

لجنة الطب البشري - الجامعة الهاشمية

PAST PAPERS - MINI OSCE



FORENSIC MEDICINE

بسم الله الرحمن الرحيم

نود التنبيه على ان هذه الاسئلة و اجاباتها هي لجميع الطلاب و قد تحمل الخطأ و الصواب ...
في حال اكتشاف خطأ في اجابة اي سؤال , يرجى التواصل مع احد اعضاء الفريق الاكاديمي في
دفعتك ليقوم بايصال الملاحظة لنا و تعديلها



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HOPE
GROUP C + D
2021-2022 / FIRST SEMESTER

1-write medicolegal cases.

2-what will you do if the patient has been posined with neve agent?

3-what is the difference between stab wounds and incised wounds?

4-definition of cocaine?how it is administrated?long term effects of cocaine?

5- difference between complete and incomplete hanging?

1. Write the medicolegal cases

2. Diferentiate between postpartum staining and bruise

3. Antidotes for following drugs :

Benzodiazepines

Heroin

Oxalic acid

Iron

Paracetamol

Methanol

Carbamates

4. Diferentiate between suicide and homicide injuries

5. Write definition , Classification and examples of antidotes.

Medicolegal cases

Define suspended animation, causes and importance

Define violent asphyxia, postmortem findings of throttling, Differentiate between dry&wet drowning

Ttx of nerve agent

1-Severity pf bruises

2-Describe the mechanism of death by compression of neck

3-Medecolegal cases

4-what indications & contraindications of gastric lavage

5- classify the irritant of poisoning and give one example of each , and give first aid & hospital management of snake bite

1)*Def. Of cheleating agent

*** write about bal**

2)diff. Between hanging and strangulation

3)write about defence wound +def

4)write about stab wounds +def

5)def. of chemical war weapon

Write about chlorine

***What is a chemical weapon?**

***How can chlorine kill you (mechanism of action)**

***Define strangulation, mention the types of strangulation, and what's the difference between strangulation and hanging**

***Write an account about BAL**

***Explain causes of death in cut throat wounds.**

***Write the antidote of the following drugs:**

Acetaminophen

Beta blockers

Oxalic acid

Ethylene glycol

Anticholinergics

Heroin

Iron

Q1 write medicolegal cases

Q2 Write everything about whole bowel irritation

Q3 Factors affecting the severity of bruising

Q4 the difference between brainstem death and vegetative state

Q5 write the medical complications of long term cocaine

HARMONY

1-explain factors effecting bruises?

2-mechanisms that causes death when killed from neck?

dr answer after exam:

1-vagal inhibition

2-airway obstruction

3-cut of spinal

4-carotid a block

3-list all medicolegal cases

4-chronic complication of cocaine?

5-what is chemical weapon

how does chlorine cause death , explain in details

1. What are the medicolegal cases

2. Complications of cocaine

3. Diff between hypostasis and bruises

4. define the chemical weapons and what is the mechanism of action for chlorine

5. Diff between homicidal and suicidal post mortem changes

1. Antidote For :

-anticholinergic

-paracetamol

-oxalic acid

-iron

-Heroin

- ethylene glycol

-Beta blockers

2. Somatic death, Cellular death, Clinical death, Brain death Differences between them

3. Give a detailed account on whole bowel irrigation

4. Medico legal importance of wounds and the role of physician in wound evaluation for medico legal purposes

5. Factors affecting severity of bruise

1. Define contusion and the importance of a bruise in determining the time

2. Define saline and its mechanism

3. Difference between vegetative and brain stem death

4. Define adipocere and its medico legal importance

5. What are the medical uses of activated charcoal and explain its mechanism

1. Define death , enumerate the early postmortem changes with details

2. Explain the mechanism of action of Saline , how to diagnose and treat

3. Define apparent death in its significance and give 3 examples

4. Talk about BAL in details

5. Define defense wounds , its importance and medicolegal significance

1. classify mechanical injury + definition of contusion and how do we predict the time of it

- 2. Post mortem changes + early signs + estimate the time of death**
- 3. Types of drawing + postmortem features of the wet one**
- 4. indication + contraindication of stomach lavage**
- 5. first aid + hospital treatment of snake bite + types of irritant poisons + one example for each one**

List all medicolegal cases 1-

- 2- Pesticides poisoning signs and symptoms and mechanism of action**
- 3- difference between vegetative state and brain stem death**
- 4- Definition of contusion and how do you use it in time of death**
- 5- Types of drowning and post mortem changes of wet drowning**

- 1. What are the medicolegal cases**
- 2. Complications of cocaine**
- 3. Diff between hypostasis and bruises**
- 4. define the chemical weapons and what is the mechanism of action for chlorine**
- 5. Diff between homicidal and suicidal post mortem changes**

SOUL + PREVIUOS BATCHS

Give the antidote for each of the followings:

- 1)Oxalic acid: IV Ca gluconate
- 2)Heroin: Naloxone
- 3)Benzodiazepine: Flumazenil
- 4)Methanol: Ethanol or Fomepizole
- 5)Cyanide: Hydroxocobalamin

Note: Cyanide antidote kit includes amyl nitrate, Na nitrite, and Na thiosulfate.

