



# MID CVS TEST BANK

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# ANATOMY

# LECTURE 1+2

1-Which one of the following is TRUE about the superior vena cava

- a. The upper half of the vena cava is contained in the pericardium
- b. It terminates at the lower edge of the right second costal cartilage
- c. The azygos joins the anterior aspect of the superior vena cava
- d. It is to the right and lateral to the ascending aorta
- e. It is formed by the union of the two brachiocephalic veins at the lower border of the first left costal cartilage

Ans: D

2-While examining the neck of a patient you have noticed a pulsation between the two heads of the sternocleidomastoid muscle. What could be the cause of this pulsation?

- a. Right-sided heart failure.
- b. Obstruction of the thoracic duct.
- c. Left-sided heart failure.
- d. Obstruction of the brachiocephalic artery.
- e. Compression on the azygos vein in the posterior mediastinum.

Ans: A

3-Which of the following nerves passes on the left (anterior) and right (posterior) side of the arch of the aorta?

- a. Left phrenic nerve.
- b. Left vagus.
- c. Right recurrent laryngeal nerve.
- d. Left recurrent laryngeal nerve.
- e. Right vagus.

In our slides it's mentioned as posterior to the right and inferior (not anterior to the left).

Ans: D

4-Which one of the following is not true about the right and left brachiocephalic veins?

- a. Both found in the superior mediastinum.
- b. The left one is longer and oblique.
- c. Both begin behind the medial end of clavical.
- d. Both receive vertebral and internal thoracic veins.
- e. Both ends at the same level where they form a structure that receives a vein that arches below the right main bronchus.

Ans: E

5-If the patient is positive for Pemberton test and complain from hoarseness of voice, the affected vessel is:

- a. SVC and left recurrent laryngeal nerve.
- b. SVC and right recurrent laryngeal nerve
- c. SVC and esophagus

Ans: A

6-what event doesn't occur at the level of imaginary line:

- a. Beginning and ending of aortic arch
- b. Ending of the ascending aorta
- c. Beginning of descending aorta
- d. Formation of SVC
- e. SVC piercing the pericardium

Ans: D

7-inferior and posterior to the arch of the aorta:

- a. Phrenic nerve

- b. Left recurrent laryngeal nerve
- c. Pulmonary trunk

Ans: B

8-which is wrong:

- a. Azygos vein arches below the pulmonary hilum
- b. The vena azygos joins the posterior aspect of the superior vena cava just before it enters the pericardial sac

Ans: A

9-which is wrong:

- a. Left recurrent nerve passes behind ligamentum arteriosum
- b. Pulmonary trunk is initially anterior then to the right of the ascending aorta

Ans: B

10- wrong about azygos veins:

- a. Formed by union of right ascending lumbar and subcostal veins
- b. It may pass behind the right crus of the diaphragm or pierce it or it may traverse the aortic hiatus to the right of cisterna chyli
- c. At the level of 4<sup>th</sup> thoracic vertebra, it arches forward to the right
- d. It is part of the posterior mediastinum
- e. It ends in SVC after the latter pierces the pericardium

Ans: E

11- someone with lung cancer come to the clinic, he is positive for Pemberton's test, what is the cause?

- a. Obstruction of the right brachiocephalic vein
- b. Obstruction of IVC
- c. Obstruction of subclavian vein
- d. Obstruction of the vein that starts at the lower edge of the right first costal cartilage

Ans: D

12- high JVP (jugular vein pressure) is caused by:

- a. Right heart failure
- b. Aortic aneurysm

Ans: A

13- what are the similarities between the arch of the aorta and the ascending part of the aorta:

- a. The pulmonary bifurcation is under the arch while the right pulmonary artery is anterior to the ascending aorta
- b. Both are located in the same mediastinum
- c. Both are in close relation to the esophagus posteriorly
- d. Both ends at the same plane
- e. The left main bronchus is under the arch of the aorta while the right main bronchus is anterior to the ascending aorta

Ans: D

14- a patient comes to your clinic complaining about hoarseness of the voice, dyspnea and dysphagia. In physical examination, signs of Horner's syndrome were found and Pemberton's test was also positive. Which of the following structures is not involved in the development of the mentioned complaints and findings?

- a. Sympathetic chain in superior mediastinum
- b. Right recurrent laryngeal nerve
- c. Trachea
- d. Superior vena cava before it enters the pericardium

e. Esophagus in the superior mediastinum

Ans: B

Which statement is false :

Descending aorta gives posterior intercostal braches to the lower 5<sup>th</sup> thoracic vertebra

Right side atrium failure has?

Pulsation between the two head of sternocleidomastoid.

Which sentence is true :

Right pulmonary artery lies behind the ascending aorta

The right sentence about azygos vein is:

It ends in the superior vena cava, before the latter pierces the pericardium.

Which is incorrect:

If you insert a needle at the upper manubrium sterni you will pass through aortic arch

Which is true:

Jugular vein is related to the right atrium.

### **LECTURE 3**

1-which is true:

- a. accumulation of excess fluid in pericardial cavity cause cardiac tamponade
- b. the motor nerve of pericardium is phrenic nerve

Ans: A

2- 2 inches penetrating wound in 5<sup>th</sup> intercostal space next to right sternum margin, which structure likely penetrated:

- a. right ventricle
- b. azygos vein

Ans: A

3- chest pain exacerbated by lying back and relieved by leaning forward, the case is:

- a. pericarditis
- b. MI
- c. Hypertension

Ans: A

4- which of the following is posterior to both ascending aorta and pulmonary trunk:

- a. Left main bronchus
- b. Transverse sinus
- c. Left pulmonary artery
- d. Pulmonary veins

Ans: B

5- a surgeon reaches transverse sinus and put a clamp posterior to??

- a. SVC and ascending aorta
- b. Pulmonary trunk and SVC
- c. Pulmonary trunk and ascending aorta



Ans: C

Pericardial pain:

Pain is transmitted through phrenic nerve

Wrong about cardiac pain:

Relieved when leaning backwards.

## LECTURE 4

1-wrong about surface markings of the heart:

- a. Mitral valve auscultation site (apex) is behind cardiac notch
- b. Apex is formed by the inferolateral part of the left ventricle

Ans: A

2-wrong about the apex of the heart:

- a. It is where the sounds of the mitral valve closure are maximal (apex beat)
- b. Cannot be felt because it is covered with the left lung

Ans: B

## LECTURE 5

1-what structure prevent regurgitation of blood?

- a. Chorda tendinea
- b. Pectinate muscle
- c. crista supraventricular

ans: A

2- wrong statement:

- a. atrio-ventricular part of interventricular septum is found below septal cusp of tricuspid valve.
- b. Semilunar valves have no chordae tendinea

Ans: A

3- which is wrong regarding the right atrium:

- a. Posterior is smooth-walled
- b. It is separated by sulcus terminalis interiorly.

