



**Tanta University**  
**Faculty of Medicine**  
**Forensic Medicine & Clinical Toxicology Department**

**MSC Exam of Forensic Medicine & Clinical Toxicology Department**  
**(Clinical Toxicology)**

**Date: 12 /6/2021**

**120 marks**

**Time allowed 2 hours**

**Number of pages: 7**

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A- A 22-year-old man was brought to the Emergency Department (ED) by family members 10 hours after the suspected ingestion of 30 tablets of unknown drug. He developed intermittent nausea and non-projectile vomiting (containing food particles) with abdominal pain 2 hours post-ingestion, and the symptoms persisted until he presented to the ED. On arrival, he appeared drowsy, but was not in respiratory distress. His pulse was persistently tachycardic to more than 120 beats/minute with a regular rhythm, and he was hypotensive, with a blood pressure of 90/64 mmHg. His axillary temperature was 37.0° C with moist skin. His pupils were 3 mm bilaterally, equal, and reactive to light. His electrocardiogram showed sinus tachycardia, and his capillary blood sugar was 125 mg/dL. In the ED, he complained of epigastric pain and urinary retention. After 2 hours in the ED, the patient underwent two generalised tonic-clonic seizures. Initial blood gases showed metabolic alkalosis, and he was hypokalemic. The patient was admitted to the Intensive Care Unit (ICU) for monitoring and supportive care. In the ICU, he developed a supraventricular tachycardia (SVT)

**- Discuss diagnostic approach and management of the case? (40 marks)**

**B- discuss:**

- 1- Management of Paraphenylene-diamine Intoxication? (15 marks)
- 2- ECG changes with electrolyte disturbances (10 marks)
- 3- Acute carbon monoxide poisoning in pregnant woman (15marks)

**C- Choose the correct answer(s): *You may choose one or more answers (40 marks; 2marks each)***

- 1- The reason that hemodialysis may effectively remove valproic acid at toxic, but not therapeutic levels, is because at toxic levels:
  - a- The drug has a lower volume of distribution
  - b- The drug can be adsorbed to dialysis membranes
  - c- The drug is dissociated into the more diffusible, nonionized form
  - d- A greater proportion of the drug is free in plasma and not protein bound
  - e- Higher clearance of protein/drug complexes can be achieved at higher concentrations
- 2- Which of the following is the MOST important to monitor when using atropine to treat a patient with cholinergic poisoning?
  - a- Blood pressure
  - b- Pulse
  - c- Mental status
  - d- Temperature
  - e- Muscle strength

**3- How should you put the snake bite wound in relation to the person's body?**

- a- Elevate the bitten area above the heart.
- b- Keep the bitten area at the same level as the heart.
- c- Lower the bitten area below the level of the heart.

**4- Which of the following is not a manifestation of venomous snake bites?**

- a- Hallucination.
- b- Metallic taste.
- c- Inability to wrinkle the forehead.
- d- Disseminated intravascular coagulation.

**5- A farmer kills a rattlesnake on his property, and is bitten by the dead animal whose mouth reflexively closed on his thumb when he went to dispose of the snake. Is this a potentially dangerous bite?**

- a- No, the snake was dead, and could not envenomate the farmer.
- b- Yes, there are many case reports of envenomation occurring after a snake has been killed.
- c- No, because the snake's venom becomes inactive once its metabolism stops.
- d- No, because the snake's venom glands are inactivated immediately upon death.
- e- Yes, but this has never been reported in the medical literature.

