

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

**Term-End Examination**

**June, 2012**

**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 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) *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. Following statements about Acute Rheumatic Fever are true except :
  - (1) It is a multisystem autoimmune disease
  - (2) It occurs following throat infection with group A beta haemolytic streptococci
  - (3) Maximum incidence is in the age group of 5-15 years
  - (4) In tropical countries like India, the average age at presentation is less than 5 years.
  
2. Following statements about Acute Rheumatic Fever are true except :
  - (1) Most patients with ARF have elevated titres of anti streptococcal antibodies.
  - (2) Outbreaks of ARF usually follow epidemics of streptococcal pharyngitis.
  - (3) Treatment of streptococcal pharyngitis with antibiotics is recommended but unfortunately it does not reduce the subsequent ARF.
  - (4) Host factors have been considered to be important. In our Indian patients, a genetic linkage to HLA DR 3 in patients with ARF has been demonstrated.
  
3. Cross Reactivity postulation of Acute Rheumatic Fever is supported by following facts :
  - (1) Group specific polysachharide of Group A Streptococci (GAS) is antigenically akin to glycoprotein found in human cardiac valves.
  - (2) The somatic antigens of the GAS cellwall and cell membrane are similar to human myocardial sarcolemma.
  - (3) The M protein of GAS cross reacts with human heart tissue particularly sarcolemmal membrane proteins and cardiac myosin as it shares certain common aminoacid sequence.
  - (4) In chorea, antibodies directed against GAS cell membrane cross react with tissues with frontal lobe of the brain.
  
4. Following statements about cellular immunity during episodes of acute rheumatic fever (ARF) are true except :
  - (1) Aschoff nodules in the heart of ARF patients are due to CMI process.
  - (2) ARF patients with carditis show infiltration by mononuclear phagocytes expressing CD3/CD4 marker proteins.
  - (3) There is increase in CD4/CD8 cell ratio.
  - (4) There is decrease in C3/C4 complements.
  
5. Following statements about Rheumatic Carditis are true except :
  - (1) Rheumatic Heart Disease (RHD) is linked to the occurrence of carditis during the first episode of Acute Rheumatic Fever (ARF)
  - (2) Around 40 percent cases of ARF develop carditis and 66 percent with carditis develop RHD on follow up.
  - (3) Graham steel murmur of acute valvulitis is audible during acute carditis.
  - (4) Basal early diastolic murmur due to aortic regurgitation may be audible.

6. Following statements about Arthritis in the setting of Acute Rheumatic Fever are true except :
- (1) Polyarthritis is the most common manifestation of ARF.
  - (2) Polyarthritis is typically fleeting in character shifting from one large joint to another
  - (3) During the migratory phase, multiple joints can be involved in different phases of inception and resolution.
  - (4) If inflammation in joint persists for about 4-6 weeks, joint may be left with small residual deformity
7. Following statements about Sydenham chorea are true except :
- (1) It is found in around 20 percent cases of Acute Rheumatic Fever (ARF)
  - (2) Chorea is manifested by quasi-purposive involuntary movements involving mostly face and extremities.
  - (3) The above involuntary movements are usually absent during sleep
  - (4) Concomitant subclinical carditis detected by echo cardiography appears to be less than 5 percent.
8. Following statements about cutaneous manifestations of Rheumatic Fever are true except :
- (1) Sub cutaneous nodules are usually seen concomitant with moderate to severe rheumatic carditis
  - (2) Subcutaneous nodules are found over major joints and bony prominences
  - (3) Erythema marginatum is found in about 75 percent of cases of rheumatic fever but it is difficult to detect in dark skinned patients
  - (4) Erythema marginatum is erythematous, macular, evanescent and non-pruritic rash
9. Following statements about Streptococcal Antibodies tests are true except :
- (1) In about 80 percent of ARF patients, ASO titre is significantly raised
  - (2) Acute Polyarthritis does not coincide with peak of ASO titre
  - (3) ASO titres vary with age, geographical area and other fevers which influence frequency of streptococcal infection
  - (4) Anti-deoxyribonuclease B, Antihyaluronidase levels also indicate evidence of recent streptococcal infection.
10. Following statements about course & prognosis of Acute Rheumatic Fever are true except :
- (1) There is tendency to develop rheumatic fever with repeated Group-A Streptococci infection
  - (2) There is greater chance of recurrence in younger children and in the first 3 years after the first attack
  - (3) If the patient had carditis in the first attack of ARF, there is always a tendency to have carditis in the subsequent attacks
  - (4) In UK-USA collaborative study; 30 to 68 percent of patients with no carditis during 1<sup>st</sup> attack of Acute Rheumatic Fever, were having murmurs after 10 years of first attack.

