KSN 2018
Seoul, Korea · May 17 - 20

Abstract Type : Oral
Presentation No. : OR 01 DL-09

Variability of Total Cholesterol is associated with Clinical Outcomes in ESRD patients

Minyoung Kim[1], Mee Kyoung Kim[2], Sungjin Chung[1], Seok Joon Shin[3], Cheol Whee Park[4], Chul Woo Yang[4], Eun Sil Koh[1]
[1]Department of Internal Medicine-Nephrology, The Catholic University of Korea, Yeouido St. Mary's Hospital, Korea, Republic of
[2]Department of Internal Medicine-Endocrine, The Catholic University of Korea, Yeouido St. Mary's Hospital, Korea, Republic of
[3]Department of Internal Medicine-Nephrology, The Catholic University of Korea, Incheon St. Mary's Hospital, Korea, Republic of
[4]Department of Internal Medicine-Nephrology, The Catholic University of Korea, Seoul St. Mary's Hospital, Korea, Republic of

Objectives: Recent data suggest that total cholesterol (TC) variability is associated with cardiovascular events. We evaluated the role of lipid variability as a determinant of clinical outcomes in ESRD patients.

Methods: A total of 2159 ESRD patients were selected from the Clinical Research Center registry for end-stage renal disease cohort in Korea, who underwent ≥3 examinations of lipid profile. TC variability was defined as the variation in TC values between three examinations using coefficient of variation (CV). Patients were categorized into four groups by quartile of CV levels of TC.

Results: The median follow-up period was 52 months (IQR 38 – 65 months) and the CV values of TC in the Q1–Q4 groups were 0.07±0.02%, 0.12±0.13%, 0.17±0.02%, and 0.32±0.13%, respectively. TC variability was related with BMI, modified CCI, diabetes, durations of dialysis, serum albumin and hs-CRP, but not with age and gender. There was no association between a higher TC variability and all cause of death. However, Kaplan-Meier analysis showed that the all-cause hospitalization rate was significantly different according to quartiles of TC variability in ESRD patients (P<0.001, Log-rank). Multivariate Cox proportional hazards analysis showed that the highest quartile of TC variability had significantly higher risk for all-cause hospitalization (HR 1.409, 95% CI 1.165 to 1.705, P<0.001) compared with the lowest quartile after adjustment for multiple confounding factors relate to malnutrition and inflammation marker, as well as duration of dialysis.

Conclusions: High fluctuation of TC level could directly contribute to the all-cause of hospitalization. This might be related with the heterogeneity of lipid metabolism in ESRD patients.