

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Rodenticides in clinical view

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Rodenticides:-

- **Carbamates**
- **Metal phosphides :**
- Zinc phosphide
- Aluminum phosphide
- **Anticoagulants**
- **Strychnine**
- organophosphorus
- **Others as thallium, yellow phosphorus and arsenic**

Rodenticides

Metal phosphides

Zinc phosphide

Aluminum phosphide



Anticoagulants



Zinc phosphide

- a characteristic fishy odour.
- With water or gastric acid liberates phosphine gas which inhibit cytochrome oxidase enzyme leading to inhibition of aerobic metabolism which leads to lactic acidosis and cell death.



cardiotoxicity

Zinc phosphide

metabolic acidosis

hepatotoxicity

Clinical picture:-

- Irritability and restlessness are the earliest symptoms to appear
- Vomiting ,diarrhea and dehydration.
- Toxic cardiomyopathy with dysrhythmia.
- Severe toxic hepatitis .
- Right hypochondrial pain ,enlarged tender liver.
- Jaundice

Investigation:-

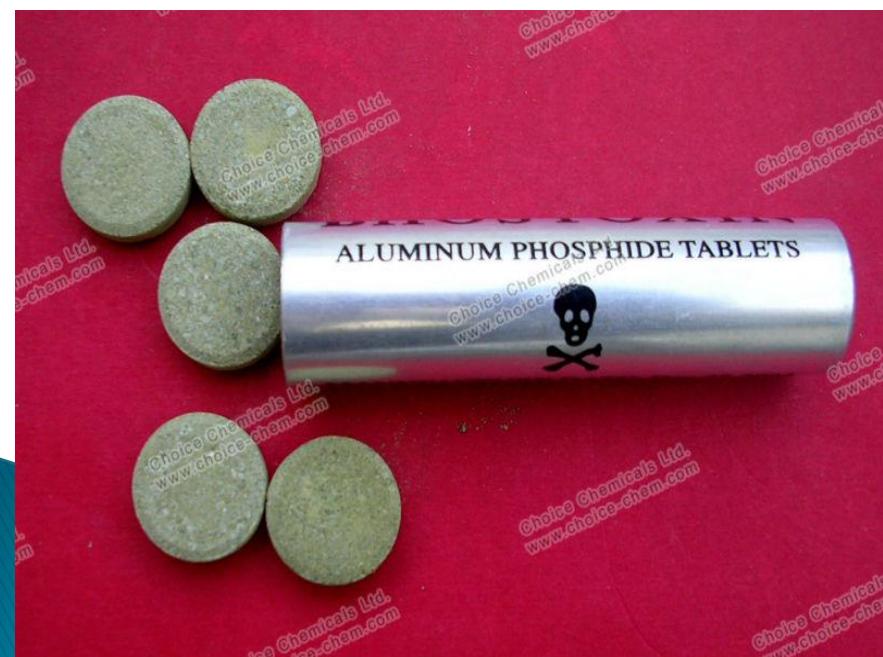
- ECG
- ABG
- liver functions
- Kidney functions.

Treatment:-

- ABC
- **Elimination:** emesis or GL is done using NaHCO3.
- **symptomatic treatment:**
- IV fluids and electrolytes to correct electrolyte imbalance
- inotropics and antiarrhythmic for toxic myocarditis .
- Liver support

Aluminium phosphide:-

- With water or gastric acid liberates phosphine gas which inhibit cytochrome oxidase enzyme leading to inhibition of aerobic metabolism which leads to lactic acidosis and cell death.