11. As per American Heart Association recommendations 2009, following are class I recommendations for secondary prophylaxis of rheumatic fever except :
- (1) 5 years or until the age of 15 years (whichever is longer) in the absence of carditis
  - (2) 10 years or until the age of 21 years (whichever is longer) with mild or apparently headed carditis.
  - (3) 10 years or until the age of 40 years (whichever is longer) for patients who develop RHD.
  - (4) For patients, not allergic to Penicillin; one of the drug recommended is Inj. Benzathine Penicillin G; 6 lakhs units for children 27kg or below and 12 lakhs units for children and adults more than 27 kg.
12. Following statements about Acute Infective Endocarditis are true except :
- (1) It manifests within days to less than 2 weeks of onset of infection.
  - (2) It is usually caused by Staphylococcus aureus.
  - (3) It usually involves normal heart valve.
  - (4) It rarely causes metastatic infection.
13. Following statements about endocarditis are true except :
- (1) Occurs more frequently in women than men
  - (2) The age specific incidence of endocarditis increases progressively after 30 years of age
  - (3) From 55 to 75 percent of patients with native valve endocarditis have predisposing conditions.
  - (4) The nature of predisposing conditions and in port the microbiology of IE correlate with the age of the patients.
14. Following statements about Infective Endocarditis (IE) in Neonotes are true except :
- (1) It typically involves the mitral valve.
  - (2) It is usually caused by S. aureus; coagulase negative staphylococci and group B streptococci.
  - (3) Clinical picture is dominated by bacteraemia.
  - (4) Classical signs of IE are not common.
15. Following statements about Mitral valve Prolapse and Infective Endocarditis are true except
- (1) Accounts for 7 to 30 percent of Native valve Endocarditis
  - (2) Risk is increased among men and patients older than 45 years of age
  - (3) Valve redundancy and thickened leaflets (75 mm) identify a population at increased risk of IE.
  - (4) Relative risk of IE is not affected by presence or absence of mitral regurgitation

16. Following statements about Infective Endocarditis (IE) are true except :
- (1) The most common site in Rheumatic Heart Disease is Aortic Valve, a site at which women are more commonly infected.
  - (2) Congenital heart disease the substrate for IE in 10 to 20 percent of younger adults and 8 percent of older adults.
  - (3) The risk of IE among IV drug abusers is 2 to 5 percent per patient year.
  - (4) The risk of PVE is greatest during the initial six months after valve surgery.
17. The commonest organism to cause endocarditis among Intravenous Drug Abuser is
- (1) Staphylococcus Aureus
  - (2) Enterococci
  - (3) Fungus
  - (4) Gram negative bacilli
18. Following statements about Health Care - Associated Endocarditis are true except :
- (1) Health care associated IE unrelated to cardiac surgery makes up 24 to 34% of cases in recent series
  - (2) Infection may involve normal valves including the tricuspid, as well as implanted intra cardiac devices and valves
  - (3) Onset of Health Care associated IE is usually chronic
  - (4) Mortality rate among these patients, many of whom are elderly and have serious underlying disease is high (27% to 38% )
19. In the pathogenesis of Endocarditis, following haemodynamic circumstances may injure the endothelium, initiating nonbacterial thrombotic endocarditis except
- (1) A high velocity jet impacting endothelium.
  - (2) Flow from a high to a low pressure chamber.
  - (3) Flow across narrow orifice at high velocity.
  - (4) Flow across broad orifice at slow velocity.
20. Of the following, commonest sign of infective endocarditis is
- (1) Fever
  - (2) Changing or new Murmur
  - (3) Splenomegaly
  - (4) Clubbing

