QUIZ Time

Histology 13+14+15

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لجنة طب الأسنان

Histology 13,14,15

1. What is the primary function of bone tissue?
(A) Store calcium inside the bone marrow
(B)Act as a blood clotting organ
(C)Support soft tissues and protect vital organs
(D)Provide a site for muscle attachment only

2. Where is bone marrow located, and what is its function?
(A) Surrounding the bone and acts as a protective layer
(B)In the periosteum and helps in bone growth
(C)Within the bone and acts as a haemopoietic organ
(D)Within the endosteum and acts as a blood vessel supply

3. What are the primary components of bone matrix?
(A) Calcium salts and collagen fibers
(B)Calcium salts and osteoclast cells
(C)Collagen fibers and ground substance
(D)Osteogenic cells and calcium salts

4. What is the main cell type responsible for bone formation?
(A) Osteocytes
(B) Osteoclasts
(C) Osteoblasts
(D) Osteogenic cells

5. How do osteocytes maintain contact with each other?
(A) By direct physical connection
(B) Using perforating fibers
(C) Through gap junctions in canaliculi
(D) Through organelles within the lacunae

6. What stimulates osteogenic cells to become osteoblasts?
(A) Growth and repair of bone
(B) Degeneration of bone tissue
(C) Calcification of the bone matrix
(D) Differentiation into osteocytes

7. What happens to osteoblasts when they are surrounded by the bone matrix?
(A) They become inactive osteocytes
(B) They become more active
(C) They die
(D) They transform into osteoclasts

8. Where are osteoclasts primarily located, and what is their function?
(A) In the endosteum, responsible for bone formation
(B)In Howship's lacunae, responsible for bone resorption
(C)In lacunae, responsible for calcium storage
(D)In the periosteum, responsible for bone growth

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9. What is the function of the periosteum's outer fibrous layer?
(A)Contains dense collagen fibers that bind the periosteum to the bone
(B)Facilitates the transfer of nutrients
(C)Contains large blood vessels and nerves
(D)Houses bone marrow for blood cell formation

10. Which component makes the bone matrix highly acidophilic?
(A) Ground substance
(B) Osteocytes
(C) Collagen type I
(D) Calcium phosphate

11. What are the inorganic components of the bone matrix?
(A) Collagen fibers and glycoproteins
(B) Fibers and ground substance
(C) Calcium hydroxyapatite and calcium phosphate
(D) Alkaline phosphatase and proteoglycans

12. What characterizes the endosteum?
(A) Composed of a single layer of osteogenic cells and little connective tissue
(B) Composed of dense fibrous layers
(C) Contains specialized muscle fibers
(D) Acts as the main structural framework of the bone

13. What characterizes the surface of the zone facing the bone in osteoclasts?
(A)The surface facing the bone is flat
(B)The surface facing the bone is highly mineralized
(C)The surface facing the bone is irregular
(D)The surface facing the bone is smooth

14. Which zone in an osteoclast surrounds the ruffled border?
(A) Ruffled Border
(B) Basal zone
(C) Clear Zone
(D) Region of vesicles and vacuoles

15. What does the region of vesicles and vacuoles contain in an osteoclast?
(A) Nuclei of the cell
(B) Collagen fibers
(C) Mineralized bone particles
(D) Lysosomes

16. Which part of the osteoclast contains the nuclei and other cell organelles?
(A) Region of vesicles and vacuoles
(B) Basal zone
(C) Ruffled Border
(D) Clear Zone

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17. What is the function of osteoclasts in bone remodeling?
(A) Bone formation
(B) Cartilage synthesis
(C) Maintenance of bone matrix
(D) Bone resorption

18. Which cells secrete acid and collagenase to erode the bone matrix?
(A) Osteoblasts
(B) Osteocytes
(C) Osteoclasts
(D) Osteogenic cells

19. What term describes the temporary bone that first appears in development and is characterized by irregular collagen fiber arrangement?
(A) Primary bone (Immature or woven)
(B) Cancellous bone
(C) Compact bone
(D) Secondary bone (lamellar)

