



Pathology

Vulva, vagina, cervix

Learning Outcomes

At the end of the lecture, you should be able to:

- Identify common lesions involving vulva and vagina.
- Common benign cervical lesions
- Identify the precancerous lesions in the cervix and enumerate the etiological and risk factors for cervical carcinoma.
- Describe the different types of cervical carcinomas.

Agenda

Vulva

Benign lesions

Carcinoma

Vagina

Vaginitis

Sarcoma botryoides

Cervix

Cervicitis

Polyps

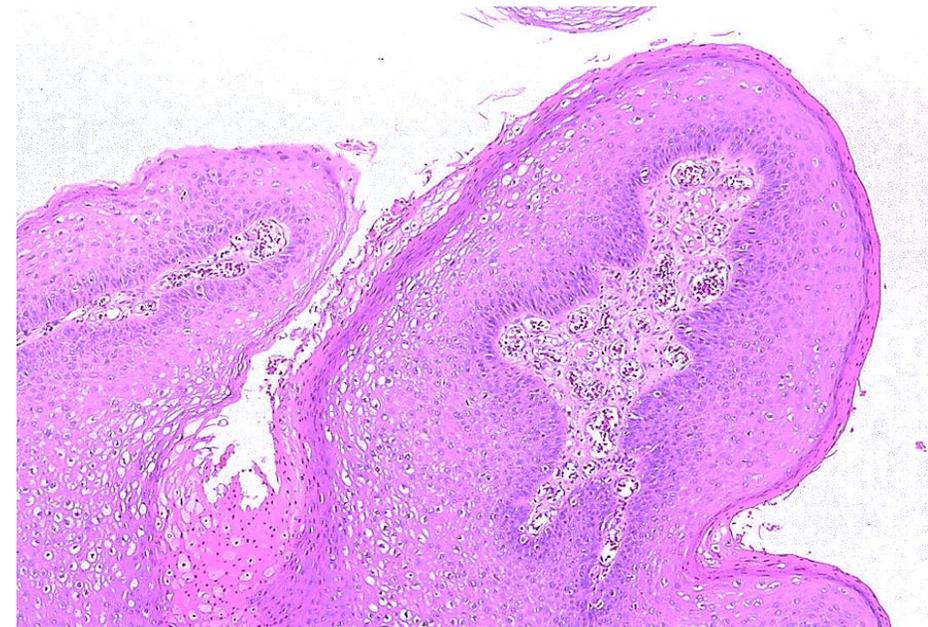
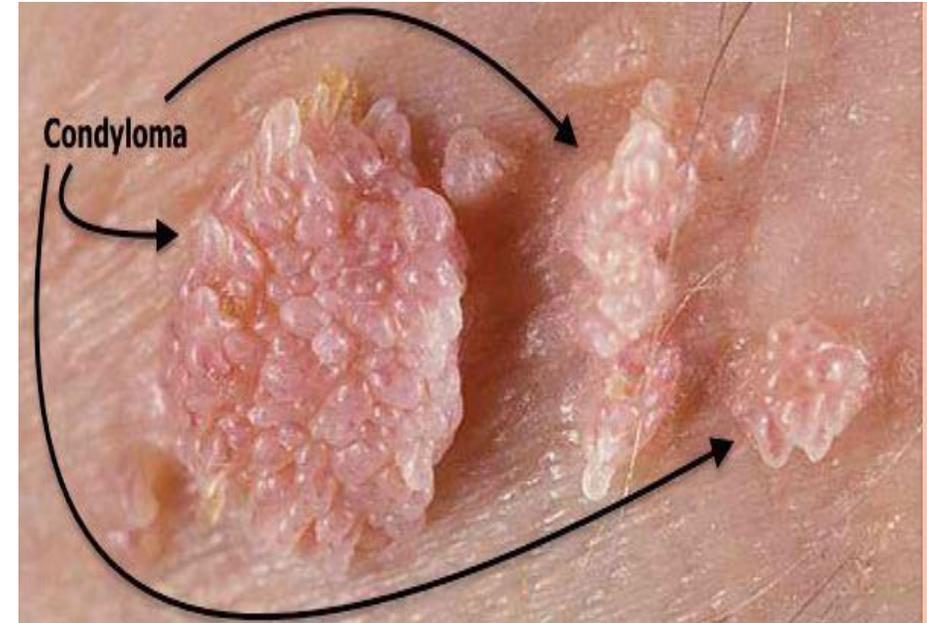
Hyperplasia

Cervical Carcinoma

Vulva

Benign lesions of the vulva

- Condyloma Accuminata which is virus related (low risk HPV).
- Squamous cell papilloma is not of viral origin.
- Hidraadenoma papilliferum.

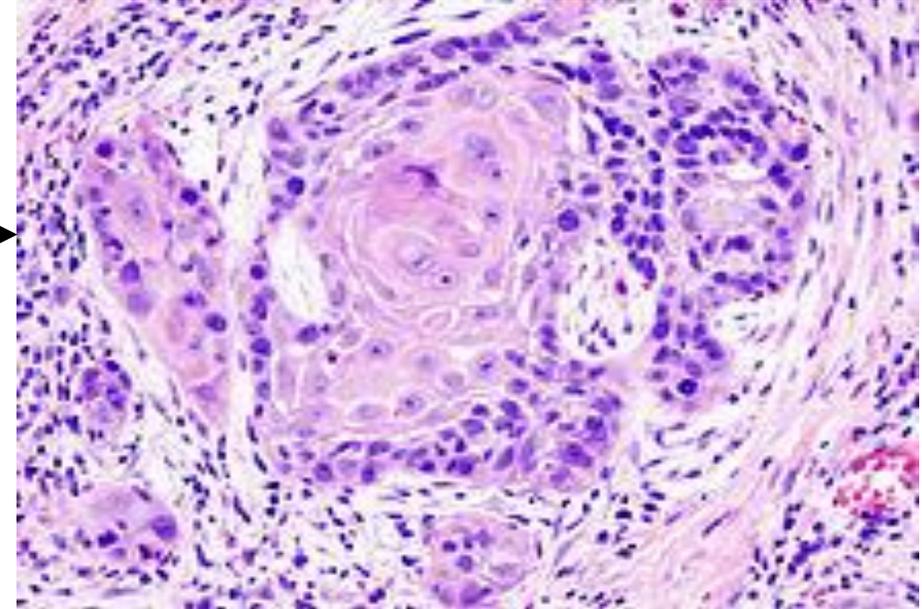


Vulva

Carcinomas:

