**Supplemental Table 1. Demographics and clinical characteristics for included vs. excluded participants**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Included**  **N=467** | **Excluded**  **N=260** | **P Value** |
| **At baseline** | | |  |
| **Age, mean (SD), Yr** | 52.7 (2.5) | 52.7 (2.6) | 0.88 |
| **Menopausal age, mean (SD), Yr** | 50.9 (2.5) | 50.8 (2.7) | 0.54 |
| **Time since menopause, mean (SD), Yr** | 1.8 (0.8) | 1. 9 (0.8) | 0.05 |
| **White Race, N (%)** | 365 (78.2) | 192(73.8) | 0.20 |
| **Education, N (%)** |  |  | 0.01 |
| Declined to answer | 5 (1.1) | 5 (1.9) |  |
| High school graduate or less | 29 (6.2) | 29 (11.2) |  |
| Some college | 77 (16.5) | 55 (21.2) |  |
| College graduate | 356 (76.2) | 171 (65.8) |  |
| **Employed, N (%)** | 386 (82.7) | 206 (79.2) | 0.28 |
| **Income, N (%)** |  |  | 0.28 |
| <$60K | 81 (17.3) | 58 (22.3) |  |
| $60K-<$100K | 64 (13.7) | 37 (14.2) |  |
| >$100K | 85 (18.2) | 37 (14.2) |  |
| Unknown | 237(50.7) | 128 (49.2) |  |
| **Physical Activity Level, Median(Q1, Q3), MET-hr/wk** | 16.7 (7.0, 28.4) | 17.5 (7.5, 28.5) | 0.87 |
| **Alcohol consumption, N (%)** | 356 (76.2) | 181 (69.6) | 0.05 |
| **Smoking Status, N (%)** |  |  | 0.05 |
| Never | 373 (79.9) | 198 (76.2) |  |
| Past | 70 (15.0) | 36 (13.8) |  |
| Current | 24 (5.1) | 26 (10.0) |  |
| **Ever use hormone therapy, N (%)** | 99 (21.2) | 53 (20.4) | 0.80 |
| **Anti-Hypertensive medication use, N (%)** |  |  | 0.30 |
| Never | 386 (82.7) | 226 (86.9) |  |
| Past | 26 (5.6) | 12 (4.6) |  |
| Current | 55 (11.8) | 22 (8.5) |  |
| **BMI, mean (SD), Kg/m2** | 26.1 (4.3) | 26.4 (4.4) | 0.33 |
| **C-reactive protein, median (Q1, Q3), mg/dL** | 1.0 (0.4, 2.3) | 1.1 (0.5, 3.1) | 0.08 |
| **Leptin, median (Q1, Q3), ng/ml** | 18.4 (11.0, 30.7) | 22.1 (11.9, 33.9) | 0.03 |
| **High molecular weight adiponectin, median (Q1, Q3), µg/mL** | 6.6 (4.5, 9.7) | 6.8 (4.6, 9.7) | 0.42 |
| **Systolic blood pressure, mean (SD), mmHg** | 118.4 (15.0) | 119.2 (14.7) | 0.65 |
| **Diastolic blood pressure, mean (SD), mmHg** | 75.2 (9.3) | 74.6 (9.1) | 0.37 |
| **HDL cholesterol, mean (SD), mg/dL** | 72.3 (15.1) | 71.6 (13.8) | 0.57 |
| **LDL cholesterol, mean (SD), mg/dL** | 111.5 (27.6) | 109.9 (28.2) | 0.47 |
| **Triglycerides, median (Q1, Q3), mg/dL** | 70.0 (51.0, 106.0) | 71.0 (51.0, 107.0) | 0.70 |
| **Fasting glucose,** **median (Q1, Q3), mg/dL** | 79.0 (74.0, 86.0) | 78.0 (73.0, 84.0) | 0.24 |
| **Insulin, median (Q1, Q3), µIU/mL** | 4.2 (2.0, 7.4) | 4.3 (1.0, 7.1) | 0.96 |
