

Pathology of the Female genital tract -2

Uterine Pathology

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ENDOMETRITIS

- Inflammation of the endometrium.
Mucosa that hosts cyclical shedding during menstrual cycle.
- Causes:
 - 1- pelvic inflammatory disease (PID)
2. Implantation of fertilized egg
 - 2- miscarriage or delivery
3. growth of fetus
 - 3- intrauterine device (IUCD). *اللولب*
- acute or chronic
Symptoms
- fever, abdominal pain, menstrual abnormalities, infertility and ectopic pregnancy due to damage to the fallopian tubes.
Lower
- Rx: removal of cause, antibiotics, D&C. → surgical procedure
Dilatation & Curettage

gland in muscle.

ADENOMYOSIS

- endometrial stroma, glands, or both embedded in **myometrium**. → Abnormal
- Thick uterine wall, enlarged uterus.
- Derived from **stratum basalis** → **no cyclical bleeding**. induce certain changes in uterus.
- **menorrhagia, dysmenorrhea (due to enlarged uterus, uterine contractions are exaggerated)**

ENDOMETRIOSIS

بطانة الرحم المهاجرة

- endometrial glands and stroma **outside the**

uterus. *where does it go?*

Common

Anywhere inside the peritoneal cavity

- **10% in reproductive yrs;** ↑ infertility.

Painful menstruation

- **dysmenorrhea, and pelvic pain, pelvic mass** filled with blood (**chocolate cyst**).

organs surrounding uterus. →

Hormonal Dependent.

- **Multifocal, multiple tissues in pelvis** (**ovaries, pouch of Douglas, uterine ligaments, tubes, and rectovaginal septum**).

- **Sometimes distant sites** e.g. **umbilicus, lymph nodes, lungs, etc** → *skin wounds*

You might think of it as cancer, IT IS NOT!!

it is composed of 2 components ↙ glands ↘ muscle

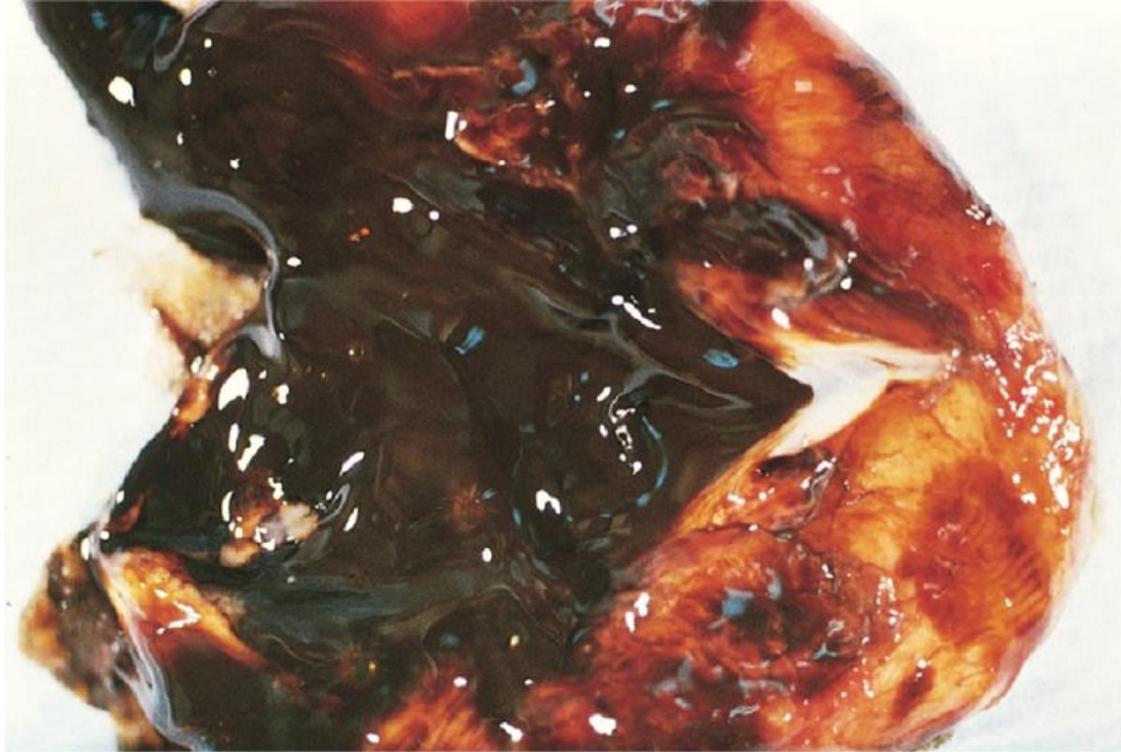
and so it is not malignant which should be composed of 1.

this mass will have chance of recurrent bleeding with every menstrual cycle, with proliferation, they will form glands, mass leading to a cyst.

