

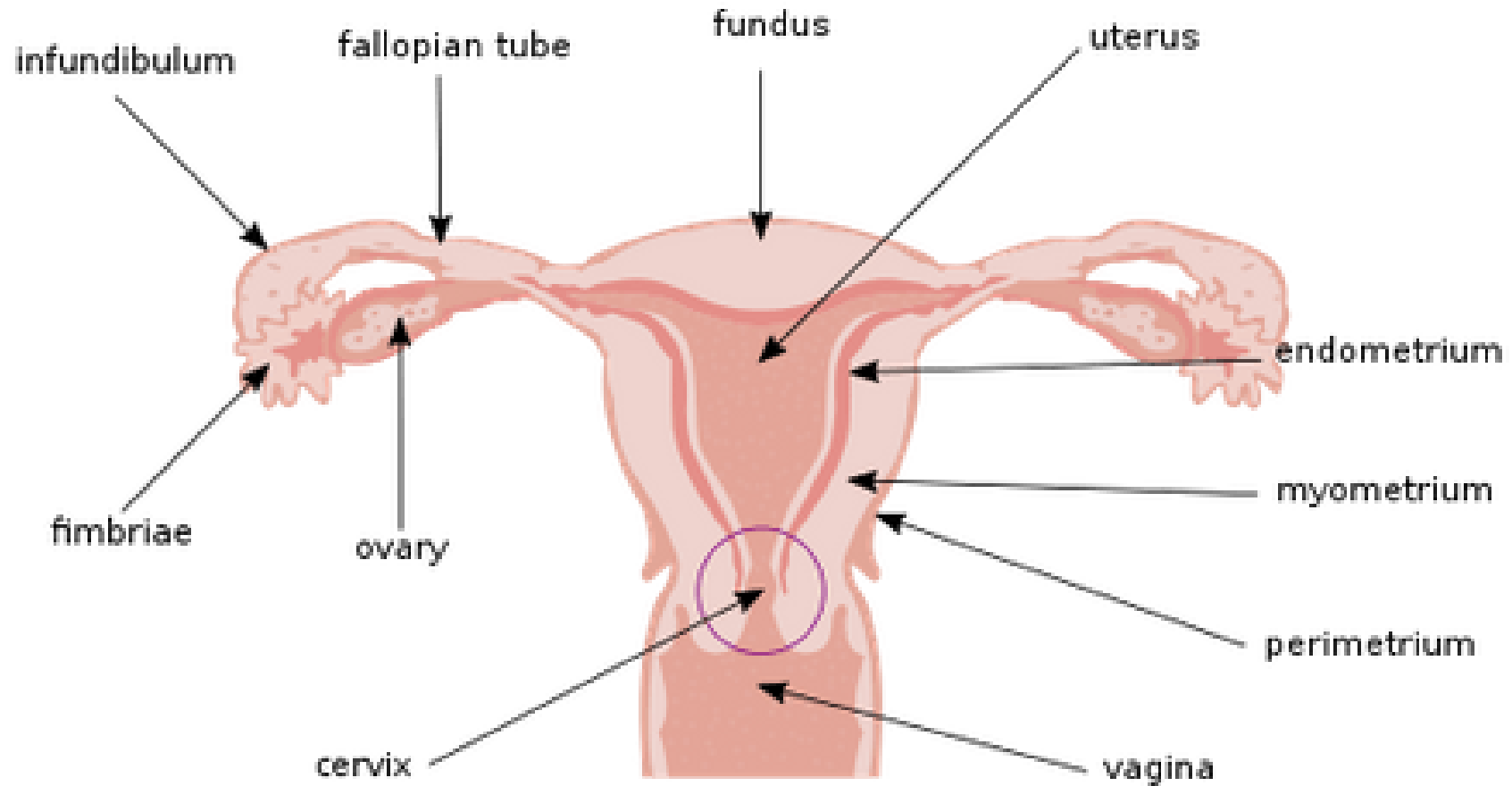
# Female Genital System Cervix and GTD.

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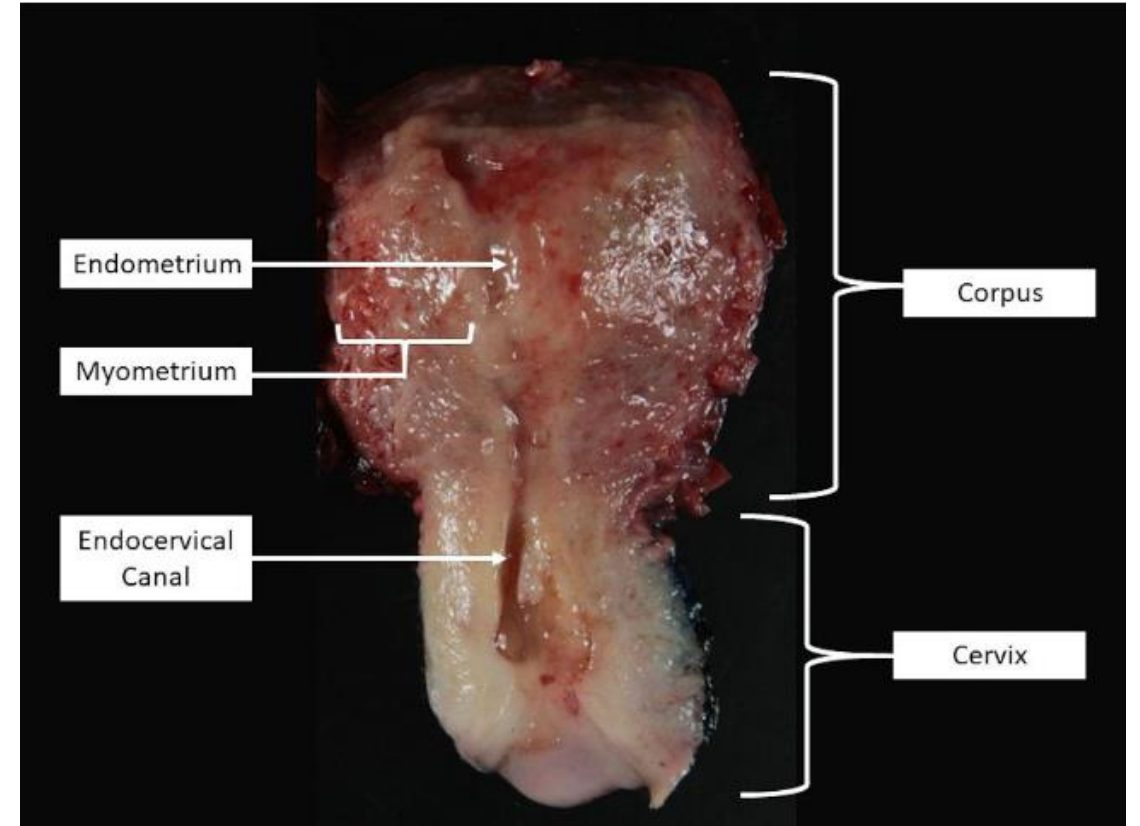
DR.EMAN KREISHAN

