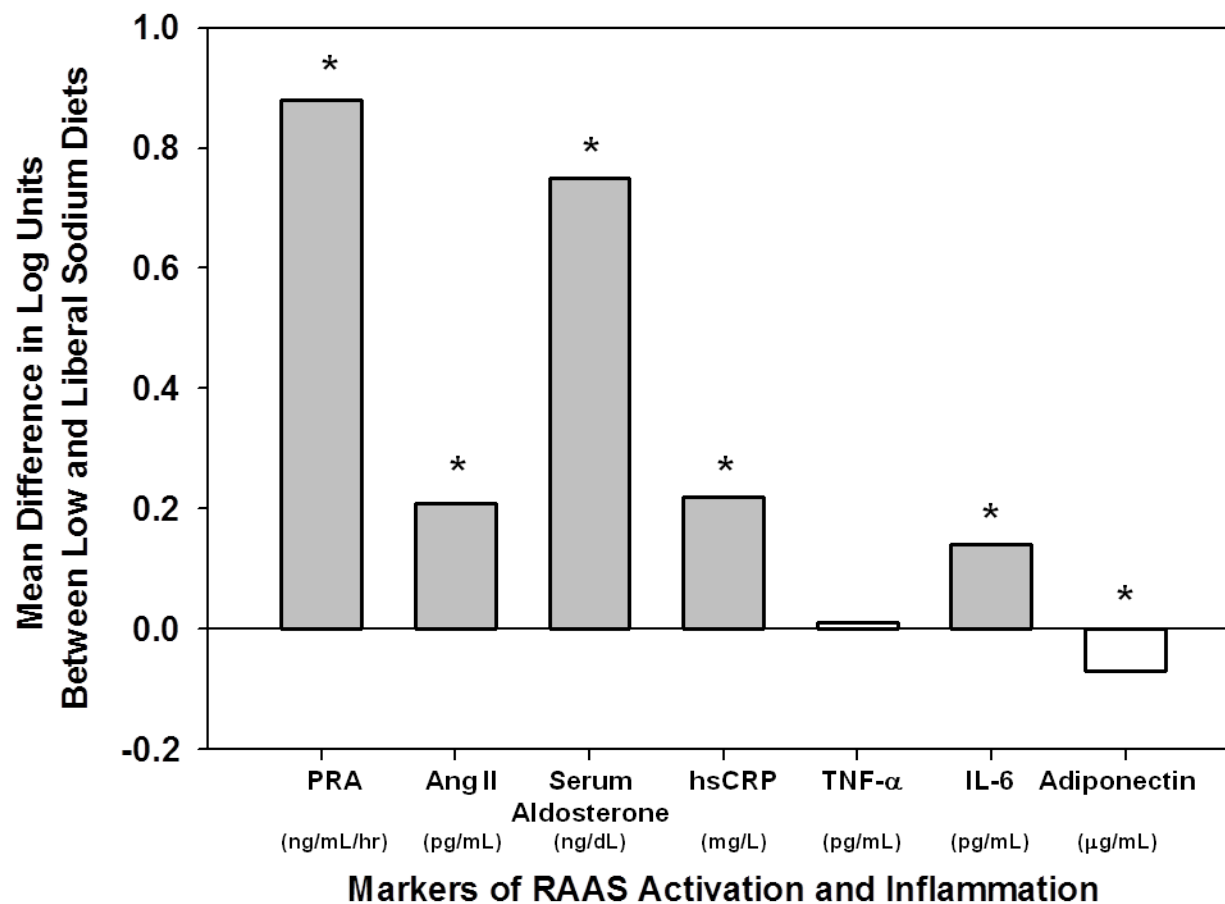
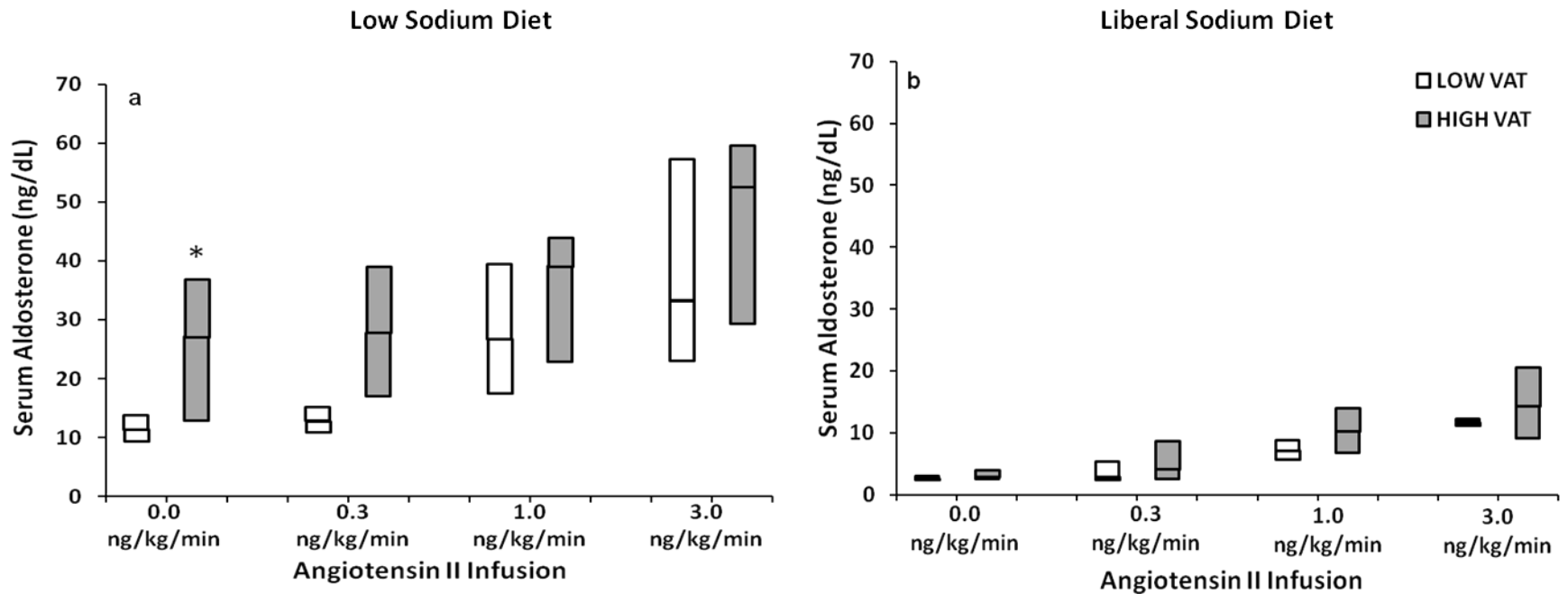


