KSN 2019
Seoul, Korea · May 23 - 26

Abstract Type : Poster
Abstract Submission No. : PO-1566

Cell-free mitochondrial DNA in patients on hemodialysis

Su Woong Jung, Won Hee Cho, Ju-Young Moon, Sang-Ho Lee, Yang Gyun Kim
Department of Internal Medicine-Nephrology, Kyung Hee University Hospital at Gangdong, Korea, Republic of

Objectives: Cell-free mitochondrial DNA (mtDNA) has been reported to be higher in patients undergoing maintenance hemodialysis than in healthy people. It not only represents cellular damage but also drives an inflammation. However, it is unknown how cell-free mtDNA was associated with clinical and laboratory parameters in hemodialysis patients.

Methods:

We examined the clinical significance of cell-free mtDNA in a prospective cohort of 364 patients on hemodialysis who were recruited from 6 hospitals in South Korea from 2016 to 2017. The participants were classified into four groups according to log-transformed value of cell-free mtDNA that were measured at the time of enrollment.

Results:

In multivariable linear regression analysis, dialysate acidified with acetate, hemodialysis vintage, and osteoprotegerin was independently correlated with cell-free mtDNA. In the questionnaire of Kidney Disease Quality of Life Instrument (KDQOL), the group which had higher cell-free mtDNA reported more impaired quality of life across the domain of burden of kidney disease and sleep. However, cell-free mtDNA did not predict the cardiovascular event and all-cause mortality during the median follow-up of 28 months.

Conclusions: Our results suggest that dialysate using acetate and long period that dependent on hemodialysis is a risk factor for the generation of cell-free mtDNA in patients on hemodialysis.