Chapter 3: Pharmacological management of diabetes

Test your knowledge

1. According to the WHO, under which circumstances should metformin be initiated in an individual with type 2 diabetes?
2. Immediately at diagnosis
3. **Fasting plasma glucose of >7 mmol/l (126 mg/dl) but <18 mmol/l (324 mg/dl) after 1 month of lifestyle interventions (correct)**
4. Fasting plasma glucose of >6 mmol/l (108 mg/dl) but <13 mmol/l (234 mg/dl) after 1 month of lifestyle interventions
5. Fasting plasma glucose of >7 mmol/l (126 mg/dl) but <18 mmol/l (324 mg/dl) after 3 months of lifestyle interventions
6. Fasting plasma glucose of >6 mmol/l (108 mg/dl) but <13 mmol/l (234 mg/dl) after 3 months of lifestyle interventions
7. According to the WHO, which of the following is the most appropriate glycaemic target for an otherwise healthy older adult (aged 76) with no major comorbidities treated with metformin and gliclazide?
8. HbA1c of <6.5%; fasting plasma glucose of <6.5 mmol/l (117 mg/dl)
9. HbA1c of <7.0%; fasting plasma glucose of <7.0 mmol/l (126 mg/dl)
10. **HbA1c of 7.0–7.5%; fasting plasma glucose between 6.5–7.5 mmol/l (117–135 mg/dl) (correct)**
11. HbA1c of 7.6–8.5%; fasting plasma glucose between 7.6–9.0 mmol/l (137–162 mg/dl)
12. HbA1c of >8.5%; fasting plasma glucose of >9.0 mmol/l (162 mg/dl)
13. Which of the following is NOT a reason for emergency referral to higher levels of care?
14. Clinical suspicion of type 1 diabetes in a newly diagnosed patient
15. **Glycaemic targets not achieved after 6 months despite adherence to treatment with oral therapies (and/or insulin) (correct)**
16. Infected foot ulcer with or without symptoms of systemic infection
17. Blood pressure >200/>110 mmHg
18. Blood pressure >180/>110 mmHg with shortness of breath
19. Which of the following treatment approaches is recommended by the WHO for an individual with type 2 diabetes and blood glucose above target despite treatment with 1,000 mg metformin once daily?
20. **Increase metformin dose to 1,000 mg twice daily (correct)**
21. Add gliclazide
22. Add basal insulin
23. Stop metformin and start gliclazide
24. Add NPH insulin
25. Which of the following is a symptom of hyperglycaemia?
26. Hunger
27. Sweating
28. Shaking
29. Slurred speech
30. **Increased thirst and urination (correct)**
31. In which of the following circumstances would you advise against fasting?
32. Type 1 diabetes
33. Type 2 diabetes treated with insulin
34. **Individuals with poor hypoglycaemia awareness (correct)**
35. People aged >70 years
36. Type 2 diabetes treated with metformin

SUMMARY RESULTS

Score: X/6

In this module we covered the pharmacological management of diabetes, when to refer patients to higher levels of care and how to manage acute complications such as hypoglycaemia and hyperglycaemia.

1. CORRECT/INCORRECT

WHO guidelines suggest metformin should be initiated in individuals with type 2 diabetes and a fasting plasma glucose of >7 mmol/l (126 mg/dl) but <18 mmol/l (324 mg/dl) after 1 month of lifestyle interventions.

1. CORRECT/INCORRECT

Based on WHO guidelines, a glycaemic target of HbA1c of 7.0–7.5% or fasting plasma glucose between 6.5–7.5 mmol/l (117–135 mg/dl) would be most appropriate for an otherwise healthy older adult (aged 76) with no major comorbidities treated with metformin and gliclazide.

1. CORRECT/INCORRECT

Not achieving glycaemic targets is not a reason for emergency referral to higher levels of care. However, these individuals can still be referred to higher levels of care via non-emergency referral.

1. CORRECT/INCORRECT

WHO guidelines indicate that best practice for an individual treated with 1,000 mg metformin once daily would be to increase the dose of metformin to 1,000 mg twice daily (2,000 mg daily).

1. CORRECT/INCORRECT

Increased thirst and urination are symptoms of hyperglycaemia. Hunger, sweating, shaking and slurred speech are associated with hypoglycaemia.

1. CORRECT/INCORRECT

Individuals with poor hypoglycaemia awareness should be advised against fasting due to the increased risk of hypoglycaemia associated with prolonged fasting that could go undetected. Most other people with diabetes can fast safely, with certain adjustments.