Supplemental Figure 1. Mean difference in markers of RAAS activation and inflammation among HIV-infected subjects between the low and liberal sodium diets. *P value<0.01 low vs. liberal sodium diet. Bars above the zero line represent analytes increased during the low sodium diet relative to the liberal sodium diet.



Supplemental Figure 2. Angiotensin II stimulated serum aldosterone levels under (a) low sodium and (b) liberal sodium conditions in HIV-infected patients with low and high VAT. *P value<0.05 for HIV-infected patients with low VAT vs. high VAT.



Supplemental Table 1. Univariate Correlations with Serum Aldosterone

	All Subjects (n=30)		Non-HIV-Infected (n=10)		HIV-Infected (n=20)	
	r	P Value	r	P Value	r	P Value
PRA (ng/ml/hr)	0.12	0.54	-0.08	0.82	0.81	<0.0001
Ang II (pg/mL)	0.64	0.0002	0.46	0.18	0.67	0.001
Urine Sodium (mmol/24hr)	-0.006	0.98	-0.36	0.31	-0.04	0.87
Potassium (mmol/L)	-0.02	0.92	-0.15	0.68	-0.05	0.85
MAP (mmHg)	0.13	0.48	-0.34	0.34	0.30	0.20

Relationships were assessed by Pearson's Correlation Coefficient.

