

**POST GRADUATE DIPLOMA IN CLINICAL
CARDIOLOGY (PGDCC)**

Term-End Examination

00486

June, 2011

MCC-007 : CARDIO-VASCULAR RELATED DISORDERS

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 be 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) *Erase completely any error or unintended marks.*
- (vi) *There will be 90 questions in this paper and each question carries equal marks.*
- (vii) *There will be no negative marking for wrong answers.*
- (viii) *No candidate shall leave the examination hall at least for one hour after the commencement of the examination.*

1. 18 year old boy presents with nocturia, polyuria and polydipsia. His sugars are around 300 mg/dL. The most probable diagnosis is :
 - (1) Type II DM
 - (2) Type I DM
 - (3) Insulinoma
 - (4) DM secondary to pancreatitis.

2. A 42 year old lady, diabetic on sulphonylureas was found to have decreased sugars. The optimal strategy will be to initiate :
 - (1) Insulin
 - (2) Metformin
 - (3) Change sulphonylurea brand
 - (4) Increase sulphonylurea dose.

3. 62 year old male with CKD and DM is found to have recurrent hypoglycaemia. The optimal plan would be to :
 - (1) Reduce insulin dose
 - (2) Initiate Metformin
 - (3) Stop Insulin
 - (4) Initiate Sulphonylurea

4. 58 year old obese male with high post - prandial sugars on sulphonylurea will benefit with :
 - (1) Addition of Insulin
 - (2) Addition of Metformin
 - (3) Increasing sulphonylurea dose
 - (4) Diet restriction

5. 42 year old male with insulin resistance on regular bovine insulin and good diet control will benefit by :
 - (1) Increasing insulin dose
 - (2) Substitution with human insulin
 - (3) Addition of sulphonylurea
 - (4) Addition of Acarbose

6. A 48 year old CEO with elevated sugars, BMI>35 and hypertension will benefit maximally by :
 - (1) Diet therapy alone
 - (2) Diet and exercise
 - (3) Metformin, diet and exercise
 - (4) Sulphonylureas

7. 34 year old male presented with Denovo hyperglycaemia, his BMI is 18. What is the optimal strategy ?
 - (1) Exercise and diet
 - (2) Metformin
 - (3) Sulphonylurea
 - (4) Statins

8. A 40 year old heart failure patient had been on treatment with glibenclamide but is having poor control, the next option would be :
 - (1) Initiation of insulin
 - (2) Metformin
 - (3) Glitazones
 - (4) Acarbose

9. A 20 year old lean pregnant lady is found to have a PPBS of 200 on routine evaluation. What would be the best therapy :
- (1) Insulin (2) Acarbose
(3) Sulphonylureas (4) Pioglitazones
10. 67 year lady presents with SOB, ankle swelling, flushing and diarrhoea, the most probably diagnosis is :
- (1) Ischaemic cardiomyopathy (2) Heart failure normal EF
(3) ARVD (4) Carcinoid syndrome
11. 26 year old pregnant lady with MR presents with SOB post delivery. The most common cause of which is :
- (1) Increase in venous return from relief of caval compression.
(2) Acute pulmonary edema
(3) PTE
(4) Amniotic fluid embolism
12. A 30 year old pregnant lady in 2nd trimester has been referred to you with a murmur. The commonest cause of which would be :
- (1) Innocent systolic murmur. (2) Valvular aortic stenosis
(3) ASD with left to right shunt (4) Valvular pulmonary stenosis.
13. Pregnant lady in 2nd trimester present to you in pulmonary edema secondary to severe mitral stenosis. The ideal treatment would be :
- (1) PBMV under echo guidance
(2) PBMV under fluoroscopy with abdominal shielding
(3) Drug therapy alone
(4) Abortion.
14. A 23 year old pregnant woman in 1st trimester with history of HRCT scan exposure comes to you for advice regarding abortion. Your advice is :
- (1) Counselling regarding risk
(2) MTP
(3) No risk
(4) Check the exact exposure (RADS) from the radiologist prior to advise.
15. 30 year old pregnant lady of 15 weeks gestation in heart failure on conventional drugs requires your advice. The most appropriate will be :
- (1) MTP (2) Continue pregnancy on medication
(3) Stop ACE inhibitor (4) Stop Metoprolol

