**Table S2**. Characteristics of the matched cohorts of each 21-gene Recurrence Score Assay risk group from the SEER cohort, grouped by receipt of post-mastectomy radiotherapy.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Low-Risk** | | | | **Intermediate-Risk** | | | | **High-Risk** | | | | |
| **No PMRT (*N=*833)** | **PMRT  (*N*=317)** | ***P*** | **SMD** | **No PMRT (*N=*493)** | **PMRT  (*N*=208)** | ***P*** | **SMD** | | **No PMRT (*N=*108)** | **PMRT  (*N*=54)** | ***P*** | **SMD** |
| Age (years) | 57 [49,66] | 58 [48,66] | 0.94 | 0.002 | 56 [48, 64] | 56 [48, 65] | 0.84 | 0.02 | | 54 [46, 60] | 53 [44, 62] | 0.47 | 0.07 |
| Tumor stage |  |  | 0.24 | 0.08 |  |  | 0.29 | 0.09 | |  |  | 0.54 | 0.13 |
| pT1 | 452 (54.3) | 159 (50.2) | 246 (49.9) | 94 (45.2) | 53 (49.1) | 23 (42.6) |
| pT2 | 381 (45.7) | 158 (49.8) | 247 (50.1) | 114 (54.8) | 55 (50.9) | 31 (57.4) |
| Nodal stage |  |  | 0.18 | 0.09 |  |  | 0.36 | 0.06 | |  |  | 0.86 | 0.06 |
| pN1mi | 555 (66.6) | 225 (71.0) | 339 (68.8) | 151 (72.6) | 35 (32.4) | 16 (29.6) |
| pN1 | 278 (33.4) | 92 (29.0) | 154 (31.2) | 57 (27.4) | 73 (67.6) | 38 (70.4) |
| Grade |  |  | 0.39 | 0.11 |  |  | 0.82 | 0.05 | |  |  | 0.47 | 0.15 |
| 1 | 265 (31.8) | 92 (29.0) | 68 (13.8) | 25 (12.0) | 44 (40.8) | 26 (48.2) |
| 2 | 497 (59.7) | 188 (59.3) | 299 (60.6) | 128 (61.5) |
| 3 | 71 (8.5) | 37 (11.7) | 126 (25.6) | 55 (26.4) | 64 (59.3) | 28 (51.9) |
| Histology |  |  | 0.95 | 0.04 |  |  | 0.52 | 0.09 | |  |  | 1.00 | 0.04 |
| IDC | 610 (73.2) | 229 (72.2) | 379 (76.9) | 153 (73.6) | 101 (93.5) | 51 (94.4) |
| ILC | 147 (17.6) | 57 (18.0) | 41 (8.3) | 17 (8.2) | 7 (6.5) | 3 (5.6) |
| IDC/ILC | 76 (9.1) | 31 (9.8) | 73 (14.8) | 38 (18.3) |  |  |
| PR status |  |  | 0.74 | 0.02 |  |  | 0.90 | 0.01 | |  |  | 1.00 | 0.04 |
| PR+ | 33 (4.0) | 14 (4.4) | 57 (11.6) | 25 (12.0) | 78 (72.2) | 41 (75.9) |
| PR- | 800 (96.0) | 303 (95.6) | 436 (88.4) | 183 (88.0) | 30 (27.8) | 13 (24.1) |
| Her2 status |  |  | 0.39 | 0.10 |  |  | 0.67 | 0.08 | |  |  | 0.71 | 0.09 |
| Her2- | 652 (78.3) | 258 (81.4) | 369 (74.8) | 162 (77.9) | 68 (63.0) | 35 (64.8) |
| Her2+ | 16 (1.9) | 3 (0.9) | 9 (1.8) | 4 (1.9) | 0 (0.0) | 0 (0.0) |
| Unknown | 165 (19.8) | 56 (17.7) | 115 (23.3) | 42 (20.2) | 40 (37.0) | 19 (35.2) |
| Chemotherapy |  |  | 0.36 | 0.06 |  |  | 0.09 | 0.14 | |  |  | 0.86 | 0.04 |
| No/Unknown | 573 (68.8) | 209 (65.9) | 205 (41.6) | 72 (34.6) | 6 (5.6) | 3 (5.6) |
| Yes | 260 (31.2) | 108 (34.1) | 288 (58.4) | 136 (65.4) | 102 (94.4) | 51 (94.4) |
| Race |  |  | 0.78 | 0.04 |  |  | 0.72 | 0.07 | |  |  | 1.00 | <0.001 |