**6- Which of the following can complicate the post-treatment phase for any person receiving equine-derived antivenin?**

- a- Graft versus host disease
- b- Serum sickness
- c- Renal failure
- d- Cardiomyopathy
- e- Seronegative polyarthropathy

**7- Which of the following explains respiratory alkalosis in acute salicylate poisoning?**

- a- Direct stimulation of respiratory center
- b- Direct inhibition of respiratory center
- c- Direct stimulation of vasomotor center
- d- Direct inhibition of vasomotor center

**8- Cocaine use increases the risk for which of the following conditions?**

- a- Intracranial hemorrhage and myocardial infarction
- b- Anxiety and amotivational syndrome
- c- Ataxia and respiratory depression
- d- Brain damage and peripheral neuropathies

**9- Which of the following is an indication for hemodialysis in salicylate poisoning?**

- a- Metabolic acidosis
- b- Hematemesis
- c- Renal failure
- d- Coma & convulsion

**10- Digoxin helps the heart pump more efficiently by altering the inotropic, chronotropic, and dromotropic actions of the heart. Select all the options below that accurately describe these actions created by Digoxin:**

- a- Positive Chronotropic
- b- Positive Inotropic
- c- Positive Dromotropic
- d- Negative Chronotropic
- e- Negative Inotropic
- f- Negative Dromotropic



**11- Cardiostimulatory effects of cocaine are by which of the following?**

- a- Decreasing reuptake of catecholamine
- b- Increasing reuptake of catecholamine
- c- Preventing reuptake of catecholamine

**12- What is the immediate cause of death in acute barbiturate poisoning?**

- a- Respiratory depression
- b- Renal failure
- c- Cardiac arrhythmia
- d- Hepatic failure

**13- For which acute poisoning, flumazenil is used as an antidote?**

- a- Diazepam
- b- Phenobarbitone
- c- Morphine
- d- Amitryptiline

**14- Which of the following is Not characteristic of both benzodiazepines and barbiturates?**

- a- Both act through GABA transmitter
- b- Both are treated by alkalization of urine
- c- Both are sedative hypnotics
- d- Both are treated with flumazenil

**15- Which clinical manifestation is Not expected in hypnotic overdose?**

- a- Respiratory depression
- b- Lethargy & confusion
- c- Increased bowel sound
- d- Hypothermia

**16- What is the proposed mechanism of action of fluoxetine and similar drugs?**

- a- Dopamine inhibition
- b- Selective serotonin reuptake inhibition
- c- Inactivation of cholinesterase
- d- Depletion of norepinephrine

**17- A 33year old man with a long history of drug abuse complaining of sever somnolence, ravenous appetite, headache, depression and lack of motivation. He asked the doctor to give him the drug he used to reduce the symptoms. Withdrawal from which of the following drugs may have caused these symptoms?**

- a-Heroin
- b- Phencyclidine
- c- Diazepam
- d- Amphetamine
- e- Ethanol

**18- A 47 old woman was admitted to the hospital for an elective operation. The day after surgery she became agitated, tremulous, hallucinating, which of the following statement best explains the reason of the patient's behavior?**

- a- The benzodiazepine medication given before surgery
- b- A depressive episode triggered by the operation
- c- Ethanol withdrawal
- d- The opioid medication given before surgery
- e- Halothane anesthesia used during surgery

19- Which of the following is Not a manifestation of opioid withdrawal

- a- Diarrhea
- b- Lacrimation
- c- Rhinorrhea
- d- Miosis

20- Which of the following drugs are used to treat substance disorders and causing less withdrawal manifestation?

- a- Naltrexone
- b- Naloxone
- c- Buprenorphine
- d- Propoxyphen

Good Luck

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**MSC Exam of Forensic Medicine & Clinical Toxicology Department**

**Forensic medicine (paper II)**

**Date 6/6/2021**

**210 marks**

**Time allowed: 3 hours**

**Number of pages: 7**

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A- A 3-year-old boy of a family with four children was brought to the emergency room of a Tanta University Hospital complaining of right facial asymmetry while talking. Physical examination revealed tympanic hematoma in the right ear. Computerized tomography (CT) of the head verified the tympanic hematoma and revealed right temporal linear fracture. Treatment for right peripheral facial paralysis was prescribed and he was discharged in the same day.

Six days later, he returned to the hospital complaining of bleeding from the right ear and projectile vomiting after falling from a top bunk bed. Physical examination revealed bleeding from the right ear and deformity and pain on palpation of the left forearm. He was admitted to the hospital but the case deteriorated and died.

