Cell injury 2019

M. Rizwan

Date: _____

returned to the invigilator within specified time after you have received the question paper.

2. Any cuttings or overwriting in answering the objective part will not be accepted and no marks will be given even if the answer is correct.

1.A 57 -year- lady has a malignant lymphoma. She is treated with a chemotherapeutic agent which results in the loss of individual neoplastic and the lymphoma decreases in size, as documented on abdominal CT scans. By which of the following mechanisms has her neoplasm primarily responded to therapy?

A Coagulative necrosis
B Mitochondrial poisoning
C Phagocytosis
D Acute inflammation
E Apoptosis

Apoptosis.

2.A man of 58 years has experienced severe chest pain and tachycardia. Laboratory studies show a serum troponin I of 10 ng/mL. A coronary angiogram reveals >90% occlusion of the anterior interventricular artery. In this setting, an irreversible injury to myocardial fibers will have occurred when which of the following cellular changes occurs?

Sendup 2020

A Glycogen stores are depleted
B Cytoplasmic sodium increase.
C Nuclei undergo karyorrhexis. Nuclei undergoes Karyolysis.
D Intracellular pH diminishes
E Blebs form on cell membranes

3.A man of 42 -year fell down pallet rack, which strikes him on his left thigh. The bone and skin is not broken. Within 2 days there is a 6 × 8 cm purple colour to the site of injury. Which of the following substances has most likely accumulated at the site of injury to produce a yellow-brown colour at the site of injury 16 days later?

A Lipofuscin
B Billrubin
C Melanin
D Hemosiderin. Hemosidrin
E Glycogen

4.The thoracic surgeon notes that the hilar lymph nodes are small, 0.5 to 1.0 cm in size, and jet black in colour throughout while performing the pneumonectomy for his lung cancer. Which of the following is the most likely cause for this appearance to the hilar nodes?

A Anthracotic pigment
B Lipochrome deposits
C Melanin accumulation
D Hemosiderosis
E Metastatic carcinoma

5.A boy of 12 years has had multiple episodes of ear pain accompanied by fever. On examination his right tympanic membrane is red and bulging with yellow exudate and culture positive for Hemophilus influenzae. A year later his head CT scan shows a mass in the right middle ear. Which of the following materials is most likely to be seen in the tissue curetted from his middle ear?

A Lipofuscin pigment
B Russell bodies
C Neutrophil granules
D Cholesterol crystals
E Anthracotic pigment

6.A man 45 years has complained of mild burning substernal pain following meals for the past 3 years. Upper GI endoscopy reveals erythematous area of the lower esophageal mucosa and the biopsies show the presence of columnar epithelium with goblet cells. Which of the following mucosal alterations is most likely represented by these findings?

A Dysplasia
B Hyperplasia
C Carcinoma
D Ischemia
E Metaplasia

7.A woman of 69 years had the loss of consciousness. A cerebral angiogram revealed an occlusion to her left middle cerebral artery. Months later, a computed tomographic (CT) scan shows a large 5 cm cystic area in her left parietal lobe cortex. This CT finding is most likely the consequence of resolution from which of the following cellular events?

A Liquefactive necrosis
B Atrophy
C Coagulative necrosis
D Caseous necrosis
E Apoptosis

8.A 19-year-old lady gives birth to her first child. She begins breast feeding the infant. She continues breast feeding for almost a year with no difficulties and no complications. Which of the following cellular processes that began in the breast during pregnancy allowed her to nurse the infant for this period of time?

A Stromal hypertrophy
B Epithelial dysplasia
C Steatocyte atrophy
D Ductal epithelial metaplasia.
E Lobular hyperplasia

A man of 87 year dies from complications of Alzheimer disease. At autopsy, his heart is small (250 gm) and dark brown on sectioning. Microscopically, there is light brown perinuclear pigment with H&E staining of the cardiac muscle fibers. Which of the following substances is most likely increased in the myocardial fibers to produce this appearance of his heart?

A Hemosiderin from iron overload
B Lipochrome from 'wear and tear'
C Glycogen from a storage disease
D Cholesterol from atherosclerosis
E Calcium deposition following necrosis

10.A woman of 21 years had Goodpasture syndrome which progressed to chronic renal failure and she has blood pressure in the range of 150/90 to 180/110 mm Hg. She developed chronic renal failure and requires renal dialysis. A chest x-ray shows an enlarged heart. The size of her heart is most likely to be the result of which of the following processes involving the myocardial fibers?

A Hypertrophy
B Fatty infiltration
C Hyperplasia
D Fatty degeneration
E Edema

11.A girl of 19-years went to a park for whole day sun bath. The next day she has a darker complexion and skin does not show warmth, erythema, or tenderness. Her skin tone fades to its original appearance within a month. Which of the following substances contributes the most to the biochemical process leading to these skin changes?

A Iron oxide
B Lipofuscin
C Tyrosine
D Homogentisic acid
E Glycogen

12.A study is performed to identify predisposing risks for tissue cellular changes. In some persons epithelial metaplasia occurs. In which of the following situations is the process of epithelial metaplasia most likely to take place?

A Tanning of the skin following sunlight exposure
B Lactation following pregnancy
C Vitamin A deficiency
D Acute myocardial infarction
E Urinary obstruction from an enlarged prostate

13.A study is performed involving the microscopic analysis of tissues obtained from surgical procedures. Some of these tissues have the microscopic appearance of an increased cell size of multiple cells within the tissue, due to an increase in the amount of cell cytoplasm, with nuclei remaining uniform in size. Which of the following conditions is most likely to have resulted in this finding?

