Supplementary Table S1. Characteristics of 40 ER-positive breast cancer patients in a longitudinal study of mammographic density change after the initiation of tamoxifen treatment.

|  |  |  | Absolute change in percent density | Overall association with percent density | Overall association with absolute change in percent density |
| --- | --- | --- | --- | --- | --- |
|  |  |  | Baseline to T1 | Baseline to T5 |  |
|  | N | %a | Mean (SD) | Mean (SD) | P-valueb | P-valuec |
| Age at diagnosis (years) |  |  |  |  |  |
| ≤ 50 | 19 | 48 | -6.7 (12.9) | -10.2 (14.8) | 0.70 | 0.09 |
| > 50 | 21 | 53 | -2.6 (9.7) | -4.5 (8.3) |  |  |
|  |  |  |  |  |  |  |
| Year of diagnosis |  |  |  |  |  |  |
| 1991-1994 | 15 | 38 | -2.8 (8.4) | -8.1 (9.7) | 0.11 | 0.22 |
| 1995-1999 | 12 | 30 | -8.4 (14.6) | -10.3 (17) |  |  |
| 2000-2004 | 13 | 33 | -2.9 (11.1) | -3.3 (8.4) |  |  |
|  |  |  |  |  |  |  |
| Stage at diagnosis |  |  |  |  |  |  |
| Localized | 12 | 30 | -3.4 (11.2) | -7.1 (14.2) | 0.92 | 0.89 |
| Regional spread | 28 | 70 | -5.0 (11.6) | -7.2 (11.3) |  |  |
|  |  |  |  |  |  |  |
| Progesterone receptor expression |  |  |  |  |
| Negative | 8 | 20 | -7.6 (16.4) | -11.9 (14.9) | 0.29 | 0.64 |
| Positive | 32 | 80 | -3.7 (9.9) | -6.0 (11.2) |  |  |
|  |  |  |  |  |  |  |
| Tumor differentiation |  |  |  |  |  |  |
| Well differentiated | 12 | 31 | -1.2 (6.2) | -2.6 (7.3) | 0.57 | 0.27 |
| Moderately differentiated | 18 | 46 | -5.0 (13.9) | -8.7 (15.0) |  |  |
| Poorly differentiated | 9 | 23 | -8.5 (11.5) | -11.0 (9.7) |  |  |
| Missing | 1 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Tumor size (mm) |  |  |  |  |  |  |
| ≤11 | 11 | 29 |  1.0 (5.9) | -1.3 (5.3) | 0.08 d | 0.09 d |
| >11 to 16.5 | 10 | 26 | -4.3 (5.8) | -4.0 (7.5) |  |  |
| >16.5 to 25 | 11 | 29 | -2.8 (10.7) | -10.8 (14.6) |  |  |
| >25 | 6 | 16 | -9.3 (15.1) | -9.0 (12.9) |  |  |
| Missing | 2 |  |  |  |  |  |
| Race |  |  |  |  |  |  |
| White | 39 | 98 | -4.4 (11.5) | -7.4 (12.1) | N/Ae | N/Ae |
| Non-white | 1 | 2 | -9.2 (N/A) |  2.3 (N/A) |  |  |
|  |  |  |  |  |  |  |
| Smoking at baseline |  |  |  |  |  |  |
| Never | 21 | 53 | -2.8 (9.0) | -5.6 (9.3) | 0.79 | 0.41 |
| Ever | 19 | 48 | -6.4 (13.6) | -8.9 (14.6) |  |  |
|  |  |  |  |  |  |  |
| Hormone use at baselinef |  |  |  |  |  |
| No use | 16 | 40 | -4.7 (10.8) | -7.6 (13.8) | 0.72 | 0.48 |
| Former | 10 | 25 | -4.5 (14.5) | -5.5 (12.6) |  |  |
| Current | 14 | 35 | -4.3 (10.4) | -8.0 (10.1) |  |  |
|  |  |  |  |  |  |  |
| Antidepressants at baselineg |  |  |  |  |  |
| No use | 34 | 85 | -4.8 (11.5) | -7.2 (12.1) | 0.10 | 0.92 |
| Current | 6 | 15 | -3.1 (11.9) | -6.9 (13.0) |  |  |
| Former | 0 | 0 |  |  |  |  |
|  |  |  |  |  |  |  |
| Chemotherapy |  |  |  |  |  |  |
