



Pathology first week questions (inflammation)

Done by : Mais Salman

1- Which mediator mainly cause erythema and stasis from blood vessels?

- a. Expression
- b. Leukocytes
- c. Histamine
- d. PMN accumulation

2- 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 direct endothelial cell injury by adhering neutrophils.
- c. It is due to increased intravascular oncotic pressure
- d. The process is best called transcytosis induced by growth factors
- e. It is mediated by blockage of the lymphatic channels

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

- a. Alpha and Beta Chemokines
- b. Integrin (ICAM-1)
- c. P and E Selectins
- d. Interleukins and Tumor necrosis factor (ILs and TNF)
- e. CD31 (PECAM-1)

4- In contrast to chronic inflammatory response; 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

5- Which of the following statements best describes the “inflammatory response”?

- a. Always associated with systemic effects.
- b. In normal humans it is protective.
- c. Events sequence is haphazard in 20% of the cases.
- d. Transforms to chronic inflammation in 50% of the cases
- e. Its mediators are the same in amount.

Answers

Q	1	2	3	4	5
	C	A	B	B	B

قال الله تعالى: "أَمْ حَسِبْتُمْ أَنْ تَدْخُلُوا الْجَنَّةَ وَلَمَّا يَأْتِكُمْ مَثَلُ الَّذِينَ خَلَوْا مِنْ قَبْلِكُمْ مَسْتَهْمِ الْبِئْسَاءِ وَالضَّرَّاءِ وَزَلُّوا حَتَّى يَقُولَ الرَّسُولُ وَالَّذِينَ آمَنُوا مَعَهُ مَتَى نَصْرُ اللَّهِ أَلَا إِنَّ نَصْرَ اللَّهِ قَرِيبٌ"

6- Which receptors are responsible for recognizing pathogens proteins in the initial phases of inflammation?

- a. Toll-like receptors
- b. Receptors for lectins and collectins.
- c. Receptors for circulating complement system proteins
- d. Receptors for damage associated molecular patterns (DAMPs).
- e. Receptors for immunoglobulins E (IgE).

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

- a. Numerous eosinophils
- b. Atypical glands with abnormal mitosis
- c. Numerous tissue neutrophils
- d. Fibrosis and numerous lymphocytes
- e. Loss of appendicular architecture and granulomas

8- Recognition of an injurious agent is the first step in our inflammatory response. Which one of the following cellular sensors are sensitive to tissue breakdown materials such as DNA, uric acid and ATP?

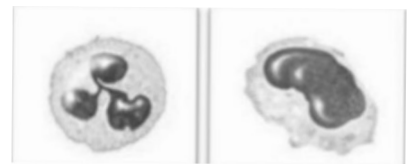
- a. Sensors of pathogen associated molecular patterns (PAMPS)
- b. Mannose microbial receptors
- c. Lectin particles sensors
- d. Damage associated molecular patterns (DAMPs) sensors
- e. G-protein coupled receptors

9- Which of the following cells and molecules are involved in asthma

- a. IgE and eosinophils
- b. Cytokines
- c. Macrophages and neutrophils
- d. Complement proteins

10- 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.



Answers

Q	6	7	8	9	10
	A	C	D	A	B

يقتلون، يسرقون، يُقسَّمون البلاد إلى كانتونات وكيبوتسات، يرفعون الجدران، يُلصُّون القمح، ويبعثون الجراد، وينعقون كالغربان، وتنضح كلماتهم بالحقد والموت، وتريدون منَّا بعدَ ذلك أن نصمت، لا يصمتُ إلاَّ الموتى أيُّها الموتى.

11- 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

12- 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

13- A 6 year old child was brought to your clinic with his parents complaining about difficulty and noisy breathing. A chest examination revealed sever wheezing. The parents mentioned that this the second time happens in 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
- e. Complement

14- 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

15- This is a cartoon image representing an important inflammatory cell. Which of the following statements best describes this cell feature or function:

- a. The life span is 5-6 days.
- b. This cell is a major producer of cytokines mediators.
- c. It is a major chronic inflammatory cell infiltrate.
- d. This cell secretes neutrophil extracellular traps (NET)
- e. It contains high level of nitric oxide.



