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MCC-005

POST GRADUATE DIPLOMA IN CLINICAL CARDIOLOGY (PGDCC)

00165

Term-End Examination

December, 2011

MCC-005 : COMMON CARDIOVASCULAR DISEASES-III

Time : 2 hours *Maximum Marks : 60*

Note :

(i) *There will be multiple choice type of questions in this examination which are to be answered in* ***OMR Answer Sheets.***

(ii) *All questions are* ***compulsory.***

(iii) *Each question will have four options and only one of them is correct. Answers have to marked in figures in the appropriate rectangular boxes corresponding to what is the correct answer and then blacken the circle for the same number in that column by using HB or lead pencil and not by ball pen* ***in OMR Answer Sheets.***

(iv) *If any candidate marks more than one option it will be taken as the wrong answer and no marks will be awarded for this.*

(v) *There will be 90 questions in this paper and each question carries equal marks.*

(vi) *There will be no negative marking for wrong answers.*

(vii) *No candidate shall leave the examination hall at least for one hour after the commencement of the examination.*

1. Which of the following drug is not used in supraventricular Tachycardia ?
(1) Verapamil (2) Mexiletine (3) Amiodarone (4) Adenosine

2. Which of the following statement is wrong regarding Lidocaine ?
(1) Lidocaine is a class IB antiarrhythmic agent
(2) It is an effective agent in the therapy of Ventricular arrhythmias
(3) It has major effects on atrial fibers and conduction in accessory path ways
(4) Lidocaine is Predominantly metabolized in Liver

3. The following drugs belong to class III group of Vaghen Williams classification except :
(1) Sotalol (2) Dofetilide (3) Flecanide (4) Ibutilide

4. The following drugs are usualy recommended for Ventricular arrhythmias except :
(1) Mexilitine (2) Verapamil (3) Lidocaine (4) Flecainide

5. Which of the following drugs can cause Torsades de pointes except :
(1) Amiodarone (2) Dofetilide (3) Phenytoin (4) Sotalol

6. The following drugs can be given in both supraventricular and Ventricular arrthythmias except :
(1) Flecainide (2) Amiodarone (3) Qunidine (4) Diltiazem

7. Cinchonism (Tinnitus, deliriam and psychosis) are seen in which of the anti arrhythmic drug use ?
(1) Amiodarone (2) Procainamide (3) Qunidine (4) Digoxin

8. SLE like clinical features are seen in which of the following drug usage ?
(1) Adenosine (2) Disopyramide (3) Procainamide (4) Dofetalide

9. The first open heart surgery - ASD closure - Using heart Lung machine was done by whom ?
(1) Walton Lillehei (2) John Gibbon (3) John Kirklin (4) John Lewis

10. During deep Hypothermia and Circulatory arrest the Temperature is kept at what degrees ?

(1) 8°C (2) 18°C (3) 28°C (4) 30°C

11. Cardioplegia solution contains all the following except one :

(1) 20 meq of potassium (2) Adenosine

(3) Sodium bicarbonate (4) Magnesium

12. Intra - Aortic Balloon Pump (IABP) is indicated in the following conditions except :

(1) Cardiogenic shock

(2) Aortic dissection

(3) Left main disease with severe LV dysfunction

(4) During Primary PTCA for Acute MI with severe LV dysfunction

13. Left Thoracotomy approach is used for all the following surgeries except :

(1) Ligation of Patent ductus Arteriosus

(2) Repair of Co-archtation of Aorta

(3) Potts shunt

(4) Atrial septal defect closure

14. Infective Endocarditis Prophylaxis is indicated in all the following conditions except :

(1) Ventricular septal defect (2) Atrial septal defect

(3) Co-archtation Aorta (4) Patent ductus Arteriosus

15. The Pulmonary Vascular resistance after Birth drops to adult levels within a period of :

(1) 5 - 6 weeks (2) 2 - 3 weeks (3) 2 - 3 months (4) 5 - 6 months

16. In the Presence of Patent ductus Arteriosus in full term babies the fall in Pulmonary resistance usually drops to adult levels within a period of :