| No | 14 | 35 | -2.0 (8.0) | -2.9 (6.2) | 0.91 | 0.08 |
| Yes | 26 | 65 | -5.9 (12.8) | -9.5 (13.8) |  |  |
|  |  |  |  |  |  |  |
| Radiation therapy |  |  |  |  |
| No | 9 | 23 | -1.0 (9.1) | -8.9 (9.4) | 0.72 | 0.64 |
| Yes | 31 | 78 | -5.5 (11.9) | -6.7 (12.8) |  |  |
|  |  |  |  |  |  |  |
| Bilateral oophorectomybetween diagnosis and T5 |  |  |  |
| No | 37 | 93 | -5.0 (11.6) | -7.4 (12.0) | 0.84 | 0.97 |
| Yes | 3 | 8 |  1.0 (8.4) | -4.8 (14.9) |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Percent density at baseline (tertiles) |  |  |  |  |
| <15.4% | 13 | 33 |  2.0 (3.6) | -0.4 (4.2) | N/A | <0.01d |
| 15.5% to 32.1% | 14 | 35 | -0.9 (7.7) | -3.0 (7.6) |  |  |
| >32.1% | 13 | 33 | -14.9 (12.9) | -18.5 (13.4) |  |  |
|  |  |  |  |  |  |  |
| BMI (kg/m2) at baseline |  |  |  |  |  |  |
| <25 | 10 | 25 | -7.7 (17.9) | -11.9 (18.5) | 0.09 d | 0.29 d |
| 25 to <30 | 11 | 28 | -4.6 (11.4) | -6.1 (8.5) |  |  |
| 30 to <35 | 14 | 35 | -2.9 (5.9) | -6.4 (9.4) |  |  |
| ≥ 35 | 5 | 13 | -2.4 (7.9) | -2.2 (9.2) |  |  |
|  |  |  |  |  |  |  |
| Change in BMI (kg/m2) from baseline to T1 |  |  |  |
| <-2.5 | 1 | 3 |  0.7 (N/A) | -7.4 (N/A) | N/A | 0.49 h |
| -2.5 to <-1 | 5 | 12 | -5.6 (10.7) | -11.8 (11.2) |  |  |
| -1 to 1 | 28 | 70 | -4.7 (11.5) | -5.3 (9.9) |  |  |
| >1 to 2.5 | 3 | 8 |  3.8 (6.6) |  2.2 (7.7) |  |  |
| >2.5 | 3 | 8 | -10.9 (17.2) | -26.6 (19.7) |  |  |
|  |  |  |  |  |  |  |
| Breast cancer recurrence prior to T5  |  |  |  |
| No | 38 | 95 | -4.3 (11.3) | -7.1 (12.1) | N/Ae | N/Ae |
| Yes | 1 | 3 | -20.7 (N/A) | -20.6 (N/A) |  |  |
| Unknown date of recurrence | 1 | 3 |  4.4 (N/A) |  2.5 (N/A) |  |  |
|  |  |  |  |  |  |  |
| Months between baseline and T1 mammograms |  |  |  |
| ≤ 13 | 11 | 28 | -0.6 (7.1) | -3.7 (7.8) | N/A | 0.75 |
| >13 to 18 | 9 | 23 | -3.2 (10.0) | -8.1 (8.7) |  |  |
| >18 to 22 | 4 | 10 | -3.3 (6.5) | -8.4 (8.4) |  |  |
| >22 | 16 | 40 | -8.2 (14.6) | -8.8 (16.4) |  |  |

Abbreviations: BMI – body mass index; ER – estrogen receptor; N/A – not applicable; SD – standard deviation

a Percentages may not add up to 100 due to rounding

b Estimated using linear regression models with percent density as the dependent variable

c Estimated using linear regression models with density change from the previous year as the dependent variable

d Estimated using ordinal form of variable

e Not estimated due to small numbers

f At least one estrogen or estrogen plus progestin prescription ≤100 days (current users) or >100 days (former users) before the baseline mammogram

g At least one antidepressant prescription ≤30 days (current users) or >30 days (former users) before the baseline mammogram

h Evaluated for association with density change from baseline to T1 only