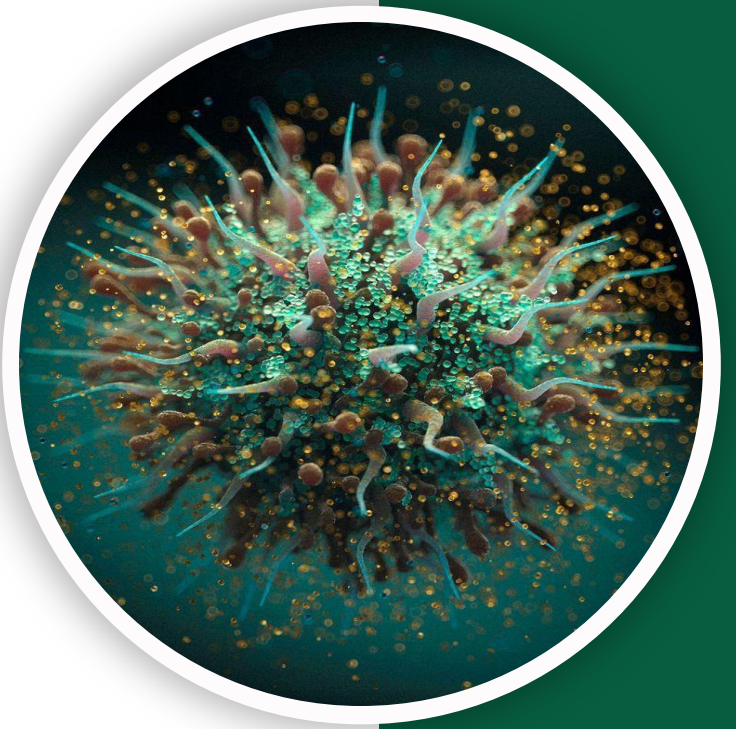
بسم الله الرحمٰن الرحيم

(وَفَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ)

Pathology | Lecture #

Lecture Title



Written by : NST

PAST2023

Which arachidonic acid metabolite is responsible for smooth muscle contraction in the uterus during birth?

- Prostacyclin
- B. Prostaglandin
- C. Leukotriene B4
- D. Leukotriene E4
- E. Leukotriene D4

The answer is B

Which enzyme is inhibited by steroids?

- A. Lipoxygenase
- B. Phospholipase

The answer is B

Nitric oxide reacts with superoxide to produce which compound?

- A. Hydrogen peroxide
- B. Peroxynitrite
- C. Hydroxyl radical
- D. Nitrous oxide

Answer is D

Which enzymes are active in apoptosis?

- A. Kinases
- B. Caspases
- C. Cyclooxygenases
- D. Lipases

Answer is B

Which type of necrosis is associated with dystrophic calcification ?

- A. Liquefactive necrosis
- B. Fat Necrosis
- C. Metastatic calcification
- D. Caseous necrosis

Answer is D

Activation of the extrinsic death receptor pathway in apoptosis is important for:

- A. Elimination of self-reactive lymphocytes
- B. Removal of misfolded proteins
- C. DNA repair
- D. Necrosis

Answer is A

Which of the following cellular adaptations is pathologic?

- A. Prostatic hyperplasia due to androgen stimulation
- B. Physiologic hypertrophy of skeletal muscle
- C. Atrophy of uterus after menopause
- D. Hyperplasia of endometrium during menstrual cycle

Answer is A

Which mediator is most likely seen in brain stroke and myocardial infarction?

- A. Prostacyclin
- B. Thromboxane A2
- C. Leukotriene B4
- D. Histamine

Ans:B

Which enzyme increases in oxidative stress?

- A. Glutathione peroxidase
- B. Myeloperoxidase
- C. Lipoxygenase
- D. Cyclooxygenase

Ans:A

Which mediator is responsible for fever, pain, and vasodilation?

- A. Histamine
- B. Prostaglandins
- C. Leukotrienes
- D. Bradykinin

Ans:B

In pancreatitis, what type of cellular change occurs?

- A. Fatty change
- B. Coagulative necrosis
- C. Caseous necrosis
- D. Atrophy

Ans:A

Which of the following is an example of pathological apoptosis?

- A. DNA damage
- B. Growth factor withdrawal
- C. Absence of survival signals
- D. Physiologic cell turnover

Ans:A

Which type of necrosis is associated with vasculitis?

- A. Caseous necrosis
- B. Coagulative necrosis
- C. Liquefactive necrosis
- D. Fibrinoid necrosis

Ans:D

Which mechanism is responsible for increased vascular permeability in the initial vascular phase of inflammation?

- A. Retraction of endothelial cells
- B. Endothelial cell damage
- C. Platelet aggregation
- D. Mast cell degranulation

Ans:A

A pathologist examines atherosclerotic vessels showing necrotic tissue. Which of the following matches this case?

- A. Dystrophic calcification
- B. Metastatic calcification
- C. Hypocalcemia
- D. Hypercalcemia
- E. Renal failure

Ans:A

Which of the following mediators cause smooth muscle contraction?

- A. Prostacyclin
- B. Prostaglandins
- C. Leukotriene B4
- D. Leukotriene C4
- E. Leukotriene E4

Ans:B

Which pigment is responsible for the brown-to-yellow color change in a bruise?

- A. Lipofuscin
- B. Hemosiderin
- C. Bilirubin
- D. Melanin

Ans:B

Which cellular change represents reversible injury?

- A. Loss of plasma membrane integrity
- B. Loss of intracellular membranes
- C. Loss of DNA integrity
- D. Fatty change

Ans: D

Which enzyme helps relieve oxidative stress in cells?

- A. Caspase
- B. Glutathione peroxidase
- C. Myeloperoxidase
- D. Lipoxygenase

Ans:B

Which type of stress is involved in neurodegenerative diseases causing apoptosis?

- A. Misfolded proteins (ER stress)
- B. DNA damage
- C. Growth factor withdrawal
- D. Oxidative stress

Ans:A

In active chronic hepatitis, which cells are most commonly seen?

- A. Numerous macrophages with granuloma
- B. Numerous neutrophils, lymphocytes, and histiocytes
- C. Fibroblasts and plasma cells
- D. Eosinophils

Ans:A

Which of the following is correct about nitric oxide (NO)?

- A. Small protein derived from arginine
- B. Vasoactive amine
- C. Reacts with superoxide to produce peroxynitrite
- D. Plays a role in granuloma formation
- E. Functions in opsonization

Ans:C

Which of the following is a latent toxin?

- A. Acetaminophen (Paracetamol)
- B. Carbon monoxide
- C. Lead
- D. Cyanide

Ans:A

Which mediators are produced by mast cells and leukocytes and cause pain

- A. Histamine
- B. Prostaglandins
- C. Leukotrienes
- D. Bradykinin

Ans:B

After an appendectomy, a pathologist reports “neutrophils, debris, necrosis.” What is the cause?

- A. Suppurative inflammation
- B. Serous inflammation
- C. Granulomatous inflammation
- D. Fibrinous inflammation

Ans:A

Which statement best describes neutrophils?

- A. Cells that release NETs (neutrophil extracellular traps)
- B. Cells that produce antibodies
- C. Cells that present antigens
- D. Cells that secrete histamine

Ans:A

Which of the following is an example of pathological apoptosis?

- A. Growth factor withdrawal
- B. Misfolded proteins
- C. DNA damage
- D. Absence of survival factors

Ans:C and B

Which process involves the extrinsic pathway of apoptosis?