Performed under conditions of equivalent low sodium intake for both groups as described in the text.

Abbreviations: PRA, plasma renin activity; Ang II, angiotensin II; MAP, mean arterial pressure

Supplemental Table 2. Model to Assess Determinants of Serum Aldosterone

Non-HIV-Infected Subjects		
Aldosterone		
	β Estimate	P Value
(R²=0.47; P=0.44)		
PRA	-0.08122	0.75
Ang II	0.41501	0.16
Potassium	-5.29630	0.54
MAP	-0.41542	0.20

HIV-Infected Subjects		
Aldosterone		
	β Estimate	P Value
(R²=0.66; P=0.002)		
PRA	6.22057	0.02
Ang II	-0.03054	0.93
Potassium	-3.95276	0.67
MAP	0.17998	0.66

R² represents the coefficient of determination and the proportion of variance explained by the model. P value represents significance by the whole model ANOVA test.

Performed under conditions of equivalent low sodium intake for both groups as described in the text

Abbreviations: HOMA-IR, homeostatic model assessment of insulin resistance; PRA, plasma renin activity; Ang II, angiotensin II, MAP, mean arterial pressure

Supplemental Table 3a. Inflammatory Markers Among Non-HIV and HIV-Infected Subjects

	Non-HIV-Infected (n=10)	HIV-Infected (n=20)	P Value
Low Sodium Visit			
hsCRP (mg/L)	0.51[0.27,2.77]	1.64[0.35,5.72]	0.19
TNF- α (pg/mL)	1.55[1.18,1.83]	1.90[1.40,2.20]	0.18
IL-6 (pg/mL)	1.98[1.61,3.99]	3.3[1.59,5.00]	0.52
Adiponectin (μ g/mL)	4.86[3.14,5.84]	4.16[2.65,6.81]	0.79
Liberal Sodium Visit			
hsCRP (mg/L)	0.44[0.23,2.06]	0.94[0.29,1.83]	0.69
TNF- α (pg/mL)	1.65[1.18,1.80]	1.75[1.33,2.23]	0.25
IL-6 (pg/mL)	1.55[1.00,3.11]	2.25[1.54,2.98]	0.37
Adiponectin (μ g/mL)	5.66[4.21,6.41]	4.69[3.15,8.64]	0.77

Data reported as median [interquartile range].

Abbreviations: hsCRP, high-sensitivity C-reactive protein; TNF- α , tumor necrosis factor-alpha; IL-6, interleukin 6.

Supplemental Table 3b. Mean Difference in Markers of RAAS Activation and Inflammation Among Non-HIV and HIV-Infected Subjects Between the Low and Liberal Sodium Diets.

	PRA (ng/mL/hr)		Ang II (pg/mL)		Serum Aldosterone (ng/dL)		hsCRP (mg/L)		TNF-α (pg/mL)		IL-6 (pg/mL)		Adiponectin (μg/mL)	
	Mean Difference	P Value	Mean Difference	P Value	Mean Difference	P Value	Mean Difference	P Value	Mean Difference	P Value	Mean Difference	P Value	Mean Difference	P Value
Non-HIV-Infected (n=10)	0.13	0.0002	0.21	<0.0001	0.54	<0.0001	-0.04	0.81	0.002	0.94	0.13	0.14	-0.07	0.002
HIV-Infected (n=20)	0.88	<0.0001	0.21	<0.0001	0.75	<0.0001	0.22	0.009	0.01	0.55	0.14	0.001	-0.07	0.003

Relative values are log transformed.

