Type 2 Diabetes Mellitus – Case scenarios

Monday 22nd October 2012: Diabetes Type 2 – Technical Aspects
Venue: South Auditorium, Faculty of Health Sciences, MDH
Time: 7.30pm

Guest Speaker: Dr. Mario J Cachia MD, FRCP(Lond)
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Case No 1- Steroid induced hyperglycemia
A 60-year-old slim lady, with a history of polymyalgia rheumatica, is being managed with prednisolone 5mg daily, analgesics and stretching exercises and physiotherapy. She is also taking a bisphosphonate to prevent glucocorticoid-induced osteoporosis together with a calcium and vitamin D preparation. She comes to do a blood test to check the random blood glucose.

Results show that her blood glucose is 12mmol/l at 4:00 p.m.

1. What is the typical pattern of steroid-induced hyperglycemia?

2. What advice should be given to this patient?

Case No 2. Side effects of antipsychotic drugs
John, a 40-year-old patient diagnosed with paranoid schizophrenia, has experienced three episodes of psychoses in the past three years. He is currently treated with olanzapine 15 mg daily and has not experienced any delusions in the past twelve months. He now has a good understanding of his condition, family relationships have improved and he has started working again.
John comes for his medicines and confides that he would like to start decreasing his olanzapine because he has been symptom free and is very concerned about his significant weight gain (20 kg increase since commencing olanzapine, current body mass index 29 kg/m2) which he attributes to the olanzapine.

Since his last fasting blood glucose concentration, measured 3 months ago, was 6.3 mmol/L and this was normal before he started olanzapine, he asks you to perform a fasting blood glucose. He also adds that his mother has type 2 diabetes.

The result of the test is: 6.6 mmol/L.

What advice would you give to John to address the

1. weight gain?
2. blood glucose concentration?
3. John’s request to decrease the dose of olanzapine?

Case No 3 – Metabolic Syndrome

A 54 year old gentleman, who is one of regular patients, comes to do a random blood glucose test. He suffers from hypertension and is currently taking bendrofluazide 2.5 mg per day and atenolol 100 mg per day. He tells you that he recently did a lipid profile. His lipid profile shows a cholesterol level of 6.4 and triglycerides of 8.6 mmol (fasting sample). His BMI is 31.2. Waist circumference 110 cm.

His random blood glucose is found to be 10.3 mmol/L.

1. What advice would you give him regarding lifestyle changes?
2. Should this gentleman have his atenolol and bendrofluazide treatments continued or changed?
3. What is the significance of raised lipids, raised blood glucose and being obese in this patient, and how can they be addressed?
4. What would be a suggestion for additional treatment for the patient?
Case no 1. Screening for Type 2 DM

Edward is a 56-year-old salesman. He smokes 20 cigarettes a day and drinks two or three units of alcohol a day, and does not practice any sport. Edward spends a lot of time on the road and over the last few months he has found that he has to go to the lavatory (to urinate) more than in the past, which is inconvenient for him. Aware that this symptom is suggestive of diabetes, he comes to the pharmacy to be screened for diabetes.

After checking the risk factors, you proceed to do a random blood glucose test with the following results:

Random Blood glucose is 10.8 mmol/l
BMI is 23kg/m2.
His mother has diabetes
Waist circumference 98 cm
He is not taking any medicines and has no history of high blood pressure

1. What advice would you give to Edward?
2. What other information should be given to Edward?

Case no 2. - Risks of developing Type-2 DM

Mrs Scicluna is a 54 years old accountant. She reads information about diabetes in a magazine and also found out some more information on the internet about the possible causes of type 2 diabetes. She knows she is overweight, has a stressful job and does not do much physical activity. She does not have any symptoms suggestive of diabetes, (such as polyuria, polydypsia, lethargy, nausea), but knows that one can have diabetes without any symptoms so she wants to check whether she may have diabetes or be at risk of developing it.
She makes an appointment for a blood test to check fasting blood glucose (FPG). Mrs Scicluna’s results show the following:

Body Mass Index (BMI) 29 kg/m2
Fasting Blood Glucose 6.4 mmol/L
Waist circumference 87 cm
No family history of diabetes
Blood pressure (BP) 152/88 mmHg

1. What advice should be given to Mrs. Scicluna?

2. What advice would you give to Mrs. Scicluna if the fasting blood glucose is 7.7 mmol/l, blood pressure is 160/90 mmHg and total cholesterol of 6.5 mmol/l?

3. What is the significance of raised lipids, raised blood glucose and being hypertensive and overweight in this patient, and how can they be addressed?

4. What would be a suggestion for additional treatment for the patient?