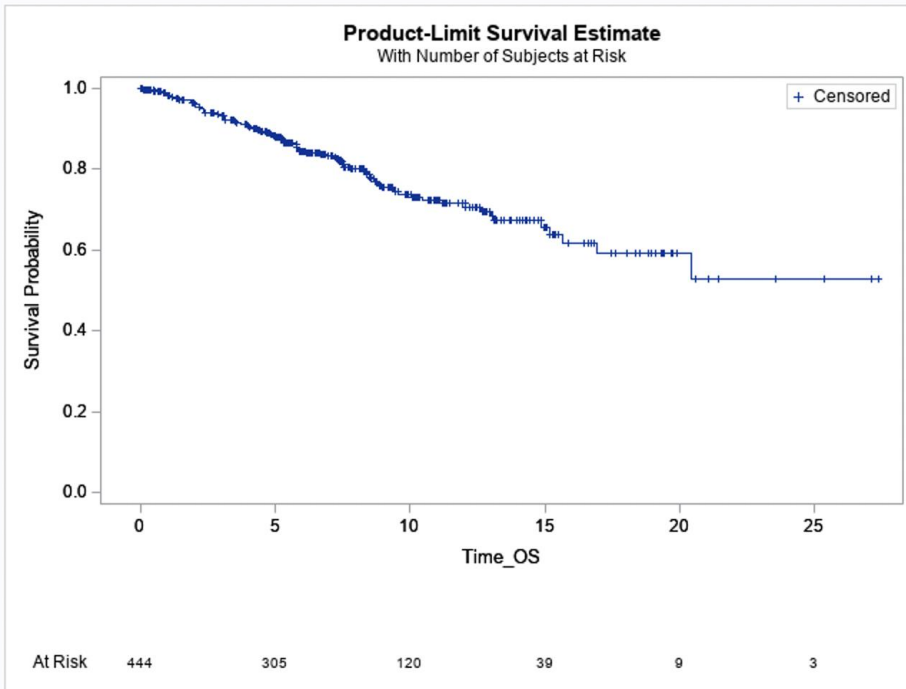


**Supplemental Figure 1.** Overall survival of patients with an invasive recurrence after DCIS



**Supplemental Table 1.** Comparison of invasive recurrence characteristics between patients who did and did not receive endocrine therapy

\*Missing data on receipt of endocrine therapy for 29 (6%) of patients

\*\*Unknown categories are not considered in p-value calculation

|                      | <b>Endocrine*</b><br><b>therapy</b><br><b>(n = 85)</b> | <b>No endocrine</b><br><b>therapy</b><br><b>(n = 338)</b> | <b>p-value**</b> |
|----------------------|--|---|------------------|
| <b>ER status</b>     |  |   |                  |
| Positive             | 15 (19%)   | 59 (18%)  | 0.9              |
| Negative             | 65 (81%)   | 271 (82%)   |                  |
| Unknown**            | 5  | 8   |                  |
| <b>Histology</b>     |  |   |                  |
| Ductal               | 67 (91%)   | 247 (84%)   | 0.5              |
| Lobular              | 4 (5%)   | 24 (8%)   |                  |
| Other                | 3 (4%)   | 22 (8%)   |                  |
| Unknown**            | 11   | 45  |                  |
| <b>Nuclear grade</b> |  |   |                  |
| High                 | 34 (46%)   | 121 (46%)   | 0.5              |
| Intermediate         | 38 (51%)   | 127 (48%)   |                  |
| Low                  | 2 (3%)   | 17 (6%)   |                  |
| Unknown**            | 11   | 73  |                  |

**Supplemental Table 2.** Patterns of invasive recurrence after treatment of DCIS among patients treated with BCS and radiation vs. mastectomy

\*Missing data for date of diagnosis of distant recurrence in BCS + radiation group

|  | <b>BCS + radiation<br/>(n = 201)</b> | <b>Mastectomy<br/>(n = 85)</b> | <b>p-value</b> |
|--|--------------------------------------|--------------------------------|----------------|
| <b>Presentation of invasive recurrence</b>             |                                      |                                | <0.001         |
| Isolated local   | 181 (90%)                            | 10 (12%)                       |                |
| Local and regional                                     | 1 (<1%)                              | 5 (6%)                         |                |
| Local and distant                                      | 8 (4%)                               | 0 (0%)                         |                |
| Local, regional and distant                            | 2 (1%)                               | 1 (1%)                         |                |
| Isolated regional                                      | 1 (<1%)                              | 48 (56%)                       |                |
| Regional and distant                                   | 4 (2%)                               | 11 (13%)                       |                |
| Isolated distant                                       | 4 (2%)                               | 10 (12%)                       |                |
| <b>Median crude time to invasive recurrence, years</b> |                                      |                                |                |
| All recurrences  | 6.3                                  | 5.5                            | 0.24           |
| Any local  | 7.0                                  | 7.4                            | 0.63           |
| Any regional   | 5.9                                  | 5.3                            | 0.05           |
| Any distant*   | -                                    | 5.9                            | n/a            |

**Supplemental Table 3.** Comparison of pathologic T stage and nuclear grade of the invasive recurrence between patients originally treated with mastectomy with and without DCIS noted in the recurrence specimen

\*Missing data on DCIS in recurrence for 108 (24%) of patients

\*\*Unknown categories are not considered in p-value calculation

|                           | <b>DCIS in recurrence specimen*<br/>(n = 19)</b> | <b>No DCIS in recurrence specimen<br/>(n = 66)</b> | <b>p-value**</b> |
|---------------------------|--|--|------------------|
| <b>Pathologic T stage</b> |  |  | 0.3              |
| T1                        | 6 (35%)  | 7 (16%)  |                  |
| T2                        | 0 (0)  | 2 (4.7%)   |                  |
| T3                        | 0 (0)  | 0 (0)  |                  |
| T4                        | 10 (59%)   | 25 (58%)   |                  |
| Tx                        | 1 (5.9%)   | 9 (21%)  |                  |
| Unknown**                 | 2  | 23   |                  |
| <b>Nuclear grade</b>      |  |  |                  |
| High                      | 11 (69%)   | 18 (72%)   | 0.8              |
| Intermediate              | 5 (31%)  | 6 (24%)  |                  |
| Low                       | 0 (0)  | 1 (4%)   |                  |
| Unknown**                 | 3  | 41   |                  |