Inertia, individualisation and avoiding overtreatment in older people

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This issue of the Journal focuses on older people with type 2 diabetes, including associations between diabetes and fractures, diabetes and cognitive impairment, and potential risks of tight control in those aged 70 and over.

Focussing on older people with type 2 diabetes is important as 10–25% of older people in the UK have diabetes. The rate of newly diagnosed type 2 diabetes rises sharply with increasing age until the age of 85 years, after which the rate plateaus (Sinclair et al, 2015). Older people with undiagnosed type 2 diabetes may be asymptomatic or present atypically with confusion or incontinence, and HbA_{1c} may be a less accurate diagnostic tool if there is co-existing renal disease or anaemia, both of which are common in older people (Lipska et al, 2016). When treated, this group may be more at risk of hypoglycaemia, more likely to develop serious consequences from hypoglycaemia (Mattishent and Loke, 2016), and hypoglycaemia may present with neuroglycopenic symptoms such as confusion, delirium, dizziness or behaviour change, making the diagnosis of hypoglycaemia more challenging and often overlooked. Furthermore, advancing age is associated with major comorbidities, including cognitive impairment (Sinclair et al, 2001), which may impair the diagnosis of both hypoglycaemia and hyperglycaemia and potentially increase risk of poor outcomes.

Audit of glycaemic control in older people

In our continuing series of brief audits, Dr Sam Seidu encourages us to audit levels of glycaemic control in older people with type 2 diabetes, identifying particularly those who may be over treated and at increased risk of hypoglycaemia and poor quality of life (page 60). In our bid to tackle clinical inertia and the progressive nature of type 2 diabetes, we could perhaps be forgiven for spending less time reviewing those who are well-controlled. However, unless we already have a policy of reducing or stopping therapy in frail, older people with diabetes, we are likely to find we have older people who are over treated and at risk of hypoglycaemia.

Undertaking the audit in our practice highlighted some interesting findings. Overall, 33% of people on our diabetes register are over 70 years of age, which is higher than anticipated. Of these, 105 are on glucose-lowering treatment, and 65 met the criterion "must not have an HbA_{1c} less than 53 mmol/mol (7%)", meaning that we achieved only a standard of 62.5% on the first data collection, rather than the 90% target. Interestingly, there were also 35 people in this age group with a diagnosis of type 2 diabetes and an HbA_{1c} less than 53 mmol/mol (7%), who previously met the criteria for diabetes, and who are no longer receiving any therapy.

Of those who did not meet the criterion and could be considered overtreated, one was on long-term insulin with an HbA_{1c} of 52 mmol/mol (6.9%), five were on a sulfonylurea and one was treated with pioglitazone – these eight people will be reviewed urgently. The remainder are on metformin or a dipeptidyl peptidase-4, and in some of these it will also be appropriate to stop therapy.

I found this audit very useful and look forward to discussing it with other members of our team. We will repeat the audit again in 6 months and in the meantime observe what happens to HbA_{1c} if we reduce or stop medication. As well as improved safety, there will be small but significant cost savings, not only from the drugs but also from blood glucose monitoring strips.

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Inertia or individualisation?

Your feedback on the updated NICE type 2 diabetes guideline, summarised on page 66, demonstrates that you found the advice on individualisation and on agreeing glycaemic targets useful. Older people with type 2 diabetes are a heterogeneous population and individualisation and agreeing targets may not always be straightforward. There will be fit and independent older people with short-duration or newly diagnosed diabetes who are likely to achieve the UKPDS (UK Prospective Diabetes Study) "legacy effect" with tight glycaemic control (Klonoff, 2008). Most of us would agree that a target of around 53 mmol/mol (7%) is appropriate in this group. However, at the other end of the spectrum are frail, older people with significant comorbidities, where tight glycaemic control is unlikely to offer benefits. Symptomatic control with minimal risk of hypoglycaemia should be our goal in this group, as hypoglycaemia may result in falls, fractures and worsening cognitive impairment. Here a goal of up to 75 mmol/mol (9%) is regarded by some as appropriate (Lipska et al, 2016). In this latter group, often we must take responsibility for decisions, since participative decision-making may not be possible.

Many more of our older population are likely to fall somewhere between these two extremes, testing our abilities in providing evidence-based advice to inform decision-making. We need to be willing to challenge ourselves on whether each discussion and goal agreement reflects clinical inertia or appropriate individualisation.

An article was recently published in *JAMA* focussing on individualising glycaemic control in older adults with type 2 diabetes (Lipska et al, 2016). The article includes a simple, four-step algorithm to aid decision-making when individualising treatment in older people. This is similar to that in the American Diabetes Association/European Association for the Study of Diabetes guidance on glycaemic target setting in people of all ages (Inzucchi et al, 2015).