| White | 707 (84.9) | 264 (83.3) | 45 (9.1) | 23 (11.1) | 90 (83.3) | 45 (83.3) |
| Black | 62 (7.4) | 27 (8.5) | 36 (7.3) | 14 (6.7) | 9 (8.3) | 4 (7.4) |
| Other | 64 (7.7) | 26 (8.2) | 412 (83.6) | 171 (82.2) | 9 (8.3) | 5 (9.3) |
| Hispanic |  |  | 0.81 | 0.03 |  |  | 0.89 | 0.02 | |  |  | 0.96 | 0.05 |
| No | 764 (91.7) | 293 (92.4) | 442 (89.7) | 188 (90.4) | 99 (91.7) | 50 (92.6) |
| Yes | 69 (8.3) | 24 (7.6) | 51 (10.3) | 20 (9.6) | 9 (8.3) | 4 (7.4) |
| Insurance status |  |  | 0.94 | 0.04 |  |  | 0.84 | 0.05 | |  |  | 0.47 | 0.21 |
| Insured | 756 (90.8) | 284 (89.6) | 446 (90.5) | 191 (91.8) | 88 (81.5) | 48 (88.9) |
| Medicaid | 70 (8.4) | 30 (9.5) | 38 (7.7) | 14 (6.7) | 9 (8.3) | 3 (5.6) |
| None | 7 (0.8) | 3 (0.9) | 9 (1.8) | 3 (1.4) | 11 (10.2) | 3 (5.6) |
| Prior cancer |  |  | 0.62 | 0.04 |  |  | 1.00 | <0.001 | |  |  | 0.44 | 0.16 |
| No | 773 (92.8) | 291 (91.8) | 462 (93.7) | 195 (93.8) | 104 (96.3) | 50 (92.6) |
| Yes | 60 (7.2) | 26 (8.2) | 31 (6.3) | 13 (6.2) | 4 (3.7) | 4 (7.4) |
|  |  |  |  |  |  |  |  |  | |  |  |  |  |
| **Variable** | **Low-Risk** | | | | **Intermediate-Risk** | | | | | **High-Risk** | | | |
| **No PMRT (*N=*833)** | **PMRT  (*N*=317)** | ***P*** | **SMD** | **No PMRT (*N=*833)** | **PMRT  (*N*=317)** | ***P*** | **SMD** | | **No PMRT (*N=*833)** | **PMRT  (*N*=317)** | ***P*** | **SMD** |
| Socioeconomic Tertile |  |  | 0.88 | 0.05 |  |  | 0.74 | 0.06 | |  |  | 0.93 | 0.06 |
| Top | 188 (22.6) | 73 (24.6) | 115 (23.3) | 54 (26.0) | 22 (20.4) | 11 (20.4) |
| Middle | 274 (32.9) | 103 (32.5) | 165 (33.5) | 69 (33.2) | 35 (32.4) | 16 (29.6) |
| Bottom | 371 (44.5) | 136 (42.9) | 213 (43.2) | 85 (40.9) | 51 (47.2) | 27 (50.0) |
| Year |  |  | 0.92 | 0.05 |  |  | 0.60 | 0.11 | |  |  | 0.82 | 0.17 |
| 2010 and before | 292 (35.1) | 107 (33.8) | 167 (33.9) | 64 (30.8) | 41 (38.0) | 20 (37.0) |
| 2011 | 155 (18.6) | 59 (18.6) | 88 (17.8) | 36 (17.3) | 15 (13.9) | 5 (9.3) |
| 2012 | 197 (23.6) | 73 (23.0) | 115 (23.3) | 46 (22.1) | 25 (23.1) | 13 (24.1) |
| 2013 | 189 (22.7) | 78 (24.6) | 123 (24.9) | 62 (29.8) | 27 (25.0) | 16 (29.6) |

Data are presented as count (percentage) or median (interquartile range) with significance determined by Fisher’s exact test or Kruskal-Wallis test. *N*: Number; *P*: P-value; SMD: Standardized Mean Difference; PMRT: Post-mastectomy radiotherapy; Grade 1: Well-differentiated, Grade 2: Moderately differentiated, Grade 3: Poorly differentiated/Undifferentiated; IDC: Invasive ductal carcinoma; ILC: Invasive lobular carcinoma, pN1mi: pN1 (microscopic); PR: Progesterone Receptor; Her2: Her2/Neu Receptor.