

# TREATMENT OF POISONING

# TREATMENT

- TREATMENT IS THE PRIORITY OF A DOCTOR
- SERIOUS PATIENT OR IN EMERGENCY PATIENT CAN NOT BE REFUSED ADMISSION
- TREATMENT IS SPECIFIC AS WELL SYMPTOMATIC

# Needs . . . .

- ◎ Identification of the drug that induced toxicity
- ◎ Immediate and proper treatment
  - ⊗ Stabilization.. Correcting life threatening problems of **a**irway, **b**reathing, **c**irculation and **d**epression of CNS[ABCD]
  - ⊗ Pt evaluation[ h/o,physical exa,tests ]
  - ⊗ And.....ct...

# Treatment of poisoning case

# objects

- Removal of unabsorbed poison
- Facilitate the removal of absorbed poison
- Antidote
- Symptomatic treatment

# Basic principles

- clinical assesment

  - [Scandenevian/Reed/Glasgow]

- Head end low 9"[Trendelenberg position]

# Level of consciousness

## ◎ Scandenevian classification

- 1) Drowsy + response
- 2) Uncons. + minimal stimulation
- 3) Uncons + maxi stimu
- 4) Uncons + no response

## ◎ Reed's classification

- 1) Arousable
- 2) Painful stim.+ intact reflexes
- 3) No painful + intact refl
- 4) No painful + no reflex
- 5) Deep coma + CVS RS failure

## Resp status

--- arterial puncture = blood pH, pCO<sub>2</sub>, plasma bicarbonate

--- to measure respiratory minute volume by Wright's spirometer [ significant if < 4 lt/min]

## Cardiac status

---recording and monitoring the pulse, BP and urinary output

## Temperature

--- < 35c J wave/ Osborne wave/CamleHump wave

--- > 38c

## Pupillary status

### Anionic gap – metabolic acidosis

---  $AG = (Na^+ + K^+) - (HCO_3^- + Cl^-)$  in mEq/l

= 140-128

= 12mEq/l [avg in normal] if more acidosis i.e pH below 7.35



# temperature

- Blanket

- Hot water bottles & electric cradle-avoid

- Tepid sponging, ice

- Temp > chlorpromazin

insert a large bore peripheral iv line .16 –  
gauge & haemodynamic as well cardiac  
monitoring

## PAIN

Sc morphine [15 mg]/pethidine im [50-  
100mg] Or fortwin [30-60 mg] im/iv

Colic- 0.6mg atropin

Diazepam 5-10 mg iv or 5-10mg im  
paraldehyde–restlessness

➤ Mephenesin/barbiturates/paraldehyde/  
diazepam-convulsion

# CVS

- BT/plasma/dextran/plasmosan followed by glu-saline 5 %
- oliguria ..glucose in distilled water , mannitol 10-25% in normal saline
- noradrenalin drip ... methedrine im
- Ephedrine solution iv/im 10-25 mg
- Dopamin drip

- External cardiac massage
- Direct cardiac massage
- Defibrillator
- Intracardiac
  - procaine HCL 10ml of 1 %
  - 2 ml CaCl<sub>2</sub> 10 %
  - 0.5 ml KCl 5%
  - lignocaine 1-2mg/kg iv

# Coma

- The coma cocktail
  - ✓ dextrose + thiamine + naloxane [Hoffman and Goldfrank]
  - ✓ Hypertonic dextrose [ 100ml of 50% ] in non focal neurology
  - ✓ 100 mg of thiamine ..safe.. Effective.. Cost effective
  - ✓ Naloxane ..without demonstrable risk in pt. with CNS and/or respiratory depression [2 mg]

# RS

- ② Airway clear of mucus/vomitus Head, tongue, gag, denture
- ② Blood pH/pCO<sub>2</sub>/pO<sub>2</sub>/std bicarbonates by wright spirometer or arterial puncture
- ② O<sub>2</sub> thr' 20% ethenol [mask/catheter]
- ② Intubation, tracheostomy, ventilator/respirator
- ② Endotracheal tube 8-9 mm dia/ child Age/4 + 4.5
- ② Oedema-morphine/deriphylline/lasix/digoxin
- ② Spasm-atropine SO<sub>4</sub>
- ② Antibiotics
- ② nikethemide

