

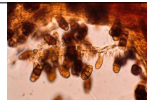
Hepatic Toxicities



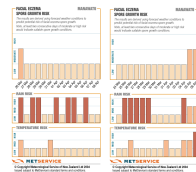
Hepatic Toxicities Differential diagnoses:

- Paracetamol (small animals)
- Phosphorised pesticides (LA & SA)
- Facial Eczema (LA)
- Ragwort - pyrrolizidine alkaloids (LA)
- Blue green algae (Microcystis spp)
- Xylitol (dogs - sweetner)

Hepatic Toxicities FACIAL ECZEMA



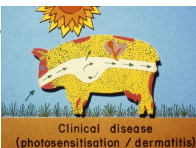
- Pithomyces chartarum
 - now Leptosphaerulina chartarum
 - Sporidesmin toxin
- Ryegrass pastures
- Weather related



Hepatic Toxicities FACIAL ECZEMA



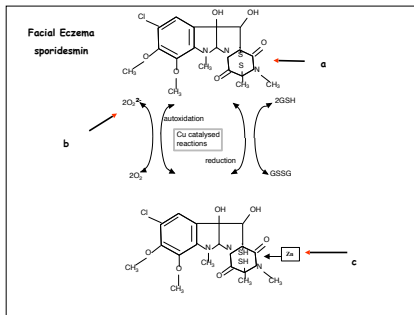
- Mechanism of action
 - Grazing of fungi-infested pastures
 - Ingestion of fungal spore containing sporidesmin
 - Concentration of sporidesmin in liver and hepatic bile



Hepatic Toxicities

FACIAL ECZEMA

- Mechanism of action
 - Cycle of oxidation and reduction
 - Superoxide radicals form
 - Hepatic ductular epithelium injury
 - Biliary system obstruction (pericholangitis)
 - Inability to excrete phyloerythin



Hepatic Toxicities

FACIAL ECZEMA

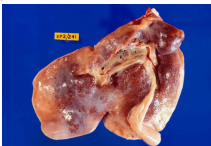
- Clinical disease
 - pericholangitis
 - jaundice
 - photosensitivity
 - illthrift



Hepatic Toxicities

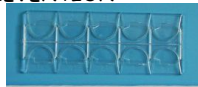
FACIAL ECZEMA

- Post mortem changes
 - boxing glove liver



Hepatic Toxicities FACIAL ECZEMA PREVENTION

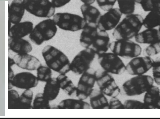
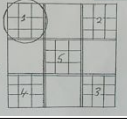
- Monitoring
- Spore counts on pastures



SPORE COUNTING KIT

PRODUCTS REQUIRED:

100 Spore Counter (with cover)
Spore Counter (with cover)
Spore Counter (with cover)
Spore Counter (with cover)
Spore Counter (with cover)
Spore Counter (with cover)
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Hepatic Toxicities FACIAL ECZEMA PREVENTION

- Breed for resistance
- Pretreat with zinc
- Pasture treatment with fungicides
- Treatment-Symptomatic



zinc oxide capsule



Gastrointestinal-Hepatic Toxicities PARACETAMOL

Also known as ACETAMINOPHEN

- Depletes glutathione
- glycine, glutamine & cysteine
- Oxidative injury
- dogs-liver
- cats-RBCs

Gastrointestinal-Hepatic Toxicities
PARACETAMOL-DOGS

- Vomiting, Anorexia
- Tachycardia, Tachypnoea
- Abdominal pain
- \pm Methaemoglobinaemia @ higher dose
- Facial and paw oedema @ higher dose

Gastrointestinal-Hepatic Toxicities

PARACETAMOL-DOGS

- Acute hepatic centrilobular necrosis
 - 24-36 hours post ingestion
- * Not known to cause renal injury in dogs and cats but reported in humans

Gastrointestinal-Hepatic Toxicities

PARACETAMOL-CATS

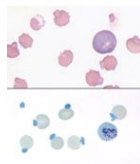
- Cyanosis
- Vomiting
- Dyspnoea
- Oedema, face + paws



Gastrointestinal-Hepatic Toxicities

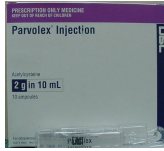
PARACETAMOL-CATS

- Methaemoglobinaemia,
 - Heinz body anaemia
- Hypothermia
- Depression



Gastrointestinal-Hepatic Toxicities
PARACETAMOL TREATMENT

- Symptomatic and supportive care
- Methaemoglobinaemia
 - Methylene blue or ascorbic acid
- N-acetylcysteine (Parvolex)



Xylitol Toxicity

- Sources - artificial sweetener
 - > 0.1 g/kg considered toxic
- Mechanism of action - stimulates insulin release
 - Hypoglycaemia in most dogs
- Liver Failure - mechanism unknown
- Some, not all dogs develop acute liver failure/necrosis
- Signs of GIT upset-e.g. Vomiting



Hepatic Toxicities
SUMMARY

- Paracetamol
 - Face and paw oedema



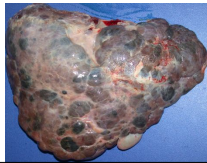
Hepatic Toxicities
SUMMARY

- Facial Eczema
- Photosensitisation
- Boxing glove liver



Hepatic Toxicities

- Ragwort - pyrrolizidine alkaloids



Gastrointestinal-Hepatic Toxicities

BLUE-GREEN ALGAE

microcystins and nodularin

- Weakness
- Vomiting
- Diarrhoea
- Depression
- Hepatic necrosis



Gastrointestinal-Hepatic Toxicities

BLUE-GREEN ALGAE TREATMENT

- Symptomatic and Supportive care
