CARDIOVASCULAR MCQS

Practice

1. At which of the following levels does the base of the heart lie?
    A. T2, T3, T4.
    B. T5, T6, T7.
    C. L1, L2, L3.
    D. C5, C6, C7.

2. Which of the following does NOT open into the right atrium?
    A. Coronary sinus.
    B. Inferior vena cava.
    C. Pulmonary orifice.
    D. Right atrioventricular orifice.

3. The apex of the heart is formed by:
    A. Right atrium.
    B. Right ventricle.
    C. Left atrium.
    D. Left ventricle.

4. The heart is supplied by the cardiac nervous plexus which is composed of:
    A. Phrenic and Vagus nerves.
    B. Vagus and sympathetic trunk.
    C. Phrenic and Thoracic ganglia.
    D. Phrenic and Cervical ganglia.

5. Which of the following supplies the apex of the heart?
    A. Anterior intraventricular coronary artery.
    B. Right conus artery.
    C. Posterior interventricular artery.
    D. Left conus artery.

6. Blockade of which of the following will cause ischemia of the infundibulum?
    A. Anterior interventricular artery.
    B. Right conus artery.
    C. Posterior interventricular artery.
    D. Left conus artery.

7. If the right coronary artery is blocked, which of the following will NOT be affected?
    A. Sinoatrial node.
    B. Atrioventricular node.
    C. Right bundle branch.
    D. Left bundle branch.

8. Anterior cardiac veins drain into?
    A. Coronary sinus.
    B. Right atrium.
    C. Right ventricle.
    D. Left atrium.

9. At which level does the common carotid divide?
    A. Level between C2 and C3.
    B. Level between C3 and C4.
    C. Level between C5 and C6.
    D. Non-is correct.

10. Which of the following is NOT supplied by the CIRCLE OF WILLS?
    A. Nose.
    B. Eyes.
    C. Brain.
    D. Pharynx.

11. Which of the following of these is a main branch of the subclavian artery?
    A. Vertebral artery.
    B. Occipital artery.
    C. Internal thoracic artery.
    D. A and C.

12. Which of the following is true about arteries?
    A. They don't have elastic walls.
    B. They contain valves.
    C. They always carry oxygenated blood.
    D. The flow of blood through them depends on the pumping action of the heart.

13. Which one of the following veins can be used in coronary artery bypass?
    A. Small saphenous vein.
    B. Hepatic veins.
    C. Renal veins.
    D. Great saphenous vein.

14. Which of the following factors have no effect on blood return?
    A. GI motility.
    B. Respiratory pump.
    C. Muscle contraction.
    D. Gravity.

15. Which of the following veins carry oxygenated blood?
    A. Pulmonary veins.
    B. Umbilical veins.
    C. Cephalic veins.
    D. A and B.

16. Which of the following nerves accompany the great saphenous vein in the medial side of the leg.
    A. Sural nerve.
    B. Sciatic nerve.
    C. Saphenous nerve.
    D. Tibial nerve.

17. Which of the following will grow faster than the other regions?
    A. Bulbus cordis and common atrium.
    B. Bulbus cordis and common ventricle.
    C. Common atrium.
    D. Pulmonary trunk.

18. Umblical vein which drains into the sinus venosis originate from?
    A. Placenta.
    B. Fetal body.
    C. Yolk sac.
    D. Septum.

19. Rough part of left and right atrium derived from.
    A. Common primordial atrium.
    B. Right horn.
    C. Absorbed pulmonary vein.
    D. Left horn.

20. Which septum divides the common atrium.
    A. Septum intermedium.
    B. Septum secundum.
    C. Septum primum.
    D. Yolk sac.

21. Purkinje fibers are found in:
    A. Endocardium.
    B. Epicardium.
    C. Myocardium.
    D. All of them.

22. Coronary vessels are found in:
    A. Endocardium.
    B. Epicardium.
    C. Myocardium.
    D. All of them.

23. What's the type of epithelium found in endothelium and mesothelium?
    A. Simple cuboidal epithelium.
    B. Simple columnar epithelium.
    C. Simple squamous epithelium.
    D. All of them.

24. Vasa vasorum are small arterioles found in:
    A. T. Adventitia and outer T.Media.
    B. T.Media only.
    C. T.Intima.
    D. None of them.

25. The internal elastic lamina found in elastic arteries is:
    A. Prominent.
    B. Not prominent.
    C. None of them.
    D. Both.

26. Which of the following contains sinusoidal capillaries?
    A. Pulmonary capillaries.
    B. Endocrine glands.
    C. Red bone marrow.
    D. Hepatic circulation.

27. The distribution of fenestrated blood capillaries without diaphragm?
    A. Intestine.
    B. Pancreas.
    C. Renal glomerulus.
    D. Iris.

28. The core of valves is covered by:
    A. Endocardium.
    B. Pericardium.
    C. Myocardium.
    D. Smooth muscle.

29. In which phase of ventricular muscle action potential is the potassium permeability the highest.
    A. 0.
    B. 1.
    C. 2.
    D. 3.

30. Which of the following are caused by acetylcholine?
    A. Hyperpolarization of SA node.
    B. Depolarization of AV node.
    C. Decrease permeability of the SA node to potassium ions.
    D. Increased heart rate.

31. Which of the following best explains how sympathetic stimulation affect the heart?
    A. Permeability of the SA node to sodium decreases.
    B. Permeability of the AV node to sodium decreases.
    C. Permeability of the SA node to potassium increases.
    D. There is an increased rate of upward drift to the resting membrane potential of the SA node.

32. Which of the following structures will have the slowest rate of conduction of the cardiac action potential?
    A. Atrial muscle.
    B. Anterior intermodal pathway.
    C. AV bundle.
    D. Purkinje fibers.

33. If the Purkinje fibers, situated distal to the AV junction, become the pacemaker of the heart. What is the expected heart rate?
    A. 30/min.
    B. 50/min.
    C. 60/min.
    D. 70/min.

34. Which of the following phases of cardiac cycle follows immediately after the beginning of the QRS wave?
    A. Isovolumic relaxation.
    B. Ventricular ejection.
    C. Atrial systole.
    D. Isovolumic contraction.

35. When recording lead I on an ECG, the right arm is the negative electrode, and the positive electrode is:
    A. Left arm.
    B. Left leg.
    C. Right leg.
    D. Left arm 1 left leg.

36. When recording lead aVL on ECG, the positive electrode is the:
    A. Left arm.
    B. Left leg.
    C. Right leg.
    D. Left arm 1 left leg.

