

Time 25 min

Total Marks: 25

2018

2019 PDF + 2020 mobile

Q. 1 A 44 year old woman sees her physician because she feels lumps in the right axilla. The physician notes right axillary lymphadenopathy on physical examination. The nodes are probable but firm. She had also history of hard fixed lump in upper quadrant of breast. Which of the following is the most likely diagnosis?

- a) Ductal carcinoma of the breast
- b) Acute mastitis with breast abscess
- c) Leiomyosarcoma of the uterus
- d) Cerebral glioblastoma multiforme
- e) Squamous dysplasia of the larynx

✓ Teratoma

Q. 2 A 32 year old woman has experienced dull pelvic pain for the past 2 months. Physical examination shows a right adnexal mass. An abdominal ultrasound scan shows a 7.5-cm cystic ovarian mass. The mass is surgically excised. The surface of the mass is smooth. On gross examination, the mass is cystic and filled with hair. Microscopically, squamous epithelium, tall columnar glandular epithelium, cartilage, and fibrous connective tissue are present. Which of the following is the most likely diagnosis?

- a) Adenocarcinoma
- b) Fibroadenoma
- c) Glioma
- d) Hamartoma
- e) Teratoma

✓

Q. 3 An epidemiologic study investigates the potential cellular molecular alterations that may contribute to the development of cancers in a population. Data analyzed from resected colonic lesions show that changes are occurring that show the evolution of a sporadic colonic adenoma into an invasive carcinoma. Which of the following best describes the mechanism producing these changes?

- a) Activation of proto-oncogenes by chromosomal translocation
- b) Stepwise accumulation of multiple proto-oncogene and tumor suppressor gene mutations
- c) Extensive regeneration of tissues increasing the mutation rate in replicating cells

Handwritten signature

- d) Inheritance of defects in DNA repair genes that increase the susceptibility to develop cancer
- e) Overexpression of growth factor receptor genes
- Q. 4 Which one of the genes is Governor of the cell cycle

a- P53

b- P16

Rb gene

d- C-myc

e- RAS gene

Q. 5 An epidemiologic study is performed to assess risks for cervical carcinoma. The cells from cervical lesions in a population of women are analyzed. Binding of certain viral proteins to *pRB* is found in patients in whom dysplastic cells are present. Viral proteins from which of the following are most likely to bind *pRB*, increasing the risk for dysplasia?

a) Cytomegalovirus

b) Epstein-Barr virus

c) Herpes simplex virus

d) HIV

Human papillomavirus

Q. 6 During a routine health maintenance examination of a 40 year old man, a stool guaiac test result was positive. A follow-up sigmoidoscopy showed a 1.5-cm, circumscribed, pedunculated mass on a short stalk, located in the upper rectum. Which of the following terms best describes this lesion?

a) Adenoma

b) Hamartoma

c) Sarcoma

d) Choristoma

e) Nevus

Q. 7 A 40 year old man notices an increasing number of lumps in the groin and armpit. On physical examination, he has generalized nontender lymph node enlargement and hepatosplenomegaly. An inguinal lymph node biopsy specimen shows a malignant tumor of lymphoid cells. Immunoperoxidase staining of the tumor cells with antibody to CD20 is positive in the lymphocytic cell nuclei. Which of the following mechanisms has most likely produced this lymphoma?

a) Increased tyrosine kinase activity

- a) Lack of apoptosis
- c) Gene amplifications
- d) Reduced DNA repair
- e) Loss of cell cycle inhibition

Q 8. A 65 years old male presented in OPD with moon face and central obesity. He was found to have cushing syndrome due to release of Corticotropin. Doctor was very much worried as he was suspecting a tumour what other organ he should examine apart from adrenals in search of tumour.