Ans: B

4- an idiot surgeon damaged the membranous part of IVS (interventricular septum) during a surgery, which of the following is affected?

- a. SA node
- b. AV node
- c. Bundle of HIS
- d. Bundle branches

Ans: C

5- choose the WRONG match:

- a. The posterior interventricular sulcus.... The middle cardiac vein.
- b. Eustachian valve... the coronary sinus.
- c. Internally, the right atrium is divided by crista terminalis.
- d. The fibrous skeleton of the heart... passage for the AV bundle
- e. Apex of the heart ...5<sup>th</sup> left intercostal space 9 cm from the midline.

Ans: B

Choose the wrong match:

Eustachain valve /superior vena cava

## LECTURE 6

1-which is true:

- a. LBB is supplied by the left and right coronary artery.
- b. RBB is supplied by the right coronary artery.

Ans: A

2-which of the following supplies anterior two thirds of IVS (interventricular septum):

- a. Circumflex artery
- b. LAD
- c. Right coronary artery
- d. Posterior interventricular artery

Ans: B

Which is wrong:

SA node is supplied be RCA in all people

## LECTURE 7

1-someone has MI and comes with chest pain and epigastric pain, the nerve that causes this:

- a. T 7,8,9
- b. T 9,10,11
- c. Phrenic nerve

Ans: A

2- MI patient that has pain in the medial side of his left arm (cutaneous), the nerve that causes this is:

- a. Supraclavicular
- b. Intercostobrachial
- c. Phrenic nerve

Ans: B

Wrong about cardiac pain: (NOT SURE IF INCLUDED)

Relieved when leaning backwards.

### **MORE QUESTIONS NOT DIRECTLY MENTIONED IN OUR LECTURES :**

1-Which cusps is exposed to two blood flows:

Anterior cusps of mitral valve

2-choose the wrong paring:

Vasculitis.... tricuspid valve

3-which sentences is true:

Smooth muscle cell is responsible for synthesis collagen and elastin

4-a tumor in the thoracic part of the esophagus will compress

- a. The left atrium
- b. Right ventricle

Ans: A

5-a tumor at the arch of aorta might compress all the following except:

- a. Thoracic duct
- b. Esophagus
- c. Pulmonary artery

Ans: C

6-which of the following receives blood from both directions (or 2 types of blood):

- a. Anterior cusp of bicuspid valve
- b. Septal cusp of bicuspid valve
- c. Anterior cusp of tricuspid valve
- d. Posterior cusp of tricuspid valve

Ans: A

7-choose the wrong match:

- a. Noduli albini – bicuspid valve
- b. Nodulus Arantii – aortic valve
- c. Aortic curtain – right ventricle
- d. Valsalva – sinuses in semilunar valves

Ans: C

8-from the causes of diastolic murmur choose the right answer:

- a. Stenosis of aortic valve
- b. Incompetence of aortic valve (aortic regurgitation)
- c. Intraventricular septal defect
- d. Stenosis of pulmonary valve
- e. Incompetence of mitral valve (mitral regurgitation)

Ans: B

# PHYSIOLOGY

## LECTURE 1+2 (INTRO +CARDIAC MUSCLE PHYSIOLOGY)

1-What is the change happening when  $\text{Na}^+/\text{K}^+$  ATPase pumps inhibited:

- a. Decreased intercellular  $[\text{Na}^+]$
- b. Increased intercellular  $[\text{K}^+]$
- c. Increased intercellular  $[\text{Ca}^{+2}]$
- d. Increased  $\text{Na}^+/\text{Ca}^{+2}$  exchange

Ans: **C+D (BOTH ARE CORRECT BUT I THINK THE DOCTOR WANTED D)**

2-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

3-Which is true:

- a. Accumulation of excess fluid in pericardial cavity cause cardiac tamponade
- b. The motor nerve of pericardium is phrenic nerve

Ans: A

4-cardiac muscle cell differ from skeletal cell:

- a. Poor in mitochondria
- b. Have more t tubules per sarcomere
- c. Cardiac rest length is less than its optimal

Ans: C

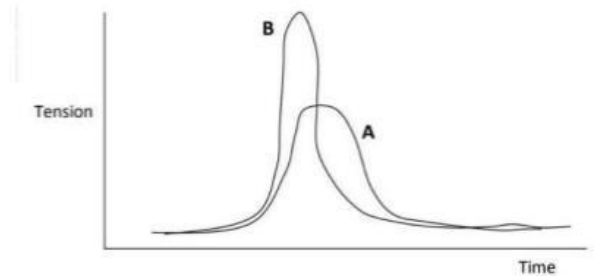
5- all of the following regarding skeletal and cardiac muscles is correct EXCEPT:

- a. Skeletal muscles have more developed sarcoplasmic reticulum
- b. Gap junction are only found in cardiac muscle
- c. Nuclei are much less in skeletal muscles than in cardiac muscles
- d. There are larger and shorter t tubules in skeletal muscles than in cardiac muscles

Ans: C+D

6- which of the following causes the graph to shift from A to B:

- a. Epinephrine
- b. Acidosis
- c. Acetylcholine
- d.  $\text{Ca}^{+2}$  channel blockers
- e. Anticholinergic drug



Ans: A

7- all of the following regarding  $\text{Ca}^{+2}$  regulation in cardiac muscles during both physiological and pathological conditions is correct EXCEPT:

- a. SR  $\text{Ca}^{+2}$ -ATPase pump
- b. Sarcolemmal  $\text{Ca}^{+2}$ - $\text{Na}^{+}$  exchanger
- c. Passive diffusion of calcium to the outside of the cell
- d.  $\text{Ca}^{+2}$ - $\text{Na}^{+}$  exchanger  $\text{Ca}^{+2}$ -ATPase pump
- e. Mitochondrial  $\text{Ca}^{+2}$ - $\text{Na}^{+}$  exchanger

Ans: C

8- what causes decreased heart rate:

- a. Increased sodium permeability



- b. Increased calcium permeability
- c. Increased potassium permeability

Ans: C

## LECTURE 3 (THE CONDUCTION SYSTEM OF THE HEART)

1-during total block to bundle of his what happens:

- a. PR interval stays constant
- b. Ventricles rate becomes 30-40
- c. QRS complex changes in shape

Ans: B

2-the slowest conduction:

- a. SA node
- b. AV node
- c. Ventricle muscle
- d. Purkinje fiber

Ans: B

3-which of the following regarding the diastolic depolarization phase 4 of SA potential is INCORRECT:

- a. Fast depolarization is due to the opening of slow calcium channels
- b. The SA membrane is continuously leaking sodium ions
- c. Slow depolarization occurs more slowly with sympathetic stimulation
- d. Repolarization occurs due to opening of potassium channels
- e. Acetylcholine increases the permeability of the membrane to potassium

Ans: C

4- which one of the following is true regarding SA action potential:

- a. Phase 4 depolarization present in specialized tissue not in atrial and ventricular muscle
- b. Phase 3 is due to calcium influx

Ans: A

5-in an ECG, the heart rate indicated AV pacemaker, the rate would be:

- a. 50 bpm
- b. 80 bpm
- c. 20 bpm

Ans: A

6-sympathetic stimulation can increase contractility by:

- a. Increasing sodium intracellularly
- b. Increasing calcium intracellularly

Ans: B

7-SA node is the normal pacemaker because:

- a. Has higher conduction rate
- b. It has the fastest discharge

Ans: B

8- which is wrong:

- a. SA node is the normal pacemaker
- b. Purkinje fibers lack intercalated discs.

