



# FINAL CVS TEST BANK

Collected by:  
Shahed Atiyat  
Assel Dhisat  
Ayat Nasr  
Ahmad Yaish

# **Microbiology**

# Lecture 1

1. The most common cause of endocarditis?

- a. Enterococcus
- b. Candida albicans
- c. Salmonella
- d. Viridans streptococci
- e. Brucella

Answer: d

2. Which of the following is the most common cause of infective endocarditis in developing countries?

- a. Staphylococcus aureus
- b. Streptococcus viridans
- c. Fungi
- d. Haemophilus influenzae

Answer: b

3. Infection with subacute infective endocarditis is associated with the following:

- a. Abnormal valves
- b. Congenital deformities
- c. Rheumatic lesions
- d. A&B
- e. All A, B and C

Answer: e

4. Not a predisposing factor for infective endocarditis:

- a. Prosthetic valves
- b. Diabetes
- c. Immunodeficiency

Answer: c

5. Most common cause of acute endocarditis?

- a. S.aureus
- b. S.epidermidis
- c. Aggregatibacter

Answer: a

6. Most common cause of subacute infective endocarditis:

- a. S.pyogenes
- b. Enterococcus
- c. Viridans streptococci

Answer: e

7. Most common cause of endocarditis:

- a. Enterococcus
- b. Candida albicans
- c. Salmonella
- d. Viridans streptococci

Answer: d

8. Someone came with endocarditis, he had new prosthetic valve before 5 years, investigations shows bacteria catalase positive and coagulase negative, which of the following is the cause:

- a. Staph aureus
- b. Staph epidermidis
- c. Staph saprophyticus
- d. Group A sterp

Answer: b

9. True about S. Epidermidis?

Answer: catalase +/coagulase-/ +gram cluster

## Lecture 2

1. Which of the following doesn't transmit by direct contact between persons?

- a. Ebola virus
- b. Lassa virus
- c. Dengue virus
- d. Marburg virus

Answer: c

2. Which of the following Ebola types doesn't cause disease in humans?

- a. Ebola Reston
- b. Ebola Ivory Coast
- c. Ebola Sudan
- d. Ebola Zaire

Answer: a

3. Which of the following is wrong about VHF (Virus Hemorrhagic Fever)?

- a. It causes severe hemorrhage
- b. Hanta virus needs vector to be transmitted

Answer: b

4. The dengue virus, one is correct:

- a. The virus is limited to Karnataka State, India.
- b. A live attenuated vaccine is available for dengue
- c. Infection with one serotype confers immunity only to the infecting serotype
- d. Dengue virus has five serotypes that cause a variety of clinical manifestations.
- e. Is the least prevalent arbovirus in the world.

Answer: c

5. Human-to-human transmission occurs in viral hemorrhagic fevers EXCEPT:

- a. Rift Valley virus
- b. Crimean-Congo hemorrhagic fever

Answer: a

6. All of the following regarding viral hemorrhagic fever are correct EXCEPT:

- a. Hantaviruses, Rift Valley fever and Dengue are not associated with person to-person transmission
- b. Arenaviruses are found in South America and Africa and are transmitted by Arthropods
- c. Yellow fever is associated with 2 types of infectious cycles
- d. Filoviruses cause the most lethal type of hemorrhagic fever
- e. Bleeding occurs frequently and is a common cause of death

Answer: b

7. Wrong about hemorrhagic fever:

- a. Vaccines are available for most viral infections
- b. Passive immunization is a good choice for immunocompromised patients

Answer: a

8. Wrong about Dengue fever:

- a. The vector is *Aedes aegypti*
- b. Incubation period is 3 to 4 weeks
- c. Has 4 serotypes

Answer: b

9. All of the following viruses cause hemorrhagic fever EXCEPT:

- a. Hantaviruses
- b. Bunyaviruses
- c. Polio virus

Answer: c

10. Wrong statement about hemorrhagic fever:

- a. Can be caused by arboviruses and non-arboviruses
- b. Most deaths occur due to severe bleeding

Answer: b

11. Which of the following is associated with nosocomial infection?

- a. Hantaviruses
- b. Dengue fever
- c. Yellow fever
- d. Lassa virus
- e. Ebola virus

Answer: e

12. True about Dengue fever:

- a. DNA genomic
- b. non enveloped
- c. very severe in younger children

Answer: c

13. All of the following have interpersonal transmission except:

Answer: Dengue

14. Which of the following is incorrect about VHF:

Answer: Ribavirin is used for filoviredea.

15. human to human transmission occurs in viral hemorrhagic fevers except :

Answer: Rift Valley virus

16. A heart disease caused by Filovirus:

Answer: Ebola hemorrehgic fever

17. About hemorrhagic fever, wrong statement:

Answer: most deaths occur due to severe bleeding.

18. ebola maximum incubation:

Answer: 21 days

19. Which of the following is incorrect about VHF:

Answer: Ribavirin is used for filoviredea.

20. Which of the following is true about viral endocarditis?

- a. most common in children
- b. fatal in adults
- c. the most common viral cause is echovirus
- d. the most common manifestation is heart failure

Answer:

## Lecture 3

1. Which of the following are known to cause Myocarditis?

- a. Poliovirus
- b. Coxiella burnetti
- c. Diphtheria
- d. T. cruzi
- e. All of the above

Answer: e

2. All of the following regarding coxsackievirus B induced myocarditis are correct EXCEPT?

- a. Occurs mostly in average-aged men
- b. Clinical manifestations appear after 3-2 month of infection
- c. Immune-mediated inflammation is the main cause of pathogenesis
- d. Clinical manifestations vary from person to person
- e. Most cases of infection resolve spontaneously

Answer: b

3. Doesn't cause myocarditis?

- a. Cytomegalovirus
- b. Rubella virus
- c. Measles virus
- d. Coronavirus

Answer: d

4. Which of the following infecting agents is the most common cause of myocarditis?

- a. Poliomyelitis virus
- b. Trypanosoma cruzi
- c. Coxsackievirus
- d. Echovirus
- e. Coxiella burnetii

Answer: c

5. Which of the following is the best method for diagnosis of myocarditis:

- a. Serum titers of IgG



- b. Virus isolation
- c. ELISA
- d. Endomyocardial biopsy
- e. Electrocardiographic monitoring

Answer: d

## Book Questions (Lecture 2)

1. Which of the following descriptions of or statements about Lassa fever is correct?

- a. It is found in eastern Africa
- b. Human-to-human transmission does not occur
- c. It seldom causes death or complications
- d. It occurs from contact with the house rat *Mastomys natalensis*
- e. There is no drug that is effective in treating Lassa fever.

Answer: d

2. Arboviruses are transmitted by bloodsucking arthropods from one vertebrate host to another. Arboviruses are found in the following virus families except which of the following?

- a. Flaviviridae
- b. Bunyaviridae
- c. Arenaviridae

Answer: c

3. A 27-year-old man develops fever, chills, headache, and backache. Four days later he develops a high fever and jaundice. Yellow fever is diagnosed. Which of the following statements concerning yellow fever is correct?

- a. The virus is transmitted by culicine mosquitoes in the urban form of disease
- b. Monkeys in the jungle are a major reservoir of yellow fever virus
- c. Yellow fever often has long-term complications
- d. All infections lead to apparent disease
- e. Ribavirin is specific therapy

Answer: b

4. Regarding the patient in Question 3, yellow fever occurs in which region or regions of the world?

- a. Asia
- b. Africa and South America
- c. North America

- d. Africa and Middle East
- e. Throughout the world

Answer: b

5. African hemorrhagic fevers, Marburg and Ebola, are severe diseases often ending in death. Which of the following is most accurate about Ebola virus?

- a. It is spread by contact with blood or other body fluids
- b. It is transmitted by mosquitoes
- c. It is a flavivirus
- d. It causes infections but no disease in nonhuman primates
- e. It is antigenically related to Lassa fever virus

Answer: a

6. Which of the following groups can be vaccinated routinely with yellow fever vaccine without special safety considerations?

