CARDIAC PATH MCQs:

1. A common cause of myocarditis is

   A: adenovirus
   B: Coxsackie virus ✓
   C: metapneumovirus
   D: Rubella virus

2. A patient is admitted for heart transplant work-up. His dilated cardiomyopathy is most likely to be caused by

   A: haemochromatosis ✓
   B: glycogen storage disease
   C: radiotherapy to the chest
   D: recurrent pulmonary emboli

3. Hypertrophic cardiomyopathy is associated with

   A: autosomal dominant inheritance ✓
   B: expression of foetal beta-myosin heavy chain
   C: fixed left ventricular outflow obstruction
   D: left ventricular ejection fractions of <40%

4. The most common cause of right-sided cardiac failure is

   A: congenital heart disease
   B: ischaemic heart disease ✓
   C: primary pulmonary hypertension
   D: rheumatic heart disease

5. The heart of a 95 year old is likely to show

   A: decreased left atrial cavity size
   B: loss of collagen from the aorta
   C: myocardial deposition of lipofuscin ✓
   D: thinning of valve leaflets

6: You sign off another ECG with signs of LVH. Causes of cardiac hypertrophy include:

   A: amyloidosis
   B: aortic regurgitation ✓
   C: diabetes mellitus
   D: mitral stenosis

7: Diastolic cardiac failure is characterised by

   A: limited left ventricular expansion ✓
   B: loss of myocardial sarcomeres
   C: preserved exercise tolerance
   D: rarely causes pulmonary oedema

8. You are alarmed to be handed an ECG showing a STEMI. After 4 minutes of coronary artery occlusion, the cardiac myocyte

A: can still produce ATP
B: has ATP levels 10% of normal
C: is irreversibly injured
D: suffers from loss of contractility ✓

9. Myocardial necrosis in the area affected by a coronary artery occlusion

A: begins centrally and moves peripherally ✓
B: begins distally and moves proximally
C: begins epicardially and moves inwards
D: is transmural from the outset

10. After coronary occlusion, irreversibly transmural necrosis will be established within

A: 90 minutes
B: 3 hours
C: 6 hours ✓
D: 12 hours

11: Subendocardial infarction is associated with

A: coronary vasospasm
B: hypovolaemic shock ✓
C: infective endocarditis
D: preeclampsia

12: A left circumflex artery occlusion

A: affects the lateral wall of the left ventricle ✓
B: affects the posterior free wall of the left ventricle
C: occurs in 30-40% of myocardial infarctions
D: usually involves the apex

13. Successful repercussion of a STEMI is associated with

A: decreased production of oxygen-derived free radicals
B: formation of contraction bands in irreversibly injured myocytes ✓
C: improved short term but not long term mortality rates
D: less hemorrhagic change to injured myocardium

14. The expected mortality rate for a myocardial infarction patient who reaches hospital alive is

A: 1%
B: 5% ✓
C: 10%
D 20%

15. Cardiogenic shock due to acute coronary occlusion

A: has a mortality rate of 25%
B: is more common 24-36 hours after onset of ischaemia
C: occurs in 3-5% of cases
D: occurs when more than 40% of the LV is affected ✓

16. Mr Marlboro collapses in the hospital garden on day 4 of his admission post STEMI. Risk factors for myocardial rupture include

A: age > 60
B: anterior myocardial infarction ✓
C: anticoagulation
D: left ventricular hypertrophy

17. Nonbacterial thrombotic endocarditis occurs in

A: cancer ✓
B: HACEK group infections
C: Libman-Sacks disease
D: rheumatic fever

18. Carcinoid heart disease

A: is associated with release of serotonin, kallikrein and bradykinin ✓
B: preferentially affects the aortic and mitral valves
C: resembles viral myocarditis
D: usually occurs prior to significant metastatic disease

19. Acute rheumatic fever

A: affects more than one valve in approximately 25% of cases ✓
B: causes inflammation confined to the endocardial and pericardial surfaces
C: most commonly affects the aortic valve
D: results from group B streptococcal infection

20. Congenital bicuspid aortic valves

A: are affected by atherosclerosis
B: are associated with structural abnormalities of the mitral valve
C: are susceptible to hydroxyapatite deposition ✓
D: will become stenotic in the 7th to 9th decades of life

21. The earliest changes of myocardial infarction seen with light microscopy

A: are absent with successful reperfusion
B: are usually visible before 4 hours
C: include coagulative necrosis, oedema and haemorrhage ✓
D: include sarcolemmal disruption and mitochondrial swelling