Latest news: Antidiabetes drugs and renal outcomes; undiagnosed diabetes; and prevention of diabetic maculopathy

Stay abreast of the latest news that could impact diabetes nursing.

Novel antidiabetes drugs improve composite renal outcomes

The beneficial effects of sodium–glucose cotransporter 2 inhibitors (SGLT2is) and glucagon-like peptide-1 receptor agonists (GLP-1 RAs) on diabetes-related cardiovascular and renal outcomes were established in major cardiovascular outcome trials (CVOTs) in people with type 2 diabetes. These glucose-lowering drugs were subsequently shown also to be effective in people without type 2 diabetes.

Despite the wealth of published data, the absolute treatment benefits (expressed as number needed to treat [NNT]) of GLP-1 RAs and SGLT2is on renal outcomes remain uncertain. The present retrospective study aimed to display and compare NNT of both drug classes for a composite renal outcome.

Individual patient time-to-event information on composite renal outcomes was digitised from Kaplan–Meier plots of major CVOTs comparing SGLT2is or GLP-1 RAs to placebo. To achieve absolute risk differences of both treatment groups, parametric Weibull regression models were fitted for all trials separately. Random-effects meta-analysis generated meta-NNTs for the two drug classes.

In total, information from 90 865 patients was extracted for analysis across twelve CVOTs (GLP-1 RAs were investigated in three and SGLT2is in nine). Eight trials took place in primary type 2 diabetes populations, two in primary heart failure and two in primary chronic kidney disease. Mean eGFR at baseline ranged from 37.3–85.3 mL/min/1.73 m^2.

A total of 6199 (6.8%) participants experienced a composite renal event. Estimated meta-NTT for the prevention of a single event was 85 (95% CI, 60–145) for GLP-1 RAs and 104 (81–147) for SGLT2is, at the overall median follow-up of 36 months.

The investigators conclude that there are moderate and similar absolute treatment benefits of GLP-1 RAs and SGLT2is compared to placebo for a composite renal outcome.

The full study findings can be read here.

Analysis reveals extent of undiagnosed type 2 diabetes

Analysis of data by the Office for National Statistics (ONS) has provided new insights into the risk factors for prediabetes and undiagnosed type 2 diabetes. The analysis made use of data collected by the Health Survey for England (HSE).

The HSE annually surveys a representative sample of the population living in private households in England. Its process includes an interview with participants to provide demographic information and the collection of blood samples for testing. The total sample size of 26 751 was achieved by combining data from 2013 to 2019.

The analysis found that:

- Around 7% of adults showed evidence of type 2 diabetes (HbA_{1c} ≥48 mmol/mol), and that 30% of these – approximately 1 million adults – were undiagnosed.
- Older adults were more likely to have type 2 diabetes, but younger adults were more likely to be undiagnosed – 50% of those aged 16–44 years with type 2 diabetes were undiagnosed compared with 27% of those aged ≥75 years.
- Those in better general health and women with a lower BMI, lower waist circumference or who were not prescribed antidepressants were more likely to be undiagnosed.
- Around 12% had prediabetes (HbA_{1c} 42–47 mmol/mol), equating to approximately 5.1 million adults.
- Those most at risk of having prediabetes had known risk factors for type 2 diabetes, such as older age or being overweight or obese. There was, however, considerable prevalence in those typically considered to be at low risk – 4% of those aged 16–44 years and 8% of those who were not overweight had prediabetes.
- Black and Asian ethnic groups had a higher prevalence of prediabetes compared with White, Mixed and Other ethnic groups (22% vs 10%) and of undiagnosed type 2 diabetes (5% vs 2%).

The high number of people who are unaware of their diabetes or prediabetes is of great concern, as they are not receiving the treatment and support that they require to reduce the risk of developing health complications. The ONS analysis provides a greater understanding of this population, which may enable resources to be better directed to the areas where they are most needed.

The data is available here.

Prevention of diabetic maculopathy: Trial of oral medication begins

A 63-year-old Merseyside man has become the first person in the world to receive a trial dose of danegaptide for the treatment of diabetic macular oedema. Steve Gotts, who has had diabetes for over 30 years, received his first dose at the Royal Liverpool University Hospital.

Macular oedema is a common complication of diabetes. High glucose levels can damage the blood vessels near the macula, resulting in fluid or protein leaking onto the macula.

The macula is the central part of the retina that enables people to see fine detail, so the effects of maculopathy can be devastating. In the UK, most patients with type 1 diabetes and nearly two thirds of people with type 2 diabetes will have signs of retinal damage within 20 years of diagnosis.

Intravitreally administered treatments are available for people with late-stage retinopathy, but there are few options for those in the early or moderate stages of the condition. Danegaptide is an oral therapy designed to target these earlier disease processes in those at risk of vision loss and blindness.

Steve is one of 24 participants in a worldwide, open-label, dose-escalating trial investigating the safety, tolerability, pharmacokinetics and early signs of biological activity among people with diabetic macular oedema. Before entering the trial, the hospital helped him to improve his glycaemic control, which he had struggled with for years.

Participants will take the medication for a month, after which they will be closely monitored by clinical teams to ensure that they continue to react well.

If the trial is successful, the investigators hope that oral danegaptide will become an early treatment option for the condition, sparing people from later eye injections later and improving eyesight outcomes in people with diabetes. ■

Citation: Latest news: Antidiabetes drugs and renal outcomes; undiagnosed diabetes; and prevention of diabetic maculopathy. *Journal of Diabetes Nursing* **28**: JDN327