24. On evaluation of a patient with heart failure which of the following abnormalities were found except.
- (1) Increased endothelin - I (2) Increased BNP
 (3) Decreased TNF - α (4) Increased nor-epinephrine
25. 28 year old gentleman with signs of heart failure and EF of 56% will be diagnosed to have :
- (1) DCM (2) Heart failure normal EF
 (3) Ischaemic Cardiomyopathy (4) Cor-pulmonale
26. 32 year old lady presents with non-sustained VT. The MRI shows fat deposition in the RV free wall; the most probable diagnosis will be :
- (1) Uhie's disease (2) Myocarditis
 (3) Brugada syndrome (4) ARVD
27. 24 year old lady presents after delivery with elevated JVP, pedal edema and neck swelling. The most probable cause of heart failure will be :
- (1) Post-partum Cardiomyopathy (2) Ischemic cardiomyopathy
 (3) Myocarditis (4) Thyrotoxicosis
28. 54 year old male diabetic presents with heart failure for optimization of medical therapy. The drugs you would like to administer would be :
- (1) Diuretic, ACE inhibitor, Beta blocker
 (2) Calcium channel blocker, Beta-Blocker, ACEI
 (3) Diuretic, ACEI, Calcium-Channel blocker
 (4) Digoxin, Diuretic, Dobutamine
29. 36 year old male presents to you with symptoms of heart failure, the most serious being :
- (1) Exertional SOB (2) Orthopnea (3) PND (4) Fatigue
30. 18 year old girl presents to you with idiopathic PAH and is symptomatic. The optimal drug choice would be :
- (1) Bosentan (2) Digoxin (3) Sildenafil (4) Frusenide
31. In a 25 year old pregnant woman the most common glomerulopathy associated with infectious endocarditis is :
- (1) Interstitial nephritis
 (2) Minimal change disease
 (3) Membranous glomerulonephritis
 (4) Focal/ segmental proliferative glomerulonephritis

32. A 30 year old pregnant woman with no history of hypertension, hyperlipidemia, diabetes mellitus or other risk factors for atherosclerosis presents with symptoms consistent with angina pectoris- Examination revealed angioid streaks in the left eye and raised papules in the axillary region. The rest of the physical examination is within normal limits. True statements regarding this condition include all of the following except.
- (1) Arterial and venous thrombosis are present.
 - (2) There is an increased risk of bleeding.
 - (3) Restrictive cardiomyopathy may develop.
 - (4) Myocardial infarction is a common cause of death.
33. In a 26 year old pregnant woman, true statements about the diagnosis of pulmonary embolism include all of the following except.
- (1) Arterial blood gas measurement may be misleading in the diagnosis of acute pulmonary embolism.
 - (2) The electrocardiographic findings consistent with pulmonary embolism include right heart strain and tachycardia.
 - (3) Pulmonary infarction due to pulmonary embolism may be visualised on the chest x-ray.
 - (4) A narrow splitting of the second heart sound (S2) is often heard in cases of large pulmonary embolism.
34. The presence of underlying heart disease in the mother may influence both maternal and fetal outcome. Each of the following maternal cardiovascular disorders are usually well tolerated during pregnancy except.
- (1) Atrial Septal Defect (ASD)
 - (2) Ventricular Septal Defect (VSD)
 - (3) Marfan syndrome
 - (4) Coarctation of the aorta
35. In a pregnant woman true statements about trisomy 21 (Down syndrome) and cardiovascular disease include all of the following except :
- (1) Congenital heart defects are seen in 40 to 50 percent of cases of Down Syndrome.
 - (2) Endocardial cushion defects are the most characteristic cardiac anomalies of Down syndrome.
 - (3) Patients with this syndrome have a tendency to develop pulmonary hypertension in the setting of increased right sided flow.
 - (4) Post operative survival in Down syndrome patients is worse than survival for unaffected patients with similar defects.

36. The following statements about hypertension in pregnancy are true except :
- (1) Hypertension complicates about 10% of pregnancies.
 - (2) Elevated blood pressure during pregnancy or in the post-partum period without a history of hypertension / pre-eclampsia is associated with hypertension later in life.
 - (3) Arteriolar vasodilators (hydralazine) and alpha 2 - adrenergic receptor agonists (methyl dopa) are frequently used in the treatment of pregnant hypertensive patients.
 - (4) Pre-eclampsia usually occurs at the end of the second trimester in multiparous woman.
37. In a 25 year old pregnancy woman, true statements with regard to cardiac involvement in Systemic Lupus Erythematoses (SLE) include all the following except :
- (1) Pericarditis is the most common cardiac finding.
 - (2) Libman - Sacks lesions are caused by active myocarditis.
 - (3) Libman - Sacks lesions rarely produce severe valvular regurgitation during the acute phase of the disease.
 - (4) In pregnant woman with active SLE foetal tachycardia and atrial fibrillation are not caused by transplacental transfer of abnormal antibodies.
38. True about Peri-Partum Cardiomyopathy (PPCM) include all of the following except :
- (1) Symptoms of PPCM most commonly occur in the intermediate post partum period.
 - (2) Clinical and haemodynamic findings in PPCM are indistinguishable from those of other forms of dilated cardiomyopathy.
 - (3) The incidence of PPCM is greatest in primiparous with women of European origin.
 - (4) Approximately 50% of PPCM patients show complete or near complete recovery within the first 6 months after delivery.
39. 18 year old girl with SOB was labeled as a case of PPH for confirmation a cath was done. Which of the following statements are reflection of her condition.
- (1) PA pressure < 25 mmHg; PCWP < 15 mmHg
 - (2) PA pressure > 25 mmHg; PCWP > 15 mmHg
 - (3) PA pressure > 25 mmHg; PCWP < 15 mmHg
 - (4) PA pressure < 25 mmHg; PCWP > 15 mmHg
40. 34 year old male with SOB and syncope was diagnosed to have idiopathic PAH. Which of the following factors would predict his long term prognosis
- | | |
|----------------------------------|-----------------------|
| (1) Functional capacity | (2) Exercise capacity |
| (3) Echocardiographic parameters | (4) ECG parameters |