- A. Elimination of self-reactive lymphocytes
- B. DNA damage
- C. ER stress
- D. Growth factor withdrawal

Ans:A

A 22-year-old male has a fall accident. The bruise was brown and started to turn yellow. Which pigment is responsible?

- A. Lipofuscin
- B. Hemosiderin
- C. Bilirubin
- D. Melanin

Ans:B

Which cellular change represents reversible injury?

- A. Loss of plasma membrane integrity
- B. Loss of intracellular membranes
- C. Loss of DNA integrity
- D. Fatty change

Ans:D

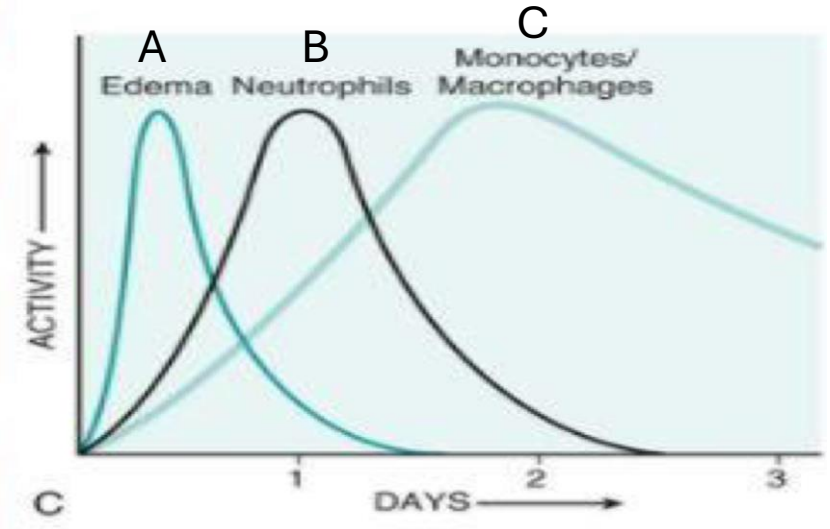
In the given image, the type of inflammation is:

- A. Suppurative
- B. Serous

Ans:B

Which of the following is correct for the diagram of inflammatory phases?

- A. Curve A represents initial cellular phase
- B. Curve B represents initial vascular phase
- C. Curve C represents initial edematous phase
- D. Curve A represents infiltration of macrophages, plasma cells, lymphocytes
- E. Curve B represents infiltration of neutrophils



reactions. The photomicrograp…

Ans:E

Which enzyme is secreted by cells to relieve oxidative stress?

- A. Caspase
- B. Glutathione peroxidase
- C. Myeloperoxidase
- D. Lipoxygenase

Ans:B

Past paper

Which of the following is an irreversible Nuclear change in cell injury

A. Myelin figures
B. Cell membrane blebs
C. Mitochondrial densities
D. karyorrhexis
E. Cellular swelling

Ans :D

Which of the following patterns of necrosis can be caused by focal bacterial and fungal infections

A. Caseous necrosis
B. Liquefactive necrosis
C. Fibrinoid necrosis
D. Fat necrosis
E. Coagulative necrosis

Ans :B

Accumulation of misfolded proteins in the cytoplasm activates which of the following enzymes:

A. Caspases

B. Glutathione peroxidase

C. Telomerase

D. Superoxide dismutase

E. Bax/Bak activation

Ans :A

Which of the following enzymes reduce oxidative stress

A. Nitric oxide synthase
B. Glutathione peroxidase
C. myeloperoxidase
D. Proteases

Ans :B

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Which of the following leads to an enlarged prostate:

A. Atrophy
B. Hyperplasia
C. Hypertrophy
D. Metaplasia
E. There is no correct answer

Ans :B

42

Which of the following is caused by GERD (Gastroesophageal reflux disease)

A. Atrophy
B. Hyperplasia
C. Hypertrophy
D. Metaplasia
E. There is no correct answer

Ans :D

Ischemia reperfusion injury is directly linked to

A. Anemia
B. Generation of ROS
C. Toxins
D. Necrosis
E. Protein misfolding

Ans :B

Which of the following is caused by vitamin A deficiency

A. Atrophy
B. Hyperplasia
C. Hypertrophy
D. Metaplasia
E. There is no correct answer

Ans :D

Ans: B

45

Which of the following patterns of tissue necrosis has granuloma formation and the tissue architecture is completely obliterated, and cellular outlines cannot be discerned

A. Coagulative necrosis
B. Caseous necrosis
C. Liquefactive necrosis
D. Fibrinoid necrosis
E. Gangrenous necrosis

Which of the following is an exogenous pigment:

- A. Lipofusion
- B. Melanin
- C. Hemosiderin
- D. Carbon

And:D

In the process of necrosis, a reduction in the size of the nucleus and condensation of nuclear material is known as:

A. Karyorrhexis
B. Pyknosis
C. Cytolysis
D. Hyperplasia

Ans: B

In which particular order are morphological changes of injured tissue seen?

A. Loss of function, cell death, microscopic changes, gross changes

B. Loss of function, microscopic changes, cell death, gross changes

C. Gross changes, loss of function, cell death, microscopic changes

D. Cell death, loss of function, microscopic changes, gross changes

Ans : A

All the following are true statements regarding Hemosiderin except:

A. pigment derived from hemoglobin

B. Often seen in macrophages in bone marrow, spleen and liver

C. Results from the free radical peroxidation of membrane lipids

D. Regarded as endogenous pigment

Ans : C

50

Which of the following is a miss-match between a disease and the type of necrosis:

A. Myocardial Infarction –– Coagulative Necrosis

B. Brain Infarction –– Gangrenous Necrosis

C. Mycobacterial tuberculosis –– Caseous Necrosis

D. Vasculitis –– Fibrinoid Necrosis

Ans : B

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Calcium deposition in damaged aortic valves can be explained as

A. Excessive calcium nutritional intake
B. Dystrophic calcification
C. Hypercalcemia
D. Apoptosis
E. Metastatic calcification

Ans : B

Which of the following is an example of compensatory hyperplasia

A. Weight–lifters skeletal muscle
B. Liver after partial Hepatectomy
C. Postmenopausal uterus
D. Bronchial mucosa of a smoker

Ans : B

Dystrophic calcification can be seen in all the following except:

A. Calcifications seen in kidney, cardiac muscle and soft tissue

B. Tuberculosis caseous necrosis

C. Calcification in advanced atherosclerosis

D. Carcinoma of the breast

Ans : A

54 In intracellular accumulations, one of the following is an example of accumulation due to inherited enzyme deficiency

A. Anthracosis

B. Steatosis

C. Lysosomal storage diseases

D. Alpha 1antitrypsin deficiency

E. Silicosis

Ans : C

intrinsic pathway of apoptosis is initiated by all the following except:

A. Loss of survival signal
B. DNA damage
C. Protein misfolding
D. Type 1TNF receptor

Ans: D

Russell bodies are seen in

A. Lymphocytes
B. Neutrophils
C. Macrophages
D. Plasma cell

Ans: D

57

Which of the following types of necrosis is grossly opaque and chalky white

A. Coagulation necrosis
B. Liquefaction necrosis
C. Caseous necrosis
D. Fat necrosis
E. Gangrenous necrosis

Ans: D

The statement that's wrong about Metaplasia :

A. Metaplasia involves the transformation of stem cells into completely different types of cells without any differentiation

