

CGM Use Lowers Hospitalizations, May Reduce Mortality in Type 1 and Type 2 Diabetes

The use of continuous glucose monitoring was associated with a lower risk for all-cause hospitalization and mortality in adults with type 1 and [type 2 diabetes](#) attending Veterans Affairs clinics in the U.S., according to a speaker.

During a presentation at the World Congress on Insulin Resistance, Diabetes & Cardiovascular Disease, Peter Reaven, MD, professor in the division of endocrinology at the University of Arizona College of Medicine and endocrinologist at the Carl T. Hayden VA Medical Center in Phoenix, discussed how CGM can confer benefits for people with diabetes beyond lowering HbA1c, such as a reduced risk for hypoglycemia, hyperglycemia, and hospitalizations.

Using a continuous glucose monitor was associated with a lower risk of hospitalizations in adults with type 1 and type 2 diabetes.

“There may be many different benefits that CGM may offer, not just glucose control, but it may have meaningful effects on complications,” Reaven said during a presentation. “All of this data suggests that we may need to look at these types of outcomes in a much more serious fashion, because there may be some additional benefits that we didn’t appreciate. If true, then maybe CGM use may become more like the SGLT2 inhibitors, and we’ll start using them in a much more comprehensive way.”

Peter Reaven and colleagues collected data from across the U.S. using VA electronic health records. Adults with either type 1 or type 2 diabetes who used insulin, had at least one outpatient primary care, endocrinology, or diabetes clinic visit in the year before data collection, had at least 2 years of VA data available, and had some follow-up data recorded. Adults were defined as new CGM users if they had at least one glucose sensor prescription with the first fill date from 2015 to 2020. Non-CGM users were adults who used only glucose strips. Researchers compared the change in HbA1c, hospitalizations related to hypoglycemia and hyperglycemia, all-cause hospitalization, and other outcomes between CGM users and non-CGM users at 12 months. Differences in HbA1c between CGM and non-CGM users were adjusted using propensity score overlap weighting.

CGM use linked to lower hospitalization risk

The cohort included 5,015 adults with type 1 diabetes using CGM, 3,518 people with type 1 diabetes not using CGM, 15,706 adults with type 2 diabetes using CGM, and 29,912 individuals with type 2 diabetes not using CGM.

At 12 months, CGM users with type 1 diabetes had a greater decline in HbA1c compared with non-CGM users (mean difference, -0.26 ; 95% CI, -0.31 to -0.21 ; $P < .001$). Similarly, CGM users with type 2 diabetes had a [greater HbA1c reduction](#) at 12

months than non-CGM users (mean difference, -0.39 ; 95% CI, -0.42 to -0.36 ; $P < .001$).

“What we found in general for glycemic control was that there were greater reductions in younger individuals, those with higher HbA1c at baseline, and those who used their CGM more consistently over 12 months of follow-up in type 1 diabetes patients,” Reaven said. “Same pattern with type 2 diabetes, with even greater effects in younger individuals, those with higher HbA1c at baseline or those who use their CGM more consistently.”

Adults with type 1 diabetes using CGM had a lower risk for hypoglycemia events or having a glucose level of less than 54 mg/dL (HR = 0.72; 95% CI, 0.57-0.91; $P = .01$) and all-cause hospitalization (HR = 0.75; 95% CI, 0.63-0.9; $P = .002$) than non-users, but there was no difference in hyperglycemia risk. Adults with type 2 diabetes using CGM had a lower risk for hyperglycemia events (HR = 0.87; 95% CI, 0.77-0.99; $P = .04$) and all-cause hospitalization (HR = 0.89; 95% CI, 0.82-0.97; $P = .004$) than non-users with type 2 diabetes, but hypoglycemia events did not differ between the two groups.

CGM use may lower the risk of mortality

Researchers also calculated the mortality risk between CGM users and nonusers at 18 months. For the data, adults with high mortality risk were excluded. After adjusting for propensity score overlap weighting, adults with type 1 diabetes using CGM had a lower risk for mortality at 18 months than non-CGM users (adjusted HR = 0.38; 95% CI, 0.28-0.51; $P < .001$). Similarly, CGM users with type 2 diabetes had a reduced mortality risk compared with non-users after propensity score overlap weighting was applied (aHR = 0.79; 95% CI, 0.7-0.88; $P < .001$), even though there was no difference between the groups in raw mortality rates.

“Our type 2 diabetes patients who received CGM were unhealthier [than non-CGM users],” Reaven said. “When you balance them and look at the preliminary mortality data, you see pretty dramatic reductions.”

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