



CGM IN OLDER ADULTS WITH T1D AND T2D USING MDI; RESULTS FROM THE DIAMOND TRIAL

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Introduction

Use of stand alone CGM in elderly individuals with diabetes and multiple daily injections has not been well-studied in randomized controlled trials. The potential to decrease HbA1c and reduce rates of severe hypoglycemia in this population has both significant clinical and financial implications.

Materials and Methods

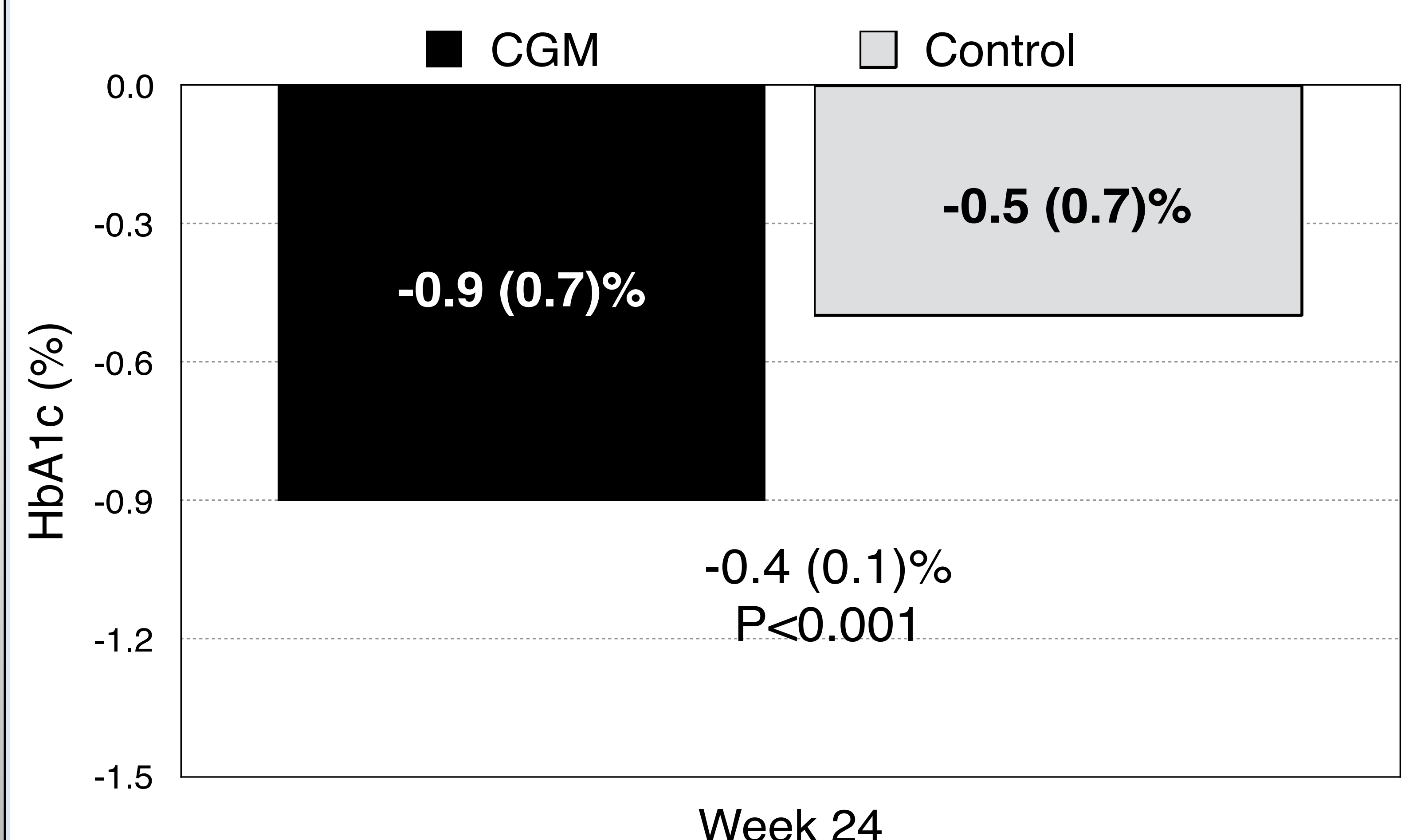
The Diamond Study was a multicenter, randomized trial conducted in the US and Canada

- 116 individuals with T1D (N=34) or T2D (N=82) ≥60 yrs using MDI therapy for at least 1 yr with a central lab HbA1c between 7.5 and 10% (58 to 86 mmol/mol) were enrolled
 - Mean age was 67 ± 5 yrs, median (IQR) diabetes duration was 21 (14,30) yrs and HbA1c was $8.5 \pm 0.6\%$ (69 ± 6.6 mmol/mol)
- Following a 2-wk blinded run-in period participants were randomly assigned (2:1 for T1, 1:1 for T2) to:
 - CGM (Dexcom™ G4 Platinum CGM System® with software 505, N=63) used adjunctively; minimal training on the device and use of the data for management was provided
 - OR Continued management with SMBG (N=53).
- Primary outcome - central-lab HbA1c at 24 wks, was obtained for 114 (98%) participants

Results

- HbA1c reduction from baseline to 24 weeks
 - CGM group: $-0.9 \pm 0.7\%$ (-9.8 ± 7.7 mmol/mol)
 - Control group: $-0.5 \pm 0.7\%$ (-5.5 ± 7.7 mmol/mol)
- CGM-measured time above 250 mg/dL (13.88 mmol/L) and glycemic variability were both lower in the CGM group (P=0.006 and P=0.02, respectively)
- Among the 61 in the CGM group completing the trial, 97% used CGM ≥6 days/week in month 6.

Figure 1. Change in HbA1c at 24 weeks



Conclusions

In adults ≥60 years of age with T1D and T2D using MDI, CGM use was high and associated with improved HbA1c and reduced glycemic variability. Therefore, CGM should be considered for older adults with diabetes using MDI.