Diabetes: achieving better consultations

Diabetes is a chronic multi-system disease that needs specialised annual review that is thorough, efficient and beneficial to the patient's needs. The diabetes review clinic in the UK has varying formats and contents. In the main, the goal should be to review the patient holistically as diabetes can affect every system in the body. By assessing the patient's glycaemic control and screening for potential complications, we run the best chance of limiting the severity of disease progression.

Dr Paul Grant **Department of Diabetes & Endocrinology, Royal Sussex County Hospital, Eastern Road, Brighton, East Sussex, BN2 5BE**
email drpaul.grant@orange.net

There is no consensus as to the best way to perform a diabetes review. There are many differing opinions as to what factors need to be included in the consultation and also the best way of achieving good care and outcomes. Indeed, one of our own recent studies demonstrated that we are significantly failing to follow the NICE guidance in investigating erectile dysfunction for example in the diabetes clinic.[1]

Essentially a routine diabetes review provides an opportunity to holistically assess and manage the patient with diabetes on an annual basis, screening for and aiming to reduce complications and provide ongoing support. The problem, especially for trainees in diabetes, is that the format and the content vary so wildly between centres. Outlined below is our summary of the important areas that need to be touched upon.

Essential criteria

Background

It is important to be aware of and keep up to date with the patient's basic information such as type of diabetes and duration of disease, current medications, pre-existing complications, a full list of all comorbidities and the patient's smoking status.

Observations

A battery of basic tests should be performed as part of the patient's check up. They should include; urinalysis, blood pressure, body weight and BMI, visual acuity and neurothesiometry if available.

Blood and urine tests

All patients should have up to date blood results, it is essential that this is performed prior to the day of the review clinic. HbA1C can be performed on the spot, if the equipment is available, but for all the other investigations the painful occurrence of sitting and waiting for the results to be generated can be inefficient in a busy clinic. Baseline bloods should include glucose, urea and electrolytes, lipid profile, liver function tests and HbA1C. The urine should be tested for albumin: creatinine ratio along with standard urinalysis.

Patient's current state and glycaemic control

Armed with the basic information, doctors should take the opportunity to enquire about the patient's well being and find out how their diabetes has been behaving and the impact this has on the patient. Are they still experiencing osmotic symptoms? If the patient has brought their capillary blood glucose monitoring diary one can review trends in glycaemia and the pattern of their day to day lifestyle. This leads on to adjustment of diabetic therapies to achieve target HbA1C and the avoidance of severe glycaemic excursions. This is a good time for patient education, ensuring they understand insulin dose adjustment or how to manage a hypoglycaemic episode for example.

Diet and lifestyle

Not to be forgotten as big changes to the natural history of diabetes can be brought about through lifestyle changes. Ensuring sensible dietary advice is given and consultation with a state registered

dietician is available if necessary. Getting patients interested in exercise or giving up smoking can be challenging. As diabetologists we should be more interested in techniques such as motivational interviewing that seek to change underlying attitudes to health attitudes and behaviours.[2,3] Remember also that many GPs can now prescribe exercise in the form of gym membership.[4]

Body mass index

As we often have a dual interest in endocrinology, weight reduction should be taken very seriously and as a profession we should be more stringent in the formal diagnosis and treatment of obesity. New agents such as the incretin mimetics target both weight and glycaemic control.[5] The other treatments currently consist of orlistat, and gastric bypass surgery if indicated—although a more dramatic intervention, it can potentially lead to a cure for diabetes.[6]

Vision

Diabetic retinopathy still remains the greatest cause of preventable blindness in the western world.[7] All patients should have their visual acuity monitored, direct fundoscopy performed and be enrolled in a retinal photography screening programme unless already under ophthalmology review.

Feet

The issue here is not to forget to look. The skin, pulses, sensation and general condition needs to be assessed as well as looking at their footwear. Early podiatry review and general foot care advice can always help. Sensation checking with monofilament, neurothesiometry and tuning fork is important and should be documented. Close liaison with orthopaedic and vascular surgery teams cannot be stressed enough.

