COMMENTS AND RESPONSES

Increased Adiposity at Diagnosis in Younger Children With Type 1 Diabetes Does Not Persist

Response to d'Annunzio et al.

In contrast to the results of our study (1), d'Annunzio et al. (2) did not find younger children to be more obese at diagnosis compared with older children and speculate that our purported threshold of higher adiposity for earlier onset of type 1 diabetes has not been reached in Italy yet. We agree with their speculation; younger Italian children had a much lower BMI SD score (SDS) (0.26) than our group aged 2–5 years (0.93). Nevertheless, both studies demonstrated that BMI SDSs were higher in children with diabetes than the reference populations. In both studies, BMI SDSs did not increase over the study periods.

In Australian children, aged ≥2 years, the accelerator threshold appears to have been crossed many years ago for those genetically predisposed. In our group aged 2–5 years (n = 188), we found that the prevalence of overweight and obesity, as defined by the International Obesity Task Force (3), had remained steady at the high level of 38% since 1991 (1 of 7 only during 1976–1990), suggesting that an accelerator ceiling may have been reached. This level of overweight and obesity is much higher than the rates of 18% found in the group aged 2–6 years of the National Nutrition Survey (4) in 1995 and 21% observed at age 7–8 years in a birth cohort from Western Sydney in 1996–1997 (5).

On subsequent analysis of 52 infants (aged <2 years), we found a significant increase in the weight-for-height SDS for infants diagnosed after 1995 (1.26 vs. 0.76, P = 0.003). Increasing adiposity in this very young age-group has been reported recently (6) and may be related to the increase in maternal adiposity and gestational diabetes, suggesting that in utero programming may contribute to type 1 diabetes risk. We speculate that the ceiling may not yet have been reached in this age-group, and that diabetes rates may disproportionately increase in the youngest children. Strategies to prevent and delay onset of type 1 diabetes may need to be focused on nutrition in early infancy and even prenatally.

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DOI: 10.2337/dc06-2536

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