

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

To the Editor:

The paper by Erdozain, *et al*¹ 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 accepted². 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)³. 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*⁴ 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.

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