21. Following statements about Infective Endocarditis are true except :
- (1) Neurological symptoms or signs occur in 30 to 40 percent of patients with Infective Endocarditis.
  - (2) Embolic stroke is the most common neurological manifestation.
  - (3) Intracranial haemorrhage occurs in 25 percent of patients with infective endocarditis.
  - (4) Cause of intracranial haemorrhage could be rupture of a mycotic aneurysm, rupture of an artery due to septic arthritis or haemorrhage into infarct.
22. Following clinical manifestations of Infective Endocarditis are because of Immunological related phenomenon except
- |                        |                     |
|------------------------|---------------------|
| (1) Osler Nodes        | (2) Roth Spots      |
| (3) Glomerulonephritis | (4) Janeway Lesions |
23. Following are absolute indications of cardiac surgery in patients with infective endocarditis except :
- (1) Moderate to severe Congestive Heart Failure due to valve dysfunction.
  - (2) Unstable Prosthesis.
  - (3) Staphylococcus Aureus PVE with an intracardiac complication.
  - (4) Culture negative PVE with fever more than 7 days.
24. Following statements about HACEK group of organisms are true except
- (1) They are part of the upper respiratory tract and oropharyngeal flora
  - (2) They infect abnormal cardiac valves causing subacute WVE
  - (3) They usually cause PVE within first 60 days after surgery
  - (4) These organisms are fastidious and slow growing
25. Following statements are true for collecting blood culture for suspected infective endocarditis :
- (1) Blood culture should be obtained by way of fresh venepunctures and not through indwelling intravascular devices
  - (2) One should await the arrival of a fever stroke or chills before collecting blood
  - (3) If fungal endocarditis is suspected, blood cultures should be obtained using the lysis centrifugation method
  - (4) Each separate blood culture should be divided for inoculation into two bottles. One anaerobic culture should be included in the total of four bottles inoculated from the two samples.
26. Following statements for planning treatment of infective endocarditis are true except :
- (1) Optimum therapy should use bactericidal antibiotics or antibiotic combinations rather than bacteriostatic agents.
  - (2) MIC is the lowest concentration that decreases a standard inoculum of organisms 99.9 percent during 24 hours.
  - (3) Organisms; whose MBC for antibiotics is 10 fold or greater than MIC are occasionally encountered and this phenomenon is known as tolerance.
  - (4) Most of the tolerant strains are killed more slowly than nontolerant strains and with prolonged inoculation, their MICs and MBCs are similar.