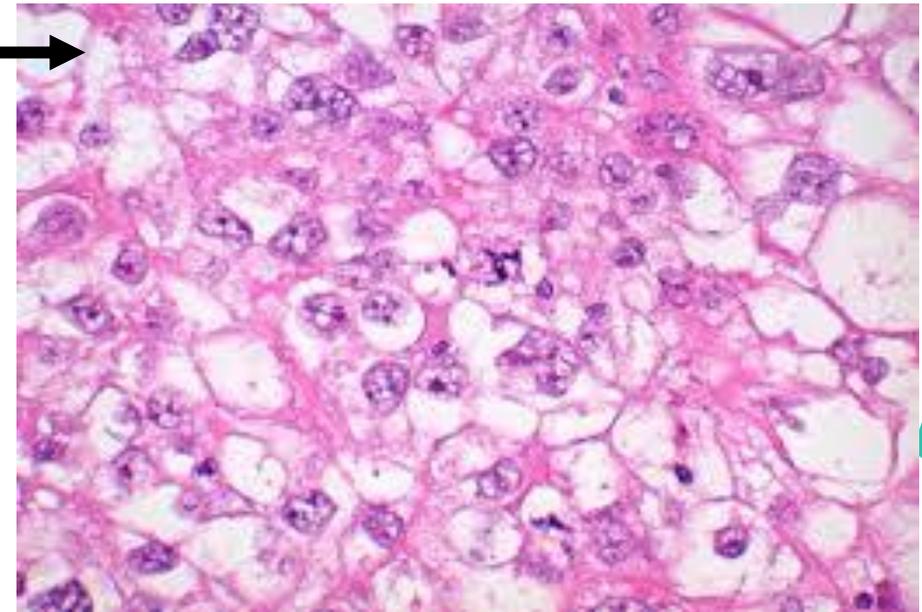
Squamous cell carcinoma:

Squamous cell carcinomas are, in a proportion of cases, related to (high risk HPV). They are preceded by a precursor lesion (*vulvar intraepithelial neoplasia, VIN*).



Clear cell carcinoma:

A variant of adenocarcinoma. It is preceded by a precursor lesion (vaginal adenosis). The condition is uncommon but is seen in up to 90% of patients exposed in utero to DES.



Vagina

Vaginitis: Caused by:

- Monilia
- trichomonas vaginalis
- Gonorrhoea
- Staph.
- Herpes simplex ... etc.

It occurs in :

- Infants and young women (high glycogen content of vaginal epithelium.)
- Pre-pubertal and postmenopausal women (lack of oestrogen)
- Diabetic women
- In case of prolonged loop application.



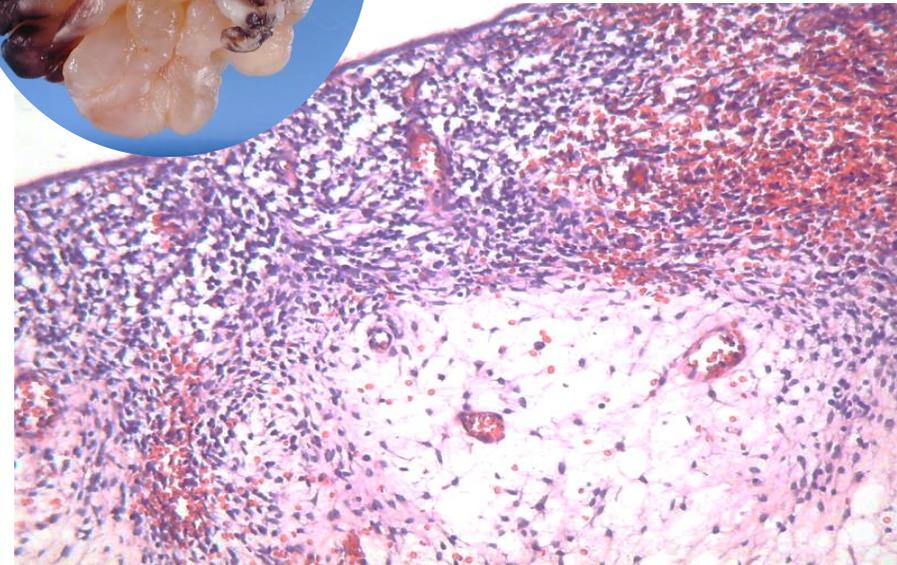
Vagina

Embryonal rhabdomyosarcoma (*Sarcoma botryoides*):

