



We can do much better than what we did

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In the current issue of the *Korean Journal of Internal Medicine*, Choi et al. [1] present a number of notable findings. In an analysis of > 80,000 Korean subjects newly diagnosed with atherosclerotic cardiovascular disease (ASCVD), about 60% received lipid-lowering therapy (LLT) during the follow-up period. While statins were prescribed for 80% of patients with coronary artery disease (CAD), 50% and 47% of those with cerebrovascular disease and peripheral artery disease took statins, respectively. Statin-based LLT was most frequently given at a moderate intensity. Factors such as age of both extremes, female sex, and comorbidities were associated with less use of LLT [1].

The study by Choi et al. [1] provides valuable data regarding LLT in real-world practice in Korea. In particular, they reveal that a considerable number of patients (even those with ASCVD) did not receive LLT after the diagnosis of this high-risk condition. However, because the study analyzed patient data collected between 2011 and 2012, it is difficult to say that it accurately reflects contemporary use of LLT. It is possible that a greater number of physicians are now prescribing statins, including high-dose statins, for high-risk patients according to updated international guidelines [2,3]. Thus,

if the authors had included patients after the mid-2010s, the rate of statin use might have been higher. A few studies have described the rates of LLT or its results in Koreans with ASCVD or high cardiovascular risk [4-6]. One study of patients with acute myocardial infarction from 2005 to 2011 showed a 77% to 83% statin prescription rate at discharge from the hospital [5]. Meanwhile, a study analyzing Koreans with CAD from 2013 to 2014 showed that 91% of patients with stable CAD were receiving statin therapy [6]. In this regard, we recognize that the rate of LLT in patients with ASCVD may differ by factors such as clinical presentation or the time point at which the patients were enrolled.

In fact, the LLT intensity or target low-density lipoprotein cholesterol (LDL-C) levels rather than decision to use LLT in patients with ASCVD is a matter of great interest in current practice. Additional issues include selecting candidates and the appropriate strength of LLT in populations without ASCVD. I will not discuss the second issue, as it is beyond the scope of the current editorial and is more controversial. The latest American and European guidelines for LLT specify LDL-C targets of < 70 or < 55 mg/dL for very high-risk groups (like the patients analyzed by Choi et al. [1]) [2,3]. These recommendations are largely based on “the greater the risk, the greater the benefit,” a cen-

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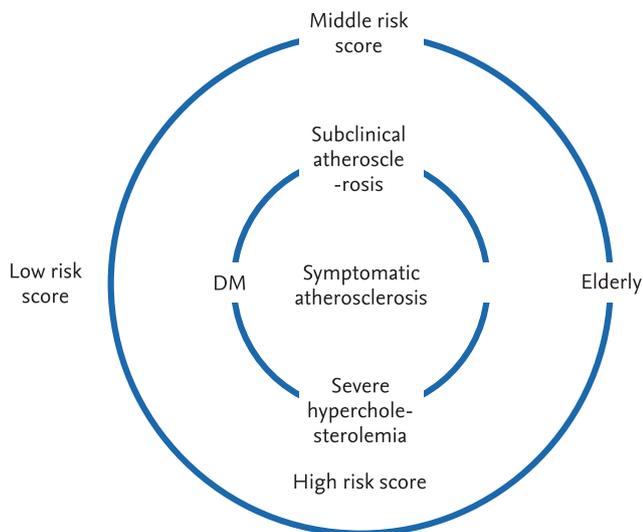


Figure 1. The need for stratified lipid-lowering therapy is based on the relationship between higher cardiovascular risk, aggressive lipid-lowering therapy, and greater absolute clinical benefit. In this figure, the more centrally located patient group has a higher degree of cardiovascular risk and can obtain a greater clinical benefit from lipid-lowering therapy. Adapted from Lee [7]. DM, diabetes mellitus.

tral principle of LLT (Fig. 1) [7]. In particular, since 2016, European guidelines have suggested lowering the LDL-C level to a specific target while achieving a $\geq 50\%$ reduction in LDL-C for very high-risk patients. The idea is to avoid insufficient LLT in patients with ASCVD and a low baseline LDL-C level. In these patients, lowering the LDL-C level to < 70 mg/dL (but without a $\geq 50\%$ reduction) using low- or moderate-intensity statins may deny them the potential outcome benefit that could be obtained if they were treated with high-intensity statins.

Choi et al. [1] also showed that the rates of LLT were lower in patients with cerebrovascular disease or peripheral artery disease than in those with CAD. However, for cerebrovascular disease, they did not differentiate hemorrhagic from ischemic disease. Had they analyzed ischemia-related cerebrovascular disease separately, we may have been provided with further insight into this issue.

Older patients received statins less frequently in this study [1]. It has long been argued whether statin therapy has equivalent value in older people. Older people with a high cardiovascular risk need active LLT, but they also have a greater risk of experiencing adverse

events. Sometimes, the outcome benefit of LLT can be unclear due to the shorter life expectancy of older patients. However, statins are beneficial for secondary prevention, even in older adults [8]. Furthermore, recent data from Koreans aged > 75 years indicate that older individuals can obtain a clinical benefit from LLT for primary prevention [9]. Therefore, it is important to use statins in older patients for secondary prevention.

As expected, most Korean physicians prescribe moderate-intensity statins. This has been demonstrated in multiple studies of Koreans, regardless of the presence of ASCVD [9,10]. The practice of LLT in Korea appears to be conforming to updated domestic and international guidelines. However, a few issues must be addressed. As proposed by Choi et al. [1], some physicians dislike high-dose statins and so may not prescribe them. This may prevent patients with ASCVD from receiving sufficient benefit from treatment; indeed, patients with ASCVD can receive a greater absolute benefit from LLT than any other group of patients. Common errors also include prescribing an inappropriate dose of statins or overusing combination therapy with statins and ezetimibe in lower risk groups.

It remains to be determined what the optimal statin dose is and what the optimal targets are (if they exist) for LDL-C in diverse cardiovascular risk groups in Korea. Although the work of Choi et al. [1] contributes to our knowledge of LLT in Korean patients, additional studies by active scholars are needed on this greatest possible preventive measures for cardiovascular disease.

Conflict of interest

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

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