1. Each of the following result in left ventricular hypertrophy except:
   A. aortic stenosis
   B. systemic hypertension
   C. coarctation of the aorta
   **D. mitral stenosis**
   E. severe prolonged anemia

2. Systemic arterial hypertension leads to:
   A. left ventricular hypertrophy
   B. an increased incidence of infective endocarditis
   C. both
   D. neither

3. Left ventricular hypertrophy occurs characteristically in each of the following except:
   A. mitral stenosis
   B. mitral insufficiency
   C. systemic hypertension
   D. aortic valve stenosis
   E. aortic valve insufficiency

4. When a person dies suddenly from a “heart attack”, the most likely event that led to the sudden death is:
   A. rupture of the heart
   B. congestive heart failure
   C. angina pectoris
   D. coronary artery embolism
   E. cardiac arrhythmia
5. Which of the following may be associated with sudden and unexpected death?

A. aortic stenosis
B. coronary atherosclerosis
C. both
D. neither

6. Right heart failure causes each of the following except:

A. splenomegaly
B. pulmonary edema
C. ankle edema
D. distended neck veins

7. Which of the following is a cause of high output heart failure?

A. pulmonary emphysema
B. mitral stenosis
C. ventricular aneurysm
D. hypothyroidism
E. arterio-venous fistula

8. A 50-year-old man is admitted for congestive heart failure. He has no history of chest pain or ethanol abuse. On physical examination he has a blood pressure of 190/120 mm Hg, mild hepatosplenomegaly, and no cardiac murmur. The heart failure is most likely due to:

A. myocardiapathy
B. myocardial infarct
C. aortic stenosis
D. hypertension
E. pulmonary emboli

9. Cor pulmonale may be caused by all of the following except:

A. interstitial fibrosis of the lung
B. multiple emboli of the pulmonary vasculature
C. pulmonary emphysema
10. All of the following may be found in pure right-sided heart failure except:
A. prerenal azotemia
B. anasarca
C. chronic passive congestion of the liver
D. pulmonary edema

11. Findings suggestive of pure left-sided heart failure include all of the following except:
A. dyspnea
B. hepatomegaly
C. orthopnea
D. ascites

12. Each of the following is a manifestation of pure right heart failure except:
A. ankle edema
B. hepatomegaly
C. ascites
D. pulmonary edema
E. prerenal azotemia

13. The most frequent cause of pure right-sided heart failure is:
A. congenital heart disease
B. ischemic heart disease
C. pulmonary disease
D. liver disease
E. renal disease

14. A patient with decompensated cor pulmonale would be least likely to have
A. pitting edema of the lower extremities
B. an enlarged spleen
C. distended neck veins
D. pulmonary edema
E. an enlarged liver

15. The most common cause of death in patients with untreated hypertension is:
A. malignant nephrosclerosis
B. intracerebral hemorrhage
C. ruptured berry aneurysm
D. congestive heart failure

16. Cor pulmonale is all of the following except:
A. heart disease secondary to lung disease
B. associated with hypertrophy of the right ventricle
C. caused by increased resistance in the pulmonary vascular bed
D. associated with stenosis of the pulmonic valve and a loud holosystolic murmur

17. In the uncomplicated patent ductus arteriosus, as might be seen in an infant 6 months of age, blood flows from the aorta to the:
A. pulmonary vein
B. pulmonary artery
C. right ventricle
D. right atrium
E. left atrium

18. Of these cardiovascular defects, which is usually discovered in childhood:
A. atrial septal defect
B. bicuspid aortic valve
C. mitral valve prolapse (“floppy mitral valve”)
D. ventricular septal defect

19. Of the following, the congenital cardiac anomaly most commonly associated with cyanosis is:
A. ventricular septal defect
B. atrial septal defect
C. tetralogy of Fallot
D. coarctation of the aorta

20. Which of the following is the most common of the congenital cardiac defects identified in children?
A. bicuspid aortic valve
B. coarctation of the aorta
C. mitral atresia
D. ventricular septal defect

