D.PHARM • SECOND YEAR

अस्पताल एवं नैदानिक फार्मेसी

अध्याय 10

विषाक्तता एवं प्रतिविष

हिंदी अध्याय नोट्स

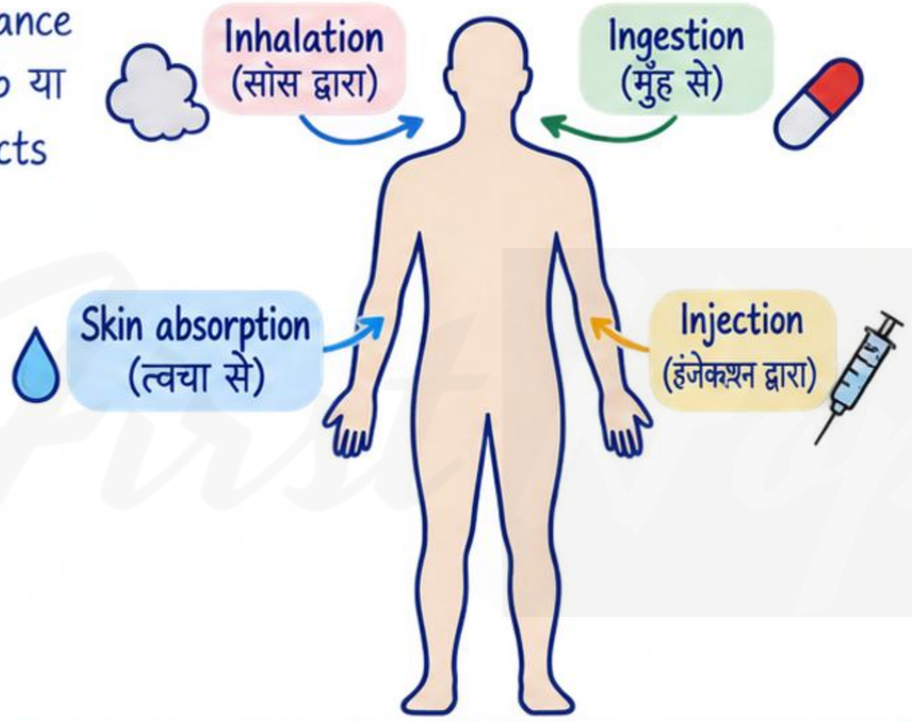


POISONING: FIRST ASSESSMENT AND CARE

परिभाषा

Poisoning वह harm है जो toxic substance swallow, inhale, inject, skin से absorb या eyes से contact होने पर होता हैं। Effects immediate या delayed हो सकते हैं।

Exposure routes



RAPID HISTORY

- Substance और formulation
- amount
- route
- time
- patient age / weight
- symptoms
- diseases
- regular medicines
- already given first aid।

