When, Where and How: Timing, Pattern, and Diagnosis of Metastatic Recurrence in Young Women with Breast Cancer

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Background

Young women (<40 years old) with breast cancer present with more aggressive cancers compared to older women. Prior publications have described the rate & pattern of local regional recurrence in the young cancer patient, but very few studies have evaluated metastatic recurrence details.

Objective

The goal of this study was to evaluate the timing & pattern of metastatic recurrence in young women with breast cancer.

Patients & Methods

Single institution retrospective chart review

Inclusion Criteria: Women < 40 years with new breast cancer or DCIS diagnosis from years 2006-2014

Exclusion Criteria: inflammatory cancer, stage 4 disease at diagnosis

Demographics, tumor characteristics, treatment type, local-regional recurrence, timing & location of metastatic recurrence, & survival data were collected.

Results – Patient Population

322 women <40 years old

Average age 35.3 years

Mean follow-up 4.2 years

Tumor Characteristics at Presentation

<table>
<thead>
<tr>
<th>Tumor Characteristics at Presentation</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>N0</th>
<th>ER+</th>
<th>HER2+</th>
<th>Triple Negative</th>
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<tbody>
<tr>
<td>T1</td>
<td>42%</td>
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<tr>
<td>T2</td>
<td>41%</td>
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<td>T3</td>
<td>14%</td>
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<tr>
<td>T4</td>
<td>3%</td>
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<tr>
<td>N0</td>
<td>53%</td>
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<tr>
<td>ER+</td>
<td>70%</td>
<td></td>
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<tr>
<td>HER2+</td>
<td>26%</td>
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<tr>
<td>Triple Negative</td>
<td>19%</td>
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Results – Recurrences

LRR = local regional recurrence

MR = metastatic recurrence

<table>
<thead>
<tr>
<th>Overall</th>
<th>LRR</th>
<th>MR</th>
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</thead>
<tbody>
<tr>
<td>n=18</td>
<td>5.6%</td>
<td>15.2%</td>
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</table>

Breast Conservation: n=8 n=17

Unilateral Mastectomy: n=5 n=17

Bilateral Mastectomy: n=5 n=15

Results – Recurrences (con’t)

Average time from initial diagnosis to MR was 1.9 years.

Early MR defined as <2 years (n=30)

Late MR defined as > 2 years (n=19)

MR was diagnosed as a result of:

Symptoms – 38 patients (77.5%)

Routine screen – 9 patients (18.4%)

Incidental – 2 patients (4.1%)

Early and late MR groups differed in tumor size at initial presentation.

Early MR – more commonly T3

Late MR – more commonly T1/T2

Early and late MR groups differed in initial metastatic location.

Early MR – brain most common (33%)

Late MR – bone most common (37%)

Early and late MR groups did not differ in time to mortality after MR (8.2 months versus 7.2 months).

Overall mortality was 8.0% (n=26) and the average time from diagnosis to mortality was 2.8 years.

In this study, tumor size at presentation, rather than biologic subtype, appears to correlate with earlier risk of metastasis.

Earlier metastatic recurrence was most commonly in the brain, while late metastatic recurrence was most commonly in the bone.

Providers should pay close attention to new symptoms reported by patients during follow-up.