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Time to Reach Target Glycosylated Hemoglobin Is Associated with Long-Term Durable Glycemic Control and Risk of Diabetic Complications in Patients with Newly Diagnosed Type 2 Diabetes Mellitus: A 6-Year Observational Study (*Diabetes Metab J* 2021;45:368-78)

Ja Young Jeon

Department of Endocrinology and Metabolism, Ajou University Hospital, Suwon, Korea

The treatment goal for patients with diabetes is to lower plasma glucose to ultimately reduce acute and chronic diabetic complications. To achieve this, clinicians set optimal glycemic targets for patients and try to maintain blood glucose levels within optimal range. Several factors such as β-cell function, glucose-lowering drugs, and early insulin treatment contribute to long-term glycemic control in patients with diabetes [1,2]. In the article entitled "Time to reach target glycosylated hemoglobin is associated with long-term durable glycemic control and risk of diabetic complications in patients with newly diagnosed type 2 diabetes mellitus: a 6-year observational study," Kim et al. [3] demonstrated that early achievement of target glycosylated hemoglobin (HbA1c) level immediately after diabetes diagnosis leads to long-term glycemic control, which reduces development of diabetic complications. This study emphasizes the importance of blood glucose control in the early stages of diabetes. This is in line with the results of recent studies, in which early treatment intensification with initial combination therapy led to long-term glycemic durability [2,4].

From Korea National Health and Nutrition Examination Survey data, the prevalence of diabetic retinopathy and neuropathy in Korean patients with diabetes was 15.9% (in 2015) and 20.8% (in 2015), respectively [5,6]. In the Korean National

Diabetes Program Cohort study, microvascular complications occurred in 16.7% of patients with a mean diabetes duration of 6 years [7]. In this study, the prevalence of diabetic microvascular complications was 34% (66 events among 194 patients) in patients with a mean diabetes duration of 6 years. Various factors such as study population, year of data collection, and definition of complications can affect the prevalence of diabetic microvascular complications. It was not clear whether outcomes were evaluated 6 months after study enrollment, excluding diabetic complications at initial baseline examination. This is a prerequisite for investigating whether early target HbA1c achievement (within 6 months) influences the development of future diabetic complications.

In this study, target glycemic control level was set at HbA1c <7.0%. This level has been recommended as the optimal target [8] and was derived from the results of a previous retrospective cohort study [9]. It would be useful if the authors also presented the results of applying HbA1c 6.5%, which is the optimal HbA1c target recommended by the Korea Diabetes Association for type 2 diabetes mellitus [10].

As mentioned by authors, the development of macrovascular events was lower in the early achievement groups compared with in the late achievement group, but no statistically signifi-

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Corresponding author: Ja Young Jeon ⓘ https://orcid.org/0000-0002-3877-0479
Department of Endocrinology and Metabolism, Ajou University School of Medicine,
164 World cup-ro, Yeongtong-gu, Suwon 16499, Korea
E-mail: twinstwins@hanmail.net

cant results were obtained due to the low number of events. Therefore, if this study population can be retained and followed long-term, meaningful results on the close relationship between prevention of macrovascular events and early glycemic target achievement are likely to be obtained. From this perspective, it would be better to add cardiovascular death to the outcomes when long-term macrovascular complications are analyzed.

Lastly, as the author pointed out, insulin secretory dysfunction, which is manifested by low baseline C-peptide, is likely to correlate with the development of diabetic complications as well as late glycemic target achievement. Author needs to confirm whether baseline C-peptide level was included as an adjusting factor in the Cox proportional hazards model in Table 2 (C-peptide level is not indicated as the adjusting factor in the footnote).

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Li Y, Xu W, Liao Z, Yao B, Chen X, Huang Z, et al. Induction of long-term glycemic control in newly diagnosed type 2 diabetic patients is associated with improvement of beta-cell function. Diabetes Care 2004;27:2597-602.
2. Phung OJ, Sobieraj DM, Engel SS, Rajpathak SN. Early combination therapy for the treatment of type 2 diabetes mellitus: systematic review and meta-analysis. Diabetes Obes Metab 2014;16:410-7.
3. Kim KJ, Choi J, Bae JH, Kim KJ, Yoo HJ, Seo JA, et al. Time to reach target glycosylated hemoglobin is associated with long-term durable glycemic control and risk of diabetic complications in patients with newly diagnosed type 2 diabetes mellitus: a 6-year observational study. Diabetes Metab J 2021;45:368-78.
4. Matthews DR, Paldanius PM, Proot P, Chiang Y, Stumvoll M, Del Prato S, et al. Glycaemic durability of an early combination therapy with vildagliptin and metformin versus sequential metformin monotherapy in newly diagnosed type 2 diabetes (VERIFY): a 5-year, multicentre, randomised, double-blind trial. Lancet 2019;394:1519-29.
5. Chung YR, Ha KH, Lee K, Kim DJ. Diabetic retinopathy and related clinical practice for people with diabetes in Korea: a 10-year trend analysis. Diabetes Metab J 2020;44:928-32.
6. Moon SS, Kim CH, Kang SM, Kim ES, Oh TJ, Yun JS, et al. Status of diabetic neuropathy in Korea: a National Health Insurance Service-National Sample Cohort Analysis (2006 to 2015). Diabetes Metab J 2021;45:115-9.
7. Rhee SY, Chon S, Kwon MK, Park IeB, Ahn KJ, Kim IJ, et al. Prevalence of chronic complications in Korean patients with type 2 diabetes mellitus based on the Korean National Diabetes Program. Diabetes Metab J 2011;35:504-12.
8. American Diabetes Association. 6. Glycemic targets: standards of medical care in diabetes-2021. Diabetes Care 2021;44(Suppl 1):S73-84.
9. Kim KJ, Choi JH, Kim KJ, An JH, Kim HY, Kim SG, et al. Determinants of long-term durable glycemic control in new-onset type 2 diabetes mellitus. Diabetes Metab J 2017;41:284-95.
10. Kim MK, Ko SH, Kim BY, Kang ES, Noh J, Kim SK, et al. 2019 Clinical practice guidelines for type 2 diabetes mellitus in Korea. Diabetes Metab J 2019;43:398-406.