UNIT-1

Management of Common Clinical Poisoning

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Suspection

- Common Symptoms exhibited by large no. of animals at a time.
- Sudden death
- Salivation
- Vomition
- Neurological signs
- Presence of mouldy feeds
- Presence of house hold waste and medicaments
- Sewage water contamination
- Presence of dead rat or rat wait
- Spray of insecticides, weedicides.
- Use of paint

Principal of treatment

- Prevention of further exposure
- Supportive/symptomatic treatment
- Specific antidote

Prevention of further exposure

- Alkalis are more dangerous than acids.
- Acids form insoluble acid proteinates and hence its effect is partially self limiting
- Alkalis form alkali proteinates along with soaps which will penetrate rapidly into tissues.
- Inhaled poisons can be eliminated by providing assisted ventilation.
- Topical applied toxicant can be removed by washing with plenty of water and soap.
- Skin contact can be eliminated by washing with plenty of water and soap if the poison is water soluble and with organic solvents like Benzene, alcohol if they are fat soluble

Conti….

- Clipping of hair or wool may be necessary
- Emesis is of value in dogs, cats and pigs if done within few hours of ingestion.

- Emesis is contraindicated when

- **The swallowing reflex is absent**
- **Animal is convulsive**
- **Corrosive agent or volatile hydrocarbons or petroleum product ingested**

Conti….

Emetics:

a) Oral:

I. Syrup of ipecac; 10-20ml in dogs
II. Hydrogen peroxide: 2ml/kg

b) Parenteral:

Apomorphine can be used in dogs at dosage of 0.05-0.1mg/kg

Conti…

- Gastric lavage: This is done in mono-gastric animals and 10ml lavage fluid/kg body weight should be given.
- **Potassium permanganate solution**
- This is done with Endotracheal tube and stomach tube

Conti…

Insertion of stomach tube
in cattle for gastric lavage

Conti..

- Gastrotomy or rumenotomy may be necessary when lavage technique is insufficient.
- When toxicant cannot physically removed
- USE of Activated Charcoal 1-2g/kg
- Absorption potential of activated charcoal is 100-1000mg/g charcoal

Conti…

- Universal antidote

  Activated Charcoal - 2 parts
  Light magnesium oxide - 2 parts
  Tannic acid - 1parts
  Kaolin - 1 part

- Universal antidote

Dose:

- Cattle : 240 G two or three times daily
- Calves : 2 tablespoon two or three times daily
- Sheep : 1 tablespoon two or three times daily

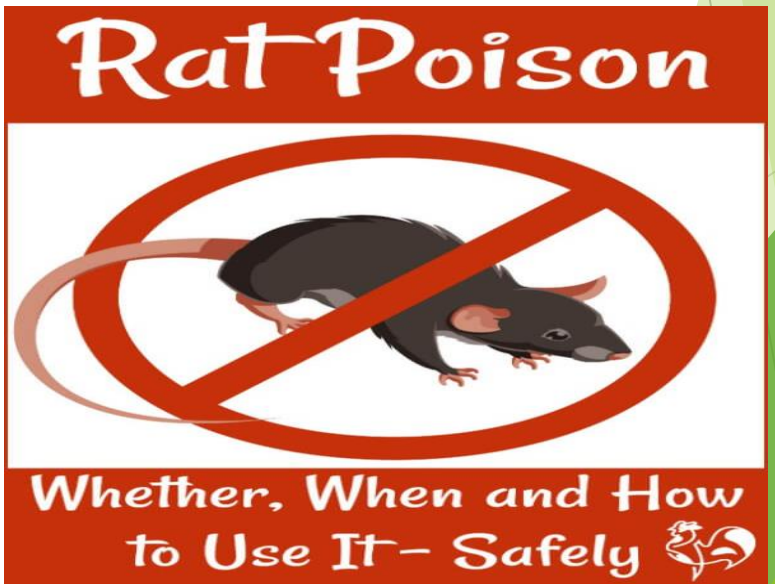
Supportive/symptomatic treatment

- Control of seizures
- Maintenance of respiration
- Drugs to counteract the symptoms exhibited by the ailing animal
- Administration of gastric demulcents in simple stomached animals
- Fluid therapy if dehydration exists
- B complex vitamins
- Intravenous alimentation in cases of inappetance
- Blood transfusion if there is severe blood loss
- Rumen cud transplantation in large animals

