

# Female Genital System

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## Proliferative lesions of the endometrium and myometrium

- 1- Endometrial hyperplasia
- 2- Endometrial polyp
- 3- Endometrial carcinoma
- 4- Smooth muscle tumors

### 1- Endometrial hyperplasia

- Exaggerated proliferation** of endometrial glands with an increase in the gland to stroma ratio > 3:1 due to **excess, prolonged estrogen** stimulation relative to progesterone.
- It is one of the causes of abnormal uterine bleeding
- Precursor for endometrial endometrioid carcinoma**

#### Causes of endometrial hyperplasia:

- **Excess endogenous estrogen**
  - Failure of ovulation (perimenopause)
  - Estrogen producing ovarian lesions such as polycystic ovary and Granulosa cell tumor
  - Obesity.
- **2. Excess exogenous estrogen**
  - prolonged administration of estrogenic steroid without counterbalanced progesterone

#### Classification of endometrial hyperplasia:

##### 1-Benign (nonatypical) endometrial hyperplasia

- Glands** :
  - Increased in number
  - cystically dilated, of variable size and irregular luminal contour.
  - lined by benign single layer, proliferative pseudostratified columnar cells with **No cellular atypia**.
- Stroma**: Cellular, with increased mitotic activity

##### 2-Atypical hyperplasia (endometrial intraepithelial neoplasia / EIN) **With cellular atypia**

### 3- Endometrial carcinoma

- Primary Malignant epithelial neoplasm originating from the endometrium
- 80% arise in postmenopausal women.
- between the ages of 55 and 65 years, Presented with abnormal uterine bleeding
- divided into two pathogenically distinct categories:
  - 1- Endometrioid type (commonest type)
  - 2- Serous type (less common, more aggressive associated with endometrial atrophy, mutations in the TP53 tumor suppressor gene)

#### Endometrioid endometrial carcinoma:

- + Accounts for 80% of cases.
- + Known as endometrioid because of their histologic similarity to normal endometrial glands
- + Associated with an excess estrogen level

## Risk factors for endometrioid endometrial Ca

- 1- Endometrial hyperplasia
- 2- Obesity.
- 3- Diabetes
- 4- Hypertension
- 5- Infertility: nulliparous
- 6- Family history of breast carcinoma
- 7- Prolonged estrogen replacement therapy
- 8- Estrogen secreting ovarian tumors (granulosa cell tumor, polycystic ovary)
- 9- Mutations in tumor suppressor gene PTEN

### Grossly

- fungating exophytic mass or diffused thickening of endometrium

### Microscopical examination of endometrioid endometrial carcinoma

- adenocarcinoma
- Abnormal irregular glands closely packed one to another (**back to back appearance**)
- The gland lined by **malignant columnar epithelium with cellular atypia**.
- Glands contain necrotic debris
- Scanty stroma infiltrated by inflammatory cells

## 4- Leiomyoma (Fibroid)

- **Benign tumor of the smooth muscle cells** of the uterine myometrium. Called **fibroids** due to its firmness.
- **The most common benign** tumor in female, 30-50% at reproductive ages
- Estrogen, contraceptive pills and pregnancy stimulate their growth.
- They shrink **post-menopausally**
- More common in **blacks than whites**.
- Rearrangement of chromosomes **6 and 12**
- Leiomyomas **almost never** transform into **leiomyosarcoma**

### Gross:

- Sharply circumscribed, well demarcated from the surrounding myometrium by a **false capsule (nonencapsulated)**
- firm gray-white masses **with Whorled cut appearance**.
- Often multiples, could be single
- Types:
  - 1- Within the myometrium (**intramural**)
  - 2- Beneath the endometrium (**submucosal**)
  - 3- Beneath the serosa (**subserosal**)

### Histological Features

- Interlacing smooth muscle bundles which resemble normal myometrium running in different directions separated by connective tissue fibers.
- Foci of fibrosis, calcification, haemorrhage.

### Complications of fibroid:

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- Degenerative hyaline changes and calcification.
- Infection
- Torsion of pedunculated fibroids (subserosal).
- Red degeneration (ischaemic necrosis occurs particularly in pregnancy)
- Infertility. In case of large submucosal fibroid

### Leiomyosarcoma

- Malignant tumor arises denovo from mesenchymal cell of the myometrium, not from preexisting leiomyoma
- Almost always solitary
- Postmenopausal women
- Soft haemorrhagic necrotic mass
- Diagnostic histological features: Necrosis, atypia and mitotic figures

## Fallopian Tubes

### Salpingitis

- Inflammation of the fallopian tubes and it is almost always caused by infection
- Adherence of the inflamed tube to the ovary may produce a tuboovarian abscess.
- Adhesions of the tubal plicae, associated with increased risk of tubal ectopic pregnancy and infertility