B. Metaplasia is the process where cells lose their specialized functions entirely, leading to a non-functional state

C. Metaplasia is an irreversible process that cannot revert back to the original cell type once it has occurred.

D. Already differentiated cells . (It's reprogramming of stem cells)

Ans: D

Pathological adaptive mechanism that affects the prostate :

A. Hyperplasia
B. Atrophy
C. Metaplasia
D. Hypertrophy

Ans:A
Benign prostatic hyperplasia

60

A patient with myocardial infraction &uncontrolled hypertension was found to have atrial enlargement the type of the adaptive mechanism that occurred is:

A. Hyperplasia
B. Atrophy
C. Metaplasia
D. Hypertrophy

Ans:D

Coagulative necrosis is caused by:

A. Sudden ischemia
B. Viral infection
C. Chronic inflammation
D. Bacterial toxins

Ans:A

62 **One of the followings is a REVERSIBLE change caused by a deficiency in the Na+/k+ pump :**

A. Myelin figures
B. ER dilation
C. Mitochondrial changes
D. Cellular swelling
E. All answers are correct

Ans: D

63

Which of the following is correct about karyorrhexis :

A. Fragmentation
B. Shrinkage
C. Increased basophilia
D. Basophilia fades

Ans: A

A patient with cerebral infraction, was found to have:

A. Liquefactive necrosis
B. Gangrenous necrosis
C. Caseous necrosis
D. Fat necrosis

Ans:A

A patient with acute pancreatitis, was found to have:

A. Liquefactive necrosis
B. Gangrenous necrosis
C. Caseous necrosis
D. Fat necrosis

Ans: D

66

Which of the following is NOT seen in hypoxia :

A. Glycolysis increases

B. Na enters the cells and causes swelling

C. Lactic acid builds up

D. The cell pH increases

Ans:D

67 **Lipid peroxidation of cellular and organelle membranes in the process of cell injury is mediated by :**

A. Membrane pump failure
B. Low PH
C. Direct acting toxins
D. ATP depletion
E. Reactive oxygen species

Ans:E

Restoration of blood flow following myocardial infarction may impose more tissue injury sometimes, the main mechanism directly responsible for this paradoxical effect is?

A. Accumulation of misfolded proteins
B. Decreased ATP production
C. Hypoxia
D. Increased reactive oxygen species formation
E. Decreased PH

Ans:D

69 **One of the following does not cleave free radicals :**

A. Myeloperoxidase

B. Catalase

C. Superoxide dismutase

D. Glutathione peroxidase

E. Vitamin A,E

Ans:A

76

Which of the following gets affected by low blood perfusion with least damage:

A. Cerebral cortex
B. Cerebral spin
C. Skeletal muscle
D. Cardiac muscle
E. Myocardium

Ans:C

71

Pathological apoptosis can be caused by one of the following:

A. Viral infection

B. Self reacting lymphocytes

C. End of function

D. During embryogenesis

Ans:A

72

Which of the following molecules is anti-apoptotic:

A. Bax

B. P53

C. BCl–2

D. Bak

E. CytC

Ans:C

73

The enzyme that is directly responsible for the apoptosis process:

A. Myeloperoxidase
B. Capases
C. Cyt C
D. Catalase

Ans:B

The presence of the russell bodies in the plasma cells is due to:

A. Protein deposition
B. Glycogen deposition
C. Cholesterol deposition
D. None of the above

Ans:A

75 **Brown atrophy is a term that refers to the deposition of which of the following substances:**

A. Melanin pigment
B. Bilirubin pigment
C. Hemosiderin pigment
D. Lipofuscin pigment
E. Glycogen pigment

Ans:D

76 During lung surgery, it was noted that there is black densities on the surface of the lymph nodes, this is called :

A. Dystrophic calcification

B. Metastatic calcification

C. Bruise

D. Anthracosis

Ans:D

77. A patient has hit his arm with a table, after 3 days a yellowish-Brown Color appeared on his skin, this is due the deposition of:

A. Melanin

B. Hemosiderin

C. Carbon

D. Calcium

Ans:B

The adaption of regular exercise on skeletal muscle:

A. Hypertrophy
B. Atrophy
C. Dystrophy
D. Fibrosis

Ans: A

All of the following cause atrophy except:

A. Disease
B. Ageing
C. Hypertension
D. Malnutrition

Ans: C

80

Helps in stimulation of ubiquitin-proteasome system:

A. Atrophy

B. Hypertrophy

C. Necrosis

D. Metaplasia

Ans: A

The most common cause of cell injury:

A. Hypoxia
B. Hyperglycemia
C. Autoimmune reactions
D. Chemical exposure

Ans:A

Barrett esophagus (The change in esophageal mucosa from squamous to columnar epithelium in patient with chronic reflux) is an example of:

A. Metaplasia
B. Dysplasia
C. Adenocarcinoma
D. Hyperplasia

Ans: A

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In Gastroesophageal reflux disease patients, the type of the adaptive mechanism that occurred is:

A. Hyperplasia
B. Atrophy
C. Metaplasia
D. Hypertrophy

Ans:C

Extrinsic apoptosis happens when:

A. Lymphocytes show self-reactivity
B. Defective DNA
C. Misfolded proteins
D. UV damage

Ans:A

85

Which of the following is caused during lactation:

A. Atrophy
B. Hyperplasia
C. Hypertrophy
D. Metaplasia
E. There's no correct answer

Ans:B

Cause of brown bruises:

A. Lipofuscin

B. Hemosiderin

Ans:B

Which one is true about necrosis:

A. Almost always pathological
B. A form of programmed cell death
C. Typically involves cell shrinkage
D. Requires energy (ATP) for the process

Ans:A

88

Lung biopsy showed caseous necrosis with calcification, what caused calcium to deposit?

A. Hypercalcemia
B. High intake of Ca
C. Metastatic calcification
D. Apoptosis
E. Dystrophic calcification

Ans:E

What is the main reason of cellular swelling during injury?

A. Defective membrane ATP–dependent Na pumps
B. Increased protein synthesis
C. Excessive energy production
D. Activation of apoptosis pathways

Ans:A

Acetaminophen is toxic because:

A. Directly damages the cell membrane
B. Causes an immediate immune response
C. It's converted into active metabolites
D. Inhibits protein synthesis in liver cells

Ans:C

What is the main mechanism of reperfusion injury?

A. Increased ROS formation
B. Decreased blood flow to tissues
C. Reduced mitochondrial activity
D. Enhanced ATP production during reperfusion

Ans:A

92

Which of the following is NOT seen in hypoxia:

A. Glycolysis increases ·

B. Na enters the cells and cause swelling ·

C. Lactic acid builds up ·

D. The cell pH increases ·

E. Proteins denature

Ans:D

339

Coagulative necrosis is characterized by which of the following:

A. Central caseation
B. Preserved tissue architecture initially
C. Caused by bacterial infections
D. Cheesy like material
E. Liquified Center

Ans:B

The hallmark of CCL4 toxicity in the liver is

A. Caseous necrosis
B. Protein accumulation
C. Influx of inflammatory cells
D. Fatty change
E. Endoplasmic reticulum stress

Ans:D

Exposure to a high dose of radiation injury with resultant DNA damage is associated with which of the following cellular responses:

A. Bcl2 activation
B. Cytochrome c inhibition
C. Caspase inhibition
D. BH3 sensor inhibition
E. Bax/Bak activation

Ans:E

Elimination of self-reactive lymphocytes by apoptosis is mediated by which of the following molecules:

