Addressing the impact of type 2 diabetes in ageing populations: the launch of the 2019 Endocrine Society Task Force Guideline

AJ Sinclair

Cardiovascular Endocrinology & Metabolism 2019, **8**:71–72

Diabetes Frail Ltd and King's College, London, UK

Correspondence to AJ Sinclair, Clinical Trials Unit, Medici Medical Practice, 3 Windsor Street, Luton LU1 3UA, UK
e-mail: sinclair.5@btinternet.com

The Endocrine Society (United States) clinical practice guideline, Treatment of Diabetes in Older Adults, was published at 8:30 am (Central time) on Saturday, 23 March 2019 (start of ENDO 2019, the Endocrine Society annual scientific meeting in New Orleans) [1]. Following this, it was immediately available on the Society webpage at: (<https://www.endocrine.org/guidelines-and-clinical-practice/clinical-practice-guidelines/diabetes-in-older-adults>). Within the next 4 days, the guideline had 5909 page views, and the PDF of the guideline had been downloaded 1879 times! In many ways, this was a recognition that the document had been well prepared (nearly 3 years in the making), evidenced-based, public-informed and scrutinised, and with recommendations designed to be considered and practised in the office (clinic) setting. It was also a recognition that diabetes in older people has been seen as a difficult management paradigm for many clinicians [2]. The way forward involves the additional recognition that diabetes in older adults is a complex illness requiring new skills of assessment and management and a modern individualised approach centred around functional status-aligned treatment goals and a medicines risk management approach [3].

The focus of the areas of recommendation has been based on what has the greatest impact of diabetes in an ageing society in terms of health and functional status as well as quality of life—age-related pathophysiological and epidemiological considerations in therapy choices, lifestyle management, identifying and managing common comorbidities and vascular complications of diabetes, and recognising new emerging complications such as frailty and dementia. In addition, health status have also been categorised into three groups: good health (1), intermediate health (2), and poor health (3) based on comorbidity profiles, activities of daily living/instrumental activities of daily living (ADL/IADL) function, presence of end-stage medical conditions, or whether care home residency is present: groups 2 and 3 reflect individuals where self-care abilities are declining and informal carer support is increasingly needed; group 3 identifies individuals where current metabolic targets may not be indicated because of lack of evidence of efficacy and lack of likely benefit.

This grouping may also allow the clinician to plan glycaemic targets depending on what glucose-lowering medication is being used [4]. The importance of frailty is mentioned in the guideline and whilst some would argue it should have formed part of the health status description for the three groups [5] the approach taken was helpful in facilitating the planning of both shared decision-making and individualised programmes of care. The limitations of the approach adopted was recognised by the writing committee and are related to insufficient evidence from clinical trials to guide specific treatment approaches in older patients (particularly > 75 years age), a limited but growing evidence base for managing type 1 diabetes in older people, and the lack of coverage of technological devices that aid diabetes self-management.

The guideline is primarily a United States-based document but its key underpinning concerns are translatable globally and particularly in western cultures—rising prevalence of diabetes in older adults (now present in 1 in 3 people aged >65 years in the United States), 50% of older people meeting the criteria for prediabetes, 50% of older people with diabetes have diabetic nephropathy [6], and the lower extremity amputation rate is 10-fold higher in older people with diabetes! In the United States, it is also a guideline that is, unfortunately, in stark contrast to the recent American Association of Clinical Endocrinologists type 2 diabetes clinical algorithm (also designed for United States clinical endocrinologists) [7] which apart from similar recommendations about individualising treatment and avoiding hypoglycaemia, bears little guidance for older people, has insensitive glycaemia targets, and avoids including functional status and frailty into its format of guidance.

Helpful contributions of the Endocrine Society guideline include the list of functional and general health tests applicable to the older adult including hearing and visual acuity often overlooked in office (clinic) settings plus cognitive, falls risk and frailty assessment - these should not be seen as the sole province of geriatric specialists! The guidelines describes an important conceptual framework for assessing overall health and patient values and describes patient characteristics and the use

of glucose-lowering medications that may cause hypoglycaemia into three groups—good health, intermediate health and poor health based on comorbidity status, chronic illness profile, cognitive status, ADL/IADL function, care home residency coupled with glycaemic targets for each group setting an upper target of HbA1c of 7.5% for those in good health and a range of 8.0–8.5% for those in poor health.