(1) 6 - 10 weeks (2) 6 months (3) 3 - 6 weeks (4) 2 - 3 weeks

17. The presence of murmur at birth would be due to the following congenital Heart disease except :

(1) Patent ducts Arteriosus
(2) Aortic stenosis
(3) Pulmonary stenosis
(4) Mitral Regurgitation

18. Which of the following condition accompanies most instances of organic Tricuspid Regurgitation ?

(1) Aortic stenosis
(2) Pulmonary artery Hypertension
(3) Mitral stenosis
(4) Pulmonary stenosis

19. Calculation of mitral valve area by cardiac catheterization requires determination of cardiac output in which of the following ?

(1) Pulmonary Capillary Pressure
(2) Left atrial Pressure
(3) Mean pulmonary artery pressure
(4) Mean diastolic pressure gradient across the mitral valve

20. After successful mitral commissurotomy patients still must follow an antibiotic prophylaxis to prevent recurrant Rheumatic fever. What other late sequlae commonly follows mitral commissurotomy ?

(1) Mitral Regurgitation
(2) AV Block
(3) Restenosis of Mitral valve
(4) Left Ventricular failure

21. A 29 years old, previously asymptomatic woman with physical signs of severe mitral stenosis abruptly develops dyspnea an ordinary effort. What even best explains the abrupt appearance of symptoms ?

(1) Pregnancy
(2) Pulmonary embolism
(3) Pneumonia
(4) Atrial Fibrillation

22. The most common congenital cardiac defect is which of the following ?

(1) Ventricular septal defect
(2) Atrial septal defect
(3) Bicuspid Aortic Valve
(4) Tetralogy of fallot

23. The fundamental Haemodynamic sequela of pulmonic stenosis is which of the following ?

(1) Low cardiac output
(2) Pulmonary Hypotension
(3) Right ventricular Hypertrophy
(4) Hypoxemia

24. The Four components of Fallots Tetralogy consists of VSD, Dextro position of Aorta, and RV out flow obstruction and which of the following ?

(1) Patent Foramer ovale
(2) Pulmonary Hypoplasia
(3) Right Ventricular Hypertrophy
(4) Right Aortic Arch

25. A faint pulmonic systolic murmur in Fallots Tetralogy is likely to mean which of the following ?

(1) Right Ventricular failure
(2) Mild Right Ventricular out flow obstruction
(3) Concomitant ASD
(4) Severe Right Ventricular out flow obstruction

26. Congestive cardia failure in children causes which one of the following ?

(1) Cyanosis
(2) Pulsus Paradoxus
(3) Tachy cardia
(4) Respiratory failure

27. An Infant Presents with generalized weak pulses and heart failure. The most likely diagnosis is :

(1) Co-archtation of Aorta
(2) Aortic stenosis
(3) Takayasu's disease
(4) Anaemia

28. Which congenital heart disease in common in Down Syndrome ?

(1) Co-archtation of Aorta
(2) Transposition of great arteries
(3) Tetralogy of Fallots
(4) AV canal defect

29. Most congenital heart diseases have one of the following aetiology :

(1) Multifactorial
(2) Autosound dominant
(3) Autosound Recessive
(4) X - linked Recessive

