Equine Metabolic Syndrome (EMS) is a condition which has only become recognised in recent years. EMS is usually seen in overweight horses and ponies. Fat which is laid down around the body becomes hormonally active and excretes hormone-like chemicals which interfere with normal sugar and fat metabolism. The result is an individual that continues to put on weight and will, eventually, show signs of laminitis. It has similarities to Type 2 diabetes in humans.

EMS in natural living, wild, native ponies is normal. It allows them to put on weight in the summer and then use these fat reserves in the winter months when food is in shorter supply. Our domestication of horse and ponies – rugging up and liberal feeding all year round – interferes with this natural mechanism.

**CLINICAL SIGNS:**
- overweight
- firm and sensitive fat on neck crest
- stilted gait
- heat in feet
- increased digital pulses.

**How does EMS cause laminitis?**

It is not fully understood exactly how EMS leads to laminitis. One of the features of EMS is insulin resistance. This shifts the metabolism away from sugar breakdown and uptake into cells. Instead, the metabolism becomes physiologically “stressed” and relies on cortisol levels to drive breakdown of fat into fatty acids. A side-effect of the high cortisol levels is thought to be an alteration in the blood flow to the feet, in turn, leading to laminitis.

**DIAGNOSIS**

As well as the clinical signs, laboratory tests can be helpful in confirming a diagnosis. A raised resting blood glucose and/or insulin level may be an indicator of EMS.

A more sensitive test is the glucose tolerance test, which mimics the horse’s response to eating a sugary feedstuff (e.g. grass). The patient is starved for 6 – 8 hours overnight, then given a fibre-based feed (e.g. chaff) with a measured amount of glucose added, or alternatively can be given corn syrup by syringe into the mouth. A blood sample is taken at a fixed interval afterwards. An excessively raised glucose/insulin level in this sample gives a very strong indication of insulin resistance and EMS.

**KEY POINTS:**
- EMS can affect all ages of horse / pony and mares / geldings / stallions;
- affected individuals are usually overweight;
- affected individuals are more susceptible to laminitis;
- laboratory tests are needed for accurate diagnosis;
- EMS can be successfully managed.
Medical Conditions

**Equine Metabolic Syndrome**

**Treatment & Prevention**

As with management of type 2 diabetes in humans, the key to controlling EMS is dietary control and exercise. The diet must be reduced so that the individual is being fed a fibre-based diet of the correct amount. It is very useful to have weigh scales to measure the amount of hay/haylage being fed. A weigh tape or access to weigh scales can be extremely useful in monitoring the horse/pony and allow fine tuning of the diet if required.

Exercise is very beneficial, as it improves the body’s sensitivity to insulin. It can be difficult to implement exercise initially if the individual is suffering from laminitis. In these cases, exercise should not be forced, since the complications of a worsening laminitis are much more detrimental to the patient.

Opinions vary on the usefulness of metformin as a medication to aid in the control of EMS. It is given as tablets orally, in feed, and the exact mechanism of action is unclear. It is thought the metformin may reduce absorption of glucose from the gut. In many cases, metformin is only used when exercise is not an option due to laminitis.

As with those humans suffering type 2 diabetes, horse/ponies with EMS should not be given sweet sugary feeds or tit-bits as these will result in an insulin surge which is undesirable.

Our knowledge of laminitis prevention and control has improved following the discovery of EMS. This has led us to understand that it is not the grass that causes the laminitis, but more the individual’s hormonal/metabolic response to eating the grass that causes the problem.

For those that suffer/have suffered EMS, dietary restriction and exercise should be a permanent feature in their future management.

**Choke**

Choke is a relatively common condition seen in horses and ponies and is typically caused by obstruction of the oesophagus (food pipe) with food; occasionally a foreign body can be involved e.g. wood or plastic. Fortunately, many cases of choke resolve quickly and spontaneously and only cases in which the obstruction lasts for longer than 30 minutes are likely to require veterinary assistance.

It is important to note that this is not the same as the life-threatening condition in humans, where the term “choke” refers to blockage of the windpipe rather than the oesophagus. This difference means that unlike humans, horses with choke can still breathe.

**KEY POINTS**

- Don’t panic! Choke is rarely life-threatening and many cases will resolve spontaneously.
- Seek veterinary advice if the choke lasts more than 30 minutes and while waiting for the vet remove all food to prevent your horse eating and worsening the obstruction.
- Following an episode of choke it is worth monitoring your horse’s respiratory rate (normal <16 breaths/min) and rectal temperature for several days.
- Arrange regular dental check-ups for your horse to reduce the risk of choke as a result of a painful mouth.

**Clinical signs:**
- difficulty/repeated attempts at swallowing
- stretching/arching of the neck
- coughing
- food & saliva discharging from the nose
- drooling
- disinterest in food
- occasionally a lump may be seen or felt on the left side of the neck.

If you suspect your horse is suffering from choke it is important to prevent your horse eating as this will make the blockage worse and more difficult to clear.

If the obstruction doesn’t clear quickly of its own accord then veterinary assistance must be sought. There are a number of steps your vet can take to help to confirm and treat the problem.

Horses and ponies with dental problems (that prevent them grinding their food properly), individuals that bolt their food too quickly and those fed dry pelleted or cubed feeds are all at increased risk.

For further information contact your local XLEquine practice:

www.xlequine.co.uk