21. Tetralogy of Fallot includes all of the following features except:
A. atrial septal defect
B. pulmonic stenosis
C. hypertrophy of right ventricle
D. rightward displacement of the aorta
E. ventricular septal defect

22. Of the following, which is not a cyanotic congenital heart lesion?
A. transposition of the great arteries
B. tetralogy of Fallot
C. tricuspid atresia
D. atrial septal defect
E. pulmonary atresia

23. In most instances, the cause of congenital heart disease is:
A. rubella
B. genetic
C. congenital syphilis
D. unknown

24. The most common cause of pulmonary stenosis is:
A. a congenital lesion
B. rheumatic endocarditis
C. bacterial endocarditis
D. carcinoid syndrome
E. syphilis

25. A large ventricular septal defect and congenital obstruction to pulmonary blood flow are characteristic features of
A. transposition of the great arteries
B. persistent common atroventricular canal
C. tetralogy of Fallot
D. truncus arteriosus

26. In a child with tetralogy of Fallot with pulmonic atresia, blood entering the right ventricle generally passes through which of the following structures in its flow to the lungs?
A. atrial septal defect
B. ventricular septal defect
C. coarctation of pulmonary artery
D. collateral circulation

27. Which of the following developmental abnormalities is most common?
A. atrial septal defect
B. ventricular septal defect
C. tetralogy of Fallot
D. coarctation of the aorta

28. Which congenital cardiovascular anomaly is the most common in the neonatal period?
A. patent ductus arteriosus
B. pulmonic atresia
C. transposition
D. mitral atresia
E. coarcted aorta
29. The unique feature of rheumatic myocarditis is the presence of
A. Aschoff nodules
B. group A hemolytic streptococci
C. Anitschkow myocytes
D. fibrinoid deposits
E. mucopolysaccharide deposits

30. Acute rheumatic heart disease is associated with:
A. emboli to multiple organs
B. left to right shunt
C. cardiac tamponade
D. arthritis

31. Complications of rheumatic heart disease include:
A. coronary atherosclerosis
B. passive congestion of the lungs
C. systemic hypertension
D. bacterial endocarditis

32. Changes typical of acute rheumatic carditis include:
A. ruptured chordae tendineae
B. Aschoff bodies containing B-hemolytic streptococci
C. mitral stenosis
D. verrucous endocarditis

33. Causes of death in patients with rheumatic heart disease include each of the following except:
A. heart failure
B. constrictive pericarditis
C. bacterial endocarditis
D. embolization from damaged valves
34. In a patient with acute rheumatic fever, the least likely of the following findings is:

A. arthritis
B. bacteria in heart valves
C. elevated ASO titer
D. heart murmur

35. Acute rheumatic endocarditis follows infections with:

A. alpha-hemolytic streptococci (Streptococcus viridans)
B. Group A beta-hemolytic streptococci
C. coagulase +ve Staphylococcus aureus
D. streptococcus pneumoniae
E. enterococci

36. Deformities secondary to rheumatic endocarditis most often affect the:

A. mitral valve
B. aortic valve
C. left atrial endocardium
D. tricuspid valve
E. pulmonary valve

37. Congestive cardiac failure in the first attack of acute rheumatic fever usually results from:

A. endocarditis
B. myocarditis
C. pericarditis
D. anemia
E. mitral stenosis

38. Each of the following is a major manifestation (Jones criteria) of acute rheumatic fever except:

A. carditis
B. erythema marginatum
C. glomerulonephritis
D. migratory polyarthritis
E. chorea

39. All of the following has provided evidence for the relationship between streptococcal infection and rheumatic fever except:
A. positive immunologic tests, such as antistreptolysin O titers
B. reduced attack rates following adequate penicillin therapy of streptococcal infections
C. demonstrated cross reactivity between streptococcal antigens and myocardial tissues
D. isolation of Group A beta-hemolytic streptococci from joint and cardiac tissue lesions in patients with active rheumatic fever