37. When recording lead II on an ECG, the positive electrode is the:
    A. Left arm.
    B. Left leg.
    C. Right leg.
    D. Left arm 1 left leg.

38. When recording lead III on an ECG, the negative electrode is the:
    A. Left arm.
    B. Left leg.
    C. Right leg.
    D. Left arm 1 left leg.

39. A 50-year-old man has a blood pressure of 140/85 and weighs 98 kg. He reports that he is not feeling well, his ECG has NO P-waves, he has a heart rate of 46/min, and the QRS complexes occurs regularly. What is his likely condition?
    A. 1st degree heart block.
    B. 2nd degree heart block.
    C. 3rd degree heart block.
    D. Sinoatrial heart block.

40. Circus movement in the ventricle can lead to ventricular fibrillation. Which of the following condition in the ventricular muscle will increase the tendency for circus movements?
    A. Decreased refractory period.
    B. Low extracellular potassium concentration.
    C. Increased refractory period.
    D. Shorter conduction pathway (decreased ventricular volume).

41. Which of the following is most characteristic of atrial fibrillation?
    A. Occurs less frequently in patients with atrial enlargement.
    B. Ventricular heart rate is about 40 beats per min.
    C. Efficiency of ventricular pumping is decreased 20 to 30 percent.
    D. Ventricular beat is regular.

42. Which of the following decreases the risk of ventricular fibrillation?
    A. Dilated heart.
    B. Increased ventricular refractory period.
    C. Decreased electrical conduction velocity.
    D. Exposure of the heart to 60-cycle alternating current.

43. A 55-year-old man has been diagnosed with Stokes-Adam syndrome. Two minutes after the syndrome starts active blockade of the cardiac impulse, which of the following is the pacemaker of the heart?
    A. Sinus node.
    B. AV node.
    C. Purkinje fibers.
    D. Cardiac septum.

44. Which of the following heart murmurs is heard during systole?
    A. Aortic valve regurgitation.
    B. Pulmonary valve regurgitation.
    C. Tricuspid valve stenosis.
    D. Patent ductus arteriosus.

45. An increase in left atrial pressure is most likely to occur in which of the following heart murmurs?
    A. Tricuspid stenosis.
    B. Pulmonary valve regurgitation.
    C. Mitral regurgitation.
    D. Aortic valve regurgitation.

46. Which of the following is associated with the 1st heart sound?
    A. In-rushing of blood into the ventricles due to atrial contraction.
    B. Closing of AV valves.
    C. Closing of pulmonary valve.
    D. Opening of AV valves.

47. Which of the following heart murmurs is only during diastole?
    A. patent ductus arteriosus.
    B. Mitral regurgitation.
    C. Tricuspid valve stenosis.
    D. Interventricular septal defect.

48. Which of the following is associated with the 3rd heart sound?
    A. In-rushing of blood into the ventricles due to atrial contraction.
    B. Closing of the AV valves.
    C. Closing of the pulmonary valve.
    D. In-rushing of blood into the ventricles in the early to middle part of diastole.

49. Which of the following conditions at the AV node will cause a decrease in heart rate?
    A. Increased sodium permeability.
    B. Decreased acetylcholine levels.
    C. Increased acetylcholine levels.
    D. Increased potassium permeability.

50. Sympathetic stimulation of the heart normally causes which of the following?
    A. Acetylcholine release at the sympathetic ending.
    B. Decrease heart rate.
    C. Decrease rate of conduction of the cardiac impulses.
    D. Increase force of contraction of the ventricles.

51. Excess production of which of the following would most likely result in chronic hypertension?
    A. Atrial natriuretic peptides.
    B. Prostacyclin.
    C. Angiotensin II.
    D. Nitric oxide.

52. When pheochromocytoma (tumor of the adrenal medulla) suddenly discharge a massive amount of epinephrine into the circulation, the patient's heart rate would be expected to:
    A. Increase, because the increase in blood pressure stimulates the carotid and aortic baroreceptors.
    B. Increase, because epinephrine has a direct chronotropic effect.
    C. Increase, because of increased tonic parasympathetic discharge of the heart.
    D. Decrease, because the increase in blood pressure stimulates the carotid and aortic chemoreceptors.

53. Activation of the baroreceptors reflex:
    A. Is primarily involved in short-term regulation of systemic blood pressure.
    B. Leads to an increase in heart rate because of inhibition of the vagal cardiac motor neurons.
    C. Inhibits neurons in the CVLM.
    D. Excites neurons in the RVLM.

54. Which of the following does not dilate arterioles in the skin?
    A. Increased body temperature.
    B. Epinephrine.
    C. Bradykinin.
    D. Vasopressin.

55. Renin is secreted by:
    A. Cells in the macula densa.
    B. Cells in the proximal tubules.
    C. Cells in the distal tubules.
    D. Juxtaglomerular cells.

56. Which of the following conditions normally accompanies acute unilateral right heart failure?
    A. Increased right atrial pressure.
    B. Increased left atrial pressure.
    C. Increased urinary output.
    D. Increased cardiac output.

57. Which of the following substances in plasma is the major factor that contributes to plasma colloid osmotic pressure?
    A. Sodium chloride.
    B. Glucose.
    C. Albumin.
    D. Cholesterol.

58. Which of the following vessels has the greatest total cross-sectional area in the circulatory system?
    A. Aorta.
    B. Small arteries.
    C. Capillaries.
    D. Venules.

59. Which of the following pressures is normally negative in a muscle capillary bed in the lower extremities?
    A. Plasma colloid osmotic pressure.
    B. Capillary hydrostatic pressure.
    C. Interstitial hydrostatic pressure.
    D. Interstitial colloid osmotic pressure.

60. A 30-year-old man has an ejection of 0.25 and an end systole volume of 150 ml. what is his end-diastolic volume?
    A. 50 ml.
    B. 100 ml.
    C. 125 ml.
    D. 200 ml.