- 6)Carbamates: Atropine, Pralidoxime

Define suspended animation.

Slowing of life processes by external means without termination.

Why it's important?

Because it's reversible by resuscitation.

Give examples of it.

- 1) Electrocutation.
- 2) Hypothermia.
- 3) Sun stroke.
- 4) Drowning.
- 5) Drug overdose (e.g. barbiturates).
- 6) Head injury.

What is the treatment of snake bite ?

- a) Pre-Hospital: ABC /Immobilize limb/ Cold compression

b) In Hospital:

Antihistamine.

Hydrocortisone.

Tetroxide.

Venom (Anti-snake).

List the medicolegal

cases.

A. Living people cases:

- 1) **Wound.**
- 2) **RTA.**
- 3) **Burns.**
- 4) **Poisoning.**
- 5) **Fights.**
- 6) **Falling down.**
- 7) **Child abuse.**
- 8) **Women abuse.**
- 9) **Sexual offence.**
- 10) **Family violence.**
- 11) **Illegal pregnancy.**
- 12) **Criminal abortion.**
- 13) **Impotence and sterility.**
- 14) **Identification.**
- 15) **Medical malpractice.**
- 16) **Age estimation.**

17) **(إثبات أو نفي الجنون)**

اصابات الجنون 18

19) Drug abuse.

B. Dead people cases:

- 1) All cases of living people.
- 2) Asphyxia.
- 3) Sudden unexpected death.
- 4) Infanticide.
- 5) Electrocution.

Mention:

A. Various form of violent asphyxia?

- a) Traumatic asphyxia
- b) Positional asphyxia
- c) Riot crush

B. Postmortem change in throttling ?

- a) Congestion of the face.
- b) Edema of the face.
- c) Cyanosis (blueness) of the skin of the face.
- d) Petechial hemorrhages in the skin of the face and the eyes.

C. Key point in hyoid bone ?

Inward fracture of the hyoid bone (it is the most common cause of hyoid bone fracture) and fracture of the thyroid cartilage.

Define antidotes and give one example on each ?

- 1) Chemical substances that counteract the effects of poisons by: Neutralizing them (e.g. antibody-antigen reactions, chelation , chemical binding) or antagonizing their physiologic effects (e.g. activation of opposing nervous system activity, Provision of competitive metabolic or receptor substrate.
- 2) Mechanical/ physical: Activated charcoal /Demulcents.

- 3) **Chemical antidotes: Magnesium oxide.**
- 4) **Universal antidotes: Tannic acid.**
- 5) **Physiological/ pharmacological: Naloxone for opioids.**
- 6) **Chelating agents: BAL/EDTA.**

Define rigor mortis, When does it appear ? In which mechanism ?and how it can be useful to indicate timing of death ?

- Temperature-dependent, physicochemical change that occurs within muscle cells as a result of lack of oxygen causing the limbs of the corpse to become stiff and difficult to move or manipulate.**
- Death cessation of respiration depletion of oxygen less ATP secondary anoxic process lactic acid cell cytoplasm becomes increasingly acidic with low ATP and high acidity, the actin and myosin fibers bind together and form a gel but Unlike normal muscle contractions, the body is unable to complete the cycle and release the coupling between the myosin and actin, creating a perpetual state of muscular contraction, until the breakdown of muscle tissue by digestive enzymes during decomposition.**
- Rigor mortis disappears with decomposition.**
- RM initiated when the ATP concentration falls to 85% of normal.**
- It starts to develop about 2-3 hrs. after death.**
- Rigor develops uniformly throughout the body but it is first detected in smaller muscle groups such as those around the eyes, mouth, jaw & fingers.**
- Peaks in the next 6-12 hrs.**
- It concludes around 36-48 hrs. after death.**
- Affected by the season ,muscular activity and age of the dead person.**
- It resolves in the same order in which it develops.... Then secondary flaccidity.**

Discuss in details the classical features of asphyxia.