- a- Testis
- b- GIT
- c- Lung
- d- Parathyroid
- e- Heart

(hilar lymph nodes)

Q. 9 A 66 year old man with chronic cough has an episode of hemoptysis. On physical examination, there are no abnormal findings. A chest radiograph shows a 6-cm mass in the right lung. A sputum cytologic analysis shows cells consistent with squamous cell carcinoma. Metastases from this neoplasm are most likely to be found at which of the following sites?

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- b) Splenic red pulp
- c) Hilar lymph nodes
- d) Vertebral bone marrow
- e) Cerebrum

Q. 10 A 42 year old man is concerned about a darkly pigmented "mole" on the back of his hand. The lesion has enlarged and bled during the past month. On physical examination, there is a slightly raised, darkly pigmented, 1.2-cm lesion on the dorsum of the right hand. The lesion is completely excised. Microscopically, a malignant melanoma is present. Which of the following factors presents the greatest risk for the development of this neoplasm?

- a) Smoking tobacco
- b) Ultraviolet radiation
- c) Chemotherapy
- d) Asbestos exposure
- e) Allergy to latex

Q. 11 A clinical study involves patients diagnosed with carcinoma whose tumor stage is T4N1M1. The patients' survival rate 5 years from the time of diagnosis is less than 50% regardless of therapy. Which of the following clinical findings is most likely to be characteristic of this group of patients?

- a) Cachexia

- b) Cardiac murmur
- c) Icterus
- d) Loss of sensation
- e) Splenomegaly

Q-12 A patient came to emergency with fever, malaise, weight loss and pallor of skin. The patient is a known case of cirrhosis of liver. Ultrasound of liver reveals a mass which has infiltrative pattern. What is the most important cause of his disease.

- a- Alcohol consumption
- b- Cigarette smoking
- c- Environmental carcinogen
- d- UV light
- e- Non infectious agents.

Q-13 When dysplastic changes are marked and involve the full thickness of the epithelium but the lesion doesn't penetrate the basement membrane, it is called as

- a- Carcinoma in situ
- b- Severe dysplasia
- c- Mild dysplasia
- d- Moderate dysplasia
- e- Anaplasia

Q-14 CEA is a tumour marker for the diagnosis of

- a- Prostatic carcinoma
- b- Breast carcinoma
- c- Endometrial carcinoma
- d- Colonic carcinoma
- e- Gastric carcinoma

CEA → colonic carcinoma

Q-15 The breast cancer risk in females inheriting mutated copies of which tumor suppressor genes?

- a- BRCA1 and BRCA2
- b- KRAS
- c- Cytochrome P450
- d- Proto-oncogenes
- e- Apoptosis regulatory genes

Q-16 A patient came to the emergency department with severe cough, fever, weight loss, and haemoptysis. The patient is a known case of adenocarcinoma lung. Which chemical carcinogen is involved for causing this neoplasm?

- a- Cytaphosphamide
- b- Benzo(a)pyrene
- c- Aflatoxin B1
- d- Betel Nut
- e- Nitrosamines

9.5

Q-17 A 65 years old female presented with bilateral ovarian masses. The patient also has a previous history of Carcinoma stomach, what are these tumours in ovaries called as

- a- Krukenberg tumor
- b- Kistatin tumour
- c- Sister Mary Joseph nodule
- d- Undifferentiated tumour
- e- Adenocarcinoma

Q-18 A 60 years old male presented with adenocarcinoma colon. 10 years back he had a history of adenomas with multiple genetic changes. Which of the following mechanisms is actually involved in formation of tumour.

- a- Self sufficiency in growth signals
- b- In sensitivity to growth inhibitory signals
- c- Insensitivity to growth signals
- d- Apoptosis
- e- Inability to invade and metastasis

Q-19 Which factor is responsible for sustained angiogenesis for spread of tumour

- a- VEGF
- b- ECM
- c- FGF
- d- Epidermal growth factor
- e- Platelet derived growth factor.