40. Causes of death in rheumatic heart disease include all of the following except:
A. cardiac failure
B. embolization from the heart
C. bacterial endocarditis
D. post-streptococcal glomerulonephritis

41. The most frequent clinically significant residual lesion of acute rheumatic fever is:
A. aortic stenosis
B. mitral stenosis
C. myocardial fibrosis
D. myocardial hypertrophy
E. pericardial adhesions

42. Characteristic features of acute rheumatic fever include each of the following except:
A. fibrinous pericarditis
B. emboli from valvular verrucae
C. arthritis
D. high antistreptolysin O titers
E. myocarditis
43. Which contain(s) bacteria in the cardiac lesions?
A. acute rheumatic heart disease
B. recurrent rheumatic heart disease
C. both
D. neither

44. Which is pathognomonic of active rheumatic fever?
A. Russell body
B. granuloma
C. bacterial vegetation
D. fibrinous pericarditis
E. Aschoff body

45. Each of the following is typical of longstanding pure mitral stenosis except:
A. dilatation and hypertrophy of the left atrium
B. dilatation and hypertrophy of the left ventricle
C. pulmonary venous hypertension
D. thrombosis in left atrium

46. Which of the following best characterizes noninfective thrombotic endocarditis?
A. occur only in old marantic patients
B. usually causes septicemia
C. frequently associated with mucin-producing adenocarcinomas
D. a characteristic lesion of lupus erythematosus
E. most common on pulmonary and tricuspid valves

47. What is the most common cause of pure mitral regurgitation?
A. cleft anterior mitral leaflet
B. floppy mitral valve
C. idiopathic chordal rupture
D. infarcted mitral papillary muscles
48. Mitral stenosis is least likely to be associated with:
   A. atrial fibrillation
   B. left atrial mural thrombus
   C. left ventricular hypertrophy
   D. pulmonary venous hypertension
   E. rheumatic heart disease

49. The most common cause of pure aortic stenosis is:
   A. rheumatic fever
   B. bicuspid aortic valve
   C. bacterial endocarditis
   D. syphilis
   E. Marfan’s syndrome

50. The two valves most frequently involved in rheumatic heart disease are the:
   A. aortic and tricuspid
   B. mitral and pulmonic
   C. mitral and aortic
   D. tricuspid and pulmonic
   E. aortic and pulmonic

51. Mitral stenosis, in most instances, is the result of:
   A. bacterial endocarditis
   B. Libman-Sacks endocarditis
   C. rheumatic endocarditis
   D. endocardial fibroelastosis
   E. congenital anomaly of the valve

52. Severely destroyed aortic cusps with attached friable vegetations are most characteristic of endocarditis due to:
   A. Candida albicans
53. The most common cause of subacute infective endocarditis is:

A. Candida albicans  
B. immune reaction to bacterial toxins  
C. Staphylococcus aureus  
D. Streptococcus pneumoniae  
E. Streptococcus viridians

54. Predisposing factors for bacterial endocarditis include all of the following except:

A. localized endocardial damage  
B. intravenous drug abuse  
C. rheumatic heart disease  
D. ventricular septal defect  
E. alcoholism

55. Which of the following statements is true regarding endocarditis?

A. It never occurs on normal valves.  
B. Prosthetic heart valves do not develop endocarditis because organisms will not grow on plastics or metal.  
C. Septic emboli from them may result in infarcts and abscesses in the kidney, spleen, and brain.  
D. The vegetations are small and firm, involving the entire margin of the valve leaflet.

