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MCC-004

POST GRADUATE DIPLOMA IN CLINICAL CARDIOLOGY (PGDCC)

00529

Term-End Examination

December, 2014

MCC-004 : COMMON CARDIOVASCULAR DISEASES – II

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) *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. Most reliable evidence for recent GAS infection, among the following is

   (1) Positive throat culture

   (2) Positive rapid antigen test

   (3) Positive blood culture

   (4) Elevated or rising titre

2. Following are true about "Juvenile Mitral Stenosis" *except*

   (1) Early development of established rheumatic disease

   (2) Rapid progression to mitral stenosis

   (3) Poses a major problem in India

   (4) Only occurs in juvenile population

3. Following are true about Rheumatic valvulitis *except*

   (1) Edema of valves occur in early stage

   (2) Verrucae formation in chordae tendinae is uncommon

   (3) Hyaline degeneration leads to regurgitant valve

   (4) Fibrosis leads to stenotic valve

4. Following are true about Rheumatic carditis *except*

   (1) May be linked to carditis during recurrences

   (2) Mitral stenosis is the commonest valvular lesion

   (3) 40% of ARF develop carditis

   (4) 66% of carditis develop RHD

5. Following are true about ASO titre in rheumatic fever *except*

   (1) > 250 Todd units is positive in adults

   (2) > 333 Todd units is positive in children

   (3) Is always positive during carditis

   (4) May take 4-6 months to return to normal

6. In acute rheumatic fever

(1) Polymorphonuclear leucocytosis may be found

(2) Positive throat culture is seen in more than 50% patients

(3) Rapid antigen detection kits are more sensitive than throat culture

(4) ECG may show shortened PR interval

7. Recurrence of acute rheumatic fever

(1) Occurred in upto 17% patients in the pre-penicillin era

(2) Seen more frequently in young children

(3) Seen more frequently 4 years after the first attack

(4) Has no effect on myocardial function

8. Oral antibiotic used for primary prophylaxis of rheumatic fever includes all *except*

(1) Clindamycin

(2) Nafcillin

(3) Ciprofloxacin

(4) Amoxicillin

9. Following are true about the guidelines for bed rest in patients with carditis in acute rheumatic fever *except*

(1) 2 weeks bed rest and gradual ambulation over 2 weeks without cardiac enlargement

(2) Strict bed rest till heart failure is present and gradual ambulation over 3 months

(3) 6 weeks bed rest and gradual ambulation over 6 weeks with cardiac enlargement

(4) Bed rest is a must till fever, leucocytosis, ESR, CRP are settled

10. In rheumatic carditis all are true *except*

(1) Salicylates are beneficial

(2) Corticosteroids may be considered in severe carditis

(3) Salicylates should be given during corticosteroid tapering and continued for 2 to 4 weeks

(4) Chorea is managed by corticosteroids

11. Following are true about infective endocarditis in children *except*

(1) Mitral valve of structurally normal heart is typically involved in neonates

(2) Vast majority of children affected after neonatal period have structural heart disease

(3) 50% of children with infective endocarditis on congenital defects develop infection after surgery.

(4) Endocarditis in neonates is caused primarily by S.aureus, coagulase negative staphylococci and group B streptococci

12. Following is true about infective endocarditis in MVP :

(1) Accounts for 7 – 30% of adult NVE

(2) Risk is largely confined to women

(3) Risk is increased in patients younger than 45 years

(4) Risk is related to valvular thickening > 10 mm

13. In prosthetic valve endocarditis

(1) Risk is greatest during the initial 12 months after valve surgery

(2) During the initial months bioprosthetic valves are at greatest risk

(3) Many cases with onset between 60 days and 1 year after surgery are likely to be nosocomial

