anatomic region. A horse may have one, or both conditions, and they appear to be completely unrelated, and distinctly separate diseases.

The equine stomach can be divided (roughly) into two functionally distinct regions:

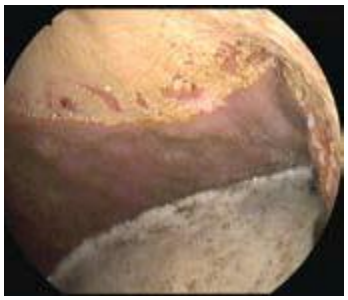
- Squamous region (non-glandular): which does not have any protection from acid.
- The glandular region (dark pink): produces the stomach acid, and has its own inherent protective mechanisms to protect it from the harsh acidic environment it is constantly bathed in.



https://www.paulickreport.com/horse-care-category/nutrition/gastric-ulcers-new-thoughts-old-problem/

Equine Squamous Gastric Disease:

The squamous (non-glandular) portion of the stomach comprises the "top half" of the stomach. This portion of the stomach lacks protection from stomach acid, which (especially during exercise) splashes on the mucosal surface causing damage to the tissues of this area, resulting in hyperkeratosis (thickening) and then ulceration.



It has been found that before training, 37% of thoroughbreds have EGSD, while during training up to 80-100% develop EGSD. By comparison, 44% of Standardbreds have EGSD before training, rising to 87% during training. 17-58% of show/sport horses have been found to have EGSD, and 37-59% of pleasure horses are affected.

Image courtesy of Randlab.

HORSES AT RISK:

Horses at higher risk for Equine Squamous Gastric Disease include horses training in metropolitan areas, those lacking contact with other horses, those housed with solid barriers instead of rails, low meal numbers per day, lack of grazing, low amounts of hay being fed, and feeding high amounts of starch/grain also increases the risk of developing ESGD. Use of oral electrolytes has also been linked to a higher number and severity of ESGD lesions.

CLINICAL SIGNS:

- Poor appetite or 'picky eating'
- Poor body condition
- Abdominal discomfort

- Chronic weight loss
- Chronic diarrhea
- Poor coat condition
- Bruxism (teeth grinding)
- Behavioural changes (aggressive or nervous behaviours)
    - Cribbing
- Acute, or recurrent colic, sometimes after eating
- Poor performance

REDUCING THE RISKS:

Below are several husbandry changes that can be made that have been PROVEN to be effective at reducing ulcers:

- Allow time for pasture turnout, alone, or with other horses (even better)
- Allow access to free, fibrous feed, or frequent small meals throughout the day to simulate foraging
- Ensure constant access to fresh water
- Small feed (3-5L lucerne chaff or 1 biscuit of lucerne hay) 30 minutes prior to work. Lucerne chaff has a buffering effect to neutralise the acid and reduce acid splash.
- Feed hard feeds very wet, including hay if possible and consider the addition of corn, rice bran or canola oil into the diet
    - Example: 60ml twice daily for small horses, 100ml twice daily for larger horses. Maximum 200ml corn oil per day. (Introduce incrementally, and slowly over a 2-3 weeks).
- Feed a low sugar diet (meadow/Rhodes hay, lucerne chaff, and low sugar hard feeds).
- Reduce frequency of exercise (ie fewer days per week) but can increase intensity. Keep to less than 40 minutes of exercise daily and 3-5 days per week.
- Consider exercising in the afternoon instead of morning (the pH of the stomach is lowest in the morning).

DIAGNOSIS:

ESGD can ONLY be diagnosed via the use of a gastroscope.

TREATMENT FOR EQUINE SQUAMOUS GASTRIC DISEASE (ESGD):

1) **Injectable Omeprazole** 4mg/kg IM every 5 to 7 days, for two treatments, then repeat scope.
    - For performances horses in work, continue on oral maintenance dose as needed through season.
    - Rare side effect of injection site reaction
    - Give in neck or gluteal muscles only
    - If not resolved after 14 -21 days, consider another medication plan
2) **Esomeprazole** 2mg/kg once daily (10ml per 450kg) treatment dose for 14-28 days
    - Is off-label (not registered for use in horses)
    - Give on an empty stomach, 30-60 minutes before food, but is not as affected by presence of food
    - May be more effective for squamous ulcer healing than omeprazole
3) **Omeprazole** 4mg/kg (6ml per 450kg) orally once daily for 30 days, then 2-3ml once daily while in training.
    - MOST EFFECTIVE WHEN GIVEN ON AN EMPTY STOMACH, 30 MINUTES PRIOR TO FEEDING
    - 1 box of Uclershield lasts 30 days at treatment doses. At maintenance doses, 1 box will last ~2 months.
    - Example treatment plan:
        - Give omeprazole in the morning before feeding
        - 1 hour later, feed

We recommend being very cautious about trying nutraceutical (natural) products such as herbal remedies, as there is little to no scientific, research based evidence to support their use, and they can be quite expensive!

- KELATO GASTRO-AID RECOVERY with pectin-lecithin complexes has been shown to help in the healing and prevention of squamous and glandular ulcers.

WHEN FINISHED WITH A COURSE OF OMEPRAZOLE do not exercise or transport horses for 48 hours from the last dose and provide adequate roughage to counter any rebound gastric hyperacidity that may occur.