

Appendix

Supplemental Tables 1-2

Supplemental Figure Legend

Supplemental Figure 1

Supplemental Table 1a. Correlation matrix of urine biomarker-creatinine ratios in HIV-infected women.

	α1m	IL-18	KIM-1	NGAL	ACR
α1m	1	0.225**	0.301**	0.209**	0.421**
IL-18		1	0.162**	0.232**	0.148**
KIM-1			1	0.124*	0.177**
NGAL				1	0.248**
ACR					1

All biomarkers are standardized to urine creatinine.

Note: *p<0.001 and **p<0.0001 denote statistical significance of Spearman correlations.

Abbreviations: α1m, α1-microglobulin; ACR, albumin-to-creatinine ratio; IL-18, interleukin-18; KIM-1, kidney injury molecule-1; NGAL, neutrophil gelatinase-associated lipocalin.

Supplemental Table 1b. Correlation matrix of urine biomarker concentrations in HIV-infected women.

	α1m	IL-18	KIM-1	NGAL	ACR	UCR
α1m	1	0.416**	0.396**	0.279**	0.211**	0.409**
IL-18		1	0.495**	0.438**	-0.018	0.642**
KIM-1			1	0.343**	0.014	0.577**
NGAL				1	0.119*	0.410**
ACR					1	-0.181*
UCR						1

Biomarkers are not standardized to urine creatinine, with exception of ACR.

Note: *p<0.001 and **p<0.0001 denote statistical significance of Spearman correlations.

Abbreviations: α1m, α1-microglobulin; ACR, albumin-to-creatinine ratio; IL-18, interleukin-18; KIM-1, kidney injury molecule-1; NGAL, neutrophil gelatinase-associated lipocalin; UCR, urine creatinine.

Supplemental Table 2. Associations of urine α 1m concentration¹ with kidney function decline and mortality in HIV-infected women.

Range of α 1m	Incident CKD			10% decline in eGFR _{Cys}			All-cause mortality		
	C1 -	C2 0.6-1.4 mg/dl	C3 >1.4 mg/dl	C1 -	C2 0.6-1.4 mg/dl	C3 >1.4 mg/dl	C1 -	C2 0.6-1.4 mg/dl	C3 >1.4 mg/dl
No. at risk	343	259	217	358	274	271	358	274	271
No. events	48	54	75	9	18	34	29	30	69
		Risk Ratio (95% CI)	Risk Ratio (95% CI)		Risk Ratio (95% CI)	Risk Ratio (95% CI)		Hazard Ratio (95% CI)	Hazard Ratio (95% CI)
Demographic Adjusted²	Ref	1.59 (0.78, 3.21)	3.09 (1.80, 5.32)	Ref	2.62 (1.20, 5.74)	4.58 (2.23, 9.41)	Ref	1.32 (0.79, 2.20)	3.01 (1.93, 4.68)
Multivariate Adjusted³	---	1.28 (0.71, 2.30)	2.21 (1.33, 3.69)	---	2.23 (1.03, 4.86)	3.01 (1.42, 6.38)	---	1.16 (0.69, 1.95)	1.95 (1.24, 3.08)
Adjusted +ACR⁴	---	1.27 (0.72, 2.24)	2.02 (1.23, 3.31)	---	2.31 (1.08, 4.93)	2.80 (1.29, 6.08)	---	1.14 (0.68, 1.93)	1.92 (1.21, 3.04)
Adjusted +ACR, IL-18, KIM-1, NGAL⁵	---	1.16 (0.68, 1.96)	1.70 (1.09, 2.64)	---	2.21 (1.02, 4.78)	2.28 (1.03, 5.03)	---	1.06 (0.61, 1.84)	1.64 (0.94, 2.87)

¹Stratified by categories. Category 1 comprises all participants with undetectable urine α 1m. All analyses use Category 1 as reference category.

²Adjusted for age and race.

³Adjusted for age, race, baseline eGFR_{Cys}, hypertension, diabetes mellitus, hepatitis C virus infection, HIV viral load, CD4 lymphocyte count, antiretroviral therapy use, and serum albumin.

⁴Adjusted for all covariates listed above with addition of albumin-creatinine ratio.

⁵Adjusted for all covariates listed above with addition of albumin-creatinine ratio, interleukin-18, kidney injury molecule-1, neutrophil gelatinase-associated lipocalin, and liver fatty acid binding protein.

Abbreviations: ACR, albumin-creatinine ratio; α 1m, α 1-microglobulin concentration; C1, Category 1; C2, Category 2; C3, Category 3; CI, confidence interval; CKD, chronic kidney disease; eGFR_{Cys}, cystatin C-based estimated glomerular filtration rate; IL-18, interleukin-18; KIM-1, kidney injury molecule-1; NGAL, neutrophil gelatinase-associated lipocalin; Ref, reference category.

Supplemental Figure Legend

Supplemental Figure 1. Magnitudes of associations of urinary biomarker concentrations with annual eGFR_{Cys} change. All estimates derived from multivariate models comparing Category 3 with Category 1 for α1m, and highest with lowest tertile for ACR, IL-18, KIM-1, and NGAL. Multivariate models adjust for age, race, traditional kidney disease risk factors, HIV-related factors, and all displayed biomarkers. Results reported as eGFR_{Cys} change in ml/min/1.73m² per year (95% confidence interval).

Supplemental Figure 1.

