Stromal Luteoma

- Uncommon tumor of stromal origin
- Most patients are postmenopausal
- Secretes estrogens
  - Postmenopausal bleeding
  - Endometrial hyperplasia
- Small (< 3 cm) and often associated with hyperthecosis
- Benign
Stromal Luteoma

Inhibin Positive

Inhibin Positive Cells in Hyperthecosis in Adjacent Ovary
Steroid Cell Tumor
(Lipid Cell Tumor)

- Average patient age ~ 45 years
- Most exhibit hormonally mediated symptoms
  - >60% are virilized
  - Postmenopausal bleeding in 20%
  - Rare patients have Cushing's syndrome
- Virilization usually regresses after treatment
- >25% are malignant

Steroid Cell Tumor, NOS
Adrenal Cortical Like Steroid Cell Tumor
Steroid Cell Tumor

**Benign vs Malignant**

<table>
<thead>
<tr>
<th></th>
<th>Probably Benign (24)</th>
<th>Probably Malignant (18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage &gt; I</td>
<td>0%</td>
<td>67% (12)</td>
</tr>
<tr>
<td>Diameter &gt; 7 cm</td>
<td>21% (5)</td>
<td>100% (18)</td>
</tr>
<tr>
<td>Gross Necrosis</td>
<td>0%</td>
<td>50% (9)</td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>13% (3)</td>
<td>56% (10)</td>
</tr>
<tr>
<td>0-1+ atypia</td>
<td>79% (19)</td>
<td>50% (9)</td>
</tr>
<tr>
<td>2-3+ atypia</td>
<td>21% (5)</td>
<td>50% (9)</td>
</tr>
<tr>
<td>≥ 2 MF/10 HPF</td>
<td>4% (1)</td>
<td>61% (11)</td>
</tr>
</tbody>
</table>


Malignant Steroid Cell Tumor

Tumor on outside of ovary 9.5 cm diameter

Necrosis
Pregnancy-Related Pseudotumors of the Ovary

<table>
<thead>
<tr>
<th>Luteoma of pregnancy</th>
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</thead>
<tbody>
<tr>
<td>Hyperreactio luteinalis</td>
</tr>
<tr>
<td>Solitary luteinized follicular cyst</td>
</tr>
<tr>
<td>Granulosa cell proliferations</td>
</tr>
<tr>
<td>Hilus cell hyperplasia</td>
</tr>
<tr>
<td>Decidual reaction</td>
</tr>
</tbody>
</table>

Luteoma of Pregnancy

- 80% multiparous
- 80% African-American
- Most patients are asymptomatic
- 20% have hirsutism or virilization
  - 2nd half of pregnancy
  - Plasma testosterone up to 70 x normal
  - 70% of female infants virilized
Luteoma of Pregnancy
Differential Diagnosis

<table>
<thead>
<tr>
<th>Leydig Cell Tumor</th>
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<tbody>
<tr>
<td>Steroid Cell Tumor, NOS</td>
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<tr>
<td>Luteinized Granulosa Cell Tumor</td>
</tr>
</tbody>
</table>
Luteoma of Pregnancy

- Treatment is biopsy only!
- Careful gross exam
  - Multiple nodules
  - Bilateral
  - Associated with theca-lutein cysts
- Careful microscopic exam
  - Luteinized stromal cells
  - Corpus luteum of pregnancy