DM Cardiology

[redacted]

Test Booklet Serial No.....[redacted]

Series No. : [redacted]

Number of Questions : 120 *Time Allowed : 2 hours*

Booklet Contains Pages : 40 *Max. Marks : 480*

PLEASE DO NOT OPEN THE TEST BOOKLET UNTIL ASKED TO DO SO BY INVIGILATOR.

Name of the Candidate _____

Roll No. _____

Center of Examination _____

Date of Examination _____

Candidate's Signature _____ *Signature of Invigilator* _____

SOME IMPORTANT INSTRUCTIONS TO THE CANDIDATES

1. Each question carries **4 marks**. For each correct response the candidate will get 4 marks. For each incorrect answer, **1 mark** will be deducted from the total score.
2. Use only **BLUE / BLACK BALL POINT PEN** for darkening the appropriate circle completely.
   For example : ● (B) (C) (D)
3. Rough work is to be done only on the Test Booklet and not on the answer sheet.
4. Make sure that you do not possess any pages (Blank or Printed) of any unauthorized material. If such material is found in your possession during the examination, you will be disqualified for admission.
5. If you are found copying/helping others, you will be disqualified for admission.
6. **Candidate found in possession of Cellular Phone/Mobile Phone/Cordless Phone/ Communication device/Pager/Scanner whether using or not using will be liable to be debarred for taking examination(s) either permanently or for a specified period or and dealt with as per law or/and ordinance of the university according to the nature of offence, or/and she/he may be proceeded against and shall be liable for prosecution under the relevant provision of the Indian Penal Code.**
7. At the end of the examination hand over the text booklet and answer sheet to the invigilator.
8. Do not leave the examination hall until you are asked to do so.
9. Count the pages of the booklet on receipt. If any defect found in the booklet ask the invigilator to provide a fresh copy.

1. The longest phase of the cardiac action potential is :

(A) Phase 0

(B) Phase 1

(C) Phase 2

(D) Phase 3

2. All of the following are physiological responses during the Phase 2 (Maintenance Phase) of Valsalva maneuver in a normal person except :

(A) Decrease in pulse rate

(B) Decrease in aortic systolic pressure

(C) Decrease in pulse pressure

(D) Decrease in left ventricular filling

3. A statistical analysis test which is used to compare the survival distributions of two sets of data is :

(A) Chi-square test

(B) Linear regression analysis

(C) Logistic regression analysis

(D) Log-rank test

4. In a randomized trial, primary end point is seen in 9% patients on experimental drug versus 11% patients on placebo treatment. The number needed to prevent one such primary event (NNT) using experimental drug will be :

(A) 2

(B) 20

(C) 50

(D) 98

5. The strongest prognostic variable during treadmill testing is :

(A) Ventricular ectopics during exercise

(B) LBBB during exercise

(C) Exercise duration

(D) 3 mm ST segment depression during exercise

6. Hibernating myocardium on PET testing is demonstrated by :

(A) Preserved perfusion and preserved glucose metabolism

(B) Reduced perfusion and reduced glucose metabolism

(C) Reduced perfusion and preserved glucose metabolism

(D) Preserved perfusion and reduced glucose metabolism

7. Factor predisposing the coronary artery plaque to rupture causing acute coronary syndrome is :

(A) Distal coronary artery lesion

(B) Coronary bifurcation lesion

(C) Small lipid core in the plaque

(D) Large amount of smooth muscles with in the plaque shoulder

8. Superficial plaque erosion (as compared to plaque rupture) is commonly associated with :

(A) Diabetes

(B) Male patients

(C) Coronary vasospasm

(D) Elderly patients

9. Which of the following is true regarding ADP receptor antagonists ?

(A) Thienopyridines predominantly act through P2Y1 receptors

(B) Prasugrel use is safe in elderly patients

(C) Ticagrelor is directly-acting, oral thienopyridine agent

(D) Cangrelor is a reversible platelet inhibitor

10. Which of the following statements is true regarding acute mitral regurgitation following acute myocardial infarction (MI) ?

(A) Occurs more commonly due to anterolateral papillary muscle

(B) Can occur with both large or focal area of MI

(C) Occurs more commonly with anterior wall MI than inferior wall MI

(D) Usually occurs within 24 hours of MI

11. Mortality benefit of beta blocker in congestive heart failure is seen with all of the following except :

(A) Bucindolol

(B) Carvedilol

(C) Bisoprolol

(D) Metoprolol

12. Lipid lowering drug associated with QT prolongation include :

(A) Ezetimibe

(B) Probucol

(C) Gemfibrozil

(D) Niacin

13. Which of the following is true for acute aortic intramural hematoma ?

(A) It has benign self-limiting course in majority of cases

(B) TEE is better than CT angiography for early diagnosis

(C) Occurs due to bleeding from the damaged vasa vasorum

(D) Usually associated with acute aortic regurgitation

14. Which of the following peripheral revascularization techniques is associated with worst patency rate at 5 years ?

(A) Femoro-popliteal bypass graft using saphenous venous graft

(B) Femoro-popliteal stenting using self-expanding stents

(C) Iliac artery stenting

(D) Infra-popliteal peripheral angioplasty

15. All are true for mesenteric vein thrombosis leading to mesenteric ischemia except :

(A) Associated with oral contraceptives

(B) Presents with weight loss, lower GI bleeding

(C) Inferior mesenteric vein is more commonly involved than superior mesenteric vein

(D) Less common than the mesenteric arterial involvement (as a cause of mesenteric ischemia)

16. All of the following are true regarding carotid duplex ultrasound for measuring the severity of carotid artery stenosis except :

(A) It is less precise in determining stenosis of less than 50 percent compared with higher percent stenosis

(B) Can accurately distinguish between subtotal and total occlusion of carotid artery

(C) Contralateral stenosis results in overestimation of ipsilateral stenosis

(D) The measurement is dependent on the cardiac output

17. Metabolic syndrome is typically associated with all of the following except :

(A) Increased waist circumference

(B) Elevated LDL-Cholesterol

(C) Impaired fasting glucose

(D) Low HDL-Cholesterol

18. Genetic testing is most appropriate for :

(A) Long QT syndrome

(B) Dilated cardiomyopathy

(C) Coronary artery disease

(D) Atrial fibrillation

19. In a patient with chronic left ventricular disease, the patient having predominant S4 gallop (as compared to having S3 gallop) will have :