**-Describe the medicolegal approach of this case? (50 marks)**

**B- Discuss:**

**1- Role of radiology in Forensic Medicine. (40 marks)**

**2- Artifacts related to firearm injuries (30 marks)**

**3-Autopsy findings of aluminum phosphide poisoning (15 marks)**

**4-What does clothes examination tell us? (25 marks)**



**C- Choose the correct answer(s): You may choose one or more answers (50 marks; 2marks each)**

**1- When consent is not required?**

- a- Poliomyelitis vaccination.
- b- Influenza vaccination
- c- Pilgrimage vaccination
- d- Covoid-19 vaccination.

**2- Which One of the followings need consent before medical act?**

- a- Quarantine.
- b- Legal Examination
- c- Emergencies for saving of life
- d- Examination by the order of the court.

**3- Fifty years competent patient came with his brother to perform a needle biopsy of the pancreas. The result is adenocarcinoma. At that time, his brother asked the doctor to hide this result from him, because it might accelerate his death. What should the doctor do in this situation?**

- a- The doctor should respond to the brother of the patient to protect him from bad news.
- b- The doctor should tell the patient's brother that withholding information is not permitted under any circumstance.
- c- The doctor should take the opinion of the rest of the patient's family before informing him the result.
- d- The doctor should ask the patient how he wants to handle the information analysis.

**4-Which one of the following condition consent from spouse must be taken?**

- a- Consent for criminal abortion.
- b- Consent for artificial insemination
- c- Consent for mutilating operation
- d- Consent for euthanasia

**5- An unconscious head injured patient was brought to hospital without a relative, he needs an urgent operation which if delayed this will bring harm to the patient. What must the physician do?**

- a- Do the operation with no need for consent
- b- Seek for consent from the hospital manager
- c- Wait for any of the patient's relative to give consent
- d- Refer the patient to another colleague

**6- In which of the following cases you must break the confidentiality of the patient?**

- a- Chronically ill patient
- b- Mentally ill stable patient
- c- Patient with infectious disease

**7- What is the best method for preservation of skin around the inlet of firearm?**

- a- Swab the area with water damped plain swab
- b- Preserve unfixed & must put in refrigerator
- c- Preserve in 10% formalin solution
- d- Preserve in 10% nitrate solution

**8- What is pond fracture?**

- a- Cut
- b- Comminuted
- c- Fissure
- d- Focal depressed

**9- Retraction balls' after trauma are seen in:**

- a- Brain
- b- Spleen
- c- Liver
- d- Lung

**10- What is the Bumper fracture?**

- a- Primary impact injury
- b- Secondary impact injury
- c- Tertiary impact injury
- d- Secondary injury

**11- What is the cause of extensive abrasions found on the body of a pedestrian?**

- a- Primary impact injury
- b- Secondary impact injury
- c- Tertiary injury
- d- Post-mortem artefact

**12- Sparrow foot marks are associated with which type of injury?**

- a- Motor cyclist's fracture
- b- Under-running or tail gating
- c- Steering wheel impact
- d- Wind screen impact

**13- What is considered as a characteristic of pathological rupture stomach?**

- a- Abrasions on anterior abdominal wall
- b- Rupture peritoneum
- c- Enlarged abdominal lymph nodes
- d- Everted edges of rupture

**14- which one of the following is a characteristic sign of traumatic rupture of the intestine?**

- a- Rupture occurs any where
- b- Absence of abrasions and contusions on abdominal wall
- c- Mucous membrane is lusterless
- d- Intestinal edge is inverted

**15- What cause the punctate burn at the inlet of firearm injury?**

- a- Incandescent powder particles
- b- Heated bullet
- c- Heated shot
- d- Flame

**16- Which one of the following is used in visualizing gunshot residues on clothes?**

- a- Magnified lens
- b- Infra red ray
- c- UV ray
- d- Energy dispersive X ray

**17- Give the scientific term of the “cleft between labia minora”?**

- a- Algolagnia
- b- Fourchette
- c- Posterior commissure
- d- Vestibule



**18- Give the scientific term of “voluntary sexual intercourse between a married woman and someone other than her husband”?**