| **HOMA, median (Q1, Q3)** | 0.82 (0.37, 1.48) | 0.8 (0.2, 1.4) | 0.83 |
| **Trial assigned treatment group, N (%)** |  |  |  |
| o-CEE | 140 (30.0) | 90 (34.6) | 0.40 |
| t-E2 | 144 (30.8) | 78 (30.0) |  |
| Placebo | 183 (39.2) | 92 (35.4) |  |
| **EAT volume, median (Q1, Q3), cm3** | 36.7 (25.6, 54.6) | 38.9 (27.7, 53.0) | 0.58 |
| **PAT volume, median (Q1, Q3), cm3** | 14.5 (10.3, 21.5) | 6.6 (3.3, 11.9) | <0.0001 |
| **CIMT, mean (SD), µm** | 714.5 (89.2) | 731.2 (94.2) | 0.02 |
| **At 48-Months** | | |  |
| **EAT volume, median (Q1, Q3), cm3** | 37.6 (26.3, 50.2) | 35.9 (26.7, 51.2) | 0.63 |
| **PAT volume, median (Q1, Q3), cm3** | 14.1(10.1, 21.1) | 12.3 (9.6, 21.6) | 0.81 |
| **CIMT, mean (SD), μm** | 747.9 (94.4) | 750.0 (98.3) | 0.84 |

**Supplemental Table 2. Unadjusted associations between study covariates and 48-months changes in CIMT, EAT and PAT**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **48-months Δ** | | | | | |
| **CIMT, μm** | | **EAT, cm3** | | **PAT, cm3** | |
| **β(SE)** | **P-value** | **β(SE)** | **P-value** | **β(SE)** | **P-value** |
| **Age** | 1.21 (0.80) | 0.13 | -0.36 (0.28) | 0.20 | -0.11 (0.14) | 0.43 |
| **Menopausal age** | 1.44 (0.80) | 0.07 | -0.28 (0.29) | 0.32 | -0.10 (0.15) | 0.48 |
| **Time since menopause** | -2.18 (2.60) | 0.40 | -0.91 (0.92) | 0.33 | -0.13 (0.47) | 0.78 |
| **Race** |  |  |  |  |  |  |
| White | -5.53 (4.87) | 0.26 | -2.97 (1.79) | 0.09 | -1.35 (0.87) | 0.12 |
| Others | ref |  | ref |  | ref |  |
| **Education** |  | 0.69 |  | 0.82 |  | 0.99 |
| College graduate | -0.11 (8.41) | 0.989 | -1.48 (2.99) | 0.62 | -0.26 (1.51) | 0.87 |
| Declined to answer | -19.61 (21.09) | 0.35 | 3.43 (7.51) | 0.65 | -0.23 (3.78) | 0.95 |
| Some college | 3.34 (9.49) | 0.73 | -0.43 (3.38) | 0.90 | 0.02 (1.71) | 0.99 |
| High school graduate or less | ref |  | ref |  | ref |  |
| **Employed** |  |  |  |  |  |  |
| Yes | -12.96 (5.29) | 0.06 | 1.30 (1.89) | 0.49 | 0.26 (0.96) | 0.79 |
| No | ref |  | ref |  | ref |  |
| **Income** |  | 0.91 |  | <0.0001 |  | <0.0001 |
| 60k-<100k | -2.23 (7.29) | 0.76 | -5.15 (2.52) | 0.04 | -2.18 (1.27) | 0.09 |
| >100k | 2.19 (6.77) | 0.75 | -6.65 (2.34) | 0.01 | -3.24 (1.19) | 0.01 |
| Unknown | 1.78 (5.61) | 0.75 | 2.49 (1.94) | 0.20 | 1.36 (0.98) | 0.17 |
| <60k | ref |  | ref |  | ref |  |
| **Physical Activity Level** | 0.10 (0.11) | 0.36 | -0.03 (0.04) | 0.37 | -0.04 (0.02) | 0.06 |
| **Alcohol consumption** |  |  |  |  |  |  |
| Yes | -1.64 (4.73) | 0.73 | -2.44 (1.68) | 0.15 | -0.87 (0.85) | 0.31 |