Q-20 A 45 years old female presented with breast carcinoma and the tumour is also showing metastasis. The tumour is found to have a malignant cytology with hyperchromatic nuclei and anaplasia, which pathway this tumour has adapted to reach the metastatic site.

- a- Vascular spread
- b- Lymphatic spread
- c- Direct invasion
- d- Seeding of body cavities
- e- Iatrogenic spread.

(b) 12/1/3

Handwritten calculations:

$$\begin{array}{r}
 5 \times 4 = 20 \\
 3 \times 4 = 12 \\
 4 \times 8 = 32 \\
 8 \times 8 = 64 \\
 8 \times 8 = 64 \\
 8 \times 8 = 64 \\
 17 \times 1 = 17 \\
 23 \times 0 = 0 \\
 22 \times 1 = 22
 \end{array}$$

?

Q-21 A 65 years old man had squamous cell carcinoma arising from bladder mucosa. It was found to have many nerves in the stroma of the bladder, which of the following mechanisms actually led to formation of this tumour.

7

- Precursor lesion arising from transitional epithelium
- Role of metaplasia only
- Role of metaplasia with dysplasia
- Normal stratified squamous epithelium
- Transitional cell dysplasia

Q-22 A histopathologist was actually examining the slide prostatic tissue which his resident told that this is actually a malignant. So what are things he should look for to call this tumour as malignant.

- Cells with changes similar to parent cell
- Blood vessels for invasion
- High N/C ratio, pleomorphism, anaplasia
- Only increased mitosis are enough to call it as malignant
- Desmoplasia around tumour cells.

Q-23 A resident pathologist was examining the slide of Meckel's Diverticulum. This senior resident said that the lining epithelium should be same as that of colonic epithelium. But he was surprised to see gastric mucosa in lamina propria. What is actually this called as

- Teratoma
- Mixed tumour
- Heterotopia
- Hamartoma
- Neoplasia

Q-24 You are asked to examine a slide of a tumour arising from smooth muscle cells of myometrium. The tumour is composed of bundles and fascicles of oval to spindle cells with little pleomorphism and mitosis, areas of tumour necrosis are seen. Suddenly the number of mitosis increases and cells become enlarged with big giant sized nuclei, looking horrible. This transition of less bad to too bad is called as

- Anaplasia
- Metaplasia
- Dysplasia
- Severe dysplasia
- Carcinoma

SP Bact
Neoplasia
cell injury

Q-25 A female has a known family history of breast carcinoma and she is worried that she may develop a tumour as well. Doctor asks her to be vigilant and do some tests on yearly basis. Can you guess?

mammogram

- a- PCR
- b- FISH
- c- Mammogram
- d- Ultrasound of breast with yearly mammogram
- e- Only ultrasound and regular self examination

→
→ Bad news

2
1
1

- A. grows by expansion
- B. metastasizes if the brain
- C. usually non-encapsulated and
- D. tend to recur after surgical removal
- E usually occur singly and do not recur after

2 136
Neoplasia

Test Neoplasia 13-07-2018
MBBS 3rd Year

21/7/18
Abdul Rauf
Saleem

Time 25 min

Total Marks 25

Roll no 30

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EG-
E1 — *TEK19*
P53
Rb → *shp*

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2. epidermal - bladder
3. liver

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Azra Naheed Medical College
Hemodynamics (25, march, 2020)
(MBBS. 3rd Year)
(Pathology-Objective Part)

Time Allowed: 20 min

Total Marks: 20

Name: _____

Roll No. _____

1. A postmortem clot is most likely to

- A. Grossly display features of recanalization
- B. Grossly have lines of Zahn
- C. Grossly have the appearance of "chicken fat" overlying "currant jelly"
- D. Microscopically appear attached to the wall of the blood vessel
- E. Microscopically have alternating layers of cells and platelets

2. What is the most common site of origin of thrombotic pulmonary emboli?

- A. Deep leg veins
- B. Lumen of left ventricle
- C. Lumen of right ventricle
- D. Mesenteric veins
- E. Superficial leg veins

3. Procoagulant factors produced by endothelial cells include

- A. Thrombomodulin
- B. Prostacyclin
- C. von Willebrand factor
- D. Thromboxane A₂
- E. Fibrinogen

4. An 85-year-old man falls in the bathtub and strikes the back of his head. Over the next 24 hours, he becomes increasingly somnolent. A head CT scan shows an accumulation of fluid beneath the dura,

compressing the left cerebral hemisphere. Which of the following terms best describes this collection of fluid?