A. Bax/Bak ·

B. Fas–Fas ligand ·

C. BH3 ·

D. Bel2 ·

E. P53 ·

Ans:B

ONE of the following changes is associated with cellular hypertrophy:

A. Protein degradation
B. Increased protein synthesis
C. Autophagy
D. Decreased protein synthesis
E. Decreased function

Ans:B

One of the followings is a REVERSIBLE change in cell injury:

A. Myelin figures
B. ER dilation
C. Mitochondrial changes
D. Cellular swelling
E. All answer are correct

Ans:E

99

The changes in the epithelial lining of the lower esophagus in patients with reflux esophagitis, from squamous epithelium to glandular epithelium are termed

- A. Hypertrophy
- B. Metaplasia
- C. Hyperplasia
- D. Dysplasia
- E. Atrophy

Ans:B

100 Which of the following is a typical example of adaptive physiological atrophy:

A. Uterine smooth muscle changes in pregnancy •
B. Skeletal muscle changes in athletes •
C. Endometrial changes after menopause •
D. Breast lobules changes during lactation •
E. Left ventricular changes in hypertension

Ans:C

101

One of the following can cause pathologic apoptosis:

A. Turnover of gut epithelium
B. Embryogenesis
C. Elimination of self–reactive lymphocytes
D. Involution of endometrium after menopause
E. Viral infections

Ans:E

102

Restoration of blood flow following myocardial infarction may impose more tissue injury sometimes, the main mechanism directly responsible for this paradoxical effect is?

A. Accumulation of misfolded proteins
B. Decreased ATP production
C. Hypoxia
D. Increased reactive oxygen species formation
E. Decreased PH

Ans:D

103

Which one of the following could be considered as the “Hallmark of reversible injuries”?

A. Loss of DNA and chromatin structural integrity
B. Cellular enzyme leakage
C. Cellular swelling
D. Pyknosis
E. None of the above

Ans:C

104

In a pregnant woman her uterus can get bigger while the embryo is growing because the cells there undergo:

A. Hypertrophy
B. Atrophy
C. Metaplasia
D. Hyperplasia
E. A and D

Ans:E

105

Brain ischemia is characterized by

- A. Coagulative necrosis
- B. Caseous necrosis
- C. Liquefactive necrosis
- D. Fibroid necrosis
- E. Fat necrosis

Ans:C

106

Which of the following is an example of physiologic hypertrophy:

A. Compensation after the removal of part of the liver

B. Cardiac enlargement in aortic valve disease

C. The change of columnar epithelium in cigarette smokers

D. Myometruim during pregnancy

Ans:D

107

The breast during lactation undergoes

- A. Hyperplasia
- B. Atrophy
- C. Hypertrophy
- D. Metaplasia

Ans:A

108

Which of the following molecules is anti-apoptotic

- A. Bax
- B. P53
- C. BCl–2
- D. Bak
- E. CytC

Ans:C

109

Which of the following is typical for apoptosis:

- A. Disrupted plasma membrane
- B. Absence of inflammation
- C. Pyknosis and karyorrhexis
- D. Leakage of cell components
- E. Uncontrolled

Ans:B

110

Caseous necrosis is most likely found in:

A. Peritoneal cavity

B. Tuberculosis

C. Myocardial infarction

D. Pancreatic tissue

E. Hepatic tissue

Ans:B

1
1
1

Which of the following is a direct result of ROS damage:

- A. Failure of ATP synthesis
- B. Lactic acidosis
- C. Detachment of ribosomes from ER
- D. Lipid peroxidation
- E. Repairfusion

Ans:D

1
1
2

Which of the following pigments is found in sites of bruises

- A. Carbon
- B. Lipofuscin
- C. Hemosiderin
- D. Melanin
- E. None of the above

Ans:C

113

Which of the following conditions is most likely to be found in alcoholic patients

- A. Lipofuscin accumulation
- B. Cholesterol esters accumulation
- C. steatosis
- D. Dystrophic calcification
- E. Glycogen Accumulation

Ans:C

After sun exposure, a fair skinned patient noted a brownish discoloration over the skin of her face and dorsum of hands. Which of the following substances most likely accumulated at these sites?

A. Melanin pigment

B. Hemosiderin pigment

C. Lipofuscin pigment

D. Bilirubin pigment

E. Glycogen pigment

Ans:A

115

“Brown atrophy” is a term that refers to the deposition of which of the following substances:

- A. Melanin pigment
- B. Bilirubin pigment
- C. Hemosiderin pigment
- D. Lipofuscin pigment
- E. Glycogen pigment

Ans:D

1
1

Myeloperoxidase enzyme in macrophages catalyzes the conversion of:

- A. H2O2 to hypochlorite
- B. Oxygen to superoxide
- C. H2O2 to water
- D. H2O2 to hydroxyl group
- E. Superoxide to H2O2

Ans:A

117

Which of these are irreversible?

A. Karyorrhexis
B. Cellular swelling
C. Fatty change
D. Plasma membrane blebbing

Ans:A

118

What is the main cause of liver steatosis?

A. Alcoholism
B. Increased bile production
C. Excessive protein intake
D. Overactive immune response

Ans:A

119

Which of the following is caused by enlarged prostate:

A. Atropy
B. Hyperplasia
C. Hypertrophy
D. Metaplasia
E. There is no correct answer

Ans: B

120

A biopsy was taken from a patient, and it was not cancer. Instead, they found out that it was chronic inflammation, what did they see?

A. Fibrosis, Macrophages, Lymphocytes, Plasma cells
B. Neutrophils and Macrophages
C. Eosinophils
D. Histamine and Heparin

Ans:A

1
2
1

IL-17 is mainly responsible for:

A. Neutrophil Recruitment
B. Macrophage Maturation
C. T cells Maturation
D. Eosinophil Recruitment

Ans:A

A specimen with granuloma and caseous necrosis, which of the following is correct?

A. It is an acute inflammation
B. Using acid-fast stain most likely won't do anything
C. You should rule out tuberculosis
D. It is probably of unknown Etiology

Rule out here means that **tuberculosis is a strong possibility that needs to be either confirmed or eliminated through further testing.

Ans:c

1
2
3

Which of the following is true regarding toll-like receptors?

- A. They circulate in blood B.Collectines are examples
- C.They are essential for chemotaxis
- D.They recognize PAMPs

Ans:d

1
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4

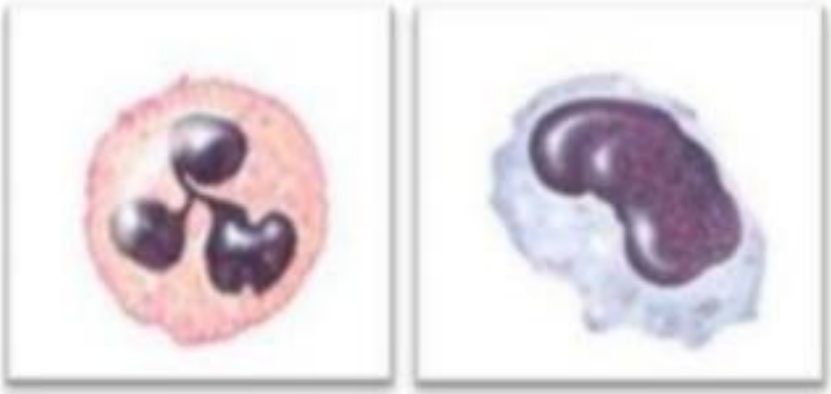
Which of the following is true regarding inflammation?