Available हो तो container safely लाएँ।

महत्वपूर्ण | यह professional educational content है— self-treatment guide नहीं।

Poison information centre को जल्दी call करें।

FIRST PRIORITIES — ABCDE

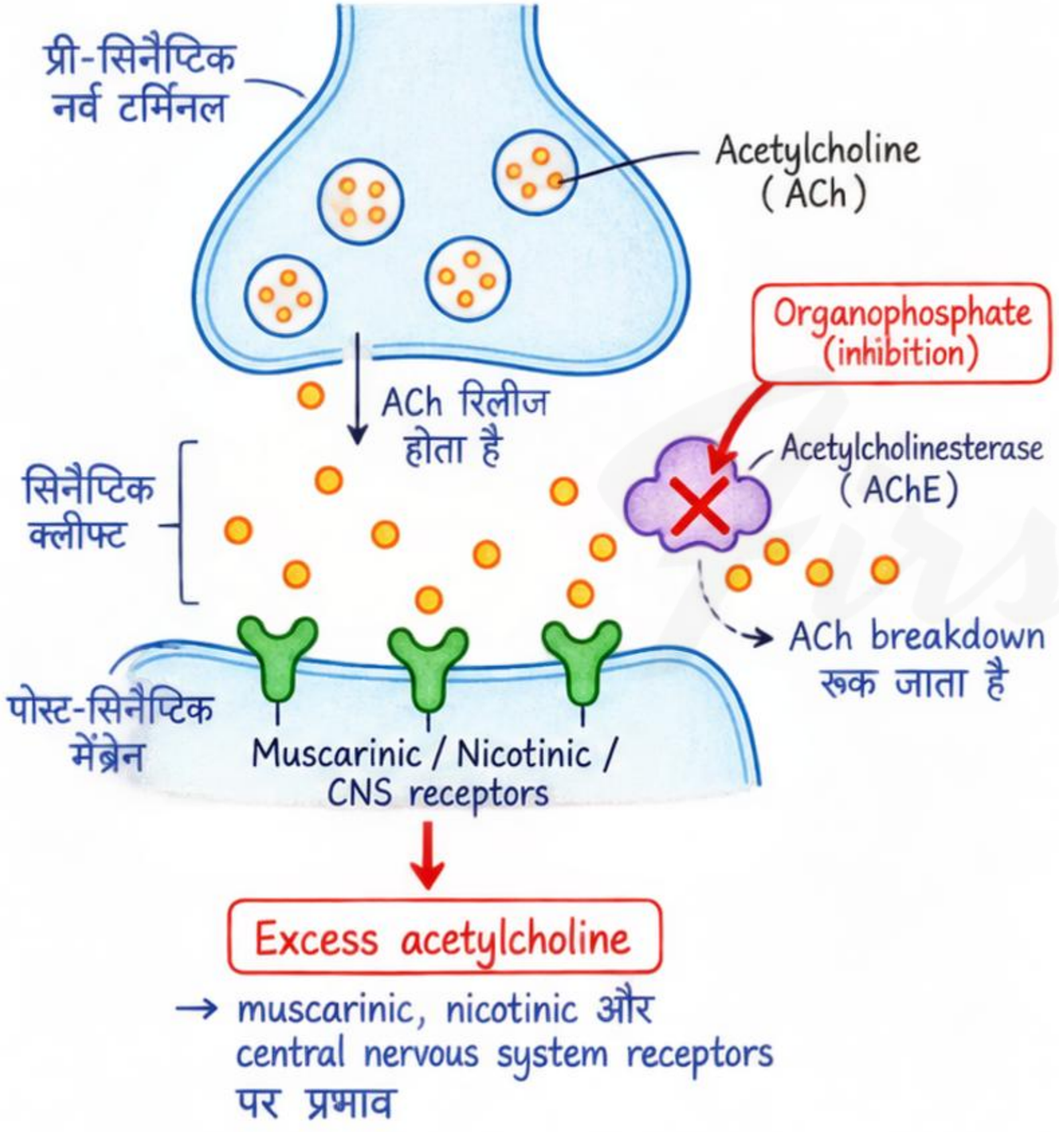
- **A** Airway
- **B** Breathing
- **C** Circulation
- **D** Disability / glucose / seizures
- **E** Exposure और temperature।

Emergency services और poison information centre को जल्दी call करें।

GENERAL PRINCIPLES

- Rescuer को risk दिए विना ongoing exposure हटाएँ।
- Contaminated clothing remove और appropriate skin / eyes irrigation।
- Vomiting induce न करें।
- Activated charcoal universal नहीं; indication, timing और airway suitable होने पर expert advice से।
- Ventilation, circulation, temperature और seizures support; antidote केवल correct toxin और indication में।

ORGANOPHOSPHATE POISONING



COMMON SOURCE

Malathion या parathion जैसे agricultural insecticides और pesticides। Staff को contaminated clothing और secretions से protect करें।

MECHANISM

Acetylcholinesterase inhibition → muscarinic, nicotinic और central nervous system receptors पर excess acetylcholine।