# GIT

- Nutrition-iv glucose
  - Vomiting-largectil/ benadryl
  - Electrolyte Na,K,Ca,Cl
  - Acidosis- Na bicarbonate 4g 2hrly
- 
- Anaphylactic shock-  
adrenaline/corticosteroid/phenergan
  - General nursing care

# Unabsorbed poisons

- Inhaled
- Injected
- Contact
- Ingested

❖ *Emesis*

❖ *Gastric lavage[Ewald's or Boas tube or Jacques/ Ryle's tube/ 10-12 french catheter]*



# ingested

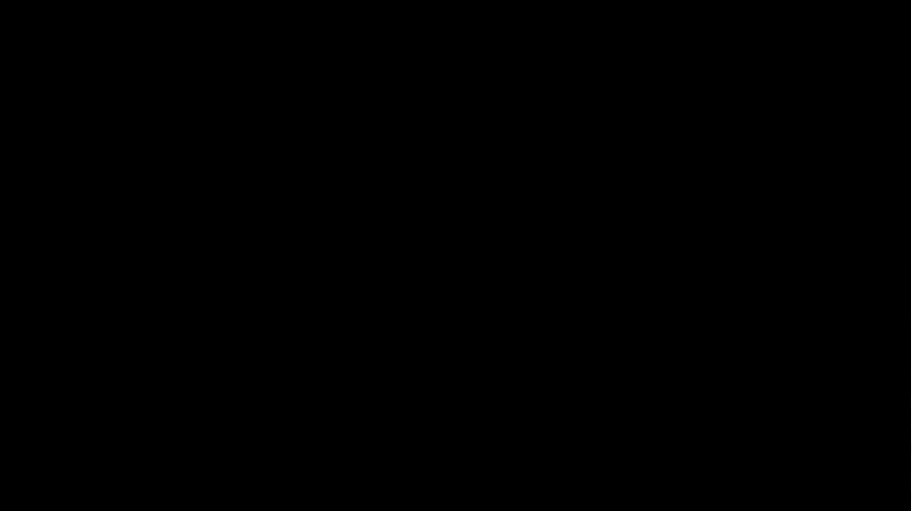
- Emesis
- Gastric lavage
- Ryle's tube/ 10-12 french catheter

# Emesis

- Household
- Ipecac
- $\text{ZnSO}_4$
- Ammonium carbonate
- $\text{CuSO}_4$
- Apomorphin followed by naloxaneHCl

# Gastric lavage

- Ewald's tube or Boas tube or stomach bowel tube
- In child: Ryle's tube or French rubber catheter
- In case of ingested poison within 3-4 hours

