ASSESSMENT OF 30 MCQs

FPSC NO : 26
DIABETES MELLITUS: REVISITED
SUBMISSION DEADLINE : 27 JUNE 2008

INSTRUCTIONS

With effect from 1st April 2008, the College is going paperless and has phased out the physical CME Answer Sheet forms.

- **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 of 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 College Online Portal (www.cfps2online.org) before the submission deadline stated above.

1. The heightened insulin resistance associated with type 2 diabetes can be ameliorated through the potential of exercise to:

A. increase HDL.
B. develop better energy level and muscle strength.
C. enhance insulin sensitivity.
D. obviate the need for pharmacotherapy.
E. increase digestion.

2. A diabetic patient reports that he is unable to incorporate exercise into his daily routine because exercise is boring and he has early osteoarthritis. Which of the following actions of the family physician is CORRECT?

A. Accept the patient's explanation that he travels overseas frequently.
B. Agrees that the patient should not exercise because of his arthritic pain.
C. Consoles the patient that a study of 25000 volunteers found no reduction in the risk of death among the physically active.
D. Explore possibilities of overcoming the barriers preventing the patient from doing exercises and explaining that exercising need not be boring.
E. Immediately prescribe an exercise plan that requires running 5km daily.

3. An exercise guideline for diabetics should include the following EXCEPT:

A. Exercise should always be started at a low level and then gradually escalated because many diabetics are fairly deconditioned.
B. Brisk walking, cycling or swimming are probably a worthwhile first step to overcome inertia.
C. Teaching patients to be alert to symptoms of hypoglycaemia during or after exercise.
D. Advising patients to carry personal identifications and have ready sweets to reverse any hypoglycaemia.
E. Recommending a exercise stress test for every sedentary diabetic patient.

4. Which of the following statements on diet, bodyweight, calorie intake and nutrition composition is a CORRECT advice for a diabetic patient?

A. A referral to a dietician is generally unnecessary.
B. A 5-10% decrease of baseline bodyweight cannot be expected to lead to a significant improvement in insulin sensitivity, glycaemic control and lipid profile.
C. Complex carbohydrates invariably result in less glycaemic excursion compared to simple sugars.
D. Knowledge of glycaemic indices of various foods can be used to control sharp escalation of blood sugar.
E. Estimation of calorie requirement is only dependent on level of physical activity.

5. Which of the following statements about lifestyle and behavioural modifications in a diabetic patient is CORRECT?

A. Smoking cessation advice should be only given by the doctor in the clinic consultation.
B. There is no place for target setting.
C. Reluctance to adopt self-glucose monitoring and insulin injection is not related to needle phobia.
D. Elucidating patient's knowledge, beliefs and attitudes has no impact on metabolic control.
E. Diabetes self management education should be a skill based approach and is the foundation of disease management.

6. What is the Dawn Experiment? It is a:

A. listening exercise to evaluate whether effective communication improves patient relationship and therapeutic alliance.
B. framework to facilitate self management.
C. person-centred dialogue using questionnaire to elicit psychosocial barriers.
D. clinical tool to detect subclinical depression.
E. study undertaken by Novo Nordisk and the International Diabetic Federation.

7. Which of the following statements about simple dialogue support tools and their use to overcome psychosocial barriers is NOT FALSE?

A. They can consist of patient reported forms.
B. They can help diabetes care team identify and address misbeliefs and misunderstandings of patients.
C. Considerable time is wasted using such tools during the consultation.
D. The Insulin Treatment Appraisal Scale is a dialogue tool.
E. They enable a fully informed decision about the use of new therapy.

8. Which of the following statements on the key steps in the 5A framework to facilitate self management is FALSE?

A. Assess the patient's key priorities and needs for support.
B. Advise about test results, provide tailored relevant information and resources.
C. Agree on self management goals through collaborative dialogue with the patient.
D. Assume that the patient has access to support between visits.
E. Assist the patient in identifying barriers to self care and ways to overcome them.

9. For each diabetic patient, besides avoiding the risks of complications and acquiring problem solving skills, a key goal of self management education would be:
A. taking medications as recommended.
B. monitoring blood glucose.
C. eating healthily.
D. being physically active.
E. all of the above.

10. Which of the following statements about the WHO-5 Well Being Index questionnaire to assess patient's psychological well being is CORRECT?
A. It uses both positive and negative questions.
B. It can identify signs of subclinical or clinical depression.
C. It takes more than 10 minutes to complete.
D. Its use is controversial.
E. Feeding back the well being score will further depress the patient.

11. Self Monitoring of Blood Glucose (SMBG) is indicated for which of the following patients?
A. All insulin-treated patients.
B. All pregnant patients.
C. Non insulin-treated patients who are non compliant to medication.
D. All patients who are at risk of hyperglycaemia.
E. Patients who have metabolic syndrome.

