


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**
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Rodenticides

Metal
phosphides

Carbamates

Anticoagulants

Zinc
phosphide



GOOD-JOB

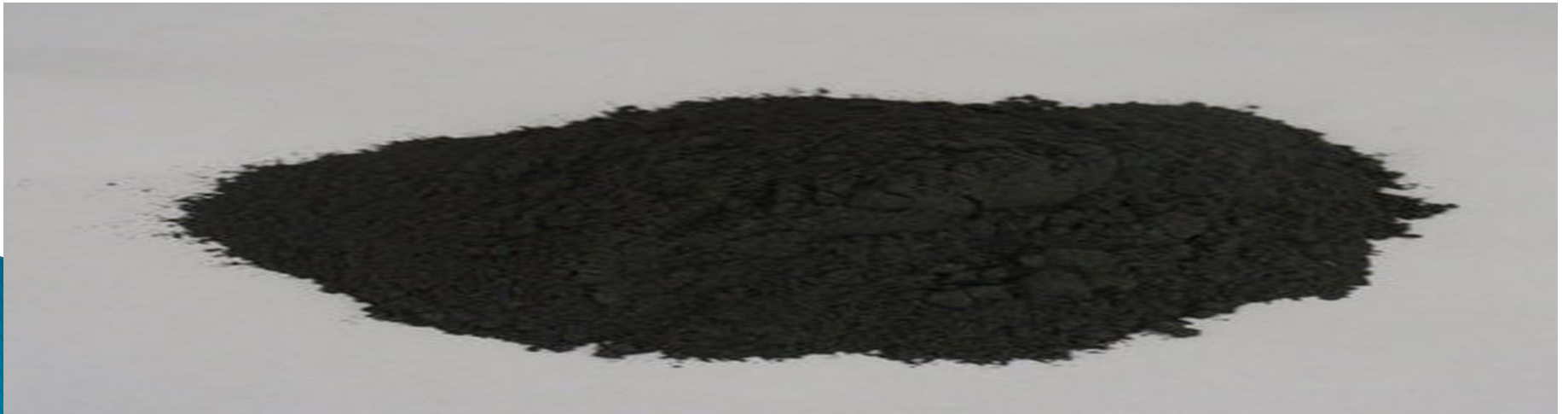


Aluminum
phosphide



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.



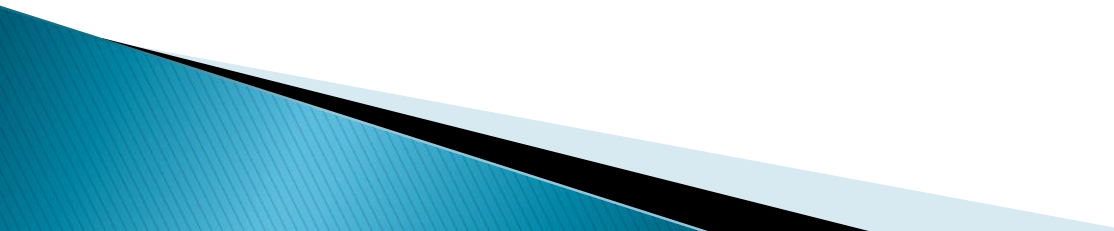
cardiotoxicity

**Zinc
phosphide**

metaboli
c acidosis

hepatotoxicity

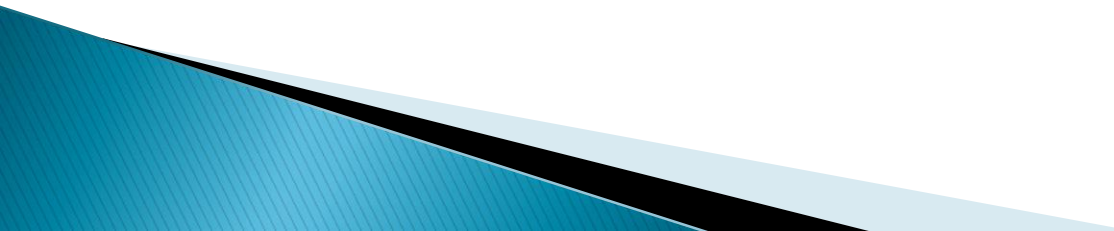
Clinical picture:-

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

Investigation:-

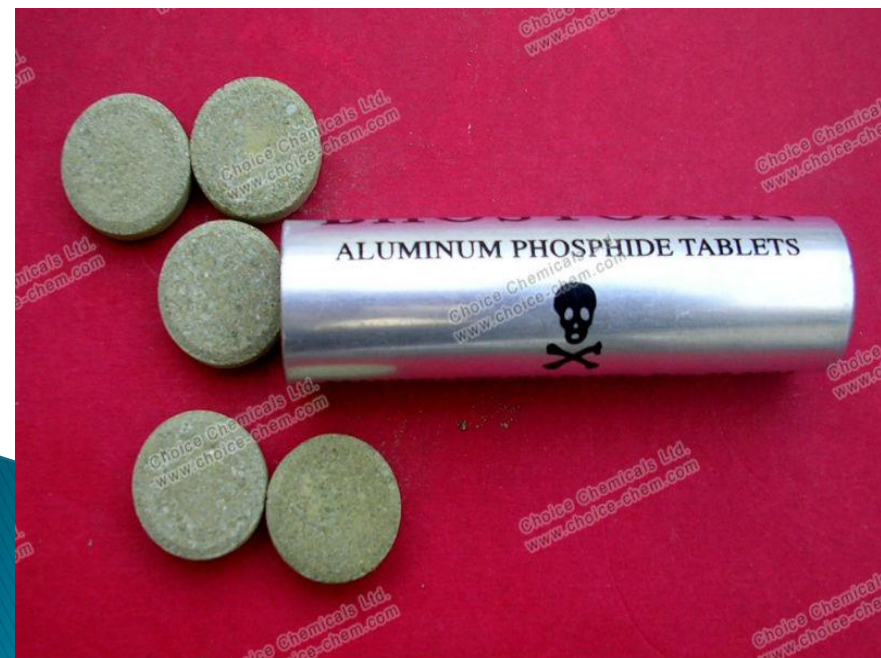
- ECG
- ABG
- liver functions
- Kidney functions.