A. It is essential for body survival
B. Strong inflammatory responses are always good
C. Non-vascularized tissue can get inflammation
D. There is no repair step in inflammation

Ans:A

1
2
5

Which of the following statements is true regarding these pictures:



A. The cell on the left is a monocyte
B. The cell on the left has a half-life of 1-2 days
C. The cell on the right is a neutrophil
D. Both cells have the same half-life

Ans:b

126

Which of the following statements is true regarding steroids:

A. They are potent inhibitors of phospholipases
B. They are inhibitors of COX-1
C. They induce immunity
D. They are considered as Pro-inflammatory drugs

Ans: A

127

Which of the following is considered an anaphylatoxin:

A. C5a
B. C3b
C. IgG
D. NO

Ans: A

128

TNF is

a

A. Chemokine

B. Lipid

C. Complement protein

D. Cytokine

Ans:d

129

Which of the following cells and molecules are involved in asthma?

A. IgE and eosinophils
B. Cytokines
C. Macrophages and neutrophils
D. Complement proteins

Ans:a

130

Which of the following is true regarding chemokines?

A. C3a is an example
B. Factor H is an inhibitor
C. They are involved in opsonization
D. They have GPCRs

Ans:d

131

Stasis and Erythema are caused by:

A. Leukocytes
B. Expression of selectins
C. PMN accumulation
D. Histamine as a vasodilator

Ans:d

A patient is present with a red and swollen appendix and had to undergo appendectomy.

No considerable number of lymphocytes is found. Which of the following is correct?

A. It is a chronic appendicitis
B. Transudate fluid is found
C. It is a purulent suppurative inflammation
D. None of the above is correct

Ans:c

Rule out answers: Cant be chronic- no lymphocytes, Cant be transudate- transudate isnt severe and would require an appendecetomy, it's red/swollen/severe-exudate/purulent

133

Which of the following are pain mediators?

A. Chemokines
B. Prostaglandins and bradykinin
C. Histamine
D. Platelet-activating factor

Ans:b

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4

Weak adhesion to the endothelium is mediated by:

A. LFA-1
B. Integrins
C. P and E selectins
D. PECAM-1

Ans:c

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Which of the following is true regarding Nitric Oxide:

A. Acts as a vasoconstrictor
B. Produced without the need of enzymes
C. A soluble gas derived from arginine
D. Its concentration is always constant

Ans:c

136

Acute phase proteins are best described as:

A. Their levels are used to diagnose prolonged chronic inflammation
B. C-reactive protein is the only example
C. Specific indicators of certain diseases
D. Non-specific indicator of acute inflammation

Ans:d

137

What causes effusion of fluids in the first stages of vascular phase?

A. Endothelial injury
B. Leukocytes recruitment
C. Retraction of endothelium via mediators
D. Margination

Ans:d

138

Which of the following is true regarding M2 pathway :

A. Its also called the classical pathway
B. Its activated by the presence of microbes
C. It stops inflammation and promotes repair
D. Macrophages start producing IL-1 and chemokines

Ans:d

139

A liver biopsy showed that a patient has a noncaseating granuloma. Which of the following can cause this condition:

A. Tuberculosis
B. Sarcoidosis
C. Syphilis
D. Asthma

Ans:b

140

Which one of the following histopathological findings would be most consistent with Sarcoidosis?

a. Serous transudative inflammation
b. Non-necrotizing granulomatous inflammation
c. Suppurative exudative inflammation
d. Ulcerative inflammation
e. Necrotizing granulomatous inflammation

Ans:b

1
4
1

Mediator of the initial inflammatory response:

a. Selectins
b. TLR
c. IL-10
d. Collagen

Ans:b

142

A hunter is present with skin rash after direct contact with mushroom. Tests show that no microorganisms are involved but show also a huge number of IgE and mast cells. What is the right diagnosis?

a. Parasitic infection
b. Bacterial infection
c. Autoimmune disease
d. Acute allergic reaction

Ans:d

143

A tissue biopsy from the colon for one of your patients who suffered from diarrhea was taken. The pathologist calls you and is worried about a parasitic infestation. The most likely inflammatory cellular infiltrate that he observed would be:

a. Lymphocytes
b. Plasma cells
c. Eosinophils
d. Macrophages
e. Eosinophils, fibroblasts, and tissue macrophages

Ans:d

144

A child was brought to the emergency room with sore throat. The Tonsils are red and congested, and he was febrile (Temp: 39.8 °C). Which mediator(s) is/are responsible for these 3 inflammatory features?

a. Prostaglandins
b. Interleukins
c. Leukotrienes
d. Bradykinin
e. Complement system proteins

Ans:b

145

A 23-year-old female patient with chronic history of bronchial asthma who underwent removal of polyps from nose. The tissue examination revealed benign polyp with numerous numbers of eosinophils (hundreds). The pathologic explanation for this finding is?

a. Allergic reaction/polyp
b. Acute parasitic inflammation
c. Chronic fibrinous inflammation
d. Eosinophilic granulomatous inflammation
e. Acute suppurative inflammation

Ans:a

146

The pathologist calls you to let you know that your patient tissue biopsy revealed the presence of "necrotizing granulomatous inflammation." What would be the most important question to ask the pathologist?

a. Was there any atypical mitosis?
b. Were there asteroid bodies in the granulomas?
c. Were the granulomas large or small?
d. Was there an increase in the number of plasma cells?
e. Did you do acid-fast stain (tuberculosis stain)

Ans:e

147

In the cellular phase of inflammatory response, the later strong adhesion of leukocytes to endothelium is mediated by:

A. Integrin (ICAM-1)
B. CD31 (PECAM-1)
C. P and E Selectins
D. Interleukins and Tumor necrosis factor (ILs and TNF)

Ans:a

148

The strong anti-inflammatory action of steroids is mediated by:

A. Stimulation of histamine production
B. Stimulation of lipoxygenase enzyme
C. Inhibition of cyclooxygenase-1 (Cox-1)
D. Inhibition of phagocytosis
E. Inhibition of phospholipase leading to decreased production of leukotrienes and prostaglandins

Ans:e

149

The process of coating microbes to enhance their phagocytosis is defined as:

A. Apoptosis
B. Opsonization
C. Diapedesis
D. Effective Phagocytosis
E. Transmigration

Ans:b

150

Which one of the following mediators is implicated in pathogenesis of ischemic heart disease and brain strokes?

A. Prostaglandin C4
B. Leukotriene B4
C. Leukotriene E4
D. Prostaglandin E4
E. Thrombaxane A2

Ans:e

151

Which one of the following serum markers that we usually measure to indicate the presence of non-specific inflammatory reaction?

A. Liver transaminases
B. Anti-nuclear antibodies
C. C-reactive protein
D. Prostaglandins C, D and E
E. Tumor necrosis factor

Ans:c

152

Which of the following statements best describes the "inflammatory response"?

A. In normal humans it is protective
B. Always associated with systemic effects
C. Transforms to chronic inflammation in 50% of the cases
D. Events sequence is haphazard in 20% of the cases
E. Its mediators are the same in amount

Ans:a

This is a cartoon image representing an important

inflammatory cell. Which of the following statements best describes this cell feature function?

