MARCH 2015

Diabetes Care®

In This Issue of *Diabetes Care*

Edited by Helaine E. Resnick, PhD, MPH

Mixed Findings on Experiences of Patients With Diabetes in Primary Care

Findings in this issue of *Diabetes Care* (**p. 469**) suggest that patients with diabetes have a heterogeneous set of experiences in primary care and that the extent of their positive experiences diminishes markedly as morbidity increases. The new report is based on data from more than 900,000 respondents to the 2012 General Practice Patient Survey, an annual survey that focuses on the experiences of patients with their primary care providers. The survey is mailed each year to more than 2.7 million people in England who have been enrolled for 6 months with a family practice. In 2012, there were 906,578 respondents who were affiliated with 8,254 distinct primary care practices. Among these respondents, 85,760 reported that they had diabetes; these patients were categorized according to the number of additional comorbid conditions that they had reported on the survey. The survey also included six items related to patients' experiences with three domains of primary care: access, continuity of care, and communication. With a focus on three groups of patients—those without diabetes, those with diabetes alone, and those with diabetes and other comorbidities—the authors examined responses to patients' experiences with their primary care practices. Relative to people without diabetes, the data showed that patients with diabetes reported more favorable experiences with primary care, and these findings persisted after adjustment for potentially confounding variables such as age, sex, ethnicity, and socioeconomic status. However, patients with diabetes who had additional comorbidities reported worse experiences, especially on the item about access to primary care appointments. Although the new research suggests that as a whole patients with diabetes in England report favorable experiences with their primary care providers, there appears to be substantial room for improvement in the subset of patients with diabetes with less favorable health profiles. — *Helaine E. Resnick, PhD, MPH*

Paddison et al. How do people with diabetes describe their experiences in primary care? Evidence from 85,760 patients with self-reported diabetes from the English General Practice Patient Survey. Diabetes Care 2015;38:469–475

A Marker of Islet Autoimmunity That Increases With Obesity?

Data in this issue of *Diabetes Care* (**p. 513**) suggest an even more complex picture of islet cell autoimmunity than was previously thought. Patients who are currently described as having latent autoimmune diabetes in adults (LADA) typically have a slow progression to insulin requirement in adulthood and this accompanied by a similar antibody pattern to that observed in patients with type 1 diabetes. It is thought that this group of patients is heterogeneous with regard to pathophysiology, with some having multiple antibodies and others having only one. However, much of the research on this population has focused on type 1 diabetes phenotypes. The new report is based on a subset of 1,850 patients enrolled in the Non–Insulin Requiring Autoimmune Diabetes (NIRAD) study, a longitudinal study of 5,330 consecutive cases of type 2 diabetes in Italy. The investigators first characterized patients according to whether they had autoantibodies against GAD, IA-$2_{IC(605–979)}$, or IA-$2_{(256–760)}$ proteins and then explored whether the frequency and pattern of these autoantibodies was related to patients' BMI (categorized as <25, ≥25 to <30, and ≥30 kg/m^2). In this group of NIRAD patients, 120 (6.5%) were positive for one or more of the autoantibodies: 4.1% were positive for GAD, 3.3% were positive for IA-$2_{(256–760)}$, and 1.1% were positive for IA-2_{IC}. Analyses that examined the frequency of the three autoantibodies in relation to BMI categories showed remarkable patterns. While both GAD and IA-2_{IC} decreased as BMI increased, the frequency of IA-$2_{(256–760)}$ increased with increasing BMI. Among patients who were positive for one or more of the antibodies, those who were positive only for IA-$2_{(256–760)}$ had a clinical profile that was consistent with that commonly observed in obese patients with type 2 diabetes, with elevated BMI and waist circumference. The authors speculate that this autoantibody may be a marker for this phenotype and that it may induce an immune response to the inflammatory processes that are associated with obesity and visceral adiposity. — *Helaine E. Resnick, PhD, MPH*