(4) Cannot result in prosthesis dehiscence

14. Infective endocarditis in intra-venous drug abusers

(1) Commonly involves multiple valves

(2) Involves structurally normal valve in 75 – 93%

(3) Aortic valve is commonly affected

(4) Candida albicans is the commonest organism

15. Following are true about microorganisms causing infective endocarditis *except*

(I) Viridans Streptococci causes 30 – 65% of NVE cases unrelated to drug abuse

(2) Staphylococcus epidermidis is important in the setting of implanted devices

(3) HACEK group of organisms affect normal valves

(4) Enterococci account for 5 – 15% of cases of NVE

16. Non-bacterial thrombotic endocarditis (NBTE)

(1) Occurs on the ventricular surface of tricuspid valve

(2) Are platelet-thrombin deposits found at the valve closure contact line

(3) Is caused by a flow across large orifice at low-velocity

(4) Bacteria deposits maximally at the high-pressure sink immediately beyond an orifice

17. The clinical manifestations of infective endocarditis result from all *except*

(1) Local destructive effects of intracardiac infection

(2) Embolization of bland or septic fragments of vegetations

(3) Hematogenous seeding during bacteremia

(4) Cytotoxic T-cell mediated injury

18. Following is true about clinical manifestations of infective endocarditis

(1) Osler's nodes are pathognomonic for infective endocarditis

(2) Janeway lesions are due to immune complex deposition

(3) Fever and new murmur are the hallmarks

(4) Roth spots are frequent findings

19. A definitive diagnosis of infective endocarditis is made when at least

(1) One major and two minor Duke clinical criteria are fulfilled

(2) Three major Duke clinical criteria are fulfilled

(3) Five minor Duke clinical criteria are fulfilled

(4) One major and five minor criteria are fulfilled

20. Highly penicillin resistant streptococcal endocarditis can be treated by all *except*

(1) Aqueous penicillin G + Gentamicin

(2) Ampicillin + Gentamicin

(3) Vancomycin + Gentamicin

(4) Nafcillin + Rifampicin

21. Following are the components of mitral valve *except*

(1) Mitral annulus

(2) Left ventricle

(3) Anterior papillary muscle

(4) Lateral left atrial wall

22. Cardinal symptom of mitral stenosis is

(1) Dyspnea on exertion

(2) Paroxysmal nocturnal dyspnea

(3) Syncope

(4) Palpitation

23. Following are true about onset of atrial fibrillation in severe mitral stenosis *except*

(1) Patient who has been stable deteriorates symptomatically

(2) Atrial and atrial appendage thrombus may develop

(3) Onset of atrial fibrillation is related to severity of mitral stenosis

(4) All such patients should receive anticoagulation even in absence of clot

24. Echocardiographic score for predicting outcome of mitral balloon valvuloplasty include all *except*

(1) Sub valvular thickening

(2) Chordal calcification

(3) Leaflet mobility

(4) Leaflet thickening

25. In mitral regurgitation all can be seen *except*

(1) Rise in left atrial pressure

(2) Rise in preload

(3) Decreased left ventricular ejection fraction

(4) Decreased afterload

26. Following echocardiographic features are diagnostic of severe mitral regurgitation *except*

(1) Mitral regurgitation volume $\geq$ 80cc

(2) Regurgitant fraction $\geq$ 55%

(3) Pulmonary vein systolic flow reversal

(4) Regurgitant jet reaches posterior wall of left atrium

27. All of the following can hasten aortic valve degeneration *except*

(1) Hypercholesterolemia

(2) Hypertension

(3) Female sex

(4) Smoking

28. All the following Doppler echocardiographic criteria indicate severe aortic stenosis *except*

(1) Peak aortic velocity $\geq$ 4.5 m/sec

(2) Mean pressure gradient $\geq$ 70 mm Hg

(3) Aortic valve area $\leq$ 0.75 cm-square

(4) LVOT/Aortic valve VTI ratio $\leq$ 0.25

29. All the clinical signs indicate severe aortic regurgitation *except*

(1) Pulsus bisferiens

(2) Head bob

(3) Systolic blood pressure difference between lower and upper limbs > 60 mm Hg

(4) Seagull murmur

30. Patient of aortic regurgitation will have highest likelihood of death, symptom onset or LV dysfunction when end-systolic LV diameter is