19-5-2025

# Anatomy

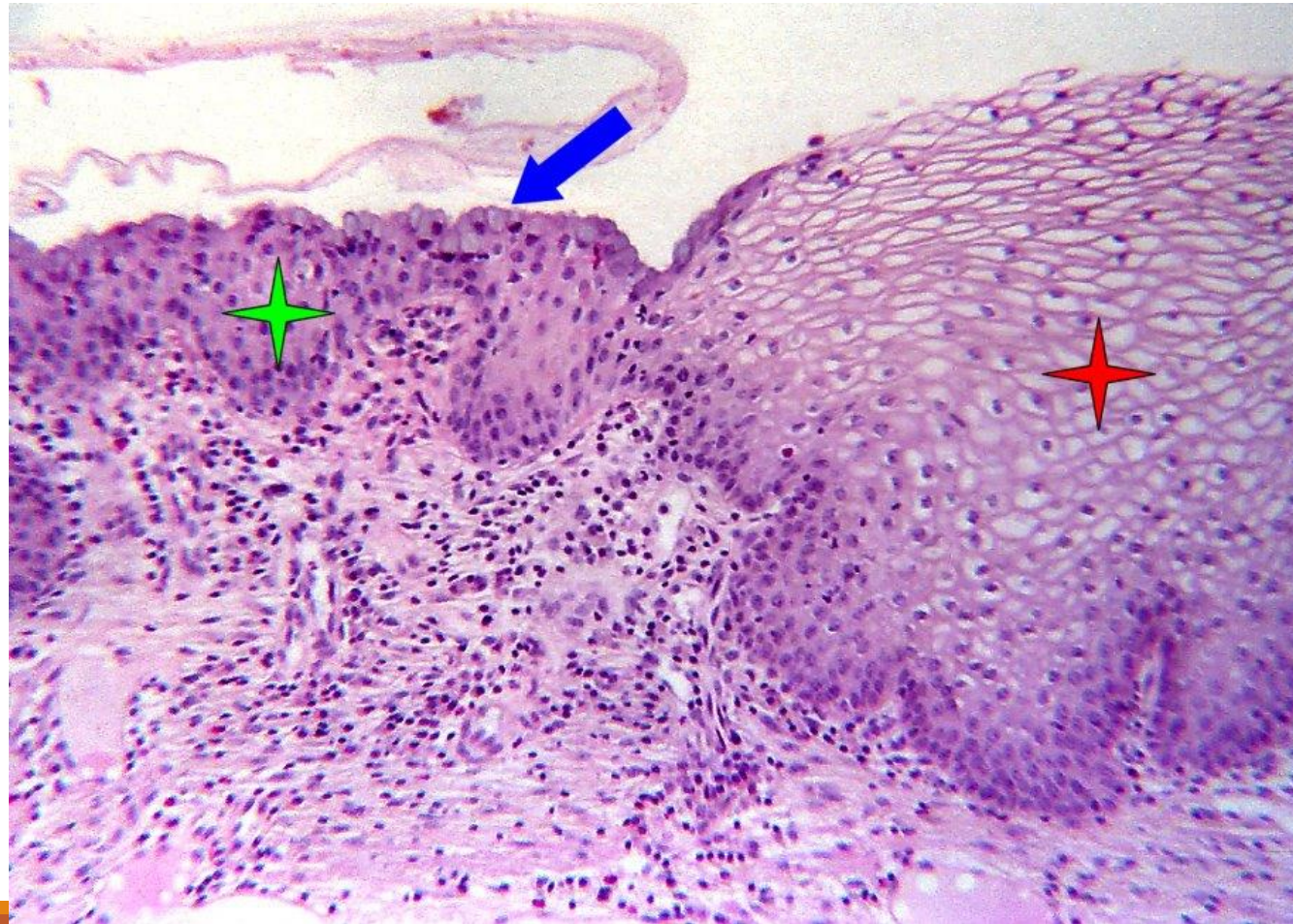


# Gross anatomy



# Histology

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# I. Cervix: Cervicitis.

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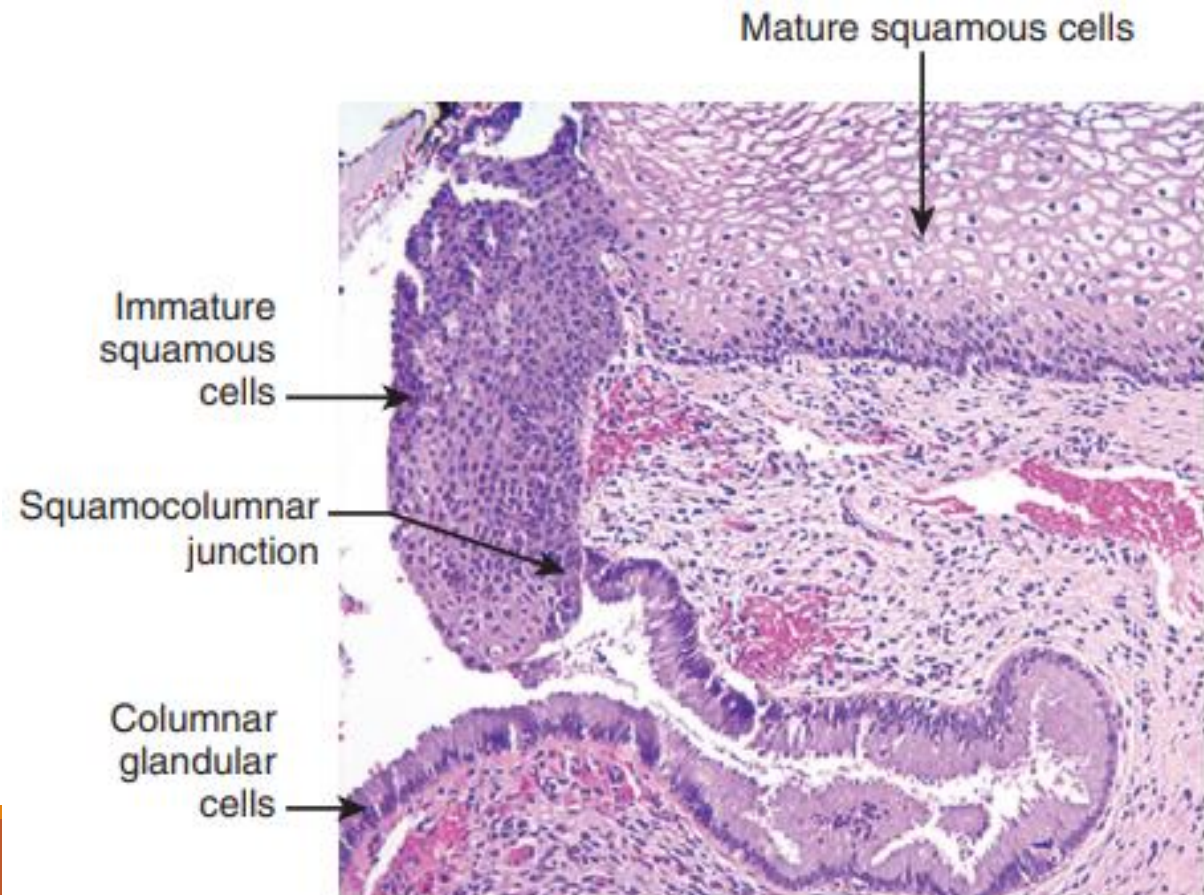
- ✓ inflammation of the cervical epithelium and stroma, with varying degrees of cellular infiltration.
- ✓ Clinically characterized by: purulent vaginal discharge.
- ✓ Cervicitis can be sub classified as:
  - ❖ infectious: Chlamydia trachomatis, Ureaplasma urealyticum, T. vaginalis, Neisseria gonorrhoeae, HSV-2.
  - ❖ Noninfectious.

