Insulin Restriction May Decrease Life Span

BY BRUCE K. DIXON
Chicago Bureau

Women with type 1 diabetes who take less insulin than prescribed may be raising their risk of complications and shortening their life spans, researchers reported.

Because of various psychosocial variables, more than half of adult patients do not achieve the American Diabetes Association's glycemic targets, explained Ann E. Goebel-Fabbri, Ph.D., of the Joslin Diabetes Center and Harvard Medical School, both in Boston, and her associates. Chief among the implicated variables are general psychological distress, diabetes-specific distress, fear of hypoglycemia, concern about weight gain, and related eating-disorder behaviors.

In this 11-year study, the largest to examine the long-term effect of insulin restriction on the morbidity and mortality of women with type 1 diabetes, insulin restriction at baseline conveyed more than a threefold increase in the relative risk of death, said the authors (Diabetes Care 2008;31:1-5).

At baseline, the cohort included 234 women aged 13-60 years who had had a diagnosis of type 1 diabetes for at least 1 year, and who agreed to be followed up. Of those, 26 women died during the study period.

Mean age at follow-up was 45 years, with a range of 24-72 years.

Women reporting insulin restriction showed distinct clinical differences from those reporting appropriate insulin use.

At baseline, insulin restricters were significantly younger (aged 32 vs. 36 years) and had higher hemoglobin A_{1c} values (9.6% vs. 8.3%). However, there were no differences between the two groups with regard to baseline body mass index (BMI) or diabetes duration, the authors said.

Predictably, insulin restricters reported significantly lower scores on the baseline measure of diabetes self-care behaviors, and they scored higher on baseline measures of diabetes distress; fear of hypoglycemia; general psychological symptoms; eating disorder symptoms, such as bulimia; and the Eating Disorders Inventory, the researchers explained.

In addition, women who said at baseline that they restricted insulin were significantly more likely to report nephropathy and foot problems at follow-up, the researchers said, adding that self-reported rates of retinopathy, neuropathy, and cardiovascular complications at follow-up did not differ between groups.

Causes of death for 10 of 71 women reporting insulin restriction included perforated bowel with gastroparesis (1), cancer (1), cardiac events (3), hypoglycemia (1), renal failure (2), sepsis (1), and suicide in the context of retinopathy-related blindness (1).

Causes of death for 16 of 163 women reporting appropriate insulin use included cancer (1), cardiac events (11), diabetic ketoacidosis (1), sepsis (2), and unknown causes (1), Dr. Goebel-Fabbri noted in an interview.

Comparisons of both groups of deceased women found that those who had restricted insulin died at a significantly younger age, and had higher baseline hemoglobin A_{1c} values, poorer diabetes self-care behaviors, increased levels of diabetes-specific distress, and higher scores on measures of bulimia and other eating disorder symptoms, the scientists reported.

Compared with their living counterparts, deceased insulin restricters at baseline had higher BMI and hemoglobin A_{1c} values and reported more symptoms of bulimia and higher levels of diabetes-specific distress.