Abbreviations: PRA, plasma renin activity; Ang II, angiotensin II; hsCRP, high-sensitivity C-reactive protein; TNF- α , tumor necrosis factor-alpha; IL-6, interleukin 6

Supplemental Table 4. Univariate Correlations with Inflammatory Markers During RAAS Activation

	hsCRP (mg/L)		TNF- α (pg/mL)		IL-6 (pg/mL)		Adiponectin (μ g/mL)	
	r	P Value	r	P Value	r	P Value	r	P Value
Non-HIV-Infected Subjects (n=10)								
PRA (ng/ml/hr)	0.48	0.16	-0.04	0.90	0.88	0.0009	-0.22	0.54
Ang II (pg/mL)	0.11	0.76	0.12	0.75	0.47	0.17	-0.54	0.11
Serum Aldosterone (ng/dL)	0.06	0.86	-0.15	0.69	0.22	0.54	-0.24	0.51
Urinary Aldosterone Excretion (ng/24hr)	-0.75	0.01	-0.56	0.09	-0.45	0.19	0.37	0.29
VAT (cm ²)	0.28	0.43	-0.14	0.70	0.43	0.21	-0.21	0.55
HOMA-IR	0.55	0.10	-0.03	0.93	0.63	0.05	-0.28	0.44
HIV-Infected Subjects (n=20)								
PRA (ng/ml/hr)	-0.25	0.29	0.16	0.50	-0.44	0.054	-0.51	0.02
Ang II (pg/mL)	-0.26	0.27	0.07	0.77	-0.32	0.17	-0.38	0.10
Serum Aldosterone (ng/dL)	0.007	0.98	-0.15	0.52	-0.11	0.66	-0.41	0.08
Urinary Aldosterone Excretion (ng/24hr)	-0.34	0.14	-0.41	0.07	-0.32	0.17	-0.29	0.22
VAT (cm ²)	-0.02	0.94	-0.11	0.64	-0.16	0.50	-0.73	0.0003
HOMA-IR	0.21	0.36	0.05	0.82	0.18	0.44	-0.55	0.01

Relationships were assessed by Pearson's Correlation Coefficient.

Performed under conditions of equivalent low sodium intake for both groups as described in the text.

Abbreviations: hsCRP, high-sensitivity C-reactive protein; TNF- α , tumor necrosis factor-alpha; IL-6, interleukin 6; PRA, plasma renin activity; Ang II, angiotensin II; VAT, visceral adipose tissue, HOMA-IR, homeostatic model assessment of insulin resistance

Supplemental Table 5. Baseline Metabolic Parameters of Below and Above Median VAT by HIV Status

Metabolic Parameters	Non-HIV-Infected			HIV-Infected		
	VAT<median (n=5)	VAT>median (n=5)	P Value ^a	VAT<median (n=10)	VAT>median (n=10)	P Value ^b
Waist Circumference (cm)	81±4	97±5	0.04	88±6	99±3	0.14
WHR	0.85±0.03	0.95±0.02	0.02	0.90±0.03	0.98±0.02	0.02
BMI(kg/m ²)	23±1	27±2	0.11	25±2	28±1	0.31
VAT area (cm ²)	97 [44,119]	177 [158,247]	0.01	57 [50,115]	185 [167,224]	0.0002
SAT area (cm ²)	170 [72,240]	222 [168,420]	0.30	160 [82,357]	234 [155,359]	0.57
SBP (mmHg)	118±4	120±5	0.77	111±4	119±4	0.13
DBP (mmHg)	75±4	73±5	0.76	69±3	76±3	0.16
Triglycerides (mg/dL)	86 [56,104]	154 [65,212]	0.30	88 [79,113]	144 [89,210]	0.03
HDL Cholesterol (mg/dL)	67±8	50±7	0.17	59±6	45±5	0.10
Fasting Glucose (mg/dL)	87±2	87±1	0.86	85±2	83±2	0.50
Hemoglobin A1c (%)	5.4 [5.3,5.6]	5.7 [5.4,5.8]	0.14	5.3 [5.2,5.7]	5.4 [5.2,5.6]	0.85
HOMA-IR	0.57 [0.32,0.65]	1.41 [0.47,2.85]	0.14	0.65 [0.48,0.99]	1.66 [0.83,3.10]	0.03
Creatinine (mg/dL)	0.80±0.04	0.69±0.05	0.12	0.89±0.05	0.83±0.05	0.40
Potassium (mmol/L)	4.1±0.1	4.0±0.2	0.86	3.9±0.1	4.0±0.1	0.65

Data reported as mean ± standard error mean or median [interquartile range].