30. Which is the most common form of Left to Right Shunts in children ?

(1) Atrial septal defect (2) Patent ductus Arteriosus

(3) Ventricular septal defect (4) Truncus Arteriosus

31. Left to Right Shunts can cause which of the following ?

(1) Right Ventricular dysfunction

(2) Thrombo Embolism

(3) Pulmonary artery Hypertension

(4) Pulmonary AV fistula

32. Which is an example of Cyanotic Congenital Heart disease with increased Pulmonary Blood flow ?

(1) Tricuspid Atresia (2) Transposition of green arteries

(3) Pulmonary atresia with VSD (4) Partial AV canal defect

33. Which of these congenital heart disease needs correction in the Neo Natal Period ?

(1) Tetralogy of fallots

(2) Ventricular septal defect

(3) AV canal defect

(4) Total anamolous pulmonary venous connection

34. Which of these arrhythmia is uncommon in children ?

(1) Supraventricular Tachycardia (2) Atrial Fibrillation

(3) Ventricular Tachycardia (4) Heart Block

35. A loud murmur on Auscultation in a neonate is likely to be :

(1) Patent ductus Arteriosus (2) Atrial septal defect

(3) Ventricular septal defect (4) Pulmonary valve stenosis

36. In mitral stenosis, shortness of breath at rest, will occur when mitral valve area is :

(1) less than 2.5cm^2 (2) less than 1.5 cm^2

(3) less than 3.0 cm^2 (4) less than 2.0 cm^2

37. Alfieri repair is done for which of the following condition ?

(1) Severe mitral stenosis
(2) Tricuspid valve regurgitation
(3) Ischemic mitral regurgitation
(4) Rupture of sinus of Valsalva

38. Cox III with MAZE operation is done for which of the following condition ?

(1) Atrial Fibrillation with Mitral Regurgitation
(2) Atrial Flutter with Mitral Stenosis
(3) Ventricular Tachycardia with Mitral Regurgitation
(4) Atrial Tachycardia with Mitral stenosis

39. 58 years old executive presented with shortness of breath with one episode of syncope. His Echocardiogram showed severe Calcific Aortic Valve Stenosis with dialatation of Ascending Aorta measuring 5.8 cm^2 diameter. Which is the preferred treatment of choice ?

(1) Aortic valve replacement
(2) Beutel procedure
(3) Aortic valve repair
(4) Percutaneous Aortic Valve replacement

40. Which of the following prosthetic valve has lowest effective orifice area ?

(1) Medtronic Hall single disk valve
(2) Starr - Edwards valve
(3) St. Jude Bileaflet valve
(4) Homograft valve

41. The fist palliative shunt between subclavian artery and pulmonary artery for cyanotic heart disease was done by whom ?

(1) John Kirklin (2) Alfred Blalock (3) Helen Tassig (4) Vinoberg

42. The first reversed saphenous vein bypass graft for blocked Right - Coronary Artery in 1967 was done by whom ?

(1) Starr - Edwards
(2) Favoloro
(3) Denton Cooley
(4) Mason Jones

43. The management of Cyanotic spells includes all the following except :

(1) Knee chest position
(2) sedation of child with morphine
(3) Inj Esmolol
(4) Inj. Prostaglandin

44. Which is the preffered treatment option for critically ill neonate with co-archtation of Aorta with metabolic acidosis ?