"Chocolate" cyst in an ovary

Dark color
Old Blood.

Accumulated Blood.



ENDOMETRIOSIS- Pathogenesis

Not entirely understood.

• Three theories:

→ Because it explains most cases

➤ **regurgitation theory.** (most accepted). Menstrual backflow through tubes and implantation..

➤ **metaplastic theory** . Endometrial differentiation of coelomic epithelium. ←
→ used to be a potential for stem cell.

➤ **vascular or lymphatic dissemination theory.** May explain extrapelvic or intranodal implants.

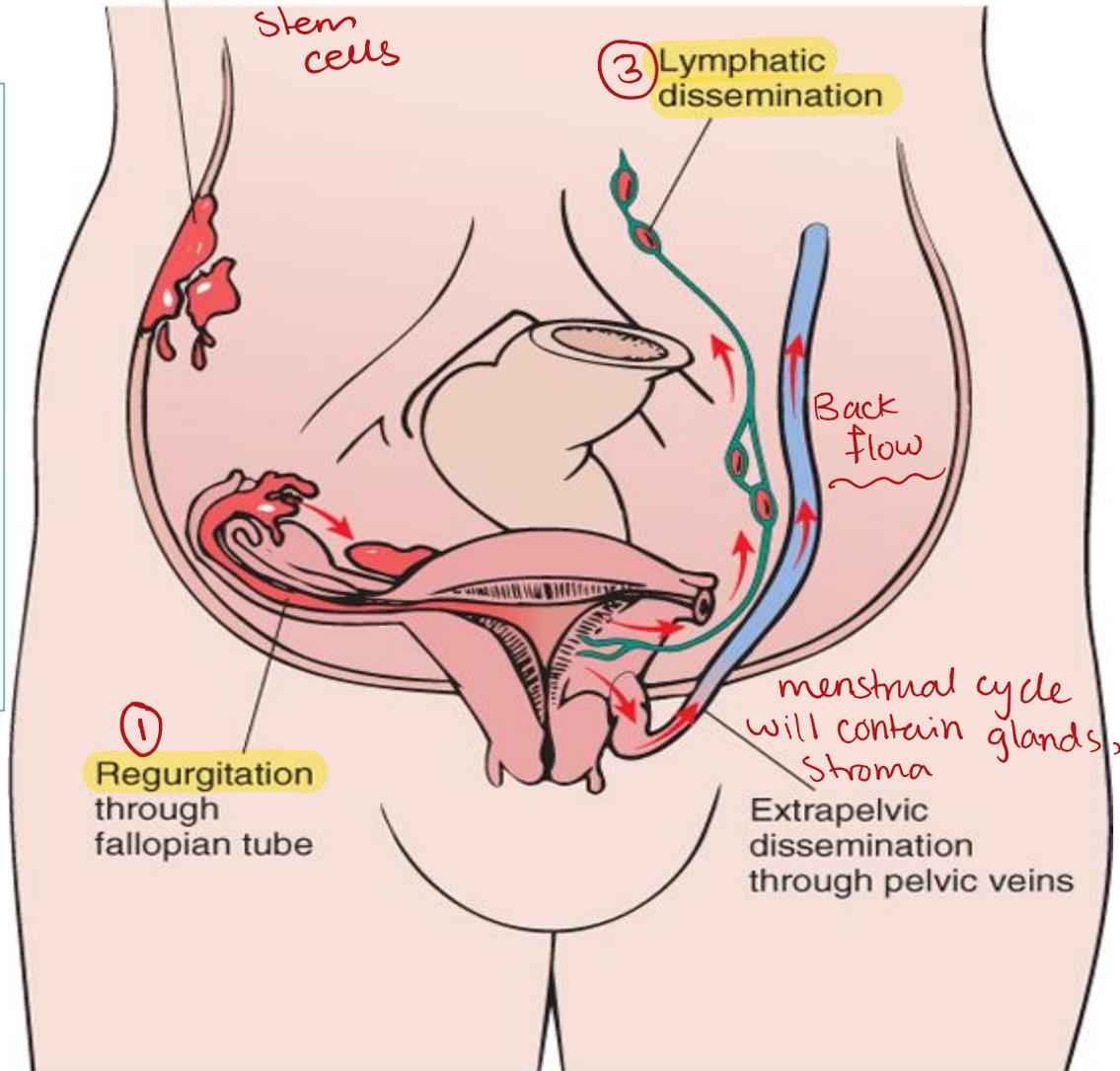
might have cures within blood vessels and lymphatics and so they would migrate into far away structures eg. lymph nodes.