Ans: B

9-when the bundle of His is completely interrupted, the:

- a. Ventricles contract at a rate of 30-40 beats/minute
- b. Atria beat irregularly
- c. SA node stops discharging
- d. P-R interval remains constant from beat to beat
- e. QRS complexes vary in shape from beat to beat

Ans: A

## LECTURE 4-6 (ECG)

1-what is the heart rate when the cardiac cycle duration is 0.6 sec?

- a. 100 bpm
- b. 75 bpm
- c. 90 bpm
- d. 80 bpm

Ans: A

2-the ventricles are completely depolarized during which isoelectric portion of the electrocardiogram (ECG)?

- a. S-T segment
- b. Q-T interval
- c. QRS complex
- d. T wave

Ans: A

3-one has his electrical axis angle 119, which lead's angle is close to this?

- a. aVF
- b. aVF
- c. lead II
- d. lead III

Ans: D

4-in an ECG, lead I is positive, while lead II is negative. What can be deduced from this :

- a. normal mean electrical axis (angle is between 0 and +90)
- b. right axis deviation (angle is between +90 and +180)
- c. left axis deviation (angle is between 0 and -90)
- d. extreme axis deviation (angle between -90 and -180)
- e. data is not enough

ans: C

5-which one of the following is wrong:

- a. QT interval =0.35s
- b. PR interval =0.2s or greater

Ans: B

6-in an ECG, QRS of lead II was high and positive, and in lead aVL it was 0:

- a. Mean axis degree is -30
- b. Mean axis degree is +60

Ans: B

7-vagal stimulation would increase:

- a. PR interval

- b. Contractility
- c. Ejection fraction
- d. Stroke work

Ans: A

8-match 1,2,3 with a,b,c,d,e:

- 1. Cardiac arrest
- 2. Inadequate blood to ventricles
- 3. AV delay
- a. Ventricular fibrillation
- b. ST segment depression
- c. Flat ECG
- d. High voltage QRS on ECG
- e. Long PR interval

Ans: 1.c    2.b    3.e

9-match the following events indicating the order in which they occur starting from the P-wave:

- a. A-V valves close – fourth event
- b. Aortic valve opens – fifth event
- c. Q-wave – second event
- d. Aortic valve closes – first event
- e. T wave – third event

Ans: C

P-R interval:

It is prolonged by the delay caused by the AV node.

## LECTURE 7 (ABNORMALITIES)

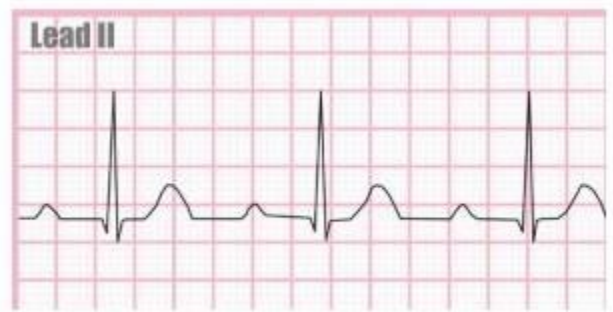
1-a women's ECG has shown a PR interval of 0.3s, with every P wave followed with a QRS and a T wave. If the time from one P wave to the next is 1.2s, what is she suffering from:

- 1<sup>st</sup> degree incomplete heart block
- 2<sup>nd</sup> degree incomplete heart block
- 3<sup>rd</sup> degree complete heart block
- Ventricular bradycardia
- More than one is correct

Ans: E

2- in the ECG reading:

- 1<sup>st</sup> degree heart block
- 2<sup>nd</sup> degree heart block
- 3<sup>rd</sup> degree heart block



Ans: A

## NOT REALLY SURE IF MENTIONED QUESTIONS

3-the ECG is LEAST effective in detecting abnormalities in 3%:

- Cardiac contractility
- Coronary blood flow
- The position of the heart in the chest
- Atrioventricular conduction
- Cardiac rhythm

Ans: A

4-P-R interval is abnormally prolonged in all the following cases EXCEPT:

- a. Sinus bradycardia
- b. A-V nodal rhythm
- c. First degree heart block
- d. High vagal tone
- e. Atrial hypertrophy

Ans: NOT ANSWERED IN PAST BUT I THINK A

## **LECTURE 8 (CARDIAC CYCLE + PART OF CARDIAC OUTPUT)**

1-during which stage does the ventricular volume curve drops sharply?

- a. Early ejection phase
- b. Isovolumetric contraction

Ans: A

2-which phase of ventricular action potential coincides with ventricular diastole:

- a. Phase 0
- b. Phase 2
- c. Phase 3
- d. Phase 4

Ans: D

3-which of the following is true:

- a. C wave occurs when the 1<sup>st</sup> heart sound appears
- b. A wave coincides with closed AV during systole

Ans: A

4-during the reduced ejection phase, which one of the following is true:

- a. Left atrial pressure is falling
- b. Aortic pressure is falling below left ventricular pressure
- c. The AV valves are closed
- d. Left ventricular pressure is constant
- e. QRS complex terminates just before this phase

Ans: C

5-if the ejection fraction increases, there will be decrease in:

- a. End-diastolic volume
- b. End-systolic volume
- c. Systolic pressure
- d. Pulse pressure

Ans: B

6-in the cardiac cycle (beginning with atrial systole) the first heart sound is:

- a. Mitral valve closure
- b. Contraction of the atrium

Ans: A

7-what's equal in both systemic and pulmonary circulation:

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

Ans: B



8-something about cardiac cycle:

- a. We can hear first sound before R
- b. Second sound during QT interval

Ans: B

9-cardiac output is 5600ml/min, ESV= 70ml, HR= 80 bpm, true about this:

- a. SV=150
- b. EF is 50%
- c. EDV is 100ml

Ans: B

10- smallest pressure difference during ventricular ejection is between:

- a. Left atria and left ventricle
- b. Aorta and left ventricle

Ans: B

11- which one of the following statements is wrong:

- a. V-wave right atrial pressure due to filling
- b. First heart sound occurs at the end of isovolumetric contraction

Ans: B

12-CO=7.5, RR=0.6, ESV=50, calculate ejection fraction:

- a. 60%
- b. 70%

- c. Can't be calculated
- d. 75%

Ans: A

13- 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

14- a woman has a cardiac output of 6 L/min, and a heart rate of 75 beats/min. if the left ventricular end systolic volume (LVESV) is 40ml, what is the ejection fraction:

- a. 35%
- b. 58%
- c. 75%
- d. 66%
- e. Can't be calculated

Ans: D

15- which of the following regarding atrial pressure waves is CORRECT:

- a. A wave occurs after ventricular systole
- b. V wave is due to ventricular relaxation
- c. No A wave is present in atrial fibrillation
- d. C wave is due to ventricular relaxation
- e. V occurs due to atrial contraction

Ans: C

16- which of the following takes place during ventricular isovolumetric contraction:

- a. Increase in ventricular blood volume
- b. Aortic pressure decreases

Ans: B

17- dicrotic notch:

- a. 2<sup>nd</sup> heart sound
- b. After P wave immediately

Ans: A

18-a positive inotropic agent would:

- a. Increase contractility and decrease cardiac output
- b. Decrease mean atrial pressure and increase cardiac output

Ans: B

19- if the blood pressure is 110/70, what is correct about cardiac cycle:

- a. Maximal pressure gradient around aortic valve is 70mmHg
- b. Diastolic pressure =110 mmHg

Ans: A

20- wrong about cardiac cycle:

- a. Blood volume remains constant during isovolumic contraction and relaxation
- b. The largest amount of blood in the ventricle is after atrial diastole

Ans: B

21- true about cardiac cycle:

- a. During diastole, a backflow of blood causes incisura in aortic pressure
- b. Atrial diastole takes 0.1s while atrial systole 0.7s

Ans: A

22- which of the following is correct regarding slow ejection:

- a. AV valve is closed
- b. Aortic valve is closed

Ans: A

23- what decreases stroke work:

- a. Decreased afterload
- b. Decreased preload

Ans: B

24- which is related to isovolumic contraction:

- a. C wave
- b. V wave

Ans: A

25- wrong about ventricular filling:

- a. Raises as first sound appears
- b. Is most rapid at first half of diastole

Ans: A

26- which of the following increases A wave of atrial pressure:

- a. Atrial fibrillation
- b. Tricuspid valve stenosis
- c. Mitral valve opening
- d. Ventricular fibrillation

Ans: B

27- according to frank starling, CO has a direct relation with?

- a. ESV
- b. Muscle length
- c. EDV

Ans: C

28- someone who has an atrial pressure of 105/75, which of the following is true about his cardiac cycle:

- a. Diastolic pressure of his left atrium =75
- b. The highest-pressure gradient around mitral valve =105

Ans: B

29- isovolumic contraction:

- a. Both entry and exit are closed
- b. Volume increased

Ans: A

30- if you know the following data: CO measured by thermal dilution was 8 liters per minute, time of the cardiac cycle is 0.75 second. ESV is 50ml, then the ejection fraction is?

- a. 80%
- b. 67%
- c. 150 ml
- d. 100 ml
- e. 75%

Ans: B

31- during the reduced ejection phase, which one of the following is TRUE:

- a. Aortic pressure is falling below left ventricular pressure
- b. Left ventricular pressure is constant
- c. Left atrial pressure is falling
- d. The A-V valves are closed
- e. The QRS complex terminates just before this phase

Ans: D

32- in the central venous pressure waveform:

- a. The V wave is caused by atrial contraction
- b. The V wave occurs during ventricular systole
- c. The A wave is absent in atrial fibrillation
- d. The A wave occurs after ventricular systole
- e. The C wave corresponds with closure of the aortic valve

Ans: C

33-in ventricular filling phase, it:

- a. Consumes much energy by ventricles
- b. Gives rise to a second heart sound
- c. Is much decreased during severe cardiac tamponade
- d. Begins during isometric relaxation phase
- e. Depends mainly on atrial contraction

Ans: C

34- first heart sound occurs in:

- a. Isometric relaxation phase
- b. Atrial systole phase
- c. Diastasis
- d. Rapid filling phase
- e. Isometric (isovolumic) contraction phase

Ans: E

35- in the normal cardiac cycle:

- a. The duration of the QRS complex depends on the heart rate
- b. The period of ventricular systole is almost equal to the Q-T interval
- c. The R-R interval should not vary at all
- d. Ejection occurs throughout systole
- e. The PR interval is more than 0.22 sec

Ans: B

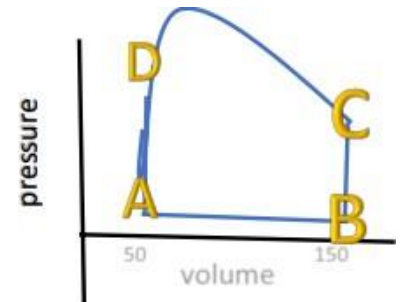
Ventricular pressure is higher than atrial pressure in:

Isovolumic contraction

## LECTURE 9 (CONT. OF CARDIAC OUTPUT)

1-if we take inotropic drugs, what are the changes in the curve below?

- A-D line will shift to the left
- A-D line will shift to the right
- c-D line will shift to up



ans: A

2- if the duration of one cardiac cycle is 0.6 sec, based on the curve above, the cardiac output in ml/min is:

- 10000
- 2000
- 1500

Ans: A

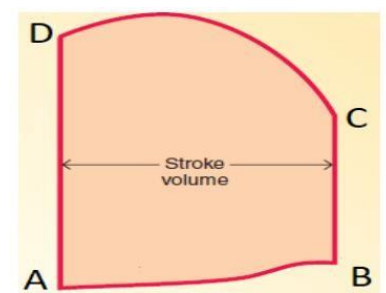
3-ejection fraction in the previous question is:

- Normal
- Hyperactivity (more than normal)
- Under the normal

Ans: A

4-in a woman with heart rate of 80 and a volume-pressure plot in the picture, the second heart sound occurs at:

- At point A
- At point B
- At point C





d. At point D

Ans: D

5-about CO curve, choose the right answer: **(mentioned in sheet 10 from 018 sheets)**

- a. Positive inotropic agents shift the curve upward
- b. When IPP (intrapleural pressure) is more negative, the curve is shifted to the right
- c. Cardiac tamponade will shift the curve upward to the right

Ans: A

6-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

## **ADDITIONAL MIXED QUESTIONS (NOT SURE IF INCLUDED IN THE LECTURES)**

1-mean systemic filling pressure increase in:

- a. Decreased resistance
- b. Decreased blood volume
- c. Sympathetic stimulation