(1) Emergency surgery for co-archtation of Aorta

(2) PDA ligation

(3) Inj. Prostaglandin Therapy

(4) Balloon dilatation of Co-archtation of Aorta

45. Senning (or) Mustard operation is indicated for which of the following congenital heart disease ?

(1) Tetralogy of Fallot (2) Tricuspid Atresia

(3) Transposition of great arteries (4) Ebstein's anomaly

46. Cyanotic spells are commonly seen in all the following conditions except :

(1) TOF with pulmonary atresia (2) Ebstein's Anamoly

(3) Tetralogy of Fallots (4) DORV with VSD with PS

47. All the following statements are correct except one regarding cyanotic spells :

(1) Cyanotic spells are commonly seen between 2 months to 6 months

(2) Tachypnea is the cardinal feature

(3) Anoxic seizures are sean if untreated early

(4) Pulmonary ejection murmur becomes more prominent on Auscultation

48. Calculating the Target heart rate for stress exercise Test-which formula is followed usually ?

(1) 190 – age = maximum heart rate

(2) 200 – age = maximum heart rate

(3) 220 – age = maximum heart rate

(4) 240 – age = maximum heart rate

49. The first successful heart Transplantation at Cape town was done by whom ?

(1) Normal Shumway (2) John Kirklin

(3) Christian Barnard (4) Denton Cooly

50. All the following drugs are used except one for the treatment of Torsade de pointes :

(1) I.V. Potassium (2) I.V. Magnesium

(3) ICO Proternol (4) Amiodarone

51. Which is the Preferred drug of choice for Digoxin induced Ventricular ectopy ?

(1) Amiodarone (2) Phenytoin (3) Qunidine (4) Betablockers

52. Severe Pulmonary valve stenosis is said to be present when the peak pressure gradient is :

(1) > 50 mmHg (2) 40 - 50 mmHg (3) > 80 mmHg (4) > 30 - 40 mmHg

53. De Vega annuloplasty is indicated for which of the following condition ?

(1) Ebsteins anamoly (2) Tricuspid Regurgitation

(3) Mitral regurgitation (4) Pulmonary regurgitation

54. Infective Endo carditis prophylaxis is indicated in the following conditions except :

(1) Bronchoscopy

(2) Tonsillectomy

(3) Placement of prosthodontic brackets

(4) Root canal treatment

55. All the following steps are appropriate in the management of patients with Acute Aortic Dissection except :

(1) Intravenous sodium Nitroprusside

(2) Intravenous Betablocker Therapy

(3) Urgent surgical repair for proximal dissection

(4) Urgent surgical repair for distal dissection

56. The Half life of Digoxin in normal individuals :

(1) 12 hours (2) 24 hours (3) 36 hours (4) 72 hours

57. Which is the best preferred treatment for recurrent Ventricular Tachycardia ?

(1) Sotalol (2) AICD (3) Phenytoin (4) Amiodarone

58. Most common type of Atrial Septal Defect (ASD) is :

(1) Sinus venosus
(2) Ostium Primum
(3) Ostium Secundum
(4) Coronary sinus type

59. Which of the following is not an indication for Coronary Artery Bypass Grafting (CABG) ?

(1) Left main coronary artery disease stenosis more than 60%.
(2) One, two or three vessel disease with proximal Left Anterior Descending artery (LAD)
(3) Three vessel disease with impaired ventricular function ie LVEF less than 50%
(4) Double vessel disease with normal Left Anterior Descending artery (LAD)

60. Which is not a pathological stage in rheumatic mitral stenosis ?

(1) Fusion of commisures
(2) Commisural fusion with subvalvular shortening of chordae
(3) Calcification of leaflets and chordae
(4) Fixation of valve alone with free subvalvular system

61. Which of the following pathological change does not occur in rheumatic mitral stenosis ?

(1) Increased left atrial pressure
(2) Left atrium dilatation
(3) Left Ventricular hypertrophy
(4) Embolisation of clots

62. Most common congenital anomaly associated with coarctation of aorta is :

(1) Ventricular septal defect (VSD)
(2) Atrial septal defect (ASD)
(3) Bicuspid Aortic valve
(4) Patent ductus arteriosis (PDA)

63. Which one of the following is not a clinical feature of Coarctation of Aorta ?

(1) Hypotension
(2) Rib notching
(3) Prominent pulsation under the ribs
(4) Radio femoral delay

64. A 50 year old male comes to your office complaining of chest pain and shortness of breath, 3 weeks after a myocardial infarction due to a proximal left anterior descending artery occlusion treated successfully with PTCA. He has systolic and diastolic murmurs; pleural effusions on chest x-ray; and ST elevation on ECG. The most likely diagnosis is :

(1) Post MI angina
(2) LAD re stenosis
(3) Dresslers syndrome
(4) Pulmonary embolism

65. The manifestation of transmural infarction on ECG is :

(1) Tall T waves
(2) T wave inversion
(3) ST segment depression
(4) ST segment elevation

66. Which of the following is true regarding the coronary circulation ?

(1) Coronary blood flow within a normal range of blood pressure is primarily determined by perfusion pressure.
(2) Adenosine is the most important mediator of metabolic vasodilation.
(3) Increased myocardial O_2 demand is met primarily by increasing O_2 extraction.
(4) Coronary blood flow is independent of myocardial oxygen consumption due to autoregulation.

