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Higher Rate of Obesity and Hypertension in Adolescents With Type 2 Diabetes Than in Those With Type 1 Diabetes

We read with interest the article by Eppens et al. (1) concerning the prevalence of diabetes complications in adolescents with type 2 compared with type 1 diabetes.

Because the study was clinic based and included a relatively small number of subjects with type 2 diabetes ($n = 68$), we present our findings from a nationwide screening program, which was conducted between 1992 and 1997 for all schoolchildren aged 6–18 years (2). Diabetes was diagnosed in 381 boys and 454 girls whose fasting blood glucose exceeded 7 mmol/l. Type 1 diabetes was considered if they received insulin therapy within 6 months and if it was confirmed by their referred physicians (2). Type 2 diabetes was considered if they were under diet control or were currently receiving oral antidiabetic agents without recurrent diabetic ketoacidosis. Those who received insulin injection within 3 years were excluded due to uncertainty in the classification of diabetes. Overweight and obesity were defined by 85th to 95th and

above 95th percentile of age- and sex-specific cutoffs, whereas hypertension was diagnosed if systolic or diastolic blood pressure was >95th percentile of age- and sex-specific cutoffs in our population.

There were 330 subjects with type 1 diabetes and 505 subjects with type 2 diabetes. Hypertension was more prevalent in adolescents with type 2 than type 1 diabetes (44.4 vs. 23.4%, $P < 0.001$), which is similar to the report by Eppens et al. (1). After adjusting for age and sex, subjects with type 2 diabetes also showed a higher risk of hypertension (odds ratio 2.25 [95% CI 1.59–3.20], $P < 0.001$).

Similar to the findings by Eppens et al., adolescents with type 2 diabetes had a higher rate of obesity in our population (45.4 vs. 8.8%, $P < 0.001$). However, we found a higher rate of overweight in those with type 2 diabetes (10.1 vs. 7.2%, $P < 0.001$), which was not observed by Eppens et al. When applying the same definition of overweight and obesity (3), as Eppens et al. did, adolescents with type 2 diabetes also showed a higher rate of both overweight and obesity (overweight 28.6 vs. 15.0%, $P < 0.001$; obesity 30.0 vs. 7.2%, $P < 0.001$).

The findings of our population-based study support and extend the observations by Eppens et al., showing that adolescents with type 2 diabetes were more obese and had a higher rate of hypertension than those with type 1 diabetes.

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DOI: 10.2337/dc06-1265

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Use of Repaglinide During the First Weeks of Pregnancy in Two Type 2 Diabetic Women

Repaglinide, the only glinide available in Italy, is a secretagogue developed for type 2 diabetes (1). There is no evidence about its use during human pregnancy. Studies on rats that showed its effects on long bone growth excluded any teratogenicity (2). More data exist regarding the safety of metformin in pregnancy, even though it is not recommended as an oral hypoglycemic agent in diabetic pregnancy (3,4).

We report two case subjects of type 2 diabetic women who used repaglinide at conception and during the first 6–7 weeks of an unplanned pregnancy.

The first patient, L.M., was 38 years old and was diagnosed with type 2 diabetes when she was 31; since 2004, she had been treated with repaglinide (1.5 mg/day) and metformin (3 g/day). When we first visited her, she was 6 weeks and 4 days into her second pregnancy, with a pregestational BMI of 26.2 kg/m².

The second patient, N.G., was 34 years old, developed diabetes in 2001, and had been treated with repaglinide (2.5 mg/day) for 2 years. When we first visited her, she was nulliparous at the 6th gestational week, with a pregestational BMI of 21.3 kg/m².

Both gestational ages were confirmed by ultrasound. Neither patient had evidence of micro- and macrovascular complications or autonomic neuropathy. Due to the lack of data on the safety of repaglinide in pregnancy, they were both switched to insulin. Other therapies included a multivitamin and mineral supplementation.

L.M. was given alfa metildopa begin-