

ONLINE SUPPLEMENTARY MATERIALS

Title: Association of Soluble TNFR-1 Concentrations with Long-Term Decline in Kidney Function: The Multi-Ethnic Study of Atherosclerosis

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Table S1: Association of serum TNFR-1 concentration with incident 40% eGFR decline, by baseline CKD status

Table S2: Correlation between sTNFR-1 and other inflammatory markers

Table S3: Circulating endothelial markers in the MESA

Table S4: Associations of endothelial dysfunction markers with kidney disease

Figure S1. Distribution of serum sTNFR-1 concentrations in the MESA

Figure S2. Scatterplots of serum sTNFR-1 concentration with baseline participant characteristics

Table S1. Association of serum TNFR-1 concentration with incident 40% eGFR decline, by baseline CKD status

		Unadjusted		Baseline Demographic adjusted ^a		Multivariable adjusted ^a		Fully adjusted ^a	
CKD Status		HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value
eGFR ≥ 60 (N = 2259)	Events								
Per (overall) SD of sTNFR-1 (406 pg/mL)	80	1.90 (1.53, 2.36)	< 0.0001	1.65 (1.31, 2.09)	< 0.0001	1.33 (1.05, 1.69)	0.02	1.41 (1.09, 1.83)	0.01
eGFR < 60 (N = 289)									
Per (overall) SD of sTNFR-1 (406 pg/mL)	30	1.62 (1.44, 1.83)	< 0.0001	1.71 (1.49, 1.96)	< 0.0001	1.55 (1.34, 1.79)	< 0.0001	1.67 (1.26, 2.20)	0.0003

^a Baseline demographics adjustment: age, age², sex, race/ethnicity, and site

^b Multivariable adjusted: Baseline demographics covariates and education, BMI, diabetes, and hypertension

^c Fully adjusted: Multivariable covariates and urine albumin-creatinine ratio, baseline eGFR, and baseline eGFR².

Table S2. Correlation between sTNFR-1 and other inflammatory markers

	sTNFR-1	hsCRP	IL-6
sTNFR-1	1.0	0.23	0.35
hsCRP		1.0	0.54
IL-6			1.0

Pearson's correlation (r^2)

hsCRP - high sensitivity C-reactive protein

IL-6 – Interleukin 6

Table S3: Endothelial Markers in the MESA

	Kidney disease progression (N = 29)	No kidney disease progression (N = 861)	p-value
ICAM (pg/mL)	310 (109)	281 (81)	0.17
E-selectin (pg/mL)	66 (36)	54 (24)	0.08
sTNFR-1 (pg/mL)	1703 (915)	1254 (329)	<0.01

p-value from two-sample t-test assuming unequal variances

The endothelial markers intercellular adhesion molecule 1 (ICAM-1) and E-selectin were measured among only a subset of participants.

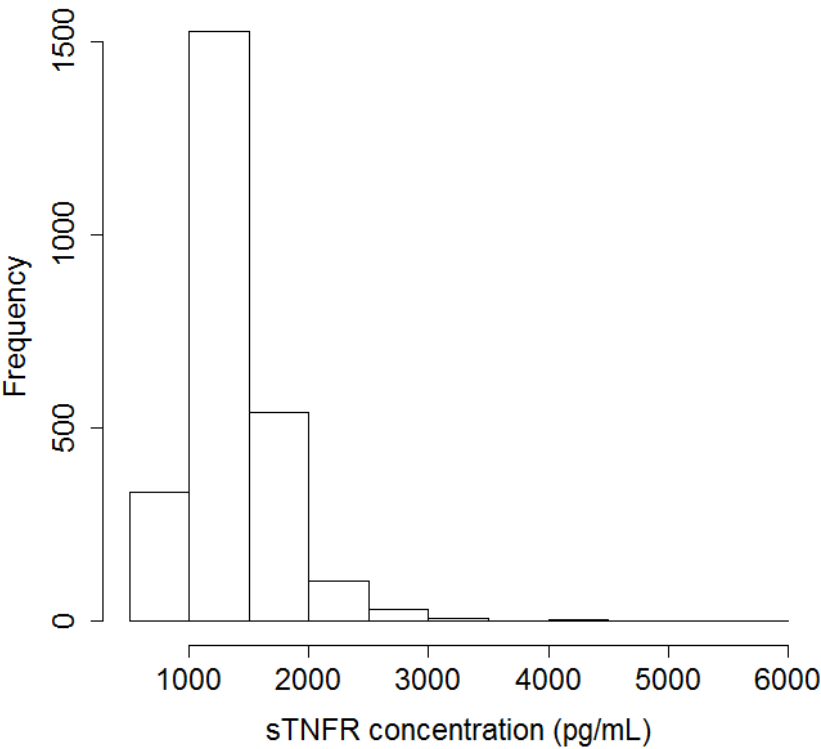
Table S4. Associations of endothelial dysfunction markers with kidney disease

