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Fibroid + Uterine Malignancy

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Objectives:

1. Identify the prevalence of leiomyomas.
2. Describe the clinical picture of patient with leiomyoma.
3. List the different types of uterine leiomyoma.
4. Describe the diagnostic methods to confirm uterine leiomyoma.
5. Discuss the treatment options for leiomyoma (medical and surgical)
6. Identify the risk of malignant changes that might occur in leiomyoma
7. Mention the differential diagnosis of post-menopausal bleeding.
8. List the risk factors for endometrial hyperplasia and endometrial cancer.
9. Mention types of endometrial hyperplasia.
10. Discuss diagnosis and management of endometrial hyperplasia.
11. Describe the signs and symptoms of endometrial cancers.
12. Discuss the diagnostic work up for a patient with postmenopausal bleeding.
13. Describe the staging of endometrial carcinoma.
14. Discuss management of endometrial cancer according to stage.
15. Discuss the prognosis of endometrial carcinoma versus sarcoma.

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Special thanks

تم بحمد الله الانتهاء من عمل فريق النساء والولادة
كل الشكر والتقدير لأعضاء الفريق المتميزين

- آلاء العقيل
- أشواق الماجد
- انجود العنزي
- العنود بوحيمد
- أنوار العجمي
- بدرية الصباغ
- بشرى قوقندي
- جواهر ابانمي
- جومانا القحطاني
- حنين السبكي
- حنين باشيخ
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- فاطمة الطاسان
- ليلى البريكان
- ليلى مذكور
- لينا الوكيل
- منيرة الزايد
- منيرة العيوني
- مها الغامدي
- ندى الصومالي
- نورة السهلي
- نورة المهيدب
- نوف العقيلي
- نوف العماري
- هيفاء الوعيل
- يارا الدعيجي

شكرا للقادة الأكاديمين
دينا الدوسري وشروق الصومالي

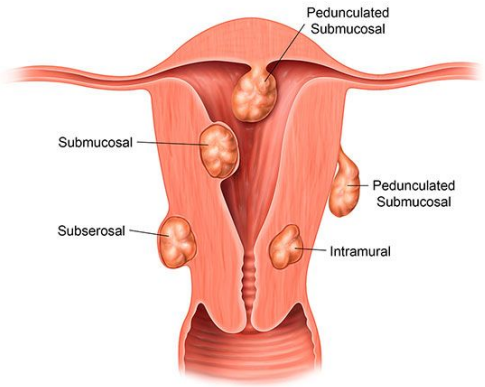
وأهم شيء شكراً للجندي المجهول في التيم
ليلى مذكور
أفضل member في الدنيا 💞 كانت دايم تراجع معنا كل المحاضرات و تضيف الملاحظات و الـ Golden notes يكفي أنها اشتغلت على كل محاضرات الأوبيقايني وكل وقتها للتيم ☹ ادعوا لها بالتوفيق بالدنيا والآخرة ❤️

Uterine fibroids

- Benign tumors of smooth muscle cell origin.
- They are the commonest pelvic tumors It is 5 times more common in black women than white women.
- Fibroids have ↑ concentration of estrogen receptors so:
  - ↑ size the child bearing age.
  - ↓ in size around the age of menopause.
  - Never diagnosed before the age of puberty.

Types of Fibroids

1. Subserosal (towards the peritoneum "abdomen"): These are located beneath the uterine serosa. As they grow they distort the external contour of the uterus causing the firm, non-tender asymmetry. Depending on their location they can put pressure on the bladder, rectum, or ureters. If they are pedunculated, or attached to the uterus by a stalk, they can become parasitic fibroids).



2. Intramural (inside the uterine wall) : The most common location of a leiomyoma is within the wall of the uterus. When small it is usually asymptomatic and cannot be felt on examination, unless it enlarges to where the normal uterine external contour is altered.

3. Sub mucus (inside the organ itself): These myomas are located beneath the endometrium and can distort the uterine cavity. The distorted overlying endometrium may not respond appropriately to the normal hormonal fluctuations, resulting in unpredictable, often intermenstrual bleeding. Abnormal vaginal bleeding is the **most common symptom** of a submucosal myoma and can result in anemia. Menorrhagia is defined as heavy menses and metrorrhagia is defined as irregular bleeding in between menses. Menometrorrhagia consists of both heavy menses and bleeding in between the menses.

4. Pedunculated: subserosal or submucus with stalk.

5. Parasitic (originates in the uterus but found in another organ "No peduncle"): They break away from the uterus and receive their blood supply from another abdominal organ (such as the omentum or the mesentery of the intestine,

Changes in size are dependent on the reproductive life stage of the woman.

