

ASSESSMENT OF 30 MCQs

FPSC No : 65

MCQS ON CARDIOVASCULAR DISORDERS

Submission DEADLINE: 19 JULY 2016, 12 NOON

INSTRUCTIONS

- To submit answers to the following multiple choice questions, you are required to log on to the College Online Portal (www.cfps2online.org)
- Attempt ALL the following multiple choice questions.
- There is only ONE correct answer for each question.
- The answers should be submitted to the College of Family Physicians Singapore via the College Online Portal before the submission deadline stated above.
- There will be NO further extension of the submission deadline.

- Which of the following lipid-lowering drugs has an emerging role in the treatment and prevention of microvascular complications in patients with diabetes mellitus?
 - Niacin
 - Fenofibrate
 - Ezetimibe
 - Statin
 - PCSK9 inhibitors
- You are considering recommending surgical treatment for obesity in selected patients. In the patients below, attempts to control weight, including diet education, medication, exercise and behaviour modification have failed. Which one of these patients would meet the criteria for surgical treatment of obesity?
 - A 44-year-old with BMI 34 with poorly controlled diabetes mellitus
 - A 34-year-old with BMI 28 with poorly controlled diabetes mellitus
 - A 45-year-old with BMI 34 and well-controlled diabetes mellitus
 - A 52-year-old with BMI of 28 with obstructive sleep apnoea and well-controlled diabetes mellitus.
 - A 48-year-old with BMI 34 with no other health problems
- Which of the following statements on patients with chronic kidney disease (CKD) are true?
 - CKD is an independent risk factor for cardiovascular disease
 - CKD can be classified into 6 stages, based on the estimated GFR
 - The relationship between CKD and dyslipidaemia is well understood
 - Good control of fasting lipid levels can prevent further decline in renal function
 - All of the above
- The use of statins in patients with CKD has been clearly shown to reduce cardiovascular events or stroke, except in which subgroup?
 - Diabetic patients
 - Patients with early-stage CKD
 - Patients on dialysis
 - Patients post-renal transplant
 - Patients with previous myocardial infarction
- Which of the following daily dosages is not considered high-intensity statin therapy?
 - Simvastatin 40mg
 - Atorvastatin 40mg
 - Atorvastatin 80mg
 - Rosuvastatin 20mg
 - Rosuvastatin 40mg
- A 50-year-old Asian man with hypertension (usually on amlodipine 5mg od) is seen in clinic for increasing breathlessness over a two-week period. He stopped smoking 2 years ago and his father underwent CABG surgery at the age of 46. His blood pressure was very high when seen (155/100mmHg) and he was found to have severe hypertensive heart disease on echocardiogram. ECG showed no acute changes and his CT calcium score showed significant calcification in all 3 coronary arteries. His blood tests showed severe renal failure (Urea 18.2mmol/L, Creatinine 340 umol/L; eGFR 17) and renal ultrasound scan confirmed a picture of chronic renal disease. His fasting lipid profile showed the following: Total Cholesterol 275mg/dL, HDL 48mg/dL, LDL 195mg/dL, Cholesterol/HDL 5.7, Triglycerides 162mg/dL. Which of the following statements is most correct?
 - He should not be given a statin due to severe,

