

RODENTICIDE

POISONING

- Rodenticides are pesticides specially designed to kill rodents.
- They pose particular risk for accidental poisoning for several reasons.
- Since they have been designed to kill mammals, they are toxic to humans also.

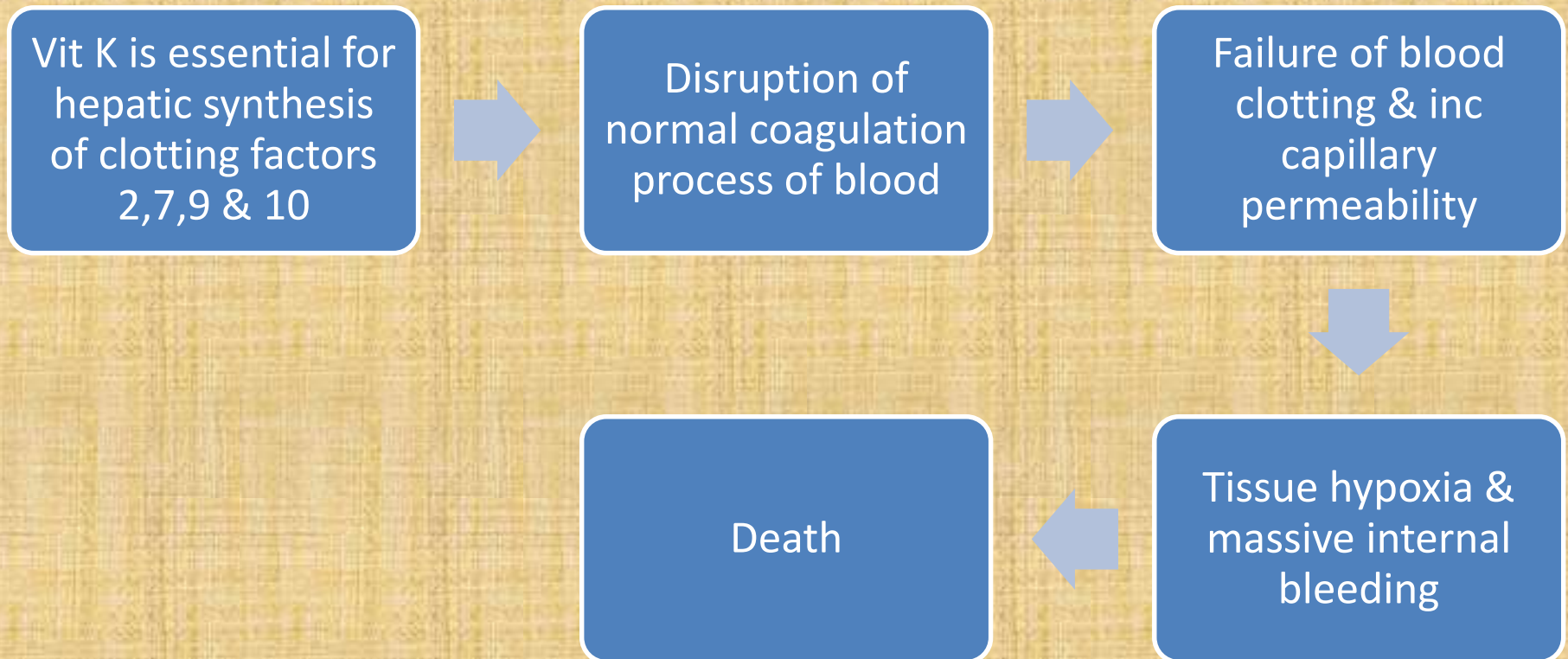
ANTI COAGULANT RODENTICIDES

- 1st generation – warfarin, Pindone.
- Intermediate – chlorophalicone.
- 2nd generation – Brodifacoum.



➤ *MECHANISM OF ACTION*

- Direct capillary damage



➤ *SIGNS & SYMPTOMS*

- Toxic effects include widespread internal bleeding, nose bleeds, bleeding gums, blood in urine and faeces, bruises due to ruptured blood vessels.
- Bleeding into GIT, Eye, Lungs also seen.
- Depression and loss of appetite.

