

Glycemic Outcomes with Early Initiation of Continuous Glucose Monitoring System in Recently Diagnosed Patients with Type 1 Diabetes.

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Background: Authors investigated the efficacy and safety of continuous glucose monitoring (CGM) initiation within 1 year of type 1 diabetes (T1D) diagnosis among children, adolescents, and adults.

Methods: Differences in mean A1c (primary outcome) and diabetes-related emergency visits (secondary outcome) for 2.5 years between early CGM users and non-CGM users were studied among 396 newly diagnosed patients with T1D (94% children [age <18 years], 5% adults, 46% females) between January 2013 and December 2015 at Barbara Davis Center for Diabetes. The primary outcome was adjusted by age at diagnosis and gender. $P < 0.05$ was considered significant.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



Does early CGM initiation improve glycemic outcomes in T1D?

Results:

Gender, ethnicity, body mass index, and A1c at diagnosis were similar between the groups. Irrespective of insulin delivery methods, CGM users had a significantly greater improvement in glycemic control than non-CGM users at 1, 1.5, 2, and 2.5 years. For 2.5 years of follow-up, the multiple daily injection (MDI)+CGM group ($n = 19$) had $1.5\% \pm 0.2\%$ lower A1c than the MDI only group ($n = 225$) ($7.7\% \pm 0.2\%$ vs. $9.2\% \pm 0.04\%$, $P < 0.0001$), and the insulin pump (continuous subcutaneous insulin infusion [CSII])+CGM group ($n = 62$) had $0.7\% \pm 0.1\%$ lower A1c than the CSII only group ($n = 90$) ($8.0\% \pm 0.08\%$ vs. $8.7\% \pm 0.07\%$, $P < 0.0001$). The MDI+CGM group had significantly lower A1c than the CSII only group ($7.7\% \pm 0.2\%$ vs. $8.7\% \pm 0.07\%$, $P < 0.0001$). The number of diabetes-related (severe hypoglycemia or hyperglycemia) emergency department visits was significantly lower among early CGM users compared with non-CGM users ($P = 0.003$).

Conclusion: Irrespective of insulin delivery system, early initiation of CGM within 1 year from T1D diagnosis was associated with better glucose control and fewer diabetes-related emergency visits.

Key message: Early introduction of CGM for glucose monitoring can help achieve better glycemic control and reduce the diabetes related emergencies.

EXPERT COMMENT

"This study reiterates the fact that blood sugar monitoring is far more important than the method of insulin delivery. Importantly, addition of CGM to multiple daily insulin injections achieved better control than insulin pump alone. Currently insulin pumps are away from the reach of a common man. CGM on the other hand, even if used intermittently, can yield better control and lesser acute complications."

DR TUSHAR GODBOLE

DNB (Pediatrics), DCH, PDC Fellowship in Pediatric Endocrinology
Pediatric and Adolescent Endocrinologist,
Associate Prof, Dr V.P. Medical College, Nashik
Director, Harmony Health Specialty Clinics, Nashik

With warm regards,

DR MANINDER S
DHALIWAL

DR. PIYUSH GUPTA
IAP NATIONAL
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2022

DR BAKUL JAYANT
PAREKH
IAP PRESIDENT
2020

DR G.V.
BASAVARAJA
HON. SECRETARY
GEN. 2021 - 22

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pedpearls@gmail.com

Reference

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