

Cardiovascular Disease Is 'Next Frontier' in Type 1

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KEYSTONE, COLO. — The next frontier in the long-term management of type 1 diabetes is the unacceptable rate of associated cardiovascular disease, according to Dr. Marian Rewers, professor of pediatrics and preventive medicine at the University of Colorado, Denver, and clinical director of the Barbara Davis Center for Childhood Diabetes.

"We are doing a decent job in terms of preventing retinopathy and nephropathy, but a dismal job in terms of preventing cardiovascular disease. This is the next frontier," Dr. Rewers predicted at a conference on the management of diabetes in youth cosponsored by the university, the Barbara Davis Center, and the Children's Diabetes Foundation at Denver.

Cardiovascular mortality in the U.S. general population has fallen dramati-



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DR. REWERS

ly in recent decades. For example, a large American Cancer Society study reported a 52% reduction in deaths due to heart disease between 1970 and 2002, along with a 63% drop in stroke deaths (JAMA 2005;294:1255-9). But patients with type 1 diabetes haven't shared in these benefits.

Indeed, data from the Pittsburgh Epidemiology of Diabetes Complications Study make it clear that cardiovascular event rates in individuals with type 1 diabetes haven't changed over the past 30 years, a period that brought impressive reductions in overall mortality, neuropathy, and renal failure in this population (Diabetes 2006;55:1463-9).

Dr. Rewers observed that part of the explanation for the divergent trends in cardiovascular events in people with type 1 diabetes, as compared with the general public, involves the fact that fewer diabetic patients are dying because of diabetic ketoacidosis or nephropathy. These individuals are living longer than in earlier times, so eventually they grow more likely to develop coronary heart disease or stroke.

But that's not the full explanation. Physicians have generally been far more focused on preventing the microvascular rather than the macrovascular complications of diabetes, he continued. The Pittsburgh study showed a disturbing lack of improvement in blood pressure and lipid profiles in type 1 diabetic patients over the past 3 decades, despite a significant reduction in glycosylated hemoglobin values. Physician performance in terms of controlling cardiovascular risk factors in type 1 diabetic patients has traditionally been poor—and that needs to change, Dr. Rewers stressed.

In this regard, he confessed to being "really disappointed" by the recent American Academy of Pediatrics policy statement on

lipid screening and cardiovascular health in childhood, whose lead author is Dr. Stephen R. Daniels, the chair of the department of pediatrics at the University of Colorado, Denver (Pediatrics 2008;122:198-208).

In particular, Dr. Rewers took issue with what he sees as a too conservative recommendation that pharmacologic lipid-lowering therapy be considered in type 1 diabetic children only if they have an LDL cholesterol level of 130 mg/dL or more.

"It goes against the grain of experience

with adults with diabetes, both type 2 and type 1. I think now we have to work hard to provide scientific evidence that it's safe to strive for lower LDL levels in children and adolescents," Dr. Rewers said.

In addition to better control of dyslipidemia and the other traditional cardiovascular risk factors, another important intervention in type 1 diabetes patients is daily moderate exercise to fight obesity, the diabetologist continued.

And as the Diabetes Control and Com-

plications Trial follow-up study has shown, tight metabolic control eventually pays off in terms of lower cardiovascular event rates, although it often takes 15-20 years to see the positive results. At a mean 17-year follow-up, the DCCT showed intensive diabetes management aimed at tight metabolic control was associated with a 57% reduction in the risk of the combined end point of cardiovascular death, nonfatal MI, or stroke (N. Engl. J. Med. 2005;353:2643-53). ■

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