12. Self Monitoring of Blood Glucose (SMBG) should be done:
A. once a day for patients with type 1 diabetes.
B. two or three times a day on two to three days a week for non insulin-treated type 2 diabetic patients.
C. twice daily for patients on multiple insulin injections.
D. frequently for patients with unstable metabolic control.
E. daily in pregnant patients with diabetes.

13. Which of the following statements regarding HbA1C is TRUE?
A. Glycated haemoglobin (HbA1c) quantifies average glycaemia over the previous 2-3 weeks.
B. Should be tested 3 to 4 monthly in patients with stable glycaemic control.
C. HbA1c provides a measure of day-to-day glycaemic excursions or glycaemic variability.
D. Conditions that affect erythrocyte turnover such as haemolysis, blood loss and recent blood transfusion may affect HbA1c results.
E. HbA1c value has been shown to predict the risk for development of chronic macrovascular complications in diabetes.

14. Which of the following statements regarding targets for glycaemic control is TRUE?
A. HbA1c > 8.0% is unacceptable and is associated with acute metabolic decompensation and complications.
B. Ideal control must be achieved in all patients with diabetes.
C. HbA1c of 4.5 -6.4% is optimal control.
D. Optimal control is associated with a significantly reduced risk of developing hypoglycaemia.
E. Suboptimal control occurs in a minority of diabetic patients.

15. In which patients would it be adequate to accept suboptimal diabetic control?
A. Older patients with significant atherosclerosis burden who may be vulnerable to permanent injury from hypoglycaemia.
B. Patients with severe diabetes-related complications. vulnerable to permanent injury from hypoglycaemia.
C. patients with limited life expectancies.
D. Preadolescent children.
E. All of the above.

16. For patients with Type 2 Diabetes, which of the following is TRUE?
A. Both impaired insulin action and relative insulin deficiency are key factors in its pathogenesis.
B. Deterioration in insulin secretion is often the dominant factor responsible for increasing hyperglycaemia.
C. Insulin therapy may be required in longstanding cases to help achieve metabolic control.
D. Insulin therapy is often needed in female patients during pregnancy.
E. All of the above.

17. Regarding Types of Insulin, which of the following is TRUE?
A. Insulin Lispro (Humalog) has an onset of 30-60mins.
B. Actrapid is a long-acting insulin.
C. Basal insulin analogues are relatively 'peakless' thereby reducing the risk of hypoglycaemia.
D. Ultratard is a long acting insulin and thus suitable for prandial use.
E. Patients can inject a rapid-acting analogue just a few minutes before meals provided they snack 3-4 hours after injection.

18. When initiating insulin therapy for a patient with Type 2 Diabetes:
A. consider those patients who are already on moderately high doses of oral antidiabetic agents, have good lifestyle habits, but are still not able to attain their customized HbA1c targets.
B. intercurrent illness usually would not affect the glucose levels.
C. it is best to avoid discussing insulin therapy early as it will scare patients.
D. Rosiglitazone may delay the use of insulin in patients already on maximum oral antidiabetic agents.
E. Rosiglitazone is better then insulin in patients whose HbA1c is > 9.5% and on maximum oral antidiabetic agents.

19. Which of the following factors should be considered when initiating insulin therapy?
A. BMI of 30.
B. Sedentary occupation.
C. Poor random glucose readings.
D. Availability of social support.
E. Poor adherence to oral tablets.

20. Which of the following is the BEST statements on selecting the type of insulin therapy to use?
A. In patients with type 2 diabetes who have HbA1c of greater than 10-11%, basal insulin is preferable to pre-mixed insulin.
B. In patients who have HbA1c of greater than 10-11%, an initial total daily dose of 0.5 units per kg body weight divided into morning and evening doses, each with basal and prandial components can be used.
C. In patients with lower HbA1c of 9%, give a single daily injection of NPH insulin whilst withdrawing existing oral antidiabetic agents.
D. The basal insulin injection should be given in the evening if the patient has substantially higher evening blood glucose.
E. For evening injections, once morning blood glucose target has been attained, but evening blood glucose readings and the HbA1c remain unacceptably high, consider increase the evening dosage.

21. Which of the following patient with diabetes is LEAST LIKELY to develop a foot ulcer? One who has:

A. sensory neuropathy and wears ill fitting footwear.
B. neuroischaemia and a red mark with superficial blister on the tip of a toe.
C. muscle atrophy due to motor neuropathy.
D. loss of sweating and dry skin due to a autonomic neuropathy.
E. an ABI of 1.2 and no abnormalities on foot screen.

22. In evaluating a diabetic foot ulcer, it is important to determine if the underlying aetiology is predominantly ischaemic. This is because ischaemic ulcers:

A. are usually associated with Charcot's arthropathy.
B. may require revascularisation to achieve healing.
C. are usually associated with osteomyelitis.
D. require only non surgical treatment.
E. do not need probing to see the extent of ulceration.