A. It contains high level of nitric oxide
B. This cell secretes neutrophil extracellular traps (NET)
C. The life span is 5-6 days
D. This cell is a major producer of cytokines mediators
E. It is a major chronic inflammatory cell infiltrate

Ans:b

It's a neutrophil (multi-lobed)> all neutrophils make NETs after they die

154

Which of the following mediators is a cytokine produced by macrophages?

A. Bradykinin
B. Prostaglandin E
C. Histamine
D. TNF
E. Thromboxane A2

Ans:d

155

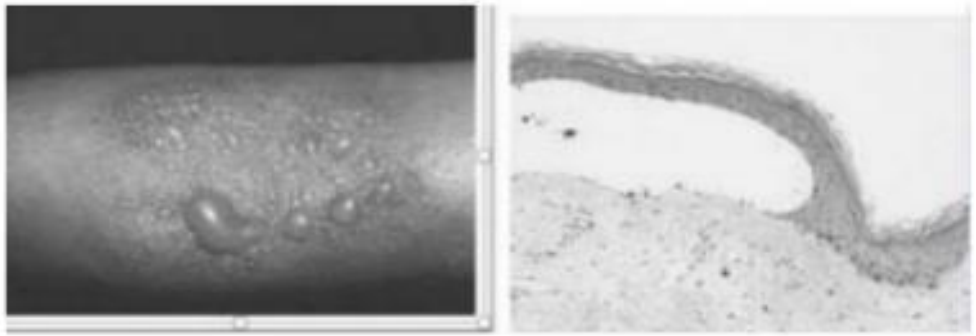
A 49-year-old male patient came with recent non-

Intentional weight loss, fever and lymphadenopathy. A lymph node biopsy showed multiple necrotizing granulomas. The top differential diagnosis should be:

A. Sarcoidosis
B. Non-specific chronic inflammation
C. Viral lymphadenitis
D. Tuberculous lymphadenitis
E. Autoimmune necrotizing lymphadenitis

Ans:d

Below is a picture of a hand and its pathologic microscopic image. The best description of this reaction is?



A. Ulcerative inflammation
B. Fibrinous inflammation
C. Suppurative inflammation
D. Serous inflammation

Ans:d

Which one of the following statements is correct:

A. Curve A represents the macrophages and lymphocytes cellular infiltration phase
B. Curve B represents the initial neutrophilic infiltration phase
C. Curve A represents the initial cellular phase
D. Curve C represents the initial edematous phase
E. Curve B represents the initial vascular phase

Ans:b

Which one of the following best describes the vascular leakage in the early vascular phase of acute inflammation?

A. It is an early phase due to retraction of endothelial cells
B. It is due to increased intravascular oncotic pressure
C. It is due to direct endothelial cell injury by adhering neutrophils
D. The process is best called transcytosis induced by growth factors
E. It is mediated by blockage of the lymphatic channels

Ans:a

Which receptors are responsible for recognizing pathogen proteins in the initial phases of inflammation?

A. Receptors for lectins and collectins
B. Receptors for circulating complement system proteins
C. Toll-like receptors
D. Receptors for immunoglobulins E (IgE)
E. Receptors for damage associated molecular patterns (DAMPs)

Ans:c

The major function of the alternatively activated macrophage (M2) is

A. Inhibition of inflammation C activation of repair
B. Bacterial Recognition
C. NO production
D. Activation and stimulation of viral intracellular killing
E. Opsonization and phagocytosis

Ans:a

Opsonization is best described as :

A. Recognizing the pathogen
B. Coating the microbe to enhance phagocytosis
C. Following a specific chemical gradient
D. Activation of the complement system

Ans:b

After removal of the appendix for a patient; the pathology report came back with "acute appendicitis". What did the pathologist most likely see under microscopic examination?

A. Atypical glands with abnormal mitosis
B. Loss of appendicular architecture and granulomas
C. Numerous eosinophils,
D. Fibrosis and numerous lymphocytes
E. Numerous tissue neutrophils

Ans:e

Which of the following arachidonic acid metabolites is a strong chemotactic agent?

A. Leukotriene E4
B. Leukotriene B4
C. Leukotriene C4
D. Prostacyclin
E.Prostaglandin G2

Ans:b

Which of the following is a product of lipoxygenase enzyme:

A. Prostacyclin
B. Histamine
C. Leukotriene C4
D. IL-6

Ans:c

Mediator of the inflammatory response:

A. Selectins
B. TLR
C. IL-10
D. Collagen

Ans:b

Which of the following is true regarding M2 Pathway?

A. It is also called the classical pathway
B. It is activated by the presence of microbes
C. It stops inflammation and promotes repair
D. Macrophages start producing IL-1 C chemokines

Ans:c

Which of the following cells is seen in acute allergic reactions:

A. Macropahges
B. Eosinophils
C. Neutrophils
D. Lymphocytes

Ans: b

The correct order of leukocyte migration is :

A. Margination,Rolling,Adhesion,Transmigration
B. Rolling,Margination,Adhesion,Transmigration
C. Transmigration,Adhesion,Margination,Rolling
D. Rolling,Adhesion,Transmigration,Margination

Ans: a

Which part of complement system works as an opsonin:

A. C3a
B. C5a
C. C3b
D. C9

Ans: c

What enzyme does aspirin inhibit:

A. Lipoxygenase
B. Cyclooxygenase
C. Phospholipase A
D. Phospholipids

Ans: b

Pus is best described as:

A. Found always inside an abscess
B. Caused by imbalances in oncotic pressure
C. Purulent exudate
D. Caused by viral infection

Ans: c

What is the mechanism of transudative effusion in congestive heart failure:

A. Incread in hydrostatic pressure
B. Decreased oncotic pressure
C. Retraction of endothelial cells
D. Transmigration of

Ans: a

Acute asthma is characterized by the presence of :

A. IgA antibodies
B. IgE antibodies
C. IgG antibodies
D. None of the above

Ans: b

One of the following cells has a phagocytic ability:

A. Eosinophils
B. T lymphocytes
C. Mast cells
D. Neutrophils

Ans: d

The main mediator in fever is:

A. Thromboxane A2
B. Prostaglandin E2
C. NO
D. Leukotriene E4

Ans: b

176

Which complement protein works as a chemattractant :

A. C4
B. C3b
C. MAC
D. C5a

Ans: d

177

One of the following is considered a feature of acute inflammation:

a. It is mediated by lymphocytes
b. It has a slow onset
c. It has prominent signs
d. It is always severe and progressive
e. It has no signs and symptoms

Ans: d

178

This image represents:

a -Deep ulcer with atherosclerosis

b-nonhealing gangrene with fungal infection

c- Wo u n d dehiscence

d- Inflamed leg with dilated blood vessels

Ans:a

179

The main facilitator of congestion and vascular dilation in the early phase of inflammation:

A. Histamine
B. CD31
C. TNF
D. IL-6
E. Macropahges

Ans:a

180

M2 macrophages are responsible for which of the following?

a- inhibition of inflammation
b-promoting repair
c- secreting IL-10
d-All of the above

Ans: d

181

A patient suffers from a tender polyp in teeth with yellow liquid, the most accurate sentence is:

a- can be treated with antibiotics since it's a bacterial infection

b- inflammation with abscess

c- A defect o f the mucosal surface

d- Involves transudate fluid

Ans: b

182

-A patient with rheumatoid arthritis has been on steroids for a long time. He is suffering from shortness of breath and fever. X rays shows a bilateral lung infiltration, diagnosis of the case is:-

a opportunistic lung infection

b- Staphylococcal pneumonia

c- Asthma

d- squamous cell carcinoma

Ans:a

183

Which of the following is not a characteristic of exudative edema?

a. High protein content
b. High cell count
c. Low specific gravity
d. Full of cell debris

Ans: c

184

You are examining a 65 year old male patient with fever, malaise and shortness of breath. History denotes severe rheumatoid arthritis requiring long term high dosesteroid treatment chest. X-Ray shows bilateral lung infiltrates. What should you consider in this particular patient as an important differential diagnosis?