Buzzetti et al. Tyrosine phosphatase–related islet antigen $2_{(256–760)}$ autoantibodies, the only marker of islet autoimmunity that increases by increasing the degree of BMI in obese subjects with type 2 diabetes. Diabetes Care 2015;38:513–520

MARCH 2015

Diabetes Care®

One in Three Patients With Type 1 Diabetes Has Residual Insulin 3 Years After Diagnosis

Data in this issue of *Diabetes Care* (**p. 476**) contribute to a growing body of evidence showing that a large proportion of patients with type 1 diabetes have residual insulin secretion years after they are diagnosed. Although previous research has suggested that some insulin production is retained in a subgroup of patients with type 1 diabetes, many of these studies were conducted in select populations, a consideration that creates challenges for understanding the true prevalence of residual insulin secretion among patients with type 1 diabetes. New data from an ancillary study of the T1D Exchange clinic registry suggest that as many as one-third of patients with type 1 diabetes continue to produce insulin 3 or more years after diagnosis. The registry contains data for patients with autoimmune diabetes who either have islet cell antibodies or initiation and continued use of insulin at the point of diagnosis or shortly thereafter. In the new study, 919 patients who were diagnosed between the ages of 6 months and <46 years were categorized based on age at diagnosis. The authors were particularly interested in the interrelationships among diabetes duration and the age at which these patients were diagnosed with diabetes. In this sample, 29% had detectable nonfasting C-peptide, but the prevalence of C-peptide decreased as the duration of diabetes increased. Among the most intriguing findings in the new report was the observation that within all duration categories (ranging from 3–5 years to >40 years) patients who were diagnosed at the age of 18 years or older were more likely to have measurable C-peptide than their counterparts who were diagnosed as children. The authors point out a number of important implications of these findings, including the idea that defining type 1 diabetes as a condition "usually leading to absolute insulin deficiency" may not apply to as many as one-third of the patient population with type 1 diabetes. They also observed that the marked difference in C-peptide by age at diagnosis has implications for powering of clinical trials and that pediatric populations may experience more benefit from interventions aimed at preservation of β-cell function. As follow-up of this cohort continues, there will be additional opportunities to disentangle factors that contribute heterogeneity to this patient population, possibly leading to a modification of the current definition of type 1 diabetes. — *Helaine E. Resnick, PhD, MPH*

Davis et al. Prevalence of detectable C-peptide according to age at diagnosis and duration of type 1 diabetes. Diabetes Care 2015;38:476–481

Treatment of Mild GDM Results in Little Long-Term Benefit for Offspring

Long-term follow-up of a randomized trial of women with mild gestational diabetes mellitus (GDM) shows that obesity and the metabolic profiles of children of treated women differed little from the children of women who were not treated during pregnancy. The new results (**p. 445**) provide important insight into the public health discourse concerning the short- and long-term value of strategies aimed at reducing risks to women with GDM during pregnancy, as well as reduction of risk to the offspring of these women. The investigators conducted follow-up on 500 of 905 offspring from the original cohort of women who were studied in the mild GDM trial. Although results of the original trial showed measurable neonatal benefits among women with mild GDM who were treated during pregnancy, 5–10 years later, there were no differences in obesity or key metabolic parameters between children of treated and untreated mothers. The investigators focused on a primary obesity outcome defined as BMI ≥95th percentile for sex and age, as well as a number of secondary outcomes including waist circumference, BMI ≥85th percentile, elevated triglycerides, and reduced HDL cholesterol. Although no group-level differences were observed, when interaction effects were examined, the investigators found that female children of treated GDM women had more favorable fasting glucose levels. Although this observation was intriguing and may serve as a springboard for future investigation, as a whole, results from the new report suggest that treating GDM women during pregnancy results in little long-term benefit to their offspring in terms of obesity and key metabolic parameters. — *Helaine E. Resnick, PhD, MPH*

Landon et al. Mild gestational diabetes mellitus and long-term child health. Diabetes Care 2015;38:445–452

DOI: 10.2337/dc15-ti03