CLINICAL FEATURES

MUSCARINIC:

salivation, lacrimation, urination, diarrhoea, vomiting, abdominal cramps, miosis, bronchorrhoea, bronchospasm और bradycardia।

NICOTINIC:

fasciculation, weakness और paralysis।

CNS:

anxiety, confusion, seizures, coma और respiratory failure।

IMMEDIATE MANAGEMENT

- ABC support, suction और जरूरत पर oxygen / ventilation।
- Contaminated clothing remove; exposed skin wash।
- Atropine को bronchial secretions dry और ventilation improve जैसे clinical endpoints तक titrate।
- Appropriate exposure में promptly दिया pralidoxime acetylcholinesterase reactivate कर सकता है।
- Protocol के अनुसार seizures में benzodiazepine।

Recurrent symptoms monitor; ongoing absorption में repeated treatment लग सकता है।

PARACETAMOL POISONING

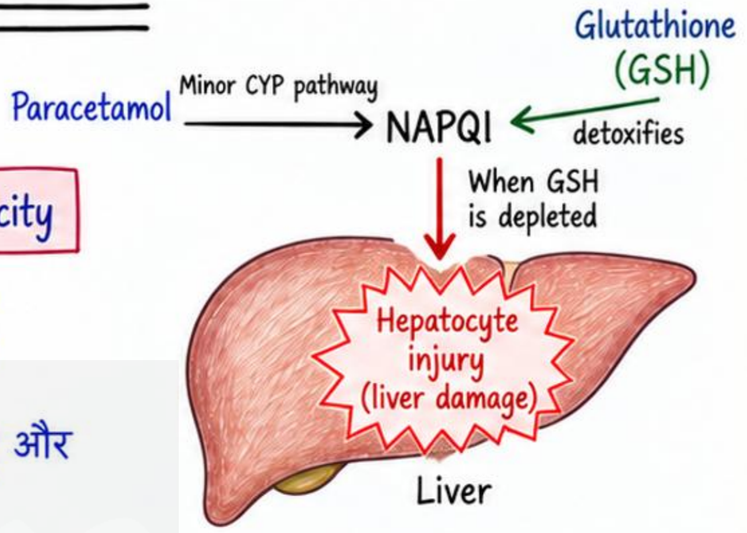
समय के साथ घटनाक्रम

0 hours → Ingestion (paracetamol)

0–24 hours → nausea, vomiting, sweating या no symptoms।

24–72 hours → right upper-quadrant pain और rising aminotransferases।

Later severe toxicity → hepatic failure, hypoglycaemia, coagulopathy, encephalopathy और kidney injury।



MECHANISM

Large paracetamol exposure से toxic metabolite NAPQI बढ़ता है। Glutathione deplete होने पर NAPQI hepatocytes damage करता है।

CLINICAL COURSE

1. 0–24 hours: nausea, vomiting, sweating या no symptoms।
2. 24–72 hours: right upper-quadrant pain और rising aminotransferases।
3. Later severe toxicity: hepatic failure, hypoglycaemia, coagulopathy, encephalopathy और kidney injury।

ASSESSMENT

- Time और amount
- immediate-release या modified-release product
- co-ingestants
- correct time पर serum paracetamol concentration
- ALT / AST
- INR
- glucose
- creatinine और acid-base status।