Abnormal endometrial Tissue.

② Metaplastic differentiation of coelomic epithelium

Conceivably, all pathways are valid in individual instances.



ENDOMETRIOSIS

endometrium contains 2 layers → Functionalis
→ Basalis

• contains **functionalis endometrium**, so undergoes **cyclic bleeding**.

↳ 1. Hormonal Changes
2. Cyclic Shedding.

• **Consequences: fibrosis, sealing of tubal fimbriated ends, and distortion of the**

if it was close to fallopian tube

ovaries. → Caused as a consequence of inflammation

• **Diagnosis; 2 of 3 features: endometrial glands, endometrial stroma, or hemosiderin pigment.**

Cell injury

Shape ↘
Function ↘

confirmation of

Severe pelvic pain with menstrual cycle, infertility due to fibrosis and sealing of fallopian tubes. Known by endoscopy. Gynecologist will take tissue sample of susceptible areas, pathology department and diagnosis will be depending on 2/3 features listed above.

Endometrial Hyperplasia

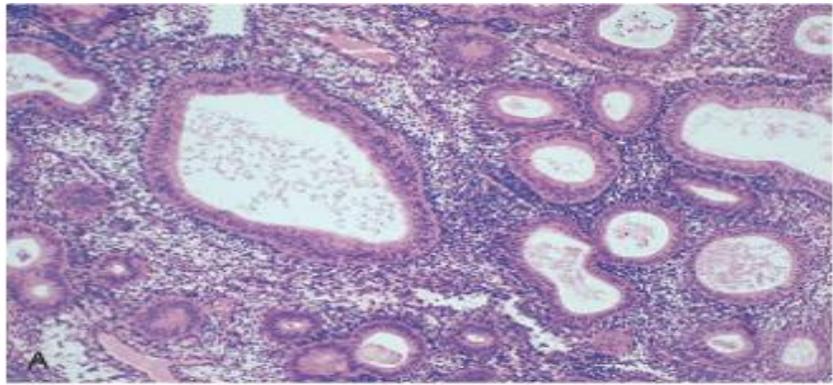
→ Glands + Stroma.

unopposed

- prolonged or marked excess of **estrogen** relative to progestin → exaggerated proliferation → may progress to cancer
 - endogenous
 - exogenous
- severity is based on architectural crowding and cytologic atypia, ranging from:
 - 1- Simple hyperplasia
 - 2- Complex hyperplasia → untreated.
 - 3- Atypical hyperplasia (20% risk of cancer).
 - ↳ changes in cells itself