(1) > 50 mm

(2) > 60 mm

(3) > 70 mm

(4) > 80 mm

31. Mitral regurgitation can be seen in all *except*

(1) Dilated cardiomyopathy

(2) Restrictive cardiomyopathy

(3) Hypertrophic cardiomyopathy

(4) Endomyocardial fibrosis

32. All are indicators of poor peripheral perfusion *except*

(1) Constricted peripheral veins

(2) Fatigue

(3) Widened pulse pressure

(4) Cold extremity

33. All are predicators of adverse outcome in dilated cardiomyopathy *except*

(1) NYHA class III/IV

(2) Complex supraventricular arrhythmias

(3) Low LV mass

(4) Abnormal signal averaged ECG

34. All are reversible cause of dilated cardiomyopathy *except*

(1) Hyperthyroidism

(2) Arrhythmogenic right ventricular dysplasia

(3) Toxoplasmosis

(4) Uremia

35. All are true about Arrhythmogenic Right Ventricular Cardiomyopathy *except*

(1) Clinical manifestations are seen in late adulthood

(2) Physical examination is normal

(3) Re-entrant ventricular tachyarrhythmias of RV origin can occur

(4) Sudden death is common

36. All are true about restrictive cardiomyopathy *except*

(1) Symptoms of pulmonary and systemic congestion

(2) Raised JVP with Y more prominent than X-descent

(3) Usually normal ECG

(4) Absence of cardiomegaly in chest X-ray

37. The prosthetic valve endocarditis is considered "early" when the symptoms begin after valve surgery within

(1) 3 months

(2) 1 month

(3) 4 months

(4) 2 months

38. All are predictors of adverse outcome in HOCM *except*

(1) History of syncope

(2) VT/NSVT on Holter

(3) Late onset of disease

(4) LV outflow gradient > 30 mm Hg

39. DDD pacing in HOCM is indicated in all *except*

(1) In whom there is an independent need for permanent pacing

(2) Severe bradycardia due to beta blockers

(3) NSVT on Holter

(4) Contraindications to surgery/septal ablation

40. Following are true about myocarditis *except*

(1) Most common cause is Coxsackie B virus infection

(2) ECG can show diffuse ST - T changes

(3) About 2/3rd of patients recover completely

(4) Severe forms may lead to dilated cardiomyopathy

41. Following is true about pericarditis in acute myocardial infarction :

(1) Occurs in 50% of infarction cases

(2) Incidence has come down after reperfusion therapy

(3) Less often detected in anterior wall infarction

(4) Inferior wall infarction with right ventricular infarction is rarely associated with pericarditis

42. All are true regarding pericardial friction rub *except*

(1) Is pathognomonic of pericarditis

(2) Does not vary with phases of respiration

(3) Most often is audible as a biphasic sound

(4) Is monophasic in 10% of cases

43. Following features distinguishes constrictive pericarditis from restrictive Cardiomyopathy *except*

(1) Pericardial knock

(2) Pulmonary artery systolic pressure < 60 mm Hg

(3) Prominent y-descent

(4) Paradoxical pulse

44. Following are the 2D- Echocardiographic features of cardiac tamponade *except*

(1) Swinging heart motion

(2) Right ventricular early diastolic collapse

(3) Right atrial diastolic collapse

(4) Inspiratory increase in flow across mitral valve

45. Approximate amount of fluid in moderate pericardial effusion is

(1) < 100 ml

(2) 100 – 500 ml

(3) 500 – 600 ml

(4) 600 – 700 ml

46. Following ECG changes are characteristic of acute pericarditis *except*

(1) ST-segment elevation with upwards concavity

(2) Reciprocal ST change

(3) PR segment depression

(4) T-wave inversion

47. Following is true about pulsus paradoxus

(1) It is diagnosed only when decline in systolic pressure during normal inspiration > 20 mm Hg

(2) Blood pressure recording is not required to confirm the finding

(3) Can occur in effusive constrictive pericarditis

(4) Caused by decreased pulmonary venous return and reduced left ventricular volume during inspiration

