ATYPICAL MYOPATHY IN HORSES

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The Disease

Equine Atypical Myopathy (EAM) is a severe and often fatal disease seen in horses with access to pasture. The disease causes acute damage to muscles of the musculoskeletal, respiratory and cardiac systems. There is no specific treatment for EAM and the disease is fatal in approximately 75% of cases. The disease has been recognised since 1984, but only recently has the cause been identified. In recent years EAM has become a lot more prevalent in Northern Europe, including the UK.

Cause of the disease

Recent research has identified the cause of the disease as ingestion of a toxin called Hypoglycin A, which is found in the European Sycamore tree (Acer pseudoplatanus). This discovery stems from research carried out in the United States where the same toxin is found in the Box Elder tree (Acer negundo), which causes an almost identical disease in North America.

The ‘helicopter’ seeds that fall from Sycamore trees onto the pasture in the autumn are thought to be the predominant carrier of the toxin. Seedlings and fruit from the Sycamore are also thought to carry the toxin so owners should be vigilant during spring months as well as autumn.

Research into the disease is still in the early stages, and as such there are many unanswered questions. Why is the disease becoming more common? Do any other plants carry the toxin? Can horses build up a natural resistance to the disease if they consume small amounts of the toxin? However, uncovering the Sycamore tree as the carrier of the toxin has proved a massive leap forward in our knowledge of the disease.

Clinical Signs

The onset of signs can be very rapid and often appear without warning. In the early stages, the horse will often just be found in the field unwilling to move. As the disease progresses, clinical signs include:

- Muscle stiffness and pain
- Laboured breathing
- Dark red/brown urine
- Muscle tremors
- Rapid deterioration resulting in recumbency

The disease can look similar to a severe colic, with the horse found down, breathing rapidly and looking very depressed. The disease can be confirmed by testing the blood or urine. Sadly the horse may just be found dead in the field, such is the speed of progression of the disease.

Younger horses appear more predisposed to EAM, suggesting older horses may be capable of building up a natural immunity. Research into this is still ongoing however, and it should be noted that the disease can be seen in horses of any age.
Treatment

If EAM is suspected, urgent veterinary assistance should be sought. There is no specific treatment, so medication revolves around fluid therapy, anti-inflammatories and intensive nursing care.

Early intervention is critical, affected horses can be treated successfully but only if treated early. Mortality rates vary from 65-90%. Due to this very poor prognosis, euthanasia is often considered the only option if the disease has reached the stage where the horse is suffering profoundly and the prognosis is hopeless.

Prevention

Due to the lack of a specific treatment, prevention of the disease is extremely important. Minimising the access horses have to Sycamore seeds is thought to be key. It must be remembered that the seeds can travel some distance on the wind, so fields do not always have to contain trees in order to still be a risk. The disease appears more common in over stocked fields with poor grazing, as horses will be more inclined to forage for food and therefore ingest the seeds. The main tips for prevention are shown in the box below:

<table>
<thead>
<tr>
<th>Prevention of Equine Atypical Myopathy</th>
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<tbody>
<tr>
<td>• Remove sycamore trees and/or seeds from pasture where possible</td>
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<tr>
<td>• Fence off areas where seeds fall – remember they can travel some distance on the breeze</td>
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<tr>
<td>• Reduce stocking levels</td>
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<td>• Ensure good pasture management to encourage grass growth (topping rough areas, weed control, remove droppings)</td>
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<td>• Provide alternative food sources if grass is bare or of poor quality</td>
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