Lead Poisoning in Dogs

Drs. Foster & Smith Educational Staff

Lead poisoning occurs when the concentration of lead in the dog's blood reaches levels that start to cause symptoms. This will occur more commonly in dogs who ingest lead-based paint chips or dust during the remodeling of older homes. It can also occur when dogs eat items that contain lead such as toys, drapery weights, fishing weights, lead shot, and tile. Some types of insulation can also cause lead poisoning if ingested. Water from lead pipes can carry lead with it, as can water offered in improperly glazed ceramic bowls. Usually, the symptoms are observed after the dog ingests enough lead over a short period of time, such as licking lead-based paint dust from the haircoat over a day or two. However, low amounts eaten over a longer time can also build up in the body.

Symptoms

Lead affects many body organs especially the gastrointestinal (GI) tract and the nervous system. Symptoms include lack of appetite, vomiting, abdominal pain, constipation then diarrhea, chomping of jaws, blindness, seizures, muscle spasms, behavior changes, circling, and incoordination.

Diagnosis

An initial diagnosis is made based on history of exposure to lead, clinical signs, and response to specific treatments. Lead poisoning should be considered a possibility any time an animal (or human for that matter) shows both GI tract and nervous system signs. Examining the blood under the microscope may show abnormalities of the red blood cells, although this is not a definitive diagnostic test. The definitive diagnostic test is checking the lead concentration level in the blood. If the dog has died, the lead concentration level in the liver can be measured and provide the diagnosis.

Treatment

Treatment is aimed at removing any remaining lead from the GI tract by inducing vomiting, if the exposure is very recent, or through surgery, if indicated. Symptoms such as seizures and vomiting are also treated as necessary. The specific therapy for lead poisoning is chelation therapy with Ca_2Na_2EDTA. Other treatments include penicillamine or thiamine. After treatment, another blood lead level should be taken to verify that the level has returned to the normal range.

Prevention

Prevention is aimed at keeping the dog from ingesting lead. For example, if you are remodeling and the paint contains lead, the dog should not be allowed in the area, and appropriate precautions should be taken to prevent human exposure (contact your local public health agency for more information). Lead paint chips and dust can be ingested by the dog if he licks his haircoat that has the dust on it. Any lead-containing item that may be ingested should be out of reach of pets (and children). If one pet in the house develops lead poisoning, it is a good idea to test the blood lead level in all pets and people in the household, especially small children.

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