

Clinical – Observations for Consultations

Type 2 diabetes: follow up

Adrian Raby
Chadburn Lecturer

Josip Car
Head of eHealth Unit

Department of Primary Care and Social Medicine, Faculty of Medicine, Imperial College London, UK

Wing May Kong
Consultant Physician and Honorary Senior Lecturer, Endocrinology and Diabetes, Division of Investigative Sciences, Imperial College, London, UK

Case history

A 41 year old accountant recently registered with your practice. His registration health check indicates: BMI 31, BP 150/95, urine 1 + of glucose, no protein, smoker of 15 cigarettes daily. He has had diabetes for seven years and is taking Metformin 500 mg four times daily. It has been over a year since he last saw a doctor and he has now come to see you to obtain a prescription for medication.

What issues should you cover?

- **Self management.** His glycosuria may indicate sub-optimal glucose control. His understanding of diabetes, diabetes medication and strategies for managing diabetes need to be explored. Appropriate diet and lifestyle measures such as regular physical activity are the cornerstones of good diabetic control. Assessing these may help to identify motivational problems and highlight gaps in understanding.
- **Cardiovascular risk factors and complications.** 80% of people with diabetes will die from cardiovascular disease. Seek symptoms and signs that suggest the presence of coronary heart and peripheral vascular disease. The management needs to be tailored to the individual. A younger person with diabetes will need stringent control of risk factors. Erectile dysfunction may be the first indicator of cardiovascular disease.
- **Medication.** His concordance with medication and any side effects should be explored. Tight glucose control is important since the duration of diabetes and level of glycaemic control correlate with the risk of microvascular complications including retinopathy, nephropathy and neuropathy.
- **Psychosocial issues.** As with any long-term disease, it is important to ask about the patient's coping with

the illness and mood with a view to screening for depression.

What should you do

- **General considerations.** A patient who has developed type 2 diabetes at the age of 34 years is at high risk of developing complications and will need proactive management (Box 1).
- **Lifestyle advice and education.** Explore the patient's understanding of the need for good glucose control. Assist him in adopting necessary lifestyle changes and encourage pro-active self-management. These include smoking cessation, weight reduction, appropriate diet and exercise. This may best be achieved by a dedicated diabetes educator (e.g. dietician or a nurse).
- **Investigations and management.** Arrange for him to attend for an annual diabetic review in the practice (Box 1).
- **Referral.** Refer the patient to a podiatrist for advice on foot care.

Box 1 The annual diabetic review* should include

- Weight and BMI
- Assessment of BP
- Record smoking status and offer smoking cessation referral and advice
- Urine testing for proteinuria and microalbuminuria (if negative for proteinuria)
- Discussion of blood test results including: HbA_{1c}, creatinine, fasting lipids and LFTs (if taking or starting statin therapy)
- Foot assessment including inspection for deformity, microfilament testing for peripheral neuropathy and assessment of pedal pulses
- Referral for retinal screening
- Screening for depression
- Annual influenza vaccination
- Pneumococcal vaccination if not previously given

Treatment Targets**

- HbA_{1c} < 6.5 %
- Fasting glucose \leq 6.0 mmol/l
- Total cholesterol < 4 mmol/l or a 25% reduction
- LDL cholesterol < 2 mmol/l or a 30% reduction
- BP \leq 130/80 mm Hg
- Smoking – cessation
- Exercise – 30 minutes of aerobic exercise on most days of the week

* Most of the above are covered in the Quality and Outcomes Framework which also provides treatment targets

** JSB2 recommendations 2005 http://heart.bmj.com/cgi/content/full/91/suppl_5/v1

- **Medication.** Prescribing of a statin and aspirin should be considered in all people with diabetes over the age of 40 years. In addition, aggressive blood pressure management, requiring more than one agent may be needed to achieve a blood pressure of 130/80 mmHg. A tighter target of 125/75 mmHg may be appropriate if the patient has proteinuria or

microalbuminuria. An ACE inhibitor would be a suitable first choice agent because of its renal protective properties. A calcium antagonist would be a reasonable addition. If a third agent is required, then a diuretic could be added – however, bear in mind the detrimental effect of thiazide diuretics on lipids.

In terms of reducing the blood sugar, Metformin is the initial drug of choice, with add on treatments where necessary to achieve an HbA_{1c} of < 6.5%. A sulphonylurea such as gliclazide would be a reasonable addition, followed by a glitazone or insulin where the target is not reached. HbA_{1c} should be repeated every 3–4 months until the target is reached and then 6 monthly thereafter.

- In men the presence of erectile dysfunction is a potentially treatable problem that may have a significant effect on their quality of life.
- Direct the patient to relevant self help information, such as that available from the charity Diabetes UK.

FURTHER READING

NICE. *Type 2 diabetes - blood glucose. Management of Type 2 diabetes – Managing blood glucose levels.* September 2002

Diabetes UK. Offers resources for professionals such as PowerPoint slides on diet and diabetes that can be used in teaching, and a self assessment toolkit www.diabetes.org.uk/Professionals/ (accessed 15 January 2007)

CORRESPONDENCE TO:

Dr Adrian Raby
Department of Primary Care and Social Medicine
Faculty of Medicine
Imperial College London
Charing Cross Campus
3rd Floor, Reynolds Building
London W6 8RP
UK
Email: a.raby@imperial.ac.uk

Submitted 21 January 2008; accepted for publication 1 February 2008.