

Efficacy of Moderate Intensity Statins in the Treatment of Dyslipidemia in Korean Patients with Type 2 Diabetes Mellitus (*Diabetes Metab J* 2017;41:23-30)

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According to the recently released Diabetes Fact Sheet in Korea 2016, the control rate of dyslipidemia in people with diabetes is still under 50%. Whether it is the result of neglected diagnosis or treatment of dyslipidemia, miss-selection of adequate statin dose by doctors, or whether it is a consequence of patients' poor adherence to statin therapy is still unknown. However, on the basis that reducing low density lipoprotein cholesterol (LDL-C) levels in an aggressive manner is beneficial in the primary prevention of cardiovascular disease (CVD), a recent guideline released by American College of Cardiology/American Heart Association in 2013 recommends that people with diabetes aged between 40 and 75 should be prescribed with at least moderate intensity statin, and that those with estimated 10-year atherosclerotic CVD risk $\geq 7.5\%$ should be considered for high intensity statins [1]. Given the high comorbidities accompanying diabetes, it is highly likely that the majority will require high intensity statins according to this guideline.

In the recent few years, however, disputes on whether this guideline can be applied to Koreans as its current form have risen in light of previous reports demonstrating the greater efficacy of low to moderate intensity statins in Koreans compared with Caucasians. In one of these studies, even 2 months of administration of low intensity statins such as 20 mg of lovastatin and 20 mg of pravastatin was sufficient to induce more than 30% reduction of LDL-C from baseline in 60% of patients; thus, was as potent as "moderate intensity" statins [2].

Furthermore, high intensity statins failed to show superiority over moderate/low intensity statins in terms of preventing major adverse cardiac events in Korean patients that previously experienced myocardial infarction [3]. These studies, however, encompassed patients without diabetes. On the other hands, an article entitled "Efficacy of moderate intensity statins in the treatment of dyslipidemia in Korean patients with type 2 diabetes mellitus" released in this issue imposes the importance of considering ethnic differences in the treatment of dyslipidemia in patients with diabetes [4].

The authors showed that 6 months of treatment with moderate intensity statins elicited an average of 47.4% LDL-C reduction from baselines in their retrospective cohort. As their baseline LDL-C was only 135 mg/dL, 92% of patients achieved LDL-C levels below 100 mg/dL. Notably, 5 mg of rosuvastatin was capable of inducing 51.6% reduction of LDL-C, which is nearly as effective as high intensity statin in Caucasians. As statin-induced diabetes and myopathy are of major issues, safety issues were examined; the result showed that moderate intensity statins do not impact glycemic profiles, and musculoskeletal symptoms were absent in these patients. It would have been much more valuable if the authors compared the efficacies among low, moderate, and high intensity statins in this diabetes cohort. Nevertheless, it is still of great clinical significance because it provides a rationale that early, modest statin treatment can normalize LDL-C in over 90% of patients with

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diabetes. A very recent Korean report showed that 70.3%, 83.0%, and 87.2% of patients with diabetes in the low, moderate, and high intensity therapy groups, respectively, achieved LDL-C below 100 mg/dL at least during the 18-month follow-up period [5]. This clearly shows that efficacy of statins differ among the statin groups that are distinguished based on their intensities, but at the same time, it suggests that moderate intensity statins might be sufficient to achieve target LDL-C goal, at least in Korean patients with diabetes, given that the difference of target-achieved percentage between moderate intensity and high intensity groups is only 4.2% (83.0% vs. 87.2%). Taken together with the findings raised by Kong et al. [4], it is suggested that moderate intensity statins could be a mainstay option for the treatment of dyslipidemia in Korean patients with diabetes.

In support of these findings, the very recently updated US Preventive Services Task Force guideline recommends low- to moderate-dose statins to adults aged 40 to 75 years without a history of CVD who have 1 or more CVD risk factors and a calculated 10-year CVD event risk of 10% [6], although American Diabetes Association reinforced 2017 practice guidelines by recommending both moderate and high intensity statins depending on age and comorbidities [7]. Considering that statin adherence of patients is inversely correlated with the intensity of statins [8] and the “high intensity-like” effect of namely moderate intensity statins among Koreans, it is about time to resettle the evidence-based Korean dyslipidemia treatment guidelines for patients with diabetes.

CONFLICTS OF INTEREST

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

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