-a opportunistic lung infection

b. lung Abscess due to necrotizing inflammation

c. community acquired candida pneumonia

d. lobar pneumonia due to Haemophilus influenza infection

e - H I - N 1 influenza infection

Ans: a

185

A 53 year old male patient came to you with perianal pain, fever, and chills. He gavea history of anal fissures and hemorrhoids for the previous 2 years. On examination,you find a perianal swelling, ill-defined mass, which is tender to touch. you made the diagnosis of an abscess and you performed "incision and drainage". the wound afterthis procedure will heal by:

-a Healing by primary /first intention

b. This is a severe purulent inflammation /Abscess needing healing by granulation tissue (secondary intention)

c. Quick regeneration and re-epithelialization

d. Platelet plug scab

e. stem cells will be required and regeneration of lost tissue will follow

Ans: b

186

Which of the following is related to this finding:

a. Severe ischemia due to atherosclerosis
b. Friction burn of skin and subcutaneous tissue
c. radiation injury for squamous cell carcinoma of the leg
d. traumatic serous inflammation of the skin and subcutaneous tissue
e. varicose veins of lower limbs

Ans: a

187

Which of the following is an anti-inflammatory mediator?

a. IL-1

b. IL-17

c- TNF

d_ IL-10

Ans: d

188

Which of the following is a result of the lipoxygenase pathway?

a. Leukotriene C4
b. PGE2
c. Histamine
d. Prostacyclin

Ans: a

189

Which of the following is wrong regarding complement system?

A. It has multiple pathways of activation
B. Complement proteins are found intracellularly inside lysosomes
C. Complement proteins have different functions
D. Complement proteins can be found without inflammation

Ans: b

190

Which of the following is wrong about neutrophils?

A- They are never seen in chronic inflammation
b. Their half-life is 1-2 days
c. They have phagocytic abilities
d. They have multi-lobed nuclei

Ans:a

191

Which of the following is involved in the recruitment of smooth muscle cells in angiogenesis?

a-TNF

b-PDGF

c-TGF-B

d-All of the above

Ans:b

192

What type of inflammation is seen in blisters?

a. Purulent inflammation
b. Serous inflammation
c. Ulcerative inflammation
d. Fibrinoid inflammation

Ans:b

193

Which of the following is a common mediator in all complement pathways?

a. Lectins
b. IgG Antibodies
c. Mannose
d. C3

Ans:d

194

The first changes in vascular phase include:

a. Transient vasoconstriction then vasodilation
b. Margination of WBCs
c. Chemotaxis of cells towards side of inflammation
d. None of the above

Ans:a

195

-A patient comes with fever and right lower quadrant tenderness. Acute appendicitis is suspected. Which of the following is seen in his blood workup?

a. Neutrophils
b. lymphocytes
c. eosinophils
d. mast cells

Ans:a

196

The correct sequence of steps in inflammation:

a-Recruitment, recognition, controlling, removal, repair
b-Recognition, recruitment, removal, regulation, repair
c-Removal, regulation, repair, recognition, recruitment
d-Recruitment, repair, removal, recognition, controlling

Ans:b

197

Which of the following is seen in exudative fluids:

a- low proteins

b. low specificgravity

c. high cellularity

d. serous fluid

Ans:c

198

Which of the following is correct regarding granulomas?

-a They are full of epithelial cells

b. They indicate acute inflammation

c. Sarcoidosis is diagnosed by exclusion

d. If granuloma is caseating, don't think about TB

Ans:c

Induction of pain is mainly through:

a- Cytokines

b- Platelet activating factors

c- Leukotrienes

d- Kinins

Ans:d

Steroids work through:

-a Increasing prostaglandin

b. Inhibition of phospholipases

c. Inhibition of lipoxygenases

d. More than one of the above

Ans:b

The life span of neutrophils is:

a- 1-2 days

b-5-7 days

c. weeks to months

d. Fewhours

Ans:a

NETs are best described as:

-a Collections of granules containing hydrolysing enzymes

b- Viscous meshwork of nuclear chromatin

c. Produced after death of monocytes

d. Implicated in pathogenesis of asthma

Ans:b

-TNF is mainly produced by:

a- Endothelial cells

b- Eosinophils

c -macrophages and T-lymphocytes

d- Mast cells

Ans:c

Which of the following is a wrong mismatch?

a- macrophages/B cells interaction is bi-directional activation

b- NETs and neutrophils

c. IL-5andeosinophils

d. IgE and mast cells

Ans:a

-All of the following are involved in fever except:-

a TNF

b. CRP

c. IL-1

d. PGE2

Ans:b

Which of the following induce recruitment of neutrophils and macrophages in both chronic and acute inflammation?

a- I L - 1 0

b-IL-12

c- IL-17

d-IL-6

Ans:c

Which of the following cells live in the tissue for years?

a. Neutrophils
b. macrophages
c. Eosinophils
d. Basophils

Ans:b

All of the following are caused by activation of M2 macrophages by the alternative pathway except?

a. Woundrepair
b. Fibrosis
c. Anti-inflammatory effects

d-Phagocytosis

Ans:d

Which of the following mediator is responsible for erythema and stasis from blood vessels?

A-Histamine

B- Kinins

C-Leukotrienes

D-Reactive oxygen species (ROS)

Ans:a

210

What is the best definition of the inflammatory response?

a. always beneficial to the body
b. progressive and prominent signs and symptoms
c. response of vascularized tissue to injury
d. resolution of damage through fibrogenic factors

Ans:c

2
1
1

Which of the following is correct regarding mediators of inflammation?

a- They work independently from each other

b. All mediators are proteins

c. They arehard to control and suppress

d. They can activate each other

Ans:c

2
1
2

Which of the following is wrong regarding granulomas?

-a They indicate chronic inflammation

b. Causes can be infective or non-infective

c. Epithelioid histiocytes are recruited by B cells

d. Noneoftheabove iswrong

Ans:b

2
1
3

Mediators that are secreted by alternatively activated (M2) macrophages:

a. I L - 1 2
b. TNF, IL-1 and IL-6
c. IL-4 and IL-5
d. growth factors and IL-10

Ans:d

2
1
4

Complement proteins that are related to histamine include:

A. C3a
B. C5a
C. C3b
D. a+b

Ans:d

215

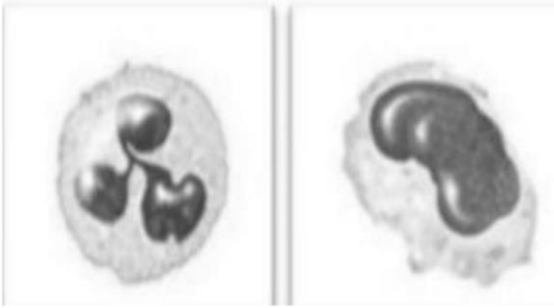
Receptors that recognize damaged DNA out of cells are:

A. Cell damage sensors
B. Toll-like receptors
C. Complement system
D. G-protein coupled receptor

Ans: a

216

These are two important cells of inflammation, which of the following best describes their function:



A. The cell on the left has a lifespan of 5-7 days
B. Both cells are capable of phagocytosis
C. The cell on the right exhibits NETosis
D. The cell on the left is a major cytokine producer
E. The cell on the right exhibits a more rapid response to stimulation

Ans: b

217

Which of the following is considered an autoimmune disease

A. Systemic lupus erythematosus
B. Acquired immune deficiency syndrome
C. Atherosclerosis
D. Asthma
E. None of the above

Ans: a

218

The correct combination of the mediators, source, effect respectively is:

A. Prostaglandins, leukocytes, vasoconstriction
B. Prostaglandins, activated macrophages, fever
C. Chemokines, mast cells, chemotaxis
D. Leukotrienes, mast cells, decreases vascular permeability
E. None of the above

Ans: c

Which of the following best describes Toll-like receptors:

A. Circulating plasma proteins that need activation

B. Sensor of DAMPs

C. GPCR

D. Membrane proteins that recognize pathogens

E. Receptor for toll-like injurious agents

Ans: d

The main facilitator of congestion and vascular dilation in the early phase of inflammation is:

A. Histamine
B. CD31
C. TNF
D. IL-6
E. Macrophages

Ans: a

What's true about inflammation

Answer: Its output differs depending on the host

Ans:

2
2
2

Which of the following enhances phagocytosis and killing:

A. Opsonizing agent
B. TNF
C. IL-1
D. TGF-B

Ans: a

2
2
3

After engulfing microbes in the phagosome, the next step is:

A. Fusion with lysosomes to form a phagolysosome
B. Degradation of the phagosome content
C. The endocytosis of the microbes
D. The exocytosis of the phagolysosome

Ans: a

2
2
4

Which of the following mediators is/are responsible for chronic asthma:

A. PCL2
B. TBA2
C. LTC4, LTD4, LTE4
D. TNF
E. All of the above

Ans: c

225

What mediators are responsible for fever

A. HistamineB
B. IL-1 and IL-6
C. Leukotrienes
D. IL-12
E. None of the above

Ans: b

226 A 6-year-old child was brought to your clinic with his parents complaining about difficulty and noisy breathing. A chest examination revealed severe wheezing. The parents mentioned that this is the second time this year. The child has no fever. The X-ray is unremarkable. The major injurious inflammatory cells and agents that cause this is/are:

A) Eosinophils and IgE agent

B) Necrotising granulomatous inflammation

C) Eosinophils and IgA agent

D) Neutrophils

Ans: a

227

Which of the following arachidonic acid metabolites is a strong chemotactic agent :

A. Leukotriene E4
B. Leukotriene B4
C.Leukotriene C4
D. Prostacyclin
E. Prostaglandin G2

Ans: b

228

Which of the following is true regarding Nitric Oxide :

A. Acts as a vasoconstricor
B. Produced without the need of enzymes
C. A soluble gas driver from arginine
D. Its concentration is always constant

Ans: c

229

A 29 year old man that was hospitalised for acquired

immunodeficiency syndrome(AIDS) was found to have pulmonary tuberculosis. Which type of necrosis is found in the granulomatous lesions(clusters of modified macrophages)characteristic of this increasingly frequent.

A. Caseous
B. Coagulative
C. Fibrinoid
D. Liquefaction

Ans: a

230

Which one of the following serum markers do we usually measure to indicate the presence of a nonspecific inflammatory reaction :

A. Liver transaminases
B. Anti nuclear antibodies
C. C reactive protein
D. Prostaglandins C, D and E

Ans: c

231

A child was brought to the emergency room with a sore throat. The Tonsils were red and congested and he was febrile (Temp:39.8) Which mediator is responsible for these 3 inflammatory features:

A. Prostaglandins
B. Interleukins
C. leukotrienes
D. Bradykinin

Ans: a

232

In contrast to chronic inflammatory response, the acute inflammatory response is characterized by:

A. Slower time to be noticed
B. More prominent local and systemic manifestations
C. More tissue damage and fibrosis
D. Tissue infiltration by plasma cells
E. Tissue infiltration by eosinophils

Ans: b

2
3
3

Opsonization is best described as:

A. Recognizing the pathogen
B. Coating the microbe to enhance phagocytosis
C. Following a specific chemical gradient
D. Activation of the complement system

Ans: b

2
3
4

Which of the following statements is true regarding steroids:

A. They are a potent inhibitor of phospholipases
B. They are inhibitors of COX-1
C. They induce immunity
D. They are considered as pro-inflammatory drugs

Ans: a

2
3
5

Which of the following is true regarding the M2 pathway:

A. It is also called the classical pathway
B. It is activated by the presence of microbes
C. It stops inflammation and promotes repair
D. Macrophages start producing IL-1 and chemokines

Ans: c

236

A biopsy was taken from a patient. They found out that it was a chronic inflammation case, what did they see in the biopsy:

A. Fibrosis, macrophages, lymphocytes, and plasma cells
B. Neutrophils and macrophages
C. Eosinophils
D. Histamine and heparin
E. All of the above

Ans: a

2
3
7 A 65-year-old patient came to the hospital with fever, malaise, and shortness of breath. History denotes severe rheumatoid arthritis requiring a long-term high dose steroid treatment. Chest x-ray shows bilateral lung infiltrate. What should you consider in this patient as an important differential diagnosis:

A. Opportunistic lung infection
B. Lung abscess due to necrotizing inflammation
C. Community acquired Candida pneumonia
D. Lobar pneumonia due to a Haemophilus influenzae infection
E. H1N1 influenza infection

Ans: a

2
3
8

Which of the following mediate(s) the release of acute phase proteins from the liver:

A. IL-6/IL-1
B. TGF-B
C. IL-3
D. IL-7
E. All of the above

Ans: a

239

A patient presents with a red and swollen appendix with yellow creamy fluid and had to undergo appendectomy. No considerable number of lymphocytes is found. Which of the following is correct:

A. It is a chronic appendicitis
B. Transudate fluid is found
C. It is a purulent suppurative inflammation
D. None of the above is correct

Ans: c

240

Which of the following statements best describes the process of total chemotaxis:

A. Integrins cause weak adhesion to endothelial cells
B. P and E selectins cause strong adhesion to endothelial cells
C. CD31 (PECAM-1) mediates transmigration
D. TNF causes transmigration
E. None of the above

Ans: c

241

The initial strong affinity of leukocytes to endothelial cell is mediated by:

A. Integrins (ICAM 1)
B. PECAM (CD31)
C. P, E selectins
D. Histamine
E. TNF

Ans: a

2
4
2

TNF is characterized by:

A. Phagosome enzyme with killer activity
B. Leukotriene produced by mast cells
C. PG a vasodilator
D. Chemokine that enhances leukocyte activation
E. Cytokine produced by macrophages that works as an inflammatory mediator

Ans: e

2
4
3

What is the function of IL-17:

A. Recruitment of neutrophils and macrophages
B. Induces vasodilation
C. Cause fever
D. Smooth muscle contraction
E. All of the above

Ans: a

2
4
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the following is an example of a non-necrotizing granuloma and in which all acid-fast tests were negative:

A. Tuberculosis
B. Cat-scratch disease
C. Syphilis
D. Sarcoidosis
E. Leprosy

Ans: d

Additional Resources:

رسالة من الفريق العلمي:

For any feedback, scan the code or click on it

Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1			
V1 → V2			