DERMOID CYSTS AND NEOPLASMS ARISING FROM THEM - OUTLINE

1. Importance of gross
2. Malignant change
3. Monodermal teratomas

MATURE TERATOMAS

30% Ovarian tumors
Mostly dermoid cysts
May be seen at any age
Complications: infection, torsion, rupture with pseudomalignant change outside ovary, melanosis peritonei, hemolytic anemia, limbic encephalitis
**Selected Home Truths**

1. If it looks like a fibroid grossly do not put through any sections. You will just end up confused! (AT Hertig, M.D.)
2. Nothing looks more malignant on high power than normal proliferative endometrium (AT Hertig, M.D.)
3. If it grossly looks like a dermoid cyst, it is a dermoid cyst!
MALIGNANT CHANGE IN DERMOID CYST

- About 1% of cases, disproportionately in postmenopausal years
- Great majority are squamous cell carcinoma
- Others are mostly melanoma and rare sarcomas
- Thorough sampling to show association with dermoid can be crucial
- Theoretically includes mucinous tumors but by convention they are considered separately
MONODERMAL TERATOMAS

1. Struma ovarii
2. Carcinoid
   a. Insular
   b. Trabecular (many strumal)
   c. Mucinous
3. Neuroectodermal tumors
4. Sebaceous tumors
5. Others
STRUMA OVARII

• Usually associated with dermoid, but sometimes carcinoid, mucinous cystadenoma, Brenner tumor
• Peak frequency in fifth decade
• Ascites in 1/3 (Meigs’ like syndrome)
• Rarely, hyperthyroidism
• Malignant change very rare
**DYSGERMINOMA**

50% Malignant primitive GCTs
80% <30 years (average 21 years)
10% Grossly bilateral
10% Biopsy opposite ovary +ve
Rarely hormonal manifestations
Rare origin in gonadoblastoma
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<th>Stain</th>
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<td>AFP</td>
<td>-</td>
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Polyembryoma

- Usually a component of a mixed germ cell tumor
- Grossly soft reddish-brown with hemorrhagic foci
- Lobules punctuated by variable number of dark staining embryoid bodies
- Embryoid bodies vary in degree of formation
- Generally prominent and often edematous to myxoid stroma surrounding embryoid bodies
- Occasional enteric type glands representative of the allantois
The Embryoid Body

- Recapitulates an embryo at ~2 weeks gestation
- Round to oval structures with central crescentic germ disc (similar to epithelium of embryonal carcinoma) underlain by a thin layer of yolk sac epithelium
- Amnion and yolk sac like cavities

PRESENTATION OF GRANULOSA CELL TUMOR

- Prepubertal – sexual precocity
- Young woman – menstrual irregularity
- Postmenopausal – vaginal bleeding

10% - acute abdomen
10% - incidental finding in hysterectomy
DIAGNOSTIC PROBLEMS: FREQUENCY OF SHARED PATTERNS WITH OTHER TUMORS

• Diffuse
• Follicular or follicle-like
• Miscellaneous epithelial;
  –Nests
• Trabeculae
• Cords, etc.

PRIMARY TUMORS IN DIFFERENTIAL OF ADULT GRANULOSA CELL TUMOR

• Cellular fibroma
• Endometrioid carcinoma
• Undifferentiated carcinoma
• Small cell carcinoma
• Carcinoid
CARDINAL FEATURES OF JUVENILE GRANULOSA CELL TUMOR

- Follicles that are typically variable in size and shape
- Luteinized cells
- Mitotically active
- Pleomorphic cells in 10 – 15% of cases
- Generally inconspicuous stroma
DIFFERENTIAL DIAGNOSIS
SERTOLI-LEYDIG CELL TUMOR

- Adult granulosa cell tumor
- Krukenberg tumor
- Yolk sac tumor
- Mucinous tumor (heterologous)
- Serous tumors (retiform)
SEX CORD-STROMAL TUMORS
CONFUSED WITH
YOLK SAC TUMOR

1. Sertoli-Leydig cell tumors
   a. Retiform variant
   b. With bizarre nuclei
   c. During pregnancy
2. Juvenile granulosa cell tumor