Ans: C

2-sinus arrhythmia:

- a. Causes prolonged Q-T interval

- b. Causes prolonged R-R interval
- c. Decrease with effort
- d. Increase with exercise
- e. Increase with hypertrophy of the heart

Ans: B

3-the major structure that contributes to peripheral resistance is:

- a. Aorta
- b. Vena cava
- c. Capillaries
- d. Venules
- e. arterioles

ans: E

4-which of the following is associated with least increase in oxygen consumption:

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

ans: C

5-doesn't directly increase venous return:

- a. parasympathetic stimulation
- b. pressure difference
- c. resistance

ans: A

6-which of the following increases venous return (VR):

- a. sympathetic block
- b. parasympathetic stimulation
- c. vigorous exercise

ans: C

# PATHOLOGY

## LECTURE 1

- 1- About the histology of the blood vessels choose the WRONG statement:
- a. Tunica adventitia contains vasa vasorum
  - b. Tunica intima's main cells can secrete endothelin
  - c. Tunica adventitia contains parasympathetic nerves that secrete ATP and norepinephrine.
  - d. Tunica media contains cells which can greatly influence the contractility of blood vessels.
  - e. Tunica media contains cells that can synthesize collagen and elastin.

Ans: C

- 2-The term 'vegetations' refers to a formation at:
- a. Lumen of aorta
  - b. Deep leg veins
  - c. Canula insertion site
  - d. Cardiac valves
  - e. Coronary artery

Ans: D

- 3-Resolution is the fate that may occur in ONE of the following:
- a. Stable atheroma
  - b. Old thrombus
  - c. Recent thrombus
  - d. Old infarct
  - e. Vulnerable atheroma

Ans: C

4-Vegetation means:

- a. Thrombi on heart valve
- b. Thrombi in heart chambers
- c. Fat deposit on the wall vessels
- d. Hardening of vessels

Ans: A

5-Organization means:

- a. Accumulation of additional platelets and fibrin that obstruct the vessel
- b. Removing thrombi using fibrolytic mechanisms
- c. Ingrowth of endothelial cells, smooth muscle cells and fibroblasts into fibrin rich thrombus
- d. Fragmentation of thrombi and transport elsewhere in the vasculature

Ans: C

6-Which of the following is wrong:

- a. Basal state of endothelial cells causes thrombosis
- b. Thrombosis occurs when unnecessary blood clotting inhibitors
- c. Turbulent flow retards inflow of clotting inhibitors
- d. Multiple small emboli within pulmonary are asymptomatic

Ans: A

7-All of the following matches regarding thrombosis are correct EXCEPT:

- a. Endothelial cell Injury: arterial thrombi
- b. Stasis: venous thrombi
- c. The propagating part: the adherent part of the thrombus
- d. Hypercoagulability: immobilization (bed-rest)
- e. Recanalization: can establish some degree of blood flow

Ans: C

8-what type of thrombus that get resolution:

- a. Recently formed thrombus

- b. One week formed thrombus
- c. Organized thrombus

Ans: A

9-all of the following are associated with stasis EXCEPT:

- a. Disrupts normal blood flow
- b. Mostly caused venous thrombi
- c. Allows the dilution of activated clotting factors
- d. Prevents the inflow of clotting factor inhibitors
- e. Promotes endothelial cell injury

Ans: C

10-which of the following is wrong:

- a. Basal state of endothelial cells causes thrombosis
- b. Thrombosis occurs when unnecessary blood clotting is activated
- c. Turbulent flow retards inflow of clotting inhibitors
- d. Multiple small emboli within pulmonary are asymptomatic

Ans: A

## LECTURE 2

1-the red infarction happens in:

- a. Kidney
- b. Spleen
- c. Lung
- d. Skeletal muscle

Ans: C

2-not a cause of pulmonary embolism:

- a. Saddle thrombus
- b. Varicose veins

Ans: B

3-cassion disease is caused by:

- a. Thromboembolism
- b. Nitrogen embolus
- c. Saddle embolus
- d. Amniotic fluid embolus
- e. Fat embolus

Ans: B

4-systemic thromboembolism:

- a. Pulmonary artery
- b. Femoral artery

Ans: B (in the sheet A but in the past B so not sure)

5-the most common cause of pulmonary thromboembolism:

- a. Thromboembolism
- b. Fat embolism
- c. Air embolism
- d. Nitrogen embolism
- e. Cholesterol embolism

Ans: A

6-all of the following regarding pulmonary thromboembolism are true EXCEPT:

- a. Arises in most of the cases from deep vein thrombosis of the lower limb
- b. Organization is seen in most of the cases
- c. Saddle embolus is an embolus that occurs in the arch of the aorta
- d. Pulmonary hemorrhage occurs when medium sized arteries are obstructed
- e. Paradoxical embolus can pass into the systemic circulation due to ventricular septal defect

Ans: C

7-the major target of systemic thromboembolism:

- a. Brain
- b. Lower limbs
- c. Intestine
- d. Kidney
- e. Spleen

Ans: B

8-not an organ that can have a white infarct:

- a. Brain
- b. Liver

Ans: A

9-relations which is incorrect:

- a. Mural aortic thrombus >stasis
- b. Paradoxical embolism >atrial dilation

Ans: A

10-the most frequent emboli are:

- a. Fat emboli
- b. Amniotic fluid
- c. Air emboli
- d. Of thrombotic origin
- e. Atherosclerotic

Ans: D

11-which of the following is wrong:

- a. Paradoxical embolus means saddle shaped thrombi obstruct the pulmonary bifurcation
- b. Lines of Zahn indicate antimortem thrombi
- c. DVT is main cause of pulmonary thrombus
- d. Immobilization causes secondary hypercoagulability

Ans: A

12-wrong about amniotic fluid embolism:

- a. Presence of Luongo hair within mother pulmonary circulation
- b. Cause ARDS and DIC
- c. Cause cassion disease
- d. Highly mortality
- e. Mainly appears in the venous side

Ans: C



13-wrong about fat embolism:

- a. Symptoms need 1-3 days after injury to appear
- b. It causes anemia and thrombocytopenia
- c. Fat globules cause toxic injury
- d. May be due to acute pancreatitis
- e. Fat embolism syndrome occurs in 90% of tibia injury cases

Ans: E

14-all of the following are examples of red infarcts, except:

- a. Small intestinal infarct
- b. Renal infarct
- c. Reperfused spleen infarct
- d. Pulmonary infarct
- e. Liver infarct

Ans: B

15-ONE is correct about fat embolism:

- a. Frequently follows complicated Caesarian sections
- b. Represents the most common type of emboli
- c. Anemia and thrombocytopenia may occur in associated syndrome
- d. Fat along with epithelial cells and mucus are found within the embolus
- e. Dissolved nitrogen is the major contributor to symptoms