- A. Congestion
 - B. Ecchymosis
 - C. Hematoma
 - D. Petechiae
 - E. Purpura
- " hematoma "

5. 45-year-old woman who works while standing for long periods notices at the end of her 8-hour shift that her lower legs and feet are swollen, although there was no swelling at the beginning of the day. There is no pain or erythema associated with this swelling. She is otherwise healthy and takes no medications; laboratory testing reveals normal liver and renal function. Which of the following mechanisms best explains this phenomenon?

- A. Excessive free water intake
- B. Hypoalbuminemia
- C. Increased hydrostatic pressure
- D. Lymphatic obstruction
- E. Secondary aldosteronism

↑ hydrostatic pressure.

6. 26-year-old woman has a history of frequent nose-bleeds and increased menstrual blood flow. On physical examination, petechiae and purpura are present on the skin of her extremities. Laboratory studies show normal partial thromboplastin time (PTT), prothrombin time (PT), and platelet count, but decreased von Willebrand factor activity. This patient most likely has a derangement in which of the following steps in hemostasis?

- A. Fibrin polymerization
- B. Platelet adhesion
- C. prothrombin inhibition
- D. Prothrombin generation
- E. vasoconstriction

7. Which one of the listed changes correctly describes the pathophysiology involved in the production of pulmonary edema in patients with congestive heart failure?

- A. Decreased plasma oncotic pressure
- B. Endothelial damage
- C. Increased hydrostatic pressure

D. Increased vascular permeability

E. Lymphatic obstruction

8. Causes of localized edema include:

- A. Obstruction of lymphatics
- B. Loss of proteins through kidneys
- C. Loss of proteins through gut
- D. Loss of proteins through gut
- E. Congestive cardiac failure

9. Which one of the listed clinical scenarios best illustrates the concept of active hyperemia?

- A. A 22-year-old second-year medical student who develops a red face after being asked a question during a lecture
- B. A 37-year-old male who develops massive swelling of the scrotum due to infection with *Wucheria Bancrofti*
- C. A 69-year-old male who dies secondary to progressive heart failure and at autopsy is found to have a "nutmeg" liver
- D. A 6-year-old boy who develops the sudden onset of intense scrotal pain due to testicular torsion
- E. A 71-year-old female who develops perifollicular hemorrhages due to a deficiency of vitamin

10. A superficial puncture wound from a needlestick injury leads to a small amount of bleeding in a healthy person. Seconds after this injury occurs, the bleeding stops. Which of the following mechanisms is most likely to stop small arteriolar blood loss from this injury?

- A. Fibrin polymerization
- B. Neutrophil chemotaxis
- C. Platelet aggregation
- D. Protein C activation
- E. Vasoconstriction

11. All of following affect infarct development except

- A. Anatomy of vascular supply
- B. Rate of occlusion
- C. Tissue vulnerability to hypoxia
- D. Structure of thrombus

E. Development of collaterals

12. A 2 years old boy was brought in emergency with blood pressure of 70/50 mm of Hg, pulse rate of 112 beats per minute with cool, clammy and cyanotic skin. Mother gives history of watery diarrhea and vomiting from last 2 days. This patient is suffering from which type of shock

- A. Neurogenic shock
- B. Septic shock
- C. cardiogenic shock
- D. Hypovolemic shock
- E. Anaphylactic shock

