



Gastro intestinal cases

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Several gastrointestinal issues will be discussed using different patient based cases. Some are more common, others proved to be a little more challenging. Presentation, diagnosis, therapy, outcome and some literature background will be discussed.

This abstract summarizes some of the practical backgrounds of the most commonly encountered gastrointestinal cases that will be discussed in this session, however is far from complete.

Sand impaction

Most presenting complaint of a sand impaction is colic (77%), although chronic diarrhoea (23%) is also frequently mentioned.

Diagnosis is most easily made with an abdominal radiograph. Otherwise information concerning the husbandry and management of the horse can give you clues from the history. Rectal examination can give you the impression of sand, feeling the consistency of the faeces, or you can feel an impaction of the right colon. Sand has an intermittent secretion and faecal sedimentation will be negative in 50% of the horse with a large amount of sand.

With abdominal radiographs the size of the horse is not limiting, body fat is. In general $>5 \times 15 \text{cm}$ or $>15 \times 5 \text{cm}$ = $>75 \text{cm}^2$ has a clinical relevance. Approximately 66% of horses do have a minimal amount of sand.

Therapy options: NSAID's and fasting in case of colic, good quality roughage when stable, oral and or intravenous fluids if necessary and laxatives. Mineral oil can be used 1-2 litre once daily during 3-5 days combined with psyllium seeds: 1gr/kg BW 1-2 times daily.

Surgery is preferably avoided unless displacement of the colon (RDD), uncontrollable pain or worsening of clinical or blood parameters. Mortality during surgery is higher due to tearing of the heavy colon during evacuation.

After 5 days of medical treatment abdominal radiographs can be repeated to investigate progress of sand reduction. Management adjustments at home consist out of not feeding horses of the sand, maintaining pastures, feeding good quality and sufficient roughage and exercising the horse.

Gastric impaction

A stomach impaction can be acute or chronic. Horses with a stomach impaction or stomach dilatation are usually admitted with a colic, anorexia and sometimes fever. Clinical exam excludes problems further down the gastro intestinal tract. Sometimes these horses will have a poor body condition score or will present with complaints of salivating.

The horse will usually eat and feel better after fasting. However, when returning to a normal ration clinical signs will reappear.

Gastroscopy will reveal a full stomach with sometimes feed already protruding in the oesophagus. With an ultrasound of the abdomen the size of the stomach can be determined (normal outline between 8th to 13th ICS).

Therapy can consist out of 1 L cola once daily or isotonic fluids (5.9 g NaCl, 0.3 g KCl and 3.4 g NaHCO₃/L) by nasogastric tube. If necessary combined with metoclopramide, 0.1-0.15mg/kg twice daily per os long term.

Management at home would preferably consist out of 24 hr/day grazing. Or a diet of small portions of a complete feed mash and small amount of good quality roughage in haynets or slow feeders.

EGUS

Equine Gastric Ulcer Syndrome is the general term describing all erosive and ulcerative diseases of the stomach. However, it is important to differentiate between the disease of the squamous mucosa (Equine Squamous Gastric Disease) versus the glandular mucosa (Equine Glandular Gastric Disease) based on the location of the ulcers.

Primary ESGD is more common and occurs in animals with an otherwise normal gastro- intestinal tract. Secondary ESGD occurs in animal with delayed gastric outflow secondary to another problem. The prevalence of ESGD or EGGD in our sport and pleasure horses is not as high as in racehorses, although still up to 60% is affected.

Factors known to have a positive effect on EGUS are pasture turnout, less than 6 hours between forage feeding, a minimum of 1,5 kg/100kg BW roughage/day, low starch/grain intake (not exceeding 2gr/kg BW per day in small portions), feed hay before grains, constant access to water, social contact and avoiding stress.