27. Following are the procedures for which prophylaxis against endocarditis is considered except :
- (1) Bronchoscopy with rigid bronchoscope
  - (2) Sclerotherapy for esophageal varices
  - (3) Transesophageal Echocardiography
  - (4) Cystoscopy
28. Following antibiotics can be used for prophylaxis of Bacterial Endocarditis in patients with Penicillin Allergy :
- |                    |                 |
|--------------------|-----------------|
| (1) Clarithromycin | (2) Clindamycin |
| (3) Cephalexin     | (4) Amoxicillin |
29. Following statements about Mitral Valve Apparatus are true except :
- (1) Mitral annulus is saddle shaped structure with anterior and posterior aspects forming the basal points and medial and lateral portion forming the apical point of the saddle.
  - (2) Change in the posterior left atrial wall distort - mitral annulus and its contraction.
  - (3) Anterior mitral leaflet is longer than wider and posterior leaflet is wider but shorter.
  - (4) There are 12 primary chordae that subdivide into secondary and tertiary chordae attaching leaflets to the papillary muscles.
30. Following statements about mitral valve involvement in rheumatic fever are true except :
- (1) Following rheumatic fever, over a period of time, the typical funnel shaped mitral valve assumes a fish mouth appearance
  - (2) During rheumatic fever, endocardium of the leaflets gets inflamed and oedematous. and later they heal with fibrosis
  - (3) Commissures get fused and in diastole, the posterior leaflet pulls the anterior leaflet posteriorly and this decreases the valve opening.
  - (4) Thickened and fused chordae further limit the opening of the valve
31. Following statements in the setting of mitral stenosis are true except :
- (1) First heart sound is loud, but with a calcific valve, it may be muffled
  - (2) Intensity of pulmonary valve closure depends upon the severity of pulmonary hypertension.
  - (3) A loud opening snap indicates a pliable valve.
  - (4) Severe the mitral stenosis, longer is the A<sub>2</sub> - OS interval.
32. Following statements about hypertrophic cardiomyopathy are true except :
- (1) It is genetic disorder due to mutations in the gene that encodes for B - cardiac myosin heavy chain.
  - (2) It is characterized by inappropriate myocardial hypertrophy in absence of hypertension or aortic stenosis.
  - (3) There is myocardial disarray and interstitial fibrosis.
  - (4) LV obstruction occurs only in about ¼<sup>th</sup> cases and is due to asymmetric septal hypertrophy and systolic posterior motion of mitral valve.

33. Following statements about Hypertrophic Cardiomyopathy are true except :
- (1) ECG changes usually precede the onset of echocardiographic changes.
  - (2) There is asymmetric septal hypertrophy as seen by septal to post wall thickness ratio of 1.5 or more.
  - (3) There is shortening of mitral valve leaflets, leading to abnormal aortic outflow geometry.
  - (4) Giant negative T waves are usually seen in Apical cardiomyopathy.
34. Systolic murmur in hypertrophic cardiomyopathy is usually due to labile outflow obstruction and it increases with following manoeuvres except :
- (1) Valsalva
  - (2) Standing
  - (3) Exercise
  - (4) Supine with legs elevated
35. Following features suggest adverse outcome in hypertrophic cardiomyopathy except :
- (1) History of sudden death/syncope.
  - (2) History of sudden death in family members.
  - (3) LV outflow obstruction more than 30mm Hg at rest.
  - (4) Increase in systolic BP in response to exercise.
36. Following features suggest Restrictive cardiomyopathy except
- (1) Symptoms are those of pulmonary and systemic congestion
  - (2) Raised IVP with prominent X and Y descent (X is more prominent than Y)
  - (3) X-ray chest - shows absence of cardiomegaly
  - (4) Electro cardiography is usually abnormal with LBBB more common than RBBB
37. Following are features of Arrhythmogenic right ventricular cardiomyopathy except :
- (1) It is masked by myocardial cell loss with partial or total replacement of RV muscle by adipose & fibrous tissue
  - (2) Physical examination is usually normal
  - (3) ECG shows giant tall T waves in right precordial leads
  - (4) Patient may develop recurrent ventricular arrhythmias of RV origin
38. Following statements about specific dilated cardiomyopathies are true except :
- (1) Post partum cardiomyopathy is defined as presentation of LV systolic dysfunction and heart failure in last trimester of pregnancy or within 6 months of delivery.
  - (2) Alcoholic cardiomyopathy is suspected if there is history of alcohol intake of 50 Gms/day for more than 5 years and when patient presents with high cardiac output.
  - (3) In occasional cases, particularly in children recurrent or incessant episodes of supraventricular or ventricular arrhythmia may actually be the cause of and not the result of ventricular dysfunction.
  - (4) Chagas' cardiomyopathy is caused by Trypanosome Cruzi.