- a. Children younger than 9 months old
- b. Pregnant women
- c. Persons with compromised immune systems
- d. All of the above
- e. None of the above

Answer: e

7. Hantaviruses, which are emerging pathogens in the United States, can be described by which of the following?

- a. They are arenaviruses
- b. They are readily transmitted human to human
- c. They cause influenza-like symptoms followed rapidly by acute respiratory failure
- d. They are acquired by inhalation of aerosols of deer urine
- e. They show a high frequency of antigenic variation

Answer: c

8. Which of the following statements about dengue virus is not true?

- a. It is the most important mosquito-borne viral disease affecting humans.
- b. It is distributed worldwide in tropical regions
- c. It can cause a severe hemorrhagic fever.
- d. There is a single antigenic type.
- e. One form of disease is characterized by increased vascular permeability

Answer: d

9. Which of the following statements about yellow fever is false?

- a. There is no animal reservoir
- b. The name "yellow" comes from the fact that many victims have jaundice
- c. Certain mosquitoes are biological hosts for the causative agent
- d. Outbreaks of the disease could occur in the United States because a suitable vector is present
- e. An attenuated vaccine is widely used to prevent the disease

Answer: a

# Pathology

# Pathology

1- Rheumatic fever is an infection of the heart caused by bacteria, especially Streptococci

a- True

b- False

**B**

Rheumatic fever is not an infection , rather it is : ▪ An immune mediated inflammatory process

▪ Hypersensitivity reaction.

2-Influenza viruses represent the most important pathogens in infective endocarditis

a- True

b- False

**B**

3- Prosthetic heart valves are considered risk factors for infective endocarditis

a- True

b- False

**A**

4- Fever and painful tender joints are common signs and symptoms of Rheumatic fever

a- True

b- False

**A**

5- IV drug usage is a unique risk factor for infective endocarditis of the pulmonary valve

a- True

b- False

**B**

IV drug usage is a risk factor for infective endocarditis of Tricuspid valve

6-Which of the following regarding infective endocarditis is TRUE:

- a. No fever can be seen during infection
- b. Is an auto-immune mediated disease
- c. Acute endocarditis is due to infection with a low virulent microorganism
- d. Can result in the formation of a septic infarct
- e. Recovery is very difficult and most cases end in death

**D**

7-The second most common valve to be affected by rheumatic after mitral is :

- a. Aortic
- b. Pulmonary
- c. Tricuspid
- d. Pulmonary and tricuspid

**A**

8-Subacute endocarditis is often developed by presence of:

- a. Abnormal valves
- b. Congenital deformities
- c. Rheumatic lesions
- d. A&B is correct
- e. All are correct

**E**

9-The microorganism responsible for rheumatic carditis is:

- a. Alpha streptococcus hemolytic group A
- b. Human papilloma virus
- c. Staphylococcus aureus
- d. All of the above

e. None of the above

**E**

10-The most common cause of death in acute rheumatic carditis is :

- a. Serofibrinous pericarditis
- b. Mitral stenosis
- c. Thromboembolism
- d. Valve incompetence
- e. Myocarditis

**E**

11-The cardiac vegetations which fragment and embolize most are due to :

- a. Infective endocarditis
- b. Rheumatic carditis
- c. Systemic lupus erythematosus
- d. Non-bacterial thrombotic endocarditis
- e. Marantic endocarditis

**A**

12-The valve most commonly affected by rheumatic carditis is the :

- a. Pulmonic
- b. Tricuspid
- c. Mitral
- d. Foramen ovale
- e. Aortic

**C**

13-Complications common to prosthetic cardiac valves are the following except:

- a. Malignancy

- b. Thrombi
- c. Infective endocarditis
- d. Structural/mechanical deterioration especially in bioprosthesis
- e. Leaks

**A**

14-The cardiac valve vegetations most frequently embolizing are those of :

- a. Limban sacks
- b. Rheumatic carditis
- c. Marantic
- d. Infective endocarditis
- e. Associated with cancer

**D**

15-All of the following regarding rheumatic heart fever are correct EXCEPT :

- a. Aschoff bodies can be seen in acute rheumatic heart disease
- b. Chronic form of rheumatic heart fever is associated with stenosis
- c. Can affect the pericardium, myocardium or endocardium (including valves)
- d. The most important cause of acquired post-inflammatory valves scarring
- e. It's an infection due to group A –  $\beta$  hemolytic streptococci

**E**

16-The following conform with rheumatic carditis except:

- a. Incidence peaks during childhood
- b. Death in acute rheumatic carditis is most commonly due to mitral stenosis
- c. Considered of immunologic etiology



- d. Antibiotic prevention is possible
- e. All cardiac tissues can be involved

**B**

17-Major cause of death in (acute) Rheumatic Carditis :

- a. Acute Myocarditis

18-An 11 years old girl suffered from acute pharyngitis and died shortly after. Her condition became worse before she died. What will we expect to see in a postmortem sample?

- a. Aschoff bodies (bcz its acute) .

19-The most common congenital valve disease :

- a. Bicuspid aortic valve

20-Not part of major Jones criteria :

- a. Fever

21-Wrong combination :

- a. Aschoff bodies & acute phase of infective endocarditis

22-Most systemic emboli results from :

- a. Acute myocardial infarction.

23- The best term that you would use to describe a "hepatic vascular tumor that has a benign clinical behavior and composed of dilated large vascular spaces" is:

- a. Capillary hemangioma
- b. Pyogenic granuloma
- c. Cavernous hemangioma
- d. Angiosarcoma
- e. Kaposi's sarcoma

**C**

24-A vascular tumor is more likely to be malignant if it shows any of the following features,

EXCEPT:

- a. High degree of Cytological atypia
- b. Contains normal-appearing endothelial cells
- c. Does not form well-organized vessels
- d. Associated with exposure to carcinogens
- e. Locally destructive and metastasize

**B**

# Pharmacology

# Pharmacology:

## Anti-Hypertensives

1. Contraindications to the use of beta blockers include all the following EXCEPT:

- a. Shock.
- b. moderate or severe left ventricular failure.
- c. active airways disease.
- d. Bradycardia.
- e. Hypertension.

Ans: e

2. Nowadays, angiotensin converting enzyme inhibitors are the drugs of choice in the treatment of chronic congestive heart failure. This is because of all the following reasons; EXCEPT:

- a. They decrease the incidence of arrhythmias.
- b. They inhibit bradykinin.
- c. Their continued use is not associated with tolerance.
- d. They retard progression of the disease.
- e. They decrease mortality.

Ans: b

3. Menoxidal causes activation of what ion channel ?

Ans: Potassium

4. A drug that cause gingival hyperplasis ?

Ans: Nifedipine

5. Diuretics decrease BP after 6 weeks due to ?

Ans: Decrease in the PVR

6. Methyl dopa is still used although its old

Ans: Since it can be used during pregnancy

7. Can't be used with beta blockers

Ans: Verapamil (Remember: nondihydropyridines + beta blockers = bradycardia)

8. antihypertensive drug that causes dry cough hyperkalemia allergic skin rash:

Ans: ACE Inhibitors (Remember: "Pril" suffix = ACEIs)

9. an antihypertensive drug that is used currently as treatment for baldness:

ans: minoxidil

10. Drug that given in hypertension iv??

Ans: Nitroprusside

11. A side effect that distinguishes ACEi from ARBs?

a. Hypotension

b. Cough

c. Hyperkalemia

ans: b

12. which of the following cases would be contraindicated for propranolol?

a. Hypertension

b. congestive heart failure

c. angina of effort

d. bronchial asthma

e. almost all cases of tachycardia

ans: d

13. All of the following are side effects of Nifedipine except : (not a past paper Q, but the doctor mentioned it)

a. Hypotension

b. cardiac depression

c. tachycardia

d. headache

e. flushing

ans:b

14- Used in treatment of benign prostate hypertrophy:

Ans: doxazosin

15-false neurotransmitter:

Ans: Guanethidine

16-what drug do you have to take caution with when the patient is diabetic:

Ans: propranolol

17- constipation is the side effect of:

Ans: verapamil

18- This antihypertensive drug is used to stimulate receptors in the brain to decrease peripheral vascular resistance, heart rate and cardiac output:

A) Reserpine

B) Guanethidine

C) Prazosin

D) Clonidine

E) Labetalol

Ans: d

19-After 6-8 weeks of use, the main mechanism for the antihypertensive effect of thiazide diuretics is:

A) Reduction of blood volume

- B) Reduction of peripheral vascular resistance
- C) Reduction of sympathetic nerve activity
- D) Inhibition of aldosterone secretion
- E) Inhibition of angiotensin II production

Ans: b

20-This drug causes Lupus like syndrome with high doses:

- A) Hydralazine
- B) Minoxidil
- C) Diltiazem
- D) Sodium nitroprusside
- E) Diazoxide

Ans: a

21-All of the following are true about ACE inhibitors (Angiotensin convertase enzyme) EXCEPT:

- A) Associated hypokalemia always avoided by giving K supplement
- B) Effective in reducing proteinuria in diabetic patients
- C) Most common bothersome side effect is chronic dry cough
- D) A good first line treatment for a hypertensive diabetic patient
- E) Dose of Enalapril should be adjusted in patients with renal insufficiency

Ans: a

### Lipid-lowering drugs

1) Which of the following lipid-lowering drugs is more effective at increasing HDL and lowering triglycerides

- a) Simvastatin
- b) Fenofibrate

- c) Probucol
- d) All of the above
- e) Cholestyramine

Answer: b

2) the mechanism of action for gemfibrozil (fibrate):

Ans: it increases the lipoprotein lipase activity

3) a patient that uses a statin drug and starts to use Chlestyramine what is the drug-drug reaction resulting:

Ans: Impaired absorption of statin

4) lovastatin mechanism of action:

Ans: inhibits HMG-COA reductase

5) Which drug preferably inhibits the synthesis of cholesterol?

Ans: Statin

6) One of the following increases triglycerides :

- a) Nicotinic acid
- b) Statin
- c) Bile acid sequestrant resins
- d) Colestipol

Answer : d

7) How statins decrease the synthesis of cholesterol:

Ans: Inhibition production of mevalonic acid

8) Drug cause skin rashes and cutaneous vasodilation:

- a. Fibrate
- b. Colestipol
- c. Niacin



d. Statin

answer : c

### Heart failure

1) Which of the following drugs is indicated as first-line therapy and associated with beneficial effects on “cardiac remodeling” in congestive Heart failure?

a. Furosemide

b. Bumetanide

c. Enalapril

d. Carvedilol

e. Hydrochlorothiazide

Answer : d

2) digoxin is used in a patient with congestive heart failure (CHF), it works by exerting a positive effect on

a. Venous return

b. Heart rate

c. Stroke volume

d. Blood pressure

e. Total peripheral resistance

answers : b

3) the treatment of heart failure, beta receptor blockers can be useful. This is probably due to:

a) Decreased sympathetic tone and consequently many of the symptoms of heart failure.

b) Upregulation of beta receptors

c) Decreased incidence of cardiac arrhythmias

- d) Decreased cardiac work
- e) Alleviation of ischemic changes

Answer: b

4) The drug that may provide short-term relief of heart failure symptoms in patients with advanced ventricular dysfunction is:

- a) Isoproterenol.
- b) Norepinephrine.
- c) Dopamine.
- d) Epinephrine.
- e) Terbutaline.

Answer: a

5) The drugs which are useful in the treatment of heart failure and hypertension, can produce hyperkalemia but reduce salt and water retention are:

- a. Angiotensin-converting enzyme inhibitors
- b. Vasodilators
- c. Angiotensin receptor blockers
- d. Digitalis
- e. Beta-blockers

Answer :a

6) When digoxin is used in a patient with congestive heart failure (CHF), it works by exerting a positive effect on

- a. Blood pressure
- b. Heart rate
- c. Stroke volume
- d. Venous return

e.Total peripheral resistance

Answers: b

7) A nonselective beta blocker/alpha-1 blocker indicated in congestive heart failure and hypertension is:

a) Carvedilol.

b) Celiprolol

c) Acebutolol.

d) Nadolol.

e) Esmolol.

Answer : a (I'm still not sure)

8) The old man came to the emergency with low BP and he had acute heart failure:

Ans: Dobtumine

9) Which one is least effective for heart failure?

a) Ca channel blocker

b) Beta antagonist

c) ACEI

d) Beta agonist

e) diuretic

answer: a

10) Beta-blockers in high doses can suppress the heart but in low doses can be used to treat heart failure, that is due to?

a) upregulation of beta receptors

b) decrease sympathetic tone thus heart failure symptoms

c) decrease cardiac work

d) alleviate ischemia

not sure if it's a or b

11) True about beta blockers in treating heart failure

a) decrease SNS

b) upregulation of beta receptors

c) decrease the cardiac output

answer: c

12) The drugs which are useful in the treatment of heart failure and hypertension, can produce hyperkalemia but reduce salt and water retention are:

a) Angiotensin-converting enzyme inhibitors

b) Vasodilators

c) Angiotensin receptor blockers

d) Digitalis

e) Beta-blockers

Answer: a

# Physiology

## Physiology & it's Lab

1-Which of the following is not a local vasodilator?

- a. Endothelin

2-Which of the following is mostly true? (I don't know why the word mostly is here)

- a. A few minutes after removal of the obstruction there will be increased blood flow (the answer is meant to describe reactive hyperemia)
- b. Another option said that reperfusion occurred after an hour.

3- Ligation of the carotid artery proximal to its bifurcation causes\*\*\* :

- a. Increased firing of the baroreceptors, decreased HR, and decreased TPR
- b. Decreased firing of the baroreceptors, increased HR, and increased TPR

Question 3 was also written as: A tie was stretched around the neck proximal to the carotid bifurcation.

Which of the following is true about the subsequent baroreceptor response?

4-Which of the following decreases after chronic blood loss?

- a. ANP

Question 4 was also written as: In a patient with hemorrhage and hypovolemia, the only molecule which does not have high levels is

5-After hemorrhage, which of the following will decrease?

- a. Number of impulses generated by baroreceptors.

6-Which of the following is most probably a cause of high pulse pressure\*\*\* ?

- a. Increased compliance
- b. Decreased compliance

8-Which of the following increase the vascular tone of vessels?

- a. Increased levels of endothelin

9-Which is equal in both systemic and pulmonary circulation?

- a. Afterload
- b. Preload
- c. Blood volume
- d. Stroke work

11-What do baroreceptors not do?

- a. Decrease renin secretion

12-In case of sudden increase in the peripheral pressure, what happens to the afferent impulses from baroreceptors and the effect of the efferent vasoconstrictor?

- a. Increased afferent impulses from baroreceptors, decreased efferent vasoconstrictor effect.

13-In case the diameter of arterioles decreased, what would happen to flow, conductance and resistance?

- a. Decrease, decrease, increase
- b. Decrease, increase, decrease
- c. Increase, decrease, increase
- d. Increase, increase, decrease

15-A woman increased her Na intake by 200% for two months. What decreased?

- a. Plasma renin

16-Increased right atrial pressure will lead to:

- a. Increased sodium loss

18-What factors cause stimulation of peripheral chemoreceptors?

- a. Low O<sub>2</sub>, high CO<sub>2</sub>, low pH

19-Vessel L's volume increased by 10 mL while the change in pressure was 10 mmHg. It's original volume was 100 mL. Vessel S's volume increased by 0.1 mL with the same pressure change. It's original volume was 1 mL. Which of the following is true about vessels L and S?

- a. Compliance of L > Compliance of S. Their distensibility is equal.

20-An old man has a blood pressure of 180/100, A probable cause of his high pulse pressure is:

- a. Decreased arterial compliance

21-Increased tone of arteries and resistance vessels can be due to:

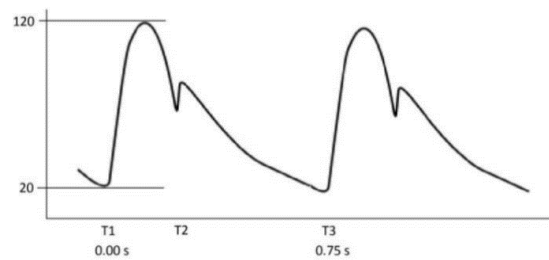
- a. Increased endothelin

23-The following graph represents aortic pressure changes. Which of the following is true?

