



KENYATTA UNIVERSITY
EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICAL
LABORATORY SCIENCES

HML 210: BASIC HUMAN PATHOLOGY

2ND SEMESTER 2022/2023

TIME: 2 Hours

INSTRUCTIONS

SECTION A: Answer all questions: (4marks each)

1. Outline the differences between apoptosis and necrosis (4marks)
2. Describe the mechanism of fibrinous inflammation(4marks)
3. Describe the pathogenesis of Myocardial infarction(4 marks)
4. Explain how tumors are graded in pathology (4 marks)
5. Outline signs and symptoms of metastatic prostate cancer(4 marks)

SECTION B: Answer only ONE question (20marks each)

6. a) Discuss **TWO** benign tumors of the breast (8 marks)
b) With reference to Gastro esophageal reflux disease (GERD), discuss the four aspects of a disease process (12 marks)
7. a) Discuss complications of wound healing (10 marks)
b) Discuss effects of acute inflammation (10 marks)

Section C: Answer all questions on the answer booklet (1/2 marks each)

1. Metaplasia:
 - A. Is irreversible
 - B. Is commonly a change from squamous to columnar epithelium
 - C. An example is the transformation of epithelial cells into chondroblasts
 - D. Retinoids may play a role
2. Which is **INCORRECT** in regards to apoptosis?
 - A. It may be regarded as a normal physiological process
 - B. It is characterized by chromatin condensation
 - C. It often elicits a strong inflammatory response
 - D. It is the process by which ovaries atrophy in post-menopausal women

3. Coagulative necrosis:
 - A. Usually occurs after irreversible ischaemic cellular damage
 - B. Results from necrosis in which cellular enzymatic digestion predom. denaturation
 - C. Is characterized by marked WBC infiltrate
 - D. Is uncommon after myocardial infarction
4. In acute inflammation, which events occur in the correct chronological order?
 - A. Transient vasoconstriction, stasis of blood flow, increased permeability, vasodilation
 - B. Transient vasoconstriction, increased permeability, vasodilation, stasis of blood flow
 - C. Transient vasoconstriction, vasodilation, increased permeability, stasis of blood flow, neutrophil accumulation
 - D. Neutrophil accumulation, vasodilation, increased permeability, stasis of blood flow
5. Regarding chronic inflammation which of the following is FALSE?
 - A. It is associated with persistent infections
 - B. It primarily involves tissue destruction
 - C. It may contribute to the formation of atherosclerosis
 - D. It can be caused by exposure to toxic agents
6. A patient with 12 month history of diffuse epigastric pain presents. The history is worse with lying down, shortly after eating and with hot drinks. Given the most likely diagnosis, which of the options below would you not expect to find in the chronic lesion within the submucosa of the duodenal bulb?
 - A. Fibrous scar
 - B. Acute Inflammatory exudate
 - C. Vascular granulation tissue
 - D. Fibrovascular granulation tissue
7. Granuloma formation is most frequently associated with:
 - A. The healing process.
 - B. Acute inflammation.
 - C. Fibroblasts and neovascularization
 - D. A persistent irritant
8. The most characteristic feature of granulation tissue is the:
 - A. Growth of fibroblasts and new capillaries.
 - B. Resemblance to a granuloma.
 - C. Character of the exudate.
 - D. Granular scar that results.

a young man of 20, got a lacerated wound on his left arm, stitched-1 week later sutures were remained-healing continued but the site became disfigured by prominent raised irregular nodular scar, in next 2 months which of the following best describes the process:

- A. Organization.
 - B. Dehiscence.
 - C. Resolution.
 - D. Keloid formation
10. A 39 years old male developed a testicular mass which was removed and was sent for pathological examination, along with additional studies. Which of the following is the most compelling evidence that the lesion is malignant:
- A. Cells of the mass infiltrate a narrow band of the tunica albuginea.
 - B. X-ray shows 2 round nodules in the left lung field and one in the right, were not present 2 years ago
 - C. Two mitotic figures are found in every (HPF) high power field of microscope.
 - D. Nuclei are viable in size and tend to stain.
11. Which of the following pair does not correctly match the tumor with its causative agent:
- A. Anal-genital carcinoma – HPV (Type 16 & 18)
 - B. Burkitts lymphoma – EBV
 - C. Hepatocellular carcinoma - Hepatitis A virus
 - D. Carcinoma stomach - Helicobacter pylori
12. Which of the following terms refer to a malignant tumor of mesenchymal origin:
- A. Carcinoma.
 - B. Hepatoma.
 - C. Sarcoma.
 - D. Teratoma
13. Hematemesis is an indication of:
- A. Upper gastrointestinal bleeding
 - B. Lower gastrointestinal bleeding
 - C. Gastric cancer
 - D. None of the above
14. In which of the following segments of the gastrointestinal tract is primary carcinoma least common?
- A. Esophagus
 - B. Stomach
 - C. Small intestine
 - D. Colon

15. A 45-year-old man has had vague abdominal pain and nausea for the past 3 years. This pain is unrelieved by antacid medications. He has no difficulty swallowing and no heartburn following meals. On physical examination there are no abnormal findings. Upper GI endoscopy reveals antral mucosal erythema, but no ulcerations or masses. Biopsies are taken, and microscopically there is a chronic non-specific gastritis. Which of the following conditions is most likely to be present in this man?
- A. Zollinger-Ellison syndrome
 - B. Pernicious anemia
 - C. Helicobacter pylori infection
 - D. Adenocarcinoma
16. A 23-year-old woman has discovered the presence of a firm rubbery movable nodule in upper outer quadrant of her left breast while doing a self-examination. She notes that the nodule appears slightly larger and more tender during menstrual periods, but the mass has seemed to remain about the same size for the past 4 months. She has no axillary lymphadenopathy. Which of the following is the most likely diagnosis?
- A. Phyllodes tumor
 - B. Fibroadenoma
 - C. Intraductal carcinoma
 - D. Medullary carcinoma
17. A 47-year-old woman undergoes routine mammographic screening and there are multiple small areas of increased density, though a single distinctive mass lesion is not detectable either by palpation or by mammography. A fine needle aspiration biopsy of an abnormal density reveals cells suspicious for a malignancy. An excisional breast biopsy yields a diagnosis of lobular carcinoma in situ of the breast. Which of the following is the most likely finding associated with this woman's carcinoma?
- A. No residual carcinoma
 - B. Opposite breast involvement
 - C. Absent family history of breast cancer
 - D. Concomitant Paget disease of the nipple
18. Atherosclerotic plaques are made up of:
- A. Complex carbohydrates
 - B. Fibrous tissue
 - C. Potassium salts
 - D. Proteins
19. The area of myocardial infarction can be macroscopically seen?
- A. After 5 min
 - B. After 2-4 hours
 - C. After 36-48 hours
 - D. After 72-78 hours
20. Most common carcinoma of the breast is?
- A. Ductal carcinoma
 - B. Colloid carcinoma
 - C. Lobular carcinoma
 - D. Sarcoma phyllodes