^a Non-HIV low VAT vs. Non-HIV high VAT

^b HIV low VAT vs. HIV high VAT

Abbreviations: WHR, waist to hip ratio; VAT, visceral adipose tissue; SAT, subcutaneous adipose tissue; SBP, systolic blood pressure; DBP, diastolic blood pressure; HDL, high-density lipoprotein; HOMA-IR, homeostatic model assessment of insulin resistance

Supplemental Table 6a. RAAS Parameters during the Graded Angiotensin II Infusion Under Conditions of Low Sodium Intake

	Non-HIV-Infected (n=10)	HIV-Infected (n=20)	P Value
PRA (ng/mL/hr)			
Ang II 0.0 ng/kg/min	1.80 [1.05,3.18]	2.45 [1.43,3.50]	0.98
Ang II 0.3 ng/kg/min	1.70 [1.15,3.98]	1.75 [1.40,3.53]	0.77
Ang II 1.0 ng/kg/min	1.25 [0.85,2.88]	1.30 [0.83,2.65]	0.71
Ang II 3.0 ng/kg/min	0.90 [0.58,1.93]	0.95 [0.53,1.85]	0.69
Serum Aldosterone (ng/dL)			
Ang II 0.0 ng/kg/min	9.2 [7.6,13.6]	13.8 [9.7,30.9]	0.03
Ang II 0.3 ng/kg/min	15.0 [9.9,22.1]	16.5 [11.0,33.4]	0.18
Ang II 1.0 ng/kg/min	25.8 [21.9,33.8]	31.9 [19.1,42.5]	0.50
Ang II 3.0 ng/kg/min	36.6 [24.7,45.6]	43.9 [26.7,54.7]	0.44
Ang II (pg/mL)			
Ang II 0.0 ng/kg/min	30.0 [26.2,36.3]	33.0 [26.1,40.7]	0.82
Ang II 0.3 ng/kg/min	34.4 [26.7,43.3]	39.2 [27.5,52.5]	0.57
Ang II 1.0 ng/kg/min	55.7 [46.9, 63.9]	50.8 [37.6,63.4]	0.30
Ang II 3.0 ng/kg/min	100.6 [94.0,106.9]	84.9 [66.6,124.8]	0.38
MAP (mmHg)			
Ang II 0.0 ng/kg/min	85±2	84±1	0.86
Ang II 0.3 ng/kg/min	86±2	86±2	0.98
Ang II 1.0 ng/kg/min	91±2	90±2	0.88
Ang II 3.0 ng/kg/min	97±2	96±2	0.87

Data reported as mean ± standard error mean or median [interquartile range].

Performed under conditions of equivalent low sodium intake for both groups as described in the text.

Abbreviations: PRA, plasma renin activity; Ang II, angiotensin II; MAP, mean arterial pressure

Supplemental Table 6b. RAAS Parameters During the Graded Angiotensin II infusion Under Conditions of Liberal Sodium Intake

	Non-HIV-Infected (n=10)	HIV-Infected (n=20)	P Value
PRA (ng/mL/hr)			
Ang II 0.0 ng/kg/min	0.15 [0.09,0.20]	0.30 [0.09,0.58]	0.09
Ang II 0.3 ng/kg/min	0.15 [0.09,0.30]	0.20 [0.10,0.50]	0.28
Ang II 1.0 ng/kg/min	0.10 [0.09,0.23]	0.20 [0.09,0.40]	0.09
Ang II 3.0 ng/kg/min	0.09 [0.09,0.20]	0.15 [0.10,0.33]	0.47
Serum Aldosterone (ng/dL)			
Ang II 0.0 ng/kg/min	2.8 [2.5,3.9]	2.6 [2.5,3.5]	0.82
Ang II 0.3 ng/kg/min	2.6 [2.5,6.0]	3.3 [2.5,5.8]	0.73
Ang II 1.0 ng/kg/min	6.3 [2.9,12.3]	8.7 [5.9,10.3]	0.41
Ang II 3.0 ng/kg/min	11.8 [5.6,18.5]	12.1 [11.3,14.6]	0.86
Ang II (pg/mL)			
Ang II 0.0 ng/kg/min	19.0 [16.9,22.6]	19.2 [17.2,23.3]	0.76
Ang II 0.3 ng/kg/min	23.9 [21.4,30.3]	24.7 [20.5,32.1]	0.96
Ang II 1.0 ng/kg/min	42.9 [36.3,52.1]	44.6 [33.7,51.1]	0.95
Ang II 3.0 ng/kg/min	79.6 [72.6,101.6]	81.3 [67.7,96.3]	0.65
MAP (mmHg)			
Ang II 0.0 ng/kg/min	92±3	90±3	0.68
Ang II 0.3 ng/kg/min	92±4	90±2	0.57
Ang II 1.0 ng/kg/min	98±5	96±3	0.82
Ang II 3.0 ng/kg/min	100±3	103±3	0.59