23. Which of the following situations is most likely to be associated with a neuroischaemic foot ulcer?

A. The ulcer is on the lateral aspect of the fifth metatarsophalangeal joint of a foot which is cool to touch.
B. The foot is warm,well perfused with palpable pulse.
C. The ulcer is on the plantar surface of the first metatarsal head.
D. The ulcer started as a callus and the skin of the feet is dry with fissuring.
E. The ulcer is on the plantar aspect of the toes.

24. Which of the following statements is NOT part of the annual diabetic foot screen?

A. Checking for symptoms of numbness, pins and needles and claudication pain.
B. Inspecting the feet for dryness, cracking, peeling skin, calluses and deformities.
C. Palpation of dorsalis pedis and posterior tibial pulse.
D. Placing the 10G monofilament on 9 sites on the dorsal surface of the feet.
E. Vibration sense testing with a neurothesiometer.

25. Which of the following actions is NOT a component of the treatment of the diabetic foot ulcer?

A. Debridement of all necrotic tissue, callus or fibrous tissue.
B. Probing the ulcer to exclude underlying sinus or osteomyelitis.
C. Deep swab and tissue sample to be sent for aerobic and anaerobic culture before initiation of wide spectrum antibiotic treatment.
D. Off-loading to redistribute plantar pressures.
E. Lax glycaemic control.

26. Which of the following statements about the Singapore National Health survey is CORRECT?

A. There is a significant rise in diabetes prevalence to 9% from the 8.2% of 1998.
B. There are more Indians (15.3%) than Chinese (11%) than Malays (7.1%) with diabetes.
C. About 30% of diabetics remain undiagnosed.
D. There are a larger number of individuals among the adult population who have impaired glucose tolerance than there are diabetics.
E. More than half of the diabetics have their HbA1c controlled to <7%.

27. Which of the following statements about preventing diabetes is CORRECT?

A. Weight loss of 7% and regular exercise of 150 minutes/ week can reduce the risk of developing diabetes by 25%.
B. Intensive lifestyle modifications combined with metformin or thiazolidenediones can reduce the risk of developing diabetes by 50%.
C. ACE-inhibitors, angiotensin receptor blockers and orlistat have not been shown to reduce risk of progression to diabetes.
D. A patient with combined IGT and IFG should be offered intensively modified lifestyle plan alone to reduce his risk of progression to diabetes.
E. An Indian patient with IGT should be offered lifestyle modifications with medication to prevent progression to diabetes.

28. Which of the following statements about diabetes related end organ damage is CORRECT?

A. The landmark DCCT, UKPDS and EDIC study showed conclusively that intensive glycaemic control does not prevent the development and progression of retinopathy, nephropathy and neuropathy.
B. The relationship between cardiovascular events and glycaemia is conclusive.
C. Every 1% reduction in HbA1c level reduces microvascular complications by 30-35% and macrovascular complications by 14%.
D. Diabetics should aim for a HbA1c of 8% or less.
E. Diabetics can take their time to achieve target HbA1c in their diabetic history.

29. Which of the following statements about oral hypoglycaemics is INCORRECT?

A. Meglitinides allow flexibility in use and titration because of its "one meal, one dosing" taken 5-10 minutes prior to eating.
B. The main limitation of metformin is the GI effects and contraindication in renal impairment.
C. Issues with rosiglitazone are fluid retention, weight gain, fractures in post menopausal women and controversy over increasing cardiovascular mortality.
D. The clinical effects of acarbose is a blunting or smoothening out of post prandial sugar level.
E. The XR formulation of metformin increases its GI effects.

30. Which of the following statements about hypoglycaemic drugs with incretin hormone enhancing action is CORRECT?

A. Their effects include insulin release, reducing glucagon, slowing gastric emptying and promoting satiety.
B. The GLP-1 analogues or DPP-4 inhibitors are examples of such medications.
C. Sitagliptiin and vildagliptin are DPP-4 inhibitors which are orally active.
D. Their blood glucose lowering effects is comparable to existing therapies.
E. Both sitagliptin and vildagliptin can be combined with sulphonylureas, metformin, TZDs and insulin.

Distance Learning Module – FPSC No: 25
"Risk Factors in Macrovascular Disease"
Answers to 30 MCQ Assessment

Q1. E	Q6. C	Q11. A	Q16. B	Q21. D	Q26. D
Q2. C	Q7. D	Q12. B	Q17. C	Q22. A	Q27. E
Q3. E	Q8. B	Q13. A	Q18. D	Q23. B	Q28. A
Q4. D	Q9. E	Q14. D	Q19. A	Q24. C	Q29. E
Q5. C	Q10. B	Q15. E	Q20. E	Q25. C	Q30. B