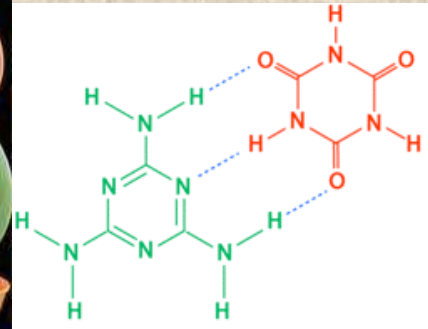
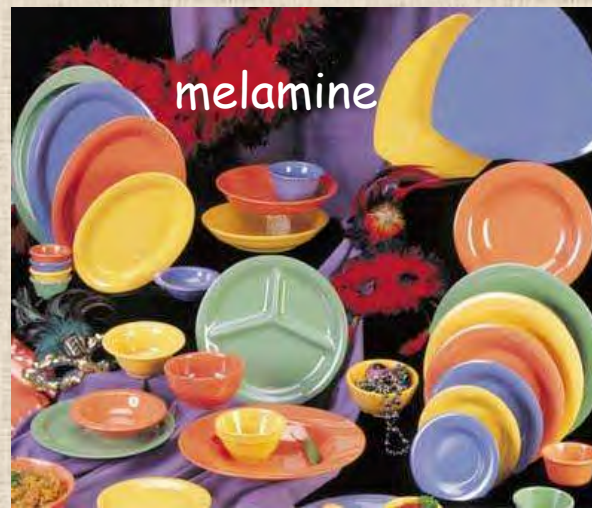


Renal Toxicities



Renal Toxicities

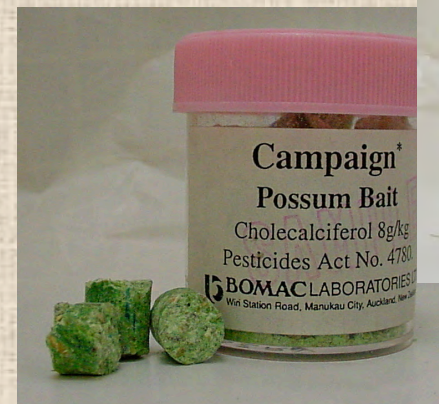
PROBLEMS:

- Anorexia
- Depression
- Dehydration
- Vomiting
- Oral lesions
- Diarrhoea
- Hypothermia
- Urine output & specific gravity altered

Renal Toxicities

Differential diagnoses:

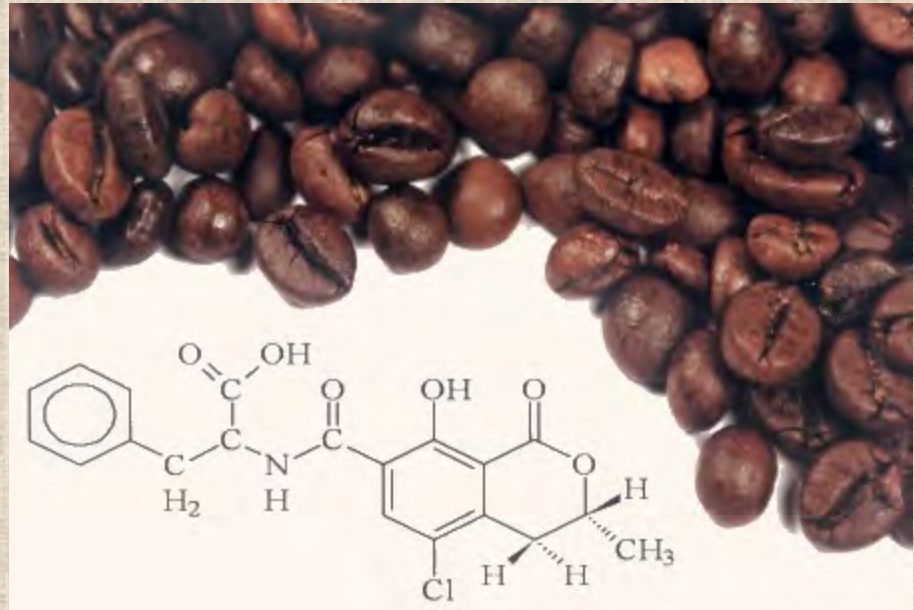
- Aminoglycoside antibiotics
- **CHOLECALCIFEROL**
- **ETHYLENE GLYCOL**



Renal Toxicities

Differential diagnoses:

- Heavy metals
- Ochratoxin



Renal Toxicities

Differential diagnoses:

- Raisins & grapes



- NSAIDs



FOR ANIMAL TREATMENT ONLY

PBZ GRANULES
ANALGESIC AND ANTI-INFLAMMATORY

Each Sachet contains:
Tasteless Granules equivalent to
1 gram PHENYLUBUTAZONE B.P.

INDICATIONS: AS AN ANALGESIC AND
ANTI-INFLAMMATORY IN THE TREATMENT OF
MUSCULOSKELETAL DISORDERS IN HORSES.