SPECIFIC ANTIDOTAL THERAPY

Datura/Atropine	Physostigmine/Neostigmine
Barbiturate	Bemegride
Morphine	Nalorphine
Nuxvomica	Barbiturates
Arsenic	Dimercaprol (BAL)
Lead	Penicillamine/Calcium disodium EDTA
Organophosphorous compounds	Atropine/Oximes
Cyanide	Sodium nitrite followed by Sodium thiosulphate

- Specific toxicities
  - **Rodenticides**
    1. Anticoagulants (warfarin, pindone, bromadiolone, brodifacoum)
       - Work by binding Vit K, which inhibits synthesis of prothrombin (Factor II) and other clotting factor
    - Rx
      - Vit K: 3-5 mg/kg PO for up to 21 d
      - Induce vomiting; activated charcoal
      - Whole blood transfusion



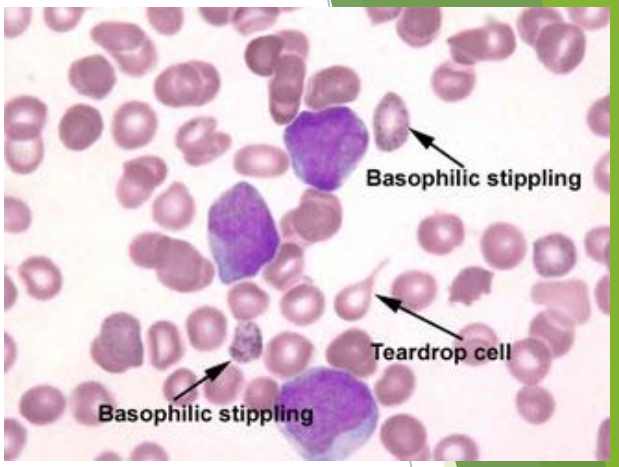
- **Acetaminophen**
  - Common drug for analgesia
  - Toxic dose: Dog—150-600 mg/kg
    Cat—50-60 mg/kg
  - Rx
    - Induce vomition /activated charcoal
    - **Antidote**: N-Acetylcysteine (loading dose of 150-280 mg/kg PO, IV, then at 70 mg/kg PO, IV QID) x 2-3 d

Lead toxicity

- Diagnosis
  - Large nucleated RBC's; basophilic stippling
  - Blood lead conc >35 µg/ml
- Rx
  - Remove lead from GI tract
  - Chelators

    -Calcium EDTA (ethylene diamine tetra acetic acid)

    -Penicillamine
  - IV fluids for dehydration
  - Diazepam, Phenobarbital



Pyrethrins and Pyrethroid:

- Rx
  - Bathe animal to remove excess
  - Induce vomiting/charcoal/cathartics
  - Diazepam may be necessary for mild tremors
  - Methocarbamol
  - Atropine

Organophosphates and Carbamates

- Inhibit cholinesterase activity
- Easily absorbed from skin and GI tract
- Found in dips, sprays, dusts, etc for fleas and ticks

- Rx
  - Bathe animal
  - Charcoal
  - Atropine (0.2-0.4 mg/kg; half IV, half IM or SQ)
  - Praloxime chloride -20 mg/kg b.w

Highly Toxic	Moderately Toxic	Slight Toxic
Azinphosmethul	Diazinon	Malathion
Chlorfenvifos	Dimethoate	Menazon
Dichlorvos	Formothion	Trichlorfon
Dimefox	Morphothion	
Disulfoton		
Ethion		
Mevinphos		
Parathion		
Phenkapton		
Phorate		
Phosphamidon		
Vamidothion		

Jowar, Sorghum, Johnson or Sudan Grass

- Cyanogenic glycoside poison
- Young rapidly growing and regrowth of plants after cutting have high cyanogenic glycoside.
- Plants seeds and leaves have high cyanogenic glycosides.
- Drying often increase cyanogenic potential
- Ensiling reduce cyanide content by 50%.

Clinical Signs

- Bitter almond smell
- Salivation
- Excess lacrimation
- Muscle fasciculation
- Staggers
- Death

Treatment

- Sodium nitrite: 10gm/100ml DW or NS @ 20mg/kg bwt over 3-4 minutes, IV
- Sodium thiosulphate: 20% w/w @ 500mg/kg bwt
- Can be given Orally.
- Alone can be given
- Vitamin B12 can act as antidote.

THANK