Ans: C

Decompression sickness:

Air embolus

All most commonly a source of embolus to lower limb except:

DVT

Which is wrong:

Coagulation necrosis in the brain is a result of ischemic injury

Which sentences is true:

Fat embolism/Thrombocytopenia

## LECTURE 3

1-patient who go through procedure that is used to treat breast cancer, which include removal of the tumor and breast tissue in addition to ipsilateral axillary lymph node, he will absolutely suffer from:

- a. Secondary lymphedema
- b. Primary lymphedema

Ans: A

2-common cause of acute lymphangitis:

- a. Streptococcus pyogenes
- b. Staph. Aureus

Ans: A

3-varicose veins are associated with all of the following EXCEPT:

- a. Superficial veins of the upper limb
- b. Increase in intra-luminal pressure
- c. Venous wall thinning and loss of support
- d. Chronic varicose ulcers
- e. Congestion and swelling

Ans: A

4-varicose veins choose the correct answer:

- a. Hypertension is a major risk factor
- b. More in males
- c. Chronic skin ulcers are a complication
- d. Embolism is common

Ans: C

5-women has mastectomy for carcinoma and removed axillary lymph nodes, complain of edema in the arm, she has:

- a. Chylous
- b. Lymphedema

Ans: B

6-lymphadenitis refers to which one of the following definitions:

- a. Inflamed, swollen, and tender draining lymph nodes
- b. Dilated and tortuous subcutaneous vessels
- c. Lymph accumulation in pleural cavity
- d. Bacterial infection and inflammation of lymph vessels
- e. Absence of lymphatics in a certain organ or tissue

Ans: A

## LECTURE 4

1-it isn't a major factor of atherosclerosis:

- a. Stable atheroma
- b. Hypertension
- c. Diabetic patient

Ans: A

2-what is the main feature of necrotic center:

- a. Smooth muscle cell
- b. Cholesterol crystal

Ans: B

3-doesn't cause obstruction and ischemia of downstream tissues:

- a. Thrombus
- b. Monckberg's sclerosis

Ans: B

4-not a risk factor for atherosclerosis:

- a. Hypertension
- b. Increasing age
- c. Obesity

Ans: C

5-all are true regarding monckeberg medial calcific sclerosis EXCEPT:

- a. Affects muscular arteries
- b. Occurs mostly in children

- c. Radiologically visible on x-ray
- d. Doesn't encroach on the vessel lumen
- e. Not significant

Ans: B

6-all are true regarding atherosclerosis EXCEPT:

- a. Consists of a soft necrotic center surrounded by a white fibrous cap
- b. Due to formation of an atheromatous plaque in the vessel's intima
- c. Hyperlipidemia is a major non-modifiable risk factor
- d. The lower abdominal aorta is mostly affected
- e. Premenopausal women are protected more than their counterpart aged men

Ans: C

7-all of the following may complicate advanced atherosclerosis, except:

- a. Arterial rupture
- b. Aneurysm formation
- c. Varicosities formation
- d. Distal infarction
- e. Superimposed thrombus

Ans: C

Not implicated in atherosclerosis development:

Automimmune response

## LECTURE 5

1-necrotizing arteriolitis is characteristic of:

- a. Malignant hypertension
- b. Varicosities

Ans: A

2-all of the following regarding hypertensive vascular disease are true EXCEPT:

- a. Benign hypertension constitutes almost 95% of the cases
- b. Renal disease is the most common cause of secondary hypertension
- c. Hyperplastic arteriosclerosis is associated with severe hypertension

- d. Hyaline arteriosclerosis can occur in people with diabetes mellitus
- e. Malignant hypertension is associated with 50% of the cases

Ans: E

3-choose the correct answer:

- a. Malignant hypertension >with cancer metastasis
- b. Hyaline arteriosclerosis >normo-tensive
- c. Hyperplastic arteriosclerosis >diabetes essential hypertension is about 5%

Ans: B

4-among the following, the most likely underlying cause of malignant hypertension is:

- a. Chronic hepatic disease
- b. A hidden malignancy in the lung
- c. Adrenal insufficiency syndrome
- d. Uncontrolled chronic hypertension
- e. Protein losing enteropathy

Ans: D

5-onion skin appearance of the arteriole results from:

- a. Cholesterol crystals accumulation
- b. Neutrophils and edema filling the inflamed vessel
- c. Alternating platelet-rich and red blood cell-rich layers
- d. Reduplication of basement membrane
- e. Deposition of hyaline material in the wall

Ans: D

6-the most common cause of aortic dissection:

- a. Hypertension
- b. Connective tissue disorders
- c. Hypotension
- d. Hypercholesterolemia
- e. Obesity

Ans: A

Wrong:

Malignant hypertension; Monckeberg's arteriosclerosis

Wrong statement:

Hyperplastic glomerulonephritis is associated with benign hypertension

Major risk factor for aortic dissection is:

Hypertension

## LECTURE 6

1-wrong about aortic aneurysm and aortic dissection:

- a. Hypertension is the most common cause for aortic dissection
- b. Atherosclerotic aneurysm occurs more in men <50 years
- c. Marfan syndrome is the most common CT disorder for aortic dissection
- d. Syphilitic aneurysm is associated with obliterative end-arteritis
- e. Mycotic aneurysm is an infection of a major artery

Ans: B

2-regarding abdominal aortic aneurysm, all are correct EXCEPT:

- a. Occurs mostly in men and above 50 years of old
- b. Marfan syndrome is one of its causes
- c. Bacteremia from salmonella gastroenteritis could be one of the causes
- d. Occurs in infra-renal level of abdominal aorta
- e. Syphilitic aneurysms are the most common cause nowadays

Ans: E

3-aneurysms are most commonly due to:

- a. Aging
- b. Syphilis
- c. Atherosclerosis
- d. Systemic hypertension
- e. Inflammation

Ans: C

4-the following conform with aortic dissection, except:

- a. More common at distal than proximal segment of the arch

- b. More frequent in hypertensives than normotensives
- c. Atherosclerosis has little or no influence in its production
- d. Might be confused with MI clinically
- e. Pregnant ladies are more at risk of its development

Ans: A

5-one is correct regarding vascular dissection:

- a. Dissection don't result in hypotensive shock as blood remains inside the vascular system
- b. Dissection rarely develop at sites of arterial aneurysms
- c. Superior and inferior vena cava are the main affected vessels
- d. Diabetes mellitus is the major risk factor for aortic dissections
- e. Proximal aortic dissections are more life threatening than isolated descending aortic dissections

Ans: E

6-one of the following is correct regarding aneurysms:

- a. Ehlers-Danlos syndrome causes aneurysms by defective fibrillin
- b. Aneurysms are disorders that only involve arteries
- c. Abdominal aortic aneurysms maybe related to weak aortic media
- d. False aneurysms and dissection are interchangeable terms
- e. Chancre of primary syphilis may lead to aortic aneurysms

Ans: C

7-post-MI ventricular wall rupture is an example of:

- a. False aneurysm
- b. Saccular aneurysm
- c. Fusiform aneurysm
- d. True aneurysm regardless of the morphology

Ans: A

8-marfan syndrome can cause:

- a. Aortic aneurysm
- b. Aortic dissection
- c. Valvular stenosis
- d. A+B

Ans: D

An old man complains of chest and lower back pain. He has a history of chronic hypertension. His ECG was normal, blood pressure 70/50 mmHg and upon auscultation, aortic regurgitation could be heard. What do we expect this man to have?

