

## 論 文 要 旨

Cutoff values of brachial-ankle pulse wave velocity for atherosclerotic risks by age and sex in the Japanese general population

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**Aim:** In this study, we aim to analyze the correlation between brachial-ankle pulse wave velocity (baPWV) and Suita score or Framingham risk score and obtain the cutoff value of baPWV by sex and age for cardiovascular risk, as assessed by these scores in the large Japanese annual health checkup data.

**Methods:** In total, 25,602 participants (14,539 men and 11,063 women), who had their annual health checkups, were included in this study. Cutoff values of baPWV for the moderate- and high-risk groups stratified by sex and age were obtained using a receiver operating characteristic (ROC) curve analysis.

**Results:** As per our findings, the Suita score demonstrated better correlations with baPWV than the Framingham risk score in both sexes (men, Suita score  $R^2=0.41$  and Framingham risk score  $R^2=0.37$ ; women, Suita score  $R^2=0.54$  and Framingham risk score  $R^2=0.33$ ). The ROC curve analysis demonstrated the cutoff values of baPWV for moderate- and high-risk groups estimated using the Suita score, and they are as follows: in men, the baPWV cutoff values were 1,350 cm/s in the 40s, 1,430 cm/s in the 50s, 1,520 cm/s in the 60s, and 1,880 cm/s in the 70s. In women, the baPWV cutoff values were 1,350 cm/s in the 40s, 1,430 cm/s in the 50s, 1,570 cm/s in the 60s, and 1,800 cm/s in the 70s.

**Conclusions:** We demonstrated that baPWV significantly correlated with the Suita score or Framingham risk score in both men and women, with the former presenting a stronger correlation than the latter. We propose the cutoff values of baPWV for moderate- and high-risk groups estimated using the Suita score.