Clinical characteristics of Western Australian children diagnosed with type 2 diabetes before 10 years of age

To the Editor: Over the past decades, the incidence of type 2 diabetes, rarely diagnosed in children and adolescents before the 1990s,[1] has been increasing in young people in several populations, including Australia.[2–4] Early onset type 2 diabetes appears to have a more severe phenotype compared with adult onset type 2 diabetes, and has a high prevalence of complications already present at the time of diagnosis despite the patients' young age and short duration of the disease.[5]

We aimed to describe the characteristics of Western Australian children aged less than 10 years diagnosed with type 2 diabetes between June 2000 and June 2017. Demographic and clinical data for children diagnosed with type 2 diabetes during the study period were extracted from the population-based WA Children's Diabetes Database and via manual review of hospital clinical files.

Of the 193 children aged less than 16 years diagnosed with type 2 diabetes in WA during the study period, 12 children were diagnosed at less than 10 years of age, with the youngest aged 6 years and 11 months. These 12 patients had one or both parents diagnosed with type 2 diabetes, 11 children were Aboriginal Australians, one was Māori, 11 were obese (mean body mass index *z*-score, 2.38; standard deviation [SD], 0.64); nine were female, and seven had one or more comorbidities. Of the 11 children examined, ten had acanthosis nigricans present on their skin.

Three children presented with polyuria and polydipsia, six were unwell with other illnesses and three were asymptomatic. Type 1 diabetes antibodies were negative in seven of eight of the children tested, and the mean glycated haemoglobin level at diagnosis was 75 mmol/mol (mean, 9.0%; SD, 2.4%). Nine patients had one or more diabetes complications present at the time of diagnosis; seven had dyslipidaemia, two had an elevated albumin creatinine ratio, and three had hypertension.

Our study describes the common clinical features of early onset type 2 diabetes in young children in WA, such as history of parental type 2 diabetes, Aboriginal heritage, obesity, and female sex, and provides strong evidence for the need to screen children with these risk factors for type 2 diabetes, irrespective of their age. Moreover, the high prevalence of diabetes complications present strongly supports the need for complications screening at the time of diagnosis.

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