

## Test bank - cell injury 3 pathology by Hind shaker Suhwail

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**Q1. patient presents with tissue damage caused by prolonged hypoxia. Which of the following would most likely determine the extent of cellular damage in this scenario?**

- A) The source of hypoxia
- B) The adaptability and genetic makeup of the injured cells
- C) The patient's nutritional status
- D) non of the above

**Q2.A 65-year-old man is brought to the emergency department after experiencing chest pain for 45 minutes. His ECG reveals signs of myocardial ischemia. Blood tests show elevated lactate levels. The patient is diagnosed with an acute myocardial infarction aka heart attack. Which of the following is most likely contributing to cellular injury in this patient's heart tissue?**

- A) Rapid depletion of ATP due to defective oxidative phosphorylation, leading to failure of energy-dependent processes
- B) Increased aerobic glycolysis, resulting in the accumulation of glucose and reduced energy production
- C) Enhanced phospholipid turnover in the cell membrane, preventing cellular injury
- D) Increased protein synthesis in response to hypoxia, resulting in cell swelling and necrosis

**Q3.When ATP generation fails due to defective oxidative phosphorylation, which of the following is the least likely immediate consequence?**

- A) Enhanced phospholipid turnover
- B) Increased anaerobic glycolysis
- C) Failure of membrane transport systems
- D) Depletion of energy reserves

**Q4.Which of the following events most likely contributed to the worsening of tissue injury following reperfusion in this patient?**

- A) Reduced production of ATP during the ischemic phase
- B) Accumulation of lactic acid from anaerobic metabolism
- C) Influx of leukocytes and activation of the complement system leading to inflammation
- D) Hyperactive lipogenesis due to restored blood flow

**Q5. Which of the following types of injury is NOT commonly associated with the generation of reactive oxygen species (ROS)?**

- A) Hypoxia
- B) Radiation injury (UV, X-rays)
- C) Ischemia-reperfusion injury
- D) Mechanical trauma

**Q6. What is the primary function of myeloperoxidase in neutrophils?**

- A) To degrade bacterial cell walls
- B) To convert hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) into hypochlorite
- C) To generate superoxide (O<sub>2</sub>•<sup>-</sup>) from oxygen
- D) To initiate the inflammatory response

**Q7. Which of the following is considered one of the most active antioxidant enzymes known?**

- A) Catalase
- B) Superoxide dismutase (SOD)
- C) Glutathione (GSH) peroxidase
- D) Myeloperoxidase

**Q8. A 45-year-old woman diagnosed with rheumatoid arthritis is undergoing treatment with corticosteroids. Her physician recommends increasing her dietary intake of antioxidants. Which of the following antioxidants should she focus on to help reduce oxidative stress associated with inflammation?**

- A) Vitamin K
- B) Vitamin E
- C) Vitamin B12
- D) Vitamin D

**Q9. A 60-year-old man with chronic alcohol use presents with symptoms of liver failure. Tests show a significant decline in apoprotein synthesis. What cellular event likely contributes to the fatty liver observed in this patient?**

- A) Decreased production of insulin
- B) Increased synthesis of mitochondrial ATP
- C) Detachment of ribosomes from the endoplasmic reticulum (ER)
- D) Enhanced detoxification via cytochrome P-450

**Q10. In the context of ischemic injury, which of the following best explains the accumulation of lactic acid in the tissue?**

- A) Increased oxidative phosphorylation
- B) Anaerobic glycolysis due to ATP depletion
- C) Enhanced lipogenesis in response to injury
- D) Increased protein synthesis to counter hypoxia

**Q11. A 45-year-old man experiences sudden leg pain due to a blockage in his femoral artery. Emergency surgery is performed to restore blood flow. However, within hours after the procedure, his leg becomes swollen and red, with signs of worsening tissue injury. Which of the following events most likely contributed to the worsening of tissue injury following reperfusion in this patient?**

- A) Reduced production of ATP during the ischemic phase
- B) Accumulation of lactic acid from anaerobic metabolism
- C) Influx of leukocytes and activation of the complement system leading to inflammation
- D) Hyperactive lipogenesis due to restored blood flow

**Q12. During the process of inflammation, which of the following statements accurately describes the generation of ROS in phagocytes?**

- A) ROS are not involved in the destruction of microbes.
- B) ROS are produced in the cytoplasm and released into the bloodstream.
- C) ROS are generated in phagolysosomes to kill engulfed microbes.
- D) ROS are only produced in response to allergens.

**Q13. Endogenous antioxidants include which of the following substances?**

- A) Vitamin D
- B)  $\beta$ -Carotene
- C) Vitamin E
- D) All of the above

**Q14. A patient presents with fatty liver changes following acetaminophen overdose. Histological examination reveals extensive damage to liver cell membranes. What is the most likely effect of acetaminophen metabolism on liver cells?**

- A) Increased ATP synthesis and cell recovery
- B) Membrane peroxidation leading to detachment of ribosomes and impaired protein synthesis
- C) Direct lysis of hepatocytes
- D) increased protein synthesis

ردد معي..

اللهم أنصر أخواننا المستضعفين في غزة  
اللهم إنهم خائفون فأمنهم اللهم إنهم مكسورين  
فاجبر كسرهم اللهم أرحم ضعفهم وأمن روعهم  
وانصرهم على عدوك وعدوهم يا قوي يا عزيز  
اللهم احفظ أهل غزة شبابها وشبيبتها ونسائها  
وأطفالها ولا تفجعنا بأحد يا الله اللهم إنا نستودعك  
غزة وأهلها فاحفظها يا الله بعينك التي لا تنام.

## **Answers key**

- 1. B**
- 2. A**
- 3. A**
- 4. C**
- 5. D**
- 6. B**
- 7. B**
- 8. B**
- 9. C**
- 10. B**
- 11. C**
- 12. C**
- 13. D**
- 14. B**