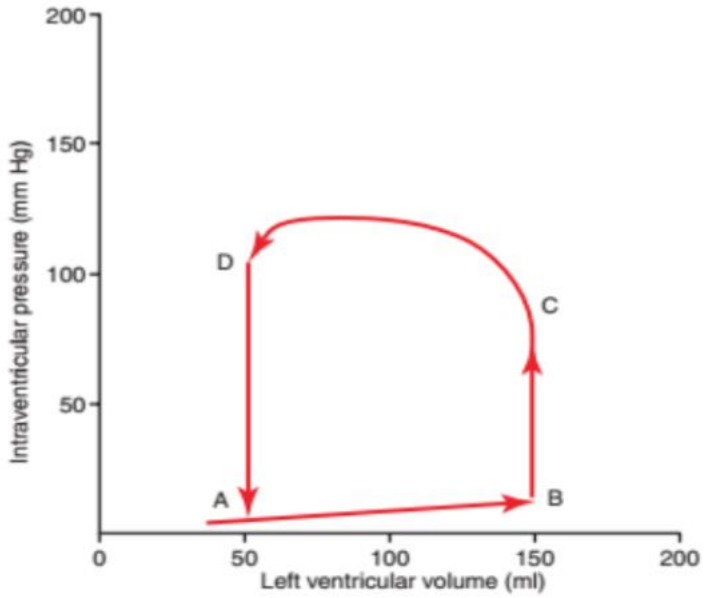
61. which of the following events occurs at the end of the period of ventricular ejection?
    A. AV valves close.
    B. Aortic valve opens.
    C. Aortic valve remains open.
    D. Pulmonary valve closes.

62. If the origin of the stimulus that causes atrial paroxysmal tachycardia is near the AV node, which of the following statement about P-wave in standard limb lead I is most accurate?
    A. P wave will originate in the sinus node.
    B. It will be upright.
    C. It will be inverted.
    D. P wave will be missing.

63. Which of the following statement about coronary blood flow is most accurate?
    A. Normal resting coronary blood flow is 500 ml/min.
    B. Most the flow occurs during systole.
    C. During systole, the percentage decrease in subendocardial flow is greater than the percentage decrease in epicardial flow.
    D. Adenosine rellase will normally decrease coronary flow.

64. Which of the following is the most frequent cause of decreased coronary blood flow in patients with ischemic heart disease?
    A. Increased adenosine release.
    B. Atherosclerosis.
    C. Coronary artery spasm.
    D. Increased sympathetic tone of the coronary arteries.

A 60-year-old woman has a resting heart rate of 70 beats/min, arterial pressure is 130/85 mm Hg, and body temperature is normal. Her pressure-volume diagram of the left ventricle is shown above.



65. In the figure above, when does the 2nd heart sound occur?
    A. At point D.
    B. Between point A and point B.
    C. Between point B and pint C.
    D. Between point C and point D.

66. In the figure above, when does the 3rd heart sound occur?
    A. At point D.
    B. Between point A and point B.
    C. Between point B and point C.
    D. Between point C and point D.

67. Which of the following statements likely condition in someone with atrial fibrillation?
    A. Ventricular fibrillation normally accompanies atrial fibrillation.
    B. P-wave of the ECG are strong.
    C. Rate of ventricular contraction is irregular and fast.
    D. Atrial A-wave is normal.

68. Which of the following statement about cardiac muscle is most accurate?
    A. The T-tubules of cardiac muscle can store much less calcium than T-tubules in skeletal muscles.
    B. The strength and contraction of cardiac muscle depends on the amount of calcium surrounding cardiac myocytes.
    C. In cardiac muscle the initiation of action potential causes an immediate opening of slow calcium channels.
    D. Cardiac muscle repolarization is caused by opening of sodium channels.

69. Sympathetic stimulation of the heart:
    A. Releases acetylcholine at the sympathetic endings.
    B. Decrease sinus rhythm.
    C. Decrease excitability of the heart.
    D. Release norepinephrine at the sympathetic endings.

70. What is the resting membrane potential of the sinus nodal fibers?
    A. 210 mV.
    B. 255 mV.
    C. 280 mV.
    D. 275 mV.

71. What is the normal total delay of the cardiac impulse in the AV node and AV bundle system?
    A. 0.03 sec.
    B. 0.06 sec.
    C. 0.09 sec.
    D. 0.13 sec.

72. which of the following has a slow depolarizing phase?
    A. SA node.
    B. Atrial muscle cell.
    C. Bundle of His.
    D. Purkinje fibers.

73. A 70-year-old male had a following ECG during his annual physical examination. What is the expected duration of Q-T interval?
    A. 0.12 sec.
    B. 0.16 sec.
    C. 0.40 sec.
    D. 0.60 sec.

74. dehydration increases the plasma concentration of all the following hormones except:
    A. vasopressin.
    B. Angiotensin II.
    C. Norepinephrine.
    D. Atrial natriuretic peptide.

75. Erythropoietin is secreted by:
    A. Cells in the macula densa.
    B. Cells in the peritubular capillary bed.
    C. Juxtaglomerular cells.
    D. Cells in the proximal tubules.

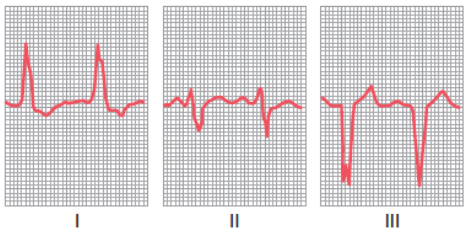
76. Which of the following normally cause the cardiac output curve to shift to the left along the right atrial pressure axis?
    A. Surgically open chest.
    B. Severe cardiac tamponade.
    C. Breathing against negative pressure.
    D. Positive pressure breathing.

77. Which one of the following condition would you normally expect to find decreased cardiac output?
    A. Hyperthyroidism.
    B. Anemia.
    C. Atrioventricular fistula.
    D. Acute myocardial infarction.

78. The SA node discharges at 0.00 seconds, when will the action potential normally arrives at the epicardial surface at the base of the left ventricle?
    A. 0.22 sec.
    B. 0.18 sec.
    C. 0.16 sec.
    D. 0.05 sec.

79. which of the following conditions at the AV node will cause a decrease in heart rate?
    A. Increased sodium permeability.
    B. Decreased acetylcholine.
    C. Increased norepinephrine.
    D. Increased potassium permeability.

80. What is the heart rate using lead I for calculation?



A. 70.
B. 88.
C. 100.
D. 146.

81. A 75-year-old male goes to the hospital ER and faints. Five minutes later he is alert. An ECG shows 75 P-waves per minute and 35 QRS complexes per minute with normal QRS width. Which of the following is the most likely diagnosis?
A. 1st degree heart block.
B. Stokes-Adams syndrome.
C. Atrial tachycardia.
D. Atrial premature contraction.