56. Perforation of a heart valve may occur with:

A. bacterial endocarditis  
B. rheumatic endocarditis  
C. both  
D. neither
57. Heart valves are predisposed to the development of infective endocarditis by:
   A. congenital valve deformities
   B. rheumatic heart disease
   C. both
   D. neither

58. Clinical findings associated with bacterial endocarditis include all of the following except:
   A. hematuria
   B. stroke
   C. change in cardiac murmur
   D. enlarged spleen
   E. cor pulmonale

59. Syphilitic heart disease most commonly involves:
   A. myocardium
   B. mitral valve
   C. pulmonic valve
   D. tricuspid valve
   E. aortic valve

60. The most frequent cause of mitral stenosis is:
   A. atherosclerotic valvular disease
   B. infective endocarditis
   C. congenital malformation
   D. rheumatic heart disease
   E. hypertensive vascular disease

61. Endocardial vegetations may be found at autopsy in patients with:
   A. acute rheumatic fever
   B. systemic lupus erythematosus
   C. subacute bacterial endocarditis
D. marantic endocarditis

E. all of the above

62. Libman-Sacks endocarditis is associated with:

A. carcinoid tumors

B. Fiedler’s myocarditis

C. lupus erythematosus

D. acute rheumatic fever

E. syphilitic aortitis

63. Which of the following may produce lesions of cardiac valves?

A. pheochromocytoma of adrenal with metastases to liver

B. carcinoid tumor of ileum with metastases to liver

C. Zollinger-Ellison syndrome

D. Waterhouse-Friderichsen syndrome

E. Graves’ disease

64. Alcoholism causes what kind of cardiomyopathy?

A. dilated

B. hypertensive

C. hypertrophic

D. restrictive

65. Myocarditis may be associated with:

A. residual myocardial fibrosis

B. elevated serum creatine phosphokinase

C. many viral infections

D. bacterial exotoxemia

E. all of the above
66. A restrictive (constrictive) type of cardiomyopathy characteristically occurs in association with:

A. alcoholism
B. amyloidosis
C. asymmetric septal hypertrophy
D. Beriberi (thiamine deficiency)

67. Cardiomyopathy may occur in association with:

A. viral infections
B. amyloidosis
C. glycogen storage disease
D. chronic alcoholism
E. all of the above

68. A cause of nutritional cardiomyopathy is:

A. thiamine deficiency
B. niacin deficiency
C. vitamin C deficiency
D. vitamin A deficiency

69. A 35-year-old woman with known dilated congestive cardiomyopathy presents with weakness in the left arm and leg and right-sided facial weakness. The best diagnosis is:

A. mural thrombosis of left atrium with embolism
B. mural thrombosis of right atrium with embolism
C. thrombophlebitis of left thigh with embolism
D. thrombophlebitis of right thigh with embolism
E. thrombosis of right middle cerebral artery branch

70. Idiopathic cardiomyopathy, by usual definition, excludes patients who have:

A. a history of valve disease
B. a shunt inside or outside the heart
C. significant coronary atherosclerosis at autopsy
D. systemic hypertension, past or present

E. all of the above

71. A middle-aged man was admitted for chest pain and found to be in shock. The pain began about an hour before admission. Which of the following possible complications is least expected over the next week?

A. congestive failure
B. mural thrombosis
C. ventricular aneurysm
D. atrial fibrillation
E. fibrinous pericarditis

72. Causes of ventricular aneurysms include:

A. myocardial infarct
B. aortic stenosis
C. both
D. neither

73. All of the following statements concerning myocardial infarction are true except:

A. may be unrecognizable at autopsy if the patient dies within four or five hours after the infarction
B. need not be associated with vascular occlusion
C. may be followed by systemic arterial occlusions
D. is uncommon in hypertension because of capillary proliferation developed secondary to myocardial hypertrophy
E. is most common in the myocardium supplied by the anterior descending branch of the left coronary artery

74. Myocardial infarction may be followed by all of the following except:

A. elevated temperature
B. elevated venous pressure
C. elevated sedimentation rate
D. neutropenia
75. The most common cause of myocardial infarction is:

A. luminal narrowing by atherosclerotic material in coronary arteries
B. ostial stenosis of coronary arteries
C. thrombosis on an atheromatous plaque in a coronary artery
D. embolization from a mural thrombus

76. Life-threatening complications of acute myocardial infarcts include all of the following except:

A. extension of the infarct
B. cardiac rhythm disturbance
C. rupture of the myocardium
D. endocardial fibroelastosis

77. A middle-aged male had several episodes of chest pain during the last two years. He was admitted to the hospital following a very severe attack which ended in shock. The pain began about an hour before he was admitted. The most likely outcome in this case is:

A. survival with reduced cardiac reserve
B. death due to congestive heart failure in the third week
C. rupture of the myocardium
D. cerebral embolism from a mural thrombosis
E. pulmonary embolism

78. Each of the following is a complication of a left ventricular aneurysm except:

A. cerebral abscess
B. congestive heart failure
C. left ventricular calcification
D. infarction of bowel

79. Which of the following most typically occurs at 6 days after onset of a myocardial infarction?

A. formation of a ventricular aneurysm
B. cardiac tamponade
C. acute aortic insufficiency
D. right ventricular hypertrophy
E. maximum accumulation of neutrophils

80. In a moderate-sized myocardial infarct it would take approximately how long to replace the necrotic muscle with fibrous tissue?
A. 2 days
B. 2 weeks
C. 2 months
D. 2 years

81. An 8-hour old transmural myocardial infarct would be:
A. pale and edematous
B. swollen and red
C. firm and grey
D. firm and red

82. Complications of acute myocardial infarct in the first week include all of the following except:
A. ventricular rupture
B. pericarditis
C. cardiogenic shock
D. extension of the infarct
E. myocardial fibrosis

83. The complication of myocardial infarct that is least likely is:
A. systemic thromboemboli and consequent infarcts
B. rupture of the right ventricle
C. heart block
D. rupture of the posterior papillary muscle of the mitral valve
E. pericarditis with friction rub
84. The single most frequent complication of myocardial infarction is:

A. mural thrombosis
B. embolism
C. rupture of myocardium
D. aneurysm of left ventricle
E. arrhythmia

85. The most frequent site of myocardial infarction is:

A. anterior septal
B. anterior lateral
C. posterior lateral
D. posterior
E. posterior septal

86. The extent of myocardial damage in coronary artery disease is significantly affected by all of the following except:

A. extent of coronary occlusion
B. rate at which occlusion occurs
C. metabolic demands of the myocardium
D. venous pressure

87. Eight days after a documented myocardial infarct, a patient experiences recurrence of chest pain and equivocal changes on electrocardiogram suggesting that a second infarct has occurred. Levels for which serum enzyme would be most useful in resolving the problem?

A. lactic dehydrogenase
B. creatine kinase
C. aspartate aminotransferase
D. alanine aminotransferase
E. alkaline phosphatase
88. Complications of myocardial infarct include:

A. fibrinous pericarditis
B. hemopericardium with tamponade
C. both
D. neither

89. A 62-year-old woman died three weeks following an acute anteroseptal myocardial infarct. At necropsy the infarcted area will:

A. show coagulation necrosis of myocardial fibers and an acute inflammatory cell infiltrate.
B. consist primarily of a slightly depressed zone of dark gray-red granulation tissue in which there are many pigmented macrophages.
C. be composed of a dense collagenous scar.
D. bulge from the cut surfaces as a soft, mottled, red and yellow area.