(A) Higher mean left atrial pressure

(B) Higher left ventricular filling pressure in early diastole

(C) Higher atrial contractile function

(D) Higher atrial volume

20. Which of the following is true regarding the 'v wave' in the right atrial pressure trace ?

(A) It occurs just after the tricuspid valve opening

(B) It is due to filling of right atrium by blood returning from vena cavae and coronary sinus

(C) It occurs during the period of ventricular diastole

(D) It is of higher amplitude than left atrial v wave

21. Patients with chronic aortic regurgitation are likely to have (as compared to acute aortic regurgitation) :

(A) Normal pulse pressure

(B) Elevated left ventricular end-diastolic pressure

(C) Dilated left ventricle

(D) Sinus tachycardia

22. Higher amplitude of 'v wave' in pulmonary capillary wedge pressure in a patient of mitral regurgitation (MR) is seen with :

(A) Marked left atrial enlargement

(B) Presence of sinus rhythm than in atrial fibrillation

(C) Chronic MR than with acute MR

(D) None of the above

23. Which of the following is true regarding the measurement of pressure gradient across the aortic valve for assessing the severity of aortic stenosis ?

(A) Peak-to-peak gradients are more than peak instantaneous gradients

(B) Peak-to-peak gradients are assessed using Doppler echocardiography

(C) Peak-to-peak gradient reflect the true physiologic gradient

(D) Mean gradient across the aortic valve correlates well as assessed using Doppler echocardiography and cardiac catheterization

24. The commonest benign congenital coronary anomaly is :

(A) Left circumflex (LCx) coronary artery arising from right aortic sinus

(B) Left main coronary artery (LMCA) arising from right aortic sinus

(C) Single coronary artery

(D) Right Coronary Artery (RCA) arising from left aortic sinus

25. All of the following are features of cholesterol embolization following cardiac catheterization except :

(A) Eosinophilia

(B) Renal dysfunction

(C) Livedo reticularis of lower limb

(D) Absent popliteal artery pulsation

26. Which of the following is true regarding Intravascular ultrasound (IVUS) and Optical coherence tomography (OCT) imaging of coronary arteries :

(A) IVUS has better axial resolution than OCT

(B) IVUS detects thrombus better than OCT

(C) IVUS is better for detection of far-field signals than OCT

(D) IVUS detects vulnerable plaque better than OCT

27. All of the following are true for assessment of the coronary artery using Fractional flow reserve (FFR) except :

(A) Intravenous nitroglycerine infusion may be used for inducing hyperemia in place of adenosine in patients with lung disease

(B) Is affected by the amount of viable myocardium supplied by the artery

(C) Is influenced by collateral flow to the artery

(D) Is useful for physiologic assessment of side branch ostial disease in bifurcation angioplasty

28. The most common energy source used for catheter ablation for treatment of arrhythmias is :

(A) Cryoablation

(B) Radiofrequency

(C) High frequency ultrasound

(D) Laser

29. Drug which is used for pharmacologic provocation during upright tilt table test includes :

(A) Esmolol

(B) Nifedipiine

(C) Isoproterenol

(D) Nikornadil

30. Drugs which have been investigated for pharmacological treatment of neurocardiogenic syncope include all of the following except :

(A) Midodrine

(B) Pyridostigmine

(C) Diltiazem

(D) Theophylline

31. Which of the following statements is true regarding persistent junctional reciprocating tachycardia (PJRT) ?

(A) It is an antidromic variety of AVRT

(B) It has short R-P interval

(C) The tachycardia rates are usually slower than other tachyarrhythmias

(D) It is usually seen in elderly patients

32. Arrhythmias causing tachycardia-mediated cardiomyopathy include all of the following except :

(A) Ectopic atrial tachycardia

(B) Atrial fibrillation

(C) Persistent junctional reciprocating tachycardia (PJRT)

(D) Bidirectional ventricular tachycardia

33. Bundle branch re-entrant ventricular tachycardia (BBRVT) is usually associated with :

(A) RBBB morphology during tachycardia

(B) HV interval during VT is typically shorter than during sinus rhythm

(C) Patients with no structural heart disease

(D) Poor response to pharmacological therapy

34. The most effective treatment which improves survival for a comatosed patient who has been resuscitated from out-of-hospital cardiac arrest is :

(A) Therapeutic hypothermia

(B) Hyperventilation using mechanical ventilation

(C) Immediate coronary angiography and PCI

(D) Dobutamine infusion

35. Absolute contraindication to thrombolytic therapy for acute myocardial infarction include (s) :

(A) Prolonged CPR for more than 10 minutes

(B) Ischemic stroke of 1-hour duration

(C) Intracranial haemorrhage 3 months back

(D) All of the above

36. All of the following are true for Ross procedure except :

(A) Preferred in younger patients

(B) Suitable for patients with rheumatic valve disease

(C) Long-term systemic anticoagulation is not required

(D) Pulmonary reconstruction is performed using pulmonary homograft

S88

37. All of the following drugs may be useful for treatment of catecholaminergic polymorphic ventricular tachycardia (CPVT) except :

(A) Quinidine

(B) Nadolol

(C) Verapamil

(D) Flecanide

38. Out-of-hospital self-treatment of recent-onset atrial fibrillation (Pill-in-the-Pocket approach) can be done by taking :

(A) Quinidine

(B) Amiodarone

(C) Sotalol

(D) Flecainide

39. The commonest associated anomaly seen in a patient with Ebstein's anomaly include :

(A) Patent ductus arteriosus

(B) Atrial septal defect

(C) Coarctation of aorta

(D) Pulmonary stenosis

40. Which of the following statements is true for Reteplase (Recombinant plasminogen activator, r-PA) :

(A) It is given as a single bolus dose

(B) It is less fibrin selective than alteplase (t-PA)

(C) It is given as weight adjusted doses

(D) It has a short half-life than alteplase (t-PA)

41. Which of the following coronary anomalies can interfere with the corrective surgery for Tetralogy of Fallot ?

(A) LAD artery arising from the right aortic sinus

(B) Separate origin of LAD and LCx from left aortic sinus

(C) Separate origin of conus artery from right aortic sinus

(D) High origin of right coronary artery form right aortic sinus

42. In the setting of primary percutaneous coronary intervention (Primary PCI), the benefit of drug eluting stent (DES) over bare metal stent (BMS) is :