| No | ref |  | ref |  | ref |  |
| **Smoking Status** |  | 0.53 |  | 0.02 |  | 0.37 |
| Never | ref |  | ref |  | ref |  |
| Past | 3.38 (5.67) | 0.55 | -3.62 (2.00) | 0.07 | -0.23 (1.02) | 0.82 |
| Current | -8.21 (9.17) | 0.37 | 6.29 (3.24) | 0.05 | 2.30 (1.67) | 0.17 |
| **Ever use hormone therapy** |  |  |  |  |  |  |
| Yes | 3.12 (4.93) | 0.53 | -3.12 (1.7) | 0.08 | 0.56 (0.88) | 0.53 |
| No | ref |  | ref |  | ref |  |
| **Anti-Hypertensive medication** |  | 0.15 |  | 0.67 |  | 0.76 |
| Never | ref |  | ref |  | ref |  |
| Past | 10.40 (8.80) | 0.24 | -0.50 (3.14) | 0.87 | 0.72 (1.61) | 0.65 |
| Current | -9.06 (6.26) | 0.15 | -1.98 (2.23) | 0.38 | 0.71 (1.13) | 0.53 |
| **BMI** | 0.66 (0.47) | 0.16 | -0.10 (0.17) | 0.54 | 0.17 (0.09) | 0.04 |
| **C-reactive protein (log)** | 1.73 (1.66) | 0.30 | -0.01 (0.59) | 0.99 | 0.62 (0.30) | 0.04 |
| **Leptin (log)** | 4.10 (2.64) | 0.12 | -0.73 (0.94) | 0.44 | 0.77 (0.48) | 0.11 |
| **High molecular weight adiponectin (log)** | -2.14 (3.06) | 0.49 | 1.61 (1.09) | 0.14 | 1.11 (0.55) | 0.04 |
| **Systolic blood pressure** | 0.10 (0.13) | 0.45 | 0.05 (0.05) | 0.30 | 0.06 (0.02) | 0.02 |
| **Diastolic blood pressure** | 0.43 (0.22) | 0.05 | -0.03 (0.08) | 0.68 | 0.01 (0.04) | 0.89 |
| **HDL cholesterol** | 0.01 (0.13) | 0.94 | -0.10 (0.05) | 0.04 | -0.04 (0.02) | 0.15 |
| **LDL cholesterol** | -0.08 (0.07) | 0.29 | -0.01 (0.03) | 0.81 | 0.01 (0.01) | 0.61 |
| **Triglycerides (log)** | -3.72 (3.65) | 0.31 | 1.22 (1.30) | 0.35 | 1.37 (0.65) | 0.04 |
| **Fasting glucose (log)** | 10.95 (16.82) | 0.56 | -6.01 (5.97) | 0.32 | 1.88 (3.07) | 0.54 |
| **Insulin (log)** | 3.74 (2.11) | 0.08 | -0.19 (0.75) | 0.81 | 0.64 (0.38) | 0.09 |
| **HOMA (log)** | 3.52 (2.00) | 0.08 | -0.25 (0.71) | 0.72 | 0.60 (0.36) | 0.10 |
| **EAT volume (log)** | 3.61 (3.83) | 0.35 | - |  | - |  |
| **PAT volume (log)** | 4.20 (3.39) | 0.22 | - |  | - |  |
| **Treatment group** |  | 0.82 |  | 0.59 |  | 0.89 |
| o-CEE | -1.39 (4.89) | 0.78 | -1.67 (1.74) | 0.34 | 0.42 (0.88) | 0.63 |
| t-E2 | 1.81 (4.85) | 0.71 | -0.16 (1.73) | 0.92 | 0.13 (0.87) | 0.88 |
| Placebo | ref |  | ref |  | ref |  |

Abbreviations: o-CEE: oral conjugated equine estrogen; t-E2: transdermal 17β-estradiol; MET: metabolic equivalents; BMI: body mass index; HDL: high density lipoprotein; LDL: low density lipoprotein; HOMA: Homeostasis Model Assessment insulin resistance index; CIMT: carotid-intima media thickness; EAT: epicardial adipose tissue; PAT: paracardial adipose tissue