13. All of following are involved in pathophysiology of septic shock except

- A. Inflammatory mediators
- B. Endothelial cell activation and injury
- C. Metabolic abnormalities
- D. Immune suppression
- E. Intrinsic myocardial damage

14. Secondary haemostasis is initiated by which of following

- A. Platelet granules release
- B. Platelet shape change
- C. Exposure of tissue factor and factor VII complex
- D. Exposure of collagen
- E. Vasoconstriction

exposure of a tissue factor & factor VII complex

15. Which of following is secondary hypercoagulable state;

- A. Factor V mutation & prothrombin defects
- B. immobilization
- C. Increased levels of 7,9,11,2
- D. Antithrombin III deficiency
- E. Protein C deficiency
- F. Prothrombin mutation

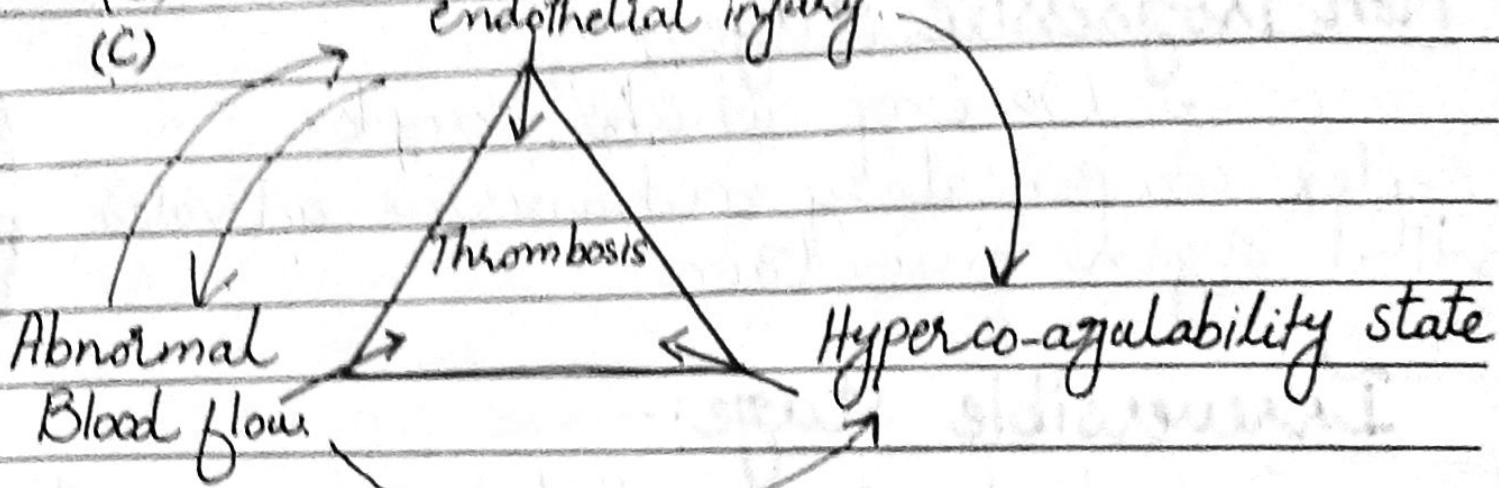
immobilization

Question No #1

(a) White infarct

(b) arteolar obstruction

(c) endothelial injury



(D) Fate of Thrombosis

• Propagation

• Dissolution

• Embolization

• Dissolution & recanalization.

Question No #2

(a) Cardiogenic Shock.

(b) Myocardial infarction → Cardiogenic Shock

• Septic shock → inflammation ^{Back} inf

• Neurogenic shock → Spinal cord injury.

• Hypovolemic shock → Trauma Burns.

• Anaphylactic shock → Allergic reactions.

The most common are bee sting, nuts & other foods.