- a. T1 indicates aortic valve opening.



- b. T2 indicates the first sound of the heart.
- c. This person has an increased afterload.
- d. There is ventricular bradycardia.
- e. This person has aortic regurgitation (incompetence).



24-All of the following regarding turbulence is correct except:

- a. It is associated with the sounds of the closure of heart valves.
- b. Turbulence is associated with more resistance than laminar blood flow.
- c. Turbulence is directly proportional to the cube root of the driving pressure.
- d. It is associated with very high velocity of the blood.
- e. It occurs normally in the aorta and narrowed blood vessels.

25-The major structure that contributes to peripheral resistance is:

- a. Aorta
- b. Arterioles
- c. Vena Cava
- d. Capillaries
- e. Venules

27-Which of the following is true in case of hemorrhage?

- a. Decrease in activation of the vasodilation center and inhibitor vasoconstrictor center.

I believe what the professor meant is that when the blood pressure is low, this will decrease the impulses coming from the baroreceptors. These impulses, which increase during high blood pressure, act to inhibit the vasoconstrictor center. So if these impulses have decreased, then there is less inhibition of the vasoconstrictor center.

28-What doesn't increase peripheral blood flow?

- a. Increase in pH

29-Resistance to laminar flow is:

- a. Inversely proportional to the fourth power of the radius.

30- The angle of an individual's electrical axis is  $119^{\circ}$ . Which lead's angle is closest to this?

- a. aVL
- b. aVR
- c. Lead 2
- d. Lead 3

31-Vagal stimulation would increase:

- a. Contractility
- b. PR interval
- c. Ejection fraction
- d. Stroke work

\*\*\*Any question followed by these asterisks had different answers in the pastpapers. The assumed correct answer was placed in the answer key.

### Answers

1	A	9	C	<del>17</del>	<del>A</del>	25	B
2	A	<del>10</del>	<del>B</del>	18	A	<del>26</del>	<del>A</del>
3	B	11	A	19	A	27	A
4	A	12	A	20	A	28	A
5	A	13	A	21	A	29	A
6	B	<del>14</del>	<del>A</del>	<del>22</del>	<del>A</del>	30	D
7	<del>A</del>	15	A	23	E	31	B
8	A	16	A	24	C	-	-

# Physiology

## Cardiac output and venous return:

1. A disease that results in decreased compliance of veins will result in :

Ans:Rapid increase in MSFP

2. Which is equal in both systemic and pulmonary circulation ?

- a. Afterload
- b. Preload
- c. Blood volume
- d. Stroke work

ans: c

3. Which of the following is true in case of hemorrhage ?

Ans: Decrease in activation of the vasodilation center and inhibitor vasoconstrictor center.

4. Which of the following statements is TRUE concerning cardiac output (co)

- a. CO curve (related Rt. Atrial pressure to CO) is shifted to the right and downward by positive inotropic agents .
- b. CO Increases with decreasing the preload.
- c. CO decreases with elevation of afterload.
- d. CO curve (related Rt. Atrial pressure to CO) is shifted to the right when the intrapleural pressure becomes more negative.
- e. Co of the left ventricle is less than that of the right ventricle.

Ans: c

5. Which of the following is NOT a mechanism to promote venous return and reduce blood pooling?

- a. Parasympathetic stimulation.

- b. Thoraco-abdominal pump.
- c. One way venous valves .
- d. Skeletal muscle pump.
- e. Pumping of the heart.

Ans:a

6. Intravenous infusion of normal saline will shift the venous return curve that relates right atrial pressure to venous return toward:

- a. Downward and to the left .
- b. Will not shift the curve anywhere
- c. Upward and to the right .
- d. Will not change the mean systemic filling pressure but will shift the curve downward.
- e. Will not change the mean systemic filling pressure but will shift the curve upward.

Ans: c

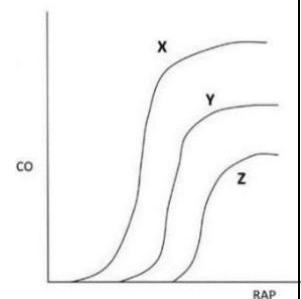
7. Myocardial contractility is increased by the following EXCEPT:

- a. An increase in fiber length.
- b. Calcium ions.
- c. An increase in parasympathetic nervous system activity.
- d. Catecholamines.
- e. Strenuous exercise is undertaken.

Ans: c

8. Which of the following statements regarding the following curve is correct?

- a. curve X is associated with increased parasympathetic stimulation.
- b. curve Z is associated with hypertrophy of the ventricle.
- c. curve X is associated with increased sympathetic stimulation



- d. curve X is associated with decreased preload
- e curve Z is the result of increased stroke volume

ans: c

9.A case that increase venous return:

- a. obstruction of veins
- b. decreased blood volume
- c. anemia

ans:c

10.Preload affects all of the following except:

- a. end systolic volume
- b. end diastolic volume
- c. stroke volume
- d. ejection fraction
- e. cardiac output

ans:a

11.Which of the following is associated with the least increase in oxygen consumption:

- a. increase in left ventricular pressure
- b. aortic stenosis
- c. increase in stroke volume
- d. hypertension
- e.atherosclerosis(decreased compliance)

ans:c

12. Doesn't directly increase venous return:

- a.parasympathetic stimulation

b. pressure difference

c.resistance

ans:a

13.What would increase cardiac output plateau:

a. sympathetic stimulation

b. decreased stroke volume

c. decreased heart rate

ans:a

14.Which of the following increase venous return:

a. sympathetic block

b. parasympathetic stimulation

c. vigorous exercise

ans:c

15.In case of hemorrhage, VR curve will be shifted to:

a. downward to the right

b. downward to the left

c. upward to the left

d. upward to the right

ans:b

16.About CO curve , choose the right answer:

a. positive inotropic agents shift the curve upward

b. when IPP(intraperitoneal pressure) is more negative , the curve is shifted to the right

c. cardiac tamponade will shift the curve upward to the right

ans:a

## Vascular hemodynamics:

1. In case the diameter of arterioles decreased, what would happen to flow, conductance and resistance ?

- a. Decrease, decrease, increase
- b. Decrease, increase, decrease
- c. Increase, decrease, increase
- d. Increase, increase, decrease

ans: a

2. True about pulmonary circulation :

Ans: Mean arterial pressure is one-sixth that of the systemic circulation

3. Vessel L's volume increased by 10 mL while the change in pressure was 10 mmHg. It's original volume was 100 mL. Vessel S's volume increased by 0.1 mL with the same pressure change. It's original volume was 1 mL. Which of the following is true about vessels L and S?

Ans: Compliance of L > Compliance of S. Their distensibility is equal.

4. All of the following regarding turbulence is correct except:

- a. It is associated with the sounds of the closure of heart valves .
- b. Turbulence is associated with more resistance than laminar blood flow .
- c. Turbulence is directly proportional to the cube root of the driving pressure.
- d. It is associated with very high velocity of the blood.
- e. It occurs normally in the aorta and narrowed blood vessels.

Ans: c

5. The major structure that contributes to peripheral resistance is:

- a. Aorta
- b. Arterioles
- c. Vena Cava

d. Capillaries

e. Venules

ans: b

6. Resistance to laminar flow is :

Ans: Inversely proportional to the fourth power of the radius.

7.Highest flow with the same length:

a.pressure (25mmHG) radius (4) viscosity (10)

b. pressure (25mmHG) radius (4) viscosity (4)

ans : b

8.true about decrease in venous compliance:

a.immediate increase in systemic filling pressure

b.due to parasympathetic stimulation

ans: a

9. With fixed atrial pressure,increased cardiac output plateau involves:

a. increased cardiac reserve

b. increased aortic pressure

ans:a



# Embryology

# Embryology

1- transposition of the great artery but the infant alive?