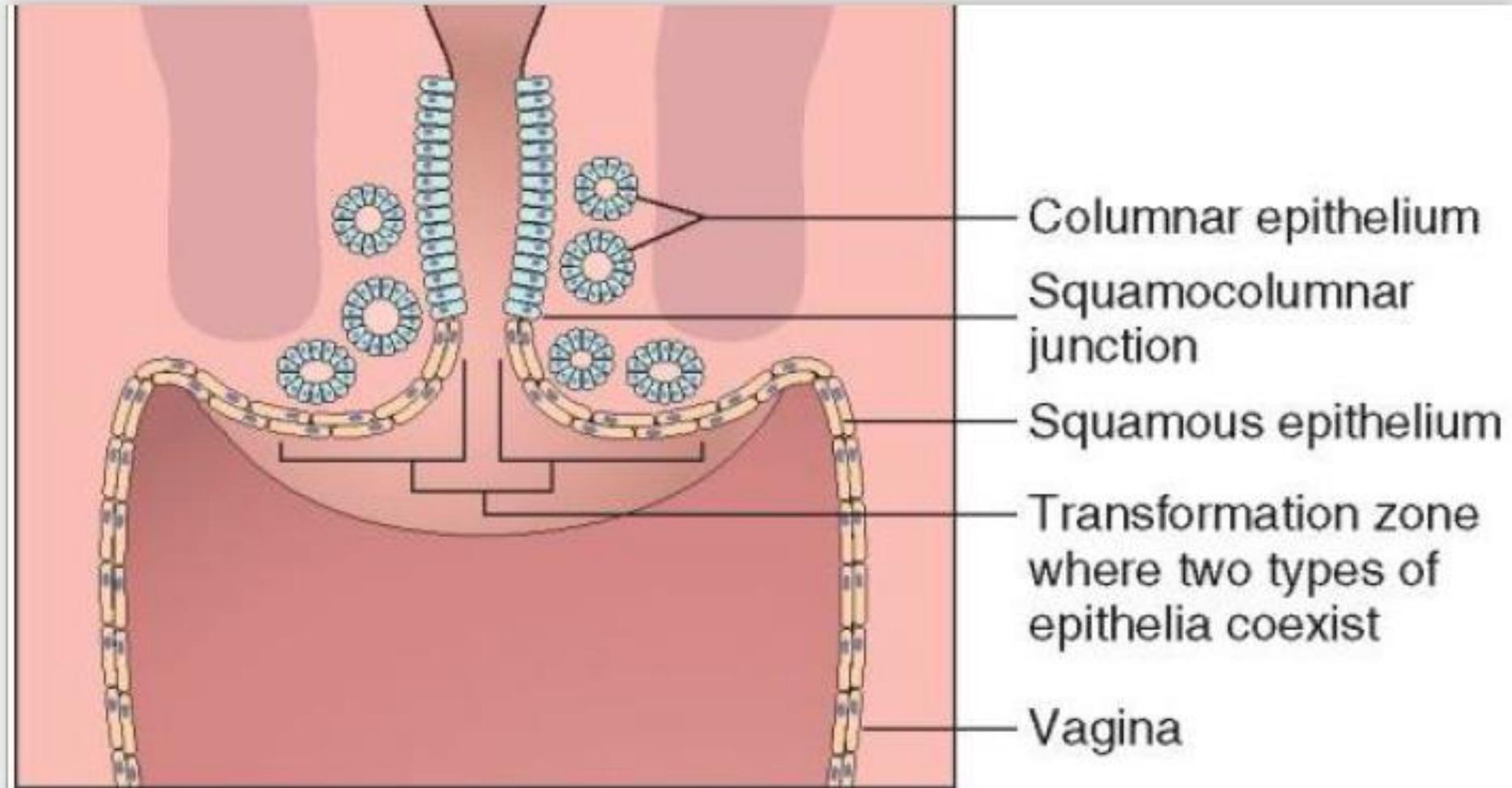
This tumor is uncommon occurring chiefly in girls from birth to adolescence (90% of cases occur under 5 years of age).

Grossly, appears as a large polypoid (grapes-like), reddish, soft mass.

Microscopically, it consists of malignant embryonal cells (small round to oval cells with hyperchromatic nuclei and scanty cytoplasm) in a myxoid stroma with rhabdomyoblastic differentiation.



Cervix



Cervix

Cervicitis

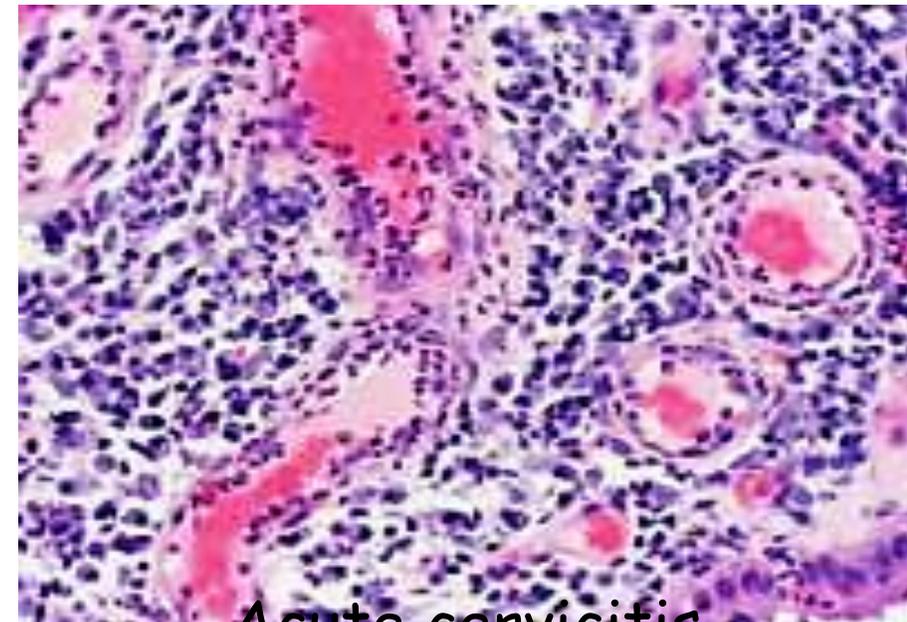
- Some degree of cervical inflammation may be found with no or little clinical consequence.

Cause: E. coli, staph, strept. H. gonococci, chlamydiae, mycoplasmas, trichomonas vaginalis and herpes simplex virus may produce significant acute or chronic cervicitis.

- May be associated with upper genital tract disease, complications during pregnancy, and sexual transmission.

Acute cervicitis:

The cervix is congested, swollen and shows profuse purulent discharge. The inflammation may resolve or more often passes to a chronic stage.



Acute cervicitis

Cervix

Cervicitis

Chronic cervicitis: Common

N/E:

The cervix is red, swollen \pm ulcers, polyps or cysts. External os is wide, irregular with muco-purulent discharge.

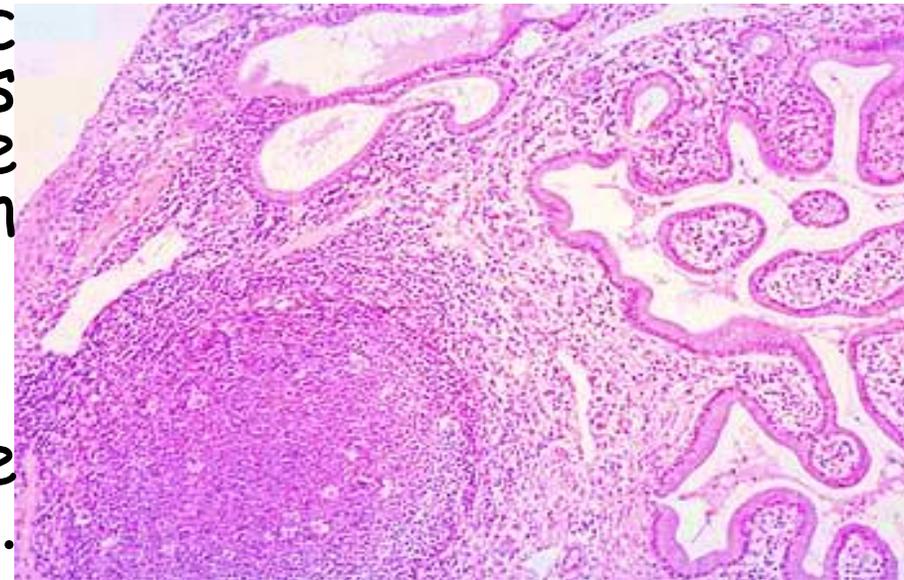
M/E:

Endocervix:

- Lining epithelium shows squamous metaplasia \pm dysplasia.
- Subepithelial tissue shows chronic inflammatory cells + endarteritis obliterans + fibrosis and some neutrophils. Some glands are cystically dilated (Nabothian cysts).
- Inflammatory polyp

Ectocervix:

Extension of endocervical mucosa to replace ectocervical epithelium around external os. Squamous metaplasia occurs later.