Blood pressure guidance sets a target blood pressure of 140/90 mm Hg for those aged 65–85 years to reduce the risk of adverse cardiovascular outcomes, stroke, and progression of chronic kidney disease (CKD). Lower blood pressure (BP) values were recommended (130/80 mm Hg) for those in high-risk groups such as history of a previous stroke or evidence of progressive CKD (estimated glomerular filtration rate < 60 ml/min/1.73 m² with or without albuminuria). Although higher BP targets have been recommended elsewhere, the lower target of 140/90 mm Hg was chosen based on the results of the Systolic Blood Pressure Intervention Trial cardiovascular outcome trial where 28% of participants were aged > 75 years but adverse events such as syncope or hypotension were no more frequent in this age group [8]. The writing committee acknowledged that the trial was not primarily a trial in those with diabetes and that the method of measuring BP (unattended automated machine) yielded a systolic BP 16 mm Hg lower than a standard office BP reading.

The guideline is unique in that it reinforces the need for the endocrinologist or diabetes care specialist to work closely with the primary care provider and multidisciplinary team to plan patient-involved individualised treatment goals. It is perhaps a little stereotyped (and perhaps negative in a view) that it recommends that specialists are primarily responsible for managing type 1 diabetes since modern diabetes care involves a shared care approach for high-risk groups and this should now be the norm even for type 1 diabetes which is increasingly being seen in older people where primary care management remains essential.

The guideline provides more than 30 recommendations in six major areas all of which have been selected after repeated review and discussion by the Writing Committee and patient-related organisations. It is, therefore, comprehensive and has met most if not all of the original tasks set by the United States Endocrine Society. The challenge now is how to disseminate and implement effectively the guideline into routine clinical practice. This work should not be wasted because within 3 years it will suffer the fate of other guidance—seen as out of date and redundant. As such, an active campaign to translate the guideline is now imperative. Updates also need to build into the future schedule of review.

Acknowledgements

Conflicts of interest

There are no conflicts of interest.

References

- 1 LeRoith D, Biessels GJ, Braithwaite SS, Casanueva FF, Draznin B, Halter JB, *et al.* Treatment of diabetes in older adults: an endocrine society* clinical practice guideline. *J Clin Endocrinol Metab* 2019; **104**:1520–1574.
- 2 Kirkman MS, Briscoe VJ, Clark N, Florez H, Haas LB, Halter JB, *et al.* Diabetes in older adults: a consensus report. Consensus development conference on diabetes and older adults. *J Am Geriatr Soc* 2012; **60**:2342–2356.
- 3 Sinclair A, Dunning T, Rodriguez-Mañas L. Diabetes in older people: new insights and remaining challenges. *Lancet Diabetes Endocrinol* 2015; **3**:275–285.
- 4 Cigolle CT, Kabeto MU, Lee PG, Blaum CS. Clinical complexity and mortality in middle-aged and older adults with diabetes. *J Gerontol A Biol Sci Med Sci* 2012; **67**:1313–1320.
- 5 Dunning T, Sinclair A, Colagiuri S. New IDF guideline for managing type 2 diabetes in older people. *Diabetes Res Clin Pract* 2014; **103**:538–540.
- 6 Halter JB, Musi N, McFarland Horne F, Crandall JP, Goldberg A, Harkless L, *et al.* Diabetes and cardiovascular disease in older adults: current status and future directions. *Diabetes* 2014; **63**:2578–2589.
- 7 American Association of Clinical Endocrinologists. Comprehensive Type 2 Diabetes Management Algorithm (2019) - EXECUTIVE SUMMARY. Available at: https://www.aace.com/pdfs/diabetes/AACE_2019_Diabetes_Algorithm_FINAL_ES.pdf
- 8 Berlowitz DR, Foy CG, Kazis LE, Bolin LP, Conroy MB, Fitzpatrick P, *et al.*; SPRINT Research Group. Effect of intensive blood-pressure treatment on patient-reported outcomes. *N Engl J Med* 2017; **377**:733–744.