Blood pressure

The UKPDS has demonstrated without a doubt the importance of blood pressure control.[8] The target for the majority of patients is 140/80mmHg irrespective of the Quality Outcomes Framework (QoF). Most patients will require combination therapy.[9]

Renal function

Screening for diabetic nephropathy and renovascular disease remains important. Diabetic kidney disease is a huge cause of end stage renal failure.[10] The trend in renal function as given by serial creatinine and eGFR should be monitored. Urinalysis for the presence of protein is compulsory. If the albumin: creatinine ratio is raised this should prompt further action. Microalbuminuria should be taken seriously and the use of 24-hour urine collection for quantification of

Box 1: Summary of a "perfect" diabetes review

Background:	**Including current medications**
Today's observations:	Blood pressure, weight, BMI, urinalysis, visual acuity
Current state and glycaemic control:	Blood glucose readings, HbA1C, osmotic symptoms etc
Diet and lifestyle:	Dietician referral, exercise on prescription
Body mass index:	Treatments for obesity
Vision:	Visual acuity, fundoscopy, retinal screening
Feet:	Neurovascular status, skin integrity, footwear and footcare
Blood pressure:	Target 140/80mmHg
Lipid profile:	Targets for total cholesterol and LDL-cholesterol
Renal function:	Screening for microalbuminuria, nephrology input
Neuropathy:	Use of screening tools–pre-consultation eg. MNSI
Psychological issues:	Depression, limitation in activities of daily living
Plan and recommendation:	Action orientated problem solving
Follow up:	Referrals on to allied specialities or specialist nurse review where appropriate. Does the patient need to be seen sooner than one year?

protein excretion is arguably much underused. Many centres now undertake joint renal/diabetes clinics.

Lipid profile

The targets for total cholesterol and LDL have traditionally been 5 and 3 respectively, but have been revised to 4 and 2 in light of a huge body of evidence with regards to mortality and morbidity outcomes.[11] This is not adequately met by the QoF in the UK so it is important to be aggressive with lipid management. Upward titration of appropriate statin medication and the introduction of ezetimibe, fibrates, niacin and omega 3 fish oils all have a place.

Screening for diabetic neuropathy

Our own recent research revealed that we are performing poorly in our assessment of neuropathic complications of diabetes.[1] Screening for peripheral neuropathy is generally good and there are various tools such as the Michigan neuropathy screening instrument (MNSI) to improve pick up rates.[12] With regards to proximal, motor and autonomic neuropathy the most important thing is to enquire about the various signs and symptoms if possible. This includes everything from hypoglycaemic unawareness to postural dizziness. Practically, however, this may not always be possible on a day to day basis but is no excuse for missing things. For example, it is estimated that anywhere between 35 and 75% of men suffering from diabetes will experience some degree of erectile dysfunction over the course of their lifetime.[13] Over the age of 70 years, there is a 95% likelihood of facing difficulties with erectile function. NICE guidance for diabetes state that "Men should be asked annually whether erectile dysfunction is an issue."[14]

Psychological assessment

Is the patient depressed? Anxious? Indifferent? The National Service Framework for Diabetes recommends that diabetes teams have allied psychologists but in reality this is not the case.[15] We need to be sensitive to our patient's mental health and concerns. There are many tools to assess for psychological morbidity, such as the PAID (problem areas in diabetes) score, but the talking cure and being there to listen are much under-rated.[16]

Plan and recommendation

A final resting place for a summary of the major issues and the actions required to ameliorate them.

Discussion

The diabetes review clinic has different formats and varying effectiveness depending on where it takes place. In the main, the goal should be to review the patient holistically as diabetes can affect every body system. By assessing the patient's glycaemic control and screening for potential complications we run the best chance of limiting the severity of disease progression.[17] In recent years in the UK, diabetes reviews have been moved into the community and often performed as a box checking exercise by GP practice nurses because of economic and political incentives. Those with more complicated diabetes, sub-optimal glycaemic control, those on intensive insulin regimes, multiple comorbidities, established complications and the majority of type-1 diabetics generally tend to be continued to be seen in diabetes review clinics in the secondary care setting by trainee and experienced diabetologists. This is because of the need for more specialised input.

Diabetic neuropathies prove a difficult area.[1] We are traditionally very good about exploring signs and symptoms of peripheral neuropathy and hypoglycaemia unawareness. These are perhaps the two biggest complications that would make one take notice and follow closely given their associated morbidity and mortality.

