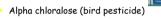


# CNS Toxicities DEPRESSION

Differential diagnoses:

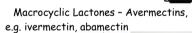


- Barbiturates in euthanased animals
- Ethylene Glycol (antifreeze)



# CNS DEPRESSION

Differential diagnoses:



Marijuana





# CNS DEPRESSION

#### PROBLEMS:

Ataxia and incoordination

Depression

Hypothermia

Stupor

Coma

ALPHA CHLORALOSE -

Sources:

Anaesthetic - research

rodenticide

NZ - bird pesticide

Secondary poisoning of dogs & cats



### CNS DEPRESSION

ALPHA CHLORALOSE -

Mechanism of Action CNS depressant of ascending reticular formation

small doses - myoclonic movements hypothermia (except some dogs)

#### CNS DEPRESSION

#### ALPHA CHLORALOSE

"Anaesthetised"

Hypothermic

Depressed

Convulsions

Cats - clawing, hissing

convulsions



#### CNS DEPRESSION

#### ALPHA CHLORALOSE TREATMENT

Symptomatic and supportive care\_

Warm environment

Anticonvulsants

Oxygen

Osmotic diuresis (mannitol)

care	
	PESTOR
	Bird Control Paste
	A Control
	6A
	A Parameter of the Para

MARIJUANA

Sources?
Plant ingestion

Baked goods (brownies)

Dried plant material



# CNS DEPRESSION MARIJUANA Toxicity

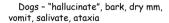
THC - tetrahydrocannabinol
anti-emetic effects?
lipophilic, absorbed across GIT & lung
enterohepatic circulation
3 g/kg may cause death, very rare in dogs
Excreted within about 24 hours (1 off)

# CNS DEPRESSION MARIJUANA

"Stoned", eyes-glazed look Pinpoint pupils Depression

± Excitation

"munchies"



#### CNS DEPRESSION

#### MARIJUANA TREATMENT

Decontaminate with Activated Charcoal and laxative Usually wears off within 24 hours

Symptomatic and supportive care

Diazepam





# CNS DEPRESSION Macrocyclic Lactones

Abamectin Sources

Abapor, Bomatak A, Genesis, Paramectin Pour-ons at <u>10 mg/ml</u>

81 licensed products containing abamectin

pour-ons, drenches, injectables

Routes

oral

dermal injectables



### Abamectin & Ivermectin Mammalian Toxicity

Mechanism of Action - Mammals
GABA neurotransmitter in CNS
Decreases neuron excitability
MDR1 mutations in dogs - low doses
p-glycoprotein defect in
the blood-brain barrier
Normal dogs - high doses

Macrocyclic Lactones Ivermectin & Abamectin

Enterohepatic circulation Excreted in faeces Most appear to have long T1/2 (days)





#### **CNS**

Ivermectin & Abamectin - Clinical Signs
Heading dogs and Huntaways
Ataxia, stiff gait, high stepping
progressive ataxia, ± blindness
muscle weakness
abamectin poisoning - ataxia & blindness,
reported in horses





#### Suspected Abamectin - Clinical Signs



#### Ivermectin

Tyke - collie 1 yr old male

Horse wormed on Saturday morning. Tyke ingested some of the paste that horse spat out. Tyke presented several hours later in ataxic state. Within 48 hours was "comatose". Treated at Massey University for 3 weeks before "normalised"

#### Clinical Signs:

COLLIE OR COLLIE CROSS (MDR1)

Dilated pupils Hypersalivation Progressive ataxia, stiff gait

Muscle tremors
Blindness (reversible)
CNS depression
Coma and death



AVERMECTINS - Diagnosis

Brain, plasma, liver, fat History Clinical signs

#### Abamectin & Ivermectin

Pathology
No Gross or histopathological changes
Beagle puppies 11-12 weeks old - SC dose
Doses > 9.4 mg/kg ivermectin died
Pathology:

thymus - haemorrhage lung - congestion & oedema lung - acute suppurative pneumonia skin oedema

#### CNS DEPRESSION

#### AVERMECTIN TREATMENT

Symptomatic and supportive care

Activated charcoal (repeat 6-8 hr)
Advise clients:

Prevent animal access to these products when using pastes, drenches or pour-ons Decontamination as soon as possible will reduce the likelihood of a long recovery period.

#### CNS DEPRESSION

#### BARBITURATES

Respiratory depression Ataxia, disorientation CNS Depression Hypothermia



#### BARBITURATES TREATMENT

Symptomatic and supportive care arrhythmogenic

hypothermia  $\Longrightarrow$  ventricular fibrillation and cardiac arrest

Alkaline diuresis e.g. phenobarbitone

#### CNS DEPRESSION

#### SUMMARY

"Anaesthetised-like state" or stuporous

Hypothermia

Osmotic vs Alkaline diuresis



Jack Russell
Ataxic
Blind
Differentials?
Diagnosis?
Treatment?

# Is it poisoned?

- Huntaway farm dog presents with ataxia, drooling and blindness.
- The owner doesn't know what the dog was exposed to.
- What questions would you ask the owner?