Treatment intensification in type 2 diabetes mellitus and obesity

As Dr Pierce’s editorial points out, there is increasing evidence from bariatric surgery and intensive weight-loss approaches that it is possible to significantly improve type 2 diabetes (T2D) to the point of remission in some individuals. Thus, there is a need to rethink the current approach to diabetes management. Pursuing glycaemic control in T2D has resulted in treatment intensification, including insulin initiation. This approach, however, commonly results in weight gain. We describe two cases questioning the inevitability of beta-cell failure in T2D, and highlight the need for judicious treatment intensification.

A 65-year-old female with T2D, dyslipidaemia, hypertension, and obstructive sleep apnoea, attended our specialist weight management clinic. She was wheelchair-bound, weighed 148.8 kg (BMI: 47.3 kg/m²), and her HbA1c was 9.3% (78 mmol/mol). She was taking metformin, insulin glargine [80 IU od], and prandial insulin treatment was planned. Instead of insulin intensification, a GLP-1 analogue (GLP-A) was added off-label, and basal insulin halved. She presented for follow-up with reduced body weight and improved glycaemia; insulin was further decreased until full withdrawal 10 months later. After a year of GLP-A, she weighed 112.0 kg (BMI: 47.3 kg/m²), and was insulin-free with well-controlled diabetes. She was mobilising with much-improved quality of life.

A 50-year-old female with T2D for 10 years, dyslipidaemia, fatty liver, and hypertension had been on premixed insulin for 8 years with poor glycaemia and increasing body weight. Her body weight was 92 kg (BMI: 37.8 kg/m²) and HbA1c of 8.9% (74 mmol/mol). She was taking 48 IU of premixed insulin bd, and metformin 850 mg total dissolved solids (tds). The insulin dose was reduced, and a GLP-A added off-label. After 4 months, she weighed 82.5 kg (BMI: 33.8 kg/m²) and HbA1c was 5.9% (41 mmol/mol). Insulin was eventually stopped. She remained on the GLP-A and metformin. After 8 months, she weighed 72.4 kg (BMI: 29.5 kg/m²); HbA1c was 6.1% (43 mmol/mol).

Intensive glycaemic control in T2D is driven by pursuit of preventing vascular complications and the belief that beta-cell failure in T2D is inevitable. Treatment intensification, however, often results in relative hypoglycaemia (where the patient is symptomatic of lower glucose without blood glucose in the hypoglycaemic range), snacking, weight gain, hyperglycaemia, insulin-dose escalation, further relative hypoglycaemia, repeat snacking, and still poor glycaemic control. The vicious cycle of weight gain and poor glycaemia can result in greater reliance on expensive bariatric surgery.

Our cases demonstrate that beta-cell failure is not inevitable, even in patients with up to 10 years of T2D. In some patients, insulin is initiated too early with increased weight gain. Insulin is important in modern T2D care, but evidence is accumulating that it should be used more prudently, having ensured that patients have had access to adequate lifestyle/dietary support. The focus of T2D management also needs to shift to give patients the opportunity to reverse their diabetes.

Agnieszka Zawiejska,
Medical Research Fellow, Weight Management Services, Heart of England NHS Foundation Trust, and Centre for Endocrinology and Metabolism and NIHR Birmingham and Black Country CLAHRC, University of Birmingham.

Jane McAleese,
Diabetes Specialist Nurse, Weight Management Services, Heart of England NHS Foundation Trust, and Centre for Endocrinology and Metabolism and NIHR Birmingham and Black Country CLAHRC, University of Birmingham.

Prasad Yemparala,
Consultant in Diabetes and Bariatric Physician, Weight Management Services, Heart of England NHS Foundation Trust, and Centre for Endocrinology and Metabolism and NIHR Birmingham and Black Country CLAHRC, University of Birmingham.

Shahrad Taheri,
Consultant in Diabetes and Bariatric Lead, Weight Management Services, Heart of England NHS Foundation Trust, and Centre for Endocrinology and Metabolism and NIHR Birmingham and Black Country CLAHRC, University of Birmingham. E-mail: staheridme.com

REFERENCE

DOI: 10.3399/bjgp13X665152

Self-monitoring

It seems that institutionalised paternalism is alive and kicking in the NHS. The principle of long-term condition care is that patients become responsible for their own health. Improved technology has meant that home monitoring becomes increasingly possible. However rather than encourage this we seem to have an institutional need to maintain dependence. For instance, there is evidence that patient monitoring and dosing of warfarin is probably safer and probably provides no worse international normalized ratio control than dragging patients back to clinic. NICE however does not recommend this.

Blood pressure monitors are becoming cheaper. We are encouraged to use them as a means of diagnosing hypertension. Although the Quality and Outcomes Framework documents do not expressly state that the practice is responsible for checking patient blood pressures, the implication is that the patient will be seen every 6 months and a blood pressure recorded. Is this necessary? If we treat patients as responsible adults, surely there is no reason why a patient should not be advised to monitor their blood pressure every 3–6 months, and contact the practice if the blood pressure falls out of defined ranges. Does the practice need to record the blood pressure? Does the patient need to attend the surgery if all is well controlled? If so, how often? Every 3–5 years?

In an NHS where resources are increasingly scarce, the importance of people taking responsibility for their own