Applicable treatment nomogram केवल suitable single acute ingestion में।

TREATMENT

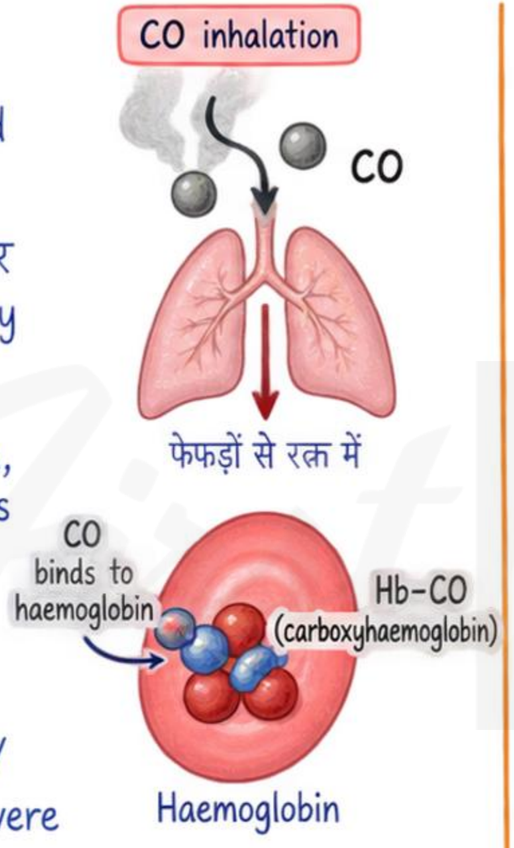
- N-acetylcysteine — NAC glutathione replenish करता है; early start सबसे effective, पर delayed presentation या liver injury में भी मदद कर सकता है।
- Significant ingestion के early phase में airway protected और toxicology advice हो तो activated charcoal consider।
- Supportive care और specialist consultation।

Treatment criteria meet हों या significant risk के साथ timing uncertain हो तो NAC delay न करें।

CARBON MONOXIDE AND CYANIDE POISONING

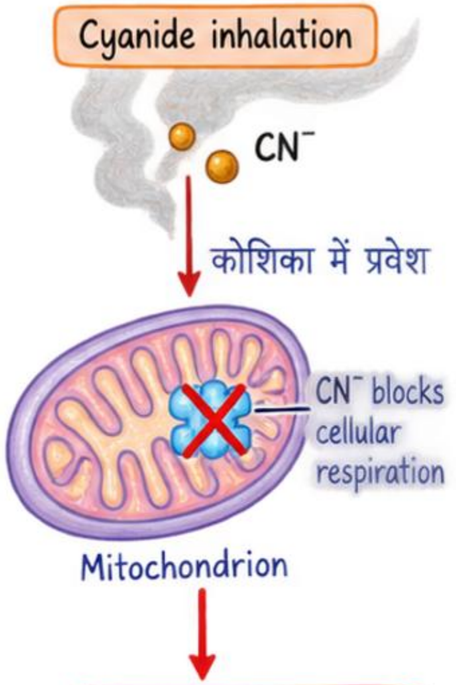
CARBON MONOXIDE — CO

- **Source**: faulty heaters, fires, enclosed combustion और vehicle exhaust।
- **Mechanism**: haemoglobin से bind होकर oxygen delivery impair; pulse oximetry misleadingly normal हो सकती है।
- **Features**: headache, dizziness, nausea, confusion, syncope, chest pain, seizures या coma। Cherry-red skin rare है।
- **Management**: source से remove, high-concentration oxygen, carboxyhaemoglobin measure और ECG / neurological status assess। Selected severe cases में specialist advice से hyperbaric oxygen।



CYANIDE

- **Source**: smoke inhalation, industrial exposure और selected cyanogenic substances।
- **Mechanism**: cellular oxidative metabolism block → severe tissue hypoxia और lactic acidosis।
- **Features**: rapid collapse, dyspnoea, confusion, seizures, hypotension और severe metabolic acidosis। "Bitter almond" odour unreliable।
- **Management**: ABC support, high-concentration oxygen और rapid antidote। Hydroxocobalamin commonly preferred; protocol से sodium thiosulfate।



EMERGENCY ACTIONS

1. Patient को source से remove कोरं (safe environment में)।
2. ABC support दें।
3. High-concentration oxygen दें।
4. CO में carboxyhaemoglobin measure करे और ECG / neurological status assess करें।
5. Cyanide में rapid antidote दें (Hydroxocobalamin commonly preferred; protocol से sodium thiosulfate)।
6. Selected severe CO cases में specialist advice से hyperbaric oxygen।

Fire victims में CO और cyanide exposure साथ हो सकते है।

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