## II. NEOPLASIA OF THE CERVIX

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- Most tumors of the cervix are of epithelial origin and are caused by oncogenic strains of HPV and commonly arising from the transformation zone.

- HPV, the causative agent of cervical neoplasia has a tropism for the immature squamous cells of the transformation zone

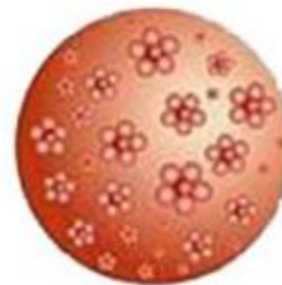


# Then?

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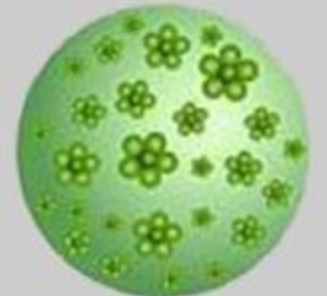
- Most HPV infections are transient and are eliminated within months by the host immune response.
- A subset of infections persists leading to:
  - cervical intraepithelial neoplasia (CIN).
  - Invasive cervical carcinoma.

## High Risk Types



HPV-16, 18, 31, 33, 45, 52, 58 types

## Low Risk Types



HPV-6, 11 or other types

# Cervical intraepithelial neoplasia (CIN)

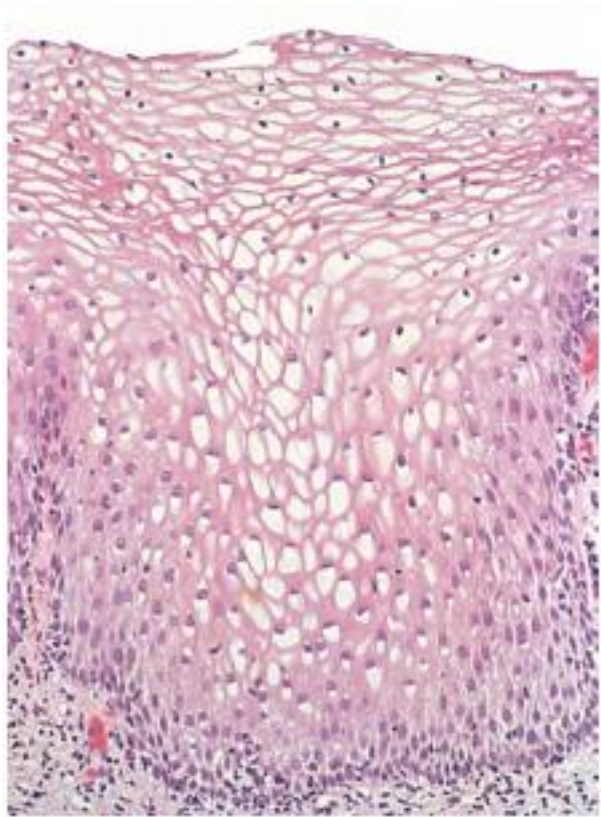
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- Precancerous squamous proliferative lesion with variable thickness nuclear atypia and varying degrees of cytoplasmic maturation
- Graded depending on the extent of epithelial involvement:
  - CIN I: Mild dysplasia (involves a third or less of thickness)
  - CIN II: moderate dysplasia (involves 2/3 of thickness).
  - CIN III: severe dysplasia (involves full thickness) → carcinoma in situ