Answer: Patent ductus arteriosus

2- low femoral pressure:

Answer: coarctation

3- Eisenmenger complex -->:

Answer: later becomes cyanotic

4- Which of the following statement is CORRECT regarding septation of the atrium:

A) foramen primum developing is associated with development of the foramen secundum

B) foramen secundum developing is associated with development of the foramen primum

C) fossa ovalis is part of septum secundum

D) annulus ovalis is associated with septum primum

Answer: B

5- A 3-year-old boy presents with cyanosis and shortness of breath that develops when he plays with friends. According to his mother, the boy was born cyanotic. The boy is very small and short for his age, and he squats on the floor next to his mother. Chest radiography reveals a boot-shaped heart, normal heart size, and a right aortic arch. Echocardiography reveals a large ventricular septal defect with an overriding aorta, pulmonary stenosis, and right ventricular hypertrophy. Which of the following is the most likely diagnosis?

A- Coarctation of the aorta

B- Patent ductus arteriosus

C- Rheumatic heart disease

D- Tetralogy of Fallot

E- Transposition of the great vessels

Answer: D

6- Someone has very weak femoral impulses and chest ray shows that ribs have been notched. What is the cause?

- A- SVC obstruction
- B- Aortic coarctation
- C- heart disease

Answer: B

7- Which one of the following is not related to the septum premium?

- a. The valve of foramen ovalis.
- b. Foramen secundum.
- c. Floor of fossa ovalis.
- d. Foramen premium.
- e. Annulus ovalis

Answer: E

8- Which of the following is not related to the development of THE RIGHT VITELLINE VEIN?

- a. The superior mesenteric vein.
- b. The hepatic sinusoids.
- c. The hepatocardiac portion of the inferior vena cava.
- d. The portal vein.
- e. Anterior cardinal vein

Answer: E

9- The last event in conversion of fetal circulation into adult circulation:

Answer: closure of ductus arteriosus due to increase in pulmonary oxygen tension

10- A newborn with transposition of the great vessels, the most likely associated heart abnormality is:

Answer: ventricular septal defect

11- Wrong about fetal circulation:

Answer: all shunt close at birth

12- Wrong about heart x-ray:

Answer: blood flow between aorta and pulmonary trunk stops immediately after birth

It usually closes within  
10-15 hours after birth

13- A child with a shunt between the two ventricles, later in life the shunt is reversed, what is that?

Answer: VSD with pulmonary hypertension

14- Wrong about the development of the heart:

Answer: the smooth part of both ventricles is derived from the distal part of bulbus cordis

15- Wrong about portal vein:

Answer: before its formation, ductus venosus connect between right umbilical and left vitelline veins

16- Wrong statement:

Answer: equal pressure between pulmonary trunk and arch of aorta indicates coarctation of the aorta

17- Which event does not occur at or few hours after birth:

Answer: decrease in systemic vascular resistance

Because: umbilical cord clamping after birth, the systemic vascular resistance increases, helping the blood flow towards the lungs

# Labs

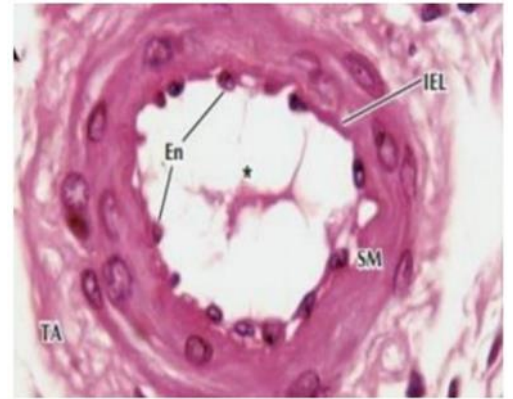
# practical part

## Anatomy

1- This section has been taken from:

- A- Elastic Artery
- B- Muscular artery
- C- arteriole
- D- vein

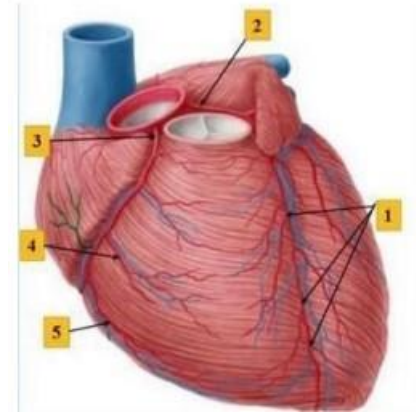
Answer: arterioles



2- -In almost 90% of people the posterior interventricular artery is a branch of .

- a. 5
- b. 1
- c. 3
- d. 4
- e. 2

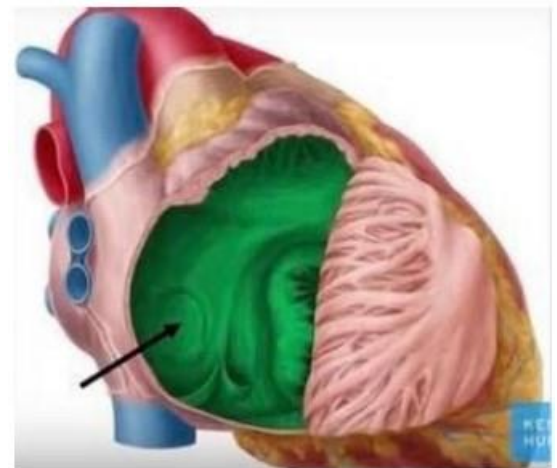
answer: C



3- The pointed structure represents the:

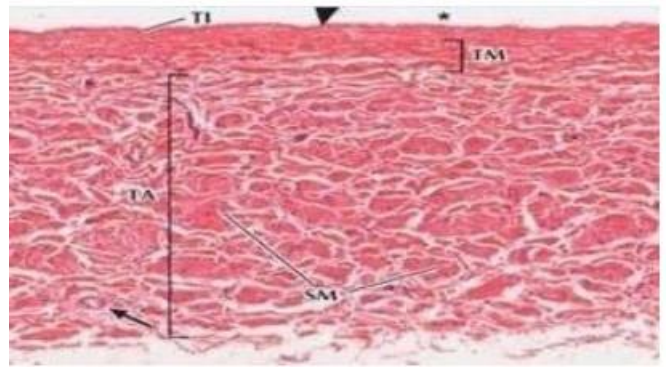
- a. The proximal bulbar septum
- b. Septum primum
- c. The free edge of the septum secundum
- d. The septum spurium
- e. The distal bulbar septum

answer: B



4- This vessel could be ?.

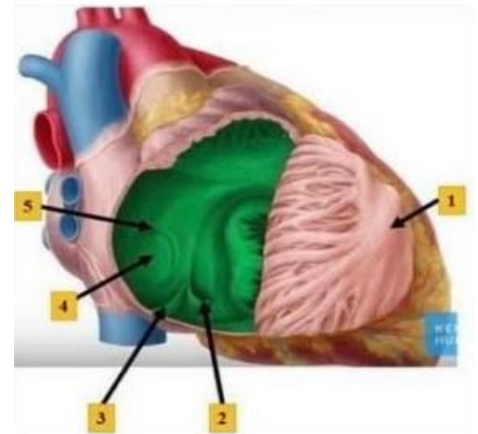
- a. Inferior vena cava
- b. Radial artery
- c. Resistance small artery (arteriole)
- d. Aorta
- e. Femoral artery



answer: A

5- The inferior portion of the right sinuatrial valve develops into ?

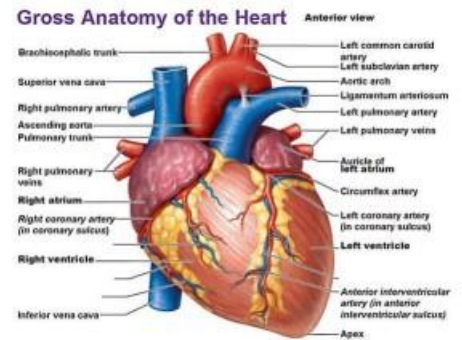
- a. 2, 3
- b. 3, 5
- c. 1, 3
- d. 1, 2
- e. 3, 4



answer:A

6- which of the following get affected more?

