

Supplementary Table 1. Main Effects of Metformin and Weight Loss on Breast-Cancer Related Biomarkers Among Breast Cancer Survivors in a 2x2 Factorial Randomized Controlled Trial, Stratified by Intervention Adherence*

	6-Month Change Between & Placebo and Metformin Groups			6-Month Change Between Control and Weight Loss Groups	
	n	Percent Change (95% CI)	p-value†	Percent Change (95% CI)	p-value†
Insulin					
≥ 5% Weight loss	118	3.8% (-7.3%, 14.8%)	0.51	-7.6% (-19.1%, 3.9%)	0.19
<5% Weight loss	215	-10.4% (-19.3%, -1.4%)	0.02	-8.4% (-17.5%, 0.6%)	0.07
≥ 80% Pill adherence	245	-10.2% (-18.3%, -2.0%)	0.02	-12.8% (-20.9%, -4.6%)	<0.001
<80% Pill adherence	88	-1.5% (-17.1%, 14.2%)	0.86	-10.6% (-25.3%, 4.0%)	0.16
Glucose					
≥ 5% Weight loss	118	1.9% (-1.2%, 5.1%)	0.24	-2.1% (-5.4%, 1.1%)	0.20
<5% Weight loss	215	-2.6% (-5.5%, 0.2%)	0.08	-1.1% (-4.0%, 1.8%)	0.46
≥ 80% Pill adherence	245	-1.4% (-3.9%, 1.1%)	0.29	-2.4% (-4.9%, 0.1%)	0.06
<80% Pill adherence	88	-0.8% (-4.9%, 3.2%)	0.69	-0.5% (-4.3%, 3.4%)	0.81
C-Reactive protein					
≥ 5% Weight loss	118	-9.2% (-38.2%, 19.7%)	0.53	-13.7% (-43.5%, 16.2%)	0.36
<5% Weight loss	213	-15.3% (-39.2%, 8.7%)	0.22	-7.6% (-31.7%, 16.6%)	0.54
≥ 80% Pill adherence	244	-20.7% (-42.2%, 0.8%)	0.06	-13.4% (-34.9%, 8.1%)	0.22
<80% Pill adherence	87	7.1% (-24.5%, 38.6%)	0.67	-8.0% (-37.8%, 21.9%)	0.61
Bioavailable estradiol					
≥ 5% Weight loss	118	-8.5% (-20.8%, 3.8%)	0.17	-3.9% (-16.3%, 8.5%)	0.53
<5% Weight loss	215	-3.8% (-15.3%, 7.7%)	0.52	2.1% (-9.5%, 13.8%)	0.72
≥ 80% Pill adherence	245	-15.5% (-23.6%, -7.4%)	0.01	-6.7% (-14.8%, 1.4%)	0.11
<80% Pill adherence	88	1.3% (-26.9%, 29.6%)	0.93	0.3% (-26.6%, 27.1%)	0.98
Bioavailable testosterone					
≥ 5% Weight loss	118	-9.7% (-18.7%, -0.7%)	0.03	-2.6% (-11.6%, 6.4%)	0.57
<5% Weight loss	215	-5.6% (-13.1%, 1.9%)	0.15	1.7% (-5.9%, 9.3%)	0.66
≥ 80% Pill adherence	245	-10.1% (-15.9%, -4.4%)	0.002	-3.6% (-9.4%, 2.1%)	0.22
<80% Pill adherence	88	-13.3% (-32.0%, 5.3%)	0.15	3.3% (-13.9%, 20.6%)	0.70
Serum hormone binding globulin					
≥ 5% Weight loss	118	3.5% (-6.3%, 13.3%)	0.48	3.9% (-6.1%, 13.8%)	0.45
<5% Weight loss	215	4.1% (-1.2%, 9.4%)	0.13	-0.8% (-6.1%, 4.5%)	0.76
≥ 80% Pill adherence	245	9.9% (3.9%, 15.9%)	0.004	6.7% (0.7%, 12.7%)	0.03
<80% Pill adherence	88	3.9% (-5.8%, 13.7%)	0.43	-0.4% (-9.6%, 8.8%)	0.93

*There was no evidence that degree of adherence affected biomarker changes based on a 2-sided t-statistic for 3-way interactions of adherence*treatment*time in a mixed model analysis.

† Test of biomarkers changes within strata based on a 2-sided t-statistic for the group*time interaction in a mixed model analysis.