

## Re: Correlation Between Ankle-Brachial Index and Microalbuminuria in Type 2 Diabetes Mellitus

Dear Editor,

We read the article "Correlation Between Ankle-Brachial Index and Microalbuminuria in Type 2 Diabetes Mellitus" by Makhdoomi and

colleagues with interest.<sup>1</sup> They investigated the value of ankle-brachial index (ABI) for prediction of microalbuminuria in type 2 diabetic patients. They demonstrated significant relationship was found

between an ABI less than 0.9 and cardiovascular events; there was a strong correlation even after omitting the bias-inducing variants.

Peripheral arterial disease (PAD) is very common in male population aged greater than 50 years and affects approximately many millions people in the worldwide. The ABI is known to be unreliable in patients with vascular stiffness and fails to detect the early phase of arteriosclerotic development. ABI is a valuable diagnostic tool for PAD. PAD was considered present if the ABI was less than 0.9 or greater than 1.4 in at least 1 leg.<sup>2</sup> The early diagnosis of PAD and the initiation of conservative measures is related not only with a reduction in disease progression but also with numerous additional beneficial actions. For example, PAD is associated with the metabolic syndrome which requires treatment in its own right. Furthermore, some medications such as antihypertensive treatment, aspirin and statins may influence ABI parameters. A low ABI has been demonstrated as a marker of decreased renal function over time in a general population patients and the presence of concomitant renal dysfunction in PAD patients is associated with higher morbidity and mortality rates, as well as the occurrence of cardiovascular events.<sup>3</sup> It would be useful, if the authors provide data about these risk factors and their possible relationship with the ABI.

Finally, measurement of ABI manually by Doppler ultrasonography is a well-known method to diagnose PAD. Also, ABI is the easiest, low-cost, reliable, noninvasive and most widely available parameter among the tested tools and could help detect the presence of PAD. However, in a previous study,<sup>4</sup> measuring the photoplethysmography and continuous-wave Doppler ultrasonography in addition to ABI measurement in subjects with a probable PAD was suggested in suspected patients as the ABI has a sensitivity of 69.3% and a specificity of 99.6% and in this regard it may miss a real diagnosis of PAD. But in real life, a measurement of ABI and the practice of these

additional tools may consume more time and lead to higher costs. Additionally, because many factors can affect ABI measurement, all risk factors and confounders should be discussed in patients with microalbuminuria.<sup>5</sup> These may decrease the effectiveness of these methods in clinical practice.<sup>6</sup> Further studies will be needed to reveal the clinical relevance of these additional investigations. We believe that these findings will provide useful information about the measurements of ABI and PAD management.

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