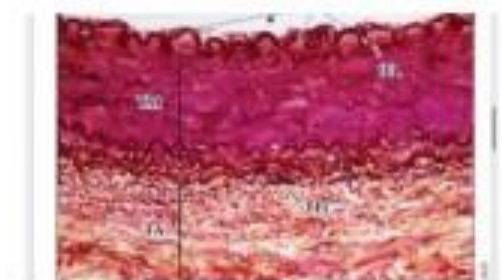
Answer: LAD (left anterior descending artery)



7- superior portion of the right sinoatrial valve .... crista terminalis

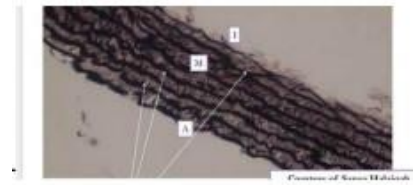
8- the following photo represents?

Answer: Radial artery



9- the following represents?

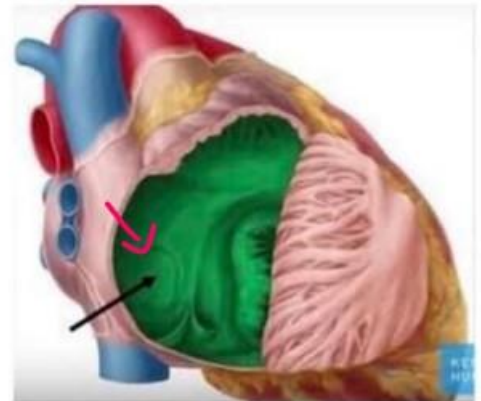
Answer: aorta



10- the pointed structure represent the:

- a. The proximal bulbar septum
- b. septum primum
- c. the free edge of the septum secundum
- d. The septum spurium
- e. the distal bulbar septum

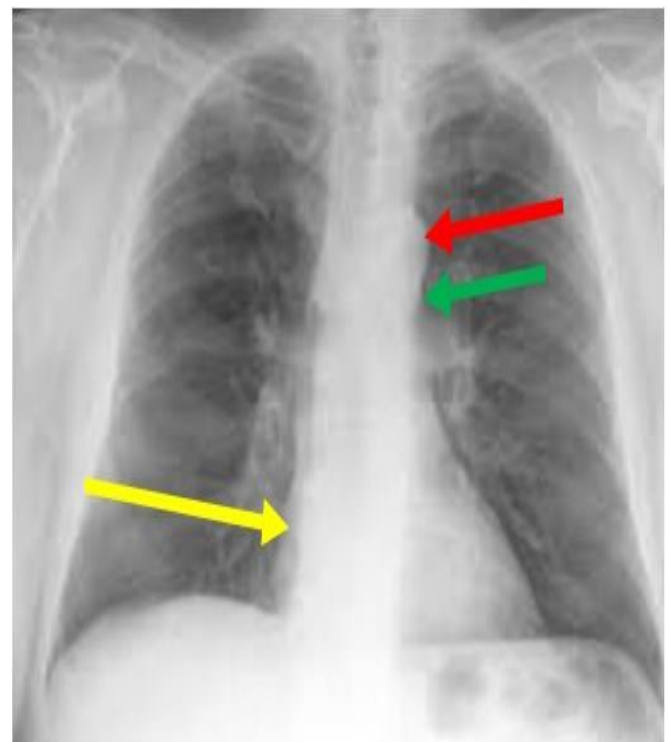
answer: C



11- -On this X-ray, the pointed structure is (red arrow)

- a. Left auricle
- b. Superior vena cava
- c. Aortic knuckle
- d. Left ventricle
- e. Apex of the heart

answer: C



12- The green arrow represents:

- A- Aortic knuckle
- B- Aortic window
- C- descending aorta

Answer: B

13- What is the embryonic origin of the structure indicated by the yellow arrow?

- A- bulbus cordis
- B- Primitive ventricle+ bulbus cordis
- C- Sinus venosus+ primitive atrium
- D- primitive atrium

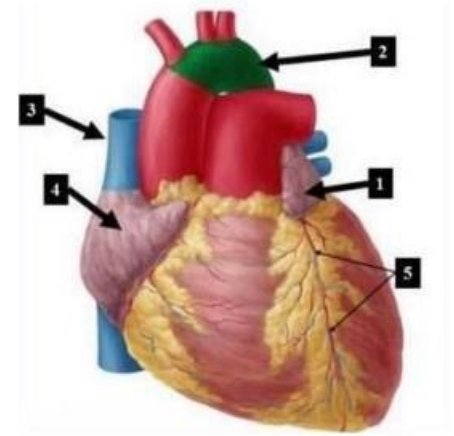
Answer: C



14- Which of the pointed structures originate from primitive atrium .

- a. 2 and 1
- b. 3 and 1
- c. 4 and 3
- d. 1 and 4
- e. 3 and 2

answer: D



15- Which of the following originates from truncus arteriosus? (figure is below)

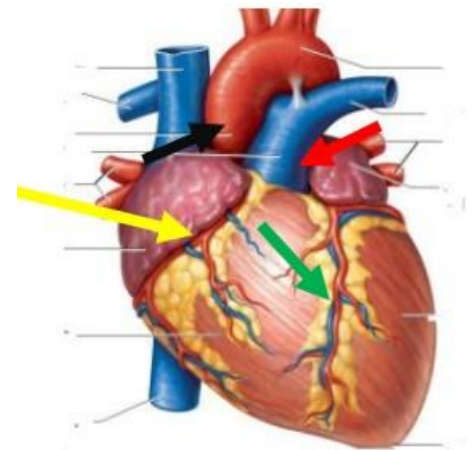
- A- Red and yellow
- B- Red and Green
- C- Red and black

Answer: C

16- Name the artery indicated with yellow arrow

- A- Left main coronary artery
- B- LAD
- C- circumflex artery
- D- Right coronary artery
- E- posterior interventricular artery

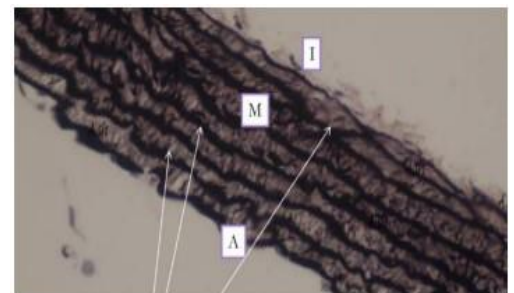
Answer: D



17- Choose the wrong statement

- A- These elastic fibers are made by smooth muscle
- B- They increase with age
- C- These vessels have a role in resistance
- D- These fibers are a prominent feature of arterioles

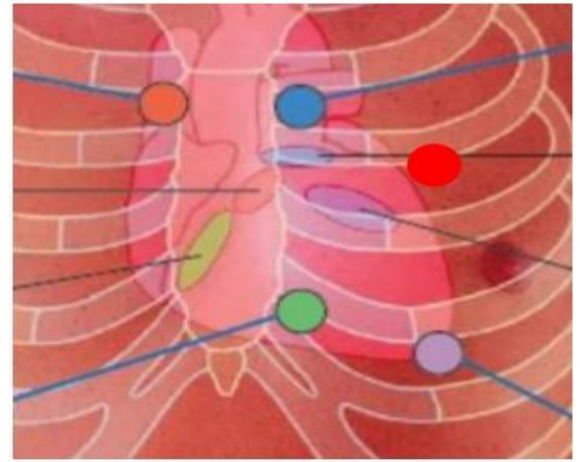
Answer: D



18- At which point would you hear the mitral valve?