Step 1. Estimation of the benefits of intensive control on macrovascular disease ("no benefit likely") and microvascular complications (life expectancy of <8 years "unlikely to gain benefit"; 8–15 years "uncertain benefit"; and >15 years "possible benefit").

Step 2. Estimation of the harm of intensive control (i.e. hypoglycaemia, drug burden and drug interactions).

Step 3. Where possible, the third step involves a patient-centred discussion about individualising the glycaemic target. Lipska et al (2016) suggest between 58–75 mmol/mol (7.5–9%).

Step 4. Using the agreed target to discontinue, continue or reconsider the need for additional therapies, with a preference for modifying the target rather than increasing polypharmacy.

Although we may not agree with the decision-making in at least one of the cases included, this paper provides a framework for reviews and encourages us to minimise polypharmacy.

"Burnt-out diabetes"

A relatively new concept, "burnt-out diabetes", originally described in those with end-stage renal disease, has recently been applied to frail older people with diabetes who return to normoglycaemia. This is believed to be associated with reduced appetite, decreased food intake, protein energy malnutrition, muscle wasting and frailty (Abdelhafiz et al, 2016). This results in a reduced need for glucose-lowering therapy, which can often be stopped altogether.

In our practice audit we found around 20 individuals with possible "burnt-out diabetes". They had been appropriately diagnosed and coded as type 2 diabetes and required one or more therapies to control glucose previously, but now had HbA_{1c} less than 48 mmol/mol (6.5%) off all treatment.

Serious adverse effects associated with hypoglycaemia in older people

The articles by Lipska et al (2016) and Abdelhafiz et al (2016) and this issue's audit remind us why it is necessary to minimise

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hypoglycaemia in older people and provide possible strategies to achieve this. A recent UK meta-analysis (Mattishent and Loke, 2016), including 17 observational studies involving more than 1.5 million people, provides a sobering update of the potential risks of serious adverse events associated with hypoglycaemia in older people. The authors updated previous meta-analyses and identified that hypoglycaemia is associated with significant increases in macrovascular complications (odds ratio [OR], 1.83), microvascular complications (OR, 1.77), falls (OR, 1.89) or fractures (OR, 1.92), and mortality (OR 2.04), all with significant confidence intervals. However, since the meta-analysis was of observational studies only, it is not possible to prove causality.

Interacting with colleagues through *Diabetes & Primary Care* and Diabetesonthenet.com

There are several ways to interact with our colleagues throughout the UK in this issue. We hope you will choose to participate in our current audit, and if you do, please send us your summary results so that we can share these in future editions of the Journal.

The article on "Diabetes and Me" on page 80 highlights the steps taken in Glasgow to help those from South Asian communities live well with diabetes. Do share with us how you are supporting "hard-to-reach" groups to self-manage their diabetes in your practice, Clinical Commissioning Group or Community Network. We would also love to hear from you if you would like to write for the Journal, so email the editorial team at dpc@sbcommunicationsgroup.com with your ideas.

Take our short survey on insulin and help us understand more about patterns of initiation, intensification and referral across the UK, even if you don't manage insulin yourselves. For those of you comfortable using QR technology, you can use the code on page 66 to respond or go to www.diabetesandprimarycare.co.uk/surveys and follow the instructions. Either way, it will only take a couple of minutes.

As the warmer weather finally arrives, we hope this edition of the Journal will provide something to inspire and re-enthuse all of us following the hard work and energy we have put into achieving our Quality and Outcomes Framework targets. As we relax and enjoy the summer, let's think about how we can inspire ourselves and our team to deliver diabetes care that is just that little bit better again this year. ■

Abdelhafiz AH, Koay L, Sinclair AJ (2016) The effect of frailty should be considered in the management plan of older people with type 2 diabetes. *Future Sci OA* **2**

Inzucchi S, Bergenstal R, Buse J et al (2015) Management of hyperglycemia in type 2 diabetes, 2015: A patient-centered approach. *Diabetes Care* **38**: 140–9

Klonoff DC (2008) United Kingdom Prospective Diabetes Study follow-up studies establish a legacy effect of therapy for hyperglycemia but not hypertension. *J Diabetes Sci Technol* **2**: 922–4

Lipska K, Krumholz H, Soones T et al (2016) Polypharmacy in the aging patient: A review of glycemic control in older adults with type 2 diabetes. *JAMA* **315**: 1034–45

Mattishent K, Loke YK (2016) Meta-analysis: Association between hypoglycaemia and serious adverse events in older patients. *J Diabetes Complications* 17 Mar [Epub ahead of print]

Sinclair, A, Paolisso, G, Castro M et al (2011) European Diabetes Working Party for Older People 2011 clinical guidelines for type 2 diabetes mellitus executive summary. *Diabetes Metab* **37**: S27–38

Sinclair A, Dunning T, Rodriguez-Manas L (2015) Diabetes in older people: new insights and remaining challenges. *Lancet Diabetes Endocrinol* **3**: 275–85