In This Issue of *Diabetes Care*

Edited by Helaine E. Resnick, PhD, MPH

New Evidence Linking Adiponectin and Gestational Diabetes Mellitus

Numerous reports have linked low levels of adiponectin—a protein hormone secreted by fat cells—to increased risk of obesity and type 2 diabetes. Despite this consistent association, the relationship between adiponectin and risk of gestational diabetes mellitus (GDM) has been inconsistent, with some studies demonstrating a link similar to that observed in type 2 diabetes and other studies showing no relationship. One reason for these inconsistent results may be the lack of adiponectin data collected early in pregnancy and across large numbers of women with varying levels of obesity. A study of 445 women in this issue of *Diabetes Care* (**p. 1577**) sheds new light on the relationship between adiponectin and GDM. The new study shows that first-trimester adiponectin levels among the 38 women who developed GDM were significantly lower than in women who did not go on to develop GDM and that lower adiponectin levels predicted development of GDM. This relationship was independent of the mother's age and BMI. Further, lower adiponectin levels in both the first and second trimesters were associated with insulin resistance—again independent of adiposity—but a link between adiponectin and β-cell function was not observed in this cohort. The authors speculate that, rather than playing a causative role in GDM risk, the association between first-trimester adiponectin and GDM reflects underlying insulin resistance that is already present early in pregnancy. — *Helaine E. Resnick, PhD, MPH*

Lacroix et al. Lower adiponectin levels at first trimester of pregnancy are associated with increased insulin resistance and higher risk of developing gestational diabetes mellitus. Diabetes Care 2013;36:1577–1583

Type 1 Diabetes on the Rise

New research in this month's issue of *Diabetes Care* (**p. 1597**) suggests that new cases of type 1 diabetes have increased substantially in at least one area in the U.S. Newly published data from the Philadelphia Pediatric Diabetes Registry put the incidence of diabetes at 17 per 100,000 children per year during the period 2000–2004. This figure represents a substantial increase from earlier periods (1985–1999), when rates of type 1 diabetes ranged from 13.4 to 14.8 per 100,000 children per year. The data show that since the first cohort was examined in 1985–1989, type 1 diabetes has increased 29%, or about 1.5% each year since the study began. The most recent data show that the incidence of type 1 diabetes was highest in Hispanic children, followed by white children, and the lowest rates were observed in black children. However, diabetes rates have increased overall among all children combined. Importantly, during the most recent wave of data collection, this registry started collecting information on type 2 diabetes in children. During 2000–2004, a total of 104 cases were identified. Of these, 85% were among black children. The overall rate of type 2 diabetes during this period was 5.8 per 100,000 per year, with a significantly higher rate—9.2 per 100,000 per year—among black children. The new data from the Philadelphia registry not only show a jump in type 1 diabetes during the period 2000–2004 but also provide benchmarking data concerning the growing problem of type 2 diabetes in youth. — *Helaine E. Resnick, PhD, MPH*

Lipman et al. Increasing incidence of type 1 diabetes in youth: twenty years of the Philadelphia Pediatric Diabetes Registry. Diabetes Care 2013;36:1597–1603

Differences in the Relationship Between Insulin Sensitivity and Insulin Response May Explain Ethnic Disparities in Diabetes Risk

Ethnic differences in risk of type 2 diabetes are not completely understood. However, it has been postulated that genetic variation in insulin sensitivity and insulin response may explain some of the excess risk observed in non-Caucasian populations. In this issue of *Diabetes Care* (**p. 1789**), a review of insulin sensitivity and insulin response data was conducted in 74 populations that included 3,813 African, Caucasian, and East Asian participants. Among people with normal glucose tolerance, lower insulin sensitivity and higher insulin response was observed among Africans relative to Caucasians and East Asians. Conversely, higher insulin sensitivity and lower insulin response was noted in East Asians compared with Caucasians and Africans. When these variables were plotted, a hyperbolic relationship of insulin sensitivity and insulin response was observed. Caucasian participants were in the middle of this distribution, while African and East Asian population participants were clustered on the extreme ends where small changes in one variable would result in large changes in the other. This review suggests that among Africans and East Asians, genetic variation in the optimal relationship between insulin sensitivity and insulin response may be partly responsible for the increased risk of type 2 diabetes in these groups. — *Elsa S. Strotmeyer, PhD, MPH*

Kodama et al. Ethnic differences in the relationship between insulin sensitivity and insulin response: a systematic review and meta-analysis. Diabetes Care 2013;36:1789–1796

Home-Based, Self-Administered Oral Glucose Tolerance Testing on the Horizon?

Although oral glucose tolerance testing (OGTT) is considered the gold standard for diagnosis of diabetes, traditional, clinic-based administration of this test is relatively expensive. In this issue of *Diabetes Care* (**p. 1483**), data on a self-administered OGTT device suggest that this new approach to diabetes screening may be feasible in the future. The new work is based on data from 18 healthy subjects and 12 people with type 2 diabetes who had underwent six 75-g OGTTs using a prototype electronic device. The device, which included a kit containing a premixed glucose drink and a number of integrated components, was evaluated in three different settings: in the home without supervision, in the clinic observed by a research nurse, and administered by a nurse who also collected simultaneous venous plasma measurements. The device failed during 39 of 180 OGTTs (22% of all administrations), and there was a positive bias in results at higher glucose levels relative to laboratory glucose values. Nonetheless, the device had high reproducibility across settings and was well liked by participants. No serious adverse events occurred. If device failures are reduced and methods to ensure proper calibration are implemented, these data suggest that self-administered OGTT has the potential to impact long-standing strategies for diabetes screening and diagnosis. — *Elsa S. Strotmeyer, PhD, MPH*

Bethel et al. Evaluation of a self-administered oral glucose tolerance test. Diabetes Care 2013;36:1483–1488