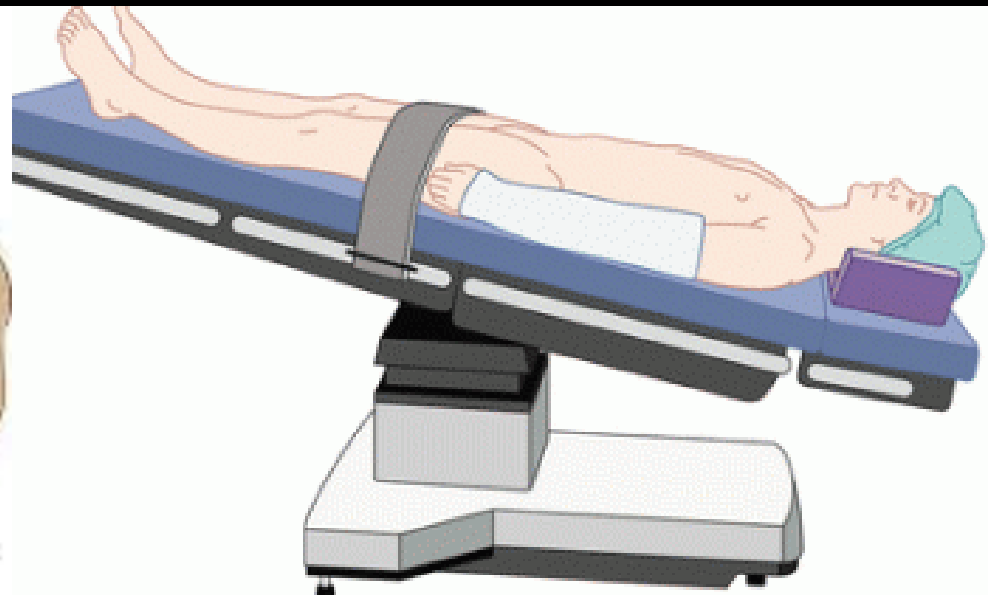
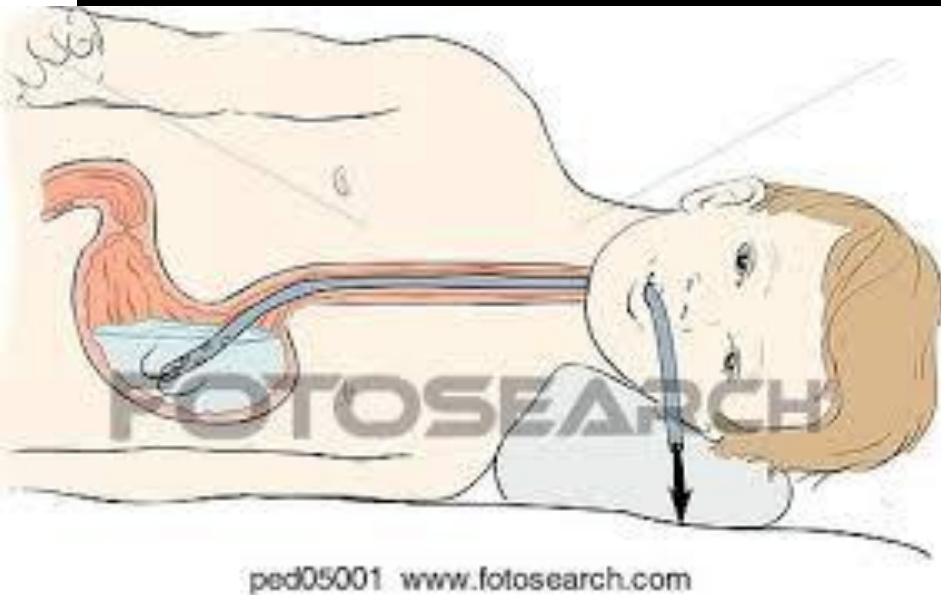





# procedure

- Tube: flexible rubber
- Stiff
- Length
- External diameter
- Suction bulb
- Mouth gage
- mark

- Position of person[ trendelenburg or left lateral decubitus]



- 
- Lubrication
  - Insertion
  - Tip confirmation in stomach
  - Lavage until clear fluid
  - In child with 20-50 ml glass syring
  - Antidotes -purgatives

# Whole -bowel irrigation

- Indication
- Position
- Solution
- By
- Dose
- Until clear rectal effluent
- contraindication





# Cathartic salt

- Effective cathartic: Mg Citrate/Sorbitol
- Dose: 150-300 ml 6%/ with AC
- Primary use

# Hastening elimination

- Interruption of entero hepatic circulation-cholestyramine
- Forced diuresis
- Haemodialysis
- haemoperfusion



# antidotes

- Remedy that counter the effects of poison

# Physical or mechanical

without destroying or deactivating

- 1: Adsorbents: Activated charcoal: destructive distillation of organic material; wood pulp; at high temp in +ve of CO<sub>2</sub>
- Small in size but large surface area
- Pores
- In form of Slurry
- 60-100 g in adult/15-30 gm in child
- 2: Demulcents
- 3: Diluents
- 4: Bulky food



# Chemical antidotes

disintegrate and inactivate by chemical combination

- Weak non carbonate alkalis
- Weak acids
- $\text{KMnO}_4$
- Tincture Iodine



# Physiological antidotes

by their own action on different system  
producing opposite s/s

- Reducing metabolism to toxic agents
- Increasing metabolism to nontoxic agents
- Increasing concentration of naturally present substances
- Competition at receptor site

# Universal antidote

|                                       |         |   |
|---------------------------------------|---------|---|
| Activated charcoal<br>[burnt toast]   | 2 parts | Adsorbs alkaloids                                     |
| Magnesium oxide<br>[milk of magnesia] | 1 part  | Neutralizes acids                                     |
| Tannic acid<br>[strong tea]           | 1 part  | Precipitates<br>alkaloids, glycosides,<br>many metals |



# Chelating agents

- BAL
- EDTA
- Penicillamine
- desferrioxamine