Atypical Breast Lesion Upgrade Rate to Carcinoma at a Community Center
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ABSTRACT: 400404

Introduction

Atypical breast lesions (ABLs) appear similar to carcinoma on histopathology. When a patient presents with calcifications identified on mammogram, he/she then should undergo core needle biopsy (CNB) of the lesion. If an ABL is identified, the next step is surgical excision to ensure no malignancy is present.

ABLs diagnosed on CNB have been associated with increased risk for associated carcinoma. Large academic centers have studied excision versus observation with imaging including upgrade rates. Published upgrade rates range anywhere from 3% to 18% depending on the ABL. There is a paucity of community center data regarding observation and rate of carcinoma on excision post-operative pathology.

Several trials at larger cancer institutions have tried to define excision criteria but these have not been validated in the community.

Methods

Primary Objective
To determine the atypical breast lesion upgrade rate to carcinoma at our community institution.

Atypical Breast Lesions
- Atypical ductal hyperplasia (ADH)
- Atypical lobular hyperplasia (ALH)
- Intraductal papilloma (IP)
- Sclerosing adenosis (SA)
- Flat epithelial atypia (FEA)
- Radial scar (RS)
- Lobular carcinoma in-situ (LCIS)

Exclusion Criteria
- Male patients
- Surgeries involving lymph nodes
- Previous ipsilateral breast cancer

Data Collection
- IRB approval obtained
- Single-center retrospective chart review
- Data from January 2012 - June 2017
- Surgery CPT codes were used for data retrieval
  - Excisional biopsy, lumpectomy, mastectomy
  - 1,942 patients were identified
  - 5 reviewers were trained by the same person in data collection
  - Pre- and post-operative pathology were recorded in addition to risk factors for breast cancer and demographics

Results

Characteristics of Upgraded Lesions (total n = 207)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade Rate to Carcinoma</td>
<td>20</td>
<td>9.7%</td>
</tr>
</tbody>
</table>

Upgrade Rate by Pre-Operative Breast Lesions

<table>
<thead>
<tr>
<th>Lesion Type</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 lesion</td>
<td>8</td>
<td>40.0%</td>
</tr>
<tr>
<td>ADH</td>
<td>7</td>
<td>35.0%</td>
</tr>
<tr>
<td>SA</td>
<td>3</td>
<td>15.0%</td>
</tr>
<tr>
<td>IP</td>
<td>3</td>
<td>15.0%</td>
</tr>
<tr>
<td>LCIS</td>
<td>1</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

Upgrade Rate by Post-Operative Pathology

<table>
<thead>
<tr>
<th>Pathology Type</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCIS</td>
<td>13</td>
<td>65.0%</td>
</tr>
<tr>
<td>Invasive carcinoma*</td>
<td>7</td>
<td>35.0%</td>
</tr>
</tbody>
</table>

*Includes lobular and ductal carcinoma

Discussion

Our upgrade rate was similar to upgrade rates of large community centers. We did find that most of the upgrades contained more than one ABL and the most frequent single lesion was atypical ductal hyperplasia. Over half of these lesions were identified on screening mammogram (55%).

We excluded patients that did not undergo pre-operative biopsy. 401 patients had ABLs identified on final pathology, but did not undergo pre-operative biopsy. These patients were taken directly for surgical excision. Some patients may require excision due to lesion characteristics, but these instances should be rare. CNB by any imaging method is a critical key in the algorithm of ABL management.

Reasons patients were taken directly to surgical excision
- Surgeon preference 43%
- Patient preference 42%
- Radiologist recommendation 15%

Limitations

- Data retrieval limited to electronic health records (EHR)
- Retrospective review
- Small sample size
- Large pool of potential patients in non-biopsied group (n=401)
- Significant lack of breast cancer risk data inclusion in EHR by surgeons

Conclusions

- Our upgrade rate to carcinoma was 9.7%.
- Community center upgrade rate is concordant with larger academic centers.
- More research is needed to risk stratify ABLs and determine which may be observed.
- Patients should undergo core needle biopsy prior to surgical excision as the current standard of care.
- Additional studies are warranted to examine lesion and patient characteristics associated with malignancy.

References

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