90. The major cause of death in myocardial infarction is:

A. rupture of mitral papillary muscle
B. congestive failure
C. ventricular aneurysm
D. arrhythmia
E. septal rupture

91. LDH isoenzyme fractionation is useful for distinguishing between:

A. myocardial infarct vs. liver necrosis
B. myocardial infarct vs. hemolytic anemia
C. large vs. small myocardial infarcts
D. mild vs. severe coronary atherosclerosis

92. Of the various serum enzymes, which is the first to be elevated after an acute myocardial infarction:

A. creatine kinase
B. lactic dehydrogenase
C. aspartate aminotransferase
D. alanine aminotransferase
93. Complications of an acute myocardial infarct in the first week include all of the following except:

A. ventricular rupture  
B. pericarditis  
C. cardiogenic shock  
D. extension of the infarct  
E. cor pulmonale

94. Myocardial infarction may result in all of the following except:

A. mural thrombus formation  
B. congestive failure  
C. hemopericardium  
D. cor pulmonale

95. Serious coronary occlusion in a young man is more likely to be fatal than in an older man with a history of coronary heart disease because:

A. the older man is less active and will not overtax his heart  
B. the young man has a better functioning coagulation mechanism  
C. the older man will probably have poorly functioning heart valves and will be unable to develop high intraventricular pressures  
D. the older man will have a well-developed collateral circulation in the coronary system  
E. the younger man will have less mature collagen in his heart wall

96. Cerebral embolization occurring as a complication of a myocardial infarct would most probably be indicative of:

A. disseminated intravascular coagulation  
B. mural thrombus in the left ventricle  
C. lack of collateral circulation  
D. post-myocardial injury syndrome  
E. phlebothrombosis
97. Three months after occurrence, a myocardial infarct would have the gross appearance of:

A. a firm but discolored area of myocardium surrounded by an acute inflammatory response
B. a discolored and softened area of myocardium
C. normal myocardium
D. granulation tissue
E. mature scar

98. Which of the following cells is/are seen within the area of a myocardial infarct 10 days following coronary occlusion:

A. macrophages
B. fibroblasts
C. both
D. neither

99. Histologic features of a three-day-old myocardial infarct include all of the following except:

A. necrotic muscle fibers
B. interstitial polymorphonuclear leukocytes
C. dilated capillaries with hemorrhage
D. infiltration of numerous pigment-laden macrophages

100. A 45-year-old man arrived in the emergency room complaining of chest pain of 2 hours' duration. The EKG was equivocal for acute myocardial infarction. CPK was twice normal, but the SGOT was normal.

A. The patient probably does not have a myocardial infarct.
B. The SGOT value is probably in error.
C. The CPK value is probably in error.
D. The patient probably has an acute myocardial infarct.
E. A STAT LDH isoenzyme study should be ordered to resolve the question of acute myocardial infarction.
101. In the healing of a myocardial infarct, granulation tissue first becomes prominent at the margins of the infarct at about:

A. 1 day
B. 3 days
C. 1 week
D. 2 weeks
E. 1 month

102. Late (weeks to months) complications of myocardial infarction include each of the following except:

A. cerebral infarct
B. myocardial aneurysm
C. congestive heart failure
D. constrictive pericarditis
E. partial left bundle branch block

103. Rupture of the heart after infarct is most common at:

A. two days
B. seven days
C. fourteen days
D. three weeks
E. six weeks

104. The most common location of myocardial rupture due to infarction is:

A. posterior wall of left ventricle
B. interventricular septum
C. anterior wall of left ventricle
D. anterior wall of right ventricle
E. left atrial appendage
105. In the evolution of a myocardial infarct, which of the following occurs fourth

A. proliferation of fibroblasts and capillaries
B. marginal hyperemia
C. formation of collagen
D. infiltration of neutrophils and macrophages
E. changes in myocardial cell nuclei

106. Death within the first 24 hours following an acute myocardial infarction is most often due to:

A. pericardial tamponade
B. mitral insufficiency
C. cerebrovascular accident
D. arrhythmia
E. congestive heart failure

107. Which one of the following is least likely to be associated with pericarditis?

A. rheumatic fever
B. nephrotic syndrome
C. uremia
D. Coxsackie virus infection
E. tuberculosis

108. Uremic individuals characteristically develop which type of pericarditis?

A. fibrinous
B. hemorrhagic
C. purulent
D. serous
E. none of the above

109. Which of the following is the least common cause of hemopericardium?

A. rupture of coronary artery
B. cardiac trauma
C. myocardial infarct
D. dissecting aneurysm of proximal aorta

110. Cardiac tamponade is best defined as:
A. cardiac compression due to fluid in the pericardium
B. fluid in the pericardium
C. foreign body in the pericardium
D. severe form of hemopericardium

