Miscellaneous Toxicities

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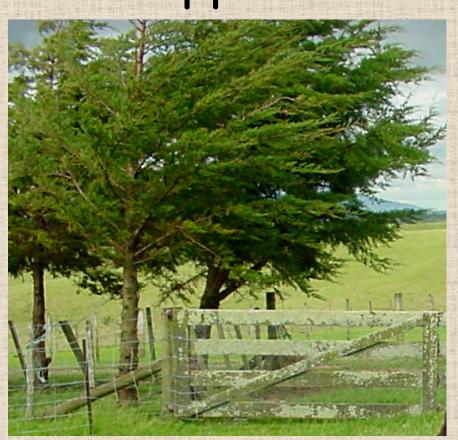


Miscellaneous Toxicities

Abortion:

- Macrocarpa and Cupressus spp
- Ponderosa pine
 - isocupressic acid





Miscellaneous Toxicities

Cupressus species

- History exposure to trees
- Pregnant cattle third trimester

Miscellaneous Toxicities Cupressus species

Clinical Signs:

- third trimester abortions
- weak late term calves
- retained placentas
- death if large quantities ingested

Miscellaneous Toxicities Cupressus species

Treatment:

- Good nursing care
- Antihistamines?SEE

http://calve.massey.ac.nz/pharm/toxSite/poisonplants/index.html for more poisonous plants

Miscellaneous Toxicities Boric acid

- Mechanism of Action Unknown
- Suspected to be cytotoxic
- Concentrates in the kidney and lesser degree in brain and liver
- $2-5g/kg LD_{50}$ in rats
- dogs require a higher dose for toxicity

Miscellaneous Toxicities Boric acid - Clinical Signs

- Variable depending on the dose ingested
- Young and old animals are more susceptible
- Acute toxicity boric acid is NOT caustic
- Hypersalivation
- Vomiting
- Retching
- Depression
- Anorexia
- Diarrhoea, Abdominal pain

Miscellaneous Toxicities Boric acid - Clinical Signs

- HIGH Doses cause:
- Weakness
- Ataxia
- Tremors
- Focal, generalised seizures
- Oliguria or anuria
- Depression
- Coma, Death
- Other effects: metabolic acidosis, renal tubular nephrosis

Miscellaneous Toxicities Boric acid - Postmortem

- Gastrointestinal tract inflammation/ congestion, oedema and mucosal exfoliation
- Brain congestion and oedema
- Renal changes variable

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Diagnosis with history and clinical signs

Miscellaneous Toxicities Boric acid - Treatment:

- Emesis, if appropriate
- NO activated charcoal as poor binding
- Isotonic IV fluids
- GIT protectorants
- Antiemetics if protracted vomiting
- Acute renal failure 2 times maintenance dose of 0.9% saline diuresis
- Sodium bicarbonate for metabolic acidosis
- Diazepam for seizures
- Prognosis is GOOD unless LARGE ingestion

- Zinc, aluminium or magnesium phosphide

- Zinc phosphide (expected to be licensed pesticide in New Zealand)
- Al and Mg already licensed pesticides/ insecticides

- Mechanism of action
- Zinc phosphide bait is hydrolysed in the stomach to phosphine gas
- Mechanism thought to be blocked cytochrome oxidase i.e. blocks energy production in mitochondria
- Reactive oxygen species = peroxidation

- 20-40 mg/kg is usually lethal for many animals
- Veterinarians are at risk of phosphine gas poisoning from postmortem exposure

- Clinical Signs
- Rapid onset (15 minutes to 4 hours)
- Ingestion on an empty stomach will delay signs
- No specific signs
- Anorexia and depression early
- Rapid, deep respirations (wheezy)
- Vomit

- Clinical Signs
- Horses: colic
- Ruminants: tympany and bloat
- Ataxia, weakness recumbency hypoxia and struggling
- Possible convulsions and hyperaesthesia

- No specific clinical pathology
- No specific postmortem changes:
- Liver and kidney congestion
- Yellow mottling of liver
- Gastritis, enteritis
- Pulmonary congestion
- Diagnostic testing
- Put samples in airtight containers on ice

- Treatment
- Time is critical
- Early decontamination very helpful
- Central acting emetic like apomorphine used
- Increase gastric pH to slow conversion to gas
- Activated charcoal and laxatives
- Symptomatic care as no antidotes exist

RECENT TOXICITIES of NOTE

- · Raisins and grapes (DOGS)
- · Macademia nuts (DOGS)
- · Easter Lily (Lilium longiflorum) (CATS)
- · Avocado (dogs, horses and others)