67. Which of the following complications portends the worst prognosis post MI in the first 5 days in the hospital ?

(1) Post MI angina
(2) Cardiogenic shock
(3) Post MI pericarditis
(4) Accelerated hypertension

68. In which of the following situations would digoxin be most useful ?

(1) Atrial fibrillation with a fast ventricular response.
(2) Congestive heart failure due to diastolic dysfunction.
(3) Acute myocardial infarction.
(4) Mitral stenosis with sinus tachycardia.

69. A 30 year old IV drug abuser develops acute aortic regurgitation from endocarditis. Which of the following is least likely to be found ?

(1) Hypotension
(2) Decrescendo diastolic murmur
(3) Mitral valve pre closure
(4) Peripheral vasodilatation

70. Elevation of which of the following serum enzyme markers would be most useful in diagnosing a myocardial infarction in a patient who comes to your office 3 days after an episode of severe and prolonged substernal chest pain ?

(1) LDH isoenzymes
(2) CK MB
(3) Troponin I
(4) Myoglobin

71. A young woman in her 3rd trimester of pregnancy has a blood pressure of 160/100 on routine exam. Her mean arterial pressure is :

(1) 100 mm Hg (2) 110 mm Hg (3) 120 mm Hg (4) 140 mm Hg

72. A 45 year old runner develops chest pain and collapses while jogging. He arrives in the ER within an hour. He is awake and is given a sublingual nitroglycerin tablet which reduces his discomfort. His rhythm is sinus at 90 bpm; BP 120/85. An ECG shows 3 mm of ST segment depression in leads II, III, AVF, V_5 and V_6. The best next step is :

(1) admission with initiation of ASA, β clopidogrel blocker, and heparin therapy
(2) thrombolysis with tPA
(3) cardiac catheterization and percutaneous transluminal coronary angioplasty
(4) an exercise stress test to rule out ischemia as the cause of his symptoms

73. Of the following interventions for coronary risk factor modification, which is the most effective in reducing the risk of myocardial infarction ?

(1) Medical therapy to lower LDL below 100
(2) Post menopausal estrogen replacement therapy
(3) Weight loss to achieve ideal body weight
(4) Smoking cessation

74. In a normal heart, the oxygen saturation of a sample of blood taken from a catheter in the pulmonary capillary wedge position should be equal to a sample from the :

(1) right atrium
(2) right ventricle
(3) pulmonary artery
(4) femoral artery

75. An echocardiogram shows a dilated left ventricular cavity with the remainder of the other chamber sizes normal. The most likely diagnosis is :

(1) mitral stenosis
(2) mitral regurgitation
(3) aortic stenosis
(4) aortic regurgitation

76. Distention of neck veins during inspiration is most likely to be found in :

(1) a normal physical exam
(2) cardiac tamponade
(3) constrictive pericarditis
(4) dilated cardiomyopathy

77. Which of the following has contributed most to the decline in coronary artery disease rates over the last 3 decades in the United States ?

(1) Aspirin therapy
(2) Lifestyle changes (e.g. diet and smoking cessation)
(3) Coronary arterial bypass grafting
(4) Angioplasty

Questions 78 and 79 refer to this paragraph :

You are a first year Pathology resident at a major academic medical center. On your first day of work, you are asked to examine a heart which your attending tells you came from a patient with a known history of atherosclerotic coronary artery disease who suffered an acute myocardial infarct approximately 5 days prior to death. After careful sectioning of the coronary arteries, you determine that the posterior descending coronary artery arises from the right coronary artery. On additional sectioning, you find that the right coronary artery contains diffuse atherosclerotic coronary artery disease and you find a thrombotic occlusion in the proximal portion of the artery.

