

Keeping abreast of the latest diabetes research: Late-onset type 1 diabetes, sleep apnoea and driving with diabetic neuropathy

Too busy to keep up to date with the latest research? Trisha Dunning, Chair in Nursing at Deakin University and Barwon Health, Australia, selects the latest papers of interest to diabetes nurses.

Obstructive sleep apnoea prevalence in people with diabetes

Feher M et al (2019)

[Diabet Med 18 Apr \[Epub ahead of print\]](#)

Research on the links between diabetes, obesity and obstructive sleep apnoea (OSA) has typically been carried out in secondary care, with limited data from primary care. This study used the RCGP Surveillance Centre database to estimate OSA prevalence and its associations with diabetes and obesity in the primary care setting.

A total of 1 275 461 records were analysed, revealing an overall OSA prevalence of 0.7%. The highest OSA prevalence rate, in those with type 2 diabetes and class 3 obesity, was 9.6%. Irrespective of diabetes status, OSA prevalence increased in line with BMI category (underweight through to class 3 obesity). The prevalence was similar in people with type 1 diabetes as in those without diabetes, while those with type 2 diabetes were at higher risk across all weight categories. Men had a higher prevalence than women even after these variables were accounted for.

The authors highlight that healthcare professionals should be aware of the increased OSA risk in all categories of excess weight, not just the high obesity range, and that men and people with type 2 diabetes are at particular risk.

Diabetic neuropathy worsens pedal control when driving

Perazzolo M et al (2019)

[Diabet Med 29 Mar \[Epub ahead of print\]](#)

Diabetic peripheral neuropathy (DPN) is one of the most common complications of diabetes, and it reduces tactile sensation,

vibration perception, proprioception, muscle strength and joint range of motion, with the feet typically most affected. This study was conducted to determine whether these changes could impact driving performance, specifically control of the accelerator pedal.

The investigators recruited 32 drivers: 11 with DPN, 10 with diabetes but no neuropathy and 11 without diabetes. All underwent a simulated driving task, as well as sensorimotor function testing of the feet.

Participants with DPN were found to spend more time with the accelerator either fully depressed or not at all, while the other participants were more likely to use the mid-range. They also had more events where they lost control, defined as extreme or inappropriate use of the steering wheel. These difficulties were thought to be a result of reduced plantar flexor muscle function and ankle proprioception.

However, when repeating the driving test, the DPN group was the only group to significantly improve, suggesting that strategies can be used to counteract these problems. Future research will focus on whether this improvement can be achieved through a specific and systematic training programme, and to devise solutions that help drivers with DPN drive more safely for longer.

Late-onset type 1 diabetes often misdiagnosed

Thomas NJ et al (2019)

[Diabetologia 10 Apr \[Epub ahead of print\]](#)

Recent research suggests that at least 40% of type 1 diabetes occurs after the age of 30 years, and that most of these cases are characterised by severe insulin deficiency,

with 89% needing insulin therapy after 1 year (Thomas et al, 2018). This study sought to identify the prevalence and characteristics of this subtype of diabetes.

The authors reviewed 583 people who were diagnosed with any type of diabetes after 30 years of age and received insulin therapy. Overall, 21% of these had severe insulin deficiency and met the criteria for type 1 diabetes. They had similar clinical characteristics to a comparison cohort of 220 people with young-onset type 1 diabetes.

BMI was not a robust identifier of late-onset type 1 diabetes: only 41% had a BMI <25 kg/m², and 28% of those with type 2 diabetes had a BMI <25 kg/m².

Overall, 38% of those with late-onset type 1 diabetes did not receive insulin at diagnosis; half of these were misdiagnosed as having type 2 diabetes. Early progression to insulin was a strong predictor of type 1 diabetes, with 85% of the type 1 cohort receiving insulin within 1 year; furthermore, 47% of those who required insulin within 3 years of diagnosis had type 1 diabetes.

If misdiagnosed, people with late-onset type 1 diabetes will not receive appropriate education and may not be eligible for interventions such as carbohydrate counting courses, continuous glucose monitoring and insulin pump therapy; therefore, the authors stress the need to correctly identify the condition. They recommend that anyone who is diagnosed with type 2 diabetes but progresses to insulin therapy within 3 years should strongly consider a C-peptide test to confirm the diagnosis. ■

Thomas NJ, Jones SE, Weedon MN et al (2018) Frequency and phenotype of type 1 diabetes in the first six decades of life: a cross-sectional, genetically stratified survival analysis from UK Biobank. *Lancet Diabetes Endocrinol* 6: 122–9