

Toxicology
Final Exam 2016-2017

Al-Azhar university-Gaza-Palestine
College of Pharmacy
Dept. of pharmacology and applied sciences

Fifth year students
Date: 27/05/2017
Time: 120 minutes
Total marks: /50

Students Name:

Answer the following Questions:

Question 1:

- A. "The effectiveness of an antidote is related to the time of administration of the antidote". Explain this statement giving 2 examples of antidotes that you know?
- B. Give the toxic dose of the following agents in humans:
1. Acute aspirin poisoning.
 2. Acute ibuprofen poisoning.
 3. Amphetamine in adults and in children.
 4. Acute cyanide poisoning.
 5. Acute mushroom poisoning.

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Question 2:

- A. What are the toxic ingredients present in mushroom? Give their mechanisms of action?
- B. Compare the systemic toxic effects of Viper venom and Cobra venom?
- C. Give the toxic symptoms of the intermediate syndrome in organophosphate poisoning? Why 2-PAM should be administered early and empirically for suspected cholinesterase inhibitor poisoning?

Question 3:

- A. Differentiate between a "contact herbicide" and "translocated herbicide" regarding the effectiveness and toxicity of the herbicide?
- B. Give the mechanism of toxicity, toxic dose and clinical picture of zinc phosphide poisoning?
- C. Describe the mechanisms of toxicity and the chronic toxic effects of lead?
- D. What are the bases of the use of chelators in the treatment of metal poisoning? Explain the role succimer in the treatment of metal toxicity?

Question 4:

- A. Explain the mechanism by which marijuana produces euphoria? What are the subjective effects of marijuana?
- B. Why psychotherapists make an objection over the FDA decision of placing Ecstasy on Schedule I of the narcotic substances act in 1985?
- C. "To prove the incidence of cocaine use, it is preferred to measure cocaine metabolites instead of cocaine". Explain?
- D. What are the characteristic features of opiate poisoning that are used to differentiate it from poisoning by other toxic agents?

Part II: Case study. Read the following case studies carefully and answer the questions on each case:

Case study 1: (10 marks)

A 33-year-old unemployed man was brought to the emergency department one morning after drinking alcohol and ingesting 60 tablets of an over-the-counter pain killer 9 hours earlier on the previous evening. He was unconscious and in shock. Blood pressure was 54/34 and he had a tachycardia at 122 beats/minute. He was in deep coma with small pupils and he was lacking in spontaneous limb movements or response to painful stimuli. Arterial blood gases showed a severe metabolic acidosis. Chemistries were significant for renal impairment. The patient was intubated and administered activated charcoal via a nasogastric tube. Resuscitation was effected which restored blood pressure and urinary flow. Nevertheless, his acidosis worsened and he manifested cardiac instability. He became very bradycardic (30 beats/minute) and hypertensive. Bicarbonate was slowly infused with improvement in his acidosis. His coma resolved in about 24 hours at which time he was extubated. His acidosis persisted for an additional 12 hours. Eventually, he recovered fully with renal function returning to normal. He was discharged on the 3rd hospital day.

What was the over-the-counter painkiller which he ingested?

- a) Acetaminophen.
- b) Aspirin.
- c) Ibuprofen.

Case study 2: (10 marks)

A 2-week-old girl was brought to an emergency department by her mother who stated that the baby had become extremely irritable and had vomited repeatedly starting 4 hours earlier. The mother was most alarmed by the baby's pupils which had remained dilated since that time. Examination revealed a normally hydrated and nourished baby who was easily startled by the most trivial stimulus.

Her heart rate was 160 beats per minute; systolic blood pressure was 96 mm; respiratory rate, 36 breaths per minute; and she had a normal body temperature. The child also was noted to have a high-pitched cry, dilated pupils with sluggish response to light, increased deep tendon reflexes, and trembling of the extremities. The mother was certain that the baby was exposed only to her breast milk which she had provided 5 times between 10 a.m. and 2 p.m.

A probable identity for the offending agent is

- a) Morphine.
- b) Diazepam.
- c) Cocaine.
- d) Marijuana.

Good Luck!!!!!!!!!!!!

Dr. Mohammed Shbair