39. Following are some of the features of cardiac Tamponade on 2 Dimensional Echocardiography except :
- (1) Swinging heart motion in the pericardial fluid.
  - (2) Right ventricular early diastolic collapse.
  - (3) Right atrial diastolic collapse.
  - (4) Absence of respiratory variations of atrioventricular valve flow patterns.
40. Following statements about pericarditis are true except :
- (1) In most cases, cause of Acute Pericarditis is not known though many of the cases could be of viral etiology
  - (2) Of the viruses causing Acute Pericarditis Cox Sackie B is the most common pathogen.
  - (3) Transmural myocardial infarction can cause Pericardial inflammation in 12-15 percent of cases
  - (4) Post - pericardiotomy syndrome usually occurs 12 weeks to 2 years after cardiac surgery
41. Following statements about complications of mitral stenosis are true except :
- (1) Pulmonary Embolism can occur in patients with atrial fibrillation
  - (2) Incidence of thromboembolic complications in AK due to rheumatic mitral stenosis is twice more common than seen in lone atrial fibrillation
  - (3) All patients with atrial fibrillation with or without presence of left atrial clot should receive anticoagulants
  - (4) Onset of Atrial Fibrillation is not related to the severity of mitral stenosis
42. Following statements about physical signs in mitral regurgitation are true except :
- (1) First heart sound is usually soft in rheumatic mitral regurgitation but is loud in mitral valve prolapse.
  - (2) Second heart sounds may be widely split.
  - (3) A third heart sound may be heard.
  - (4) A fourth heart sound may be heard in recent onset severe mitral regurgitation and sinus rhythm.
43. Following statements about Aortic stenosis are true except :
- (1) Rheumatic aortic stenosis is almost always associated with rheumatic involvement of mitral valve.
  - (2) Degenerative Aortic valve disease share common pathogenesis with atherosclerosis.
  - (3) Degenerative Aortic Valve Disease is characterized by fusion of one or more commissures with variable cusp fibrosis and calcification.
  - (4) Patient is often asymptomatic till the orifice size decreases from normal 3-4cm<sup>2</sup> to 1.5cm<sup>2</sup>.

44. Following statements about management of Aortic stenosis are true except :
- (1) The most common cause of death is a truly asymptomatic patient with severe aortic stenosis in Aortic valve Replacement
  - (2) All symptomatic patients with severe aortic stenosis should undergo Aortic valve Replacement.
  - (3) In symptomatic patients even if the cause for patients left ventricular dysfunction is decreased myocardial function rather than afterload mismatch they do well after surgery.
  - (4) Ballon Aortic Valvuloplasty may be better option than Aortic Valve Replacement in children when the valve is not calcified.
45. Following statements are true in the management of Aortic Regurgitation :
- (1) Vasodilators improve stroke volume and reduce degree of regurgitation
  - (2) Hydralazine and LV when given at appropriate doses, decrease left ventricular size and improve 2V function
  - (3) Vasodilator are also indicated in patients with mild AR and normal sized left ventricle with good LV function to retard the progression of the disease
  - (4) Following AVR, ACC inhibitors may be better choice in patients with persistent myocardial systolic dysfunction.
46. All the following clinical features differentiate cardiac tamponade from constrictive pericarditis except :
- (1) "square root" sign in ventricular pressure
  - (2) Absence of Kussmaul sign
  - (3) Absent y-descent
  - (4) Pulsus paradoxus
47. All are seen in constrictive pericarditis except :
- (1) Pulmonary artery filling pressure > 60 mm Hg
  - (2) Exaggerated respiratory variation in left and right sided flows
  - (3) Equalization of right and left sided filling pressures
  - (4) Pericardial knock
48. All of the following echocardiographic features differentiates restrictive cardiomyopathy from constrictive pericarditis except :
- |                                  |  |
|----------------------------------|--|
| (1) Normal pericardial thickness | (2) Absence of septal bounce             |
| (3) Biatrial enlargement         | (4) Increased Tissue Doppler E' velocity |
49. All are true about diagnosis of Tuberculous pericarditis except :
- (1) Definitive diagnosis is made by isolating the organism from pericardial fluid or a biopsy specimen.
  - (2) Pericardial tissue reveals either granulomas or organisms in 80% to 90% cases
  - (3) A negative skin test excludes the diagnosis.
  - (4) Measurement of ADA in pericardial fluid markedly improve the accuracy and speed of diagnosis.

