The Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Study: 30th Anniversary Presentations

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The American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD) both recognized the seminal contributions of the Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications (DCCT/EDIC) study, sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases, by scheduling a dedicated DCCT/EDIC symposium in their respective programs "The DCCT/EDIC study: 30 years of progress and contributions."

We are very grateful that both organizations provided the DCCT/EDIC Research Group this important opportunity to highlight our advances and contributions to improving the health and quality of life of people with type 1 diabetes (T1D). What follows in this issue are six articles summarizing the DCCT/EDIC, including *1*) study background, goals, design, and general overview; *2*) retinopathy outcomes; *3*) neuropathy outcomes; *4*) renal outcomes; *5*) cardiovascular outcomes; and *6*) collaborations and future directions. These articles represent a distillation of the presentations made at the ADA and EASD but because of space limitations are not a complete or comprehensive analysis of these DCCT/EDIC topic areas. In addition, some of the major areas of DCCT/EDIC investigation—genetic determinants of complications, epigenetic studies, evaluation of biomarkers, determinants of cardiovascular disease outcomes, etc.—have not been addressed in these articles.

The DCCT/EDIC is one of the most highly cited clinical research trials in diabetes. It has not only provided robust scientific answers with regards to T1D and its complications, but has provided the evidence necessary to establish new standards of care for T1D that are now universally accepted. The overarching lessons from the DCCT/EDIC can be summarized as follows.

1. Hyperglycemia is the primary modifiable mediator of the long-term complications of T1D.
2. Intensive diabetes therapy (INT) with the goal of achieving glucose control as close to normal as safely possible will reduce both the development and progression of diabetic retinopathy, nephropathy, and neuropathy.
3. INT reduces cardiovascular disease in T1D.
4. The benefits of INT versus conventional therapy persist even after the differences in glycemia achieved have disappeared, so-called metabolic memory.
5. To be most effective, INT should be initiated early in the course of T1D.
6. Given the current methods of implementing INT, weight gain and an increased risk of severe hypoglycemia are undesirable outcomes.

The six articles presented herein succinctly highlight many of the major findings of 30 years of study, addressing the pathophysiology and prevention of complications in T1D. The participation of the 1,441 volunteers in the U.S. and Canada, with approximately 95% of the surviving cohort continuing to be followed in EDIC, is a testament to their extraordinary dedication. Their enduring contribution to the management of T1D provides a shining example of clinically relevant translational research.

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See accompanying articles, pp. 5, 9, 17, 24, 31, 39, and 44.