Aortic dissection

Choose the wrong pairing:

Mycotic infection/ syphilitic aortitis

The marfan syndrome is strongly associated with:

Aortic dissection

Mycotic aneurysm:

Has microbes in it

Not a true aneurysm:

Hemorrhage of renal graft

Which is wrong:

Aortic dissection is most common in pregnant ladies

True about syphilitic aortic aneurysm:

Histological feature is obliterative end-arteritis

## LECTURE 7

1-diminished oxygen-carrying capacity of the blood represents the most frequent mechanism of cardiac ischemia

- a. True
- b. False

Ans: B

2-angina pectoris is defined as ischemia that causes pain but is insufficient to lead to death of myocardium

- a. True
- b. False



Ans: A

3-Stable angina pectoris is also known as crescendo angina

- a. True
- b. False

Ans: B

4-the following statements conform with angina pectoris except:

- a. Prinzmetal is usually associated with elevated ST segment of ECG
- b. Stable angina is relieved by rest
- c. Unstable angina is considered a pre-infarction
- d. Typical angina is produced mainly on rest
- e. Variant angina is due to vasospasm

Ans: D

5-stable angina has the following characters except:

- a. Appears with increased demand for blood
- b. Associated with depressed ST segment of ECG
- c. Basically there is fixed coronary narrowing by atherosclerosis
- d. Usually of a short period
- e. Being the least common

Ans: E

6-angina pectoris that occurs more frequently and of progressively longer period than other is:

- a. Crescendo
- b. Stable
- c. Variant
- d. Prinzmetal
- e. Effort angina

Ans: A

7-a man who suffer from chest pain and breathlessness after climbing the stairs to the 3<sup>rd</sup> floor, he has:

- a. Stable angina
- b. Prinzmetal angina
- c. Unstable angina

d. Myocardial infarction

Ans: A

8-all of the following regarding ischemic heart disease are correct EXCEPT:

- a. Associated with a severe substernal pain that can radiate to the left arm
- b. Variant angina is associated with coronary artery vasospasm
- c. Stable angina is also known as pre-infarction angina
- d. Chronic IHD is usually associated with arrhythmias
- e. Typical angina can be relieved by rest and nitroglycerin

Ans: C

9-all of the following would mostly lead to unstable angina EXCEPT:

- a. Partially occlusive thrombus
- b. Complete coronary obstruction
- c. Stenosis with superimposed spasm
- d. Distal embolus formation
- e. Atheromatous plaque rupture

Ans: B

Which of the following mostly to proceed to MI?

Unstable angina

Not one of the clinical forms of IHD:

Endarteritis obliterans

Wrong pair:

Atherosclerotic plaque rupture/ Prinzmetal angina

## LECTURE 8

1-36 hours following acute myocardial infarction, the infarct site reveals a dense neutrophil infiltrate

- a. True
- b. False

Ans: A

2-overall, non-atherosclerotic causes of sudden cardiac death are more frequent than atherosclerotic causes:

- a. True
- b. False

Ans: B

3-regarding myocardial infarction, all are correct EXCEPT:

- a. Most cases of pre-hospital deaths are due to lethal arrhythmias
- b. Troponin I and T are the best indicators for MI
- c. 40-50% of cases are due to occlusion of the circumflex artery
- d. Coagulative necrosis and wavy fibers are seen within 24 hours of injury
- e. Most cases of in-hospital deaths are due cardiogenic shock

Ans: C

4-a 67 years old man with a history of hypertension was sent home 4 days after an MI. he returned to his normal activities, but died suddenly the next day. We expect to see:

- a. Arrhythmia
- b. Myocardial rupture
- c. Ventricular aneurysm

Ans: B

5-all of these factors modify the location and extent of MI, except:

- a. Patient's cardiovascular status
- b. Sex of the patient
- c. Vasospasm
- d. Duration of occlusion
- e. Collaterals

Ans: B

6-in the right coronary dominant patients, the most frequent coronary artery occlusion causing MI is:

- a. Left main stem
- b. Right main stem
- c. Left circumflex
- d. Left anterior descending

e. Right posterior descending

Ans: D

7-serum creatine kinase determination in cardiac infarction conforms with the following, except:

- a. Appears in 2-4 hours
- b. Does not elevate with angina pectoris
- c. Peaks in 24 hours
- d. Considered highly specific
- e. Disappears in 3 days

Ans: D

8-the heart specific enzyme/ protein serum elevation indicative of myocardial infarction is:

- a. Lactic dehydrogenase
- b. Creative kinase index
- c. Troponin I
- d. Troponin T

\*\*Ans: C

9-all of the following are complications of myocardial infarction EXCEPT:

- a. Papillary muscle rupture causing acute mitral regurgitation
- b. Free wall rupture
- c. Early pericarditis
- d. Cardiogenic shock
- e. Acute aortic regurgitation

Ans: E

10-at the site of a myocardial infarction, phagocytic macrophages are most abundant in which of the following time zones from infarct onset:

- a. After 6 weeks
- b. Within the first 2 days
- c. After 3 weeks
- d. Within first 24 hours
- e. By the end of first week

Ans: E

11-one of the following is considered a late complication that may occur months after acute myocardial infarction:

- a. Infarct expansion
- b. Papillary muscle rupture
- c. Fibrinous pericarditis
- d. Ventricular aneurysm
- e. Cardiogenic shock

Ans: D

12-papillary muscle rupture can lead to:

- a. Aortic regurgitation
- b. Mitral stenosis
- c. Mitral regurgitation
- d. Aortic stenosis

Ans: C

Late complications of MI:  
Ventricular aneurysm

Masked MI in:  
Peripheral neuropathy

The most common congenital valve disease:  
Bicuspid aortic valve

Which of the following is a major risk factor of MI:  
Smoking

Up to 50% of all MI are due to occlusion of:  
Left anterior descending artery

Wrong complication of MI:  
Papillary muscle rupture/ severe aortic regurgitation

