

Cantharidin Poisoning

When horses ingest the cantharidin toxin through hay or alfalfa contaminated with “blister” beetles, the outcome is often fatal. Toxicosis occurs rapidly; as little as four grams of dried beetles may contain fatal levels of cantharidin.

Cantharidin is akin to cyanide or strychnine in toxicity and quickly affects a horse’s ability to function. All blister beetles carry cantharidin, and 200 species occur in the United States. The striped blister beetles present in the southwestern states are the most problematic.

Time is of the essence in diagnosing and treating a horse with cantharidin poisoning. A typical toxicosis case shows many of the following signs:

- Abdominal pain, resulting in anorexia
- Depression and sweating
- Frequent attempts to drink water, submerge the muzzle
- Blood-tinged urine or urine with blood clots
- Dark, congested mucous membranes
- Increased heart and respiratory rates
- Increased rectal temperature
- Hypocalcemia

The less frequent but telltale symptoms include:

- Oral erosions
- Salivation
- Synchronous diaphragmatic flutter
- Stiff, short-strided gait
- Bloody diarrhea



The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) at College Station was one of the first labs to diagnose cantharadin poisoning and to develop a test for the toxin.

To submit a test to TVMDL and for rapid turnaround time (<3 days) submit 5cc of serum or 5cc of urine. A 500g sample of stomach or cecal content can also be tested but may take up to 14 business days. To submit a test to TVMDL, a 500g sample of stomach or cecal content is needed, along with one cup to one liter of urine. Though not optimum, the test can also be run on 20cc of serum.

Cantharidin Test

Specimen: 500 g stomach/cecal contents or feed, or 5 mL urine, or 5 mL serum.

Price: \$85.00

Turnaround: Performed in the College Station laboratory Monday Friday, with results in 2-10 business days.

In addition, if a beetle is sent to the lab, it can be confirmed as the potentially catharidin-producing blister beetle.

Beetle Identification

Specimen: Beetle should not be in formalin

Price: \$15.00

Turnaround: Performed in the College Station laboratory Monday Friday, with results in 1-2 business days.

Treatment varies widely depending on symptoms and stage of toxicosis, but prevention is key. Alfalfa should be weed free and harvested prior to blossom to avoid contamination.

Visit tvmdl.tamu.edu for more information or to download your free educational material on a wealth of diagnostic services.