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A1c Variability Can Predict Coronary Artery Disease in Patients with Type 2 Diabetes with Mean A1c Level Greater than 7
(*Endocrinol Metab* 2013;28:125-32, Eun Ju Lee et al.)

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The authors would like to thank the reviewers for their kind comments concerning our manuscript.

We sought to determine the effect of long-term A1c variability on the prediction of coronary artery disease (CAD) in type 2 diabetes mellitus (T2DM) in this study. We concluded that A1c variability determined by standard deviation (SD) of serial A1c can be an independent predictor for angiography-proven CAD in T2DM with mean A1c levels over 7%.

We agree with the reviewer's comments. Renal function or urine albumin excretion of the subjects can be independent factors of cardiovascular disease (CVD) outcome [1]. Recently, there have been studies about the relationship between A1c variability and microvascular complications, including microalbuminuria, in patients with T2DM [2,3]. We also have investigated the relationships between A1c variability and diabetic nephropathy using the data of other subjects. This study, however, was a retrospective observational study and there were many limitations, despite our efforts to minimize them. We included subjects who were admitted to the cardiology department due to chest pain. Thus, we did not have enough data including microalbuminuria. We feel that additional analysis including microalbuminuria is needed.

As mentioned in the letter, another study has been released with contrary results suggesting that A1c variability does not have a major impact on macrovascular complications in patients with T2DM [4]. In that study, risk factors of the subjects, including renal function or urine albumin excretion, were included in multiple regression analysis, but prevalent CVD at baseline included acute myocardial infarction (AMI), stroke, foot ulcer or gangrene, amputation, coronary, carotid, lower limb revascularization, and surgery for aortic aneurysm. Intra-individual standard deviation of HbA1c (HbA1c-SD) and adj-HbA1c-SD (HbA1c-SD adjusted by number of HbA1c assessment) were not higher in patients with a history of any CVD, but HbA1c-SD and adj-HbA1c-SD were significantly higher in subjects with AMI. Our study included only subjects with CAD according to coronary angiography. To investigate whether A1c SD was an independent predictor of CAD, we analyzed the incidence of CAD according to tertiles of A1c SD. In contrast, Penno et al. [4] used the CAD as dependent variable. We surmise that our results differed from those of Penno et al. [4] because of these factors.

We feel that a prospective study is needed to further investigate the relationship between of A1c variability and diabetic

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nephropathy.

Thank you again for your interest and comprehensive review of our paper.

CONFLICTS OF INTEREST

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

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