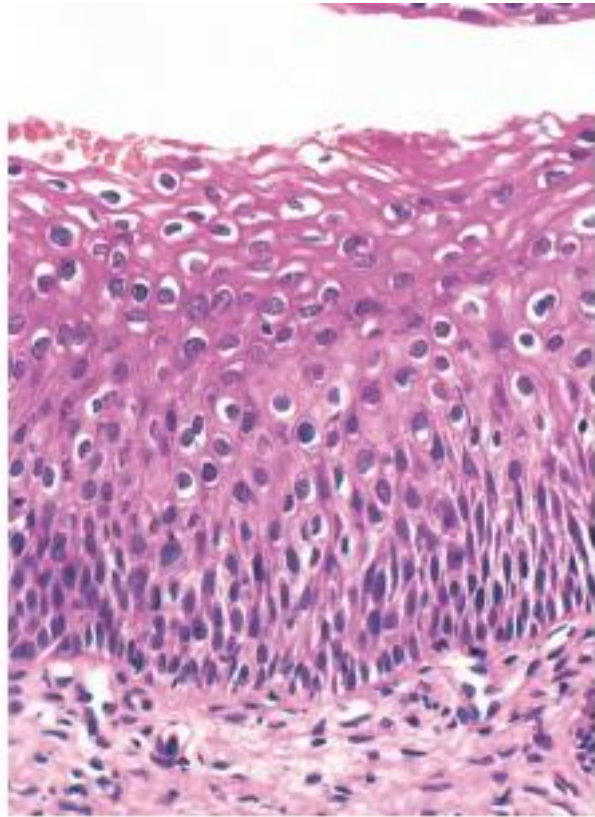


# CIN

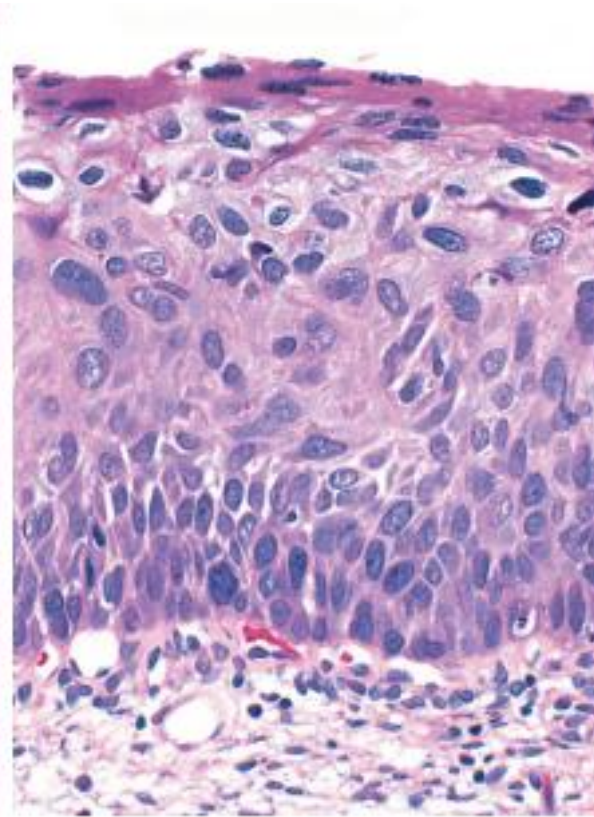
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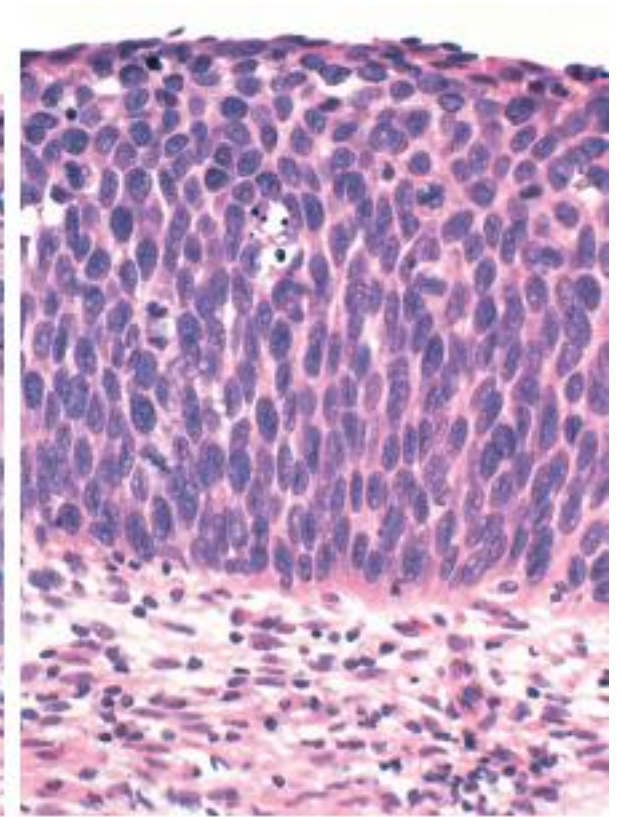
Normal



