Long-Term Outlook Brighter for Type 1 Patients

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ROME — The long-term outlook for patients with type 1 diabetes today is improving substantially and is projected to improve further now that intensive therapy is used more widely.

That conclusion is based on an analysis of epidemiologic data from two major studies involving three patient cohorts with different durations of intensive therapy. Results were presented by Dr. Trevor J. Orchard at the annual meeting of the European Association for the Study of Diabetes.

"Recent reports from Europe and North America show declines in incidences of complications, particularly in renal disease, in type 1 diabetes mellitus. However, the full potential of improved care through intensive therapy and decreasing hemoglobin A_{1c} levels has not been well recognized, particularly by insurers," said Dr. Orchard, who is professor of epidemiology at the University of Pittsburgh.

Follow-up data were examined for both the intensive and conventional therapy groups from the Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications (DCCT/EDIC) and for participants in the community-based Pittsburgh Epidemiology of Diabetes Complications (EDC) study.

The DCCT, conducted between 1984 and 1993, was the landmark study that demonstrated that intensive glucose control (achieved via three or more daily insulin injections or an insulin pump) significantly delays the onset and slows the progression of retinopathy, nephropathy, and neuropathy, compared with conventional (two injections/day) therapy (N. Engl. J. Med. 1993;329:977-86).

The 1,441 patients randomized in DCCT are now being followed in EDIC, which began in 1994. The 730 patients who had been randomized to conventional treatment in DCCT were offered intensive therapy upon transitioning to EDIC. Mean follow-up duration is now 19 years. The EDC (Pittsburgh) cohort comprised 658 patients with childhood-onset type 1 diabetes who were first examined between 1986 and 1988, when their mean age was 28 years and mean diabetes duration was 19 years. The study is now in its 20th year of follow-up, Dr. Orchard said.

The proportion of each group's entire diabetes duration spent on intensive therapy is now 74% for the 620 patients from the DCCT/EDIC intensive therapy cohort included in the current analysis, 42% for the 606 from the conventional DCCT/EDIC cohort, and 26% for the 161 from the EDC population. The DCCT/EDIC conventional treatment group and the EDC group reflect current clinical care outcomes, while the outcomes for the DCCT/EDIC intensive treatment group represent what can be expected of diabetes care going forward, he explained.

Based on data obtained at clinical follow-ups done between 2004 and 2007, the estimated 30-year cumulative incidence of proliferative retinopathy is 21.1% for the DCCT/EDIC intensive group—less than half that of the DCCT/EDIC conventional patients (49.7%) and the EDC group (47%). For nephropathy (defined as having albuminuria greater than 300 mg/24 hour or being on dialysis), projected 30-year cumulative incidence for the intensive group is just 8.6%, compared with 25.1% and 17% for the conventional and EDC groups, respectively. Cardiovascular disease 30-year estimates are 8.5% for the intensive DCCT/EDIC patients vs. 14% for both of the other cohorts.

"The clinical course of type 1 diabetes and development of complications are improving substantially. The improvements seen in the recent cohorts may underestimate the improvements currently achievable as cohorts accumulate a greater proportion of their duration on intensive therapy," Dr. Orchard noted. ■

Diabetes Medicine Guide in Spanish

A new guide, "Pastillas para la diabetes tipo 2: guía para adultos," offers information in Spanish on 10 generic and 13 brand-name oral diabetes medications for patients. The data are based on a recent report from the Agency for Healthcare Research and Quality. The information can be downloaded at effectivehealthcare.ahrq.gov. Guides also can be ordered free of charge by e-mailing ahrqpubs@ahrq.hhs.gov. ■