

2022

Clinical ~~pharmacology~~ Toxicology
Set-1

2 Marks

1) Etiology of food poisoning?

⇒ Microbes - bacteria, viruses, protozoa.

① Parasites

① fungi

① plants

① fish

① chemical additives.

2) Management of petroleum product poisoning.

⇒ Any contaminated clothing is removed and the skin is washed.
Charcoal is not.

① Endotracheal intubation.

① Oxygen.

① Decontamination. - Induction of vomiting is not recommended.

① continuous positive airway pressure on positive end-expiratory.

3) Elimination enhancement in acute poisoning.

⇒ Elimination tech serve to increase the rate of removal of an agent from the body with the aim of reducing the severity and duration of clinical intoxication. Enhanced elimination tech are only indicated for poisoning when the following requirements.

4) What is the role of atropine in mushroom poisoning.

⇒ Atropine in large doses is used for treatment of anticholinesterase organophosphorus poisoning. Antidote for symptoms of mushroom poisoning by cholinomimetic alkaloid muscarine found in certain mushrooms.

5) Classify different types of venomous snakes. (R)

⇒ 1) Colubridae → mountain nacer, western and eastern, hog nose snakes, parrot snake, rat snake etc.

2) Atractaspididae → Stiletto snakes.

3) Elapidae → ① Cobras (Naja)
② Kraits (Bungarus)

① Coral snakes (Callisaurus, Micruurus)
① Mambas (Dendroaspis)

4. Viperidae →

- a) viperinae on true vipers → vipers and adders.
- b) crotalinae on pit vipers → Rattle Snakes.

6) Mention the toxicity rating of poisons.

- ⇒ [Class I → a) extremely hazardous.
- [Class II → b) highly hazardous.
- [Class III → moderately hazardous.
- [Class IV → slightly hazardous.

7) Signs and Symptoms of arsenic poisoning.

⇒ Skin - Hair loss.

GI - Abdominal pain, dysphagia, vomiting.

eye - conjunctivitis lacrimation

Air - Irritation

Liver → Fatty degeneration.

Kidney → uraemia.

Neurological → Hyperpyrexia, convulsions, coma.

CVS → hypotension, tachycardia.

8) Universal antidote.

⇒ Activated charcoal is normally used as an oral adjunct to more direct antidote therapy during treatment of poisoning in animals. Animals showing signs of acute intoxication should be treated with a more specific antidote initially. In many cases there will not be a specific antidote and preventative measures such as gastric protection.

9) Write a short note on aflatoxin.

⇒ Aflatoxin are a family of toxins produced by certain fungi that are found on agricultural crops such as maize, peanuts, cottonseed and tree nuts.

Aflatoxin is produced by fungal action during food production, harvest, storage and processing.

10) Write about shell fish poisoning →

⇒ Shell fish contaminated by dinoflagellates other sources include univalve mollusks starfish type - paralytic shellfish poisoning

There are actually several paralytic shellfish toxins. PSP toxins are a group of 21 structurally related neurotoxins.

2022

Clinical Toxicology · Set-2 Marks-2

1) List the drugs causing non-cardiogenic pulmonary oedema.
⇒ codeine, methadone, morphine, opioid antagonists naloxone and nalbuphine.

2) Define and mention the composition of obsolete antidote.
⇒ Obsolete antidote → A poison that counteracts another poison.

Composition → Zinc or magnesium oxide, tannic acid, and charcoal.

Cooper sulfate → phosphorus.

cysteamine → paracetamol

Fructose → ethanol.

Levallorphan → opiates.

Nalorphine → opiates

Silibinin → Amanitin.

3) Write the significance of plasmapheresis in elimination enhancement of poisons.

⇒ plasmapheresis is a method used to eliminate toxic substances with high plasma protein-binding properties. poisoning by strongly plasma protein-binding substances cannot be treated by haemodialysis or peritoneal dialysis.

4) Write the clinical applications of toxicokinetics.

⇒

- More precise scenario of drug kinetics and metabolism.
- Improved assessment strategy with greater efficiency.
- Use fewer animals and provide better data for risk assessment purposes.
- Develop pre-clinical biomarkers of drug response and toxicity.

5) Write the signs and symptoms of poisoning with PEG.

⇒ Nausea, Vomiting, Convulsion, Stupor, even coma.

6) What is Rumack Mathew nomogram?

⇒ The relationship b/w plasma acetaminophen concⁿ the time after drug ingestion and the risk of hepatic toxicity. The thick diagonal line of possible hepatic toxicity represents a 25% likelihood of disease.

7) Classify the mushrooms with examples?

⇒ Chytridiomycota → Allomyces.

Blastocladiomycota → Catenaria.

Neocallimastigomycota → Caceomyces.