- a- Incest
- b- Adultery
- c- Sexual assault
- d- Sexual offenses

**19- Why in sexual assault of a child, hymen is usually not ruptured?**

- a- Deeply situated
- b- Underdeveloped
- c- Too tough to rupture
- d- Distensible

**20- A female admitted to the hospital suffering from severe bleeding after first sexual intercourse. What is the probable cause?**

- a- Tear of the intact hymen only
- b- Tear reach the vaginal wall
- c- Tear of dilatable elastic hymen

**21- Which one of the following is a feature of chromosomal defect?**

- a- Gonadal dysgenesis
- b- Concealed sex
- c- Pseudo-hermaphrodite
- d- True-hermaphrodite

**22- What is the best method for heart dissection to evaluate ischemic heart disease?**

- a- Four-chamber method
- b- Inflow-outflow method
- c- Short axis method
- d- Long axis method

23- Forensic entomology is primarily concerned with the interpretation of insect evidence found in association with decomposing corpses discovered under suspicious circumstances. An examination of the development stages of the insects present may yield valuable information about:

- a- The age of the deceased.
- b- The post-mortem interval.
- c- The identification of the deceased.
- d- The circumstances surrounding the death.

24- Spalding sign is seen in:

- a- Maceration
- b- Mummification
- c- Saponification
- d- Putrefaction

25- Presence of gas shadow in the heart & great vessels suggestive of intrauterine death. This is called

- a- Chadwick's sign
- b- Spalding sign
- c- Roberts's sign
- d- Osiander's sign

Good luck

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**Forensic medicine (paper I)**

**Date: 1/6/2021**

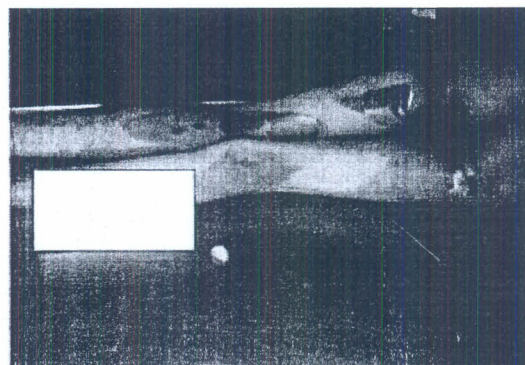
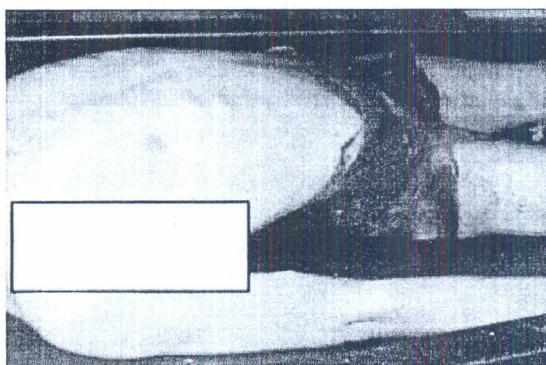
**210 marks**

**Time allowed 3 hours**

**Number of pages: 3**

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A- A black bag was found at the roadside in Tanta city. On opening the bag by police officer, a dead body of unknown, 20-25 years, male, wearing blue colour T-shirt & faint black underwear was found. There was yellow nylon rope encircling the neck and burn injuries over the body. The hands and legs of body were tied with the yellow nylon rope, sticking bandage was encircled around the face. An onion was thrust inside the oral cavity of the victim. Examination of the deceased body revealed ligature mark around the neck with multiple scratches in the neck & face. There were superficial to deep burns over lower abdomen, back, thighs and genitalia Figure (1).