LSIL



HSIL



HSIL

# Clinical features, diagnosis and treatment

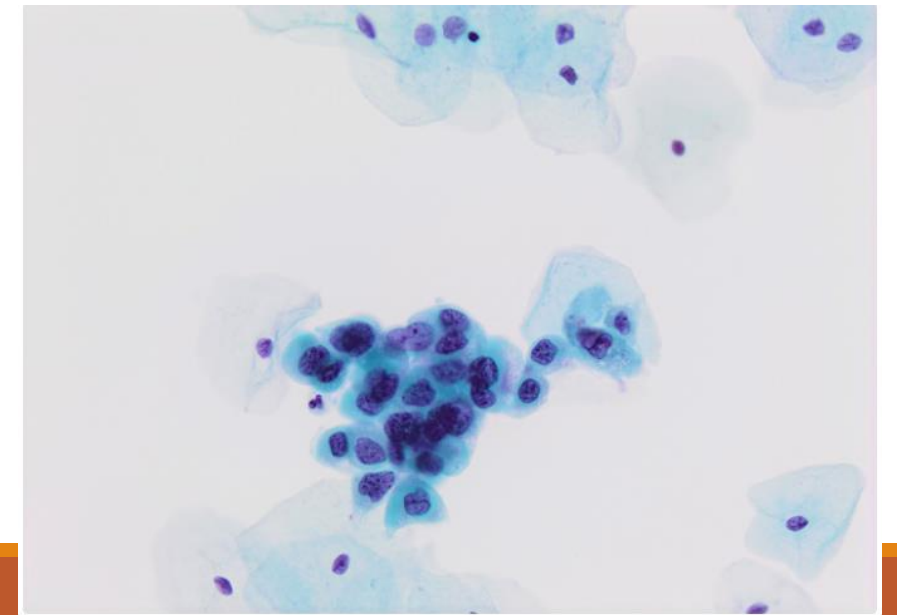
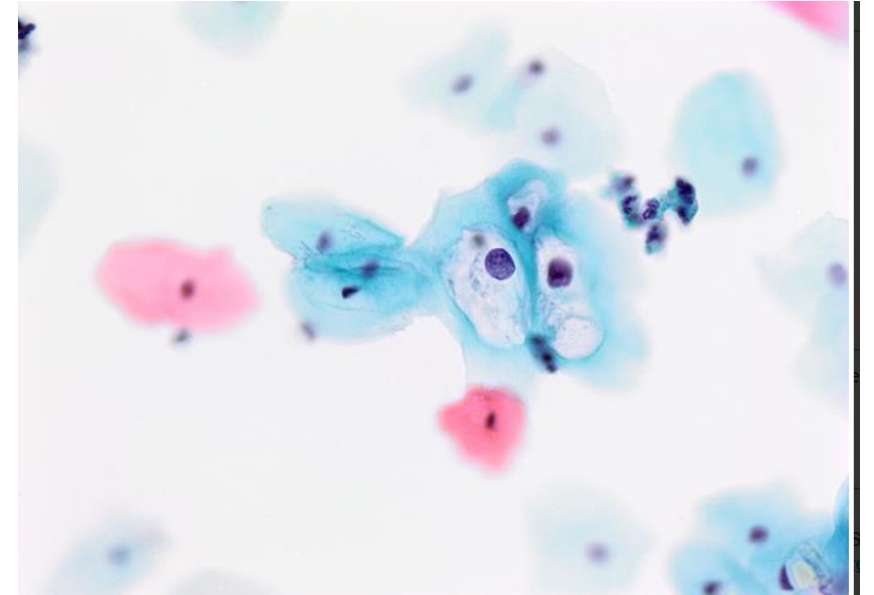
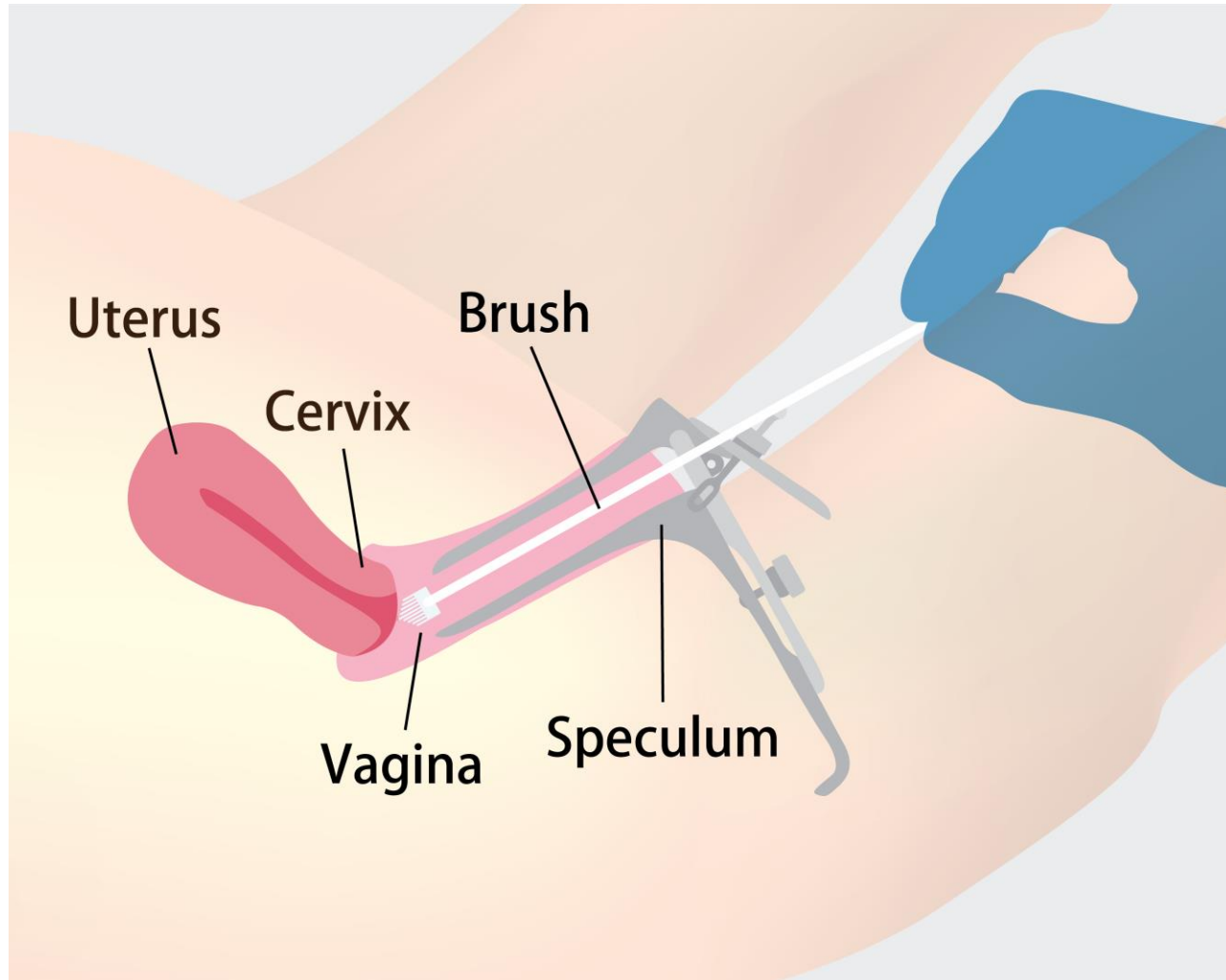
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## # CIN I(LSIL):

- Asymptomatic : Found incidentally on Pap smear screening, cervical biopsy or hysterectomy
- Diagnosis: Pap smear or Cervical biopsy.
- Management : colposcopy with careful observation.

## # CIN II, III (HSIL):

- Asymptomatic or presented as abnormal colposcopy.
- Diagnosis: Pap smear or Cervical biopsy.
- Management: Often treated with local excision.



# Invasive Carcinoma of the Cervix

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- Progression of SIL to invasive carcinoma is variable & unpredictable. (smoking is a risk factor).
- Most often is seen in women who have never had a Pap smear or who have not been screened for many years.
- Most common form is SCC 75%, adenoCa. & adenosquamous (mixed) Carcinoma 20%, & neuroendocrine Carcinoma 5%.
- All cases are associated with HPV infection.

**Table 22.2 Natural History of Squamous Intraepithelial Lesions With Approximate 2-Year Follow-Up**

<b>Lesion</b>	<b>Regress</b>	<b>Persist</b>	<b>Progress</b>
LSIL	60%	30%	10% to HSIL
HSIL	30%	60%	10% to carcinoma <sup>a</sup>

*HSIL*, High-grade squamous intraepithelial lesion; *LSIL*, low-grade squamous intraepithelial lesion.