82. In normal condition, venous return must be:
A. Lower than cardiac output.
B. Equal to cardiac output.
C. Greater than cardiac output.
D. Not related to cardiac output.

83. Venous return is determined by:
A. Blood volume.
B. Venous capacity.
C. Skeletal muscle activity.
D. All the above.

84. An increase in contractility is determined on a frank starling's diagram by:
A. Decrease cardiac output for given end diastolic volume.
B. Increase cardiac output for given end diastolic volume.
C. Decrease cardiac output for a given end systolic volume.
D. Increase cardiac output for a given end diastolic volume.

85. The tendency for edema to occur will be increased by:
A. Increased venous return.
B. Arteriolar constriction.
C. Both.
D. None of them.

86. Which of the following type of shock is due to decrease TPR?
A. Cardiogenic shock.
B. Neurogenic shock.
C. Obstructive shock.
D. Hypovolemic shock.

87. Which of the following can cause septic shock?
    A. Vasomotor ischemia.
    B. Renal ischemia.
    C. Coronary ischemia.
    D. Bowel ischemia.

88. Cough, breathlessness and rashes are symptoms of which shock of the following:
    A. Hypovolemic shock.
    B. Cardiogenic shock.
    C. Anaphylactic shock.
    D. Neurogenic shock.

89. What is the type of lactic acidosis associated with hypoxia?
    A. Hypoxic lactic acidosis.
    B. Type A lactic acidosis.
    C. Type B lactic acidosis.
    D. Chronic lactic acidosis.

90. To diagnose a patient with lactic acidosis ……. analysis must be used:
    A. Glucose level in blood.
    B. Liver enzyme activity.
    C. Blood lactate levels.
    D. Lactate levels in urine.

91. A patient with high pH levels and increased HCO3- in blood. He will most likely be presenting with:
    A. Hyperventilation.
    B. Hypoventilation.
    C. Severe abdominal pain.
    D. Excessive sweating.

92. What is the percentage of lactic metabolism in the liver during strenuous exercise?
    A. 90%
    B. 80%
    C. 30%
    D. 60%

93. HMG CoA reductase is present in:
    A. ER membrane.
    B. Cytosol.
    C. Nucleus.
    D. Golgi apparatus.

94. When HMG CoA is present in mitochondria what will it produce?
    A. Gluconeogenesis.
    B. Ketogenesis.
    C. Cholesterol synthesis.
    D. Glycolysis.

95. What will happen in case of high cholesterol levels:
    A. Transcription of HMG CoA reductase's gene.
    B. HMG CoA reductase is inhibited.
    C. Hypercholesterolemia.
    D. Both A and B.

96. A diabetic patient came to the ER complaining of abdominal pain, nausea and vomiting. he also shows shortness of breath. What is his underlying condition?
    A. Hyperlactemia.
    B. Lactic acidosis.
    C. Ketoacidosis.
    D. None of the above.

97. Lipid compounds are transported in plasma as:
    A. Apoproteins.
    B. Apolipoprotein.
    C. Cholesterol.
    D. Lipoproteins.

98. Which one of the following has the lowest density?
    A. Very low density lipoproteins (VLDL).
    B. Low density lipoprotein (LDL).
    C. High density lipoprotein (HDL).
    D. Chylomicrons.

99. Type III hyperlipoproteinemia caused by:
    A. Lipoprotein lipase deficiency.
    B. Apo CII deficiency.
    C. Apo E deficiency.
    D. Apo B 100.

100. The origin of HDL is:
    A. Liver and intestine.
    B. Lymph nodes and the circulation.
    C. Intestine and circulation.
    D. Liver and bile.

101. Which type of lipoproteins acts as a reservoir of apolipoproteins for the other lipoproteins.
   A. Chylomicrons.
   B. VLDL.
   C. LDL.
   D. HDL.

102. Atherosclerosis is a pathological condition that can lead to thrombus formation. Which one of these is essential in the process?
   A. LDL.
   B. RBCs.
   C. Vitamin B12.
   D. Vitamin D.

103. What is the major apoprotein in LDL?
   A. Apo B-100.
   B. Apo A.
   C. Apo D.
   D. Apo C.

104. Which is correct regarding HDL?
   A. It is the biggest lipoprotein.
   B. Its lipid content is higher than its protein content.
   C. Removes cholesterol from the periphery and delivers to liver for metabolism.
   D. Has an insignificant role in cholesterol transportation.

105. What enzyme, or combination of enzymes, products cells against superoxide generated in oxidation reactions?
   A. G6PD.
   B. Catalase.
   C. Superoxide dismutase and catalase.
   D. Glutathione peroxidase.

106. Which of the following is unable to protect the cell against free radical damage?
   A. Vitamin C.
   B. Xanthine oxidase.
   C. Superoxide dismutase.
   D. Glutathione peroxidase.

107. The free radical nitric oxide is generated in cells by reaction catalyzed by:
   A. Catalase.
   B. NOS.
   C. 6-phosphogluconate.
   D. NADOH

108. Which one of the following lipoproteins is involved in the pathogenesis of atherosclerosis?
   A. Low density lipoprotein (LDL).
   B. Very low density lipoprotein (VLDL).
   C. High density lipoproteins (HDL).
   D. Chylomicrons.

109. cTnT binds to:
   A. Tropomyosin.
   B. cTnl.
   C. Myoglobin.
   D. None of the above.

110. Your diagnosis of a patient that had high troponin T levels is:
   A. Renal failure.
   B. Pulmonary fibrosis.
   C. Acute coronary syndrome.
   D. Liver cirrhosis.

111. Creatine kinase is found in:
   A. Myocardium.
   B. Brain.
   C. Muscles.
   D. All the above.

112. BNP is a heart failure marker that causes:
   A. Vasoconstriction.
   B. Na resorption.
   C. Decrease in blood pressure.
   D. Decrease myoglobin levels.

113. Help in adherence of Streptococcus pyogenes to host cell.
   A. Hyaluronic acid capsule.
   B. Peptidases.
   C. HLA-DR7.
   D. M-protein.

114. Which type of hypersensitivity is rheumatic fever?
   A. I.
   B. II.
   C. III.
   D. IV.

115. In rheumatic heart disease, only CMI is important.
   A. True.
   B. False.

116. Camouflages the bacterium and hide it.
   A. Pyrogenic toxins.
   B. Hyaluronic acid capsule.
   C. M-protein.
   D. Streptolysins.