50. Dressler syndrome is characterized by all except :
- (1) Pericardial rub can appear as early as 1 to 3 days after MI.
  - (2) Prone to produce cardiac tamponade.
  - (3) Persistent upright T waves or early normalization of inverted T - Waves may occur.
  - (4) Can occur 1 week to a few months after acute MI.
51. Following are true about cardiac tamponade during percutaneous coronary intervention except :
- (1) It is a rare complication of percutaneous coronary intervention with an incidence of 0.1% to 0.6%.
  - (2) It is always rapidly progressive.
  - (3) It is always caused by coronary perforation.
  - (4) Management requires sealing of the perforation, pericardiocentesis, reversal of anti-coagulation and if required emergency surgery.
52. Hemorrhagic pericardial effusion is seen in :
- (1) Trauma
  - (2) Tuberculosis
  - (3) Uremia
  - (4) All of the above
53. Following are true about the pathophysiology of constrictive pericarditis except :
- (1) Inspiratory drop in intrathoracic pressure is transmitted to the left side of the heart
  - (2) Left-sided heart filling is reduced
  - (3) Right ventricular filling is increased
  - (4) There is an interventricular septal shift to the left
54. Following are true about hypertrophic obstructive cardiomyopathy except :
- (1) Can present clinically in all phases of life from birth to > 90 years
  - (2) Is associated with reduced life expectancy in almost all cases
  - (3) Atrial fibrillation can precipitate heart failure
  - (4) Sudden death is most common in adolescents and young adults < 30 to 35 years of age
55. The greatest risk for sudden cardiac death in hypertrophic cardiopathy is associated with the following clinical markers except :
- (1) Family history of one or more premature sudden cardiac death
  - (2) Wall thickness  $\geq 30$ mm
  - (3) Syncope with significant pause in the Holter recording
  - (4) Hypotensive or attenuated blood pressure response to exercise
56. Following are true about Aschoff bodies except :
- (1) Are pathognomonic for rheumatic carditis
  - (2) Can be demonstrated as early as second week of rheumatic fever
  - (3) May be present chronically without evidence of carditis
  - (4) Not found in the pericardium

57. Diagnosis of recurrence of rheumatic fever in presence of established rheumatic heart disease requires the following :
- (1) 2 major + 2 minor criteria
  - (2) 1 major + 2 minor criteria + evidence of recent GABHS infection
  - (3) 2 minor criteria + evidence of recent GABHS infection
  - (4) 4 minor criteria
58. Evidence of recent GABHS infection is mandatory for diagnosis of rheumatic fever in all situations except :
- |                     |                                |
|---------------------|--------------------------------|
| (1) Sydenham chorea | (2) Chronic low-grade carditis |
| (3) Both            | (4) None                       |
59. All are true about rheumatic carditis except :
- (1) Pericarditis alone is not diagnostic
  - (2) There is a linear relationship between the severity of MR during the first episode of rheumatic fever and subsequent rheumatic heart disease
  - (3) Severe left ventricular dysfunction occurs due to myocarditis
  - (4) Carditis is typically manifested as valvulitis
60. All are true about rheumatic valvulitis except :
- (1) Usually manifested as MR in children
  - (2) Murmur can be transient
  - (3) In presence of AR the aortic second sound is soft
  - (4) Carey Coombs murmur can be caused by mitral valve deformity
61. All are true about rheumatic arthritis except :
- (1) Earliest and most frequent manifestation of rheumatic fever
  - (2) More severe forms can result in permanent disability
  - (3) Is typically migratory and very painful
  - (4) Joint aspiration may reveal moderate leucocytosis
62. All of the following differentiates post-streptococcal reactive arthritis from rheumatic arthritis except
- (1) Involvement of small joints of the upper extremities
  - (2) Occurs early after streptococcal pharyngitis
  - (3) Is much less responsive to salicylates
  - (4) Persists for a very short duration

