

SOLUBLE ST2 IS ASSOCIATED WITH NT-PRO-BNP AND C-REACTIVE PROTEIN IN CKD PATIENTS ON HEMODIALYSIS

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Objectives:

Soluble ST2 (sST2) is an interleukin-1 receptor family member, is secreted into the circulation and functions as a receptor for the inflammatory cytokine interleukin-33. sST2 has emerged as a novel prognostic biomarker in patients with acute and chronic heart disease. The role of sST2 in hemodialysis (HD) patients is not yet defined. The purpose of this study was to examine the relationship between sST2 and other biomarkers of cardiovascular (CV) disease in HD patients.

Methods:

We performed a cross-sectional study in a cohort of 107 chronic HD patients. sST2, NT-pro-BNP, troponin I and other cardiovascular (CV) risk factors were measured before hemodiafiltration.

Variable	Mean ± SD
Age (years)	64.85 ± 14.65
Dialysis vintage (months)	75.49 ± 74.04
sST2 (ng/mL)	32.43 ± 19.71
NT-pro-BNP (pmol/L)	1136.13 ± 1304.04
Troponin I (µg/L)	0.027 ± 0.035
Cholesterol (mmol/L)	4.06 ± 1.09
Triglycerides (mmol/L)	1.6 ± 0.97
CRP (mg/L)	8.88 ± 15.06
Hemoglobin (g/L)	111.6 ± 10.5
Albumin (g/L)	38.97 ± 4.98
Serum uric acid (µmol/L)	303.46 ± 50.42

Results:

Mean age of patients was 64.85 ± 14.65 years, 57.9 % were men. Data of patients are presented in table 1. We found a statistically significant correlation between sST2 levels and NT-pro-BNP ($r = 0.333$, $P < 0.0001$), CRP ($r = 0.297$, $P = 0.002$), hemoglobin ($r = -0.203$, $P = 0.036$), cholesterol ($r = -0.286$, $P = 0.003$) and triglycerides ($r = -0.260$; $P = 0.007$). In contrast, there was no significant correlation with troponin I, albumin and uric acid. With multiple regression analysis (included variables: troponin I, NT-pro-BNP, cholesterol, triglycerides, CRP, hemoglobin, albumin, uric acid) sST2 as dependent variable was associated with NT-pro-BNP ($P = 0.017$) and CRP ($P = 0.031$).

Conclusions:

In this study sST2 was associated with NT-pro-BNP and CRP in HD patients. Additional research is needed to determine whether monitoring sST2 levels has a significant role in improving HD patient outcomes.