**Supplementary Tables**

**Table S1. Blood Biomarkers Stratified by Body Mass Index**

\*Log transformed data were used to ensure the underlying model assumptions were met.
Abbreviations: Uw, underweight; hsCRP, high sensitivity C-reactive protein; IQR, interquartile range; IL-6, interleukin-6; SHBG, sex hormone binding globulin

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Factors** | **Uw/Normal (n=39)** | **Overweight (n=37)** | **Obese (n=23)** | **P\*** |
| **hsCRP, ng/mL** |   |   |   |   |
| Median (IQR) |  6.4 (5.86 to 6.82)  |  7.21 (6.67 to 7.85) | 8.61 (7.91 to 9.18) | <0.001 |
| **IL-6, pg/mL** |   |   |   |   |
| Median (IQR) | -0.11 (-0.51 to 0.35)  | 0.31 (-0.24 to 0.55) | 0.83 (0.37 to 1.21) | <0.001 |
| **Leptin, pg/mL** |   |   |   |   |
| Median (IQR) |  8.73 (8.19 to 9.27) | 9.76 (9.32 to 10.19) | 10.46 (10.25 to 10.64) | <0.001 |
| **Adiponectin, mg/mL** |   |   |   |   |
| Median (IQR) |  9.39 (8.94 to 9.77)  | 9.28 (8.91 to 9.66)  | 9.14 (8.76 to 9.35) | 0.219 |
| **Insulin, mU/L** |   |   |   |   |
| Median (IQR) | 1.21 (0.92 to 1.57)  | 1.54 (1.26 to 1.84)  | 2.17 (1.8 to 2.79) | <0.001 |
| **SHBG, nmol/L** |   |   |   |   |
| Median (IQR) | 4.13 (3.97 to 4.41) |  4.03 (3.68 to 4.23) | 3.68 (3.29 to 3.87) | 0.001 |

**Table S2.** **Correlations among Blood Biomarkers, Adiposity, Exercise and Breast Endpoints in Patients Not Taking Anti- Hypertensive or Diabetes Medications**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Breast** |
| **Blood Marker** | **BMI** | **Total Fat Mass** | **Trunk Fat Mass** | **TMetHr** | **Adipocyte Diameter** | **CLS-B/cm2** | **SIRT1** | **Aromatase** |
| **hsCRP** |  |  |   |   |   |   |   |  |
| ρ (Spearman's) | 0.63 | 0.66 | 0.63 | -0.22 | 0.47 | 0.41 | -0.21 | 0.44 |
| *P* | <0.001 | <0.001 | <0.001 | 0.103 | <0.001 | <0.001 | 0.113 | <0.001 |
| **IL-6** |  |   |  |  |   |   |   |   |
| ρ (Spearman's) | 0.42 | 0.48 | 0.46 | -0.3 | 0.48 | 0.18 | -0.4 | 0.44 |
| *P* | <0.001 | <0.001 | <0.001 | 0.023 | <0.001 | 0.129 | 0.002 | <0.001 |
| **Leptin** |  |   |  |   |   |   |   |  |
| ρ (Spearman's) | 0.82 | 0.86 | 0.82 | -0.37 | 0.61 | 0.27 | -0.37 | 0.49 |
| *P* | <0.001 | <0.001 | <0.001 | 0.004 | <0.001 | 0.021 | 0.004 | <0.001 |
| **Adiponectin** |  |  |   |   |   |   |   |   |
| ρ (Spearman's) | -0.18 | -0.15 | -0.2 | 0.3 | -0.29 | -0.16 | 0.23 | -0.08 |
| *P* | 0.127 | 0.212 | 0.102 | 0.020 | 0.013 | 0.178 | 0.083 | 0.537 |
| **Insulin** |  |  |  |   |   |  |   |  |
| ρ (Spearman's) | 0.62 | 0.54 | 0.52 | -0.2 | 0.36 | 0.08 | -0.24 | 0.34 |
| *P* | <0.001 | <0.001 | <0.001 | 0.134 | 0.002 | 0.488 | 0.064 | 0.008 |
| **SHBG** |  |   |  |   |   |   |   |   |
| ρ (Spearman's) | -0.4 | -0.41 | -0.45 | 0.38 | -0.39 | -0.25 | 0.13 | -0.29 |
| *P* | <0.001 | <0.001 | <0.001 | 0.003 | <0.001 | 0.039 | 0.322 | 0.022 |

Abbreviations: BMI, body mass index; TMetHr, total metabolic equivalent task hours; CLS-B, crown-like structures of the breast; hsCRP, high sensitivity C-reactive protein; IL-6, interleukin-6; SHBG, sex hormone binding globulin

**Table S3. Baseline Characteristics of Patients with BMI < 25**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **All (n=39)** | **B-WATi Absent (n=25)** | **B-WATi Present (n=14)** | ***P*** |
| **Age (years)** |  |  |  |  |
|  Median (range) | 47 (29 to 82) | 44 (29 to 79) | 48 (31 to 82) | 0.168 |
| **Menopausal, n (%)** |  |  |  |  |
|  Pre | 26 (70%) | 19 (79%) | 7 (54%) |  |
|  Post | 11 (30%) | 5 (21%) | 6 (46%) | 0.143 |
|  Not reported | 2 (5%) | 1 (4%) | 1 (7%) |  |
| **Race, n (%)** |  |  |  |  |
|  White | 27 (69%) | 19 (76%) | 8 (57%) |  |
|  Black | 2 (5%) | 1 (4%) | 1 (7%) |  |
|  Asian | 6 (15%) | 3 (12%) | 3 (21%) |  |
|  Not reported | 4 (10%) | 2 (8%) | 2 (14%) | 0.56 |
| **BMI** |  |  |  |  |
|  Median (range) | 21.8 (17.5 to 24.4) | 21.3 (17.5 to 24.4) | 22.3 (20.1 to 24.3) | 0.117 |
| **Adipocyte Diameter (µ)** |  |  |  |  |
|  Median (range) | 91.2 (51.1 to 117.8) | 85.6 (51.1 to 116.0) | 95.8 (83.5 to117.8) | **0.024** |
| **Exercise (MET-hours/week)a** |  |  |  |  |
|  Median (range) | 20.0 (0 to 107.5) | 23.8 (0 to 107.5) | 14.2 (0 to 72) | **0.083** |
| **Hypertension, n (%)** | 3 (8%) | 1 (4%) | 2 (14%) | 0.289 |
| **Dyslipidemia, n (%)** | 3 (8%) | 0 (0%) | 3 (21%) | **0.04** |

No data: a, n=3 (B-WATi absent) and n=2 (B-WATi present)

Abbreviations: BMI, body mass index; B-WATi, breast white adipose tissue inflammation; MET, metabolic equivalent task