117. A patient presented to you in your clinic with chest pain and fatigue, after doing blood culture and taking a biopsy, the results indicate that the patient has myocarditis caused by gram-positive bacilli which of the following is the most common cause?
   A. Taxoplasma gonii.
   B. Rubella.
   C. Rickettsiae.
   D. Conrynebacterium.

118. Which one of the following causes Noninfectious Myocarditis?
   A. Coxsakie B.
   B. HIV.
   C. Vasculitis.
   D. Corynebacterium diphtheria.

119. Which type of Pericarditis is commonly found in Pericarditis caused by T.B?
   A. Serous pericarditis.
   B. Caseous pericarditis.
   C. Fibrous pericarditis.
   D. None of the above.

120. The most definitive test to confirm Tuberculous Pericarditis is?
   A. Fluid smear acid fast bacilli.
   B. Pericardial biopsy.
   C. ESR.
   D. All the above.

121. A patient presented to you in your clinic with low-grade fever, fatigue and flu-like symptoms, he has a history of a complication of rheumatic fever that damaged his heart valves, after doing a blood culture, the results indicate a gram-positive coccus in chains which of the following is the most common cause?
   A. Staph aureus.
   B. Staph epidermis.
   C. Viridans streptocossi.
   D. Streptococcus mutans.

122. What combination of antibiotic is used to treat Viridans streptococci?
   A. Penicillin G + Gentamycin.
   B. Aminoglycosides + flouroquinolones.
   C. Cephalosporins.
   D. Cloxacillin + vancomycin.

123. Which of the following bacteria produces Glucagons?
   A. Staph epidermis.
   B. Streptococcus mutans.
   C. Viridans streptococci.
   D. Staph aureus.

124. Which of the following is an indication of infective endocarditis?
   A. Splinter hemorrhage.
   B. Petechiae.
   C. Oslers node.
   D. All of them.

125. A 68-year-old obese woman (BMI = 32 kg/m2) presents with substernal chest pain. Results of laboratory studies include an elevated WBC count (13,000/µL), CK-MB of 6.6 ng/mL, and troponin-I of 2.5 ng/mL. ECG confirms a myocardial infarction of the left ventricular wall. Which of the following mechanisms is most likely responsible for the myocardial infarction in this patient?

   A. Coronary artery thrombosis.
   B. Coronary artery vasospasm.
   C. Decrease collateral blood flow.
   D. Deep venous thrombosis.

126. A study of atheroma formation leading to atherosclerotic complications evaluates potential risk factors for relevance in a population. Three factors are found to play a significant role in the causation of atherosclerosis: smoking, hypertension, and hypercholesterolemia. These factors are analyzed for their relationship to experimental models for atherogenesis. Which of the following events is the most important direct biologic consequence of these factors?

   A. Endothelial injury and its sequelae.
   B. Conversion of smooth muscle cells to foam cells.
   C. Alteration of hepatic lipoprotein receptor.
   D. Inhibition of LDL oxidation.

127. A 59-year-old man has experienced chest pain at rest for the past year. On physical examination, his pulse is 80/min and irregular. The figure shows the microscopic appearance representative of the patient's left anterior descending artery. Which of the following laboratory findings is most likely to have a causal relationship to the process illustrated?

A. Low Lp(a).
B. Positive VDRL.
C. Low HDL
D. Elevated platelet count.

128. A 60-year-old man has experienced angina on exertion for the past 6 years. A coronary angiogram performed 2 years ago showed 75% stenosis of the left anterior descending coronary artery and 50% stenosis of the right coronary artery. For the past 3 weeks, the frequency and severity of the anginal attacks have increased, and pain sometimes occurs even when he is lying in bed. Which of the following is most likely to explain these findings?

A. Hypertrophy of ischemic myocardium with increased oxygen demands.
B. Increasing stenosis of right coronary artery.
C. Fissuring plaque in left coronary artery with superimposed mural thrombosis.
D. Sudden complete thrombotic occlusion of right and left coronary artery.

129. A 50-year-old man with a lengthy history of diabetes mellitus and hypertension has had pain in the left shoulder and arm for the past 12 hours. Over the next 6 hours, he develops shortness of breath, which persists for 2 days. On day 3, he visits the physician. On physical examination, his blood pressure is 160/100 mm Hg. Laboratory studies show that the total creatine kinase (CK) activity is within reference range, but the troponin I level is elevated. The patient is admitted to the hospital and continues to experience dyspnea for the next 3 days. On day 7 after the onset of shoulder pain, he has a cardiac arrest. Postmortem examination shows a large transmural infarction of the left anterior free wall with rupture and hemopericardium. Which of the following statements is best supported by these clinical and autopsy data?

A. Infarction did not develop until day 5 or day 6 after episode of chest pain.
B. The normal CK level obtained on day 3 excludes the possibility of infarction within the preceding 72 hours.
C. He had an acute infarction occurring on the day he developed shoulder pain.
D. A CK-MB fraction determination would have detected acute infarction on day 3.

130. A 50-year-old man with familial hyperlipidemia undergoes resection of an abdominal aneurysm. Signs of congestive heart failure develop shortly after surgery. Despite treatment, the patient becomes hypotensive and expires 2 days later. Autopsy reveals marked narrowing of coronary arteries, without thrombosis. Multiple foci of necrosis are found circumferentially around the inner walls of both ventricles. Which of the following is the most likely cause of congestive heart failure in this patient?

A. Calcific aortic stenosis.
B. Dilated cardiomyopathy.
C. Rupture of papillary muscle.
D. Subendocarial myocardial infarction.

131. A 7-year-old child has had abdominal pain and dark urine for 10 days. Physical examination shows purpuric skin lesions on the trunk and extremities. Urinalysis shows hematuria and proteinuria. Serologic test results are negative for P-ANCAs and C-ANCAs. A skin biopsy specimen shows necrotizing vasculitis of small dermal vessels. A renal biopsy specimen shows immune complex deposition in glomeruli, with some IgA-rich immunecomplexes. Which of the following is the most likely diagnosis?

A. Giant cell arteritis.
B. Henoch-Schonlein purpura.
C. Polyarteritis nodosa.
D. Wegener granulomatosis.

132. A 30-year-old woman has had coldness and numbness in her arms and decreased vision in the right eye for the past 5 months. On physical examination, Radial pulses are not palpable, but femoral pulses are strong. She has decreased sensation and cyanosis in her arms, but no warmth or swelling. A chest radiograph shows a prominent border on the right side of the heart and prominence of the pulmonary arteries. Laboratory studies show negative ANA test result. Her condition remains stable for the next year. Which of the following is the most likely diagnosis?

