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Serum neutrophil to lymphocyte ratio predicts risk of cardiac event in hemodialysis patients

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Objectives:

Recently, neutrophil to lymphocyte ratio (NLR) emerged as an inflammatory marker, and previous studies reported its predictive value for the poor clinical outcomes in various disease conditions. However, only a few studies analyzed NLR in patients with end-stage renal disease (ESRD) undergoing hemodialysis (HD). In this study, we evaluated the prognostic value of serum NLR among patients with ESRD on HD in predicting cardiac events, composite of cardiovascular(CV) event and all cause mortality.

Methods: This study was based on the K-cohort database, a prospective and multi-dialysis center cohort study. Of 637 incident HD patients enrolled between June 2016 and March 2020, 500 with available serum NLR calculation were included in this study. We analyzed adjusted hazard ratio [HR] for serum NLR on cardiac events, composite of CV event and all cause mortality using multivariable Cox regression analysis.

Results:

The mean follow up duration was 23.32 ± 15.78 months and a total of 59 (11.80 %) deaths were reported. In the multivariable Cox regression analysis, the serum NLR was an independent factor for cardiac events (HR 2.290, 95% confidence interval [CI] 1.145-4.581; $p = 0.019$). However composite of cardiovascular(CV) event (HR 1.405, 95% confidence interval [CI] 0.843-2.344; $p = 0.192$) and all cause mortality (HR 1.640, 95% confidence interval [CI] 0.815-3.302; $p = 0.166$) were not significantly increased across serum NLR.

Conclusions:

Our results suggested that serum NLR is a useful independent predictor of cardiac event in patients with ESRD undergoing HD.