- A- Green
- B- Blue
- C- Purple

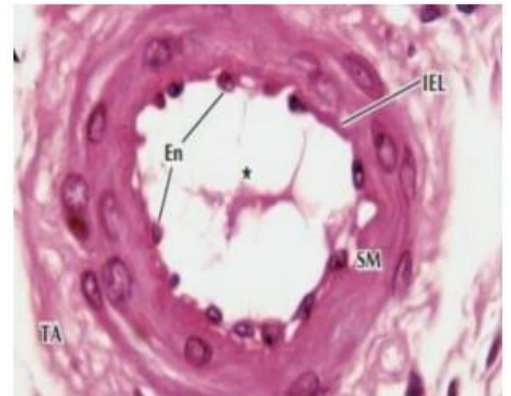
Answer: C



19- This section has been taken from:

- A- Elastic Artery
- B- Muscular artery
- C- arteriole
- D- vein

Answer: C



20- CT scan: which is wrong:

Answer: In Large ventricular septal defect blood flow to the ascending aorta increases

21- A picture of the right atrium pointing at fossa ovale: which is true :

Answer: none(floor is made of septum secundum and the upper margin is from septum primum.)

22- A picture of right atrium pointing at crista terminalis: which is true:

Answer: All (in the embryo it separates the right horn of sinus venosus from the right atrium and at its upper end SA node is found)

23- A picture of left ventricle pointing at the membranous part of the IVS : which is true:

Answer: none (it closes after birth and is related to AV node)

24- A picture of ligamentum arteriosum: which is true:

Answer: if it was left patent the pressure inside the arch of the aorta and the pulmonary trunk would be equal due to right ventricular hypertrophy

## Pathology

1- the white shallows in photo represents?

Answer: Cholesterol crystals



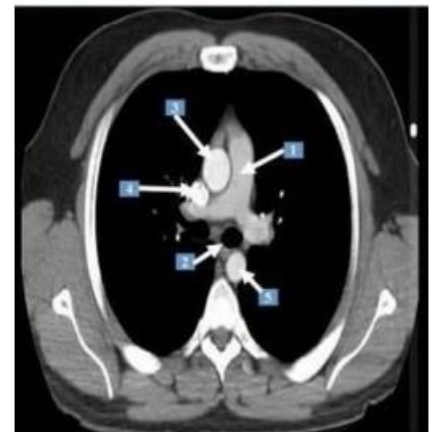
2- when we can find this photo?

Answer: Cardiac tamponade



3- Obstruction of which of the pointed structures can cause raise in JVP ?

- a. 2
- b. 4
- c. 5
- d. 1
- e. 3

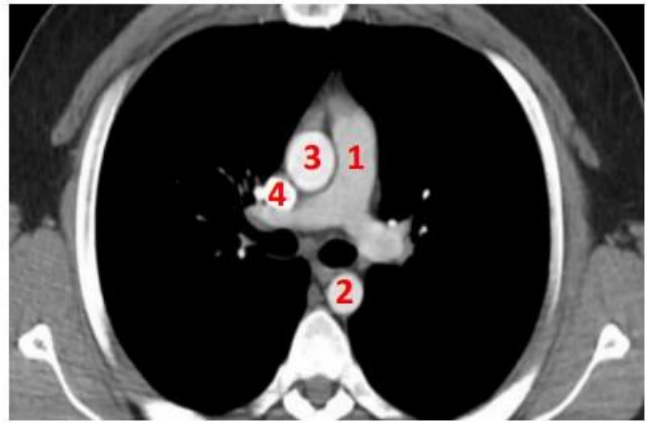


Answer: B

4- Obstruction of which of the following causes pulmonary embolism?

- A- 1
- B- 2
- C- 3
- D-4

Answer: A



5- Arch of aorta is started by .... And ends by ...

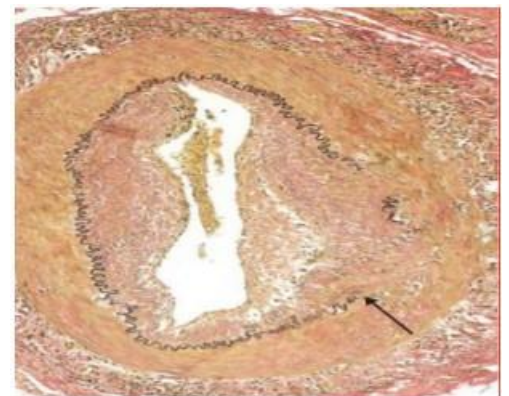
- A- 2,4
- B- 3,1
- C- 3,2

Answer: C

6- This section from temporal artery shows fragmentation of:

- A- Loose connective tissue
- B- Internal elastic lamina
- C- Smooth muscle cells

Answer: B



7- Which one of the following affected by aortic (CT scan) aneurysm?

Answer: Left recurrent

8- the following photo represents?

Answer: Pulmonary embolism



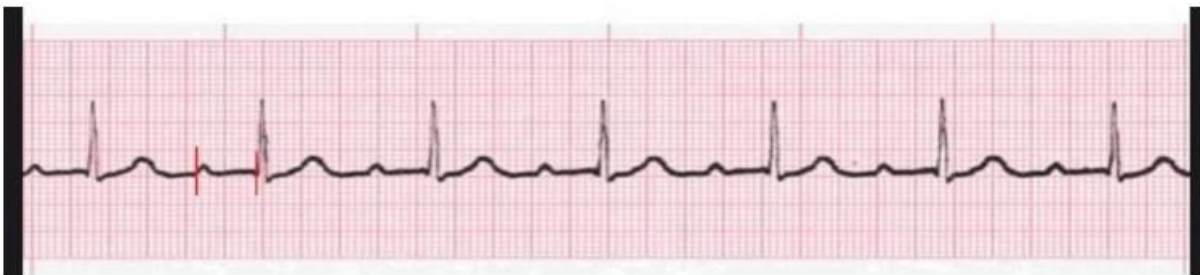
# Physiology

1- the following photo represents?



Answer: Atrial fibrillation

2- the following photo represents?



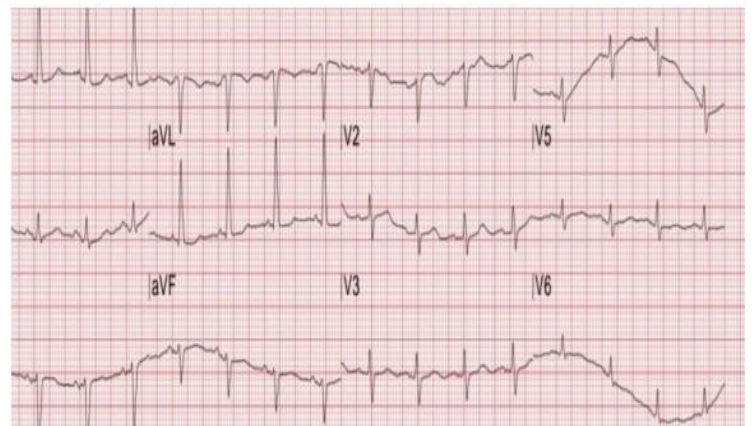
Answer: First degree of heart block.

3- Inversely T wave

4- ECG that shows QRS is mostly 0.12

5- This abnormal ECG could be due to:

- A- Patient is talking while recording the ECG
- B- Patient is wearing or having metal
- C- Phone effect
- D- Loose electrodes

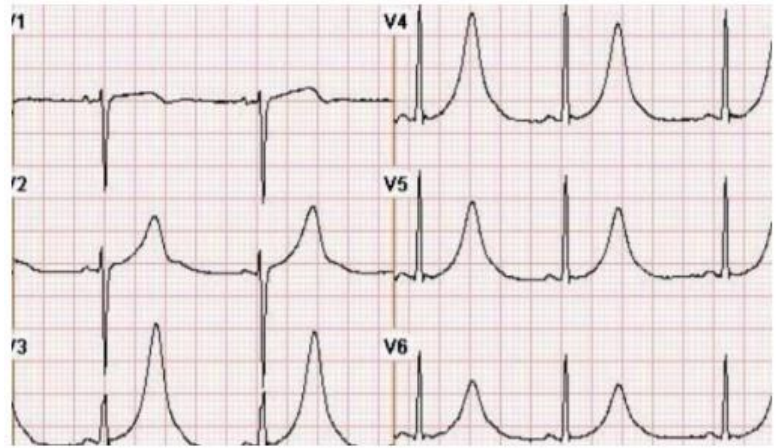


Answer: D

6- which of the following causes this ECG?