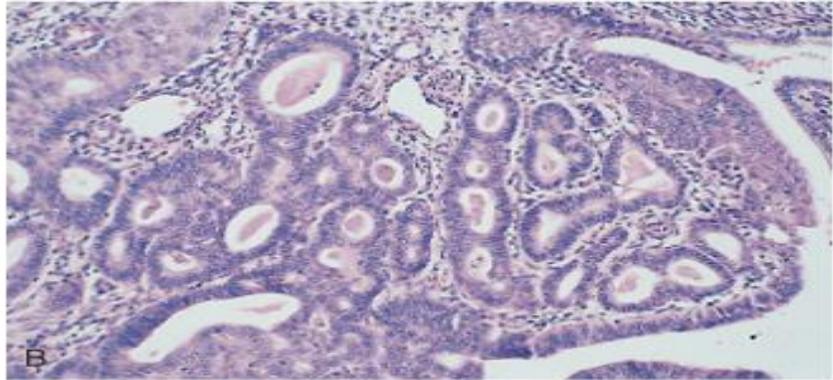
Simple hyperplasia

glands > stroma



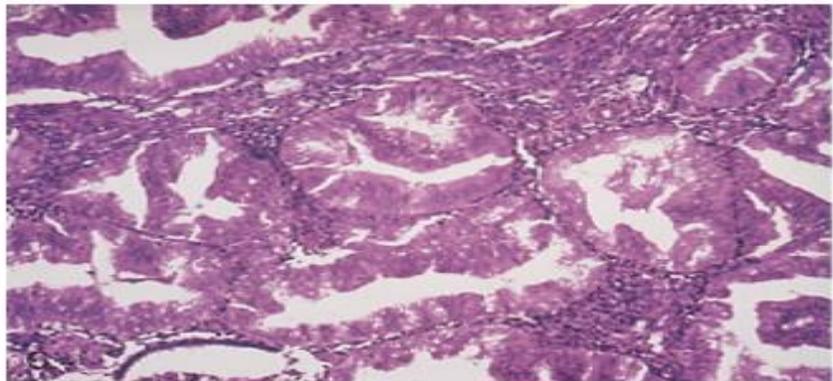
Complex Hyperplasia

- Complex shape glands
- glands >> stroma



Atypical Hyperplasia

- Abnormal shape glands.



TUMORS OF THE ENDOMETRIUM

❖ **Benign Endometrial Polyps**

- sessile or pedunculated
- endometrial dilated glands, with small muscular arteries and fibrotic stroma.
- no risk of endometrial cancer.

Endometrial Carcinoma

- the most common cancer in female genital tract.
- 50s and 60s.
- two clinical settings:
 - 1) perimenopausal women with estrogen excess
 - 2) older women with endometrial atrophy.
- These scenarios are correlated with differences in histology:
 - 1-endometrioid → Remember it is related to estrogen
 - 2-serous carcinoma , respectively.

Endometrioid carcinoma:

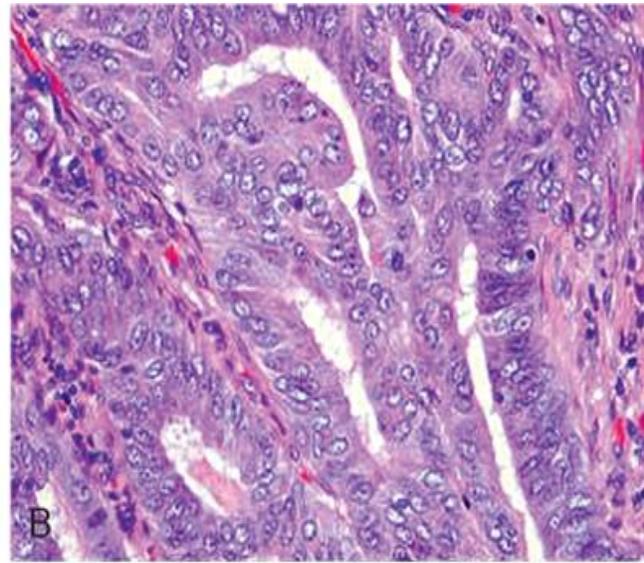
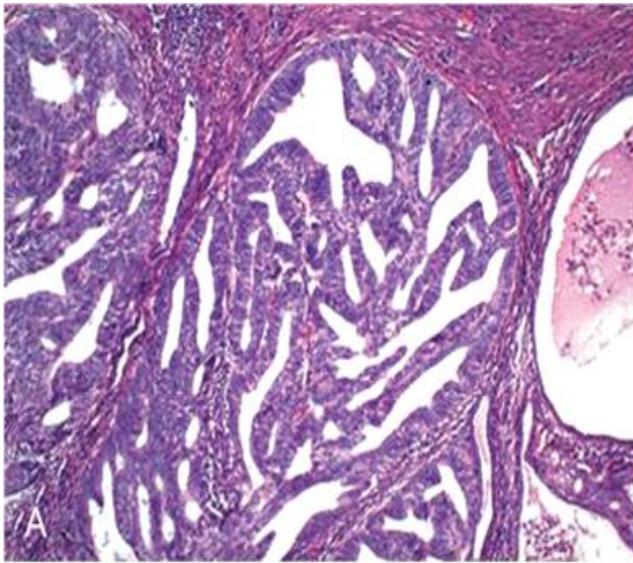
- termed because similar to normal endometrium. ↓ means morbid. but much higher number of glands.
- risk factors: **Obesity; Diabetes; Hypertension** (mostly an association and not a true risk factor); **Infertility; Prolonged estrogen replacement therapy; Estrogen-secreting ovarian tumors.** Anything that ↑ estrogen. ① Hyperplasia → ② Tumor
- precancerous lesion is atypical endometrial hyperplasia
- Mutations in **DNA mismatch repair genes** and **PTEN**
- **Prognosis: depends on stage.** 5-year survival in stage I = 90%; drops to 20% in stages III and IV.