Answers

Q	11	12	13	14	15
	D	A	A	A	D

هل تعرفون كيف يُمكن أن تُودَّع شهيداً، أن تُودَّع حبيباً لن يعود، أن يغوص هذا الجسد الذي يملأ عليك
كيانك في التراب، أن يُصبح وجوده ذكرى، أن ينتهي كما ينتهي أي حلم

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

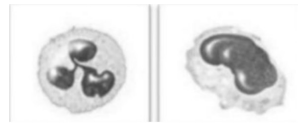
- a. They circulate in the blood
- b. Collectins are examples
- c. They are essential for chemotaxis
- d. They recognize PAMPs

17- Which of the following is true regarding inflammation:

- a. It is essential for body survival
- b. Strong inflammatory responses are always good
- c. Non-vascularised tissues can get inflamed
- d. There is no repair step in inflammation

18- 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 half-life of 1-2 days
- c. The cell on the right is a neutrophil
- d. Both cells have the same half-life



19- Stasis and Erythema are caused by:

- a. Leukocytes
- b. Expression of selectins
- c. PMN accumulation
- d. Histamine as a vasodilator

20- Weak adhesion to the endothelium is mediated by :

- a. LFA-2
- b. integrins
- c. P and E selectins
- d. PECAM-1

21- 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

22- 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

Answers

Q	16	17	18	19	20	21	22
	D	A	B	D	C	C	C

وَنَفْسُ الشَّرِيفِ لَهَا غَايَتَانِ
وَرُودُ الْمَنَايَا وَنَيْلُ الْمُنَى
وَمَا الْعَيْشُ لَا عِشْتَهُ إِنْ لَمْ أَكُنْ
مَخَوَفَ الْجِنَابِ حَرَامَ الْجِمَى

23- 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

24- 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

25- 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

26- Which of the following is seen in exudative fluids

- a. low proteins
- b. low specific gravity
- c. high cellularity
- d. serous fluid

27- the life span of neutrophils is :

- a. 1-2 days
- b. 5-7 days
- c. weeks to months
- d. few hours

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

- a. neutrophils
- b. macrophages
- c. eosinophils
- d. basophils

29- 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

Answers

Q	23	24	25	26	27	28	29
	A	A	B	C	A	B	C

(وَإِنَّ جُنَدَنَا لَهُمُ الْغَالِبُونَ)

30- The correct order of leukocyte migration is :

- a. Margination-rolling-adhesion-transmigration
- b. Rolling-margination-adhesion-transmigration
- c. Transmigration-adhesion-margination-rolling
- d. Rolling-adhsion-transmigration-margination

31- Pus is best described as:

- a. found always inside an abscess
- b. caused by imbalances in oncotic pressures
- c. purulent exudate
- d. caused by viral infections

32- Acute asthma is characterized by the presence of:

- a. IgA antibodies
- b. IgE antibodies
- c. IgG antibodies
- d. None of the above

33- 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

34- the molecule that associated with transmigration

- a. LFA-2
- b. integrins
- c. P and E selectins
- d. PECAM-1

35- Which of the following can not recognize microbes

- a. Mast cell
- b. macrophages
- c. Dendritic cell
- d. None of the above

36- TNF is characterized by:

- a. phagosome enzyme with killer activity
- b. leukotriene produced by mast cells
- c. PG a a vasodilator
- d. chemokine that enhances leukocyte activation
- e. Cytokine produced by macrophages that works as an inflammatory mediator

Answers

Q	30	31	32	33	34	35	36
	A	C	B	A	D	D	E

كلما دعيتك نفسك إلى معصية، تذكر أن أمتك
جريحة تنتظر من يحمل همها، ويتلمس طريق
عزتها، ومعصيتك وغفلتك تجعلك عبئاً جديداً
على أمتك!

" إن ينصركم الله فلا غالب لكم "

اللهم انصر إخواننا المسلمين في فلسطين
اللهم سلم غزه وأهلها وأرضها ومن عليها
واحفظهم بحفظك اللهم كن لهم عوناً ومعيناً

اللهم يا ربّ إنّ لنا أهل وأحبّة، يشهدون لك بالوحدانيّة،
اللهم كن لأهلنا في قطاع غزّة الصّامد، واجزه الخير
عن هذا الصّمود الطّويل، انصرهم على من عاداهم،
وعلى من خذلهم يا ربّ العرش العظيم.