Microsporidia → Encephalitozoon.

Gulomeromycota → Acaulospora.

Ascomycota → Penicillium.

Basidiomycota → Agaricomycetes.

8) Write non specific anti diarrhoeal agents used in food poisoning.

⇒ Such agents as Kaolin - pectin, antimotility drugs, antisecretory drugs or toxin binders is controversial. Available data do not demonstrate significant benefit. Available data do not demonstrate significant beneficial effects. Serious adverse effects can occur including ileus and anticholinergic syndrome.

1) Explain the role of antidote in poisoning.

- ⇒
1. Inert complex formation.
 2. Accelerated detoxification.
 3. Reduced toxic conversion.
 4. Receptor site blockade.
 5. Toxic effect bypass.

2) Mention urinary alkalinisation method of elimination enhancement of poisons.

- ⇒
- A substantial proportion of the drug is excreted unchanged.
 - The drug is distributed mainly in the extracellular fluid.
 - The drug is minimally protein-bound.

3) Define toxicokinetics and write its importance.

- ⇒ The study of how a substance gets into the body and what happens to it in the body.

Importance → To determine the rate, extent and duration of systemic exposure of the test animal species to the test compound at the different dose levels.

4) Classify OP compounds.

⇒ phosphonates → Trichlorfon.

phosphinates → Gldufosinate

phosphorothioates → Omphos diazinon Fenthion parathion
Pinimphos - methyl.

phosphonothioates → EPN Leptophos.

5) Enlist the application of chelating agents in heavy metal poisoning.

- ⇒
- ① To reduce blood and tissue levels of injurious heavy metals.
 - ② Metal-ion buffers and indications.

6) What is ASV?

- ⇒ It is a type of mechanical ventilation which is a relatively newer mode of closed-loop ventilation. Other

modes of mechanical ventilation include proportional assist ventilation.

7) Write the management of Mycotoxin poisoning.

⇒ Oxygen therapy.

immunotherapy. ~~detoxification~~

detoxification therapy.

nutrient therapy.

immune therapy.

8) Give the sources of food poisoning.

⇒ ① Microbes - bacteria, viruses protozoa.

② Parasites.

③ Fungi.

④ plants.

⑤ fish.

⑥ chemical additives.

9) Write the management for arthropods bite.

⇒ Topical or oral antihistamines, calamine lotion,

topical corticosteroids

cold compresses.

Systemic glucocorticoids.

1) What is coma cocktail.

⇒ Coma cocktail was that since a significant proportion of poisoned comatose patients in whom the identity of the poison was unknown comprise cases of overdose from opiates, alcohol and hypoglycaemic agents these drugs would work in such cases to at least indicate the possible diagnosis.

2) Explain receptor blockade antidote action with examples.

⇒ This mode of action best exemplified by atropine which blocks the effects of anticholinesterase agents such as organo-phosphates at muscarinic receptor site.

3) Write the advantages and disadvantages of hemoperfusion in elimination enhancement of poisons.

⇒ Adv → Easier home dialysis.
Liberal diet.

Dis → Peritonitis.
Protein washout
Time commitment.

4) Explain management of salicylates poisoning.

⇒ Decontamination (activated charcoal) and the early enhancement of elimination (urinary alkalinisation with or without hemodialysis).

① Supportive care.

② electrolyte imbalanced has to be corrected.

③ assist with oxygen and ventilation case with hypoventilation.

5) Write the clinical symptoms of Radiation poisoning.

⇒ changes in the skin.

Rashes, redness, itching, inflammation, burn, edema, hair loss, ulcers.

Nausea, vomiting, Diarrhea, headache, fever, dizziness, weakness, fatigue, bloody vomiting, bloody stools infection.

6) Write the antidote for mercury poisoning.

⇒ There is no antidote for mercury.

Acute poisoning (metallic mercury and inorganic compounds)

Inhalation → Supportive measures.

Chelation.

Ingestion → - Administer laxatives.

- Demulcents for corrosive compounds.

- Stomach wash.

- chelation.

7) Name the poisonous mushroom.

⇒ *Amanita muscaria*.

Amanita pantherina.

Amanita phalloides.

8) Write the treatment for bees bite.

⇒ Mustard applied topically and cold compress.

Antihistamine → Reduces or stops an allergic reaction.

Steroid → Stimulates hormone effects to reduce inflammation or for tissue growth and repair.

Analgesic → Relieves pain.