Serous carcinoma

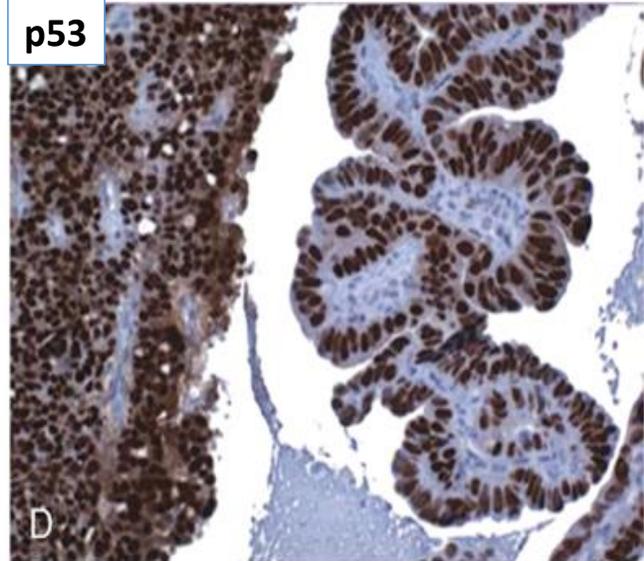
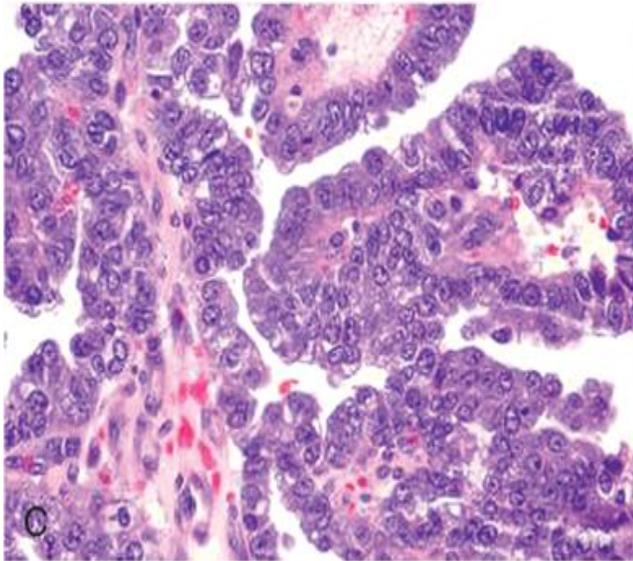
Has nothing to do with estrogen

- **no relation with endometrial hyperplasia.**
- **Not hormone-dependent**
- **mutations in p53 tumor suppressor gene.**
- **Prognosis: depends on operative staging with peritoneal cytology. Generally worse than endometrioid ca.**
 - More aggressive
 - Less common.

Endometrioid carcinoma



Serous carcinoma



Tumors of the myometrium

- **Lieomyoma = fibroids** → so called because it has fibers and it is firm.
- Benign tumor of smooth muscle cells
- most common benign tumor in females (30% - 50% in reproductive life).
very common.
- **Estrogen-dependent**; *enlarge during productive years*; shrink after menopause.
- circumscribed, firm gray-white masses with whorled cut surface.
↓
Due to the growth pattern.

Leiomyomas

anywhere inside uterus.

Directly under endometrium. (

• Location: (intramural), (submucosal), or (subserosal).

• may develop hemorrhage, cystic change or calcification.