1- Cyanosis

Caused by an increase in the amount of reduced hemoglobin.

It does not become observable until at least 5 g of reduced hemoglobin is present.

2- Congestion

Is the red appearance of the skin of the face and head.

It is due to the filling of the venous system when compression of the neck or some other obstruction prevents venous return to the heart.

3- Oedema

Is the swelling of the tissues due to transudation of fluid from the veins caused by the increased venous pressure as a result of obstruction of venous return to the heart

4- Patechiae

Are pinpoint hemorrhages produced by rupture of small venules.

Rupture is caused by sudden over distention following abrupt increases in intravascular pressure

These are most common in the visceral pleura and epicardium. also seen in the conjunctivae and sclerae.

Differentiate between somatic & molecular death.

° Differentiation 8.1: Somatic death and molecular death			
S.No.	Feature	Somatic death ²	Molecular death ³
1.	Definition	Complete and irreversible cessation of function of brain and stoppage of the circulation and respiration	Death of individual tissues and cells
2.	Onset	Precedes molecular death	Succeeds somatic death (1-2 h after stoppage of vital functions)
3.	Response to external stimuli	Muscle responds thermal, electrical or chemical stimulus	Does not respond
4.	Confirmation	Flat ECG and EEG, and absent breath sounds	Rigor mortis, algor mortis, postmortem lividity, putrefaction
5.	Resemblance	Suspended animation, coma, hypothermia	Does not resemble any condition

Mention the post mortem eye changes.

Loss of corneal and light reflexes.

Mid-dilated pupils.

Irregular size and shape of the pupils (anisocoria).

Eyelids usually closed incompletely... Tache Noire.

loss of intraocular tension. (normally its 14 mm hg becomes 0 mm hg after 2 hours of death).

- The retinal vessels show the break up or fragmentation of the columns of blood, which is called 'trucking' or 'shunting'

Differentiate between rigor mortis and cadaveric spasm

	Rigor Mortis	Cadaveric Spasm
Onset	2-3 hours after death	At same time of death "instantaneous"
Duration	36-48 hours	Few hours, till rigor mortis starts
Intensity	Moderate	Very severe
Mechanism of action	Low ATP levels (<85% of normal)	Unknown; Predisposing factors: o Excitement o Fear o Fatigue o Exhaustion o Nervous tension
Muscles affected	All body muscles affected gradually	Selected muscles (which were in state of contraction) at time of death.

What are the long term effects of heroin?

- Powerful physical and psychological addiction.
- Skin infections, boils or abscesses, and bacterial infections.
- Blood-borne diseases such as HIV/AIDS, Hepatitis B, and Hepatitis C.
- Kidney disease and Liver disease.
- Scarred or Collapsed veins.
- Arthritis and Rheumatologic complications.
- Severe Depression, can potentially lead to suicide.
- Overdose, unconsciousness, without immediate hospitalization can result in death.

What is EDTA? Why do we use it?

- "Ethylene Diamine Tetra Acetic * A chelating agent effective in lead, mercury, copper, cobalt, cadmium, iron and nickel poisoning.
- Used as an antidote for heavy metals (Effective in lead, mercury, copper, cobalt, cadmium, iron and nickel poisoning)
- More effective in treating mercury and arsenic poisoning than BAL.

List the injuries on the victim of child abuse(signs)

- Physical abuse:**

Skin injuries:

- Subdural hematoma.
- Epidural hematoma.

Oral injuries:

- Bruised or cut lips.
- Bruises.
- Cerebral hemorrhage. • Broken teeth.
- Burns.
- Bites.

Skeletal injuries:

- Fractures.

Head injuries:

- Subarachnoid hemorrhage.
- Concussion.
- Contusion.

4. Eye injuries:

- Black eye.
- Retinal hemorrhage or detachment.
- Lens discoloration.

Abdominal injuries:

- Bruises.
- Burns.

Emotional:

- Eating disorders: obesity ,anorexia.
- Speech disorders.

- **Developmental delays in the acquisition of speech or motor skills .**
- **Nervous disorders**
- **Habit disorders :biting ,rocking, head- banging .**
- **Cruel behavior :seeming to get pleasure from hurting children, adults or animals**
- **Age-inappropriate behavior :bedwetting**

Neglect:

- **Recurrent infections and frequent admissions to hospital .**
- **Unexplained bruises and sever nappy (diaper) rash**
- **Short stature and microcephaly .**
- **Poor hygiene: dirty skin and clothes**
- **Learning difficulties**
- **Lack of self-esteem**
- **Poor skills**
- **Lack of social responsiveness**
- **Overactive and aggressive**
- **Self injurious behavior**

Define abrasions. What is its forensically use/importance of it?

