

Abstract Type : Oral

Abstract Submission No. : OR-1406

Obesity, Sarcopenia, and Incident Chronic Kidney Disease

Wonji Jo, Hyung Woo Kim, Sangmi Lee, Young Su Joo, Ki Heon Nam, Hae-Ryong Yun, Jung Tak Park, Seung Hyeok Han, Shin-Wook Kang, Tae-Hyun Yoo
Department of Internal Medicine-Nephrology, Severance Hospital, Korea, Republic of

Objectives:

Obesity is well known risk factor for chronic kidney disease (CKD) development. Additionally, few studies have demonstrated that sarcopenia can aggravate adverse clinical outcomes in patient with or without obesity. Thus, we investigated the association between obesity, sarcopenia, and incident CKD.

Methods:

A total of 2,450 participants were included in this analysis from the Cardiovascular and Metabolic Diseases Etiology Research Center (CMERC) cohort, which is prospective observational cohort study. Obesity was defined as Waist to hip ratio ≥ 0.90 for men and ≥ 0.85 for women. Sarcopenia was defined as less than the minimum appendicular skeletal mass. The primary outcome was a composite of a 50% decline in estimated glomerular filtration rate from the baseline value or renal replacement therapy initiation. We assessed association between obesity, sarcopenia and incident CKD using multivariable cox regression model.

Results: During a mean follow-up of 3.1 years, primary outcome occurred in 385 (15.7%) patients. In multivariable analyses after adjustment for confounding factors, obesity with sarcopenia had a 1.8-fold increased risk of CKD development than non-obesity without sarcopenia [hazard ratio (HR), 1.84; 95% confidence interval (CI), 1.09-3.09; $P=0.02$]. Interestingly, risk of developing CKD was also higher in non-obese patients with sarcopenia (HR, 1.88; 95% CI, 1.06-3.31; $P=0.03$).

Conclusions:

We showed that both obesity and sarcopenia are associated with significantly increased risk of adverse renal outcome. In particular, obese patients with sarcopenia are also at high risk of incident CKD.