Questions LEC 1 – PART1

1) What distinguishes pathologic hypertrophy from physiologic hypertrophy

A) Pathologic hypertrophy involves cellular division.
B) Physiologic hypertrophy occurs in response to hormonal stimulation and functional demand.
C) Pathologic hypertrophy leads to decreased cell function.
D) Physiologic hypertrophy always results in heart failure.

Answer: B.

2) Which of the following is an example of compensatory hyperplasia?

A) Cardiac hypertrophy in response to hypertension
B) Endometrial hyperplasia due to continuous estrogen stimulation
C) Hepatic regeneration after partial liver resection
D) Atrophy of muscle following immobilization

Answer: C

3) What is a common consequence of prolonged estrogenic stimulation in females?

A) Physiologic hypertrophy of breast tissue
B) Endometrial hyperplasia potentially leading to carcinoma
C) Cardiac atrophy due to decreased functional demand
D) Metaplasia of bronchial epithelium

Answer: B

4) Which of the following correctly describes atrophy?

A) Increased size and functional capacity of cells
B) Decrease in cell size and function due to various stimuli
C) Reprogramming of stem cells to replace damaged tissues
D) An increase in the number of cells in a tissue

Answer: B

5) Metaplasia is best described as:

A) An increase in cell number due to hormonal stimulation
B) A change from one cell type to another with altered function
C) A process that always leads to cancer
D) A reversible decrease in cell size

Answer: B

6)**What initiates the atrophic response in muscle cells following immobilization?**

A) Increased blood supply
B) Loss of functional demand
C) Hormonal stimulation
D) Cellular proliferation

Answer: B

7) In the context of hypertrophy, which type of cells can undergo both hypertrophy and hyperplasia simultaneously?

A) Cardiac muscle cells
B) Skeletal muscle cells
C) Smooth muscle cells
D) Neurons

Answer: C

8) What is the main mechanism by which cells undergo atrophy?

A) Increased protein synthesis
B) Decreased protein synthesis and increased degradation
C) Increased cell division
D) Hyperplasia

Answer: B

9) Which condition is most likely to cause metaplasia in the respiratory epithelium?

A) Hormonal changes during pregnancy
B) Nutritional deficiencies
C) Chronic smoking
D) Acute ischemia

Answer: C

10) What triggers the compensatory hyperplasia of the liver after partial resection?

A) Loss of blood supply
B) Decreased hormonal stimulation
C) Release of growth factors by remaining liver cells
D) Increased physical activity

Answer: C

11) Which of the following conditions is associated with pathologic hyperplasia?

A) Skeletal muscle enlargement from exercise
B) Endometrial hyperplasia due to excessive estrogen
C) Liver regeneration after surgery
D) Physiologic hypertrophy during pregnancy

Answer: B

12)What is the effect of aging on cellular function?

A) Increased cellular proliferation
B) Decreased function and increased risk of ischemic disease
C) Enhanced hormonal stimulation
D) Constant cell size and function

Answer: B

13) Which of the following is a physiological example of hypertrophy?

A) Cardiac enlargement due to chronic hypertension
B) Skeletal muscle growth from weight training
C) Liver enlargement from cirrhosis
D) Prostate enlargement from benign prostatic hyperplasia

Answer: B

14)What is the primary consequence of a cell undergoing atrophy due to denervation?

A) Increased cellular metabolism
B) Regeneration of nerve fibers
C) Decreased muscle strength and size
D) Increased cell proliferation

Answer: C

15) In cases of endometrial hyperplasia, which factor is primarily responsible for the condition?

A) Decreased blood supply
B) Continuous estrogenic stimulation
C) Lack of hormonal influence
D) Increased progesterone levels

Answer: B

16) Which type of cell typically does NOT undergo hyperplasia?

A) Hepatocytes
B) Cardiac muscle cells
C) Endothelial cells
D) Epithelial cells

Answer: B

17) What is a potential risk associated with persistent pathologic hyperplasia?

A) Decreased risk of cancer
B) Fibrosis of affected tissue
C) Transformation to malignancy
D) Improvement in tissue function

Answer: C

18) Which condition is most likely to lead to metaplasia of the esophageal epithelium?

A) Chronic gastritis
B) Gastroesophageal reflux disease (GERD)
C) Pulmonary edema
D) Hepatitis

Answer: B

19) What characterizes physiologic hyperplasia compared to pathologic hyperplasia?

A) It occurs due to excessive hormonal stimulation.
B) It typically does not lead to cancer.
C) It results in decreased cell function.
D) It involves the reprogramming of stem cells.

Answer: B

20) Which of the following conditions can lead to hypoxia?

A) Increased oxygen supply
B) Ischemia due to arterial blockage
C) Normal blood flow
D) Increased physical activity

Answer: B

Questions LEC 1- PART 2

1) In the context of muscle hypertrophy, which of the following statements is TRUE?
a) It occurs only in response to injury.
b) It is always accompanied by an increase in strength.
c) It is influenced by mechanical overload.
d) It is primarily a form of necrosis.

ASWER: C

2) **Epithelial metaplasia is most likely to be seen in which of the following conditions?**
a) Chronic bronchitis in smokers
b) Acute appendicitis
c) Type 2 diabetes mellitus
d) Heart failure

ANSWER: A

3) **Which of the following conditions is primarily associated with the enlargement of an organ due to increased cell number?**
a) Fibrosis
b) Hyperplasia
c) Atrophy
d) Necrosis

ANSWER: B

4) **The presence of glandular epithelium in the esophagus of a patient with long-standing gastroesophageal reflux is referred to as:**
a) Metaplasia
b) Dysplasia
c) Hyperplasia
d) Anaplasia

ANSWER: A

5) **Which of the following mechanisms is typically associated with cellular hypertrophy?**
a) Decreased ATP production
b) Increased cell division
c) Enhanced protein synthesis
d) Increased apoptosis

ANSWER: C

6) **Which of the following represents a normal physiological response to decreased workload in muscle tissue?**
a) Hypertrophy of cardiac muscle in athletes

b) Atrophy of disused skeletal muscle
c) Hyperplasia of the uterine lining during menstruation
d) Metaplasia of the respiratory epithelium

ANSWER: B

7) **The heart of a 60-year-old male with chronic heart disease exhibits changes in structure. This is an example of which adaptive process?**
a) Atrophy
b) Hyperplasia
c) Hypertrophy
d) Dysplasia

ANSWER: C

8) **A 50-year-old male presents with renal atrophy due to chronic obstruction. The atrophic kidney is an example of which adaptive change?**
a) Aplasia
b) Atrophy
c) Hypertrophy
d) Hyperplasia

ANSWER: B

9) **In a patient with chronic alcoholism, the liver shows signs of decreased size and function. This is an example of:**
a) Dysplasia
b) Atrophy
c) Hyperplasia
d) Hypertrophy

ANSWER:B

10) **Conditions resulting from a malfunction of the immune system fall under which category?**
a) Chemical Agents
b) Infectious Agents
c) Immunologic Reactions
d) Environmental Agents

ANSWER:C

Done By: Khaled Ghanayem