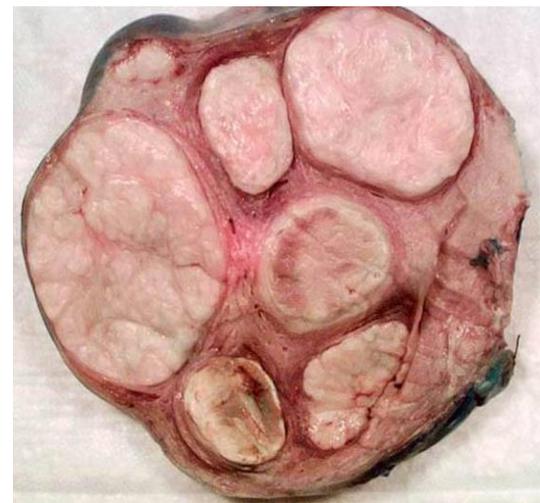
through the wall.

- third layer
- most external,
- least important

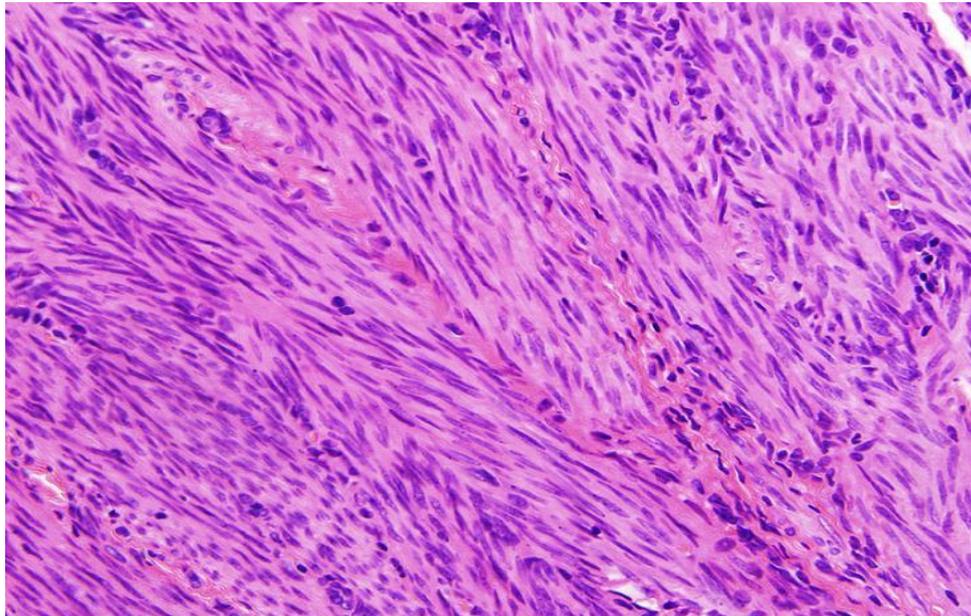
• Clinically: asymptomatic or symptomatic; menorrhagia; a dragging sensation, anemia, etc... → due to severe cyclic bleeding

• leiomyomas almost **never** transform into sarcomas, and the presence of multiple lesions does not increase the risk of malignancy. even if they were ↑ in number eg-20

- Small or Big
- Single or Multiple.



Microscope:-
Smooth muscles
in high number
in spindle shape
in a vesicle
No Atypia
NO mitotic
Activity.

