

Female Genital System pathology

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▪ Cervical lesions:

Cervicitis

- Inflammation of the cervix could be asymptomatic or associated with a purulent vaginal discharge. cervicitis is important because it may lead to:
 - Salpingitis
 - Endometritis
 - Pelvic inflammatory diseases

Squamous intraepithelial lesion (SIL, cervical intraepithelial neoplasia CIN)

- It is pre-cancerous epithelial changes that precedes the development of invasive carcinoma of the uterine cervix by many years (10-15) years
- Peak at 30 years old
- High risk group (16 & 18) HPV detected in nearly all cases of SIL
- Transformation zone is the commonest site

SIL classification system (Bethesda system)

1- Low grade squamous Intra epithelial lesions (LSIL)

✚ CIN I

✚ Does not progress directly to invasive carcinoma.

✚ Most LSILs regress and only a small percentage progress to HSIL

2- High grade squamous Intra epithelial lesions (HSIL)

✚ CIN II , CIN III

✚ Considered at high risk for progression to carcinoma (precancerous)

Microscopical features

Dysplastic changes in the cervical epithelium (Pleomorphism
HighN/C Ratio, Mitotic Figures and Hyperchromasia)

1- **LSIL (CIN I)** : mild dysplasia within the **lower 1/3** of the cervical epithelium

2. **HSIL:**
1. **CIN II** moderate dysplasia within the **lower 2/3** of the cervical epithelium
2. **CIN III** (carcinoma in situ) : severe dysplasia involved the **whole thickness** of the cervical epithelium.

Natural history of SIL

Lesion	Regress	Persist	Progress
LSIL (CIN I)	60%	30%	10% (to HSIL)
HSIL (CIN II, III)	30%	60%	10% (to carcinoma) ^a

Invasive carcinoma of the cervix

- One of the commonest cancers of female genital tract
- 10-15 years after detection of SIL
- 45 years old
- Transformation zone
- Presented with unexpected vaginal bleeding, leukorrhea. urinary symptoms (ureteral obstruction)

Risk factors for ca of cervix and SIL

- 1- Infection with high risk group HPV (16, 18)
- 2- Early Marriage
- 3- Cigarette smoking
- 4- Immunodeficiency (HIV)
- 5- Multiple pregnancies
- 6- Positive family history
- 7- long term use of oral contraceptive pills

Grossly

- Encircling (infiltrating) the cervix and penetrating into the underlying stroma produce a (**barrel cervix**).
- Exophytic fungating mass
- Ulcerative mass

Microscopically

- Squamous cell carcinoma** 75%(commonest type)
- Adenocarcinoma and mixed adenosquamous carcinoma 20%
- Other epithelial tumors:
 - Small cell neuroendocrine carcinoma (<5%)
 - Undifferentiated carcinoma
- Others: lymphoma, malignant melanoma , metastases.

Diagnosis for uterine cervix carcinoma and SIL

- Pap Cervical Smear (Papanicolaou)
- Colposcopy and application of acetic acid,
- Cervical Biopsy

Body of the uterus

Adenomyosis

- A nonneoplastic uterine lesion characterized by the presence of **endometrial glands and stroma (from stratum basalis)** within myometrium between the muscle bundles
- Menorrhagia, dysmenorrhea, and pelvic pain, particularly just prior to menstruation. Also causing infertility
- Can coexist with endometriosis
- It may be a precursor for endometrial carcinoma (very low risk).

Grossly

- Asymmetrical Enlarged globular uterus due to reactive myometrial hypertrophy
- Thickened uterine wall

Histological features

- Nests of endometrial stroma and glands are found between muscle bundles of myometrium.

Endometriosis

- Presence of endometrial glands and stroma **outside the uterus**
- May involve **ovaries**, tubes, pouch of douglas, peritoneum, umbilicus, and broad ligament
- Uncommonly, lymphnodes, lung and even heart
- It occurs in about half of women with **infertility**
- Presented with dysmenorrhea, and pelvic pain
- Ectopic endometriotic tissue is **abnormal** , exhibits increased levels of inflammatory mediators, particularly **prostaglandin E2**
- The ectopic endometrial tissue **undergoes cyclical bleeding**.
- **Risk of development of malignant neoplasm within the ovary and endometrium**

Four theories explain the origin of endometriosis

1. **The regurgitation theory**
2. **The benign metastases theory**
3. **The coelomic metaplastic theory**
4. **The extrauterine stem/progenitor cell theory,**

Grossly

- Red brown bluish nodules 1-2 cm in diameter, sometime unit together to form larger masses
 - In the ovaries, large blood-filled cyst that turn brown as the blood ages (Chocolate cyst).
 - Seepage and organization of blood leading to fibrosis, distortion of fallopian tubal fimbria and ovaries → infertility
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Microscopically

- In all sites depends on finding two of the followings three features:
 - 1- Endometrial gland
 - 2- Stroma.
 - 3- Hemosiderin laden macrophage(heamorrhage)