A. Aortic dissection.
B. Takayasu arteritis.
C. Microscopic polyangiitis.
D. Kawasaki disease.

133. A 50-year-old man complains of a chronic cough that has persisted for the past 18 months. Physical examination shows nasopharyngeal ulcers, and the lungs have diffuse crackles bilaterally on auscultation. His serologic titer for C-ANCA is elevated. A chest radiograph shows multiple, small, bilateral pulmonary nodules. A nasal biopsy specimen shows mucosal and submucosal necrosis and necrotizing granulomatous inflammation. A transbronchial lung biopsy specimen shows a vasculitis involving the small peripheral pulmonary arteries and arterioles. Granulomatous inflammation is seen within and adjacent to small arterioles. Which of the following is the most likely diagnosis?

A. Polyarteritis nodosa.
B. Microscopic polyaniitis.
C. Wegener granulomatosis.
D. Atherosclerosis.

134. A female 70 years old came to hospital with fever, headache, jaw pain, pain intense along the course of the superficial temporal artery. What is the most likely diagnosis?

A. Cutaneous leukocytoclastic.
B. Giant cell arteritis.
C. Polyarteritis nodosa.
D. Wegener's granulomatosis.

135. Polyarteritis Nodosa Associated with all the following except:
A. Hepatitis B.
B. Young adult.
C. Fibrinoid necrosis.
D. SLE.

136. Which blood vessels are inflamed in cutaneous leukocytoclastic?
A. Medium blood vessels.
B. Small blood vessels.
C. Large blood vessels.
D. Deep veins.

137. The most frequent cause of aortic valve incompetence and regurgitation is:
A. Latent syphilis.
B. Infective endocarditis.
C. Rheumatic fever.
D. Aortic dissection.

138. The most characteristic and frequent feature of chronic rheumatic heart disease is the development of:
A. Vegetation on the endocardium.
B. Aschoff bodies within the myocardium.
C. Fibrin deposits within the pericardium.
D. Stenosis of the mitral valve.

139. A 31-year-old female presented with fever, intermittent severe pain in the left upper quadrant of the abdomen, and painful lesions involving her fingers and nail beds. History reveals that she had acute rheumatic fever attack as a child and that when she was around 20 years of age she developed a new cardiac murmur. At the present time one of three blood cultures submitted to the hospital lab grows out a particular organism. Which one of the following is the most likely organism?

A. Staphylococcus aureus.
B. Alpha-hemolytic viridans streptococci.
C. Candida species.
D. Group A streptococci.

140. A 23-year-old woman develops a sudden onset on congestive heart failure. Her condition rapidly deteriorates and she died of heart failure. At autopsy, patchy interstitial infiltrates composed of mainly lymphocytes are found, some of which surround individual myocytes. What is the most likely cause of patient's heart failure?

A. Viral myocarditis.
B. Autoimmune reaction.
C. Bacterial myocarditis.
D. Nutritional deficiency.

141. Which of the following is considered as a cardiovascular complication due to hypertension?
A. Benign nephrosclerosis.
B. Hypertensive retinopathy.
C. Psychogenic.
D. Coarctation of the aorta.

142. A 55-year-old hypertensive male develops a sudden onset of excruciating pain beginning in the anterior chest and then radiating to the back. Over the next 2hours. The pain moves downward toward the abdomen. Which of the following is the most likely diagnosis?

A. Aortic dissection.
B. Aortic valve stenosis.
C. Myocardial infarction.
D. Atherosclerosis.

143. A 68-year-old woman has had decreased visual acuity for the past 5 years. She has no ocular pain. Her intraocular pressure is normal. Findings on funduscopic examination include arteriolar narrowing, flame-shaped hemorrhages, and hard, waxy exudates. What is the most likely diagnosis?

A. Hypertensive retinopathy.
B. Advanced atherosclerosis.
C. Diabetes mellitus.
D. Cerebral edema.

144. A 68-year-old male has had a progressive dyspnea for the past year. An echocardiogram shows the left ventricular wall is markedly hypertrophied. A chest radiograph shows pulmonary edema and prominent left sided heart shadow. Which of the following conditions has most likely produced these findings?

A. Centrilobular emphysema.
B. Systemic hypertension.
C. Tricuspid valve regurgitation.
D. Chronic alcoholism.

145. Thrombi in heart valves called:

A. Embolus.
B. Postmortem clot.
C. Vegetation's.
D. Venous thrombi.

146. Which of the following histological feature is most commonly seen in thrombus formation.

A. Granuloma.
B. Giant cell.
C. Lines of Zahn.
D. White blood cells.

147. Which of the following is considered a high-risk factor to develop hypercoagulability?

A. Cardiomyopathy.
B. Nephrotic syndrome.
C. Smoking.
D. Myocardial infarction.

148. A 72-yea-old African American male undergoes hip surgery. On his third hospital day, he develops chest pain, tachycardia, dyspnea, and low grade fever. The man goes into cardiac arrest and efforts to resuscitate him are un-successful. On autopsy a massive pulmonary embolism is discovered. Which of the following would most likely predispose the patient to this event?

A. Factor 8 deficiency.
B. Low serum homocysteine levels.
C. Mutation of factor 5 gene.
D. Over production of protein C.

149. A 23-year-old pregnant female in her 22nd week presented to the clinic with gestational hypertension which may lead to pre-eclampsia. What is the drug of choice in this case?

A. Clonidine.
B. Apraclonidine.
C. Alpha-methyle dopa.
D. Phentolamine.

150. Which of the following will cause tachycardia?

A. Prazosin.
B. Doxazosin.
C. Tamsolusin.
D. Phenoxybenamine.

151. Which one of the following can be used in male patients with erectile dysfunction?

A. Apraclonidine.
B. Prazosin.
C. Tamsolusin.
D. Yohimbine.

152. Which one of the following is correct regarding alpha-adrenergic blockers?

A. Used to treat hypotension in anaphylactic shock.
B. Used to treat benign prostatic hyperplasia.
C. Used to reduce the frequency of urination.
D. May cause bradycardia.

153. Streptokinase is a bacterial protein produced by:

A. Alpha-hemolytic streptococci.
B. Beta-hemolytic streptococci.
C. Staphylococcus aureus.
D. Escherichia coli.

154. Which one of the following has the longest duration of action?
    A. Urokinase.
    B. Anistreplase.
    C. Streptokinase.
    D. Tenecteplase.