Chronic cervicitis

Cervix

Endocervical Polyps

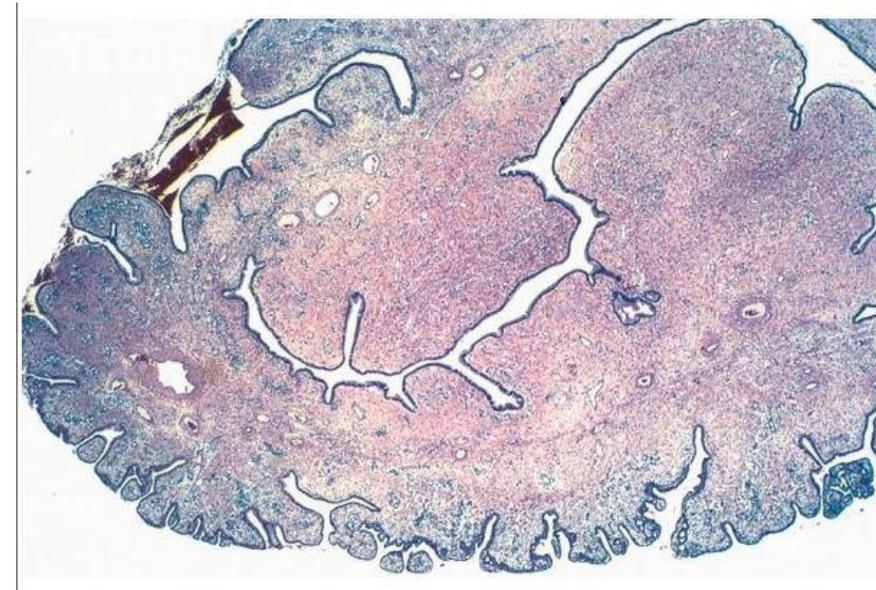
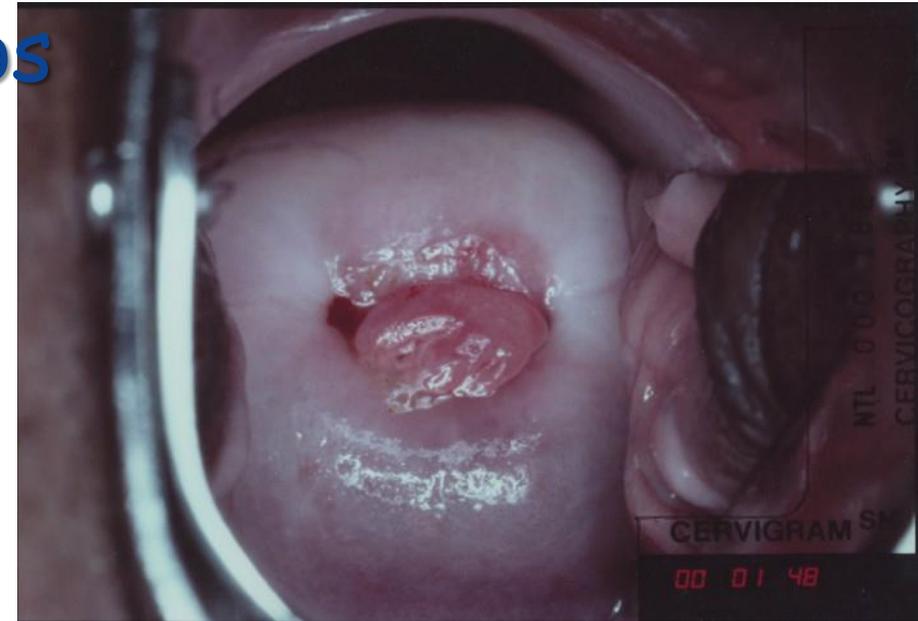
- * Benign exophytic growths
- * Usually arise from the endocervix.
- * Cause irregular vaginal bleeding.

NE:

Polyps are soft, almost mucoid.

ME:

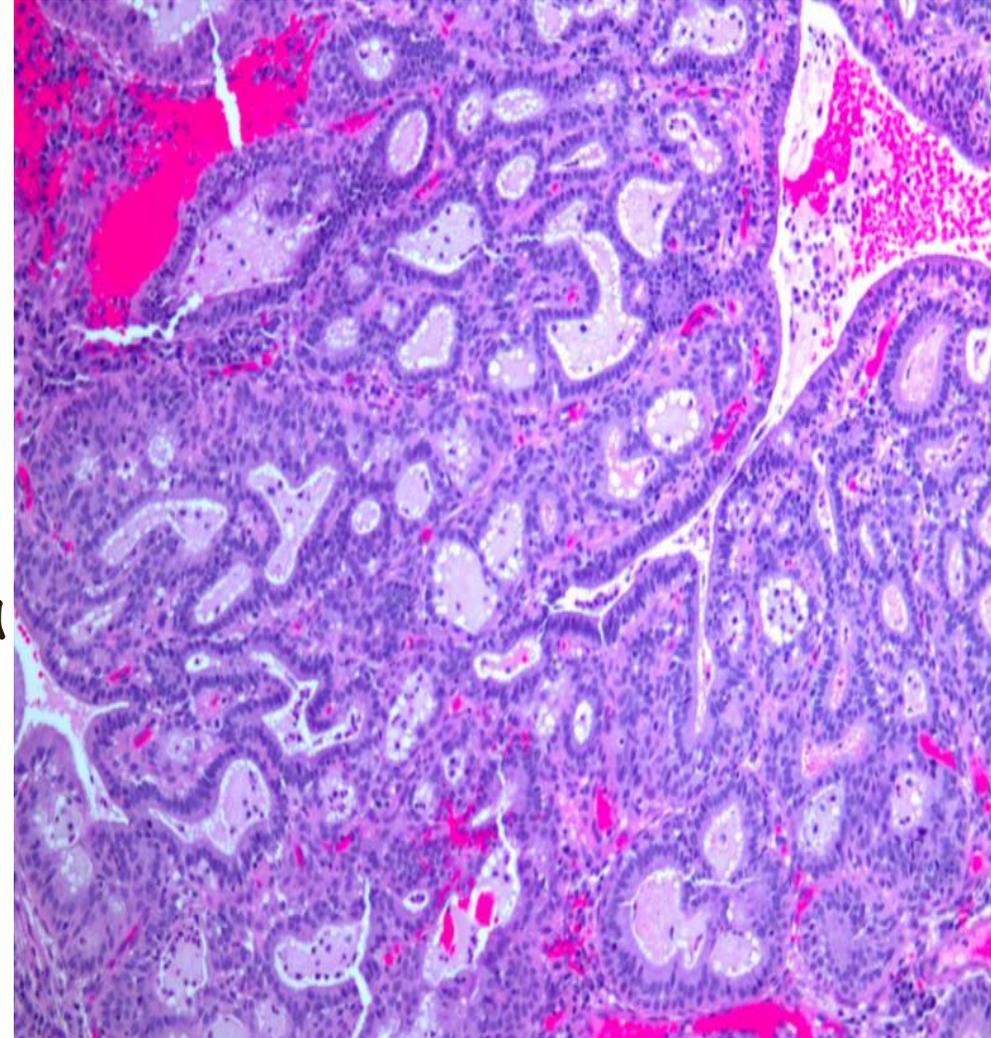
composed of central vascular and edematous connective tissue core containing proliferated dilated cervical glands and chronic inflammatory cells. It is covered by columnar epithelium with areas of squamous metaplasia.



Cervix

Microglandular Hyperplasia

- It is benign condition of the cervix in which there is closely packed proliferation of small endocervical glands.
- It is caused by hyperprogesteronemia such as during pregnancy, postpartum period or oral contraceptive pills administration.



Cervix

Carcinoma of the cervix

Predisposing factors:

- Persistent infection with oncogenic HPVs (16 & 18). HPVs infect immature basal cells of the squamous epithelium. Integration of HPV DNA interferes with the p53 & RB genes.
- Smoking reduces local cervical immunity.
- Early age at first intercourse.
- Multiple sexual partners.
- Presence of other sexually transmitted diseases like HIV and genital herpes (Herpes simplex type II).
- Having a partner with a sexually transmitted disease.
- Long term Oral contraceptive pills use and multiple pregnancies
- Immunosuppression.

Cervix

Carcinoma of the cervix

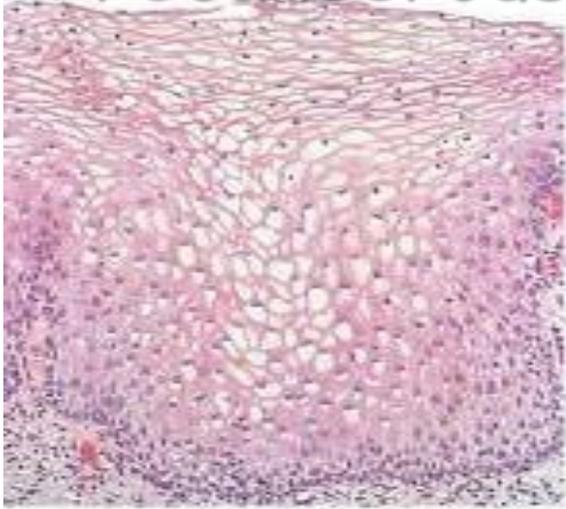
Precancerous lesions:

- Cervical Intraepithelial Neoplasia (CIN) is the precancerous lesion of cervical squamous cell carcinoma. It is classified as:
 - CIN1** → minimal dysplasia in lower 1/3 → low risk to develop carcinoma, called **low grade** squamous intraepithelial lesion (**LSIL**)
 - CIN2** → moderate dysplasia in lower 2/3
 - CIN3** → the most severe where the atypical cells involve the whole thickness of the epithelium.Both 2, 3 risk to develop carcinoma, called **high grade** squamous intraepithelial lesion (**HSIL**)
- Adenocarcinoma insitu (AIS): is the precancerous lesion for invasive adenocarcinoma.

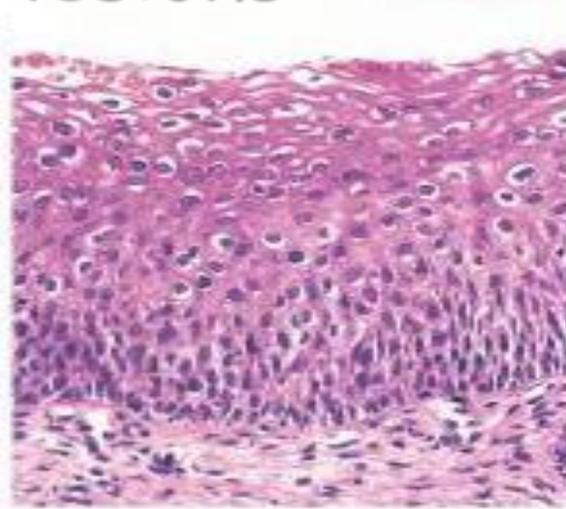
Cervix

Carcinoma of the cervix

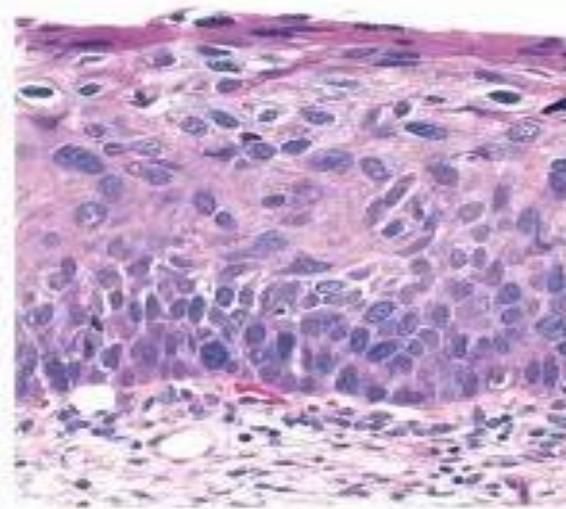
Precancerous lesions:



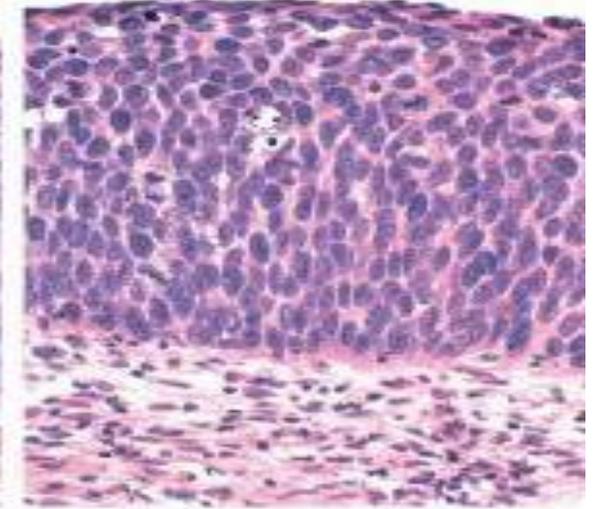
Normal



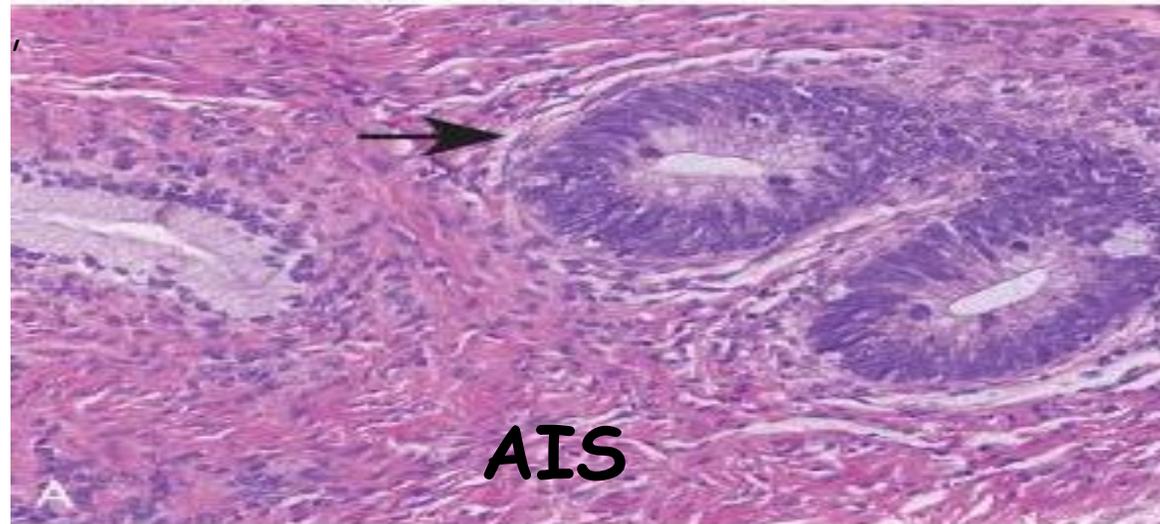
CIN I



CIN II



CIN III



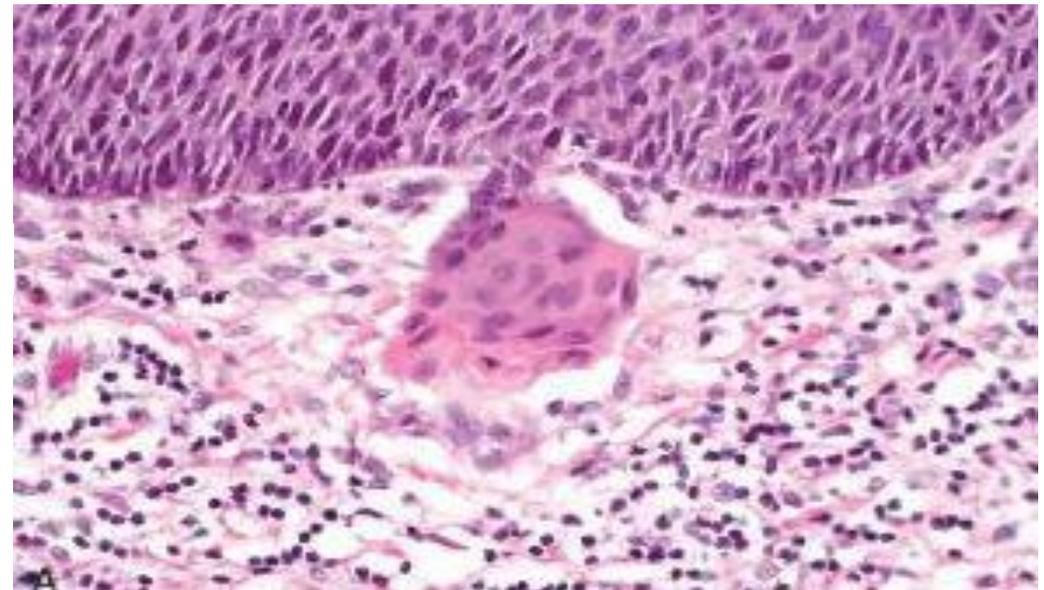
AIS

Invasive carcinoma

- One of the commonest cancer in females.
- The age peak of incidence is 45 years.