41. 32 year old lady with suspected PAH was sent for expert evaluation all of the following diagnostic tests would be class I indications except :
- (1) Chest X-ray (2) Twelve lead ECG
(3) Echocardiography (4) V/Q Scan
42. 24 year old lady with a diagnosis of idiopathic PAH with no acute vasoreactivity has been started on conventional medicine however continues to be symptomatic. The following options are available except :
- (1) Increase calcium channel blocker dose
(2) Initiate sildenafil
(3) Initiate IV epoprostenol
(4) Increase diuretics
43. 5 year old girl with syncope has been found to have idiopathic PAH. The following medication would elicit the best response in that age group.
- (1) Bosentan (2) Inhaled iloprost
(3) IV Epoprostenol (4) Digoxin
44. 32 year old pregnant lady with idiopathic PAH would be at highest risk of mortality due to increase in cardiac output between the following
- (1) 12 - 16 weeks (2) 16 - 20 weeks (3) 20 - 24 weeks (4) 6 - 12 weeks
45. 20 year old girl has loud P2 and a short diastolic murmur. Which cyanotic congenital heart disease is compatible with this finding :
- (1) VSD Eisenmenger (2) PDA Eisenmenger
(3) ASD Eisenmenger (4) AVCD
46. Diabetes Mellitus is characterized by :
- (1) Thirst (2) Polyuria (3) Weight loss (4) All the above
47. Insulin is secreted by which islets :
- (1) Beta cells (2) Alpha cells (3) Gamma cells (4) None
48. Syndrome X comprises :
- (1) Obesity (2) Hypertension
(3) Hyperinsulinemia (4) All of the above
49. Diabetes (secondary) is caused by all except :
- (1) Calcium channel blocker (2) Beta Blocker
(3) Thiazides (4) Phenytoin

50. Which is the gold standard for diagnosis of Diabetes ?
 (1) Fasting Glucose (2) HbA1 C
 (3) Oral Glucose tolerance test (4) None
51. Which is not the criteria for diagnosis of gestational diabetes mellitus ?
 (1) WHO Criteria (2) "O" Sullivan Criteria
 (3) Both (1) and (2) (4) RHO Criteria
52. Hypoglycemia is defined as blood glucose :
 (1) < 60 mgm (2) < 80 mgm (3) < 100 mgm (4) None
53. Which is not autonomic symptom of hypoglycaemia ?
 (1) Tremor (2) Palpitations (3) Hunger (4) Nervousness
54. Neuroglycopenic symptoms are all except :
 (1) Weakness (2) Nightmares (3) Head ache (4) Tremors
55. Ketone bodies are all except :
 (1) Acetone (2) Glucose
 (3) Aceto acetate (4) Beta hydroxyl butarate
56. Which is not clinical abnormality of Diabetic keto acidosis ?
 (1) Increased lipolysis (2) Decreased lipolysis
 (3) Increased proteolysis (4) Decreased glucose uptake
57. Average fluid deficit in Diabetic Keto acidosis :
 (1) 1 Litre (2) 2 Litres (3) 4 Litres (4) 6 Litres
58. Which is not ideal for fluid correction in diabetic ketoacidosis ?
 (1) 0.9% saline (2) 5% dextrose (3) Both (1) and (2) (4) Ringer lactate
59. Which is not feature of HONK ?
 (1) Glucose > 600 mgm (2) Serum osmolarity < 330
 (3) Serum osmolarity > 330 msm/kg (4) Absence of Ketones
60. Solution used for correction of HONK is :
 (1) Half normal saline (2) 0.9% saline (3) Ringer Lactate (4) None