- A- Hyperkalemia
- B- Hypokalemia
- C- Ischemia

Answer: A



7- This ECG shows: (all normal callibration and speed)



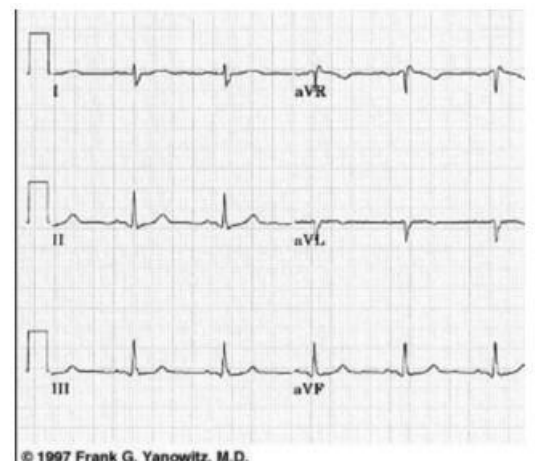
- A- Angina
- B- Third degree heart block
- C- Second degree heart block with conducted beats
- D- Atrial flutter

Answer: C

8- The cardiac axis in this ECG:

- A- has left deviation
- B- is normal
- C- has right deviation
- D- has severe deviation

Answer: B



9- Which of the following is true regarding this ECG?

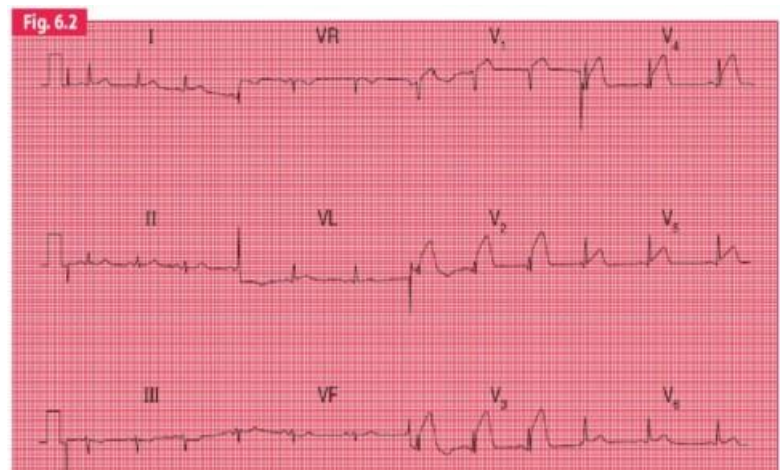
- A- The progression of R wave is abnormal in chest leads
- B- Heart rate is normal
- C- This patient is suffering from arrhythmia
- D- This patient may have a right axis deviation



Answer: B

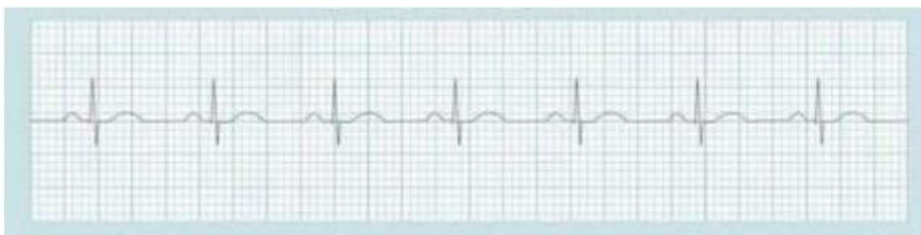
10- This ECG shows:

- A- Acute MI
- B- Atrial flutter
- C- Atrial fibrillation
- D- Sinus tachycardia



Answer: A

11- Study the following ECG strip (Lead II) carefully and choose the correct statement. The strip was recorded with standard speed and calibration:



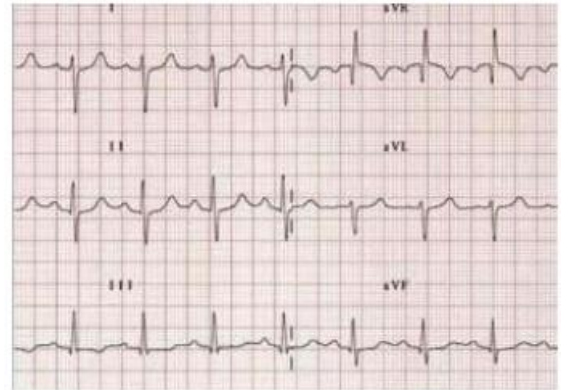
- a. The heart rate is 75 beats per minute .
- b. The PR interval is 0.24 seconds
- c. The ST shown in this ECG is due to myocardial ischemia
- d. The ECG shown above is normal sinus rhythm

e. The QRS duration shown in this ECG is due to left bundle branch block

answer: D

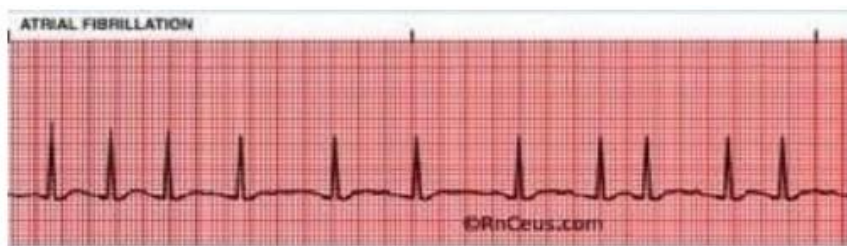
12- This ECG was recorded with standard speed and calibration. It clearly shows :

- a. Sinus bradycardia
- b. Right axis deviation
- c. Left axis deviation.
- d. Peaked and tall T waves
- e. P mitrale



answer: B

13- An ECG was performed for a 60- year-old hypertensive male patient. What



abnormality can be seen in this ECG:

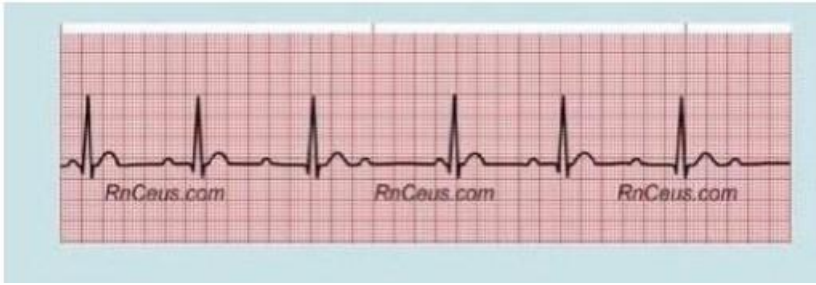
- a. Sinus tachycardia
- b. Ventricular fibrillation
- c. Atrial flutter
- d. Atrial fibrillation
- e. Second degree AV block

answer: D

14- What abnormality can be seen in the following ECG strip which was recorded



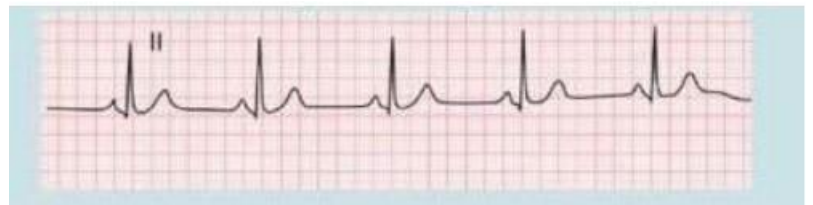
with standard speed and calibration ?



- a. First degree heart block
- b. Second degree heart block
- c. Atrial flutter
- d. Third degree heart block
- e. Normal sinus rhythm

answer: B

15- This ECG was recorded with standard speed and calibration. What's your diagnosis ?



- a. Third degree heart block .
- b. Second degree heart block .
- c. Myocardial ischemia .
- d. Sinus tachycardia .
- e. Sinus bradycardia

Answer: E

16- Which of the following is accompanied with Cardiac arrest

- a. A flat record of the ECG .
- b. The P-R interval is prolonged .
- c. The P wave is enlarged .
- d. The T wave is tall .
- e. Depression of the ST segment

Answer: A