63. All are true about Sydenham's chorea except :
- (1) Manifested as involuntary irregular movements
  - (2) Is a delayed manifestation of rheumatic fever
  - (3) Commonly associated with arthritis
  - (4) Subclinical carditis is detected in 70% cases
64. All are true about cutaneous manifestations of rheumatic fever except :
- (1) Both major cutaneous manifestations are rare occurring in < 10% of cases
  - (2) Both major cutaneous manifestations are specific for rheumatic fever
  - (3) Subcutaneous nodules are found over major joints and bony prominences
  - (4) Erythema marginatum typically occurs in conjunction with carditis
65. Following are true about secondary prevention of rheumatic fever except :
- (1) Penicillin prophylaxis to be continued for 5 years or until the age of 21 years, whichever is longer, in the absence of carditis
  - (2) Penicillin prophylaxis to be continued for 10 years or until the age of 40 years, whichever is longer, in patients who develop rheumatic heart disease
  - (3) Penicillin prophylaxis life-long for those at significant risk of recurrent exposure to GABHS infection
  - (4) None of the above
66. A patient presented with prolonged pyrexia 3 months after mitral valve replacement and is clinically diagnosed to have infective endocarditis. His blood culture is most likely to show the following organisms except :
- |                                |                           |
|--------------------------------|---------------------------|
| (1) Staphylococcal epidermidis | (2) Staphylococcus aureus |
| (3) Streptococcus              | (4) Gram negative bacilli |
67. Three separate sets of blood culture, each from a separate venipuncture, obtained during 24 hours in patients with infective endocarditis is essential to demonstrate :
- |                          |                          |
|--------------------------|--------------------------|
| (1) Sustained bacteremia | (2) Transient bacteremia |
| (3) Fastidious organisms | (4) All of the above     |
68. A patient with infective endocarditis developed small, pink, macular rashes on the palms and soles that do not fade with blanching. The diagnosis is :
- |                  |                |                     |                       |
|------------------|----------------|---------------------|-----------------------|
| (1) Osler's node | (2) Roth spots | (3) Janeway lesions | (4) None of the above |
|------------------|----------------|---------------------|-----------------------|
69. Following are the immunologic manifestations of infective endocarditis except :
- |             |                     |               |                        |
|-------------|---------------------|---------------|------------------------|
| (1) Osler's | (2) Janeway lesions | (3) Roth spot | (4) Glomerulonephritis |
|-------------|---------------------|---------------|------------------------|
70. A patient presented with a temperature of 102 degree Fahrenheit and newly developed mitral regurgitation murmur. His blood culture shows growth of streptococcus viridans. According to Modified Duke Criteria, he has :
- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| (1) Possible infective endocarditis | (2) Definite infective endocarditis |
| (3) No infective endocarditis       | (4) None of the above               |