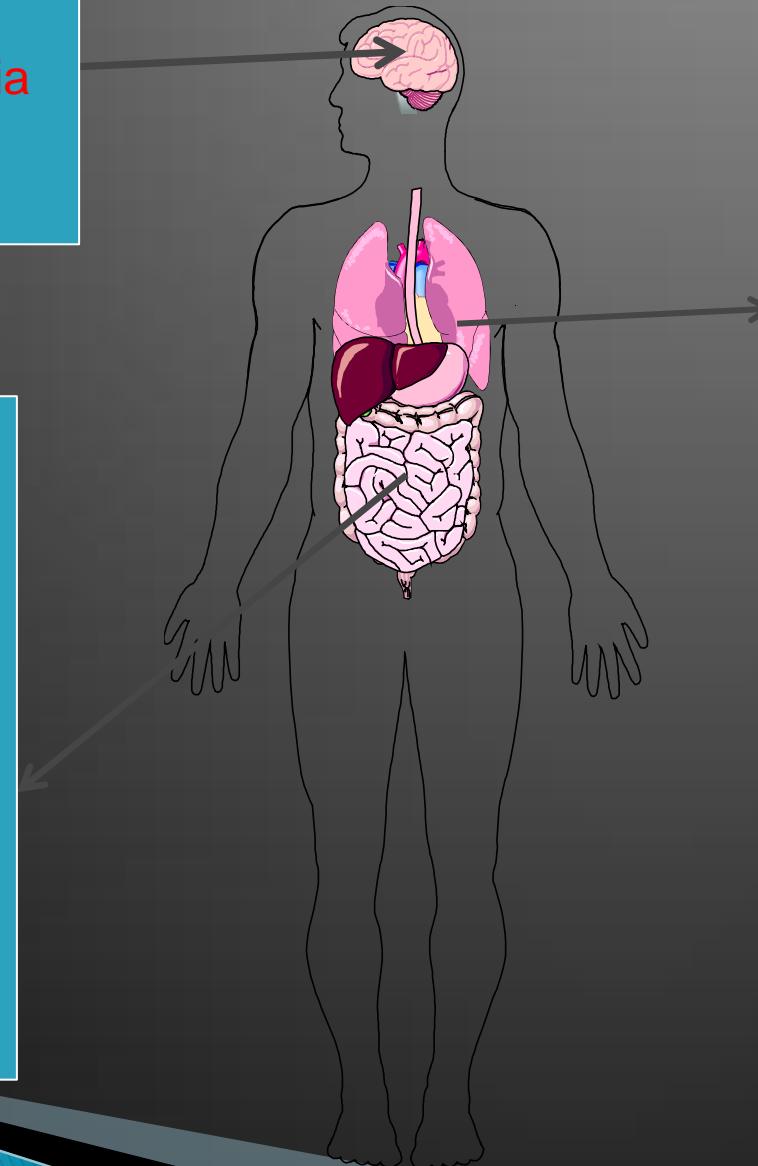


Clinical picture:-

Headache
Paraesthesia
Tremors
dizziness

Epigastric discomfort
Nausea
Vomiting
Burning sensation of stomach
Renal failure

Dysrhythmia
VT
AF
Heart failure



Treatment:-

- **ABC**
- **Elimination:** emesis or GL is done using NaHCO_3 (potassium permanganate).
- **symptomatic treatment:**
- IV fluids and electrolytes to correct dehydration and electrolyte imbalance
- IV NaHCO_3 ,magnesium sulfate, calcium gluconate.
- Liver support

Anticoagulants(warfarin)

- Depress the hepatic vitamin k dependent synthesis of substances essential to blood clotting
- Prothrombin
- VII,IX,X



Clinical picture:-

- Ecchymosis
- Epistaxis
- Gingival bleeding
- Hematemesis
- Haematuria
- melena

Investigations:-

- Prolongation of prothrombin time ,international normalized ratio(INR) with in 24–48h of ingestion.
- Analyse urine for haematuria
- Analyse stool for occult blood
- Haemoglobin level

Treatment:-

- ABC
- Emesis ,GL ,AC
- Vitamin k1
- Symptomatic treatment
- Fresh frozen plasma
- Blood transfusion.

Carbamates:-

- Like opc but differ from it in
- Rapid onset
- Mild symptoms
- Rapid recovery within 1–2 days
- rapid return to normal pseudo ch enzyme.
- No complications
- Less effect on CNS
- Small dose of atropine with no need to oximes



THANKS