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The Liphook Equine Hospital

GRASS SICKNESS

Grass sickness is a usually fatal condition of grazing horses which causes varying degrees of paralysis of the horse's intestines. Grass sickness is believed to occur primarily in the United Kingdom, but a similar condition undoubtedly occurs in other parts of the world such as South America (' mal seco'). It now affects horses in all parts of the UK but was first recognised and tends to still be more frequently diagnosed in Scotland and the north of England. After 150 years of research, the cause of the disease remains incompletely understood, but recent developments suggest that it may be due to an environmental bacterium (Clostridium botulinum), which under conditions that remain unclear, produces botulism toxin in the horse's intestine which results in nerve damage and intestinal paralysis.Other factors may well contribute to the disease such as fungal toxins (eg. Fusarium sp.).

What are the symptoms of grass sickness?

These are highly variable. Essentially, there are four syndromes (forms of the disease):-

· In the per-acute form, the horse may be found dead, often with a ruptured stomach, following massive fluid accumulation in the stomach and small intestines.

· In the acute form, the horse will suffer severe abdominal pain (colic) of sudden onset, with sweating, elevated heart rate and fine muscle tremors (fasciculations) especially seen around the neck and brisket. Most cases have a greenish nasal discharge associated with an inability to swallow properly and regurgitation of stomach content. Some will die from rupture of the stomach and cardiovascular 'shock'.

· In the sub-acute form, the horse shows the most commonly recognised symptoms associated with the condition. These are low-grade colic associated with a mild or recurrent colonic (large bowel) impaction, the heart rate is elevated and the horse will show patchy sweating and muscle tremors. The horse may also show difficulty swallowing and saliva accumulates in and may dribble from the mouth. There is a mortality rate of nearly 100% within 1 to 2 weeks.

· In the chronic form, horses show little or no pain but have reduced amounts of droppings, muscle fasciculation or tremors, difficulty swallowing and profound weight loss. Characteristically, horses with chronic grass sickness develop a thin and 'tucked-up' ('greyhound') appearance and a crusty nasal discharge. Many of these cases can survive after long periods of intensive care, nursing and nutritional support.

The symptoms of grass sickness are caused by damage to the nerves most importantly supplying the oesophagus ('gullet'), stomach and intestines. As manifestations are so varied in individual cases, the diagnosis can sometimes be difficult to make and in many cases with acute colic, exploratory laparotomy (surgical exploration of the abdominal organs under general anaesthesia) may be needed to rule out treatable intestinal conditions such as 'twists' and displacements. In some cases it is helpful to collect a small tissue sample of the wall of

the small intestine for microscopic studies (ileal biopsy), during laparotomy. Definitive diagnoses are finally made on the basis of post mortem examination results where typical signs of nerve cell damage are found in specific nerve centres (sympathetic ganglia).

Can grass sickness be treated?

Most cases of grass sickness are either fatal or require euthanasia on humane grounds, and require symptomatic and supportive treatment to alleviate their suffering until a diagnosis can be reasonably made. However, many horses with the chronic form of the disease have been successfully treated with long-term supportive therapy. This includes constant encouragement of the horse to eat, general mental stimulation and sometimes administering medication to try to stimulate intestinal movement. This treatment needs to be continued for weeks, and sometimes months, and is only suitable for select cases, basically those that have only slight and partial intestinal paralysis. Horses which do recover from the chronic form of the disease can be susceptible to choke and to colonic and rectal impactions thereafter and may need careful dietary management. Horses with signs of acute and sub-acute grass sickness will not respond to treatment because their intestines are irreparably paralysed and they should be humanely destroyed as soon as the diagnosis can be reasonably made.

Can grass sickness be prevented?

Historically, grass sickness cases were first diagnosed in Scotland and the north of England but cases now occur relatively commonly throughout many areas further south and have been confirmed in horses along the south coast. Although there is a seasonal (late spring and summer) increase in the number of cases diagnosed, animals can be affected at any time of the year. Horses that have recently changed fields (even to the next field) appear to be particularly at risk. Grass sickness cases occasionally occur in batches, meaning that more than one animal may be affected on a particular premises or in a particular area at about the same time. This often happens following a period of cooler, dry weather. Most however, are single isolated cases and some may be old horses who have lived on the same pasture for most of their lives.

In view of these apparent predisposing factors, horses being turned out after a period of stabling, e.g. racehorses who are resting or retiring, should not be just turned out on grass alone, but should continue to receive some hay and concentrate feed. Where a case has occurred, horses in-contact should be re-located to another paddock.

Grass sickness appears to be more frequently diagnosed throughout UK and apparently similar cases have now been confirmed in Ireland and continental Europe. Research is continuing in an effort to confirm the causative agent and to understand better how and why the disease occurs. Hopefully, once this research bears fruit, specific preventive measures will emerge.

For further expert information see: www.grasssickness.org.uk/advice.htm