(c) Stages of Shock

• Progressive stage

• Irreversible stage. • Non-progressive stage. A.P Notes

Stages of Shock.

Progressive stage:-

→ Tissue hypoperfusion occur during acidosis.

Non Progressive stage:-

→ During which reflex compensatory mechanisms activated & a vital organ maintain:

Irreversible stage:-

in which stage, cellular injury & a tissue injury is a severe. Survive is not possible, hemodynamic defect.

Q.No # 3

(a) Transudate

✓ Non inflammatory in nature.

✓ Specific Gravity is < 1.015

Protein is $< 3g/dl$

LD is $< 200IU$

Cell count is

$1000 \text{ cells}/\mu L < 1000/\mu L$

Condition

⇒ Congestive heart failure

Exudate

Inflammatory in nature.

> 1.015

$> 3g-dl$

$> 200IU$

$> 1000/\mu L$

Infections Malignancy.
Malignancies.

< 1.015
 $< 3g/dl$
 $200IU$
 $1000/\mu L$

Comparisons.

① Hypremia

Congestion.

• Localized increased in a blood volume of a particular tissue due to local arteriolar dilation.	• Localized increased in a blood volume of a particular tissue due to a pool venous Blood flow.
• Active process.	• Passive process.
• Colour pink.	• Blue-red-colour (Cyanosis)
• Do not caused Hemorrhages.	• Cause - Hemorrhages
exercising skeletal muscles is a best Examples.	

Primary Haemostasis

Secondary Haemostasis

• After the injury	• At the site of injury
• Vasoconstriction	• Exposure of a tissue factor.
• Platelets released the secretory granules.	• Thrombin cleaves
• Platelets shaped changed.	• Thrombin generation.

Embolus :-

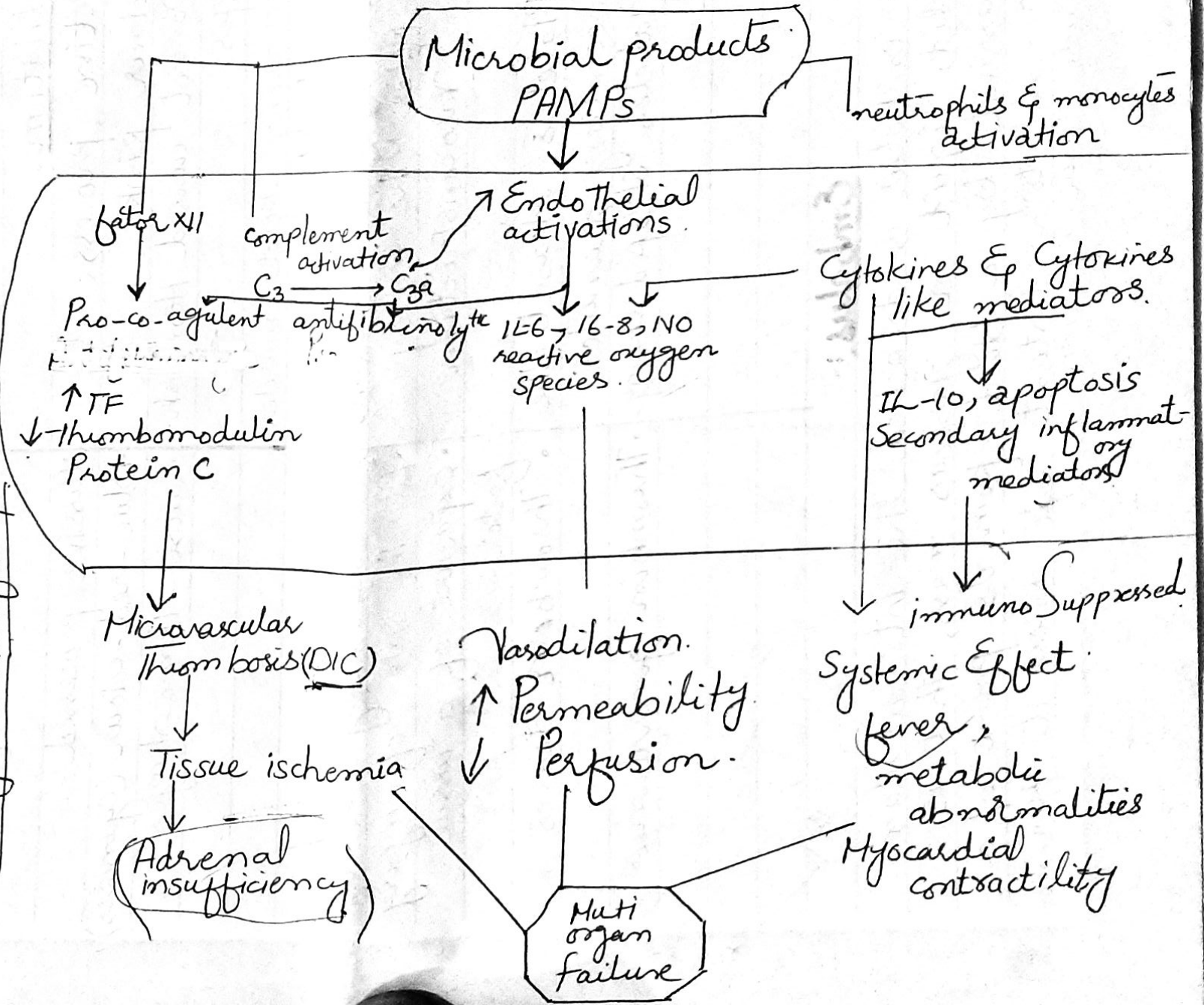
An embolus is detached the intravascular solid, liquid or gaseous mass, that is arrival by a blood from its point of a original to a distant site where it often cause tissue infarction.

