KSN 2018
Seoul, Korea · May 17 - 20

Abstract Type : Poster
Presentation No. : PFL 008

Malnutrition and Volume Status in Chronic Kidney Disease

Ga Hee Lee[1], Yoo Jin Lee[2], Mi Jung Yoo[2], Sihyung Park[2], Bong Soo Park[2], Yang Wook Kim[2]
[1]Department of Internal Medicine-Nephrology, Kimhae Jungang Hospital, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, Inje University Haeundae Paik Hospital, Korea, Republic of

Objectives: Patient with chronic kidney disease (CKD) are vulnerable to malnutrition. Malnutrition, inflammation and atherosclerosis (MIA syndrome) have been proposed as the main causes of morbidity and mortality in CKD patients. It has been considered that fluid overload act as an inflammatory stimulus by immune activation resulting from poor tissue perfusion and bowel endotoxins in to circulation. Our aim was to study the association of malnutrition, blood biomarker and volume status in CKD patients

Methods: As cross sectional study, 20 hemodialysis (HD), 20 peritoneal dialysis (PD) and 20 pre-dialysis CKD (CKD-ND) patients were analyzed in our center. Plasma copeptin, proadrenomedullin, myeloperoxidase and other metabolic panel were done in all patients. Body composition monitor was done for accessing body fluid status and lean tissue index (LTI). Malnutrition was defined as LTI below 10 percentile of reference population

Results: The 70 % (14/20) in HD, 60% (12/20) PD and 30% (6/20) CKD-ND patients were malnourished. Plasma copeptin, proadrenomedullin, myeloperoxidase, protein and albumin were not significantly different in each groups. Degrees of over-hydration were not different however, extracellular and intracellular fluid ratio (EI) were different in PD ($p = 0.03$) and CKD-ND ($p = 0.12$). EI were 1.08 vs. 0.94 for PD and 1.13 vs. 0.82 for CKD-ND. In pooled analysis, copeptin (0.44 ± 0.28 vs 0.35 ± 0.19, $p = 0.07$) and EI (1.04 ± 0.23 vs. 0.89 ± 0.15, $p = 0.001$) were different between malnutrition and normal group

Conclusions: Malnutrition CKD patients showed higher EI ratio. Even though the overall degree of over-hydration was not different, malnourished CKD patient showed more extracellular fluid accumulation. This study showed the possibility of causal relationship between extracellular fluid accumulation and copeptin as anti- diuretic hormone in malnourished CKD patients.