Indeterminate Implant?

Patient Outcome by Implant Type

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Noninvasive</th>
<th>Indeterminate</th>
<th>Invasive</th>
</tr>
</thead>
<tbody>
<tr>
<td>NED</td>
<td>75</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>AWD</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>DOD</td>
<td>2</td>
<td>3*</td>
<td>5</td>
</tr>
<tr>
<td>DWD</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>DNED</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

* 2/3 implants not available for histologic review


Implant Summary

- 30-50% of patients have implants
- Borderline tumors are staged
- Stage is an important prognostic factor
- Most implants are non-invasive
  - Epithelial, desmoplastic, or mixed
- Invasive implants are uncommon, but equivalent to low grade serous carcinoma
- Invasive implants are an unfavorable prognostic finding
Treatment of Borderline Serous Tumors

- **Stage I**
  - Surgery
  - Excellent prognosis
  - Can recur in contralateral ovary if not removed
- **Stage > I**
  - Surgery
  - Very good prognosis
  - Most deaths in patients with stage > I
  - Invasive implants - Chemotherapy

Low Grade Serous Carcinoma

- Younger age at diagnosis than HGSC
- Indolent, but poorly responsive to chemotherapy
- BRAF, KRAS mutations
- Associated with borderline tumors, especially of the micropapillary type
- Distinctive low power architecture
- Low grade nuclei, little pleomorphism
- Low mitotic activity (less than 12/10hpf)
### Distribution of Ovarian Tumor Types

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High grade serous</td>
<td>68.1</td>
</tr>
<tr>
<td>Low grade serous</td>
<td>3.4</td>
</tr>
<tr>
<td>Clear cell</td>
<td>12.2</td>
</tr>
<tr>
<td>Endometrioid</td>
<td>11.3</td>
</tr>
<tr>
<td>Mucinous</td>
<td>3.4</td>
</tr>
<tr>
<td>Other</td>
<td>1.6</td>
</tr>
</tbody>
</table>

*Int J Gynecol Pathol 2010; 29:203-211*

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**Low Grade Serous Carcinoma Arising in a Micropapillary Borderline Serous Tumor**

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**Low Grade Serous Carcinoma Arising in a Borderline Serous Tumor**
Low Grade Serous Carcinoma at MDACC

- 112 patients, median age at dx = 43y
- 90% had stage III tumors
- 82% optimally debulked
- 50% had platinum based chemotherapy
  - 48% had residual disease after chemo
- PFS = 19.5m; OS = 81.8m
- 88% had stable disease as best outcome
Case 3 Clinical History

- 72 year old woman
- Admitted for evaluation of a large ovarian pelvic mass
- Pelvic exam 8 months PTA had not revealed a mass
- Treated by TAHBSO, followed by instillation of radioactive chromic phosphate into the abdomen

Case 3 Gross Pathology

- The left ovary was enlarged and cystic, 12 cm in diameter
- The capsule was intact, but there were adhesions to the uterus
- The cut surfaces revealed many cysts as well as solid areas
- The cysts were up to 10 cm and the solid areas up to 3 cm