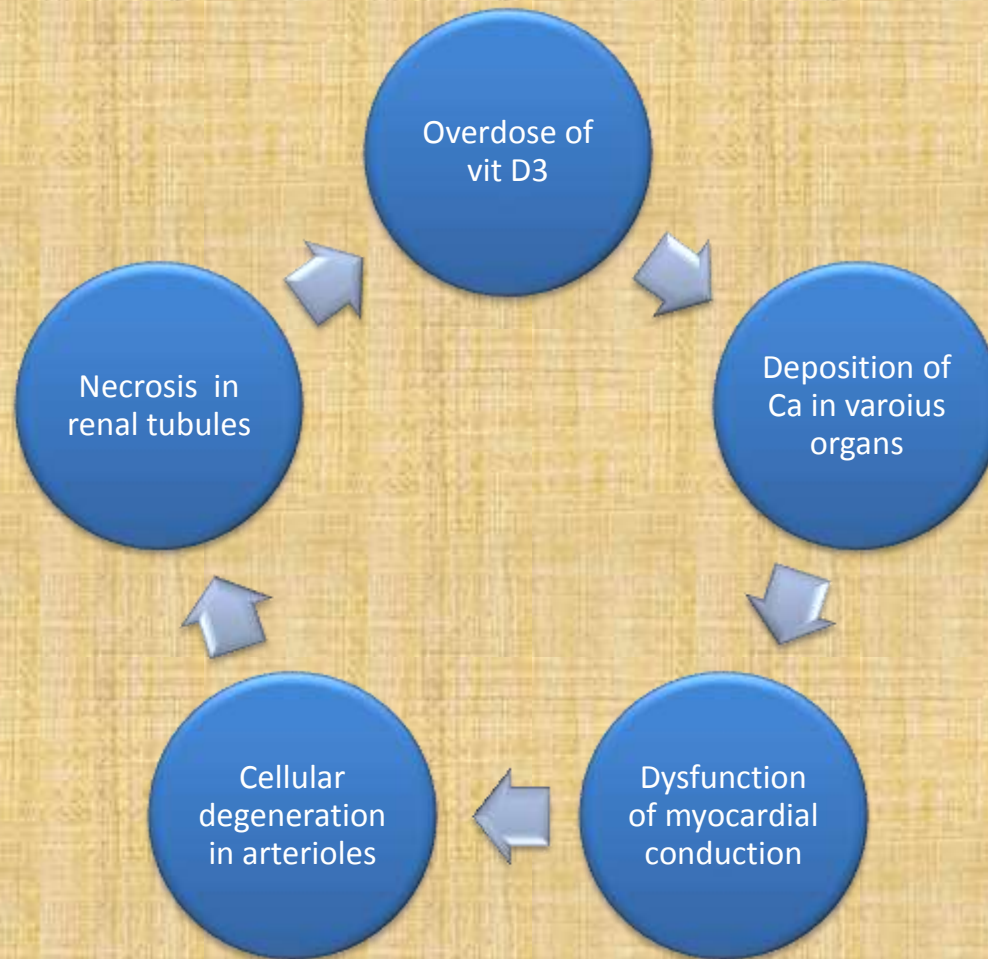
➤ *DIAGNOSIS*

- On the basis of history.
- Increased activated coagulation time of blood.
- Good response to vitamin K.

Rx:

- Vitamin K1 (phytonadione)@0.25-5 mg/kg s/c
- Menaphthone@ 0.5- 2 mg/kg i/m
- Fresh frozen plasma @ 9ml/kg i/v
- Whole blood @ 20 ml/kg i/v
- Glucose and saline therapy
- Supplemental oxygen
- Oxalic acid derivatives

CHOLECALCIFEROL



➤ *CLINICAL SIGNS*

- Develop within 18 – 36 hr of ingestion.
- Depression & anorexia.
- Passing large amounts of urine & excessive thirst.
- Blood vomit.
- Hemorrhagic diarrhoea.
- GI smooth M excitability decrease results into constipation.

➤ *TREATMENT*

- Gastric evacuation followed by administration of activated charcoal@ 2-8 g/kg in water slurry.
- Prednisolone@ 1-2 mg /kg.
- Fluid therapy with NSS.
- Furosemide@5mg/kg i/v followed by 3mg/kg tid.
- Calcitonin@4-10 IU/kg s/c to reduce serum calcium levels.

METAL PHOSPHIDES

Fumigants

- Aluminium phosphide.
- Calcium phosphide
- Magnesium phosphide

Baits

- Zinc phosphide.

ALUMINIUM & ZINC PHOSPHIDE

- Common means of self poisoning in northern India.
- Mortality rate of Al \longrightarrow 60%.

Zn \longrightarrow 2%

- Just a few tablets can be fatal.

➤ *MECHANISM OF ACTION:*

- Both the compounds react with gastric acid to form phosphine, a potent pulmonary and GIT toxicant.



➤ *CLINICAL FEATURES*

- Severe GIT disturbances.
- Chest tightness.
 - Cough & breathlessness → progress to ARDS & Respiratory failure.
- Tremors, paraesthesiae, convulsions, coma, tachycardia, metabolic acidosis, hypoglycemia, electrolyte disturbances.

➤ *DIAGNOSIS*

- Detection of phosphine in the exhaled air/stomach aspirate.
- Using a silver nitrate impregnated strip or a specific phosphine detector tube is diagnostic.
- Gas chromatography is most sensitive indicator.

➤ *TREATMENT*

- Supportive.
- Directed at correcting electrolyte abnormalities & treating complications.
- No specific antidote.
- Ca gluconate & Na bicarbonate to neutralize stomach acidity.
- Early gastric lavage, often with vegetable oil to reduce the release of phosphine.

➤ *OTHERS*

- ANTU (alpha- naphthyl thiourea).
- Arsenic.
- Bromethalin → affects nervous system.
- Chloralose (narcotic).
- Crimidine.
- Endrin (organo chlorine).
- White phosphorus.
- Thallium compounds & Strychnine.

Thanks 😊