Data reported as mean ± standard error mean or median [interquartile range].

Performed under conditions of equivalent liberal sodium intake for both groups as described in the text.

Abbreviations: PRA, plasma renin activity; Ang II, angiotensin II; MAP, mean arterial pressure

Supplemental Table 7. Univariate Correlations with HOMA-IR

	All Subjects (n=30)		Non-HIV-Infected (n=10)		HIV-Infected (n=20)	
	r	P Value	r	P Value	r	P Value
VAT area (cm ²)	0.69	<0.0001	0.73	0.02	0.71	0.0005
PRA (ng/ml/hr)	0.37	0.04	0.63	0.05	0.75	0.0001
Ang II (pg/mL)	0.69	<0.0001	0.01	0.97	0.80	<0.0001
Serum Aldosterone (ng/dL)	0.55	0.002	0.07	0.84	0.59	0.006

Relationships were assessed by Pearson's Correlation Coefficient.

Performed under conditions of equivalent low sodium intake for both groups as described in the text.

Abbreviations: VAT, visceral adipose tissue, PRA, plasma renin activity; Ang II, angiotensin II

Supplemental Table 8a. Model to Assess Determinants of HOMA-IR in HIV-Infected Subjects

HOMA-IR		
	β Estimate	P Value
(R²=0.77; P=0.004)		
Serum Aldosterone	0.05196	0.04
VAT	0.01358	0.004
Age	-0.10719	0.05
Male Gender	0.01791	0.96
Current PI use	0.60089	0.12
Current NRTI use	-0.20771	0.71
Current NNRTI use	-0.31700	0.49

R² represents the coefficient of determination and the proportion of variance explained by the model. P value represents significance by the whole model ANOVA test.

Performed under conditions of equivalent low sodium intake for both groups as described in the text.

Abbreviations: HOMA-IR, homeostatic model assessment of insulin resistance; VAT, visceral adipose tissue; PI, protease inhibitor; NRTI, nucleoside/nucleotide reverse transcriptase inhibitors; NNRTI, non-nucleoside reverse transcriptase inhibitors

Supplemental Table 8b. Model to Assess Determinants of HOMA-IR in HIV-Infected Subjects

HOMA-IR		
	β Estimate	P Value
(R²=0.84; P=0.002)		
Serum Aldosterone	0.06788	0.007
VAT	0.01974	0.0008
Age	-0.17825	0.007
Male Gender	0.13659	0.68
Current PI use	0.21078	0.57
Current NRTI use	-0.94929	0.13
Current NNRTI use	-0.55936	0.20
Adiponectin	0.21782	0.05

R² represents the coefficient of determination and the proportion of variance explained by the model. P value represents significance by the whole model ANOVA test.

Performed under conditions of equivalent low sodium intake for both groups as described in the text.

Abbreviations: HOMA-IR, homeostatic model assessment of insulin resistance; VAT, visceral adipose tissue; PI, protease inhibitor; NRTI, nucleoside/nucleotide reverse transcriptase inhibitors; NNRTI, non-nucleoside reverse transcriptase inhibitors