48. Following can cause constrictive pericarditis *except*

(1) Viral pericarditis

(2) Fungal pericarditis

(3) Rheumatic pericarditis

(4) Tubercular pericarditis

49. Following signs are indicative of constrictive pericarditis *except*

(1) Ewart's sign

(2) Kussmaul's sign

(3) Friedrich's sign

(4) Hepatomegaly

50. Pericardial calcification is commonly seen in all the sites *except*

(1) Inferior surface of left ventricle

(2) Posterior surface of the left ventricle

(3) Right ventricle

(4) Atrio-ventricular groove

51. Following are responsible for the symptoms in dilated cardiomyopathy *except*

(1) Arrhythmia

(2) Poor peripheral perfusion

(3) Ischemia

(4) Pulmonary congestion

52. Following are the complications of dilated cardiomyopathy *except*

(1) Arrhythmias

(2) Embolic events

(3) Hypotension

(4) Angina

53. Following are the ECG features of dilated cardiomyopathy *except*

(1) Poor R-wave progression

(2) Q-waves in inferior leads

(3) LBBB

(4) NSVT

54. Following are the echocardiographic features of dilated cardiomyopathy *except*

(1) Thinned out walls

(2) Generalized hypokinesia

(3) Mitral incompetence

(4) Segmental wall motion abnormality occasionally

55. In restrictive cardiomyopathy in the JVP

(1) X descent is equal to Y descent

(2) X descent is more prominent than Y descent

(3) X descent is the only prominent descent

(4) Y descent is more prominent than X descent

56. Following echocardiographic features are indicative of restrictive cardiomyopathy *except*

(1) Prominent E-wave

(2) Bi-atrial enlargement

(3) Increased decelaration time

(4) Normal LV systolic function

57. Following are seen in hypertrophic cardiomyopathy *except*

(1) Myofibrillar disarray

(2) Interstitial fibrosis

(3) β cardiac myosin light chain mutation

(4) Asymmetric septal hypertrophy

58. LV outflow obstruction in hypertrophic cardiomyopathy occurs in about

(1) 1/3rd of the patients

(2) 1/2 of the patients

(3) 1/4th of the patients

(4) 2/3rd of the patients

59. Following clinical features are indicative of hypertrophic cardiomyopathy *except*

(1) Double apical impulse

(2) Ejection systolic murmur conducting to the carotids

(3) Prominent S4

(4) Brisk carotid pulse

60. In hypertrophic cardiomyopathy following areas of LV can show hypertrophy *except*

(1) Apical

(2) Mid-ventricular

(3) Basal

(4) Septal

61. Following is a late manifestation of mitral stenosis

(1) Paroxysmal nocturnal dyspnea

(2) Palpitation

(3) Pulmonary apoplexy

(4) Pedal edema

62. Atrial fibrillation in mitral stenosis can cause all *except*

(1) Worsening of dyspnea in most cases

(2) Disappearance of a-wave in the JVP in all cases

(3) Irregular palpitation in all cases

(4) Regular pulse

63. All are true about P-mitrale in mitral stenosis *except*

(1) Seen in 50% of cases

(2) P-wave duration > 120 msec

(3) Seen best in lead II

(4) P-wave axis is between +45 to –39 degrees

64. Fish mouth appearance in mitral stenosis is due to

(1) Sub-valvular fusion

(2) Chordal fusion

(3) Commisural fusion

(4) Papillary fusion

65. Mitral valve area by echocardiography can be measured by

(1) Continuity equation

(2) Pressure half time

(3) Proximal iso-velocity surface area method

(4) All of the above

66. Trans-esophageal echo should be performed before mitral balloon valvuloplasty in cases with all *except*

(1) Atrial fibrillation

(2) Left atrial diameter > 30 mm

(3) Left atrial spontaneous echo contrast

(4) Suspicion of clot in the left atrial appendage

67. Following are true about heart sounds in mitral regurgitation *except*

(1) S1 is usually soft in rheumatic mitral regurgitation

(2) S3 may be heard at the apex

(3) S2 may be closely split

(4) S4 may be heard in acute severe mitral regurgitation