111. Attributes of cardiac myxomas include each of the following except:
A. true neoplasms
B. most frequently arise in the ventricles
C. cause valvular obstruction
D. of mesenchymal origin

112. The most common primary tumor of the heart is:
A. rhabdomyoma
B. myxoma
C. angioma
D. mesothelioma
E. fibroma

113. With what type of heart disease is ventricular aneurysm most characteristically associated?
A. congenital
B. rheumatic
C. arteriosclerotic
D. hypertensive
E. cor pulmonale

114. The left ventricle is predominantly affected in:
A. endocardial fibroelastosis
B. cor pulmonale
C. both
D. neither

115. The most common cause of left heart failure is:
A. emphysema
B. pulmonary emboli
C. coronary arteriosclerosis
D. hyperthyroidism
E. tetralogy of Fallot

116. A 42-year-old woman suffers from chronic dyspnea and recurrent hemoptysis. A mid-diastolic murmur is heard in the left lateral chest wall. The diagnosis is:
A. acute myocardial infarction
B. mitral stenosis
C. acute bacterial endocarditis
D. systemic lupus erythematosus

117. An 80 year old man with typical angina has a systolic murmur at the base of the heart transmitted toward the left axilla. The left ventricle is moderately enlarged. The most likely diagnosis is:
A. acute myocardial infarction
B. floppy valve syndrome
C. calcific aortic stenosis
D. calcified mitral valve annulus

118. Which of the following is not a “trigger” event for the onset of an acute myocardial infarction?
A. ulceration of an atheromatous plaque
B. hemorrhage into an atheromatous plaque
C. exercise
D. anticoagulant therapy
E. vascular spasm
119. Left ventricular hypertrophy is caused by:
   A. mitral stenosis
   B. calcific aortic stenosis
   C. both
   D. neither

120. Pericarditis may be caused by all of the following except:
   A. malignant hypertension
   B. uremia
   C. acute rheumatic heart disease
   D. acute myocardial infarction

121. Right heart failure can result from all of the above except:
   A. recurrent pulmonary emboli
   B. interstitial pulmonary fibrosis
   C. emphysema
   D. aortic stenosis

122. Endocardial scarring occurs in association with all of the following except:
   A. carcinoid heart disease
   B. healed myocardial infarction
   C. congenital endocardial fibroelastosis
   D. essential hypertension

123. A healed myocardial infarction is characterized by:
   A. an infiltrate of eosinophils
   B. scar tissue
   C. giant cells
   D. Aschoff bodies
   E. secondary amyloidosis
124. Complications of myocardial infarction include all of the following except:

A. ventricular rupture
B. arrhythmias
C. ventricular aneurysm
D. bacterial endocarditis

125. Acute rheumatic heart disease may show all of the following except:

A. verrucae on heart valves
B. pericarditis
C. cardiac tamponade
D. Aschoff bodies

126. Which of the following causes left heart failure?

A. rheumatic heart disease
B. luetic heart disease
C. both
D. neither

127. The microscopic finding of polymorphonuclear leukocytes infiltrating the myocardium is seen most commonly in:

A. subacute lupus erythematosus
B. acute myocardial infarction
C. acute viral myocarditis
D. uremia
E. hypertension

128. Complications of chronic rheumatic heart disease include which of the following:

A. constrictive pericarditis
B. cardiac tamponade
C. aneurysm of the heart
D. mitral stenosis
129. Coronary artery disease is associated with which of the following except:

A. long latent period
B. sudden death
C. thrombosis
D. narrowing of the intracardiac arterioles

130. Chronic rheumatic heart disease is often associated with all of the following except:

A. chorea
B. recent infection with streptococcus
C. pericarditis
D. aortic aneurysm

131. Which is more commonly involved with rheumatic heart disease?

A. tricuspid valve
B. mitral valve
C. both
D. neither

132. The most common cause of heart failure in adults in this country is:

A. chronic viral myocarditis
B. alcohol cardiomyopathy
C. calcific aortic stenosis
D. mitral insufficiency
E. ischemia from coronary artery disease

133. Characterized microscopically by Aschoff bodies are:

A. rheumatic heart disease
B. luetic heart disease
C. both
D. neither
134: Acute rheumatic fever is characterized by all of the following except:

A. valvular inflammation
B. polyarthritis
C. elevated ASO (anti-streptolysin O) titers
D. mitral stenosis

135: Hypertension is characterized by which one of the following:

A. aortic stenosis
B. pancarditis
C. left ventricular hypertrophy
D. valvular verrucae

136: Characterized microscopically by cystic medial necrosis are the following:

A. rheumatic heart disease
B. luetic heart disease
C. both
D. neither

137: May become incompetent following syphilis:

A. aortic valve
B. mitral valve
C. both
D. neither

138: Which of these is not associated with bacterial endocarditis:

A. is often superimposed on chronic rheumatic valvular scarring
B. may occur without any obvious source of infection
C. is associated with systemic emboli
D. is commonly caused by tuberculosis
139. The histopathology one hour after a myocardial infarction characteristically reveals:

A. no abnormality
B. an infiltrate of neutrophils
C. lymphocytes and plasma cells
D. proliferative fibroblasts
E. iron pigment

140. Factors predisposing to bacterial endocarditis include all of the following except:

A. congenital heart disease
B. chronic rheumatic heart disease
C. IV drug abuse
D. hypertension
E. IV catheterization

141. More commonly has hyaline arteriolosclerosis:

A. benign hypertension
B. malignant hypertension
C. both
D. neither

142. Calcific aortic stenosis is not associated with:

A. sudden death
B. systolic murmur
C. increasing incidence in old age
D. Monkeberg’s medial calcification

143. A hypertensive patient dies of congestive heart failure. His heart shows the following change which correlates best with systemic hypertension.

A. normal heart
B. left ventricular hypertrophy
C. coronary atherosclerosis
D. calcific aortic stenosis
144. A 45 year old male has a blood pressure of 300/200. Without further information this is clinically best classified as:

A. benign hypertension
B. malignant hypertension
C. surgical hypertension
D. essential hypertension

145. Most likely to have hematuria:

A. benign hypertension
B. malignant hypertension
C. both
D. neither

146. May have necrotizing glomerulitis and arteritis:

A. benign hypertension
B. malignant hypertension
C. both
D. neither

147. A 45 year old male has a blood pressure of 300/200. A needle biopsy of the kidney should reveal most significantly in the above case:

A. hyperplastic (onion skin) arteriolosclerosis
B. hyaline arteriolosclerosis
C. atherosclerosis
D. Diabetic nephrosclerosis (KW)

148. Heart failure is characterized by:

A. renal hypertrophy
B. chronic passive congestion of liver and spleen
C. both
D. neither
149. Causes of secondary hypertension include:

A. Marfan’s syndrome
B. mitral stenosis
C. vasospasm
D. renal artery stenosis

150. “Surgical Hypertension” refers to hypertension which is possibly curable by surgery other than renal transplantation. The following are sometimes surgically correctable causes of hypertension excepting:

A. atherosclerotic plaque in renal artery
B. unilateral chronic pyelonephritis
C. adrenal adenoma
D. congenital polycystic kidneys

151. A 45 year old male has a blood pressure of 300/200. The patient suddenly became comatose and died two days later. The most likely direct cause of death is:

A. cerebral infarction
B. myocardial infarction
C. renal failure
D. massive intracerebral hemorrhage

**AS4**