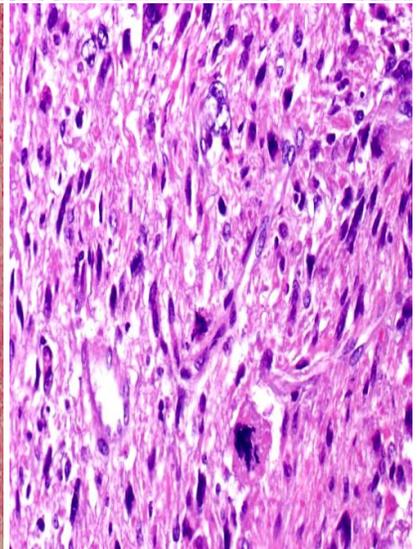
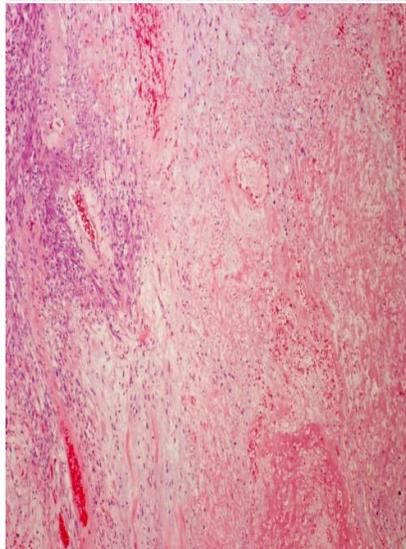
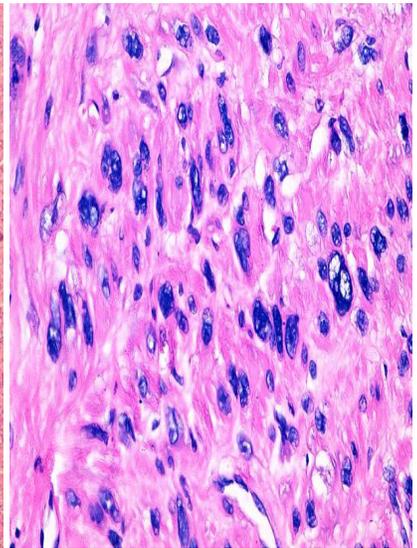
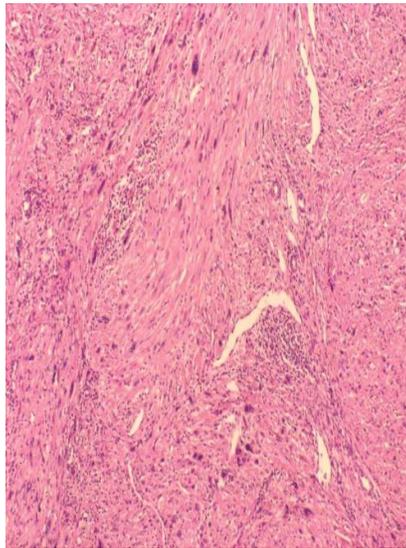
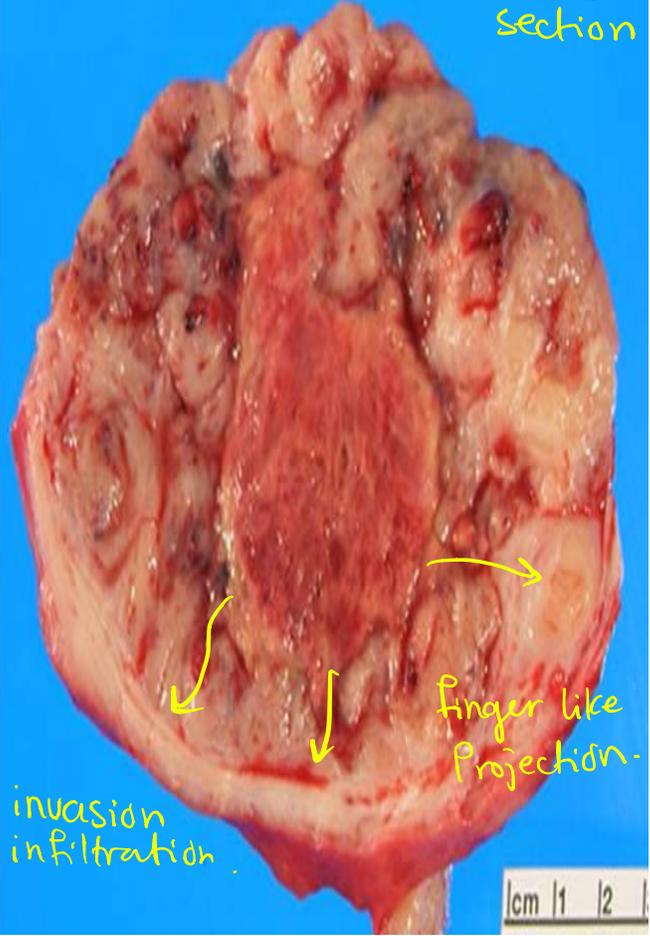


Lieomyosarcoma *very Rare*

- Malignant counterpart of leiomyoma.
- not from preexisting leiomyomas.
- hemorrhagic, necrotic, infiltrative borders.
- diagnosis: coagulative necrosis, cytologic atypia, and mitotic activity. *Microscopically -*
- Recurrence common, and metastasize, 5-year survival rate 40%. *→ Aggressive tumor.*

•

Views from above → cross section



- Atypia
- Mitotic Activity