Allan S. Brett, MD reviewing Navaneethan SD et al. Am J Kidney Dis 2017 Aug.

Highest and lowest glycosylated hemoglobin levels were associated with excess mortality; progression to end-stage renal disease was not associated with glycemic control.

In diabetic patients with chronic kidney disease (CKD), the relation between glycemic control and mortality or progression to end-stage renal disease (ESRD) is uncertain. To examine this issue, researchers performed a cohort study of 6165 older diabetic adults (mean age, 70) who were enrolled in a CKD registry at Cleveland Clinic. All patients were using insulin or oral diabetes drugs, and nearly all had estimated glomerular filtration rates of <60 mL/minute/1.73 m2. Patients with ESRD at baseline were excluded.

During median follow-up of 2.3 years, 3% of patients progressed to ESRD, and 16% of patients died. Analyses adjusted for numerous demographic and clinical variables showed a U-shaped relation between baseline glycosylated hemoglobin (HbA1c) level and mortality: With HbA1c of 6% to 6.9% as the reference standard, patients with HbA1c levels <6% and those with levels ≥9% had significantly higher mortality; in contrast, mortality was not higher in those with levels between 7% and 8.9%. Baseline HbA1c was not associated with risk for progression to ESRD.

COMMENT

American Diabetes Association (ADA) guidelines acknowledge that a “one-size-fits-all” goal for glycemic control is inappropriate for older patients with comorbidities (Diabetes Care 2015; 38:140). For patients with CKD, this observational study supports the ADA's general position: Mortality was similar across an HbA1c range of 6% to 9%, mortality was higher above and below that range, and progression to ESRD was not associated with glycemic control. These results don't tell us the extent to which early mortality was mediated by hypoglycemia, but we know that older patients with kidney disease who take insulin and sulfonylureas are at especially high risk for serious hypoglycemia (N EJM JW Gen Med Oct 1 2017 and *JAMA Intern Med* 2017 Aug 21; [e-pub]).

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