Treatment:–

- **ABC**
 - **Elimination:** emesis or GL is done using NaHCO_3 .
 - **symptomatic treatment:**
 - IV fluids and electrolytes to correct electrolyte imbalance
 - inotropics and antiarrhythmic for toxic myocarditis .
 - Liver support
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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.

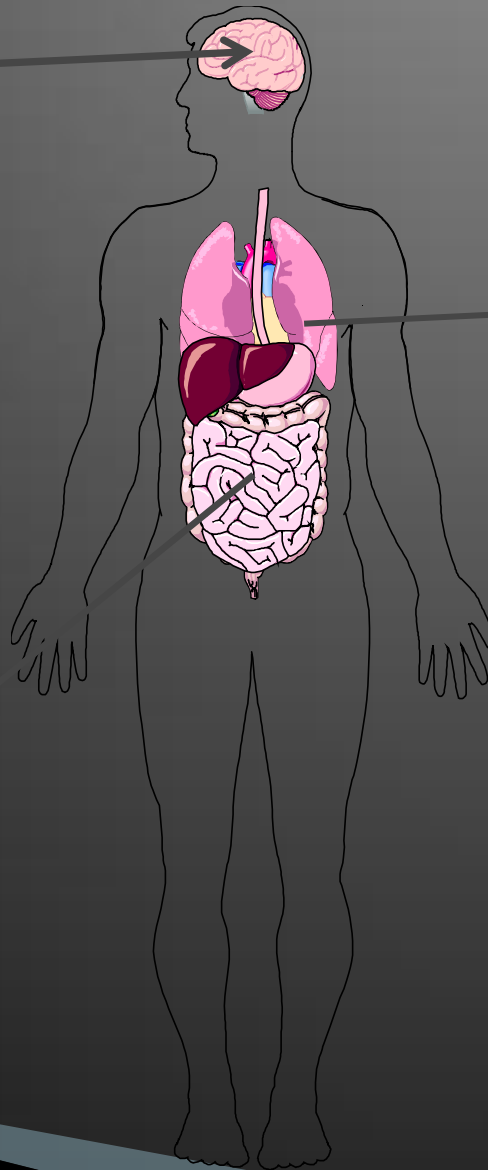


Clinical picture:-

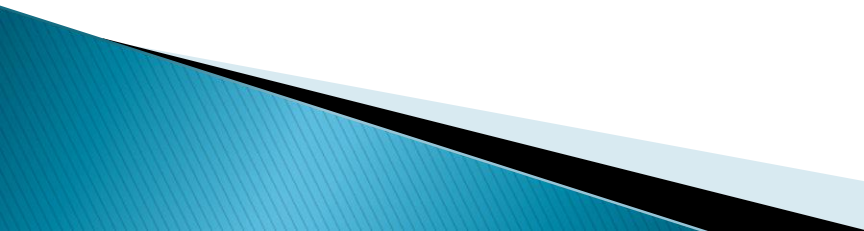
Headache
Paraesthesia
Tremors
dizziness

Dysrhythmia
VT
AF
Heart failure

Epigastric
discomfort
Nausea
Vomiting
Burning
sensation of
stomach
Renal 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)

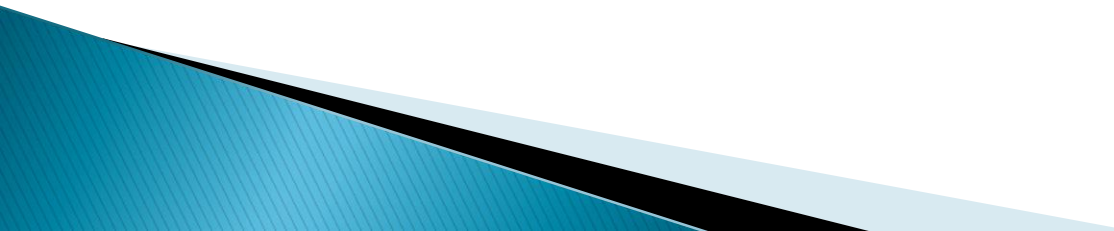
- Depress the hepatic vitamin k dependent synthesis of substances essential to blood clotting
- Prothrombin
- VII,IX,X



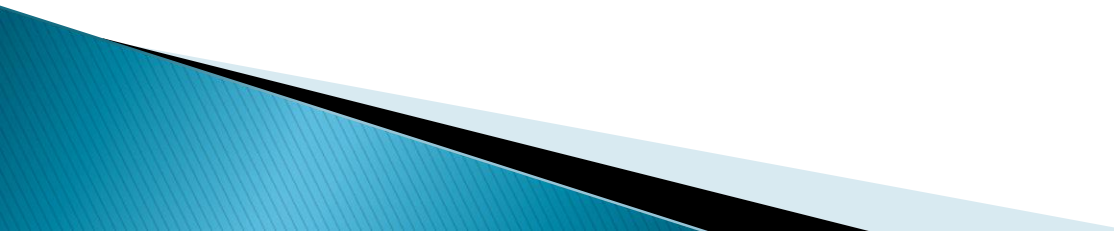
Clinical picture:-

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

Investigations:-

- Prolongation of prothrombin time ,international normalized ratio(INR) with in 24–48hog 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