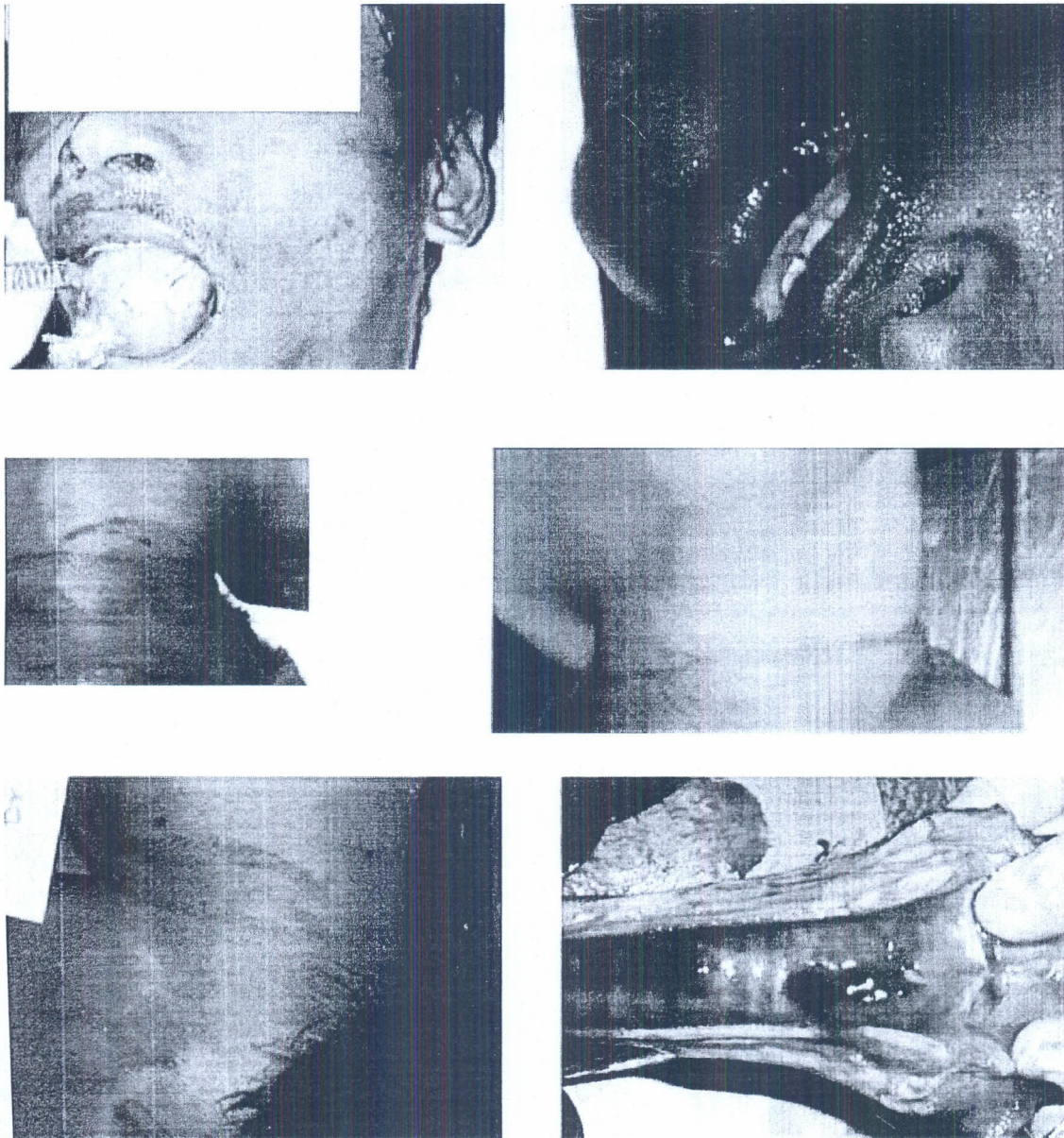


Figure (1): photos of the deceased body showing external & internal findings

- 1-Identify the victim (40 marks)
- 2- What are the possible causes of death? (25 marks)
- 3- What is the manner of death? explain (30 marks)



**B- Discuss:**

**1- Special precautions during autopsy of covid 19 cases (30 marks)**

**2- Causes of Custodial Deaths (20 marks)**

**3- Patterned wound (20 marks)**

**4- Bite injuries and its medicolegal importance (25 marks)**

**5- Chop wound (20 marks)**

**Good Luck**

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