(A) Reduced stroke

(B) Reduced death

(C) Reduced target vessel revascularization

(D) Reduced stent thrombosis

43. Higher value of oxygen saturation (out of the given choices) will be observed under normal conditions in :

(A) Inferior vena cava

(B) Superior vena cava

(C) Coronary sinus

(D) Right atrium

44. Which of the following congenital condition is associated with increased risk of complete heart block ?

(A) Supravalvar Aortic stenosis

(B) TOF with absent pulmonary valve

(C) c-TGA (corrected transposition of great arteries)

(D) Ebstein's anomaly

45. The most appropriate step for a patient of acute coronary syndrome who developed heparin induced thrombocytopenia (HIT) on unfractionated heparin (UFH) should be :

(A) Switch UFH to low molecular weight heparin (LMWH)

(B) Reduced the dose of UFH to half

(C) Switch to bivalirudin

(D) Switch to warfarin

46. Which of the following patients with STEMI will have worst prognosis ?

(A) 40-year male diabetic with inferior wall MI, clear chest, no LVS3

(B) 70-year old patient with inferior wall MI and basal crepts and LVS3

(C) 60-year male with anterior wall MI and clear chest, no LVS3

(D) 75-year male with old anterior wall MI, acute IWMI, LVEF 45%, clear chest

47. Normal physiologic changes during pregnancy include :

(A) Fall in systemic blood pressure occurs predominantly during the last trimester

(B) Increase in cardiac output predominantly occurs due to increase in stroke volume which occurs during last trimester

(C) Pulmonary artery systolic and diastolic pressures remain normal

(D) Physiological anaemia during pregnancy reduces the placental perfusion

48. All of the following are true regarding multifocal atrial tachycardia (MAT) except :

(A) Variable P wave morphologies

(B) Variable P-P interval

(C) Constant PR interval

(D) Variable R-R interval

49. Normal physiological changes during exercise in a normal adult includes :

(A) Decrease in partial pressure of oxygen in arterial blood (PaO2)

(B) Decrease in partial pressure oxygen in mixed venous blood (PvO2)

(C) Leftward shift of the oxy-hemoglobin dissociation curve

(D) Decrease in mean systemic blood pressure

50. Oblique vein of Marshall drains into :

(A) Right atriuim

(B) Coronary sinus

(C) Left atrium

(D) Right ventricle

51. All of the following are true regarding 'Fetal echocardiography' except :

(A) Should be done in the last trimester of pregnancy as the fetal heart is well developed

(B) Fetal arrhythmias can be diagnosed on echocardiography

(C) Hypoplastic left heart syndrome can be easily diagnosed

(D) Imaging of coarctation of aorta is difficult

52. All of the following statements are true for cardiac amyloidosis except :

(A) Atrial septal thickening on echocardiography is a specific finding

(B) Diltiazem is useful for improving diastolic dysfunction

(C) Hypertension is an unusual finding

(D) Low-voltage complexes are seen in the limb leads of ECG

53. Patency rate of left internal mammary artery for LAD artery at 10-years is approximately :

(A) 75%

(B) 80%

(C) 90%

(D) 99%

54. A 30-year-old patient has undergone percutaneous transvenous mitral commissurotomy (PTMC). He developed cardiac tamponade during the procedure. A total of 5,000 units of unfractionated heparin (UFH) was given during the procedure. All of the following statements are true for administration of protamine sulphate to neutralize UFH except :

(A) Each mg of protamine neutralizes 100 units of active heparin

(B) It should be given as fast bolus for immediate action

(C) It can cause pulmonary hypertension

(D) Maximal dose which can be given is usually 50 mg

55. A 55-year old man presents to emergency with acute inferior wall myocardial infarction. The blood pressure is 78/60 mmHg. Heart rate is 50 beats/minute. Jugular venous pressure is elevated. He is still complaining of ongoing chest pain. Immediate steps should include all of the following except :

(A) Give aspirin (325 mg)

(B) Get right-sided precordial leads

(C) Give injection morphine for pain relief

(D) Take the patient for primary PCI

56. A 65-year-old female suffered inferior wall myocardial infarction. The left ventricular ejection fraction is 55% with mild regional wall motion abnormality in inferior wall on echocardiography. She underwent coronary angioplasty with placement of drug-eluting stent in right coronary artery. Which of the following treatments is most likely to result in mortality benefit on follow-up :

(A) Metoprolol (50 mg/daily)

(B) Aldactone (25 mg/daily)

(C) Atorvastatin (80 mg/daily)

(D) Ramipril (5 mg/daily)

57. A 55-year-old male patient has exercised on treadmill for 6 minutes using standard Bruce protocol. He developed 2 mm maximum ST segment depression and non-limiting angina at peak exercise. The Duke Treadmill score will be :

(A) –8

(B) –6

(C) –4

(D) –10

58. A 75-year hypertensive male patient presents with severe chest pain of 2-hours duration. Blood pressure in right upper limb is 160/100 and left upper limb is 100/70. Heart rate is 110 beats/minute. There is 2-mm ST segment elevation in inferior leads. Echo reveals large pericardial effusion. The immediate management should include :

(A) Urgent pericardiocentesis

(B) Urgent coronary angiography and PCI of culprit vessel

(C) Urgent transesophageal echocardiography

(D) Urgent contrast-enhanced CT of chest and abdomen

59. A 56-year old male patient has Type-2 DM with micro-albuminuria, hypertension, and serum creatinine of 1.5 mg%. He was started on olmesartan at the recommended doses. After 2 months, the creatinine has increased to 1.9 mg%, the blood pressure is well controlled. The appropriate step in this patient will be :

(A) Continue same treatment and monitor renal function

(B) Switch olmesartan to amlodipine

(C) Initiate dialysis

(D) Decrease the dose of olmesartan to half and reassess renal function

60. A 45- year old patient gives history of severe contrast-induced allergy one-year back. Now he presents to the emergency with extensive acute anterior wall myocardial infarction. The correct treatment strategy should be :

(A) Prefer thrombolytic agent over primary PCI

(B) Give methylprednisolone, diphenhydramine and ranitidine as early as possible and take the patient for primary PCI

(C) Give methylprednisolone, diphenhydramine and ranitidine as early as possible and wait for 2-3 hours for primary PCI

