To the Editor:

I read with interest the article of Vlachopoulos et al., which evaluated the usefulness of brachial-ankle elasticity index (also known as brachial-ankle pulse wave velocity [baPWV], which is the term more commonly used in Japan) for predicting future cardiovascular (CV) events by meta-analysis. I would like to describe here the applicability of baPWV as a clinical tool for CV risk assessment.

The concept that increased large arterial stiffness is one of the novel players in the initiation and/or progression of CV disease has been widely accepted. Carotid-femoral pulse wave velocity reflects this large arterial stiffness and, therefore, it has received much attention as an independent marker for predicting future CV events. On the other hand, baPWV reflects the stiffness in large- to middle-sized arteries and, therefore, baPWV has not yet fully been recognized as a marker for predicting future CV events. The study by Vlachopoulos et al. is the first meta-analysis to demonstrate its usefulness in predicting future CV events.

The ideal markers for screening patients with a high CV risk should be relatively noninvasive and readily applicable to an asymptomatic population. The baPWV is simple enough to be measured in general clinical practice (just wrap the pressure cuffs around 4 extremities), and it has been widely used by Japanese physicians who specialize in the areas of atherosclerosis, hypertension, or CV disease (baPWV was used in >10,000 hospitals or clinics in Japan).

Notably, the present meta-analysis did not analyze the raw data of longitudinal cohort studies included in their analysis. Therefore, patient clinical backgrounds were not fully adjusted among the studies, and it has not been made clear whether baPWV provided more information for predicting future CV events than the conventional CV risk assessment. The next logical step is to reanalyze the raw data of relevant studies to establish the reference value of baPWV for predicting prognosis. In addition, future studies should also examine the validity of path length for the measurement of baPWV.

Sources of Funding

A fund from the OMRON Health Care Company (Kyoto, Japan), manufacturer of brachial-ankle pulse wave velocity, was awarded to A.Y.

Disclosures

None.

Hirofumi Tomiyama
Akira Yamashina
Second Department of Internal Medicine
Tokyo Medical University
Tokyo, Japan

The Application of Brachial-Ankle Pulse Wave Velocity as a Clinical Tool for Cardiovascular Risk Assessment

Hirofumi Tomiyama and Akira Yamashina

Hypertension. 2012;60:e40; originally published online September 10, 2012; doi: 10.1161/HYPERTENSIONAHA.112.201806

Hypertension is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2012 American Heart Association, Inc. All rights reserved.
Print ISSN: 0194-911X. Online ISSN: 1524-4563

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://hyper.ahajournals.org/content/60/5/e40

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Hypertension can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Hypertension is online at:
http://hyper.ahajournals.org/subscriptions/