American Diabetes Association 74th Scientific Sessions® 2014

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Do "walkable" neighbourhoods improve clinical health outcomes?

People who live in neighbourhoods conducive to walking experienced a substantially lower rate of obesity, overweight and diabetes than those who live in more car-dependent areas, a pair of studies presented at the American Diabetes Association's 74th Scientific Sessions®.

Researchers in Canada compared adults living in the most and least "walkable" metropolitan areas in southern Ontario and found a lower risk of developing diabetes over a 10-year period for those who lived in neighbourhoods with less sprawl, more interconnectivity among streets, and more local stores and services within walking distance. The researchers controlled for variables, such as health at baseline, in order to rule out the probability that healthier people were choosing more walkable neighbourhoods to begin with.

A second study that compared neighbourhoods, not individuals, found that the most walkable areas had the lowest incidence of obesity, overweight and diabetes.

Eli Lilly announces results for dulaglutide

Eli Lilly and Company released results from phase III trials that showed that treatment with once-weekly dulaglutide (Trulicity®) 1.5 mg resulted in superior reductions in HbA_{1c} from baseline compared to insulin glargine, with a lower risk of hypoglycaemia. Dulaglutide is an investigational glucagon-like peptide-1 receptor agonist.

Sitagliptin and insulin glargine: Reduced nocturnal hypoglycaemia

MSD announced results from a *post hoc* analysis showing that people with type 2 diabetes who had treatment intensified with insulin glargine therapy while also being treated with Januvia® (sitagliptin) 100 mg once daily had a lower incidence of nocturnal hypoglycaemia compared to people who received glargine plus placebo.

The *post hoc* analysis measured the incidence of symptomatic nocturnal hypoglycaemic episodes and showed that at 24 weeks, symptomatic nocturnal hypoglycaemic episodes (defined as events that occurred between 23.00 and 07.00) were lower in the group randomised to sitagliptin compared with the placebo group (14.9% versus 20.1%; $P=0.0812$). The total number of reported nocturnal events was also lower in the sitagliptin group compared to the placebo group.

New HbA_{1c} targets for children with type 1 diabetes

A new position statement released by the American Diabetes Association at its Scientific Sessions® in San Francisco, California, recommends lowering the target recommendation for HbA_{1c} for children and adolescents with type 1 diabetes.

The Association now recommends children under the age of 19 years strive to maintain an HbA_{1c} level lower than 58 mmol/mol (7.5%).

Current targets can be as high as 69 mmol/mol (8.5%) for children under 6 years of age, 64 mmol/mol (8%) for children 6–12 years of age and 58 mmol/mol (7.5%) for adolescents. The "higher" HbA_{1c} targets were originally set because of concerns over complications caused by hypoglycaemia, but prolonged hyperglycaemia is now being shown to lead to early development of serious complications in children, which were thought to occur only in adults.

Diabetes distress versus depression

Researchers have long understood there is a strong association between diabetes and depression. But new research presented at this year's American Diabetes Association Scientific Sessions® shows that symptoms of depression in people with type 2 diabetes can be significantly reduced through interventions for "diabetes distress".

This suggests that much of what is being labelled as depression may not be a comorbid psychiatric disorder after all, but rather a reaction to living with a stressful, complex disease that is often difficult to manage. "...Because depression is measured with scales that are symptom-based and not tied to cause, in many cases these symptoms may actually reflect the distress that people are having about their diabetes, and not a clinical diagnosis of depression," said lead author of the paper where these findings are published, Lawrence Fisher, Professor of Family and Community Medicine at the University of California, San Francisco.

Poxel's investigational oral agent Imeglimin in phase II

Poxel SA presented data from human and animal studies of its novel antidiabetes agent, Imeglimin, currently in phase IIb clinical development. Imeglimin is the first in a new class of antidiabetes drug named the glimins, which act by improving mitochondrial function.

It is currently being investigated as a monotherapy or as an add-on with sitagliptin. Thomas Kuhn, CEO of Poxel, said, "These phase 2 clinical trial and preclinical study results confirm that Imeglimin is the first treatment to act on the two key defects of type 2 diabetes, namely insulin sensitising and secretion."

Banting Medal: Highest scientific award presented to Daniel J Drucker

The Banting Medal given in memory of Sir Frederick Banting, a medical scientist, doctor and Nobel laureate who is noted as one of the key investigators in the discovery of insulin was awarded to Dr Daniel J Drucker, Professor of Medicine at Mount Sinai Hospital and the University of Toronto in Ontario, Canada at this year's Scientific Sessions®.

During his lecture, Dr Drucker described three decades of work on the glucagon gene, which has produced three distinct classes of drugs based on gut hormones; dipeptidyl peptidase-4 inhibitors, glucagon-like peptide-1 (GLP-1) receptor agonists and GLP-2 receptor agonists.

Latest data on canagliflozin

Results for the use of Invokana® (canaglifozin) across different patient populations were reported in 15 presentations at the American Diabetes Association Scientific Sessions®. In March 2013, the sodium–glucose co-transporter 2 inhibitor was approved by the US Food and Drug Administration as a single agent in conjunction with exercise and diet to lower blood glucose in T2D. In June this year, the agent was approved by NICE for the treatment of T2D in combination with other drugs in the UK.

The phase III development programme for canagliflozin enrolled a total of 10 285 people with T2D in nine trials, including evaluations of its effects in different patient populations and on weight reduction, as well as safety and efficacy. Notably, a 300-mg dose was found to result in greater reductions in HbA_{1c}, body weight and systolic blood pressure than sitagliptin (Jardiance®) 100 mg after 1 year.

Roger Pecoraro Award Lecture: Presented to William Jeffcoate

William Jeffcoate, MRCP, Professor and Consultant Diabetologist at Nottingham University Hospitals Trust, Nottingham, discussed the chronic nature of the diabetic foot during this year's Roger Pecoraro Award Lecture.

Dr Jeffcoate explained the aim for the immediate future was four-fold:

- Acquire greater understanding of the factors that impair healing of chronic wounds in diabetes.
- Ensure that the effectiveness of treatment used in managing chronic ulcers is established by high-quality research.
- Increase close, multidisciplinary teamwork in wound care.
- Measure the effectiveness of therapy and share results in order to eliminate variation that exists in clinical outcomes.

TEENs study: First published results

Sanofi announced the first results of the TEENs Registry Study, the largest contemporary real-world study of the care of nearly 6000 young people with type 1 diabetes aged between 8 and 25 years.

The findings presented at the American Diabetes Association Scientific Sessions® in June highlighted not only that over 70% of youths are not attaining target HbA_{1c} levels, but also that achieving target HbA_{1c} is associated with a significantly better quality of life (QoL) for young people.

The TEENs study investigated factors associated with achieving target HbA_{1c} levels and QoL per age class, (8–12, 13–18 and 19–25 years). The key factors associated with better glycaemic control were a younger age (8–12 years), balanced family support for diabetes management and absence of family financial burden related to diabetes.