(D) Give methylprednisolone and ranitidine as early as possible and send the patient for bypass surgery after coronary angiography

61. A 60-year old male presented to emergency department with sudden onset chest pain and hypotension. He gives history of air travel for 12 hours, two days prior to presentation. The best diagnostic test should be :

(A) D-dimer

(B) Transesophageal echocardiography (TEE)

(C) Invasive coronary angiography

(D) Multi-slice CT angiography

62. A 40-year-old female patient is a case of idiopathic pulmonary artery hypertension (IPAH). She is hospitalized with class IV symptoms. The treatment strongly recommended to relieve her symptoms and improve survival is :

(A) Bosentan

(B) Intravenous epoprostenol

(C) Long-acting nifedipinie

(D) Sildenafil

63. A 38-year old female is a known case of chronic thromboembolic pulmonary artery hypertension (CTEPH). She is symptomatic despite adequate treatment with warfarin and diuretics. CT angiography reveals presence of non-occluding chronic thrombus in right and left proximal pulmonary artery. The treatment of choice should be :

(A) IV prostacyclin

(B) Switch to acenocoumarol in place of warfarin

(C) Thrombolytic therapy using tenecteplase

(D) Surgical pulmonary thrombo-endarterectomy

64. A 15-year-old athlete is diagnosed to have Ebstein's anomaly. He has no limitation in his physical activity. There is no cardiomegaly. Recently, he had two episodes of palpitations and dizziness but no syncope. The likely arrhythmia in this patient will be :

(A) Atrial fibrillation

(B) Atrial flutter

(C) AVRT

(D) Ventricular tachycardia

65. A 45-year-old male patient is a case of CAD, post CABG, LVEF 28%. He is having class II symptoms (dyspnea) on optimal medical management. His ECG shows sinus rhythm, PR interval 220 msec and QRS duration of 112 msec. There is no history of syncope or pre-syncope or palpitations. The likely management should include:

(A) ICD implantation

(B) CRT implantation

(C) Combo (ICD and CRT implantation)

(D) No device therapy (at present)

66. A 60-year-old chronic smoker is diagnosed to have chronic obstructive pulmonary disease. The echocardiography reveals right atrial and right ventricular enlargement with moderate PAH. The likely cause of this finding is :

(A) Pulmonary artery in-situ thrombosis

(B) Hypercapnia

(C) Alveolar hypoxia

(D) Pulmonary A-V fistula

67. A 70-year-old female patient is a case of breast cancer. She is receiving active chemotherapy. She has presented to the emergency with cold extremities. The blood pressure is 100/70, heart rate 100 beats/minute, SaO2 98%. JVP raised with blunted Y descent. The likely diagnosis is :

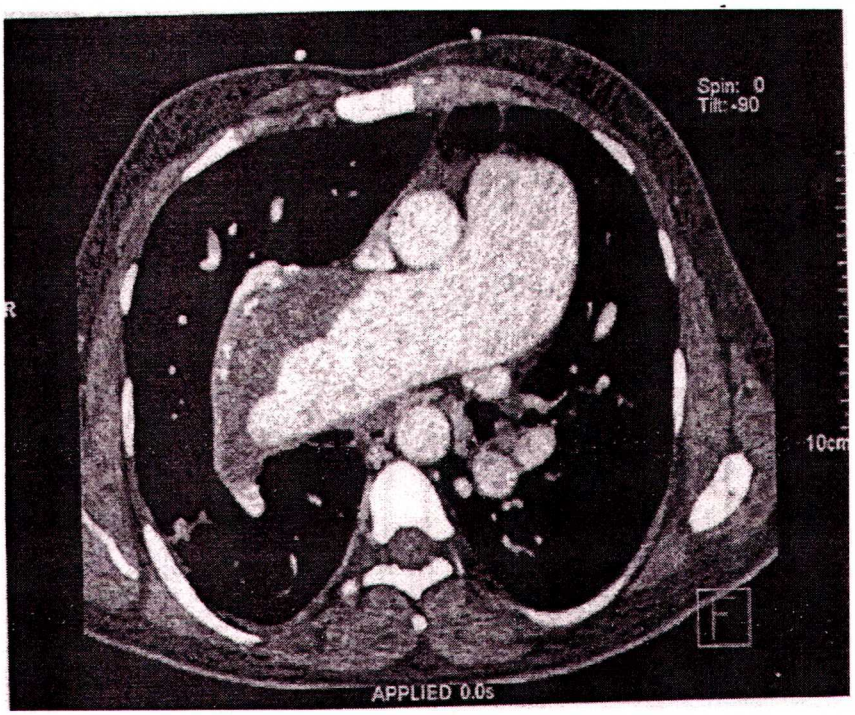
(A) Constrictive pericarditis

(B) Cardiac tamponade

(C) Left ventricular systolic dysfunction

(D) Acute pulmonary embolism

68. A 45-year-old patient presents to medical emergency with chest pain and hypotension. CT angiography of the patient is shown below. The urgent treatment of this patient should include:



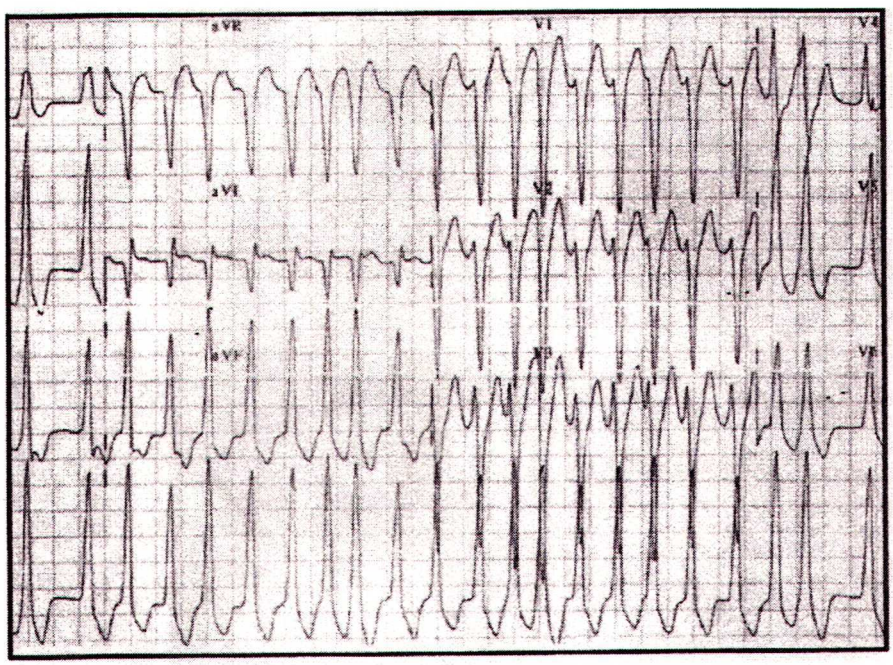
(A) Aortic root replacement

(B) Thrombolytic therapy with tenecteplase

(C) Chest tube drainage

(D) Percutaneous coronary intervention

69. A 43-year-old patient presents with sudden onset palpitation and hypotension. The likely diagnosis based on the ECG as sown below is :