Q.No # 4

Septic Shock

Several Bacterial infections which poison the blood, causing of death. in 50% of the cases
Pathogenesis of Septic Shock.

Pathogenesis of Septic Shock.



Date

Haemodynamics

Scenario No 1:- A 60 year old man presented with severe chest pain after doing a long jog. He is also diabetic. He is taken to emergency & a thrombolytic is given.

What is a thrombus?

(Formation of a Blood clot inside the vessels) (Blood)

Name the factors.

Endothelial injury ✓

Abnormal Blood flow. ✓

Hyper-coagulability ✓

Different types of embolisms.

→ Amniotic embolisms.

→ Fat embolisms.

→ Air embolisms.

Scenario 2:- A 20 year old hockey player, fractured his femur, during a game, over next few days in hospital, he developed progressive respiratory problem & died 3 days. Lungs & Brains are almost affected.

Which complication has occurred.

Ans is Fat embolisms.

Pathogenesis:-

• Clinically Acute respiratory distress Syndrome are almost occur.

• There are usually initially the manifestation of FES, typically appearing with 24 hours after the traumatic insult.

→ The result from the injury to the pulmonary capillary endothelium caused by free fatty acid that were hydrolyzed by lipoprotein lipase, releasing the local toxic mediators.

These mediators causing the ↑ the vascular permeabilities, alveolar hemorrhage, edema, & causing respiratory failure & ARDS.

Comparison the red infarct & white infarct

<u>Red infarct</u>	<u>White infarct</u>
--------------------	----------------------

→ Caused by artery or vein occlusion.

→ Observe in soft organs such as a Brain

→ These organs includes the Dual Blood circulate

Apex of lesion is towards the Blood vessels & base towards the surface.

~~fate~~ of embolus - may be a (Blood clot)

→ Caused by arterial occlusion.

→ Observe in a Solid organ such as a heart, Kidney & spleen.

→ includes Single Blood Supply

Area of a necrosis with hemorrhages Border zone

Embolism
Total Blood Blockage of Blood flow.