

In This Issue of *Diabetes Care*

Edited by Helaine E. Resnick, PhD, MPH

Acute Caloric Restriction—Not Surgery per se—Is Responsible for Improvements in Glucose Control Following Gastric Bypass

New data in this issue of *Diabetes Care* (p. 2741) provide clarity to the long-standing question of whether gastric bypass surgery or the dietary restriction that is associated with surgery is responsible for the rapid improvements in glucose metabolism that are observed shortly after surgery. A new report by Lingvay et al. summarizes data from 10 patients with diabetes who were studied in an inpatient clinic for 10 days \geq 6 weeks before undergoing Roux-en-Y gastric bypass (RYGB) surgery. These patients, who complied with the routine RYGB postsurgical diet during the preoperative study period, demonstrated rapid weight loss and significant improvements in measures of glucose homeostasis. These same patients then went on to have their RYGB procedures and adhered to the same diet that they followed before their surgeries. Comparing the preoperative and postoperative data on the same individuals, the authors show that both weight loss (7.3 vs. 4.0 kg) and glycemia were more favorable before surgery—when the patients were on diet alone—than they were after surgery, when the same patients had undergone RYGB accompanied by diet. This interesting experiment, which not only used patients as their own controls but which was also able to hold diet constant between experimental conditions, shows that caloric restriction alone can achieve results comparable to RYGB if dietary adherence is achieved. Although it is intuitively appealing to promote nonsurgical approaches to diabetes management given the cost and risk of surgical intervention, the feasibility and long-term impact of acute caloric restriction as an approach to diabetes management warrant further exploration. — Helaine E. Resnick, PhD, MPH

Lingvay et al. Rapid improvement in diabetes after gastric bypass surgery: is it the diet or surgery? *Diabetes Care* 2013;36:2741–2747

New Insulin Formulation: Phase 3 Trial Suggests Equal Benefit in Half the Volume

Data from a newly published phase 3 trial in *Diabetes Care* (p. 2536) suggest that a new formulation delivering the same amount of insulin in half the volume was safe and performed similarly to a conventional formulation. The 200 units/mL formulation of insulin degludec (IDeg) is bioequivalent to the 100 units/mL formulation, and a previous study showed that the IDeg 100 units/mL formulation provided similar glucose control to 100 units/mL insulin glargine (IGlar) with less hypoglycemia. A logical next step in these investigations was to compare IGlar and the 200 units/mL IDeg preparation. This assessment was conducted in a 26-week study focusing on 457 poorly controlled diabetic individuals who had not taken insulin in the past. Both formulations were given in combination with metformin and targeted fasting glucose $<$ 90 mg/dL. Overall, the results indicated that the 200 units/mL IDeg formulation achieved glucose control similar to that of IGlar without higher rates of hypoglycemia. These results have potentially important implications for treatment because insulin pen devices can only deliver 80 units in a single injection, despite the fact that a considerable proportion of patients need larger volumes that require a second daily injection. In the current study, 20% of patients were in this category. Thus, a safe and effective insulin formulation that delivers the same glucose-lowering effects in a smaller volume has the potential to allow a significant number of diabetic patients to self-treat with only one injection of basal insulin per day. — Helaine E. Resnick, PhD, MPH

Gough et al. Low-volume insulin degludec 200 units/mL once daily improves glycemic control similarly to insulin glargine with a low risk of hypoglycemia in insulin-naïve patients with type 2 diabetes: a 26-week, randomized, controlled, multinational, treat-to-target trial: the BEGIN LOW VOLUME trial. *Diabetes Care* 2013;36:2536–2542

International Study Shows That Genetic Factors Add Little to Prediction of Type 2 Diabetes

In this issue of *Diabetes Care* (p. 2836), data from a new study of more than 15,000 European, Latino, and South Asian subjects indicate that information contributed by 16 single nucleotide polymorphisms (SNPs) adds little to predication of diabetes risk beyond traditional risk factors. The EpiDREAM study includes participants from 191 clinical centers who were at risk for diabetes. Blood samples from these individuals were examined for 16 SNPs that had previously demonstrated strong associations with type 2 diabetes. These SNPs were then used to construct a gene score that was studied in relation to development of diabetes over 3.3 years of follow-up. Only 9 of the 16 SNPs were associated with diabetes. Additional results showed a positive association between gene score and the number of parents with a history of type 2 diabetes, as well as associations between the score and baseline categories of glucose dysregulation. Among participants who were free of diabetes at baseline, the gene score was associated with risk of incident diabetes. Despite the consistency of the relationship between the gene score and diabetes, regression analysis indicated that the score provided very little additional information for predicting diabetes beyond what is contributed by traditional risk factors such as BMI, waist circumference, age, and family history. Although the new report confirms associations between certain SNPs and type 2 diabetes risk that have been documented in previous studies, it also shows that the strength of traditional risk factors far outweighs the impact of these SNPs in predicting diabetes. — *Helaine E. Resnick, PhD, MPH*

Anand et al. Genetic information and the prediction of incident type 2 diabetes in a high-risk multiethnic population: the EpiDREAM genetic study. *Diabetes Care* 2013;36:2836–2842

New Guide to Management of Hospitalized Patients With Diabetic Foot Disorders

In this issue of *Diabetes Care* (p. 2862), a new clinical guide by Wukich et al. provides recommendations for management of diabetic foot disorders in the hospital setting. This guide complements extensive literature on outpatient management of the diabetic foot and serves as a basis for approaching the assessment and management of these high-risk patients in the inpatient setting. Included among the many topics covered in the guide are the professional makeup of the diabetic foot service, its goals, essential skills, and critical pathways and approaches to transition to outpatient care. This important document recognizes the need to formalize management of these high-risk patients with a multidisciplinary approach that emphasizes a team-based approach that maximizes the likelihood of limb salvage. Extensive guidance for both medical and surgical management is provided, along with detailed information on critical topics including the initial evaluation, prevention and treatment of infection, debridement, fracture management, perioperative management, and discharge planning. An important element of the new guide is its discussion of the particular challenges and opportunities associated with education of patients who are hospitalized with diabetic foot disorders. Although the authors of the new guide acknowledge the difficulties associated with assembling a multidisciplinary team focused on management of foot disorders, reduced hospital length of stay and reduced risk of re-hospitalization are two institutional-level incentives that may provide a rationale for promoting these approaches to care. — *Helaine E. Resnick, PhD, MPH*

Wukich et al. Inpatient management of diabetic foot disorders: a clinical guide. *Diabetes Care* 2013;36:2862–2871

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