Microinvasive SCC



Cervix

Carcinoma of the cervix

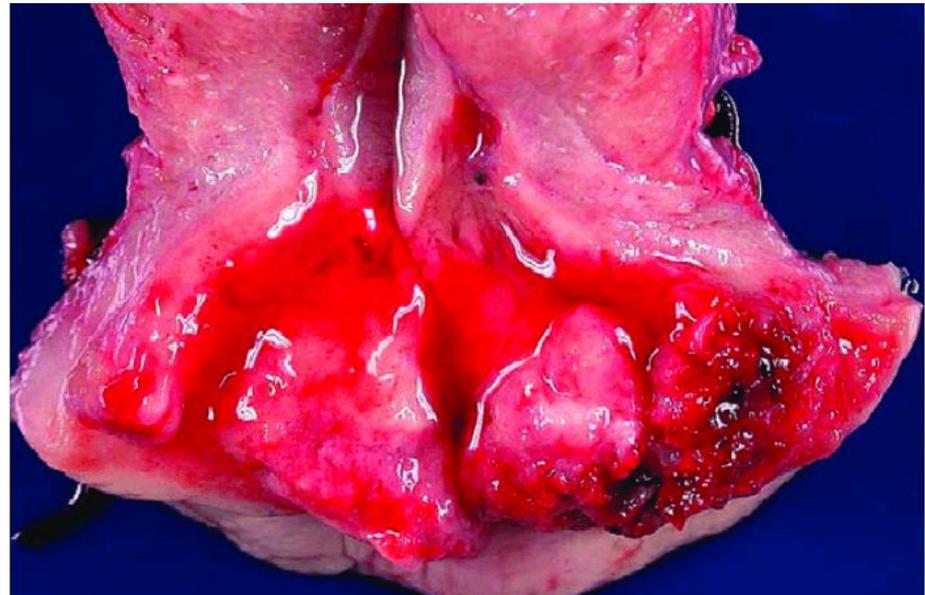
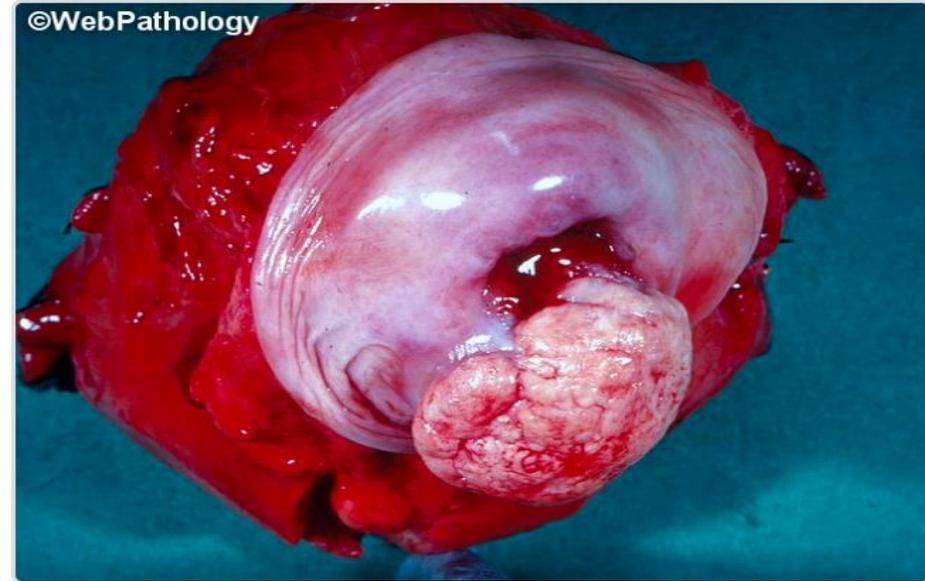
Gross:

Site:

- Squamous columnar junction.
- Endocervix with sq. metaplasia

Shape:

- Carcinoma in situ: a focal thickening & induration of cervix.
- Invasive carcinoma.
 - Fungating (exophytic)
 - Infiltrating (endophytic) → induration & deformity of the cervix.
 - Ulcerating (malignant ulcer)



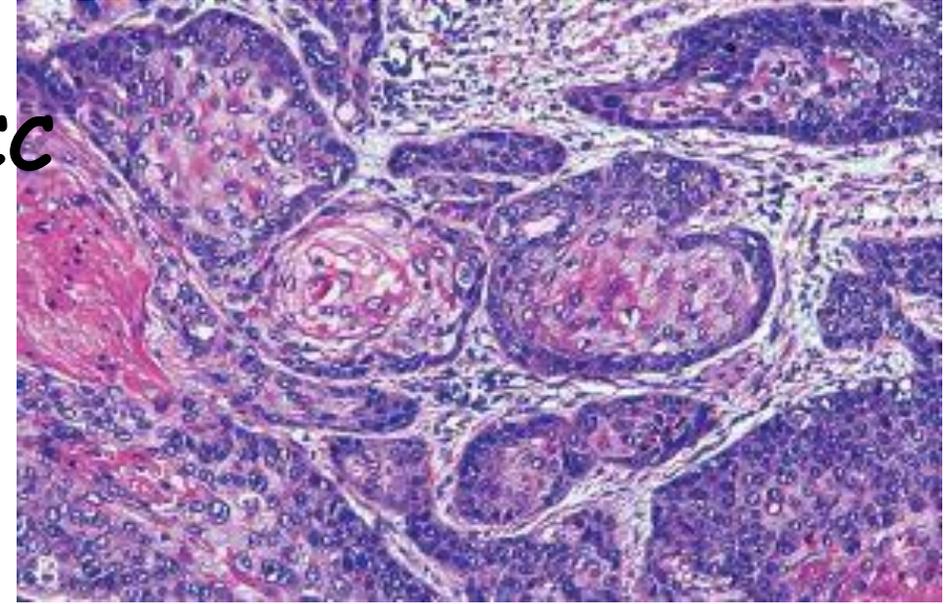
Cervix

Carcinoma of the cervix

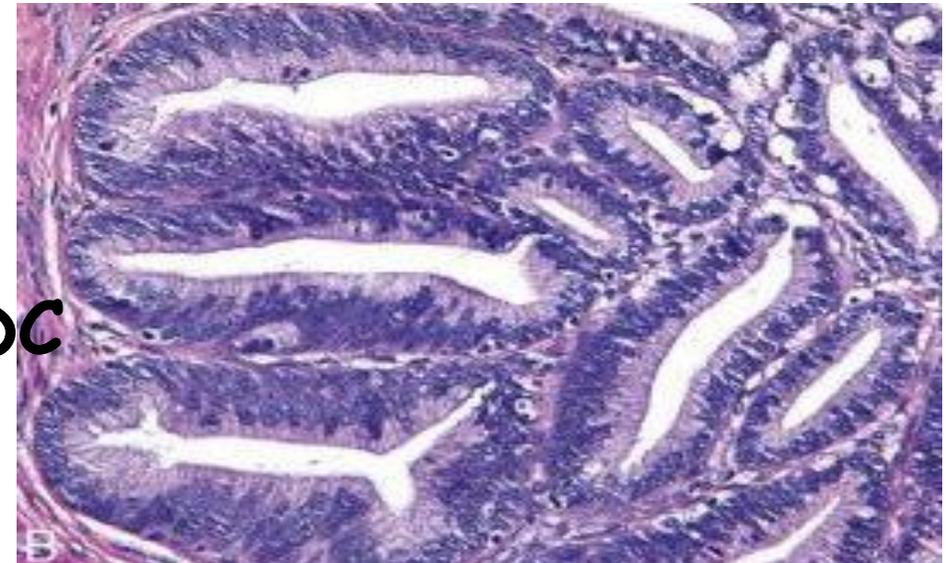
Microscopically:

- **Squamous cell carcinomas** either keratinizing or nonkeratinizing. The most common (80% of cases)
- **Adenocarcinomas** (15% of cases) are characterized by formation of glandular structures.
- **Other types** (5%) include adenosquamous carcinoma and neuroendocrine carcinoma.

