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“EARLY ONSET” TYPE 2 DIABETES: Higher HbA1c and worse cardiovascular profiles in patients diagnosed before the age of 45 years compared with later onset groups

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Background and aim

Type 2 diabetes has traditionally been a disease of the elderly population, but the incidence in young adults (<40-45 years) is increasing [1, 2]. Higher complication rates and higher prevalence of cardiovascular risk factors have been documented in early onset (EO) patients compared with later onset (LO) patients [3]. We hypothesized that EO patients have more adverse risk profiles than LO patient already early in the course of disease. We aimed to compare clinical characteristics, health behaviour, complications, and treatment in newly diagnosed EO T2D patients (< 45 years at diagnosis) with groups of patients diagnosed later (46-55, 56-65, 66-75, and >75 years).

Methods

A Cross-sectional study of 5115 newly diagnosed T2D patients enrolled between 2010-2014 in the DD2-cohort (Danish Centre for Strategic Research in Type 2 Diabetes). Prevalence ratios (PR) with 95% confidence intervals were calculated using Poisson-regression analysis for the comparison of prevalence in EO patients with each of the LO patient groups.

Results and main conclusion

EO (n=516, 10.1%) patients had a high EO prevalence of CV risk factors. For example, 40% presented with BMI>35, and 30% with HbA1c>58 mmol/mol. There was a gradient with increasing prevalence of risk factors in earlier onset age groups. These included worse glycemic control (PR for HbA1c>75 mmol/mol, youngest to oldest age group, ref group 56-65 years: 1.70, 1.36, 1.00, 0.37, 0.17), higher BMI (PR for BMI>40: 2.43, 1.39, 1.00, 0.49, 0.19) larger waist circumference,

higher blood lipids (PR for LDL>3.0 mmol/L: 1.30, 1.16, 1.00, 0.82, 0.88), and higher CRP. The younger age groups more often received insulin, while antihypertensive, hypolipidemic, and anticoagulation drugs were used more in older age groups. To conclude, EO patients had a poorer glycemic control and higher prevalence of undertreated cardiovascular risk factors than later onset age groups.

Implications for practice and research

Early onset type 2 diabetes constitutes a growing and underexplored challenge in the health care system, and there is a need for adapted and flexible health services for the younger T2D patients. This study makes part of a comprehensive mixed methods needs assessment for the development of such intervention.

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