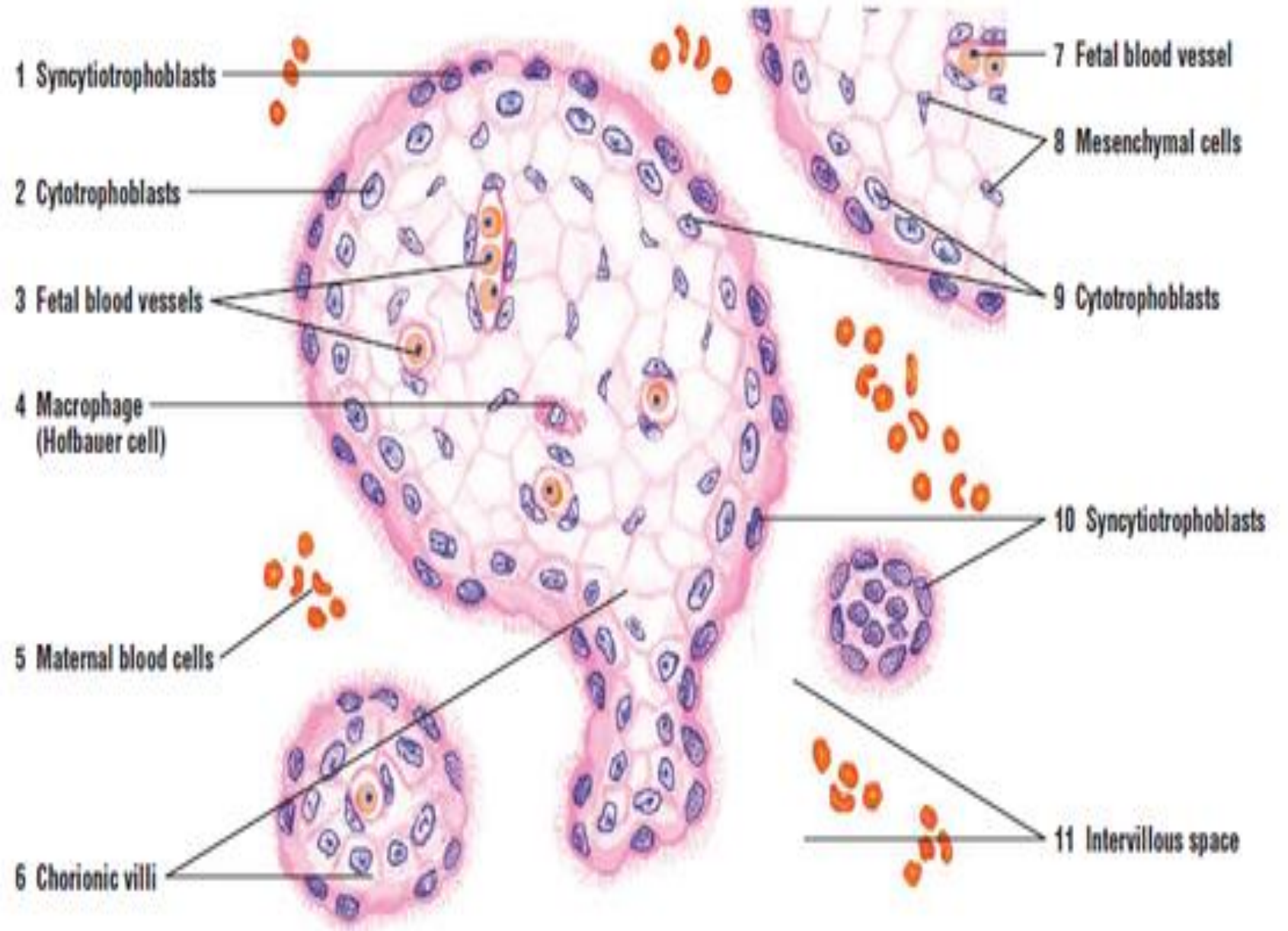
<sup>a</sup>Progression within 2 to 10 years.

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## Gestational trophoblastic disease:

- Hydatidiform Mole .
- Gestational Choriocarcinoma

# Placenta histology



# Placenta grossly

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# Gestational trophoblastic disease (GTD)

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- An abnormal proliferation of fetal trophoblast cells. (normal cells of placenta in pregnancy).
- All GTD elaborate human chorionic gonadotropins (hCG) → detected in the blood & urine at levels higher than those found during normal pregnancy. So it used as a tumor marker for diagnosis and follow up.



# 1. Hydatidiform Mole

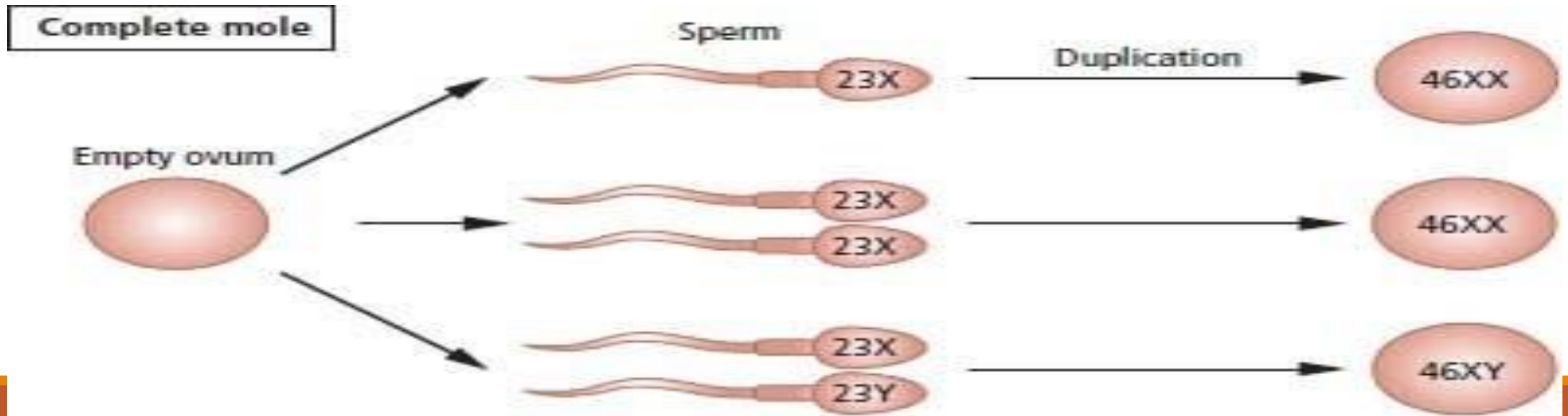
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- An abnormal gestational process due to abnormal fertilization with an excess of paternal genetic material.
- Incidence of complete hydatidiform mole is about 1 to 1.5 per 2000 pregnancies.
- Most common before 20 & after 40 years.
- History of Mole increases the risk for molar disease in subsequent pregnancies.
  
- Two forms:
  - Complete mole.
  - Partial mole.

# A. Complete Hydatidiform Mole

an empty egg fertilized by two spermatozoa (or a diploid sperm), diploid karyotype containing only paternal chromosomes.