Abrasions :

- **It is the most superficial type of wound, and affect only the epidermis.**

Medicolegal importance :

- **It indicates violence.**
- **Its shape gives an idea about the causative instrument.**
- **Its site in the body may give an idea about the type of the crime.**
- **The age of the abrasion gives an idea about the time of its infliction.**
- **An abrasion may rarely cause death when it is infected by tetanus .**

- **6. Abrasions differentiate cut wounds from laceration in the areas where the skin is stretched over bone (e.g. the skull).**
- **7. Abrasion differentiates hypostasis from bruises.**

List the mechanisms of CO poisoning.

- Mechanism of action of CO:**

Binds to hemoglobin ,myoglobin and cytochrome oxidase.

- Binding to:**

- **Hemoglobin: produces carboxyhemoglobin that decreases the oxygen carrying capacity of the blood inhibiting the transport, delivery and utilization of the oxygen by the body.**
- **Myoglobin: Impair its ability to utilize oxygen, causing reduced cardiac output and hypotension.**
- **Cytochrome oxidase: interferes with aerobic metabolism and efficient ATP synthesis, cells will respond by switching to anaerobic metabolism causing anoxia, lactic acidosis and cell death.**

- Mention the types of pesticides.**

Organophosphates and carbamates

- What's the treatment and preventive measures in treating such poisoning?**

- **Protect yourself.. remove patient from source.. decontaminate (wash with normal saline /tap water for at least 20-30 minutes, irrigate eye with normal saline /lactated ringer).. Atropine, pralidoxime, diazepam.**

- **Preventive measures :use gloves ,apron,wash thoroughly after use**

,store away from children ,follow manufacture instructions(regarding dilution ,storage ..etc.)

What are the indications and contraindications for gastric lavage?

Gastric Lavage

Indications

Potentially life-threatening poisonous ingestions, but only if the procedure can be performed within 60 minutes Up to 4 hours

Contraindications

Compromised airway protective reflexes (unless patient is intubated)
Ingestion of corrosive substances (acids or alkalis)
Hydrocarbons (unless containing highly toxic substances such as pesticides)
Known esophageal strictures
History of gastric bypass surgery

- **Definition of defense wounds and characteristics, where they normally appear?**
- **Causes of death in cut throat injuries.**
- **Definition of strangulation and hanging, types of strangulation, difference between strangulation and hanging.**
- **Definition of: somatic death, clinical death, cellular death, brain death.**
- **Complications of alcohol abuse.**
- **Antidote for: Anticholinergic, Iron, Ethylene glycol, Diazepam, acetaminophen, Paracetamol, B blocker,**
- **Difference between vegetative state and brain stem death.**
- **Mechanism of action, diagnosis and treatment of organophosphate poisoning and antidote for all.**
- **Importance and diagnosis of violent asphyxia.**
- **What are the indications and contraindications for gastric lavage?**
- **Compare between hypostasis marks and bruises.**
- **Define antidote and mention its types with examples.**
- **What is gastric lavage procedure, when we do it, what solution is used in it, why it's contradicted in corrosive acidity drugs, explain how we pump the stomach in gastric lavage procedure.**
- **Write about throttling postmortem changes, add a note on hyoid bone.**

- **Differentiate between stab wound and incision wound.**
- **Write about sarin, mechanism of action , diagnosis and treatment.**
- **Write about Dimercaprol (British anti-Lewisite).**
- **Write the medicolegal aspects of wounds and the role of physician in the medico legal aspect?**
- **Mention the factor that affect the severity of bruises.**
- **Give an account about whole BOWEL IRRIGATION.**
- **What is a chemical weapon? Write about chlorine.**
- **Diagnosis of organophosphorus poisoning?**
- **What are the changes in the chemoreceptor and baroreceptors in strangulation and suffocation?**
- **Define chelating agents, examples, dosage and route of administration, duration and brief explanation of each one**
- **What is Contact flattening +importance of hypostasis and its relation to with time and cause of death + signs of immediate death?**
- **What are the post mortem findings in traumatic asphyxia?**
- **Write the difference between wet and dry drowning.**
- **Poison definition and mode of action.**
- **Treatment of aspirin poisoning.**
- **The doctor duty towards poisoned body (live-dead).**
- **Definition of Smothering + postmortem changes in a dead body caused by mothering**
- **Mention examples of insecticides. What is the mechanism of action? how to deal with insecticides poisoning? How to prevent it?**