A Comparison of Local Recurrence Risk Estimates After Breast-Conserving Surgery for DCIS: DCIS Nomogram vs Refined Oncotype DX Breast DCIS Score™

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Study Objective

To compare 10-year local recurrence risk estimates for women ≥ 50 years with DCIS ≤ 2.5 cm treated with breast-conserving surgery (BCS) without radiation, obtained using the Nomogram and the Refined DCIS Score (RDS).

Methods

• Clinically available tools designed to estimate LR risk in patients with DCIS treated with BCS:
  - Memorial Sloan Kettering DCIS Nomogram (Nomogram)
  - Incorporates 10 clinicopathologic/treatment factors, including endocrine therapy (ET)
  - Available at www.nomograms.org
  - Free-of-charge
  - Oncotype DX Breast DCIS Score™, currently reported as a Refined DCIS Score (RDS)
  - Incorporates genomic assay and age, size, year of surgery
  - Available commercially at cost = $4,620

Results

TABLE 1. Demographic and clinicopathologic characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Median (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at surgery, years</td>
<td>67 (50-81)</td>
</tr>
<tr>
<td>Ductal carcinoma in situ, cm</td>
<td>0.6 (0-2.5)</td>
</tr>
</tbody>
</table>

Presentation

- Radiologic
  - 55 (93%)
- Clinical
  - 4 (8.8%)

Family history of breast cancer

- Yes
  - 12 (20%)
- No
  - 47 (80%)

Nuclear grade

- 1
  - 20 (34.4%)
- 2
  - 34 (58%)
- 3
  - 3 (5.2%)

Necrosis present

- Yes
  - 35 (59%)
- No
  - 24 (41%)

Size category

- ≤ 1 cm
  - 42 (71%)
- > 1 cm and ≤ 2.5 cm
  - 17 (29%)

Number of excisions

- 1
  - 55 (93%)
- 2
  - 4 (6.8%)

Margin width

- > 0 mm, ≤ 2 mm
  - 47 (80%)
- > 2 mm
  - 12 (20%)

Estrogen receptor

- Positive
  - 58 (98%)
- Negative
  - 1 (1.7%)

TABLE 2. Number and proportion of patients in each risk category

10-year local recurrence risk estimate

<table>
<thead>
<tr>
<th>Estimate range</th>
<th>No (%)</th>
<th>≥ 10% (%)</th>
<th>≥ 15% (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 5%</td>
<td>1 (1.7%)</td>
<td>47 (80%)</td>
<td>12 (20%)</td>
</tr>
<tr>
<td>6%–10%</td>
<td>17 (29%)</td>
<td>34 (58%)</td>
<td>20 (34.4%)</td>
</tr>
<tr>
<td>11%–15%</td>
<td>12 (20%)</td>
<td>34 (58%)</td>
<td>20 (34.4%)</td>
</tr>
<tr>
<td>≥ 16%</td>
<td>24 (41%)</td>
<td>3 (5.2%)</td>
<td>2 (0.6%)</td>
</tr>
</tbody>
</table>

Method of risk estimation

- Nomogram, with endocrine therapy
  - 55 (93%)
  - Without endocrine therapy
  - 4 (6.8%)

- Nomogram Score
  - 35 (59%)

- Refined DCIS Score
  - 24 (41%)

Conclusions

- For most women (92%) age ≥ 50 years with DCIS ≤ 2.5 cm, the MSKCC DCIS Nomogram provided 10-year LR risk estimates concordant with the RDS.
  - DCIS Nomogram is available free-of-charge at www.nomograms.org
  - Refined DCIS Score is available commercially for $4,620
- All with discordant estimates had close margins; in all discordant cases, RDS < Nomogram estimate.
  - Close margin is incorporated into Nomogram
  - Close margin does not alter RDS estimate
  - RDS likely underestimates risk in presence of close margin
- Use of endocrine therapy is not incorporated into RDS estimate, suggesting RDS underestimates risk without ET, and overestimates risk with ET.
- Unless further data demonstrate a clinically significant advantage of the costly genomic assay, use of the RDS for women age ≥ 50 years with DCIS ≤ 2.5 cm is not warranted.