

The Prevalence of Peripheral Arterial Disease in Korean Patients with Type 2 Diabetes Mellitus Attending a University Hospital (*Diabetes Metab J* 2011;35:543-50)

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We appreciate the interest and comments of Dr. Kim et al. on our study, "The prevalence of peripheral arterial disease in Korean patients with type 2 diabetes mellitus attending a university hospital," which was published in *Diabetes & Metabolism Journal* 2011;35:543-50.

Peripheral arterial disease (PAD) is a clinical manifestation of the atherosclerotic process, which is associated with cardiovascular disease (CVD) and increased CVD risk. Several cohort studies have shown that a low ankle-brachial index (ABI) is a risk factor of fatal and nonfatal coronary heart disease (CHD) and all-cause mortality among people with and without clinical CHD [1-3].

The prevalence of PAD is 2- to 4-fold higher in people with diabetes mellitus than in the general population [4], and this may be due to hyperglycemia, hypertension, hyperlipidemia and other factors that are associated with diabetes [5]. Previous prevalence estimates for PAD from the U.S. and European populations with diabetes have ranged from 10% to 42% [6-10]. In contrast, the prevalence of PAD in Asian populations has been reported to be lower than that in Western populations, ranging from 3.0% to 7.6% [11-13]. Dr. Kim et al. asked whether there is a real ethnic difference because the prevalence of PAD in Chinese patients with type 2 diabetes mellitus was reported to be 32.2% [14]. In their study, however, they recruited participants not only from the endocrinology division, but also from the cardiology division. Thus, there may have been a se-

lection bias; patients with symptomatic CVD could have been more participated in their study. To support this possibility, they reported 132 deaths among 1,647 participants during the 13-month follow-up, 47 of which were from CVD [14].

Dr. Kim et al. also pointed out that an ABI >1.4 is usually considered abnormal and asked why patients with high-ABI are rare in our study. High ABI is due to an increased rigidity of the arterial wall of the lower extremities, as can be often observed in diabetic patients with medial calcification [15]. A recent issue from the PARTNER program found positive associations between high-ABI (>1.4) and diabetes, male gender and waist circumference [16]. In our study, only 0.7% of diabetic patients had high-ABI. However, it is not clear why these high-ABI patients participated in our study in such a low prevalence.

As also noted by Dr. Kim et al., stiffness of the central arteries plays an important role in the pathophysiology of CVD, and pulse wave velocity (PWV) of the aorta has been used as the standard measure of central arterial stiffness. However, we could not measure aortic PWV, and this is one of the several limitations in our study.

The results of our study showed that the prevalence of PAD is quite low in Korean patients with type 2 diabetes in comparison with that in Western countries. Further prospective studies with larger sample sizes are needed to evaluate the prevalence and risk factors of PAD in Korean diabetic patients and

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to establish the differences among different populations.

CONFLICTS OF INTEREST

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

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