Clinical signs vary, most frequently: poor appetite and poor body condition. Other clinical signs include: weight loss, abdominal discomfort, recurrent postprandial abdominal discomfort, poor coat condition, behavioural changes (nervousness, aggression, self-mutilation), poor performance, bruxism, yawning and crib-biting

Clinical signs and severity on endoscopic appearance do not correlate very well.



Omeprazole, a proton pump inhibitor, is the preferred treatment of ESGD.

With a dosage of 4mg/kg BW PO once daily for 21-28 days the healing rates are approximately 70-80%. In EGGD the healing rate after monotherapy with omeprazole at 4mg/kg PO is reported to be lower and therefore a combination with sucralfate at 12mg/kg PO twice daily is suggested.

The mechanism of sucralfate is likely a combination of adherence to ulcerated mucosa, stimulation of mucous secretion, prostaglandin E synthesis and enhanced blood flow.

By a repeated gastroscopy after 4 weeks the effect of treatment can be evaluated and adjustments can be made. Duodenal biopsies can be taken in case of EGGD when concurrent Inflammatory Bowel Disease is suspected.

Chronic Inflammatory bowel disease (IBD)

Inflammatory small intestinal diseases are associated with malabsorption and maldigestion and often these horses are difficult to keep in good condition. Further clinical complaints may be ranging from recurrent colic episodes to poor performance and sensitivity of the abdomen.

Palpable small intestinal walls during rectal exam, reduced oral glucose uptake and inflammatory changes in the region of the pylorus and duodenum at gastroscopy are often found. Biopsies taken from the duodenum during gastroscopy may attribute to the diagnosis.

The predominant inflammatory cell determines the specific enteritis present: e.g. lymphocytic-plasmacytic or eosinophilic enteritis.

For a glucose absorption test the horse should be fasted for 12 hours, glucose at a dosage of 1gr/kg BW is administered as a 20% solution via nasogastric tube at 9:00 in the morning, and blood glucose is measured at 0, 30, 60, 90, 120, 180, 240 min. The peak blood glucose should be at 90-120 min with preferably an increase of 85%. A complete malabsorption is defined as an increase of 15% or less above resting glucose. The glucose absorption may be influenced by many factors like gastric emptying, stress etc

IBD is believed to be immune mediated, therefore corticosteroids are the therapy of choice: Prednisolone 1mg/kg BW once daily (before 9:00am) during 4-6 weeks. The effect can, apart from clinical improvement, be objectively evaluated by repeating the duodenal biopsies and/or glucose absorption test.

If there is no improvement sometimes short-acting dexamethasone can be tried: at 0.05-0.1 mg/kg BW once daily before 09.00 am i.m. or i.v.. In general, if there is no improvement after 4 weeks of treatment, prognosis becomes very guarded.

In case of a positive response a tapered dose of corticosteroids is used over a period of months. Interval therapy may be necessary when clinical signs return after treatment ends.

The objective concerning nutrition for the affected horse is to sustain and preferably increase dietary intake. However, one must keep in mind that exposure to a feed component may contribute to the problem as an allergen causing a hypersensitivity reaction.

Faecal Water Syndrome

Horses afflicted with the faecal water syndrome defecate normal faeces but in addition, faecal water runs out of the anus. It is a chronic and often frustrating problem for the owner.

Several risk factors have been suggested like endoparasites, feeding of haylage or dental problems, however there is no scientific proof. Proven risk factors for the condition are being low in rank in the social hierarchy, being a paint horse and being a gelding.

Often a bacterial culture will show too little coliform bacteria.

Once above mentioned factors are excluded a protocol of transfaunation is followed once daily during three days: 500 gram of rectally taken faeces of a healthy horse is diluted in 2 litres of lukewarm water. The solution is poured through a strainer to eliminate coarse parts and 100 gram of grass pellets is added as nutritional source. This solution is administered to the horse through a nasogastric tube followed by one litre of lukewarm water per 100 kg BW. Approximately 50 % of the horses will (at least temporarily) improve.