Licensed to:
Apex Laboratories NZ Ltd
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Christchurch New Zealand

Distributed by: Ethical Agents Ltd
54 Hobill Avenue Wiri, Auckland New Zealand



Renal Toxicities

Differential diagnoses:

- Oxalates (plants)
- Easter Lily (cats)



Renal Toxicities

CHOLECALCIFEROL-Sources

- Pesticides

- Plants

- Vitamin D₃
Toxicity:

2 mg/kg (low)

LD₅₀ 13 mg/kg



Renal Toxicities

CHOLECALCIFEROL - Clinical Signs & Effects

- Initially - lethargy & anorexia
- Vomiting, PU, PD
- Dehydration
- Cardiac - PR \uparrow , QT \downarrow
- Azotaemia

Renal Toxicities

CHOLECALCIFEROL - Diagnosis

- Hypercalcaemia
- Hyperphosphataemia
- Ca:P
- ECG: ↑ PR interval, ↓ QT
- Histo: Tissue Mineralisation

Renal Toxicities

Cholecalciferol Treatment Plan

depends on severity and Calcium levels

- Activated charcoal (repeat)
- Fluids - Saline diuresis
- Frusemide
- Prednisone
- salmon calcitonin (Miacalcic) OR
 - *pamidronate disodium (Pamisol)
- Guarded to Grave Prognosis

Renal Toxicities

ETHYLENE GLYCOL

- Antifreeze
- Clinical signs appear from 30 minutes to 12 hours post ingestion



Renal Toxicities

ETHYLENE GLYCOL - Antifreeze

- Stage I - drunkenness (1-2 hours)
 - Vomiting, depression, ataxia
 - Metabolic Acidosis,
 - Cats - lethargy
- Stage I - (2-6 hours)
 - diuresis, dehydration, polydipsia

Renal Toxicities

ETHYLENE GLYCOL - Antifreeze

- Stage II - Cardiopulmonary Signs
 - Hypocalcaemia
 - Hypothermia,
 - Muscle tremors (6 hours)
 - Tachycardia,
 - Pulmonary oedema
 - ↑ phosphorus

Renal Toxicities

ETHYLENE GLYCOL - Antifreeze

- Stage III - Renal Failure
 - Painful swollen kidneys
 - Anuria, uraemia
 - Increased BUN and Creatinine

Renal Toxicities

ETHYLENE GLYCOL - Antifreeze

Clinical Pathology:

Metabolic Acidosis, \uparrow anion gap

Urine specific gravity - isothernuric or dilute

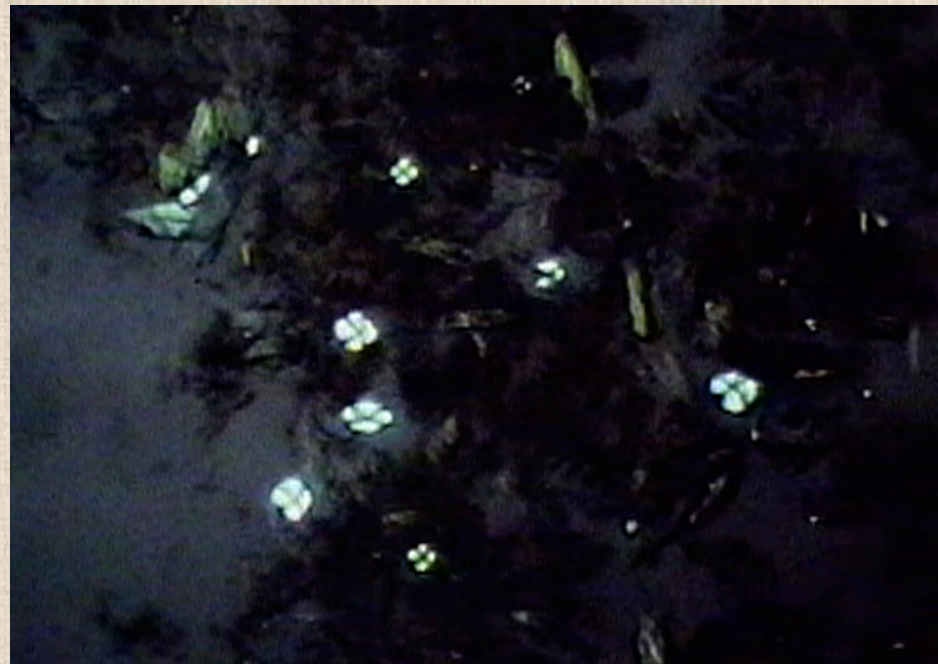
Uraemia, \uparrow creatinine (renal failure)

Renal Toxicities

ETHYLENE GLYCOL - Antifreeze

Clinical Pathology:

Birefringent crystals in kidneys



Renal Toxicities

ETHYLENE GLYCOL TREATMENT

- Ethanol (dogs and cats)
- Dogs: 4-methylpyrazole (fomepizole)
- Symptomatic and supportive care
 - fluid therapy
 - sodium bicarbonate (acidosis)
 - electrolyte correction



fomepizole

Renal Toxicities

SUMMARY

- Clinical Signs of Renal Failure
- Hypothermia
- Activated charcoal (cholecalciferol)
 - Reduce hypercalcaemia
- Metabolic Acidosis (ethylene glycol)
 - Ethanol or 4-Methylpyrazole