

## Predictive Factors for Low Ankle Brachial Index in Patients with Systemic Lupus Erythematosus

To the Editor:

The paper by Erdozain, *et al*<sup>1</sup> described a cross-sectional study of 216 patients with systemic lupus erythematosus. Ankle brachial index (ABI) was used as a surrogate marker for peripheral arterial disease (PAD). The number of patients with ABI under 0.9 was 46 (21.3%). In their multiple logistic regression analysis, age became a significant factor for low ABI. In contrast, cardiovascular risk factor, including diabetes mellitus, hypertension, hypercholesterolemia, or current smoking, did not become a significant variable. I have some concerns about this study.

First, the authors adopted low ABI as values lower than 0.9, which has been widely accepted<sup>2</sup>. Although the authors handled 170 patients with normal ABI as a control group, there is a followup study that high ABI over 1.4 becomes a risk for cardiovascular disease (CVD)<sup>3</sup>. I suppose that the prevalence of high ABI is not frequently observed, and recommend presenting distribution of ABI values in their study.

Second, the authors verified 3 patients with symptomatic PAD, and there was no significant difference between low ABI group and normal ABI group in their Table 3. On this point, a false-positive for PAD by ABI should be handled with caution.

Finally, the authors selected a backward stepwise logistic regression analysis. This method includes all the related factors as independent variables to know the association with low ABI in the first step. Peduzzi, *et al*<sup>4</sup> reported that the number of events per 1 independent variable should be 10 or higher to keep statistical power for logistic regression analysis. Although there is no gold standard to check the statistical validity, only 4 independent variables are permitted for their multivariate analysis. I

recommend that the authors conduct further study with more patients with low ABI. This procedure would confirm the association between CVD risk factor and low ABI.

TOMOYUKI KAWADA, MD, PhD, Department of Hygiene and Public Health, Nippon Medical School, Tokyo, Japan. Address correspondence to Dr. T. Kawada, Department of Hygiene and Public Health, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-Ku, Tokyo 113-8602, Japan. E-mail: kawada@nms.ac.jp

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