A SIGN of the times: Implementing the new SIGN 154 diabetes guideline in primary care

In November 2017, SIGN (the Scottish Intercollegiate Guidelines Network) published a guideline on the pharmacological management of glycaemic control in people with type 2 diabetes. It introduced some key new clinical recommendations that depart significantly from the NICE guideline on the management of type 2 diabetes in adults.

SIGN 154 (2017), *Pharmacological management of glycaemic control in people with type 2 diabetes*, incorporates considerable new clinical trial data that has been published since both SIGN 116 (2010) and NG28 (NICE, 2015) were issued. Specifically, SIGN 154 focuses on the cardiovascular (CV) outcomes of diabetes drugs, rather than simply their glucose-lowering effects.

Metformin remains first-line oral treatment choice for those with type 2 diabetes. However, for individuals with type 2 diabetes and established CV disease, sodium–glucose cotransporter 2 (SGLT2) inhibitors with proven CV benefit (currently empagliflozin and canagliflozin) should be preferentially considered. Moreover, for individuals with type 2 diabetes and established CV disease, glucagon-like peptide-1 receptor agonists (GLP-1 RAs) with proven CV benefit (currently liraglutide) should also be considered.

On page 30, SIGN 154 also provides us with a new pragmatic, user-friendly and patient-centred algorithm for glucose lowering in type 2 diabetes that usefully differentiates therapies by their efficacy, any CV benefit, risk of hypoglycaemia, impact on weight, main adverse effects and prescribing restrictions in renal impairment (**http://bit.ly/2F3fXml**). If a patient's individualised HbA_{1c} target has not been reached after 3–6 months, adherence should be reviewed and then intensification of treatment should be considered, guided by the patient profile. Medication should be continued at each stage if either individualised HbA_{1c} target is achieved or HbA_{1c} falls more than 5.5 mmol/mol (0.5%) in 3–6 months. Note that the SIGN 154 algorithm does not apply in the context of severe renal or hepatic insufficiency.

Importantly, only the section in SIGN 116 on the pharmacological management of glycaemic control in people with T2D was updated and republished as a stand-alone guideline, SIGN 154. SIGN 116 continues to be current, although the material relating to glucose-lowering therapies for people with type 2 diabetes has been removed and replaced by SIGN 154. As such, SIGN 154 refers back to SIGN 116 for recommendations regarding lifestyle and it is still necessary to refer to SIGN 116 for recommendations on the management of diabetes complications.

The key clinical recommendations published in SIGN 154 are presented in *Box 1*.

Conclusion

SIGN 154 joins the growing suite of international diabetes guidelines (e.g. Diabetes Canada [2016], American Diabetes Association [2018] and American Association of Clinical Endocrinologists/American College of Endocrinology [2018]) that consider the CV outcomes of diabetes drugs, rather than simply their glucose-lowering properties. Cardiovascular disease remains the leading cause of death in those with type 2 diabetes; the key new clinical recommendations in SIGN 154 will help drive improvement in the outcomes of those with type 2 diabetes and established CV disease in Scotland.

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Box 1. SIGN 154: Key clinical recommendations.

- Targets for glycaemic control
  - An HbA_{1c} target of 53 mmol/mol (7.0%) among people with type 2 diabetes is reasonable to reduce the risk of microvascular and macrovascular disease. A target of 48 mmol/mol (6.5%) may be appropriate at diagnosis. Targets should be set with individuals in order to balance benefits with harms, in particular hypoglycaemia and weight gain.
- Metformin
  - Metformin should be considered as the first-line oral treatment option for people with type 2 diabetes.
- Sodium–glucose cotransporter 2 inhibitors
  - In individuals with type 2 diabetes and established cardiovascular disease, SGLT2 inhibitors with proven cardiovascular benefit (currently empagliflozin and canagliflozin) should be considered.
- Glucagon-like peptide-1 receptor agonists
  - For individuals with type 2 diabetes and established cardiovascular disease, GLP-1 receptor agonist therapies with proven cardiovascular benefit (currently liraglutide) should be considered

A fuller analysis of the recommendations on the pharmacological management of glycaemic control in people with type 2 diabetes will be contained in a more detailed article in the next issue of *Diabetes & Primary Care*. ■

American Association of Clinical Endocrinologists/American College of Endocrinology (2018) *AACE/ACE Comprehensive type 2 diabetes management algorithm 2018*. AACE. Jacksonville, FL, USA. Available at: https://www.aace.com/publications/algorithm (accessed 28.02.18)

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Diabetes Canada (2016) *Pharmacologic management of type 2 diabetes: November 2016 interim update*. Diabetes Canada, Toronto, Canada. Available at: http://bit.ly/2oESD3w (accessed 28.02.18)

NICE (2015) *Type 2 diabetes in adults: management* (NG28). NICE, London. Available at: www.nice.org.uk/guidance/ng28 (accessed 28.02.18)

SIGN (2010) *SIGN 116: Management of diabetes*. SIGN, Edinburgh. Available at: http://www.sign.ac.uk/assets/sign116.pdf (accessed 28.02.18)

SIGN (2017) *SIGN 154: Pharmacological management of glycaemic control in people with type 2 diabetes*. SIGN, Edinburgh. Available at: http://www.sign.ac.uk/assets/sign154.pdf (accessed 28.02.18)