

Treating people with type 2 diabetes

As the symposium of articles in this issue shows, there are now many options for managing type 2 diabetes. Potent new oral or injectable hypoglycaemic medications can be added to older drugs or used alone. In addition to metformin, the *British National Formulary* (Joint Formulary Committee, 2013) lists five sulfonylureas, two meglitinides, four dipeptidyl peptidase-4 inhibitors, two glucagon-like peptide-1 agonists, an inhibitor of intestinal alpha glucosidases, a sodium-glucose co-transporter 2 inhibitor, and a thiazolidinedione. Their various formulations form a list of 30 drugs in MIMS (www.mims.co.uk/).

Twenty-six variants of insulin are listed. These now include a concentrated U200 variant, a sad reflection on modern times when, according to the *National Diabetes Audit 2009–10*, over 80% of people with type 2 diabetes are overweight or obese so are often insulin-resistant (NHS Information Centre, 2011).

What is the puzzled physician to do? And, more to the point, what is the poor patient to do? Battered by diet sheets, nagged about exercise, terrified of complications, surrounded by pills and injections, and human like the rest of us. And, of course, with his or her own life to lead.

What do patients want from their diabetes treatment?

Patients want to feel well and stay well, and not die earlier than their peers. They want their treatment to be as hassle-free as possible without nasty side effects. Life should be fun, work rewarding, holidays fantastic. And while healthy eating can be delicious and exercise invigorating, beer and crisps and the football on the telly beckon.

And do any of us ever take medication precisely as prescribed? A Scottish study of patients on either metformin or sulfonylurea alone showed that only a third of patients on oral hypoglycaemic drugs actually took the drug for ≥90% of days, and concordance worsened as the numbers of tablets a day rose (Donnan et al, 2002).

What is our aim in treating diabetes?

The Quality Outcomes Framework (2012) rewards practices for: ‘The percentage of patients with diabetes in whom the last IFCC- HbA_{1c} is 59 mmol/mol (equivalent to HbA_{1c} of 7.5% in DCCT values) or less (or equivalent test/reference range depending on local laboratory) in the preceding 15 months’.

But type 2 diabetes is not just one condition. And each person with diabetes is different. This point is strongly made by the most recent international guidance on the management of hyperglycaemia in type 2 diabetes (Inzucchi et al, 2012). This guidance adopts a commonsense approach to management which advocates tailoring the treatment to the patient after consideration of the following points:

- Patient attitude and expected treatment efforts
- Risks potentially associated with hypoglycaemia or other adverse events
- Disease duration
- Life expectancy
- Important comorbidities
- Established vascular complications
- Resources, support system.

Any treatment plan should be discussed and agreed with the patient.

And is our only aim reducing glycaemia? Of course not. Diabetes treatment may continue for decades. We lack large, long studies of many of the newer hypoglycaemic agents to be sure that major end points – such as reducing morbidity and mortality – definitely outweigh adverse effects. And the water is muddied by the combination of genetic and environmental factors, and the effects of diabetes and its metabolic complexities, glucose-lowering medications, myriad complications and their treatment, and the fact that frequent check-ups may find otherwise hidden non-diabetic problems.

Conclusions

Tailored lifestyle measures with education and support for self-care should remain the cornerstone of treatment. And if medication is needed start simply with long-established medications and ensure concordance before concluding that other treatment is needed. Stop drugs that do not work. Then select, with the patient, the most suitable newer agent after careful consideration of the benefits and risks for that particular patient. **BJHM**

Rowan Hillson

*National Clinical Director for Diabetes
Department of Health
London SE1 6LH
(Rowan.hillson@dh.gsi.gov.uk)*

Donnan PT, MacDonald TM, Morris AD (2002) Adherence to prescribed oral hypoglycaemic medication in a population of patients with Type 2 diabetes: a retrospective cohort study. *Diabet Med* 19(4): 279–84

Inzucchi SE, Bergenstal RM, Buse JB et al (2012) Management of hyperglycaemia in type 2 diabetes: a patient-centered approach. Position statement of the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia* 55(6): 1577–96

Joint Formulary Committee (2013) *British National Formulary*. BMJ Group and Pharmaceutical Press, London (www.medicinescomplete.com accessed 23 March 2013)

NHS Information Centre (2011) *National Diabetes Audit 2009–10. Executive Summary*. www.ic.nhs.uk/searchcatalogue?productid=19&q=%22National+diabetes+audit%22&sort=Relevance&size=10&page=3#top (accessed 23 March 2013)

Quality Outcomes Framework (2012) QOF DM 26. mqi.ic.nhs.uk/IndicatorDefaultView.aspx?ref=1.09.04.21 (accessed 23 March 2013)

KEY POINTS

- Tailored lifestyle measures with education and support remain the cornerstone of treatment.
- Personalize treatment to patient wishes, situation, condition and safety.
- Start with long-established drugs first.
- Check concordance before altering treatment.
- Balance the benefits of each drug (alone or in combination) against any risks.