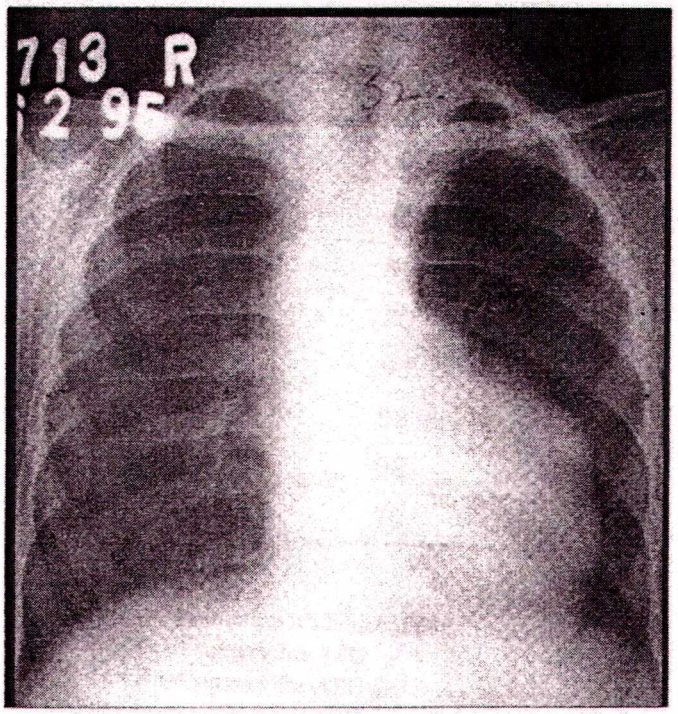
(A) Polymorphic ventricular tachycardia

(B) Atrial fibrillation with antidromic AVRT

(C) Persistent junctional reciprocating tachycardia (PJRT)

(D) PSVT with aberrant conduction

70. A 15-year-old child has history of increasing cyanosis since childhood. The X-ray chest is shown below. The likely diagnosis is :



(A) ASD with Eisenmenger Syndrome

(B) d-transposition of great arteries (d-TGA)

(C) Ebstein's anomaly

(D) Tricuspid atresia

P.T.O.

71. The likely management of a 45-year-old female patient having the oximetry and hemodynamic data as shown below should be :

Chamber	O_2 Saturation	Pressure
SVC	65	–
IVC	60	
RA	82	a 16, v 16, m 14
RV	80	60, ed 16
PA	80	60/24, m 36
PCW	98	a 15, v 16, m 14
LA	98	a 16, v 16, m 14
LV	98	100, ed 16
FA	98	100/68, m 77

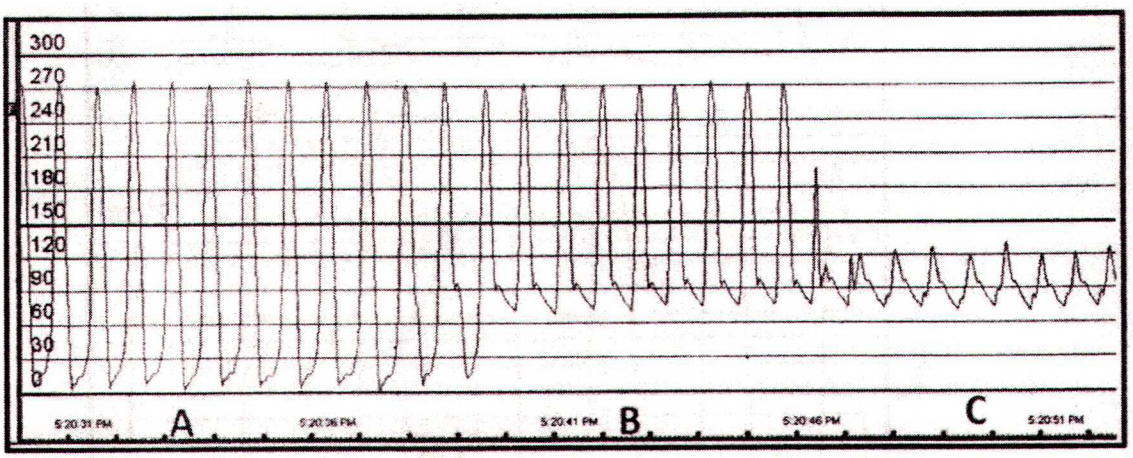
(A) Medical treatment with Sildenafil and Bosentan

(B) Open heart surgery for ASD

(C) Open heart surgery for ASD and mitral valvotomy

(D) Open heart surgery for ASD and pulmonary valvotomy

72. The pull-back pressure recording from left ventricle apex to aorta of a 36-year-old patient is shown below. The likely treatment should be :



