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NORTH QUEENSLAND SPECIALIST EQUINE SERVICE

Equine Laminitis

Definition

Inflammation or damage to the lamellae (seen in red) which attach the coffin bone to the inside of the hoof wall. As the lamellae separates from the coffin bone, it can cause the coffin bone (seen in yellow) to displace (sink or rotate) towards the sole.

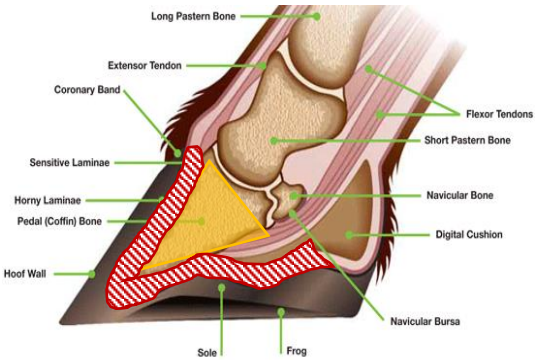

Figure 1: Cross section of hoof wall showing coffin bone (yellow) and lamellae (red)

Cause

Commonly ponies and native breed horses are affected with pasture-associated laminitis, but any horse breed can be affected if they have an underlying illness that predisposes them to laminitis. Horses that are overweight or on a high carbohydrate diet may be more at risk.

Fast growing grass can be higher in sugar content and predispose horses to laminitis. This is especially important during the day, while the plants are photosynthesizing, as the grasses will have a higher sugar content. This is a common occurrence in Townsville around the wet season. Photosynthesizing grasses produce sugars called fructans, which when metabolized in large doses can induce colitis, inflammation of the large intestine, and laminitis.

The sugar production is directly related to sunlight, which drives photosynthesis. Restricting grazing too early in the morning, late afternoon, or during the night significantly reduces the risk of laminitis, especially in predisposed horses.

The current understanding of how pasture-associated laminitis is caused is increased sugar content in the pasture which causes a hormone called insulin to be released. High levels of insulin or hyperinsulinaemia results in inflammation and changes in the lamellar, causing laminitis.

Other causes of laminitis include other illnesses such as PPID (“Equine Cushing’s”), have previously had laminitis, have a grain overload or endotoxemia, your pony may develop laminitis.

Clinical Signs

- Lameness
- Unwillingness or inability to walk
- Recumbency
- "Sawhorse" stance – feet stretched in front out to alleviate pressure on toes.
- Shifting weight, Resistance to lifting forelimb
- Bounding digital pulse
- Hoof walls are hot to touch

If you see any of these clinical signs, your horse may be in pain. Please call your veterinarian so they see your horse as soon as possible.

Figure 2: This is where you can check for digital pulses on both the front and hind legs

Diagnosis

Your veterinarian will perform many tests to diagnose laminitis and rule out other causes of lameness such as hoof abscesses or other injuries.

Hoof testers: used to determine which feet are affected and if the sole of the foot it painful. If it is painful, it may indicate that the coffin bone has displaced.

Radiography: X-Rays may be used to determine how much the coffin bone has displaced. This will inform the treatment that is necessary for your horse.

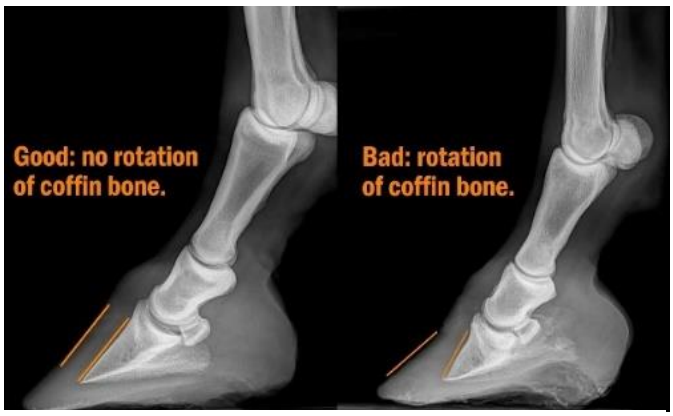

Figure 3: Radiographs showing a normal hoof (left) and a hoof affected by rotation due to laminitis (right).

Blood tests: This may help to diagnose an underlying cause such as Equine Metabolic Syndrome (EMS) or Pars Pituitary Intermedia Dysfunction (PPID) are involved which can be treated to help prevent recurrent bouts of laminitis.

Management

Your veterinarian may administer some pain relief for your horse. If laminitis is severe or your horse is otherwise unwell, it may require intensive treatment at an equine hospital which may include fluid therapy, ice boots and soft bedding.

Ongoing management such as treatment of underlying diseases, that may be diagnosed on a blood test, may be recommended.

It is important to management obesity, by encouraging weight loss. This can be done by managing the diet and encouraging exercise. Once your horse is no longer lame, lunging for 10 minutes per day can assist in weight loss.

Farriery such as trimming, frog supports, therapeutic shoes or pads may be required.

Prevention

Prevention is very important as laminitis may recur.

Obesity management: Avoid carbohydrate dense diets - modified diet that provides adequate nutrition based on high-quality forage, digestible fibre (beet pulp) and oil. Avoid excess carbohydrates, especially from grain. Avoid grazing lush pastures. Restrict pasture intake during spring or when pasture is green.

Preventative health: Preventative health should include vaccinations as well as internal parasite control (deworming). This will reduce your horse's susceptibility for disease.

Farriery: Regular farriery including trimming or therapeutic shoeing may reduce the risk of laminitis. This may also include nutritional supplementation, such as biotin, to promote hoof growth.