To the Editor:

We read with great interest the recently published study by Nagura et al concerning the relationship between abdominal visceral fat (AVF) evaluated by computed tomography (CT) and cerebral lacunar infarcts (CLI) identified by magnetic resonance imaging (MRI). They have shown that in middle-aged Japanese men AVF accumulation is a possible risk factor for CLI, whereas in elderly (≥65 years) men it is not associated with CLI. We have focused on silent cerebral lacunar infarcts (SCLI) in an elderly population and data on some obesity-related measures such as abdominal wall fat index (AFI) and waist-to-hip ratio (WHR) in the elderly SCLI. Abdominal wall fat index was a simple indicator of AVF deposition determined by ultrasonography that is noninvasive, safe and a relatively inexpensive modality, and AFI correlated closely with the abdominal fat assessment by CT. WHR has been a possible risk factor for stroke more than body mass index, although WHR does not tightly correlate with AVF, and the association between WHR and SCLI has yet to be studied.

A total of 143 Japanese neurologically normal men aged 65–85 years (mean: 75.7±5.7 (SD) years) underwent brain MRI. Silent cerebral lacunar infarcts was defined as reported by Nagura et al and 59 patients (41.3%) had at least one SCLI. The presence of current smoking, hypertension (as blood pressure of ≥140/90 mmHg), hypercholesterolemia (by a total cholesterol level of ≥220 mg/dl), hypertriglyceridemia (by a fasting triglyceride level of ≥150 mg/dl), low high-density lipoprotein (HDL)-cholesterolemia (by a fasting HDL-cholesterol level of ≤40 mg/dl) and diabetes mellitus (by a fasting glucose level of ≥126 mg/dl, a random nonfasting glucose level of ≥200 mg/dl and hemoglobin A1c of ≥6.5%) were evaluated as risk factors. A history of the treatment of each disease was treated at the presence of each disease. The information on alcohol drinking was not obtained in the current study. The patients with a history of abdominal surgery, valvular heart disease and atrial fibrillation were excluded.

There was no difference in AFI and WHR between subjects with SCLI and without SCLI (0.74±0.20 vs 0.79±0.20, 0.78±0.14 vs 0.82±0.14, SCLI vs non-SCLI, respectively, by t-test). Abdominal wall fat index showed significant correlation with WHR (r=0.39, by Spearman’s rank correlation analysis). Multiple logistic regression analysis, adjusted for age and relevant confounders to detect risk factors for SCLI, revealed that only hypertension was a positive significant variable for SCLI (odds ratio (OR)=5.05, 95% confidence interval (CI): 1.36–18.83). AFI and WHR was not associated with SCLI (OR for the increase of 0.1 in AFI=0.91, 95% CI: 0.73–1.13, OR for the increase of 0.1 in WHR =0.98, 95% CI: 0.79–1.12, respectively).

Our cross-sectional study showed that in the elderly men the use of AFI and WHR were not served as clinical risks of SCLI, confirming the results of CT-estimated AVF by Nagura et al! even if the obesity-related index and its clinical significance were somewhat different. A further study is needed to determine the mechanism concerning the difference of impact of AVF on CLI between middle-aged and elderly men.

Kazuhiko Kotani, MD
Division of Clinical Laboratory Medicine, Faculty of Medicine, Tottori University, Yonago, Japan
Yoneatsu Osaki, MD
Division of Environmental and Preventive Medicine, Faculty of Medicine, Tottori University, Yonago, Japan
Naoki Sakane, MD
Department of Preventive Medicine, Clinical Research Institute for Endocrine and Metabolic Disease, National Hospital Organization Kyoto Medical Center, Kyoto, Japan

References