68. In severe aortic stenosis presence of aortic regurgitation is suggested by

(1) Pulsus tardus

(2) Gap between apical impulse and carotid pulse

(3) Wide pulse pressure

(4) Pulsus parvus

69. Nocturnal angina is seen in

(1) Mitral regurgitation

(2) Aortic regurgitation

(3) Mitral stenosis

(4) Aortic stenosis

70. Carvello's sign is seen in

(1) Mitral stenosis

(2) Tricuspid regurgitation

(3) Aortic regurgitation

(4) Mitral regurgitation

71. A new atrioventricular block in infective endocarditis (IE) predicts

(1) Chordal rupture

(2) Abcess formation

(3) Leaflet perforation

(4) Valve dehiscence

72. All the following valves can be affected in I.V. drug abusers *except*

(1) Tricuspid valve

(2) Mitral valve

(3) Aortic valve

(4) None of the above

73. All of the following are true about the HACEK group of organisms *except*

(1) They are part of upper respiratory and oro-pharyngeal flora

(2) Infect abnormal cardiac valves

(3) Associated with large vegetations

(4) Blood cultures should be incubated for 2 weeks

74. Following can pre-dispose children to IE *except*

(1) PDA

(2) TOF

(3) MVP without murmur

(4) TGA

75. IE prophylaxis is recommended for

(1) Adjustment of orthodontic appliances

(2) Simple dental fillings

(3) Dental scaling

(4) None of the above

76. Following are true about relapse in IE *except*

(1) Usually occurs within 6 months of discontinuation of antibiotic

(2) Relapse rate for prosthetic valve IE is 10 – 15%

(3) Positive culture during valve replacement surgery is a risk factor

(4) May be an indication for combined medical and surgical therapy

77. Death due to IE has been associated with all *except*

(1) Young age < 35 years

(2) Congestive heart failure

(3) Aortic valve infection

(4) Renal failure

78. Among the following organisms causing IE highest mortality is seen with

(1) Viridans streptococci

(2) Enterococci

(3) Fungi

(4) S. aureus

79. Cardiac surgery in IE is absolutely indicated in

(1) Poorly responsive S. aureus NVE (aortic or mitral valves)

(2) Relapse of NVE after optimal antimicrobial therapy

(3) Relapse of PVE after optimal therapy

(4) Large > 10 mm, hypermobile vegetation

80 Following is an embolic manifestation of IE :

(1) Roth spot

(2) Osler's node

(3) Mycotic aneurysm

(4) Janeway lesion

81. The most common manifestation of acute rheumatic fever (ARF) is

(1) Carditis

(2) Chorea

(3) Polyarthritis

(4) Subcutaneous nodule

82. All are true about the subcutaneous nodules *except*

(1) Non-movable

(2) Located on external surfaces of joints

(3) Presence indicates carditis

(4) Painless

83. Following are true about rheumatic chorea *except*

(1) May be the only manifestation of ARF

(2) Is a quasi-purposive involuntary movement

(3) Involves mostly face and extremities

(4) Usually lasts for years

84. Following characterizes erythema marginatum

(1) Macular

(2) Non-pruritic

(3) Serpinginous border

(4) All of the above

85. Commonest valvular lesion in ARF is

(1) Mitral stenosis

(2) Mitral regurgitation

(3) Aortic regurgitation

(4) Tricuspid regurgitation

86. Following are the minor manifestations of revised Jones criteria *except*

(1) Raised ESR

(2) Raised CRP

(3) Positive throat culture

(4) Leucocytosis

87. Aschoff body in ARF is typically seen in

(1) Endocardium

(2) Myocardium

(3) Visceral pericardium

(4) Parietal pericardium

88. MacCallum's patch is seen in

(1) Right atrium

(2) Left atrium

(3) Right ventricle

(4) Left ventricle

89. In rheumatic chorea antibodies against GAS cell membrane cross reacts with

(1) Cortex

(2) Hypothalamus

(3) Caudate nucleus

(4) Cerebellum

90. Following oral antibiotics can be used for secondary rheumatic prophylaxis *except*

(1) Penicillin V

(2) Sulfadiazine

(3) Erythromycin

(4) Cephalaxin

SPACE FOR ROUGH WORK