Breast Cancer in Women Under Age 40: Treatment by Total Mastectomy and Reconstruction

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Disclosures: None
Background

• Breast cancer in women less than age 40 is rare, accounting for ~ 6.5% of total cases
  – Estimated 13,000 cases of breast cancer will be in women under age 40

• Young women have characteristics that may necessitate a unique approach to treat the psychological and physiologic aspects of breast cancer

Biology

• Younger women tend to present with advanced stage breast cancer which is more aggressive than their older counterparts.

• Studies show that younger women with breast cancer tend to have a poorer prognosis:
  – Grade III
  – HER2 positive
  – “Triple negative” disease

Psychological Aspects

• Possibility of early menopause
• Effects of fertility
• Questions about pregnancy after diagnosis
• Concerns about body image
Breast Reconstruction
Compounding Factors

• Oncology → adjuvant chemotherapy, radiation
• Patient demographic factors → age, obesity, co-morbidities
• Bilaterality → contralateral prophylactic mastectomy
• Breast morphology → size, ptosis
Impact on Breast Reconstruction

• Bilateral reconstruction
  – BRCA mutations and P53
  – Patient choice
• Higher risk of receiving chemotherapy and postmastectomy radiotherapy
• Increased need for mastectomy vs. breast conservation
# Total Mastectomy and Immediate Reconstruction

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age &lt; 40</th>
<th>Age ≥ 40</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N= 106 (15.5%)</td>
<td>N= 576 (84.5%)</td>
<td></td>
</tr>
<tr>
<td>Mean Age (years)</td>
<td>35.1</td>
<td>52.9</td>
<td></td>
</tr>
<tr>
<td>- Range</td>
<td>24 – 39</td>
<td>40 - 84</td>
<td></td>
</tr>
<tr>
<td>Family History of Breast CA</td>
<td>34 (33.7%)</td>
<td>194 (35.3%)</td>
<td>NS</td>
</tr>
<tr>
<td>Tobacco Smoking</td>
<td>9 (8.5%)</td>
<td>59 (10.2%)</td>
<td>NS</td>
</tr>
<tr>
<td>Body Mass Index (mean)</td>
<td>26.01 ± 5.34</td>
<td>27.79 ± 5.76</td>
<td>0.003</td>
</tr>
<tr>
<td>Obesity (BMI ≥ 30)</td>
<td>21 (19.8%)</td>
<td>177 (31.2%)</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Vogel et al. Ann Plast Surg 2011; 557-560
Breast Cancer Staging & Treatment

<table>
<thead>
<tr>
<th>Cancer stage</th>
<th>Age &lt; 40 N=106</th>
<th>Age ≥ 40 N=576</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0</td>
<td>18 (17.0%)</td>
<td>131 (22.7%)</td>
<td>0.004</td>
</tr>
<tr>
<td>Stage I</td>
<td>14 (13.2%)</td>
<td>143 (24.8%)</td>
<td></td>
</tr>
<tr>
<td>Stage II</td>
<td>40 (37.7%)</td>
<td>163 (28.3%)</td>
<td></td>
</tr>
<tr>
<td>Stage III</td>
<td>30 (28.3%)</td>
<td>89 (15.5%)</td>
<td></td>
</tr>
<tr>
<td>Stage IV</td>
<td>2 (1.8%)</td>
<td>6 (1.0%)</td>
<td></td>
</tr>
<tr>
<td>Recurrent</td>
<td>2 (1.8%)</td>
<td>44 (7.6%)</td>
<td></td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>74 (69.8%)</td>
<td>293 (50.9%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Radiation</td>
<td>52 (49.1%)</td>
<td>200 (34.7%)</td>
<td>0.005</td>
</tr>
<tr>
<td>Prophylactic mastectomy</td>
<td>48 (45.3%)</td>
<td>147 (26.0%)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Vogel et al. Ann Plast Surg 2011; 557-560
Breast Reconstruction

<table>
<thead>
<tr>
<th>Reconstructive method</th>
<th>Age &lt; 40 N=106</th>
<th>Age ≥ 40 N=576</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAM flap</td>
<td>30 (28.3%)</td>
<td>209 (36.3%)</td>
<td>0.03</td>
</tr>
<tr>
<td>Latissimus</td>
<td>35 (33.0%)</td>
<td>160 (27.8%)</td>
<td></td>
</tr>
<tr>
<td>Expander</td>
<td>41 (38.7%)</td>
<td>207 (35.9%)</td>
<td></td>
</tr>
<tr>
<td>Bilateral reconstruction</td>
<td>52 (52%)</td>
<td>194 (33.7%)</td>
<td>0.002</td>
</tr>
<tr>
<td>Delayed reconstruction</td>
<td>17 (16.0%)</td>
<td>50 (8.8%)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Vogel et al. Ann Plast Surg 2011; 557-560
National Trends in Mastectomy Rates

Breast Cancer in Women Under Age 40

17% per year

2% per year

Unilateral mastectomies (IRR 0.98, p-value <0.01)
Bilateral mastectomies (IRR 1.17, p-value <0.01)

National Trends Immediate Breast Reconstruction

Albornoz et al. Plast Reconstr Surg 2013
Implant use by mastectomy type

- 6% per year
- 22% per year

Albornoz et al. Plast Reconstr Surg 2013
Recent Experience

• 26 women treated from 2010-2013
• Surgical treatment
  – Nipple sparing mastectomy 16 (61.5%)
  – Contralateral prophylactic mastectomy 23 (88.5%)
• Reconstructive methods
  – Expander 18
  – Implant 7
  – Latissimus flap / expander 1
Tissue Expander Reconstruction
Tissue Expander Reconstruction
Immediate Implant Reconstruction
Immediate Implant Reconstruction
Skin Reducing Mastectomy and Tissue Expander Reconstruction
Skin Reducing Mastectomy
Skin Reducing Mastectomy
Skin Reducing Mastectomy and Macromastia
Breast Reconstruction in the Young Patient

- Nipple sparing mastectomy can preserve the native skin envelope and allow reconstruction in one stage

- Reconstructive considerations with regards to bilateral implant based modalities
  - Ability to achieve symmetry
  - Increased breast size in native small breasted women
  - Skin reducing mastectomy is a good option in young women with macromastia
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