

Cell Injury, Death, and Adaptations

Pathology · Answer Key · 15 Questions

1. What is the most common stimulus for hypertrophy in skeletal and cardiac muscle?

- A) Hormonal stimulation
- B) Increased workload**
- C) Decreased blood flow
- D) Nutritional deficiency

2. Which cellular adaptation involves the replacement of one differentiated cell type with another?

- A) Hyperplasia
- B) Atrophy
- C) Metaplasia**
- D) Dysplasia

3. Which of the following is considered the earliest manifestation of almost all forms of cell injury?

- A) Fatty change
- B) Cellular swelling**
- C) Necrosis
- D) Apoptosis

4. Which type of necrosis is characterized by the transformation of tissue into a viscous liquid?

- A) Coagulative necrosis
- B) Caseous necrosis
- C) Liquefactive necrosis**
- D) Fibrinoid necrosis

5. What is the hallmark morphological change of irreversible cell injury?

- A) Cell death**
- B) Hyperplasia
- C) Atrophy
- D) Metaplasia

6. Which nuclear change in necrosis refers to nuclear fading due to DNA degradation?

- A) Pyknosis
- B) Karyorrhexis
- C) Karyolysis**
- D) Chromatin condensation

7. In which condition would you most likely encounter caseous necrosis?

- A) Brain infarct
- B) Tuberculous infection**
- C) Acute pancreatitis
- D) Atherosclerosis

8. What is the primary function of the caspases in apoptosis?

- A) Energy production
- B) DNA replication
- C) Enzymatic degradation**
- D) Lipid synthesis

9. Which endogenous pigment is known as the 'wear and tear' pigment?

- A) Hemosiderin
- B) Melanin
- C) Lipofuscin**
- D) Carbon

10. What is the primary mechanism of metastatic calcification?

- A) Local tissue necrosis
- B) Hypercalcemia**
- C) Ischemia
- D) Aging

11. Which organ is most commonly affected by steatosis (fatty change)?

- A) Heart
- B) Liver**
- C) Kidney
- D) Muscle

12. What are the repeating DNA sequences at the ends of chromosomes called?

- A) Centromeres
- B) Chromatids
- C) Telomeres**
- D) Nucleosomes

13. Which pathway of apoptosis is triggered by death receptors like TNF and Fas?

- A) Intrinsic pathway
- B) Extrinsic pathway**
- C) Mitochondrial pathway
- D) Autophagic pathway

14. What term describes the accumulation of carbon pigment in the lungs?

A) Hemosiderosis

B) Anthracosis

C) Xanthoma

D) Steatosis

15. Which enzyme catalyzes the oxidation of tyrosine to produce melanin?

A) Tyrosinase

B) Phospholipase

C) Endonuclease

D) Caspase