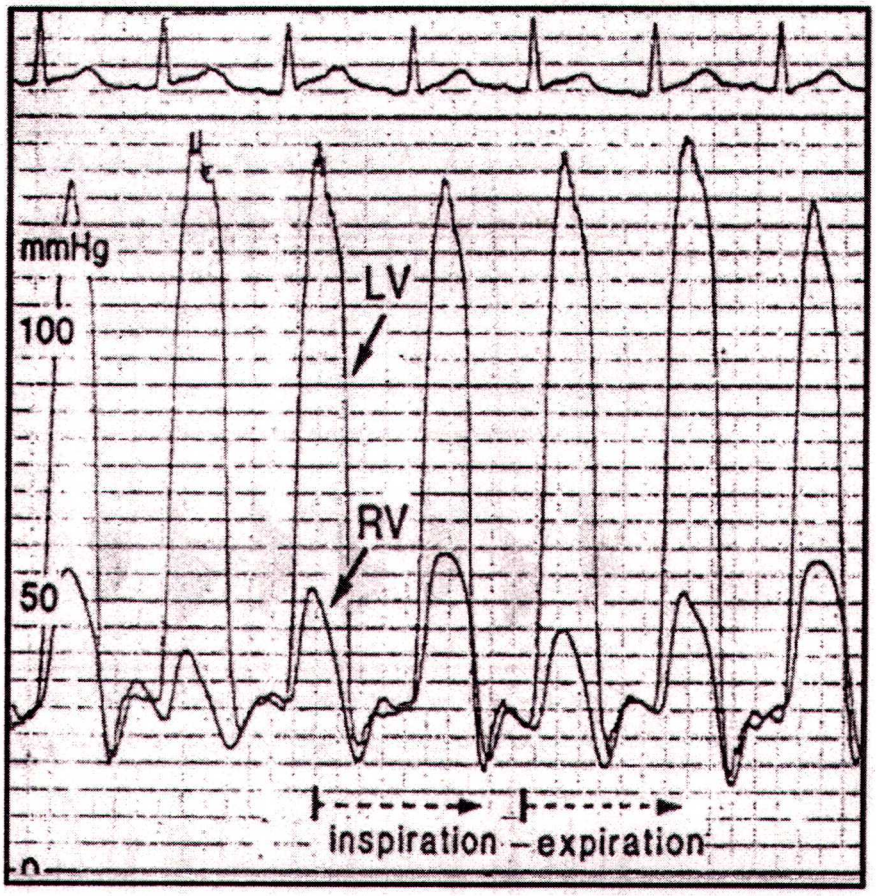
(A) Aortic root replacement

(B) Alcohol septal ablation

(C) Aortic valve balloon dilatation

(D) Aortic valve replacement

73. The likely diagnosis based on the hemodynamic trace shown below is :



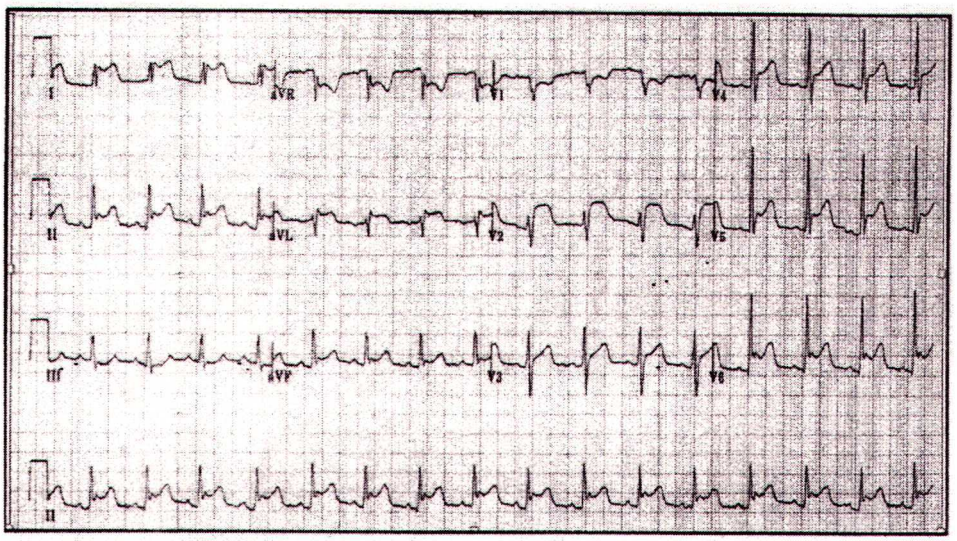
(A) Restrictive cardiomyopathy

(B) Cardiac tamponade

(C) Chronic constrictive pericarditis

(D) Hypertrophic obstructive cardiomyopathy

74. A 45-year-old patient presents to the emergency with severe chest pain. The 12-lead ECG done at the time of presentation is shown below. The likely diagnosis is :



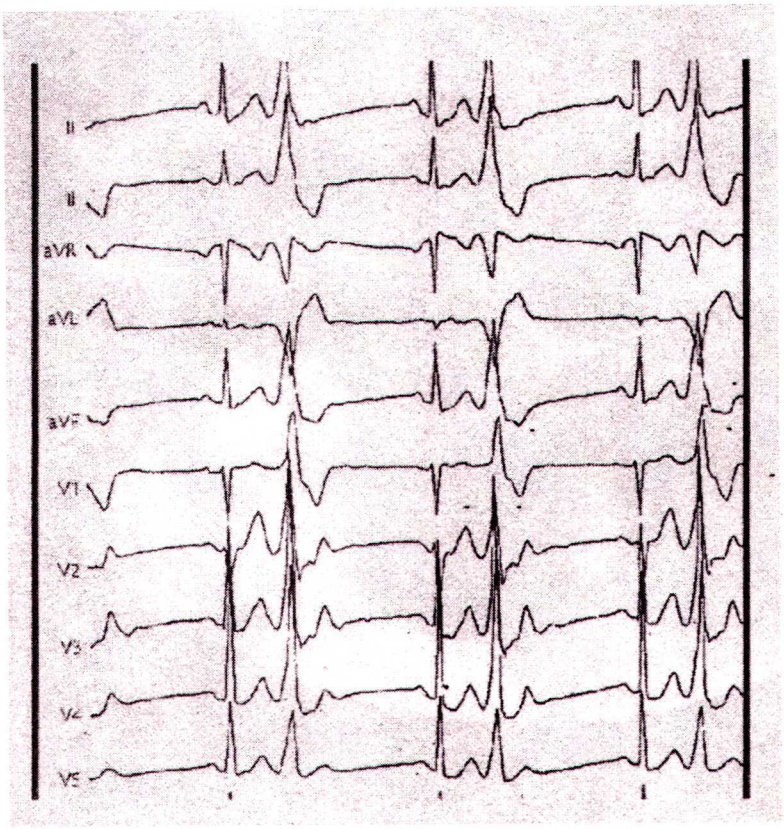
(A) Acute pulmonary embolism

(B) Acute pericarditis

(C) STEMI (left main coronary artery occlusion)

(D) STEMI (distal LAD occlusion)

75. A 10-year-old child has history of palpitation. The ECG at the time of symptoms is shown below. The likely anatomical site of origin of ventricular premature contraction is :



(A) Right ventricle outflow tract

(B) Right ventricle apex

(C) Left ventricular outflow tract

(D) Interventricular septum

76. Arrhythmogenic right ventricular cardiomyopathy is a disease of :

(A) Tropomyosin

(B) Intercalated disc

(C) Myosin light chain

(D) Mitochondrial DNA

P.T.O.