155. Which one of the following is a relative contraindication of thrombolytic agents?
    A. Major surgery within 2 weeks.
    B. Pulmonary fat embolism after multiple fracture.
    C. Severe uncontrolled hypertension.
    D. Active internal bleeding.

156. Which one of the following can be used as antidote for warfarin?
    A. Aminocarpoic acid.
    B. Aprotinin.
    C. Protamine.
    D. Vitamin k.

157. Which of the following can be used as a prophylactic therapy in patient with migraine?
    A. Propranolol.
    B. Timolol.
    C. Carvedilol.
    D. Esmolol.

158. Which of the following can be used to decrease anxiety?
    A. Sotalol.
    B. Esmolol.
    C. Bisoprolol.
    D. Metoprolol.

159. Which one is correct regarding Cavedilol?
    A. Cardio selective Beta-blocker.
    B. Safe to be used in patients with asthma.
    C. Has alpha-blocking activity.
    D. Contraindicated in patient with chronic stable HF.

160. In which of the following scenarios ACE inhibitors are contraindicated?
    A. A 24-year-old female medical student who just got pregnant and in her 8th week of pregnancy presented to the ER with mild heart failure.
    B. A 45-year-old in her late pregnancy weeks with a history of renal artery stenosis has presented with symptoms that suggest heart failure.
    C. A55-year-old male has been diagnosed with hypertension 15 years ago and has been diagnosed with heart failure 7 months ago.
    D. A 65-year-old female presented to the ER with acute substernal chest pain that suggest myocardial infarction.

161. Which of the following group of drugs are the 1st line treatment in both hypertension and heart failure?
    A. ACE inhibitore.
    B. Diuretics.
    C. Cardiac glycosides.
    D. Venodilators.

162. Which one of the following drugs has potassium sparing effect?
    A. Spironolactone.
    B. Digoxin.
    C. Furosemide.
    D. Ramipril.

163. Which one of the following is a risk factor of heart failure?
    A. Increase work load in exercising.
    B. Uncontrolled hypertension.
    C. Pregnancy.
    D. Old male with a well-controlled diabetes.

164. Which of the following drugs act by blocking Na/K ATPase thus increasing cardia muscle contractility?
    A. Dobutamine.
    B. Milirnone.
    C. Digoxin.
    D. Hydralazine.

165. A 46-year-old male heavy smoker presented to the ER with lower limp edema and difficulty breathing. Which of the following is the drug of choice in this case?
    A. Chlorothiazide.
    B. Captopril.
    C. Prazosin.
    D. Sodium nitroprusside.

166. An unknown patient presented to the ER unconsciously, blood analysis was done and the result shows that the patient has hypokalemia and hypomagnesemia, while the ECG suggests heart failing. Which of the following of the following drugs is contraindicated in this case?
    A. Digoxin.
    B. Spironolactone.
    C. Isosorbide dinitrate.
    D. Ramipril.

167. Which of the following is the drug of choice in patient with heart failure with a main symptom of rapid fatigue?
    A. Enalapril.
    B. Chlorothiazide.
    C. Prazosin.
    D. Hydralazine.

168. Which one of the following drugs binds to bile acids in the intestine thus, preventing their return to the liver via enterohepatic circulation?
    A. Niacin.
    B. Fenofibrate.
    C. Cholestyramine.
    D. Fluvastatin.

169. Which of the following patient population is more likely to experience myalgia (muscle pain) or myopathy with the use of HMG CoA reductase inhibition?
    A. Patients with diabetes mellitus.
    B. Patient with renal insufficiency.
    C. Patients with gout.
    D. Patients with hypertriglyceridemia.

170. A 71-year-old female has been treated for hyperlipidemia by PRAVASTATIN for the past 6 moths. Her physician wanted to add an additional agent to block the absorption of exogenous cholesterol. Which of the following is the best choice?
    A. Niacin.
    B. Colesevelam.
    C. Gemfibrozil.
    D. Ezetimide.

171. A 62-year-old female with a history of hyperlipidemia and hypothyroidism. Her current medication includes cholestyramine and levothyroxine. What advice would you tell her to do to prevent drug-drug interactions between them?
    A. Stop taking her levothyroxine as it can interact with cholestyramine.
    B. Take levothyroxine 1 hour before cholestyramine on an empty stomach.
    C. Switch cholestyramine to colestipol as this will eliminate the interaction.
    D. Take levothyroxine and cholestyramine at the same time to minimize the interaction.

172. Patient with a history of diabetes recently diagnosed with hyperlipidemia. Which of the following drugs can't be used in this case due to risk of development of hyperglycemia?
    A. Niacin.
    B. Statins.
    C. Colestipol.
    D. Ezetimide.

173. A 34-year-old male patient went to the hospital to check his blood cholesterol level and he has an increased LDL, the doctor prescribed one of the anti-hyperlipidemic drugs with vitamin D and E supplement, what is the most likely drug the doctor prescribed?
    A. Statins.
    B. Colestipol.
    C. Ezetimide.
    D. Nicotinic acid.

174. A 45-year-old man was just started anti-hypertensive therapy and then developed a persistent dry cough. Which of the following drugs could cause this side effect?
    A. Enalapril.
    B. Losartan.
    C. Nifedipine.
    D. Prazosin.

175. Which of the following could cause reflex tachycardia and/or postural hypotension on initial administration?
    A. Atenolol.
    B. Hydrochlorothiazide.
    C. Metoprolol.
    D. Prazosin.

176. A 47-year-old male has recently diagnosed with hypertension due to pressure reading of 165/100 mm Hg. He has a well-controlled diabetes by oral hypoglycemic medications. Which of the following is the best choice to initiate the treatment of his hypertension?
    A. Metoprolol.
    B. Furosemide.
    C. Lisinopril.
    D. Lisinopril and hydrochlorothiazide.

177. A 62-year-old female reports that she has recently stopped taking her blood pressure medication because of swelling in her feet that began shortly after she started the treatment. Which is the most likely to cause peripheral edema?
    A. Atenolol.
    B. Clonidine.
    C. Felodipine.
    D. Hydralazine.

178. Hypertension patient with renal disease was prescribed CLONIDINE, but he stopped it abruptly. Which of the following side effects will he experience?
    A. Increased renal blood flow.
    B. Decreased glomerular filtration.
    C. Rebound hypertension.
    D. Severe hypotension.