Complete mole are not compatible with embryogenesis & **does not contain fetal parts**. The chorionic epithelial cells are diploid (46,XX or, uncommonly, 46,XY).



## B. Partial Hydatidiform mole.

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- A normal egg is fertilized by two spermatozoa (or a diploid sperm), triploid karyotype with a dominance of paternal genes.

Partial mole is compatible with early embryo formation → may contain fetal parts & some normal chorionic villi. Chorionic epithelial cells almost always triploid (e.g., 69,XXY)



# Clinical presentation

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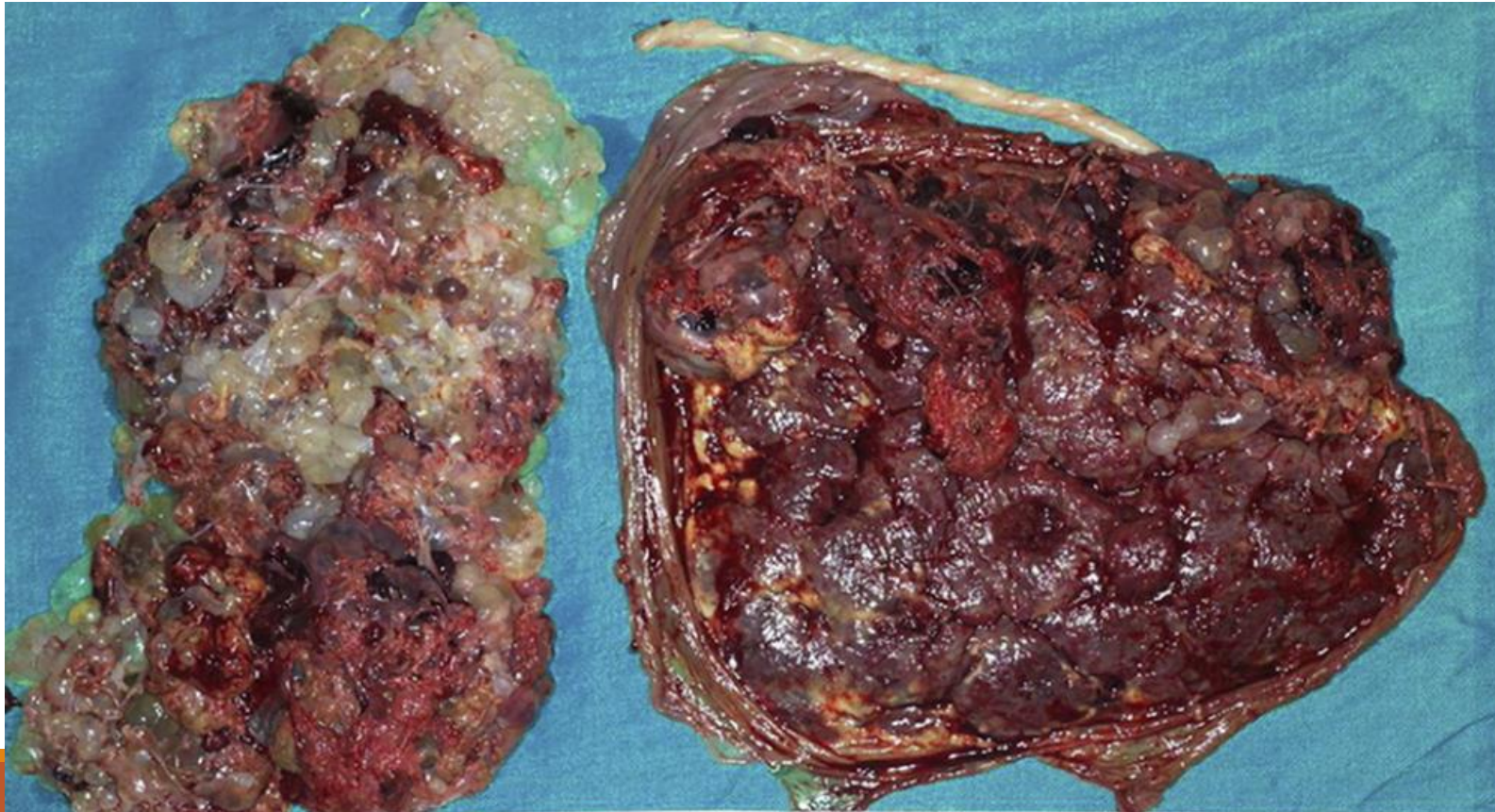
- Hyperemesis.
- Elevation of hCG in maternal blood & no fetal heart sounds.
- Large for dates fetus on ultrasound examination
- snow storm appearance on ultrasound



# Gross morphology

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Uterine cavity is expanded by friable mass (**Grape-like villi**) composed of thin-walled, cystically dilated chorionic villi .



