KSN SEOUL, KOREA 2023
April 27(Thu) - 30(Sun), 2023
Coex, Seoul, Korea

Abstract Type : Oral
Abstract Submission No. : 1582

The association between obesity and mortality is attenuated in elderly patients with hemodialysis: A nationwide cohort study in Korea

You Hyun Jeon[1], Yu Ah Hong[2], Sungjin Chung[3], Sung Joon Shin[4], Soon Hyo Kwon[5], In O Sun[6], Won Min Hwang[7], Jeong-Hoon Lim[1], Jang-Hee Cho[1]
[1]Department of Internal Medicine, Kyungpook National University School of Medicine, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, The Catholic University of Korea, Daejeon St. Mary's Hospital, Korea, Republic of
[3]Department of Internal Medicine-Nephrology, The Catholic University of Korea, Yeouido St. Mary's Hospital, Korea, Republic of
[4]Department of Internal Medicine-Nephrology, Dongguk University Ilsan Hospital, Korea, Republic of
[5]Department of Internal Medicine-Nephrology, Soonchunhyang University Seoul Hospital, Korea, Republic of
[6]Department of Internal Medicine-Nephrology, Presbyterian Medical Center, Korea, Republic of
[7]Department of Internal Medicine-Nephrology, Konyang University Hospital, Korea, Republic of

Objectives: Higher body mass index (BMI) has been associated with reduced mortality in patients with hemodialysis (HD). However, the impact of BMI on the mortality of older HD patients is not known. We investigated whether the obesity paradox could be observed in elderly patients with HD.

Methods: End-stage kidney disease patients over 70 years who newly initiated maintenance hemodialysis were enrolled in a retrospective nationwide cohort data of the Korean Society of Geriatric Nephrology (KSGN) between 2010 and 2017. The patients were divided into 5 BMI categories. The BMI of reference group ranged from 20.0 to 25.0. The association of BMI with overall and 6-month mortality were investigated using Cox proportional hazard regression analysis.

Results: A total of 2336 elderly patients with HD were included and 409 were died (17.5%). Kaplan–Meier curves showed significant differences between BMI categories in overall and 6-month mortality (both $P < 0.001$). The underweight group (BMI < 18.5) revealed a significantly increased risk of overall and 6-month mortality [overall: hazard ratio (HR) 1.30, 95% confidence interval (CI) 1.07–1.59, $P = 0.009$; 6-months: HR 1.43, 95% CI 1.02–2.01, $P = 0.040$]. However, no survival advantages was found in the overweight (25 ≤ BMI < 30) and obesity (BMI > 30) groups compared to the reference group. Multivariate linear regression analysis showed that BMI was associated with age, sex, diabetes, immobility, blood urea nitrogen, sodium, and calcium.

Conclusions: Underweight is an independent risk factor for long- and short-term outcomes in elderly incident HD patients. The protective effect of overweight or obesity on survival is attenuated in elderly patients with HD, not showing the obesity paradox. The decreased association between obesity and mortality might be attributable to multiple underlying factors observed in geriatric patients.

Table 1. Associations of BMI and overall mortality in Cox proportional hazard regression model