- end-stage CKD
- B. He should be given a modified dose of a statin as he is at increased cardiovascular risk
 - C. The use of a statin is unlikely to have much effect on his fasting lipid profile
 - D. His renal function does not need to be routinely monitored if he is given atorvastatin as he already has end-stage CKD and atorvastatin is metabolized by the liver
 - E. All the above are correct
7. **A 61-year-old man is seen in clinic for routine follow-up care. He has had diabetes for 15 years and has been managed with glipizide 10 mg twice daily and metformin 1000 mg twice daily, with HbA1c 8.8%. His blood pressure is 140/90 mmHg and he is on Enalapril 5mg twice a day. His lipid profile shows raised LDL-C 3.6 mmol/l, triglyceride 2.6 mmol/l and HDL-C 0.8 mmol/l. What is your further management for his lipid profile?**
- A. Start Lovastatin 40mg once a day
 - B. Start Simvastatin 20mg once a day
 - C. Advise lifestyle measures, medical nutrition therapy and increased physical activity to 150min/week
 - D. Start Fenofibrate along with high-intensity statin therapy
 - E. Start Atorvastatin 40mg once a day
8. **In the IMPROVE-IT study, which combination of lipid-lowering therapy reduced LDL-C more than that for a statin alone?**
- A. Statin plus Ezetimibe
 - B. Statin plus Niacin
 - C. Statin plus Fibrate
 - D. Ezetimibe plus Niacin
 - E. Ezetimibe plus Fibrate
9. **Which of the following is FALSE?**
- A. DKA is always associated with hyperglycaemia
 - B. Renal impairment doubles the risk of hypoglycaemia in type 2 diabetes
 - C. The risk of hypoglycaemia in those with T2DM managed with sulphonylureas is similar to those with T2DM on insulin therapy
 - D. The elderly are at increased risk of hypoglycaemia
 - E. Mild DKA in a well-informed patient can be treated at home.
10. **A 40-year-old woman presents with concerns regarding diabetes. She reports that her father and mother have diabetes. She denies any polyuria, polydipsia, blurring of vision, or recent weight change. On examination, she has a BMI of 28 and a blood pressure of 128/80. Which of the following regarding diagnosis of diabetes is true?**
- A. Fasting plasma glucose of greater than or equal to 7mmol/l is diagnostic
 - B. Two-hour post-oral glucose tolerance test of greater than or equal to 11.1 mmol/l is diagnostic
 - C. Random plasma glucose of greater than or equal to 11.1 mmol/l is diagnostic
 - D. A positive test should be repeated
 - E. A urine dipstick is able to diagnose diabetes in the presence of typical hyperglycaemic symptoms
11. **Which of the following glucose-lowering agents acts by reducing the amount of glucose produced by the liver?**
- A. Sulphonylureas
 - B. Metformin
 - C. Alpha-glucosidase inhibitors
 - D. SGLT2 inhibitors
 - E. Meglitidines
12. **Which of the following statements is/are TRUE for heart failure?**
- A. It is associated with high morbidity but low mortality
 - B. There are evidence-based disease-modifying medications for heart failure with preserved ejection fraction
 - C. It is associated with a higher mortality rate than most types of cancers
 - D. Surgery has a limited role in the treatment of heart failure
 - E. Pharmacological therapy is based on small studies
13. **Which of the following statements is/are TRUE for ivabradine (SHIFT trial)?**
- A. Can be used in setting of atrial fibrillation
 - B. It reduces cardiovascular mortality
 - C. It reduces rehospitalisation for heart failure
 - D. It is indicated if heart rate is less than 70 beats per min
 - E. It cannot be used in combination with a beta blocker
14. **Which of the following statements is/are TRUE for eplerenone (EMPHASIS-HF trial)?**
- A. It reduces cardiovascular mortality
 - B. It is used in moderate to severe heart failure (NYHA class III/IV)
 - C. It is used in patients with left ventricular ejection fraction of less than 45 percent
 - D. It was compared to spironolactone in the trial
 - E. It causes less renal impairment compared to spironolactone
15. **Which of the following statements on the use of high-intensity statins in patients with CKD are false?**
- A. High-intensity statins should never be used in patients with CKD

