

INFORMATION ON SYCAMORE POISONING



Atypical Myopathy “Sycamore Poisoning” in Horses

Atypical myopathy (“Sycamore poisoning”) is a frequently fatal disease of horses caused by eating Sycamore seeds (“helicopters”) or seedlings. The disease results in muscle damage and particularly affects the muscles that enable the horse to stand and breathe. The heart muscle may also be affected. Horses with the disease may develop a range of signs but typically become very dull, weak, stiff and trembly. The first signs are often lethargy, a quiet demeanour or reluctance to work.

Even with intensive veterinary treatment, severely affected horses may die. However, with prompt, aggressive treatment cases can recover very quickly.

If you think your horse could have eaten sycamore seeds or seedlings and may be showing signs of atypical myopathy then you must contact your vet immediately.

What are the signs of Atypical Myopathy?

- Depression
- Stiffness
- Reluctance to move
- Muscle tremors
- Sweating
- Weakness
- Lethargy
- Difficulty breathing
- Reluctance to work
- Red or brown urine
- Choke
- Colic
- Low head carriage
- Fast or irregular heart beat
- Sudden collapse (Figure 1) and death

How can I confirm whether my horse has atypical myopathy?

Diagnosis of the disease is based on:

- Evidence of exposure to sycamores
- Clinical signs consistent with the disease
- The absence of evidence of other more common diseases such as colic
- High levels of muscle enzymes in blood
- Dark (red/brown) urine full of muscle pigment

How can I prevent atypical myopathy in my horses?

Check for the presence of sycamores around your fields. It has been estimated that seeds typically spread up to 3 times the height of the parent tree but in extreme weather conditions may potentially travel further. If you do have Sycamores within 100m of your paddocks then:

- Regularly check for when seeds are falling
- Fence off areas where sycamore seeds are likely to fall
- Only turn horses out for a few hours each day and keep younger horses furthest away from the sycamores
- Provide extra forage (hay or haylage) especially where pasture is poor or grazing is tight
- Avoid feeding fats or oils
- Reducing stocking density so there is plenty of good grazing for every horse
- Ensure the horses have access to fresh drinking water and aren't drinking from streams or ponds under trees.

What do I do to protect horses during a disease outbreak?

If you are unfortunate enough to have had a case then you need to take measures to protect other horses from the same property as studies show that they too are likely to have ingested the toxin.

When one case occurs more will often follow.

Step 1 – In response to a case of atypical myopathy on your property:

- Remove all horses from affected pasture prioritising the youngest horses
- Supplement horses with a fat-free diet
- Preferably stable horses or monitor them closely on clean paddocks for 5 days
- Get your vets to check the levels of muscle enzymes in blood immediately
- Get your vets to re-check blood samples daily or every other day for 5 days

Step 2. – If they become dull or have high muscle enzymes

- Consider moving them to a hospital immediately for further investigations and treatment.
- Obtain a urine sample to check for discolouration
- Provide vitamin/mineral supplementation under veterinary guidance

Step 3. – If they have dark urine

- Move them to a hospital immediately for intensive treatment

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What causes atypical myopathy?

A toxin (Hypoglycin A) found within the seeds ("helicopters") (Figure 2) and seedlings (Figure 3) of the common or maple sycamore (Figure 4), *Acer pseudoplatanus*, prevents energy being produced within muscle cells causing the muscle cells to die. The disease is more common in the autumn (typically October and November) and often occurs as an outbreak when large numbers of seeds are falling. Bad weather also seems to trigger the disease probably because more seeds come to the ground and horses graze in the shelter of trees. The disease is less common through the winter and then new cases occur when seedlings start to germinate.

The amount of toxin within seeds and seedlings is variable and susceptibility to the disease varies from horse to horse. Some horses may become sick after eating only few dozen seeds or seedlings.

Exhaustive studies of all trees have not been performed however to date we are only aware of the disease occurring in association with exposure to either the common sycamore or sycamore maple (*Acer Pseudoplatanus*) in Europe or the Box Elder (*Acer negundo*) in The United States. Other members of the Sapindaceae family of trees which includes Acers (Maples) may produce the toxin but the common sycamore is the only one that horses are likely to come into contact with in the UK. Some Acer species found in parks and gardens do produce seeds which contain the toxin; however, they do not produce seeds in the same quantity and horses are less likely to be exposed to them. Acer species known to produce the toxin include the Japanese maple (*Acer palmatum*) silver maple (*Acer saccharinum*) mountain maple (*Acer spicatum*) and sugar maple (*Acer sacharum*).

What can be done to treat atypical myopathy?

It is a common misconception that the disease always results in death. Survival rates have increased as we have learnt to recognise the disease more quickly and can treat it more effectively. However, in more severely affected horses the chances of survival are 50:50 at best so it is vitally important that treatment is thorough and starts immediately. Horses often get worse for 24-48 hours before they start to improve so move them to a hospital whilst you are in a position to do so.

"Seeing what he's like tomorrow" can have disastrous consequences.

Treatment will comprise a range of supportive measures that often necessitate 24/7 veterinary care:

- Fluids to reverse dehydration and prevent kidney damage
- Multiple forms of pain relief
- Assisted feeding orally or intravenously
- Vitamin supplements
- Monitoring and support of heart and lung function

Most affected horses that are alive 5 days after the first signs are likely to recover completely. Typically they get worse for 24-48 hours before starting to improve. Horses are usually hospitalised for around 5-15 days with the costs of treatment typically being between £1000 and £3000.

Contributing to research into atypical myopathy

Please report any cases of atypical myopathy to <http://www.myopathieatypique.fr/en/la-maladie/> and speak to your vets about submitting samples to The Royal Veterinary College where studies are being performed to help gain a better understanding of the disease.