- 1) Discuss the methods of preventing absorption of poisons.
 => The four methods of gastrointestinal tract decontamination are emesis, gastric emptying, whole-bowel irrigation and ~~also~~ adsorption using an oral sorbent with catharsis.
- 2) Write the composition of universal antidote.
 => Activated charcoal is a fine, black, odourless, tasteless powder made from burning wood, coconut shell, bone sucrose on nice starch followed by treatment with an activating agent.
- 3) What is extracorporeal technique in elimination of poisons.
 => 1) Haemodialysis
 2) Haemoperfusion
 3) Peritoneal dialysis
 4) Haemofiltration.
 5) Haemo dial filtration.
 6) plasma pheresis.
 7) plasma perfusion.
 8) cardiopulmonary Bypass.
- 4) Explain the clinical features of copper sulphate poisoning.
 => 1. Acute poisoning — copper intoxication, (abdominal pain, Vomiting, diarrhoea, acidosis, pancreatitis)
 b) Hepatomegaly, liver tenderness, increased level of transaminase and Jaundice.
 c) Acute renal failure develops in 20 to 40 percent of patients with acute copper-sulfate intoxication.
- 5) Mention the importance of PAM in op poisoning.
 => Used as an antidote to reverse muscle paralysis resulting from op AChE pesticide poisoning - but is not effective once the op compound has aged. Current recommendation is administration within 48 h of op poisoning.

6) First aid measures for snake bite.

⇒ It is well known that even when a highly venomous snake bites a human, serious envenomation may not occur.

Only bite: A snake does not always inject venom at the time of biting.

1) List the drugs causing arrhythmias

- ⇒
- ① Diltiazem
 - ② Verapamil
 - ③ Digoxin
 - ④ Fingolimod

2) Write the manifestations of alcohol withdrawal Syndrome.

⇒ manifestations → Sneezing, yawning, lacrimation, abdominal cramping, leg cramping, Nausea, Vomiting, diarrhea, mydriasis, myalgias and arthralgias.

3) Write the management of acute poisoning with ethanol.

- ⇒
- ① IV fluids: providers give intravenous fluids to treat dehydration.
 - ② Oxygen: providers can give oxygen using a nasal cannula.
 - ③ Stomach pumping: Using a tube, healthcare providers can clean the stomach of toxins.

4) Write in brief management of NSAIDs poisoning.

- ⇒
- 1) Supportive care (ABCs)
 - 2) fluid and electrolyte balanced by saline. NaCl.
 - 3) metabolic acidosis can be corrected.
 - 4) Gut decontamination is not recommended.
 - 5) Antidotes - Proton pump inhibitors.
 - 6) Seizures - Benzodiazepines. elimination is not recommended.

5) Write the treatment of alkali poisoning.

⇒ Small amounts of a diluent may be beneficial if administered as soon as possible after a solid or granular alkaline ingestion, to remove any particles that are adhering to the oral or esophageal mucosa.

2019

Set-7

2 marks

1) Mention the role of hemodialysis in the management of poisoning.

⇒ Hemodialysis is a treatment to filter wastes and water from your blood as your kidneys did when they were healthy. Hemodialysis helps control blood pressure and balance important minerals.

2) Antidotes used in methanol poisoning.

⇒ Ethanol and Fomepizole are effective antidotes against methanol toxicity. Fomepizole or ethanol should be administered as soon as possible once the patient/victim has been admitted to a medical care facility.

3) Write the general treatment measures for food poisoning.

⇒ i) oral Rehydration therapy (ORT)
ii) Intravenous Rehydration.
iii) Non-specific Antidiarrhoeal agents.

4) Write the clinical features of scorpion bite.

⇒ ① pain, which can be intense.
② Numbness and tingling.
③ slight swelling.
④ warmth.

1) Write the management of Hypothermia.

⇒ Move the person out of the cold.

① Remove wet clothing.

② cover the person with blankets.

③ Insulate the person's body from the cold ground.

④ Monitor breathing.

⑤ Use warm, dry compresses.

2) Define Haemodialysis and Hemodiafiltration.

⇒ Haemodialysis → It is a procedure where a dialysis machine and a special filter called an artificial kidney on a dialyzer are used to clean your blood.

Hemodiafiltration → is a form of kidney replacement therapy that utilizes convective in combination with diffusive clearance. Compared with conventional hemodialysis HDF removes more middle-molecular-weight solutes.

3) Write the toxicokinetics of paracetamol.

⇒ The major manifestation of paracetamol poisoning is hepatotoxicity, although the kidneys and heart may also be affected in severe poisoning.

4) Explain the management of Iron poisoning.

⇒ 1) Stomach wash with normal saline performed gently may be of benefit in massive ingestions.

2) Activated charcoal is ineffective.

3) Magnesium hydroxide soln.

4) obtain serum iron levels, creatine, electrolytes blood haemoglobin concn

5) chelation therapy.

5) Define envenomations with examples.

⇒ Envenomations is the process by which venom is injected by the bite or sting of a venomous animal. Many kinds of animals, including mammals, reptiles, spiders, insects etc.

6)