179. A pregnant woman developed hypertension during her 1st pregnancy visited the doctor to make sure that this drug wont effect the baby. Which of the following drugs is safe and can be used in her case?
    A. Hydralazine.
    B. Alpha-methyl dopa.
    C. Labetalol.
    D. All of them.

180. A 55-year-old male came to the ER with hypertension crisis. What is the mechanism of action of the drug that need to be given immediately in such a case?
    A. Sodium and fluid loss.
    B. Opening of potassium channels.
    C. Inhibit angiotensin II at its AT1 receptor site.
    D. Release nitric oxide.

181. A 23-year-old male with a history of diabetes and hypertension. Which of the following vasodilator is contraindicated in this case?
    A. Hydralazine.
    B. Diazoxide.
    C. Minoxidil.
    D. Sodium nitroprusside.

182. A 55-year-old patient came to the ER with hypertension crisis. Which of the following drugs can be given in this situation?
    A. Enalapril.
    B. Nicardipine.
    C. Sodium nitroprusside.
    D. All of them.

183. A patient with renal artery stenosis developed hypertension. Which of the following drugs can be used in this case?
    A. Captopril.
    B. Losartan.
    C. Both.
    D. None of them.

184. Which of the following group of drugs is contraindicated in diabetic patients?
    A. ARBs.
    B. Calcium channel blockers.
    C. Beta-adrenoceptor blockers.
    D. Alpha-adrenoceptor blockers.

185. A patient with severe hypertension was treated with a combination of hydralazine, hydrochlorothiazide and metoprolol. Which one of the following may happen as side effect?
    A. Constipation.
    B. Cyanide toxicity.
    C. Hyperglycemia.
    D. Lupus erythematous like syndrome.

186. Which of the following drug can't be used for management of hypertension in pregnancy?
    A. Hydralazine.
    B. Ramipril.
    C. Chlorothiazide.
    D. Alpha-methyle dopa.

187. Which of the following medication would be safe to use in a patient taking ranolazine?
    A. Carbamazepine.
    B. Clarithromycin.
    C. Enalapril.
    D. Quetiapine.

188. What is the clinical term for angina caused by coronary artery spasm?
    A. Classic angina.
    B. Myocardial infarction.
    C. Prinzmetal angina.
    D. Unstable angina.

189. Which of the following side effect is associated with AMLODIPINE?
    A. Bradycardia.
    B. Cough.
    C. Edema.
    D. QT interval prolongation.

190. Which of the following drugs is always used in acute attaks of angina?
    A. Isosorbide dinitrate.
    B. Nitroglycerin patch.
    C. Sublingual tablet of Nitroglycerin.
    D. Ranilazine.

191. All the following medication can be useful for managing stable angina in patients with coronary artery disease except:
    A. Amlodipine.
    B. Atenolol.
    C. Immediate-release of nifedipine.
    D. Isosorbide dinitrate.

192. A 65-year-old male experiences uncontrolled angina attacks that limits his ability to do household chores. He is adherent to maximized dose of Beta-blocker with a low heart rate and low blood pressure. He was unable to tolerate an increase in isosorbide monoitrate due to headache. Which of the following is the most appropriate addition to his anti-anginal therapy?
    A. Amlodipine.
    B. Aspirin.
    C. Ranolazine.
    D. Verapamil.

193. A 72-year-old male presented to the primary clinic complaining of chest tightness and pressure that is increasing in severity and frequency. His current medication includes atenolol, Lisinopril and nitroglycerin. Which intervention is most appropriate in his case?
    A. Add amlodipine.
    B. Initiate isosorbide monoitrate.
    C. Initiate ranolazine.
    D. Refer the patient to the nearest ER for evaluation.

194. A medical student is doing a summer research project that involves administering beta2-receptor agonists to rats to determine the physiologic changes. Which of the following would be expected following steady state intravenous dosing of agent X, a beta2 agonist?
    A. Bronchoconstriction.
    B. Hyperglycemia.
    C. Hypertension.
    D. Uterine spasm.

195. A 74-year-old man presented to the ER complaining of chest pain that is increasing in frequency, duration and intensity. He also has shortness of breath. He is given nitroglycerin in the ER and still has chest pain. What is the most likely diagnosis?
    A. Classic angina.
    B. Gastroesophageal reflux.
    C. Prinzmetal angina.
    D. Unstable angina.

196. A 56-year-old man presented to his primary care physician complaining of difficulty urinating. Digital rectal exam reveals an enlarged prostate. The patient is started in a trial of TERAZOSIN, after which his symptoms improve dramatically. Which of the following describes terazosin's drug class?
    A. Alpha1-adrenergic antagonist.
    B. Alpha2-adrenergic antagonist.
    C. Beta2-adrenergic agonist.
    D. Beta2-adrenergic antagonist.

197. A 64-year-old man is brought to the ER complaining of crushing chest pain radiating to his left arm. He is admitted, stabilized, and treated for acute myocardial infarction. Later, he developed ventricular tachycardia and is treated with antiarrhythmic drug. After a week of antiarrhythmic treatment, he began having difficulty breathing. A chest X-ray reveals pulmonary fibrosis. Which antiarrhythmic drug was he taking?
    A. Amiodarone.
    B. Digoxin.
    C. Lidocaine.
    D. Procainaminde.

198. A 58-year-old man undergoes open-heart surgery for a triple coronary bypass graft. His surgery goes smoothly, but the next day he develops chest palpitation. Metoprolol is started to keep his supraventricular tachycardia from interfering with ventricular rhythm. Under which Singh-Vaughan Williams class of antiarrhythmic does metoprolol fall?
    A. Class Ia.
    B. Class Ib.
    C. Class Ic.
    D. Class II.

199. A 78-year-old man with dyspnea is brought to the ER for evaluation. Physical examination reveals jugular venous distension and bilateral rales in both lung fields. Chest X-ray reveals pulmonary congestion consistent with fluid overload. What is the beats treatment for this patient?
    A. Acetazolamide.
    B. Chlorthalidone.
    C. Furosemide.
    D. Spironolactone.

200. A 45-year-old male with a family history of hyperlipidemia and heart disease comes to the ER diaphoretic and chest pain radiating to his left arm. An ECG shows ST segment elevation in leads II, III and aVF. The doctor administers ALTEPLASE intravenously. How does ALTEPLASE work?
    A. Activate antithrombin III.
    B. Activates plasminogen.
    C. Activate thrombin.
    D. Block production of thromboxane A2.