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Circulating PCSK9 level predicts risk of cardiovascular events death in hemodialysis patients

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Objectives: The proprotein convertase subtilisin/kexin type 9 (PCSK9) is a promising new target for prevention of cardiovascular event (CVE). However, the clinical significance of circulating PCSK9 is unclear in HD patients.

Methods:

A total of 353 patients were prospectively enrolled from June 2016 to May 2018 in K-cohort study groups. Serum PCSK9 level was measured at the time of study enrollment. The primary endpoint was defined as composite of CVE, and death from any cause.

Results:

Baseline serum glucose level, serum albumin level, total cholesterol, and statin use was independently correlated with circulating PCSK9 in multivariate linear regression analysis. In adjusted Cox-regression analysis, PCSK9 tertile 3 was associated with 1.99-fold risks for composite event (95% confidence interval [CI], 1.08-3.66). The patients with PCSK9 tertile 3 also had an independent risk for CVE (hazard ratio [HR], 2.26; 95% CI, 1.11-4.62). This prognostic significance was prominent in patients with lower level of triglyceride, lower level of low density lipoprotein and no statin treatment.

Conclusions:

Circulating PCSK9 level independently predicts CVE and death in HD patients, and these results anticipate future studies for the effect of PCSK9 inhibition in HD patients.