20. What type of bone is usually present in adults and is characterized by high calcium content and regularly arranged collagen fibers?
(A) Cancellous bone
(B) Compact bone
(C) Secondary bone (lamellar)
(D) Primary bone (Immature or woven)

الجزء الثاني من محاضرة 15

1. What are the two types of bone development?
(A) Bone may develop directly from cartilage or indirectly from mesenchyme.
(B) Bone may develop only by the replacement of mesenchyme.
(C) Bone may develop indirectly from mesenchyme only.
(D) Bone may develop directly from mesenchyme or indirectly by the replacement of cartilage

2. Which type of ossification involves the deposition of bone matrix on the surface of pre-existing cartilage matrix?
(A) Intramembranous ossification.
(B) Both Intramembranous and Endochondral ossification.
(C) Neither Intramembranous nor Endochondral ossification.
(D) Endochondral ossification.

3. What forms as a result of intramembranous ossification?
(A) Most bones of the body (short, long).
(B) Flat bones.
(C) The epiphyseal growth plate.
(D) Bone collar around cartilage model.

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4. During intramembranous ossification, what cell type secretes osteoid tissue?
(A) Osteocytes.
(B) Osteoblasts.
(C) Chondrocytes.
(D) Fibroblasts.

5. What structure remains inside the epiphyses after endochondral ossification is completed?
(A) Bone marrow cavity.
(B) Ossification centers.
(C) Hyaline cartilage in the epiphyseal plates and articular cartilages.
(D) Periosteum.

6. Which of the following describes the primary ossification center formation?
(A) Deposition of bone matrix directly on mesenchyme.
(B) Formation within mesenchyme without vascularization.
(C) Hypertrophy of chondrocytes followed by invasion of osteogenic cells and blood capillaries.
(D) Intramembranous ossification without any pre-existing cartilage.

7. When do secondary ossification centers begin to form in endochondral ossification?
(A) During adolescence.
(B) (C) (D) After full bone remodeling is completed.
At the time of bone repair.
Around the time of birth.

8. What structure is found at the junction of the epiphysis with the diaphysis of long bones?
(A) The periosteum.
(B) The ossification center.
(C) The red bone marrow.
(D) The epiphyseal plate.

9. Which zone of the epiphyseal plate contains proliferating chondrocytes?
(A) Hypertrophic zone.
(B) Proliferative zone.
(C) Resting zone.
(D) Calcification zone.

10. What process provides for the continued bone elongation during childhood?
(A) Bone remodeling and fatigue.
(B) (C) (D) All osteogenic cells becoming permanent osteocytes.
Direct cell differentiation without ossification.
Activity of the epiphyseal plate.

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1.C Support soft tissues and protect vital organs
2.C Within the bone and acts as a haemopoietic organ
3.A Calcium salts and collagen fibers
4.C
5.C Through gap junctions in canaliculi
6.A Growth and repair of bone
7.A
8.B In Howship's lacunae, responsible for bone resorption
9.B
10.C Collagen type I
11.C Calcium hydroxyapatite and calcium phosphate
12.A Composed of a single layer of osteogenic cells and little connective tissue
13.C The surface facing the bone is irregular
14.C Clear Zone
15.D Lysosomes
16.B Basal zone
17.D Bone resorption
18.C Osteoclasts
19.A Primary bone (Immature or woven)
20.C Secondary bone (lamellar)

الجزء الثاني من محاضرة 15

1.D Bone may develop directly from mesenchyme or indirectly by the replacement of cartilage.
2.D Endochondral ossification.
3.B Flat bones.
4.B Osteoblasts.
5.C Hyaline cartilage in the epiphyseal plates and articular cartilages.
6.C Hypertrophy of chondrocytes followed by invasion of osteogenic cells and blood capillaries.
7.D Around the time of birth.
8.D The epiphyseal plate.
9.C Resting zone.
10.D Activity of the epiphyseal plate.