Wrong combination:  
Post-MI pericarditis/ staph aureus infection

# **PHARMACOLOGY**

**1. Which of the following beta blockers is B1 selective and has nitric oxide potentiating vasodilatory effects:**

- A) esmolol
- B) carvedilol
- C) Labetalol
- D) Nebivolol
- D) Atenolol

Ans:D

**2. ,All the following drugs has more than one mechanism of action EXCEPT for one of them choose the drug that has only one mechanism of action:**

- A) Quinidine
- B) Flecainide
- C) Sotalol
- D) Amiodarone
- E) Verapamil

Ans:E

**3. ,Most antiarrhythmic drugs which prolong the QT interval could be pro arrhythmic. However the following drug will not precipitate TdP**

- A) Quinidine
- B) Flecainide
- C) Sotalol
- D) Amiodarone
- E) Verapamil

Ans: E

**4. A 58 year-old women is being treated for chronic suppression of ventricular arrhythmia, after two months of therapy, she complained about feeling tired most of the time, Laboratory tests indicated low thyroxine and elevated thyroid-stimulating hormone levels, which of the following drugs is the likely cause:**

- A) Amiodarone
- B) Bretylium
- C) Propranolol
- D) Quinidine
- E) verapamil

Ans:A

**4. All of the following drugs can be used effectively to terminate attacks of supraventricular tachycardia EXCEPT:**

- A) Lidocaine
- B) Cardioversion
- C) Adenosine
- D) verapamil
- E) Quinidine

Ans:A

**5. The antiarrhythmic drug which is least cardiotoxic, given only IV, doesn't increase the QT interval and acts selectively on ischemic areas is:**

- A) Quinidine
- B) Xylcaine or Lidocaine
- C) Procainamide
- D) Propranolol
- E) Amiodarone

Ans:B

**6. All of the following antiarrhythmic drugs can be useful in the management of digitalis induced arrhythmias EXCEPT:**

- A) Quinidine
- B) Lidocaine
- C) Phenyoin
- D) Magnesium
- E) Potassium salts

Ans:A

**7. supraventricular tachycardia may be safely treated by the following**

- A) Qunidine
- B) Carotid massage
- C) Adenosine
- D) Verapamil
- E) All of the above

Ans:E

**8. A drug that is not proved to decrease mortality**



- A) Digitalis
- B) Metoprolol
- C) Propranolol
- D) Enalapril

Ans: A

**9. Matched correctly**

- A) Amiodarone – calcium channel blocker
- B) Lidocaine - sodium channel blocker
- C) Procainamide – potassium channel blocker

Ans: B

**10. Hypothyroidism is a side effect of which drug**

- A) Quinidine
- B) Procainamide
- C) Amiodarone
- D) Lidocaine

Ans: C

**11. Digoxin**

- A) Increase intracellular cAMP
- B) Increase intracellular Ca
- C) Increase myocardial O<sub>2</sub> consumption

Ans: B

**11. Undesirable effect of B-blocker**

- A) Increases ejection time
- B) Decreases myocardial O<sub>2</sub> consumption
- C) Resensitization of B-receptors

Ans: A

**12. Which is true**

Digoxin should be taken 1-6 hrs from intake of bile acid binding resins to avoid interference of its absorption

**13. Hypokalemia increases the risk of**

digoxin

**14. Digitalis still better for chronic congestive heart failure compared to other positive inotropic agents because it**

Decreases oxygen consumption MvO<sub>2</sub>

**15. patient will suffer from hypertension and proximal supraventricular tachycardia, best medicine to prescribe is**

A) Lidocaine

B) Verapamil

C) Amiodarone

D) Propranolol

Ans: A

**16. the best drug of choice to emergencies hypertension with tachycardia**

Ans: esmolol

**17. Wrong about Calcium channel blockers**

Ans: Highly selective

**18. Beta blockers are contraindicated in**

Vasospastic angina: Ans

**19. Choose the wrong statement about antiarrhythmic drugs:**

Readily bind to rested channels

**20. Drugs that isn't effective in an atrial arrhythmia?**

A) Lidocaine

B) Verapamil

C) Amiodarone

D) Propranolol

Answer: a

**21. TdP is characterized by all the following, except:**

A)Potassium can aggravate the condition.

B)alleviated by B blockers and magnesium

C)treated by giving isoproterenol

D)Long QT interval

Answer:a

## **22. mechanism of many antiarrhythmic drugs:**

Ans: act by changing unidirectional block to bidirectional drug.

## **23.matched correctly:**

Lidocaine-sodium channel blocker

## **24. A beta blocker that has short half-life and used for intraoperative and postoperative hypertension:**

Answer: esmolol

## **25. Amiodarone is a very useful wide spectrum antiarrhythmic drug with a multitude of possible mechanisms of action. The one mechanism which can explain most of its activity:**

- a. Na<sup>+</sup> channel blocking action.
- b. Ca<sup>++</sup> channel blocking.
- c. Beta and alpha receptor blocking actions .
- d. K<sup>+</sup> channel blocking action .
- e. Alteration of lipid membrane permeability

answer:e

## **26. Antiarrhythmic drugs :**

- a. Of ten cause an increase in cardiac output
- b. Are equally useful in atrial and ventricular arrhythmias

- c. All affect Na<sup>+</sup> channels in the cell membrane
- d. Many act by converting unidirectional block to bi- directional block
- e. As a group, they have mild side effects

Answer:d

**27. The following is NOT effective in the termination of attacks of supraventricular tachycardia :**

- a. Carotid massage .
- b. Quinidine.
- c. Adenosine.
- d. Verapamil .
- e. Lidocaine

answer:e

**28. Usually, antiarrhythmic drugs are toxic because they can suppress the heart. The antiarrhythmic drug that is safe in cases of heart failure and will be effective in treating both ventricular and supraventricular arrhythmias is :**

- a. Amiodarone.
- b. Propranolol
- c. Quinidine.
- d. Mexiletin.
- e. Verapamil.

Answer:a

**29. All of the following antiarrhythmic drugs can be useful in the management of digitalis induced arrhythmias EXCEPT**

- A) Quinidine
- B) Lidocaine
- C) Phenyoin

- D) Magnesium
- E) Potassium salts

Answer:a

**30. supraventricular tachycardia may be safely treated by the following**

- A) QUINIDINE
- B) Carotid massage
- C) Adenosine
- D) Verapamil
- E) All of the above

Answer:e

**31. The antiarrhythmic drug which is least cardiotoxic, given only IV, doesn't increase the QTinterval and acts selectively on ischemic areas is**

- A) Quinidine
- B) Xylcaine or Lidocaine
- C) Procainamide
- D) Propranolol
- E) Amiodarone

Answer:b

**32. All of the following drugs can be used effectively to terminate attacks of supraventricular tachycardia EXCEPT**

- A) Lidocaine
- B) Cardioversion
- C) Adenosine
- D) verapamil
- E) Quinidine

Answer:a