# Histology

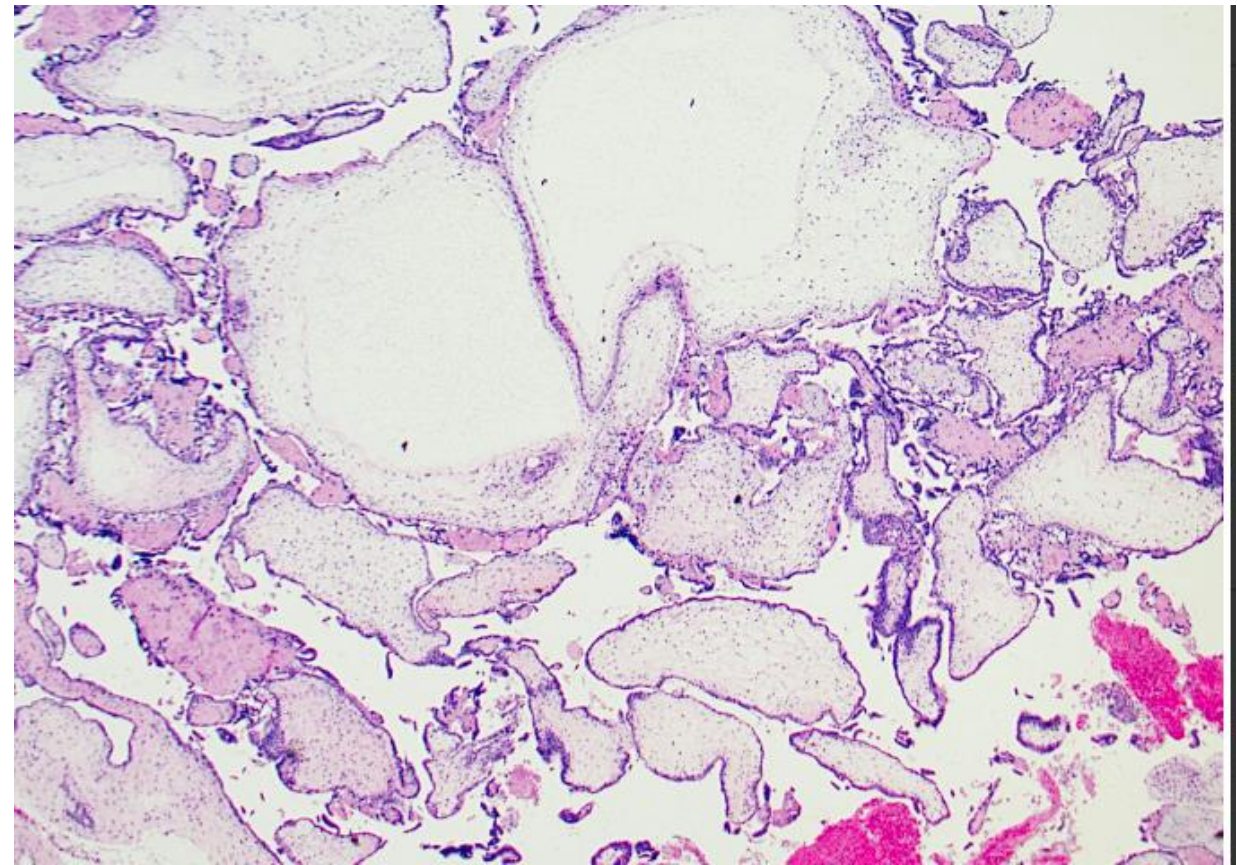
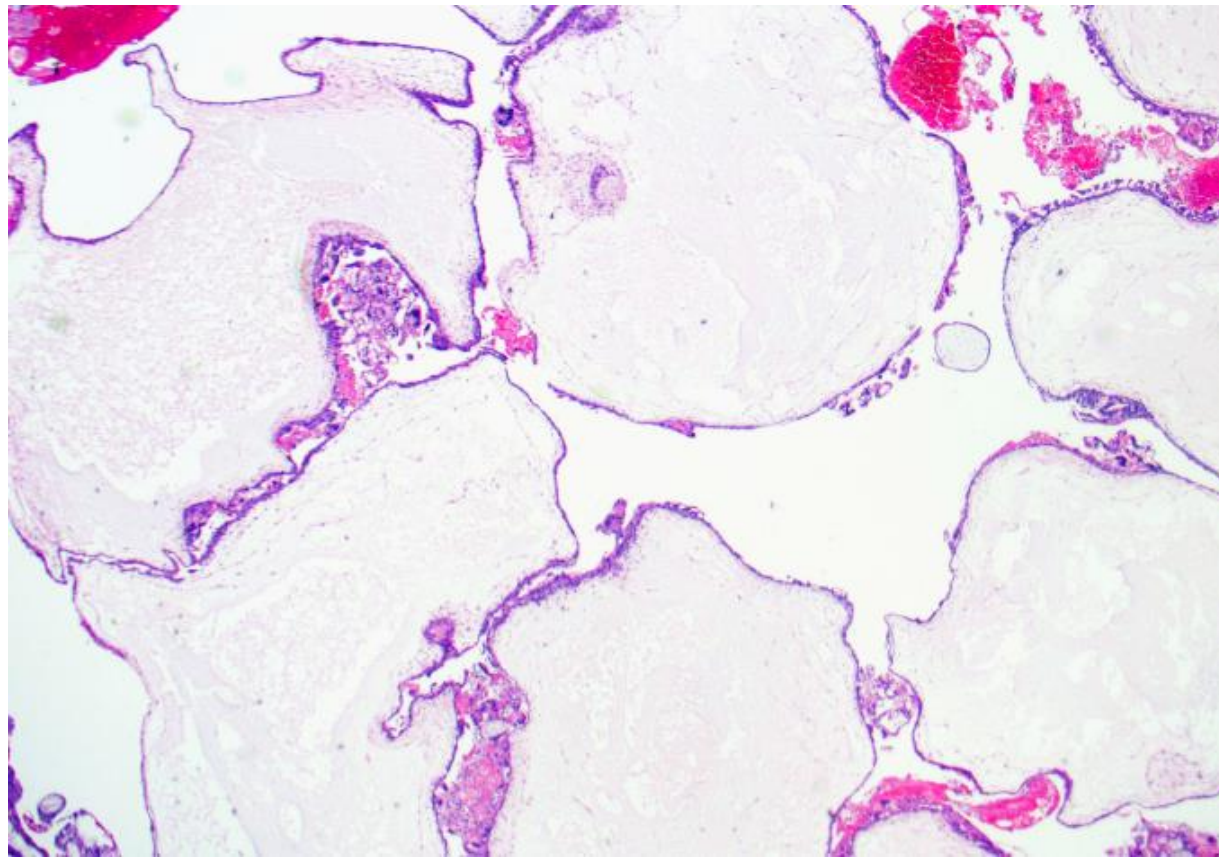
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Complete hydatidiform mole :Diffuse villous enlargement and Circumferential trophoblastic hyperplasia.

Partial hydatidiform mole: 2 villous populations seen: large hydropic and small fibrotic villi

# Microscopic features

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# Treatment & prognosis

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- ▶ Treatment : surgical evacuation of the uterine cavity & close follow up with serum hCG.
- ▶ The majority of moles do not recur after thorough curettage, 10% of complete moles are invasive
- ▶ No more than 2-3% give rise to choriocarcinoma (usually complete, rarely partial).
- ▶ So partial mole has much better prognosis

## 2. Gestational Choriocarcinoma

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- Aggressive form of gestational trophoblastic neoplasia composed of syncytiotrophoblast, cytotrophoblast and intermediate trophoblast.
- Most common before 20 & after 40 years.
- 50% result from complete moles; 25% after an abortion, 25% after an apparently normal pregnancy
- Serum human chorionic gonadotropin (hCG) is a reliable tumor marker
- High cure rates with chemotherapy.
- Clinically:
  - - vaginal bleeding.
  - - Can present initially with metastatic disease

# Gross morphology

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- Dark red, solid, friable tumor, with areas of hemorrhage and necrosis



# Microscopic features

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- Solid sheets of atypical syncytiotrophoblast, cytotrophoblast and intermediate trophoblast.
- Hemorrhage and necrosis.