61. Isolated systolic hypertension is defined as
 (1) Systolic pressure > 160 mmHg (2) Diastolic pressure < 90 mmHg
 (3) Both (1) and (2) (4) None
62. Which is not a macrovascular complication of Diabetes ?
 (1) Coronary Artery Disease (2) Cerebro Vascular Disease
 (3) Peripheral Vascular Disease (4) Retinopathy
63. Ankle brachial systolic pressure ratio normally is :
 (1) > 1 (2) < 1 (3) > 2 (4) None
64. Which is not a feature of neuropathic foot ?
 (1) Warm foot (2) Cool foot
 (3) Palpable foot pulses (4) Distended veins on foot
65. Which is not a micro vascular complication of diabetes ?
 (1) Retinopathy (2) Neuropathy
 (3) Nephropathy (4) Cerebro vascular accident
66. Dot and blot haemorrhages is a feature of :
 (1) Neuropathy (2) Non proliferative retinopathy
 (3) Vasculitis (4) None
67. ACE Inhibitors dilate which arteriole in renal glomerulus :
 (1) Afferent (2) Efferent (3) Both (1) and (2) (4) None
68. Glimepride is :
 (1) Short acting (2) Intermediate acting (3) Long acting (4) None
69. Diabetic pregnancy leads to :
 (1) Intra uterine death (2) Respiratory distress (fetal)
 (3) Macrosomia (4) All the above
70. Blood volume in pregnancy rises rapidly till :
 (1) Early 1st trimester (2) Mid pregnancy
 (3) Late pregnancy (4) None

71. Cardiac output reaches plateau in pregnancy by :
(1) 3rd week (2) 6th week (3) 24th week (4) None
72. Supine hypotensive syndrome of pregnancy occurs because of compression of :
(1) Superior Vena cava (2) Inferior Vena cava
(3) Both (1) and (2) (4) None
73. Which is not a feature of normal pregnancy in echo ?
(1) Small pericardial effusion (2) Large pericardial effusion
(3) Mildly dilated RA, RV, LA, LV (4) (1) and (2)
74. Drugs that shorten APD are all except :
(1) Mexiletine (2) Phenytoin (3) Lidocaine (4) Quinidine
75. Adenosine half life is :
(1) 2 seconds (2) 6 seconds (3) 10 seconds (4) 20 seconds
76. Dosage for prevention of pre-eclampsia for aspirin in pregnancy :
(1) 60-80 mg/day (2) 100-125 mg/day
(3) 150-200 mg/day (4) 325 mg/day
77. Warfarin causes all except :
(1) Fetal embryopathy (2) Spontaneous abortion
(3) (1) and (2) (4) Does not cross placenta
78. Warfarin in pregnancy is switched over to heparin in which trimester ?
(1) 26 weeks (2) 30 weeks (3) 38 weeks (4) None
79. Pre eclampsia includes all except :
(1) Systolic BP > 40 mmHg (2) Diastolic BP > 90 mmHg
(3) Proteinuria > 100 mg/24hrs (4) None
80. Sildenafil is which inhibitor :
(1) Phosphodiesterase - 5 (2) Phosphodiesterase - 3
(3) Phosphodiesterase - 1 (4) (1) and (2)

81. Heart Failure causes all except :
- (1) ↓ Stroke volume
 - (2) ↑ Nor epinephrine levels
 - (3) ↑ Stroke volume
 - (4) Activation of central baro reflex
82. Which is not function of Brain Natriuretic peptide ?
- (1) ↓ Preload
 - (2) Inhibit sodium absorption in proximal tubule
 - (3) ↓ afterload
 - (4) ↑ afterload
83. Which is not a high output state causing heart failure ?
- (1) Thyrotoxicosis
 - (2) Paget's disease
 - (3) Cardiogenic shock
 - (4) Cor pulmonale
84. Dominant diastolic heart failure is caused by all except :
- (1) Hypertension
 - (2) Severe aortic stenosis
 - (3) Peripartum cardiomyopathy
 - (4) Restrictive cardiomyopathy
85. HELLP syndrome includes all except :
- (1) Hemolysis
 - (2) Elevated liver enzymes
 - (3) Low platelet count
 - (4) High platelet count
86. Labetalol maximal dose in pre eclampsia is :
- (1) 20 mg
 - (2) 60 mg
 - (3) 100 mg
 - (4) 220 mg
87. First line of drug in hypertensive pregnant lady is :
- (1) Methyl dopa
 - (2) Labetalol
 - (3) Clonidine
 - (4) Atenolol
88. Which is contra indicated in pregnancy ?
- (1) ACEI
 - (2) Magnesium sulphate
 - (3) Methyl dopa
 - (4) Labetalol
89. Primary pulmonary hypertension is defined as elevation of mean pulmonary pressure.
- (1) > 25 mmHg
 - (2) > 30 mmHg
 - (3) > 35 mmHg
 - (4) > 40 mmHg
90. Primary pulmonary hypertension associated with pregnancy carries :
- (1) High mortality
 - (2) Low mortality
 - (3) Average mortality
 - (4) None