77. Which of the following therapy has conclusively shown to increase HDL and decrease cardiovascular mortality ?

(A) Anacetrapib

(B) Niacin

(C) Fibrates

(D) None of the above

78. All are involved in the pathogenesis of clubbing except :

(A) Prostaglandin dehydrogenase gene mutation

(B) Hypoxia

(C) Vagal stimulation

(D) Vascular endothelial growth factor

79. Bezold Jarisch reflex is produced by :

(A) Atrial distension

(B) Ventricular distension

(C) Carotid sinus stimulation

(D) Carotid body stimulation

80. A 50 year old male was recently started on antihypertensive therapy with multiple drugs. He reported 3 months later with skin lesions diagnosed as psoriasis. Which drug is most likely responsible ?

(A) Atenolol

(B) Amlodipine

(C) Olmesartan

(D) Spironolactone

81. A 55 year old male underwent CT coronary angiography in view of a mildly positive treadmill test on routine health checkup. Anomalous left main coronary artery from noncoronary sinus coursing retro aortic between aorta and left atrium was reported. He should be advised :

(A) No therapy

(B) Restricted physical activity

(C) Stenting of the retro aortic portion to prevent systolic compression

(D) Surgical implantation of left main coronary artery to left coronary sinus

82. All are true about management of hypertension in black patients except :

(A) Multiple drug combinations are often required

(B) ACE inhibitors are less effective

(C) Thiazide diuretics have high BP lowering efficacy

(D) Significantly low incidence of angioedema with ACE inhibitors

83. A 50 year old male patient on VVI pacemaker for complete heart block has to undergo surgical treatment using cautery. Any of the following perioperative strategy is useful except :

(A) Place a magnet over the pacemaker during the procedure

(B) Program the pacemaker to VOO mode

(C) Switch off the hysteresis

(D) Use bipolar electro cautery

84. A 19 year old male with mild infundibular pulmonary stenosis was found to have double aortic arch on CT angiography. On Retrospective questioning he reported dysphagia. Recommended treatment :

(A) Reassurance and no therapy

(B) Division of non-dominant arch

(C) Surgery is indicated only when life-threatening symptoms are present in view of the high risk of surgery

(D) Prokinetics like Itopride

85. In the beat after long cycle length in atrial fibrillation, which of the following murmur increases in intensity ?

(A) Pulmonary Stenosis

(B) Rheumatic mitral regurgitation

(C) Mitral regurgitation due to papillary muscle dysfunction

(D) Mitral regurgitation due to mitral valve prolapse

86. Which of the following food/nutrients has convincing effect on lowering hypertension ?

(A) Dark Chocolate

(B) High calcium intake

(C) Vitamin D

(D) Soy foods

87. All of the following constrict atherosclerotic coronaries except:

(A) Serotonin

(B) Thromboxane

(C) Endothelin

(D) Papaverine

88. Carotid artery stenting is preferred over carotid endarterectomy in the presence of :

(A) Visible thrombus

(B) Contralateral carotid artery occlusion

(C) Platelet disorder

(D) Tortuous aortic arch

89. All of the following findings suggest severe tricuspid regurgitation on echocardiography except :

(A) Vena contracta width >7 mm

(B) Systolic flow reversals in hepatic veins

(C) Jet velocity > 4 m/s

(D) None of the above

90. Which of the following is an abnormal finding in a patient who had undergone mitral valve replacement with bileaflet valve ?

(A) Opening Click

(B) Closing click

(C) Diastolic murmur

(D) Systolic murmur

91. Global myocardial enhancement on MRI is seen in all except :

(A) Idiopathic Dilated Cardiomyopathy

(B) Post cardiac transplant

(C) Amyloidosis

(D) Systemic sclerosis

92. Which of the following is not a major Framingham Criteria for diagnosis of heart failure ?

(A) Paroxysmal nocturnal dyspnea

(B) Hepatojugular reflux

(C) Hepatomegaly

(D) Response to diuretics

93. Which of the following is true of arthritis associated with acute rheumatic fever ?

(A) Spine and axial joints are frequently affected

(B) Usually painless

(C) Resolves in most patients within 3–4 weeks

(D) Joint aspirates are usually acellular

94. The triad of cyanosis, cardiomegaly and ischemic lung fields on chest X ray suggests :

(A) ASD Eisenmenger

(B) TOF physiology

(C) Ebstein's anomaly

(D) Transposition physiology

95. All are established risk factors for sudden cardiac death in patients with hypertrophic cardiomyopathy except :

(A) Severe cardiac hypertrophy

(B) Left ventricular outflow tract gradient

(C) Causal mutations

(D) Modifier genes

96. Which of the following diseases has been linked to mutation in the cardiac sodium channel ?

(A) Long QT Syndrome

(B) Brugada Syndrome

(C) Sinus node disease

(D) All of the above

97. Which of the following is a Class I indication of pacing as per ACC/AHA guidelines ?

(A) Patient with inferior wall MI and complete heart block lasting 7 days

(B) An asymptomatic 18 year old female with congenital CHB and escape rate of 50/min

(C) Recurrent syncope of undetermined etiology with LBBB

(D) Symptomatic chronotropic incompetence

98. Which ONE of the following statements about a 40-year-old man presenting with upper limb hypertension and rib notching is TRUE ?