71. All are true about native valve endocarditis due to HACEK organisms except :
- (1) Organisms are fastidious and slow growing
  - (2) Usually detected in blood culture within 5 days of incubation
  - (3) Has a high incidence of systemic emboli
  - (4) Usually produces small vegetation
72. An intravenous drug abuser presented with fever, pleuritic chest pain and a lower parasternal localized pansystolic murmur. His blood culture can show all the following organisms except :
- (1) Staphylococcus aureus
  - (2) Coagulase negative staphylococci
  - (3) Streptococci
  - (4) Enterococci
73. Following haemodynamic situations can initiate NBTE by causing endothelial injury except :
- (1) A high velocity jet striking the endothelium
  - (2) Flow from a high-pressure to a low-pressure chamber
  - (3) Flow across a narrow orifice at a high velocity
  - (4) None of the above
74. Congenital heart disease that will require infective endocarditis prophylaxis :
- (1) VSD
  - (2) PDA
  - (3) ASD closed with device during the first six months of the procedure
  - (4) None of the above
75. Following are true about the response to antibiotic therapy in infective endocarditis except :
- (1) 90% become afebrile by second week of treatment
  - (2) Fever persists longer in patients with S. aureus infection
  - (3) Persistence of fever or a low percentage of decline in C-reactive protein more than 10 days after initiation of therapy is associated with increased mortality
  - (4) None
76. All can produce haemoptysis in mitral stenosis except :
- (1) Bronchitis
  - (2) Pulmonary edema
  - (3) Pulmonary infarction
  - (4) All of above
77. Following differentiates left atrial myxoma from mitral stenosis except :
- (1) Lesser incidence of mid-diastolic murmur
  - (2) Occasional opening snap
  - (3) Longer period of symptom
  - (4) Higher incidence of systolic murmur

78. Radiological findings of mitral stenosis includes all except :
- (1) Straightening of the left heart border
  - (2) Double contour of left atrium
  - (3) Elevation of right main stem bronchus
  - (4) Redistribution of blood flow to the upper lobe
79. Rupture of chordae tendinae can occur in :
- (1) Acute myocardial infarction
  - (2) Mitral valve prolapse
  - (3) Bacterial endocarditis
  - (4) All of the above
80. Severe mitral regurgitation is associated with all except :
- (1) Left ventricular S3
  - (2) Short mid-diastolic flow rumble
  - (3) Hyperkinetic apex
  - (4) Apical systolic thrill
81. All of the following features differentiate acute severe mitral regurgitation from the chronic one except :
- (1) Late systolic decrescendo murmur
  - (2) Prominent 'v' wave in the JVP
  - (3) Marked elevation of left atrial pressure
  - (4) Dilated left atrium
82. Mitral valve surgery in mitral regurgitation is indicated in all except :
- (1) Acute severe mitral regurgitation
  - (2) Chronic severe mitral regurgitation with NYHA Class II symptoms
  - (3) Asymptomatic chronic severe mitral regurgitation with end-systolic diameter  $\geq 40$ mm
  - (4) Asymptomatic chronic severe mitral regurgitation with ejection fraction  $> 60\%$
83. All are predictors of poor outcome after aortic valve replacement for aortic stenosis except :
- (1) Advanced age  $> 70$  years
  - (2) Ejection fraction  $< 45\%$
  - (3) Male gender
  - (4) Atrial fibrillation
84. All can cause angina in aortic stenosis except :
- (1) Increased myocardial oxygen demand
  - (2) Decreased coronary reserve
  - (3) Decreased subepicardial supply
  - (4) Calcium emboli
85. All of the following indicates severe aortic stenosis except :
- (1) Left ventricular heave
  - (2) Pulsus parvus et tardus
  - (3) Paradoxical split
  - (4) Grade IV ejection systolic murmur
86. Coanda effect is seen in :
- (1) Sub-valvular aortic stenosis
  - (2) Supra-valvular aortic stenosis
  - (3) Valvular aortic stenosis
  - (4) None of the above

87. All of the following signs indicate significant aortic regurgitation except :
- (1) Landolfi's sign
  - (2) Hill's sign
  - (3) Carvallo's sign
  - (4) de Musset's sign
88. Pulsus bisferiens may be seen in :
- (1) Severe aortic regurgitation
  - (2) Aortic stenosis with aortic regurgitation
  - (3) Hypertrophic obstructive cardiomyopathy
  - (4) All of the above
89. Following features differentiates acute aortic regurgitation from chronic one except
- (1) Increased left ventricular compliance
  - (2) Decreased effective stroke volume
  - (3) Increased peripheral vascular resistance
  - (4) Increased heart rate
90. All of the following are complications of prosthetic heart valves except :
- (1) Systemic embolism
  - (2) Infective endocarditis
  - (3) Haemolytic anaemia
  - (4) All of the above
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