- B. There is no evidence of cardiovascular benefit in the use of high-intensity statins in patients with CKD
- C. High-intensity statins definitely increase the incidence of rhabdomyolysis and severe liver failure in patients with CKD
- D. High-intensity statins can be used safely in patients on dialysis
- E. All the above are false
- 16. Which of the following statements is/are TRUE for angiotensin receptor neprilysin inhibitor (ARNI)?**
- A. It can be used in patients with heart failure with preserved ejection fraction
- B. It was compared to lisinopril in the PARADIGM HF trial
- C. It reduces cardiovascular mortality but not rehospitalization for heart failure
- D. Entresto works by enhancing the natriuretic peptide system
- E. It can be used in combination with ACE inhibitor
- 17. Regarding the choice and dose of statin in patients with CKD, which of the following are correct:**
- A. The dose of statins should be adjusted in patients with hypertension
- B. The dose of statins should be adjusted in patients with type 2 diabetes
- C. The dose of rosuvastatin does not need to be adjusted in patients with end-stage CKD as the drug is fully metabolized through the liver
- D. Most patients on standard doses of statins do not need to have the dose adjusted in early stages of CKD
- E. All the above are correct
- 18. Which group is not likely to benefit from statin therapy?**
- A. Patients with clinical atherosclerotic cardiovascular disease
- B. Patients with LDL-C >190 mg/dl
- C. Patients with diabetes mellitus, 40 to 75 years of age, with LDL-C levels of 70 to 189 mg per dL, but without clinical ASCVD
- D. Patients without diabetes, 40 to 75 years of age, with an estimated ASCVD risk \geq 7.5%
- E. Patients with hypertension only
- 19. Daily dosage of moderate-intensity statin lowers LDL-C by approximately:**
- A. 25% to 30% on average
- B. 30% to 40% on average
- C. 30% to 50% on average
- D. 35% to 55% on average
- E. \geq 50% on average
- 20. Which of the following statements is/are TRUE for left ventricular assist device (LVAD)?**
- A. It can be used in mild to moderate heart failure
- B. Only a minority of patients are in NYHA class I/II post LVAD implantation
- C. It is a high-risk operation with high perioperative mortality risk
- D. It can be used as a bridge to cardiac transplantation
- E. It cannot be used in patients more than 70 years of age
- 21. The target blood pressure for patients with diabetes mellitus at risk of cardiovascular disease is now set at less than 140/90. Which of the following trials provided the major evidence to this recommendation?**
- A. ACCORD BP
- B. INVEST
- C. ACCOMPLISH
- D. RENAAL
- E. None of the above
- 22. With regards to the proportions of cardiovascular diseases deaths in 2012, which of the following countries has a larger proportion of ischaemic heart disease deaths than stroke deaths ?**
- A. Vietnam
- B. Singapore
- C. Korea
- D. Indonesia
- E. Myanmar
- 23. With regards to Acute myocardial infarct deaths in Singapore for the period of 2007 to 2013, which ethnic group has the highest age specific deaths?**
- A. Chinese
- B. Indians
- C. Malays
- D. Bangladeshis
- E. Indonesians
- 24. A type 2 diabetic who is 50 years of age, has a 10-year cardiovascular risk of 8%. Which of the following is the correct medication to give?**
- A. Simvastatin 10 mg
- B. Pravastatin 20 mg
- C. Lovastatin 40 mg
- D. Rosuvastatin 5 to 10 mg.
- E. Atorvastatin 40 to 80 mg.
- 25. With regards to the weight loss and prevention of future weight regain, which of the following is the best advice?**
- A. Half the carbohydrate intake per meal.
- B. Replace sweetened beverages with plain water.
- C. Reduce sedentary sitting time.

- D. Increase protein intake to 25 – 30 g per meal.
- E. Moderately intense physical activity per week.

26. Hypertension can be diagnosed using which of these acceptable measurement strategies?

- A Ambulatory blood pressure monitoring (ABPM)
- B Home blood pressure monitoring
- C Office-based blood pressure measurements
- D A, B and C
- E A and B only

27. Which of these statements about Ambulatory BP monitoring is false:

- A Considered to be the reference standard for the diagnosis of hypertension
- B Better predictor of future cardiovascular events as compared with conventional office-based BP measurements
- C Failure of the blood pressure to fall by greater than 10 percent during sleep may also be associated with increased cardiovascular risk
- D Indicated when a patient is suspected of having “white coat hypertension”
- E Provides a very accurate picture of factors that may be affecting a patient’s blood pressure, such as exercise, eating, medications

28. Home Blood Pressure monitoring can be used in the following situations except:

- A Suspected white coat hypertension
- B Suspected episodic hypertension
- C Hypertension resistant to increasing medication
- D Hypotensive symptoms while taking antihypertensive medications
- E Nocturnal dipping

29. The morning surge in blood pressure:

- A Is a normal physiological phenomenon
- B Has a clearly defined threshold, above which is pathological
- C Has a linear association with increased cardiovascular risk
- D Is not associated with echocardiographic measures of hypertensive heart disease (left ventricular hypertrophy)
- E Can be easily managed by nocturnal dosing of medication with concomitant reduction in cardiac risk

30. Reasons for loss of nocturnal blood pressure dipping:

- A Obstructive sleep apnoea
- B Chronic kidney disease
- C Diabetic neuropathy
- D Diabetes nephropathy
- E All of the above