

Diabetes review question sheet 3 pages

TRUE OR FALSE

Significance

- Incidence of Diabetes expected to only double in next 10 years?
 - DM is clearly only a disorder of impaired insulin secretion resulting in hyperglycaemia.?
 - There are more than 2 types of DM?
 - In patients with DM there is extrapancreatic pathology?

A{a,c} B {b,c} C{a,d} D {c,d}?
- Incretin hormones increase glucose levels directly?
 - DM is most easily identified by hyperglycaemia?
 - Incretin hormones act on the alpha cells in the islets of Langerhans?
 - Incretin hormones cause rapid gastric emptying?

A{a,b,d}, B{b,c,d}, C{a,c}, D{a,c,d}?
- Natural GLP-1 has an extended half life of 6 hrs?
 - DM has multiple aetiology not only related to insulin metabolism?
 - DM patients have disturbance of fat ,protein and carbohydrate metabolism?
 - DM is still considered to be the result of dietary indiscretion and reduced exercise?

3a, 3b, 3c, 3d,?

Obesity

- Obesity is exclusively the result of constant excessive dietary intake with too little exercise?
 - Leptin deficiency has a genetic aetiology?
 - BMI over 25 is regarded as excessive universally?
 - BMI and postprandial insulin levels are directly proportional?

4a, 4b, 4c, 4d ?
- Obese Diabetics have hypertension, dyslipidemia, cardiovascular disease and increased risk of cancer?
 - Hyperinsulinaemia is related to raised BMI and resultant insulin resistance?
 - Hallmark changes in T2D include reduced beta cell activity with increased alpha cell activity and peripheral resistance? ,
 - Physiological changes include hypertryglyceridemia,hyperglycemia, impaired amino acid uptake, impaired ATP production with increased glucagon production

5A {ad}, 5B{abc}, 5C {b,c d}, 5D {ALL}

Pathophysiology

- Diabetics commonly suffer from end stage renal disease and cardiovascular symptoms and early erectile dysfunction in men ?
 - Beta cell function remains stable over time when on a diabetic treatment regime?
 - T2D commonly presents over 40yrs?
 - the rise in DM incidence is compounded by the rise in global population numbers?

6a, 6b, 6c, 6d?

Diabetic review

- 7 a. 12% of health expenditure worldwide is on Diabetes?
b. Developing countries have a huge population of undiagnosed diabetics?
c. Diabetes is classified as a pandemic disease?
d. Sedentary lifestyle and obesity is rising globally?
7A, 7B, 7C, 7D ALL

Aetiology

8. a. risk factors to develop Diabetes include obesity BMI>25, genetic factors, increased visceral fat, alcohol intake and smoking?
b. psychological stress and depression do not result in Diabetes ?
c. women with T2D and Cardiovascular disease have a better prognosis ?
d. Hepatitis C, Herpes simplex type 1, have been found to promote T2D?
8A {a,b}, 8B{b,d}, 8C{cd}, 8D{b,c}

Pathogenesis

9. a. Fasting glucose levels between 6.1-6.9, or post glucose meal 7.8-11mmol/l signify Prediabetes?
b. Beta cell mass remains constant in patients with T2D or prediabetes?
c. All patients with prediabetes will progress to diabetes?
d. Lifestyle modification will delay or prevent progression to T2D?
9A{a,c}, 9B{bd}, 9C{b,c}, 9D{b,c,d}
10. a. Insulin resistance is the principle cause of T2D?
b. Cytokines and fatty acids produced in obesity reduce the risk of insulin resistance?
c. hyperlipidaemia results from the inadequate production of insulin by the pancreatic islet beta cells?
d. It can take 12 years after prediabetes has been noted to first diagnose T2D?
10A [a.b], 10B {b,c}, 10C{b,d}, 10D{b}
11. a. Due to insulin resistance peripheral tissues cannot absorb nutrients from the blood thereby metabolising stored fat and protein to produce needed ATP?
b. Decreased insulin production results in increased glucose production in the liver?
c. Due to increased fatty acid levels in the circulation the liver stores the fat resulting in NAFLD?
d. In Diabetes NAFLD can progress to steatohepatitis and cirrhosis?
11A{a.d}, 11B{b.d}, 11C {a,c}, 11D {all}
12. a. Neurological sequelae of T2D include cognitive decline with specific defects in the hippocampus as well as peripheral neuropathy?
b. Atherosclerotic plaques in arterial walls are promoted by the HDL molecules that penetrate into and through the arterial wall?
c. Diabetic neuropathy results from chronic nitric acid deficiency in the microcirculation?
d. Capillary basement membrane becomes thickened in Diabetics due to hyperglycaemia?
12A { a}. 12B { b}. 12C {c}. 12D { d.}

diabetic review

Pharmacological treatments

13. a. Metformin reduces gluconeogenesis and insulin resistance while increasing GLP-1 post prandially. P
b. Insulin secretagogues can induce weight gain and hypoglycemia?
c. Insulin injection is known to increase weight and has risk of colorectal cancer?
d. Modulating GLP-1R activity is a recent effective method of circulating glucose control?

13A{a,c} , 13B{c,d} , 13C{ b,c, d} , 13D{all}

14. a. GLP-1 analogues block the GLP-1R (receptor) of the alpha cells in the islets of Langerhans reducing the production of glucagon and stabilizing the blood glucose level with its insulinotropic properties?
b. GLP-1 analogues can retain beta cell mass and delay the beta cell apoptosis?
c. Beneficial effects of GLP-1 agonists include reduced HbA1C levels, induce weight loss, reduce cardiovascular complications and are renal protective?
d. Bariatric surgery is preferable and recommended despite its long term effect of Vit B12 deficiency gallstone production, and secondary hyperparathyroidism?

14A{a,b, c}, 14B{ c,b} , 14C{b,c,d}, 14D{d}