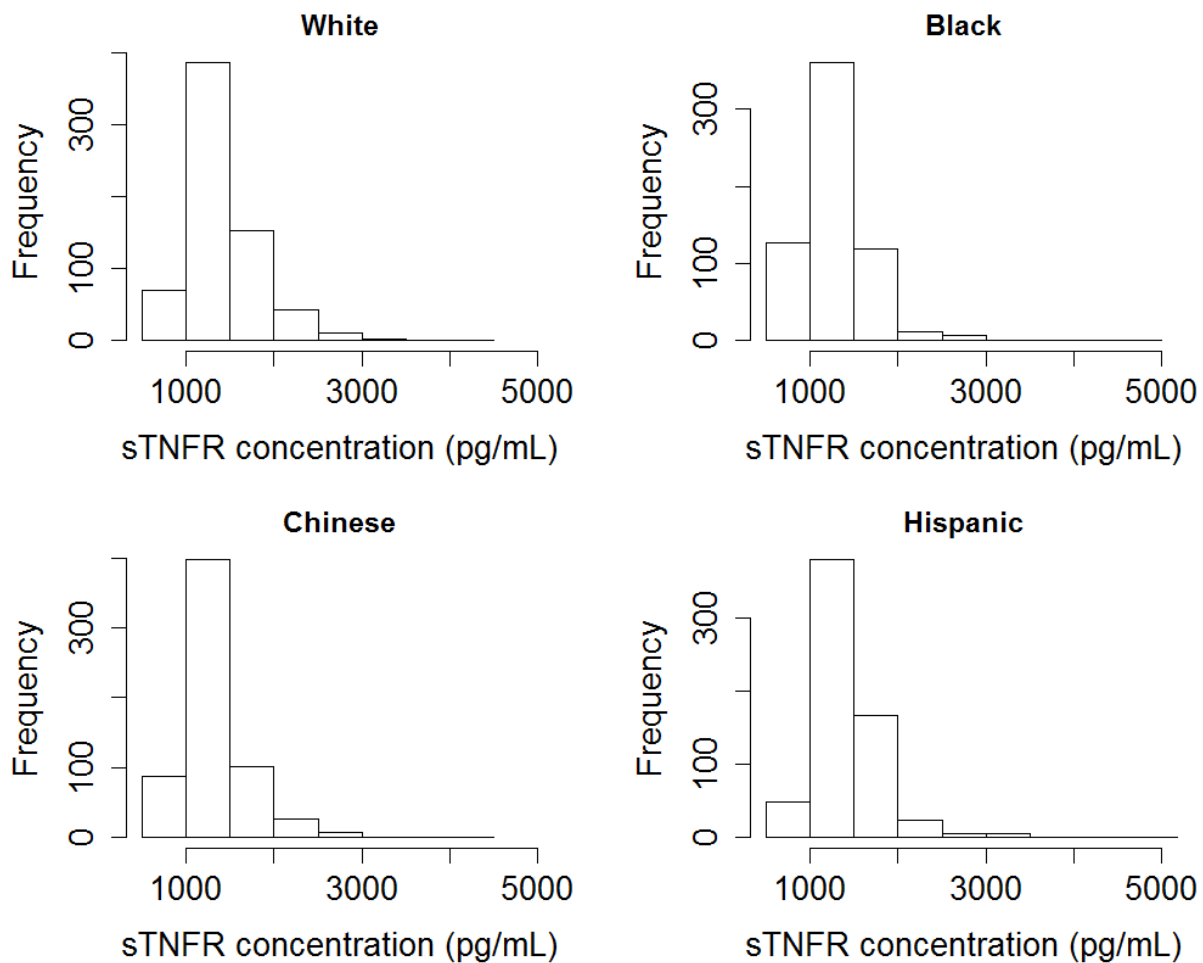
	HR (95% CI)	p-value
sTNFR-1	1.66 (1.42, 1.94)	1.2E-10
ICAM	1.12 (0.81, 1.54)	0.49
E-selectin	1.23 (0.88, 1.70)	0.22

HRs are per SD difference in the biomarker.

Associations between all three markers tested together with kidney disease progression.

Figure S1. Distribution of serum sTNFR-1 concentrations in the MESA





Serum sTNFR-1 concentrations overall and by race/ethnicity groups

	Median sTNFR-1 (pg/ml)	Interquartile Range (IQR)
Race/Ethnicity		
White	1324	1135-1583
Black	1210	1046-1450
Chinese	1251	1071-1464
Hispanic	1314	1151-1579

Figure S2. Scatterplots of serum sTNFR-1 concentration with baseline participant characteristics