(A) Narrowing of the aorta is most likely to be proximal to the left subclavian artery

(B) An association with pulmonary stenosis would be an expected finding

(C) Marfan's syndrome is a recognized association

(D) There is likely to be an increased risk of cerebrovascular accidents

99. Which of the following causes elevation of pulmonary capillary wedge pressure ?

(A) Ebstein's Anomaly

(B) Atrial septal defect

(C) Constrictive pericarditis

(D) Severe tricuspid regurgitation with low cardiac output

100. Which of the following drug is known to improve morbidity or mortality ?

(A) Tazosentan for heart failure

(B) Ivabradine for heart failure

(C) Dalcetrapib for lipid modification

(D) Glimeperide in macrovascular disease

101. Which of the following is not true about atrioventricular nodal re-entrant tachycardia ?

(A) It is a cause of short RP supraventricular tachycardia

(B) Mostly manifests as incessant tachycardia leading to ventricular dysfunction

(C) May be controlled with beta blockers

(D) Is quite suitable for radiofrequency ablation

102. All of the following drugs are useful in coronary 'no flow' phenomenon except :

(A) Nitroglycerine

(B) Adenosine

(C) Nicorandil

(D) Sodium nitro prusside

103. In patient with atrial fibrillation and fast conduction through accessory pathway, all drugs can be used except :

(A) Quinidine

(B) Flecanide

(C) Amiodarone

(D) Digoxin

104. All are risk factors for peripartum cardiomyopathy except :

(A) Primipara

(B) Older maternal age

(C) Preeclampsia

(D) Twin pregnancy

105. Following statement are true about early repolarization pattern except :

(A) Prevalence of 1-13% in general population

(B) Phase 2 re entry can be initiated with trigger VT

(C) Characterized by J point elevation with or without ST elevation in inferior limb and lateral precordial leads

(D) Early repolarization with ascending ST segment is predictor of sudden cardiac death

106. In presence of normal systolic function criteria of severe AS by Doppler haemodynamics, all are true except :

(A) Peak aortic valve velocity of ≥ 4.5 m sec.

(B) Mean pressure gradient of ≥ 50 mm Hg

(C) LVOT/AV TVI of 0.25 or less

(D) Aortic valve area of 1 cm^2 or less

107. All of the following are echo cardiographic indicators of severe Mitral stenosis except :

(A) Mean gradient at rest of > 10 mm Hg across mitral valve

(B) MVA < 1 cm^2

(C) PHT of > 240 msecs

(D) Mean gradient after exercise of > 15 mm across mitral valve

P.T.O.

108. Pulmonary capillary wedge pressure is lower than pulmonary artery diastolic pressure in all conditions stated below except :

(A) Primary pulmonary arterial hypertension

(B) Pulmonary artery embolism

(C) Pulmonary vein stenosis

(D) Tachycardia

109. Following statements are true about 'hang out' interval except :

(A) Duration is related to the impedance of the vascular bed into which blood is being received

(B) Normal intervals is < 15 msecs in systemic circulation

(C) Normal interval in pulmonary circulation is 43 to 86 milli seconds

(D) Decrease in impedance in systemic vascular bed alters hang out interval and causes wide splitting of 2nd heart sound

110. All of the following are beneficial effect of regular exercise except :

(A) Favorable changes in fibrinolytic

(B) Decreased heart rate variability

(C) Increased of expression of nitric oxide synthetase

(D) Decreased systolic and diastolic blood pressure

111. All of the following are absolute contra indications for exercise testing except :

(A) Acute MI (< 2 days)

(B) Acute systemic infection accompanied by fever

(C) High grade AV block

(D) Acute myocarditis

112. Which of the following ECG feature is typical of LAHB ?

(A) Q wave in inferior leads

(B) Mean QRS axis between 0 and –30 degree

(C) rS pattern in inferior leads and qR pattern in lateral leads

(D) Marked right axis deviation

113. A 60 year old diabetic patient on insulin with normal renal function and BP of 160/90 is prescribed triamterene. After 2 weeks his serum K+ is 6.5 mmol/liter with no change in urea or creatinine. Most likely cause is :

(A) Recent UTI

(B) Hyporeninemic hypoaldosteronism

(C) Cushing syndrome

(D) Primary hyperaldosteronism

114. A 40 years old man is admitted with fever, dyspnea, hypotension and new murmur of aortic regurgitation. Which of the following is typical of acute aortic regurgitation ?

(A) A widened systemic pulse pressure

(B) A long, decrescendo diastolic murmur

(C) Delayed closure of the mitral valve on echocardiography

(D) Diastolic mitral regurgitation on echocardiography

115. A 25 years old woman of suspected primary pulmonary arterial hypertension undergoes right sided catheterization study. The mean pulmonary artery pressure is 44 mm Hg, and PCWP is 11 mm Hg. Infusion of epoprostenol reduces the mean PAP to 31 mm Hg with no change in systemic blood pressure or PCWP. Following statements are true except :

(A) Both intravenous adenosine and inhaled nitric oxide are alternative useful agents to assess vasoreactivity

(B) The observed drop in mean PAP is predictive of a favourable response to oral calcium channel blockers

(C) The failure of the systemic blood pressure to decline suggests that the vasodilator challenge was ineffective

(D) Very high doses of chronic calcium channel blocker therapy would likely be necessary for clinical benefit

116. A 70 years old woman presents with chronic atrial fibrillation and ventricular rate of 30 per minutes. Pacemaker of choice is :

(A) DDDR

(B) AAIR

(C) VVIR

(D) VVI

117. A 6 month old child with recent pneumonia undergoes echocardiogram which shows 3 mm perimembranous VSD with maximum velocity of 4M/sec of VSD jet. Appropriate management includes :

(A) PA banding

(B) Medical follow up with diuretics

(C) Patch closure of VSD

(D) Cardiac catheterization to decide need of surgery

118. A 40 year old man develops thrombocytopenia followings heparin administration for acute pulmonary embolism. For further management which statement is true :

(A) Low molecular weight heparin can be safely substituted for intravenous unfractionagted heparin

(B) A direct thrombin inhibitor, such as lepirudin, could be safely substituted for heparin

(C) Intravenous heparin should be continued because the low platelet count represents a laboratory artefact without clinical significance

(D) This is a transient reaction to heparin and does not preclude future heparin treatment for this patient

119. The statement regarding ventricular free wall rupture complicating myocardial infarction (MI) include all of the following except :

(A) It is more likely to occur in patients with a history of prior MI

(B) It typically occurs within the first 4 days after infarction

(C) It is more common in elderly patients and in women

(D) A history of hypertension is a risk factor for free wall rupture

120. Each of the following statements regarding pulsus alternans in patients with marked LV dysfunction is true except :

(A) It is usually associated with electrical alternans of the QRS complex

(B) It is more readily detected in the femoral as compared with radial arteries

(C) It can be detected by sphygmomanometry

(D) It can be elicited by the assumption of erect posture

Space for Rough Work