

## Female Genital System

Dr.Noor Sabeeh , 3<sup>rd</sup> lecture 2022/2023

### Ovaries

**Non –neoplastic ovarian cysts:**

- Follicular cysts
- Corpus luteal cyst
- Chocolate cyst (endometriosis)
- Poly cystic ovary syndrome

**Poly Cystic Ovarian syndrome (PCOS) (Stein Leventhal syndrome)**

- ❑ Complex endocrine disorder characterized by hyperandrogenism, menstrual abnormalities, polycystic ovaries, chronic anovulation, and decreased fertility
- ❑ the characteristic biochemical abnormalities are elevation of serum androgen concentrations (particularly testosterone and androstenedione) and high LH/FSH ratio
  - After menarche in teenage girls or younger adult
  - Associated with insulin resistance and type II diabetes
- ❑ Obesity, acne, hirsutism, oligomenorrhea and infertility
- ❑ Carry a risk of **endometrial hyperplasia and carcinoma (due to high estrogen)**.

#### Gross

- ❖ **Enraged ovaries, twice the normal size, gray-white, studded with numerous subcortical cysts 0.5 to 1.5 cm in diameter.**

#### Histologically

- thickened, fibrotic ovarian capsule overlying numerous cysts lined by granulosa cells

### Ovarian Tumors

**Tumors of the ovary are varied as they may arise from any of the three cell types in the normal ovary**

- 1- Surface epithelial tumors (70%)
- 2- Sex-cord stromal tumors
- 3- Germ cell tumors
- 4- Metastatic tumors

**1- Surface epithelial tumors**

- Derived from **Coelomic epithelium** that cover the surface of ovaries or the lining of **fallopian tube**.
- Account for the **great majority** of ovarian tumors and, their **malignant** forms, account for almost **90%** of ovarian cancers

- A. Serous tumors → (tubal differentiation)
- B. Mucinous tumors → (endocervical)
- C. Endometrioid tumors → (endometrial diff. associated with endometriosis)
- D. Brenner tumors → (transitional epithelium resemble urinary system)
- E. Clear cell carcinoma
- F. Undifferentiated carcinoma

### **Serous Ovarian Tumors**

- **Most common ovarian epithelial tumors**
- Make up the greatest fraction of malignant ovarian tumors
- it classified into:
  - **Benign 60 % (serous cystadenoma)**
  - **Malignant 25% (serous cystadenocarcinoma)**
  - **Borderline 15%**

Serous cystadenoma	Serous cystadenocarcinoma
<ul style="list-style-type: none"> <li>▪ Smooth glistening outer surface</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nodular irregularities (serosal invasion)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Filled with clear serous fluid</li> <li>▪ cystic mass of thin wall, unilocular or multilocular</li> </ul>	<ul style="list-style-type: none"> <li>▪ Irregular Hemorrhagic and necrotic</li> <li>▪ solid and cystic area. unilocular or multilocular</li> </ul>
<ul style="list-style-type: none"> <li>▪ (no or fine papillae)</li> <li>▪ lined by single layer benign ciliated columnar epithelium</li> </ul>	<ul style="list-style-type: none"> <li>▪ complex prominent papillary projections</li> <li>▪ multilayer malignant columnar epithelium with cellular atypia and stromal invasion</li> </ul>

### B- Mucinous Ovarian Tumors

- Large, multicystic Lined by mucin-secreting columnar epithelium.
- Less likely to be malignant .
- Less likely to be bilateral
- Rupture mucinous ovarian tumors → implantation of mucinous tumor cells in the peritoneum causing **pseudomyxoma peritonei**

#### **Classification.**

- 1- Benign → Mucinous cyst adenomas 80%.
- 2- Borderline → Borderline 10%
- 3- Malignant → mucinous cyst adeno Ca. 10%

### 2- Sex – Cord stromal Tumors

#### **1-Granulosa-stromal cell tumors :**

- Granulosa cell tumor
- Thecoma
- Fibroma

## 2. Sertoli-leydig cell tumors

### Granulosa cell Tumor

- Low grade malignant neoplasm originating from granulosa cells of the ovarian follicles
- ❖ Estrogen secreting tumor causing:
  1. **precocious puberty in children**
  2. **Endometrial hyperplasia**
  3. **Endometrial carcinoma**

## 3- Germ cell tumors

- Teratomas(commonest)
- Dysgerminoma malignant
- Endodermal Sinus (Yolk Sac) malignant
- Choriocarcinoma

### Teratomas

- 1- **Mature cystic teratomas (Dermoid cysts) benign(commonest)**
- 2- **Immature malignant teratomas**
- 3- **Specialized teratoma: struma ovarii (contain mature thyroid tissue)**

- **Mature cystic teratomas (Dermoid cysts)**

- Benign germ cell ovarian tumor containing cyst lined by **epidermis** composed of mature tissue derived from **all three germ cell layers**: ectoderm, endoderm, and mesoderm
- Forming **>90%** of the germ cell ovarian tumors
- Usually **unilateral**
- Can cause infertility and undergo torsion
- About 1% of cases, malignant transformation to **squamous cell carcinoma**

### Grossly

- Cyst filled with sebaceous materials, hair, tooth, foci of bone or cartilage and other mature tissues

### Microscopically

- Cyst lined by stratified Sq. epithelium containing sebaceous glands, hair, nests of bronchial or gastrointestinal epithelium, or other tissues are present. (mature tissues)

## 4- Metastatic Ovarian tumor

- **Krukenburg tumor** (secondary mucinous tumor of the ovary metastasis mostly from upper GIT mainly (**adenocarcinoma of stomach** ) through Transcoelmic spread or lymphatic spread
- Usually bilateral, multinodular surface, enlarged ovaries.