A Uterine myometrium in pregnancy
B Female breast at puberty
C Liver following partial resection
D Ovary following menopause
E Cervix with chronic inflammation

A lady of 22-year has a congenital anemia and required multiple transfusions of red blood cells for many years. She now has no significant findings on physical examination. Which of the following microscopic findings would most likely present in her liver?

A Steatosis in hepatocytes
B Bilirubin in canaliculi
C Hemosiderin in hepatocytes
D Glycogen in hepatocytes
E Amyloid in portal triads

Hemosiderosis in the Patocytes.

15.A woman of 40-year has the sudden onset of severe abdominal pain with marked guarding and muscular rigidity. She has laboratory findings that include serum AST of 43 U/L, ALT of 30 U/L, LDH 630 U/L, and lipase 415 U/L. An abdominal CT scan reveals peritoneal fluid collections and decreased attenuation along with enlargement of the pancreas. Which of the following cellular changes is most likely to accompany these findings?

Most important Point.

A Coagulative necrosis
B Dry gangrene
C Fat necrosis
D Apoptosis
E Liquefactive necrosis

Fat necrosis.

16.A 26-year-old man has had a high fever for the past 2 days. Echocardiography shows destruction of the aortic valve by large, irregular vegetations. Staphylococcus aureus is cultured from his blood. He develops left upper quadrant pain. Abdominal CT shows a wedge-shaped 1.5 x 3 cm splenic lesion with base on the capsule. The splenic lesion is most likely to result from which of the following cellular abnormalities?

Most important Point.

A Coagulative necrosis
B Abscess formation
C Metaplasia
D Caseous necrosis
E Liquefactive necrosis

17.A 35-year-old western cultured lady has developed increasing icterus over the last week with enlarged liver. Laboratory studies show hyperammonemia. Abdominal CT scan shows a liver twice normal size. These changes in her liver most likely resulted from which of the following conditions?

A Galactosemia
B Hemochromatosis
C Tuberculosis
D Alcoholism
E Hypoxemia

Alcoholism. Alcoholism

18.A 73-year-old man has difficulty with urination. On digital rectal examination, his prostate is diffusely enlarged. Which of the following represents a pathologic change leading to this man's problem?

(Most Imp)

A Dysplasia
B Hypertrophy
C Hyperplasia
D Metaplasia
E Neoplasia

Hyperplasia.

19.In an experiment, a tissue preparation is subjected to oxidant stress. There are increased numbers of free radicals generated within the cells. Generation of which of the following enzymes within these cells is the most likely protective mechanism to reduce the number of free radicals?

(A) Glutathione peroxidase Glutathione oxidase or Anti Glutathione peroxidase.
B Catalase
C Hydrogen peroxide
D NADPH oxidase
E Myeloperoxidase

20.A 45-year-old man has a history of chronic alcohol abuse and is performing work at his job. He has had no major illnesses. Laboratory studies show a serum albumin of 4.1 g/dL, ALT 30 U/L, AST 33 U/L, and total bilirubin 1.1 mg/dL. Which of the following microscopic findings in his liver is most likely to be present?

A Cholestasis
B Fatty change
C Hemochromatosis
(D) Hypertrophy of smooth endoplasmic reticulum
E Coagulative necrosis

21.An ultrasound of 30-year-old woman reveals a 2 cm left breast mass when she went under examination after sexual harassment. There is no lymphadenopathy. No skin lesions are seen. A needle biopsy of the breast mass is performed. On microscopic examination, the biopsy shows fat necrosis. This biopsy result is most consistent with which of the following etiologies?

A Physiologic atrophy
(B) Breast trauma Breast Trauma.
C Lactation
D Radiation injury
E Hypoxic injury

22.At the end of a normal menstrual cycle, the endometrium sloughs. Examination of the endometrium microscopically shows cellular fragmentation. Which of the following is most likely to trigger apoptosis in these endometrial cells?

A Acute inflammation
B Hypoxia
C p53 protein accumulation
(D) Decreased estrogen Decreased estrogen.
E Anaerobic glycolysis

23.A 43-year-old man has a routine chest x-ray that shows a 2 cm nodule in the right lower lobe. The nodule has focal calcifications. A wedge resection of the nodule is done. On microscopic examination the nodule shows caseous necrosis and calcification. Which of the following processes explains the appearance of the calcium deposition:

(A) Dystrophic calcification Dystrophic calcification.
B Apoptosis
C Hypercalcemia
D Metastatic calcification
E Excessive ingestion of calcium

24.A morbidly obese 51-year-old lady dies from complications of heart disease. At autopsy, her heart was enlarged. Microscopically, there is increased fibrous connective tissue adipocytes interdigitating with the myocardial fibers. Which of the following terms best describes the presence of the adipocytes in her myocardium?

A Steatosis Steatosis.
B Lipid degeneration
C Fatty infiltration
D Cholesterolosis
E Xanthomatosis

25.A 62 years old man recovered from the myocardial infarction by immediate thrombolytic therapy. If it had been possible to examine microscopically the sections of his heart, which of the following would be most likely cellular changes found?

A. Karyolysis
B. Karyorehexis
C. Pyknosis
D. Swelling of endoplasmic reticulum
E. Bleb formation Blebformation.

سکڑتے زخم