SCC



ADC



Cervix

Carcinoma of the cervix

Spread:

- Local to the peritoneum , bladder and rectum.
- Lymphatic to local and distant lymph nodes metastasis
- Hematogenous metastasis to liver lung and bone.

Prognosis:

- Because of screening programs, most of patients are discovered in early stages.
- Patients with stage IV cancer of poor prognosis die as a consequence of local extension of the tumor.

Cervix

Carcinoma of the cervix

Prevention:

- Vaccination against HPV introduced to girls at school age hopefully may reduce the cervical cancer risk.
- Screening programs
 - Aim: to detect precancerous lesions or abnormal cells early.
 - Method : PAP smear and HPV testing.

Case scenario: Cervical lesion

Hysterectomy was performed on a 38-year-old woman for resection of a large intramural leiomyoma, and the cervix is examined histologically by the pathologist. Microscopic sections of the cervix reveal **atypical dysplastic squamous** epithelial cells in the **lower one third** of the epithelium. Mitoses are present only in the basal one-third of the epithelium. **No invasion** into the underlying tissue is noted.

- 1) Which of the following is the best pathologic diagnosis for this cervical biopsy specimen?
- 2) What is the aetiological factor responsible for these changes?
- 3) What is the serious fate for this condition?

Now....Answer this

Which of the following is a character of Cervical Carcinoma?

- a. Most commonly a squamous cell carcinoma.
- b. More common in nulliparous women.
- c. May arise due to Epstein bar virus.
- d. Microglandular hyperplasia is a precursor lesion.
- e. Endocervical polyp is precancerous lesion.



Discussion & Feedback

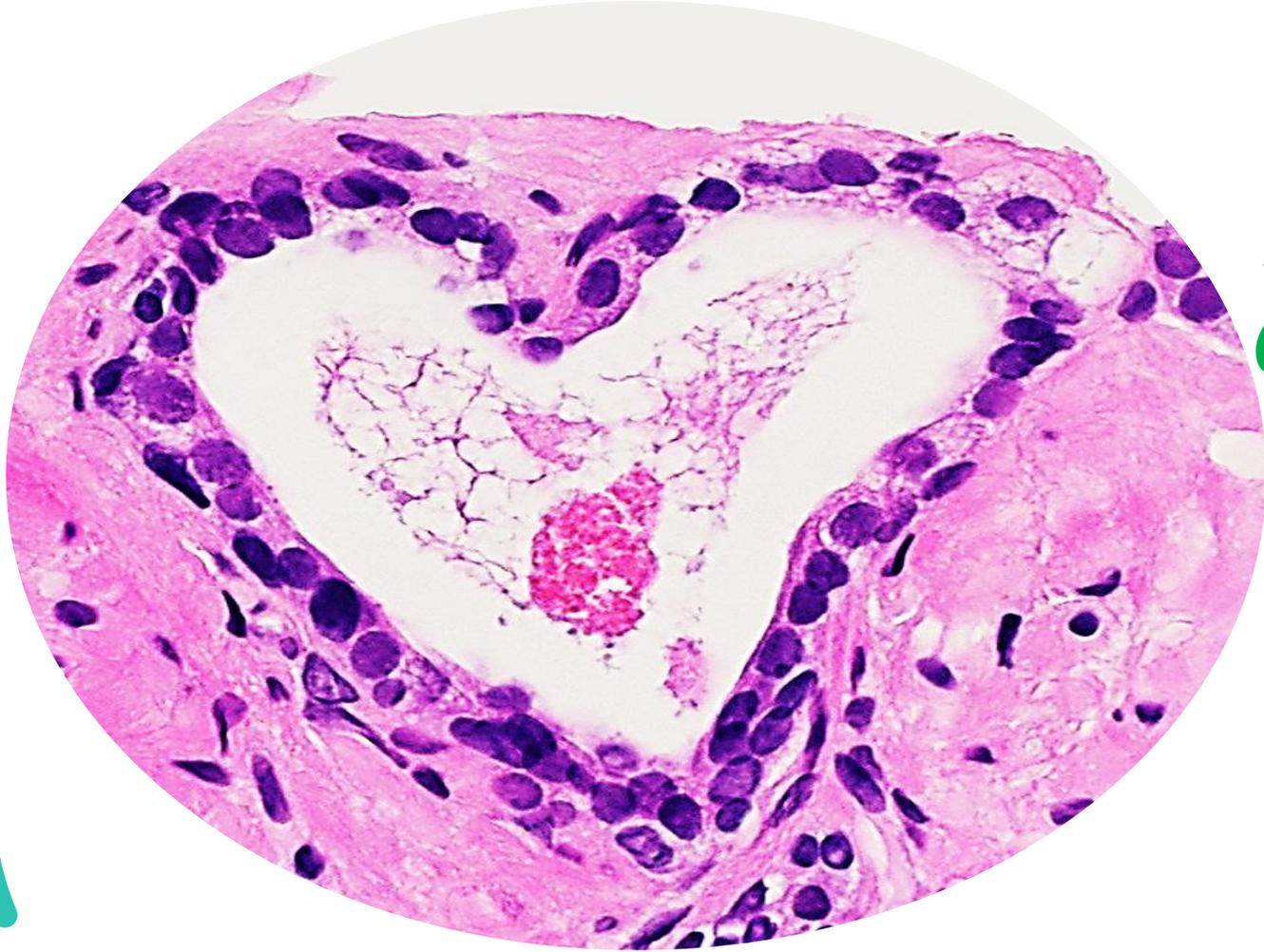
References & recommended readings

1. Robbins & Cotran Pathologic Basis of Disease,
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Edition: 10th

2. Webpath:

<https://webpath.med.utah.edu/webpath.html>

<https://www.pathologyatlas.ro/index.php>



Thank you

