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Kidney function and carotid intima-media thickness

Kayoung Lee
Inje University School of Medicine, Busan Paik Hospital, South Korea

In order to better understand the relationship between chronic kidney disease and cardiovascular disease, the association between carotid intima-media thickness (IMT) and with glomerular filtration rate estimate (eGFR) was evaluated in Korean population. IMT at three segments of carotid artery was measured using B-mode carotid ultrasound and eGFR was calculated by the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation in 654 participants (284 individuals of twin pairs, and 370 singletons) free of cardiovascular diseases and diabetes and selected from the Healthy Twin study. Cardiovascular risk factors (sex, smoking, alcohol use, exercise, body mass index, hypertension, fasting glucose, lipid profiles, and hs-CRP) were considered as covariates in linear mixed analyses. More subjects with lower eGFR were likely to be older, to have greater CIMT, worse lipid profiles, higher fasting glucose level, higher prevalence of hypertension, and lower proportion of alcohol users. The linear mixed analysis showed that eGFR had significant inverse associations with all of the IMT at each segment of carotid artery regardless of adjustment of CV risk factors. When these analyses were separately conducted in those younger than 45 years-old and those older or equal to 45 years-old, the strength of associations tends to be stronger in older participants. These findings suggest that eGFR can be a surrogate of carotid atherosclerosis.

Biography

Kayoung Lee has completed her M.D. from Seoul National University and training at the Department of Family Medicine in Seoul National University Hospital. She is a Professor of Department of Family medicine, Inje University School of Medicine. She has published more than 30 papers in reputed journals.

kayoung.fmlky@gmail.com