

METALDEHYDE POISONING

BASICS

OVERVIEW

- Metaldehyde—an ingredient of slug and snail baits; used as solid fuel for some camp stoves
- Baits—liquids, granules, wettable powders, or pelleted baits (pellets often mixed with grain); baits also may contain other poisons (such as arsenate or insecticides)
- Metaldehyde poisoning primarily affects the nervous system

SIGNALMENT/DESCRIPTION of ANIMAL

Species

- Dogs (most common) and cats

SIGNS/OBSERVED CHANGES in the ANIMAL

- May occur immediately after ingestion of metaldehyde or may be delayed for up to 3 hours
- Anxiety and panting are early signs
- Excessive salivation/drooling (known as “hypersalivation”) and/or vomiting or diarrhea may occur
- Wobbly, incoordinated or “drunken” appearing gait or movement (known as “ataxia”)
- Muscle tremors
- Seizures—may be intermittent early, but progress to continuous seizure activity; not necessarily set off by external stimuli
- Between seizures—may note muscle tremors and anxiety; may be overly sensitive to sounds, light, and/or touch
- Markedly elevated body temperature (known as “hyperthermia”)—temperature up to 42.2° C (108° F) common; probably caused by excessive muscle activity from seizures; hyperthermia may lead to a blood-clotting disorder (known as “disseminated intravascular coagulopathy” or “DIC”) or multiple organ failure, if uncontrolled
- Rapid heart rate (known as “tachycardia”) and deeper and more rapid breathing (known as “hyperpnea”) than normal
- Short, rapid movements of the eyeball (known as “nystagmus”) or dilated pupils (known as “mydriasis”) are possible; the “pupil” is the circular or elliptical opening in the center of the iris of the eye; the “iris” is the colored or pigmented part of the eye

CAUSES

- Ingestion of metaldehyde

RISK FACTORS

- Living in area with a high number of snails and slugs
- Metaldehyde poisoning is found more commonly in coastal and low-lying areas, which have a higher number of snails and slugs than other areas

TREATMENT

HEALTH CARE

- Emergency inpatient intensive care, until seizures cease and elevated body temperature (hyperthermia) is controlled
- Monitor to prevent aspiration of vomitus
- Fluids often are necessary to treat dehydration or possibly acidosis (a condition in which levels of acid are increased in the blood)

ACTIVITY

- Restricted, so that patient does not injure itself during seizures

DIET

- Do not feed patients that are vomiting, having seizures, or are sedated heavily

MEDICATIONS

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- No antidote is available for metaldehyde poisoning
- The veterinarian will attempt to decrease absorption of metaldehyde in patients that have no clinical signs or that have been stabilized with medications to induce vomiting (known as “emetics”), flushing the stomach (known as “gastric lavage”), and/or administration of activated charcoal, as appropriate

- Seizures may be controlled with diazepam, barbiturates, and/or gas anesthesia; in addition, a muscle relaxant (methocarbamol) may be administered

FOLLOW-UP CARE

PATIENT MONITORING

- Periodically allow sedatives or anesthetics to wear off to re-evaluate seizure activity

PREVENTIONS AND AVOIDANCE

- Do not apply metaldehyde in areas accessible to pets
- Some manufacturers dye the product green or blue to assist with identification
- Some states require manufacturers to adjust the formulation to decrease the tastiness (palatability) to pets

POSSIBLE COMPLICATIONS

- Liver or kidney dysfunction are possible several days after recovery from the initial signs and probably are sequelae to the seizures and elevated body temperature (hyperthermia)
- Aspiration pneumonia is a concern with any patient that has seizures
- Elevated body temperature (hyperthermia) may lead to a blood-clotting disorder (disseminated intravascular coagulopathy or DIC) or multiple organ failure
- Temporary blindness or memory loss may occur

EXPECTED COURSE AND PROGNOSIS

- Prognosis—principally depends on the amount of metaldehyde ingested, time to treatment, and quality of care
- Delayed or non-aggressive treatment may result in death within hours of exposure

KEY POINTS

- Do not apply metaldehyde in areas accessible to pets
- Metaldehyde poisoning is found more commonly in coastal and low-lying areas, which have a higher number of snails and slugs than other areas
- Emergency inpatient intensive care is necessary, until seizures cease and elevated body temperature (hyperthermia) is controlled
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