The issues therefore are how to identify which patients should be screened for the full gamut of diabetic complications. We know that men are not forthcoming about erectile dysfunction and the diabetes review clinic consultation is ineffective in picking this up and several other areas of neuropathic complications. Is it time for there to be a consensus meeting about the best way to perform a diabetes review?[18,19] Would such a consensus create an unwieldy and unrealistic way to perform this type of common consultation and would this make the diabetes review clinic little more than an exaggerated box ticking exercise?

Acknowledgements: Many thanks to Dr Andrew Gorsuch, Dr Umesh Dashora, Dr Derek Lington and Dr Jeremy Bending.

I have no conflict of interest

References

1. Grant P. Lipscomb D. How often do we ask about Erectile dysfunction in the Diabetes Review Clinic? *Acta Diabetol* 2009: **46**(4): 285–90
2. Golay A, Lagger G, Chambouleyron M, et al. Therapeutic education of diabetic patients. *Diabetes Metab Res Rev* 2008; 24(3): 192–96
3. Channon SJ, Huws-Thomas MV, Rollnick S, et al. A multicenter randomized controlled trial of motivational interviewing in teenagers with diabetes. *Diabetes Care* 2007; **30**(6): 1390–95
4. Sørensen JB, Kragstrup J, Skovgaard T, Puggaard L. Exercise on prescription: a randomized study on the effect of counseling vs counseling and supervised exercise. *Scand J Med Sci Sports* 2008; **18**(3): 288–97
5. Grant P, McIntyre HF. Dipeptidyl peptidase-IV inhibitors: fixing type 2 diabetes? *Br J Hosp Med* 2007; **68**(11): 599–602
6. Rubino F, Gagner M. Potential of surgery for curing type 2 diabetes mellitus. *Ann Surg* 2002; **236**(5): 554–59
7. Scanlon PH. The English national screening programme for sight-threatening diabetic retinopathy. *J Med Screen* 2008; **15**(1): 1–4
8. Stratton IM, Cull CA, Adler AI, et al. Additive effects of glycaemia and blood pressure exposure on risk of complications in type 2 diabetes: a prospective observational study (UKPDS 75). *Diabetologia* 2006; **49**(8): 1761–69
9. Ong HT, Cheah JS. Choice of antihypertensive drug in the diabetic patient. *MedGenMed* 2005; **7**(2): 74.
10. Palmer AJ, Valentine WJ, Chen R, et al. A health economic analysis of screening and optimal treatment of nephropathy in patients with type 2 diabetes and hypertension in the USA. *Nephrol Dial Transplant* 2008; **23**(4): 1216–23
11. Grundy SM, Cleeman JI, Merz CN, et al. Implications of recent clinical trials for the National Cholesterol Education Program Adult Treatment Panel III guidelines. *Circulation* 2004; **110**: 227–39
12. Moghtaderi A, Bakhshipour A, Rashidi H. Validation of Michigan neuropathy screening instrument for diabetic peripheral neuropathy. *Clin Neurol Neurosurg* 2006; **108**(5): 477–81
13. Cleveringa FG, Meulenberg MG, Gorter KJ, et al. The association between erectile dysfunction and cardiovascular risk in men with Type 2 diabetes in primary care: it is a matter of age. *J Diabetes Complications* 2009; **23**(3): 153–59
14. National Institute for Health and Clinical Excellence. CG15 Type 1 diabetes in adults: Full guideline, references and appendices. 2004. www.nice.org.uk/CG15 Date last accessed 21/03/10
15. The National Service Framework for Diabetes 2001 and 2006. http://www.dh.gov.uk/en/Healthcare/NationalServiceFrameworks/Diabetes/index.htm Date last accessed 21/03/10
16. Polonsky WH, Anderson BJ, Lohrer PA, Welch G, Jacobson AM, Aponte JE, Schwartz CE: Assessment of diabetes-related distress. *Diabetes Care* 1995; **18**: 754–60
17. Bryant W, Greenfield JR, Chisholm DJ, Campbell LV. Diabetes guidelines: easier to preach than to practise? *Med J Aust* 2006; **185**(6): 305–9
18. Glasgow RE, Peeples M, Skovlund SE. Where is the patient in diabetes performance measures? The case for including patient-centered and self-management measures. *Diabetes Care* 2008; **31**(5): 1046–50
19. Barth JH, Marshall SM, Watson ID. Consensus meeting on reporting glycated haemoglobin (HbA1c) and estimated average glucose (eAG) in the UK: report to the National Director for Diabetes, Department of Health. *Diabet Med* 2008; **25**(4): 381–82