Conference news: DiRECT extension study; diabetes inpatient care; and lung complications and type 2 diabetes

In the first part of our coverage, we look at some of the headlines from this year's Diabetes UK Professional Conference, held in Liverpool from 26th to 28th April.

DiRECT extension study: findings on weight loss and remission after 5 years

New findings, presented by Professors Mike Lean (University of Glasgow) and Roy Taylor (Newcastle University), reveal that nearly a quarter of participants in the DiRECT (Diabetes Remission Clinical Trial) study who were in remission from type 2 diabetes at 2 years remained in remission at 5 years.

The original DiRECT study demonstrated that remission was possible through a dietary intervention in primary care. Newly diagnosed participants followed a 12-week low-calorie formula diet, before the gradual introduction of healthy food to maintain the weight loss. After 1 and 2 years, respectively, 46% and 36% were in remission (defined as HbA_{1c} <48 mmol/mol and off all antidiabetes drugs.

To understand the longer-term benefits of the intervention, 95 participants continued to receive low-intensity support in primary care to help maintain weight loss for a further 3 years. Of these, 48 were in remission at the start of the extension study. Individuals who regained >2 kg during the extension were offered an additional package of support. A control group, comprising 82 people from original DiRECT control group, received advice to lose weight but did not receive the supplemental support.

Data from the intervention group showed an average 5-year weight loss of 6.1 kg. Of the 48 who were in remission at the start of the extension, 11 (23%) were still in remission at 5 years, achieving an average weight loss of 8.9 kg. In comparison, 3.4% of the control group remained in remission at 5 years, with an average weight loss of 4.6 kg.

There were 54% fewer serious adverse events (resulting in hospital admission) in the intervention group, supporting the evidence that weight loss and remission can prevent or delay the complications of diabetes. This group also saw greater improvements in blood pressure and blood glucose levels, and needed fewer antidiabetes medications.

The presenters concluded that evidence-based weight management should have a greater priority, with the pursuit of remission a key management target. Future research should look at improving the maintenance of weight loss and optimising cost-efficiency.

Diabetes at the Front Door: revised guideline for emergency decisions

The Joint British Diabetes Societies for Inpatient Care (JBDS-IP) has published a revised edition of its *Diabetes at the Front Door* document. Its release was announced by one of its authors, Professor Ketan Dhatariya (Norfolk and Norwich University Hospitals NHS Trust), during the Inpatient Care session.

Developed by experts in the field, *Diabetes at the Front Door* is a short guide for healthcare professionals working in acute emergency departments and emergency decision units. Nearly a fifth of all inpatients in hospitals in England and Wales have diabetes and, of these, the great majority are admitted as emergencies. Only around 8%, however, are diabetes-specific emergencies, with the most common reasons being foot ulceration, hypoglycaemia, hyperglycaemia, diabetic ketoacidosis and hyperosmolar hyperglycaemic state. Other reasons for admissions in the diabetes population include newly diagnosed diabetes, cardiovascular disease, stroke and end-of-life care.

Diabetes at the Front Door provides practical advice and tools for effective, appropriate and safe triage for adults with diabetes. Each section relates to a common diabetes-specific emergencies, while printable algorithms provide clear treatment pathways.

The guideline is part of a JBDSD-IP programme that aims to update each of its guidelines on key aspects of diabetes care annually. They can all be accessed on the Association of British Clinical Diabetologists (ABCD) website.

Diabetes inpatient care accreditation programme

The launch of a new accreditation programme was announced during the conference. Its primary aim will be to improve the quality of diabetes inpatient care across the UK.

The Diabetes Care Accreditation Programme (DCAP) has been set up jointly by the Royal College of Physicians and Diabetes UK. Evidence from the National

Diabetes Inpatient Audit and the *Making Hospitals Safe for People with Diabetes* report indicates that diabetes inpatient care is not universally standardised and that there is no current mechanism to assure that services are delivered to a high standard for all.

DCAP will address this by setting quality standards that cover all aspects of high-quality diabetes inpatient care and measuring service performance through external peer assessment. Hospitals will be able to look in detail at how they provide diabetes care and how they compare against others.

A pilot programme has informed the development of the accreditation pathway, and shown that DCAP helps teams review their services and identify gaps in their provision. The pathway, which includes elements of self-assessment and improvement against the standards, will take from 18–24 months. Once accredited, services will need to submit evidence annually to demonstrate that they are continuing to meet the standards, and will have a thorough assessment every five years.

Diabetes teams can find out more about DCAP at www.dcap.org.uk.

Lung disorders a potential complication of type 2 diabetes

For the first time, it has been established that high blood glucose levels in people with type 2 diabetes and lung dysfunction are causally linked. Professor Inga Prokopenko (University of Surrey) presented at the conference findings from the largest-ever study of its kind, on behalf of the Meta-Analysis of Glucose and Insulin-related Traits Consortium (MAGIC).

Lung conditions, including restrictive lung disease, fibrosis and pneumonia, have been demonstrated to be more common in people with type 2 diabetes. It was not known before now, however, whether type 2 diabetes directly causes damage to the lungs, or if other factors that are common to both conditions are responsible.

Researchers analysed data from a diverse group of nearly 500 000 individuals from 17 major studies and data sources, including UK Biobank. While controlling for factors such as smoking and sedentary behaviour, a statistical technique called Mendelian randomisation was used to understand whether hyperglycaemia was linked to impaired lung function, and whether one caused the other. Two common spirometry tests were used to measure lung function.

Results of the analysis showed that high blood glucose levels in people with type 2 diabetes directly impaired lung function. Modelling of the data indicated that an increase in blood glucose levels from 4 mmol/L to 12 mmol/L could result in a 20% drop in lung capacity and function. The study did not set out to investigate the biological mechanisms at work.

With the prevalence of potentially life-changing and life-limiting lung conditions increasing in the population, the research highlights to need for healthcare professionals to be mindful of lung complications in people with type 2 diabetes. As lung disease is currently an under-recognised feature of the condition, further research will need to examine whether monitoring lung function should be part of routine care for people with diabetes. ■

Citation: Conference news: DiRECT extension study; diabetes inpatient care; and lung complications and type 2 diabetes. *Journal of Diabetes Nursing* **27**: JDN289