78. Which of the following represents the most likely gross findings involving the left ventricle of this heart ?

(1) A subendocardial infarct involving the posterior 1/3 of the interventricular septum and a portion of the posterior wall of the left ventricle.

(2) A transmural infarct involving the anterior wall of the left ventricle and the anterior 2/3 of the interventricular septum.

(3) A subendocardial infarct involving the anterior wall of the left ventricle and the anterior 2/3 of the interventricular septum.

(4) A transmural infarct involving the posterior 1/3 of the interventricular septum and a portion of the posterior wall of the left ventricle.

79. Which of the following represents the most likely microscopic findings present associated with the above infarct ?

(1) Normal myocardium

(2) Significant amounts of collagen deposition associated with pigment laden macrophages and early ingrowth of capillary buds.

(3) A large influx of neutrophils associated with degeneration of necrotic myocytes and edema.

(4) Dense scar formation with a few scattered pigment laden macrophages

80. Which of the following statements regarding myocardial infarction is false ?

(1) The diagnosis of acute non transmural myocardial infarction cannot reliably be made on the basis of a single ECG

(2) Uncommon causes of myocardial infarction include cocaine, arteritis, and emboli

(3) Most transmural myocardial infarcts result from plaque rupture and consequent complete thrombotic occlusion of a coronary artery

(4) Infarct extension can reliably be detected using ECG and history together

81. Which of the following statements regarding acute pericarditis is false ?

(1) Causes include idiopathic, rheumatoid arthritis, acute myocardial infarction, and uremia

(2) It usually resolves with the formation of constricting adhesions

(3) It uncommonly results in cardiac tamponade

(4) It often responds dramatically to non steroidal anti inflammatory agents

82. Which of the following statements about atherosclerotic aneurysms is false ?

(1) Most commonly occur in the thoracic aorta

(2) Occur more commonly in males

(3) Risk of rupture is directly related to the size of the lesion

(4) Definitive therapy is surgical repair

83. Which of the following statements is most correct regarding vascular tumors ?

(1) Granuloma pyogenicum is a malignant vascular lesion

(2) In infants, nearly all cavernous hemangiomas require surgical therapy

(3) Most patients with the epidemic form of Kaposis sarcoma die of their disease

(4) Glomangioma is a benign painful tumor located in the distal fingers and toes

84. Eisenmengers Physiology will result from an unoperated :

(1) small ventricular septal defect (2) tetralogy of Fallot

(3) large patent ductus arteriosus (4) coarctation of the aorta

85. Complete transposition of the great arteries is best described as :

(1) atrioventricular discordance with ventricular arterial discordance

(2) atrioventricular concordance with ventricular arterial concordance

(3) atrioventricular discordance with ventricular arterial concordance

(4) atrioventricular concordance with ventricular arterial discordance

86. An asymptomatic 4 year old is referred to you for a heart murmur. By exam and echocardiogram, the right heart is enlarged and there is a soft systolic ejection murmur at the upper left sternal border with a widely split, fixed second heart sound. This patient has a :

(1) large ventricular septal defect (2) severe pulmonary valve stenosis

(3) large patent ductus arteriosus (4) large atrial septal defect

87. Complete atrioventricular septal defects :

(1) are seen frequently in patients with trisomy 21.

(2) include a coronary sinus atrial septal defect.

(3) include a perimembranous ventricular septal defect.

(4) frequently have aortic valve insufficiency.

88. All of the following are common complications of RCA occlusion with resultant inferior wall MI except :

(1) right ventricular infarction

(2) heart block

(3) proximal anterior ventricular septal rupture

(4) papillary muscle rupture

89. The following findings are consistent with pericardial tamponade except :

(1) muffled heart sounds

(2) bradycardia

(3) elevated jugular venous pressure

(4) decreased stroke volume

90. All of the following are examples of restrictive cardiomyopathy except :

(1) amyloidosis

(2) hemachromatosis

(3) viral myocarditis

(4) hypereosiniphilic syndrome