- **Slow growth**
- **Rapid growth:** Estrogen receptors are increased in leiomyomas, causing rapid enlargement during times of high estrogen levels, such as pregnancy.

Clinical presentation

- Menorrhagia. The most common symptom.
- Infertility. When it is submucosal and larger than 2 cm or very huge fibroid of any kind (10 – 20 cm). It could affect the implantation. In general, its effect appears depending on the place (e.g., in Cx) and its size in relation with the space.
- Pressure symptoms e.g. difficulty urination or constipation. Most leiomyomas are small, grow slowly, and cause no symptoms. Only when massive in size do they cause pelvic pressure symptoms.
- Lower abdominal pain.
- Dysmenorrhea.
- Pelvic or pelviabdominal mass.

Degenerations of fibroids[1]

During times of rapid growth, myomas may outgrow their blood supply, resulting in ischemic degeneration of a fibroid. This is most common during pregnancy.

1. Hyaline degeneration.
2. Myxomatous degeneration.
3. Calcific degeneration. A bad sign, that's how the sarcoma starts. We have to remove it bc it is the start of sarcoma.
4. Red degeneration. Happens in pregnancy, also known as carneous degeneration, can cause such extreme, acute pain that the patient requires hospitalization and narcotics, it increases in size causing central necrosis. It causes a lot of pain. And myomectomy is **contraindicated** in pregnancy due to its high vascularity and the potential bleeding in this period. We have to wait until it regresses and excise it. **In pregnancy manage it only with analgesia.**
5. Fatty degeneration.
6. Cystic degeneration.
7. Necrosis.

Shrinkage

When estrogen levels fall, with estrogen receptors no longer stimulated, leiomyomas will typically decrease in size. This predictably occurs after menopause but can also occur when estrogen levels are medically reduced through gonadotropin releasing hormone (GnRH) agonist suppression of follicle-stimulating hormone (FSH).

Fibroids in pregnancy (important)

- ↑ in size. ⅓ will increase in size, ⅓ will stay the same size and ⅓ will decrease in size
- Can cause obstruction of labour. Especially if it is in the lower uterine segment on the cervix.
- Cause ↑ abdominal pain.
- Should not be removed.
- Undergo red degeneration.
- Cause abnormal fetal presentation

Locations of fibroids

- Uterine body.

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[1] In exam we may ask you to mention 2-3 types of fibroids degeneration.

- Uterine cervix.
- Broad ligament.
- Parasitic attached to nearby pelvic organs.

DDx

- Ovarian masses.
- Any other pelvic abdominal masses e.g. renal, GT etc.

Diagnosis

1. Clinically by history and examination. In most cases the diagnosis is made clinically by identifying an enlarged, asymmetric, non-tender uterus in the absence of pregnancy. The size of the fibroid is compared with the size of a pregnant uterus. A pregnant uterus that reaches the umbilicus is approximately 20 weeks in gestation; if the pregnant uterus reaches the symphysis pubis, it is approximately 12 weeks in gestation.
2. U/S. Very easy to notice and diagnose. Traditional abdominal or vaginal ultrasound can image large intramural or subserosal myomas. Saline infusion sonography is helpful for identifying submucosal myomas by instilling 5–10 mL of saline into the uterine cavity before visualizing the uterine cavity with an endovaginal sonogram probe.
3. CT.
4. MRI to decide the exact location and the type of management[2].
5. **Hysteroscopy:** **Submucosal** myomas may be identified by visualizing them directly with hysteroscopy.
6. **Histology:** The only definitive diagnosis is by surgical confirmation of excised tissue.

★ Remember to roll out other causes for abnormal bleeding like endometrial hyperplasia. Because different management, like fibroids myomectomy but cancer hysterectomy. And we rule it out by biopsy. We usually do biopsy in 30-40 YO or if there is family Hx of endo. cancer

Rx options

- Depends on: Age, Size, Parity, Number, Location, Hx of Previous Rx.

1. Most leiomyomas can be managed conservatively and followed expectantly with regular pelvic examinations

2. **Medical:** Deprovera, GnRH analogous, Danazol.
   - Progesterone antagonizes estrogen. Antagonism: 1- By blocking estrogen receptors. 2- Down regulation of the estrogen receptors. 3- Increases renal clearance. So sometimes we try medical (hormonal) therapy first especially if the patient refused to undergo surgery or it is contraindicated.
   - **Presurgical shrinkage:** After 3–6 months of GnRH analog therapy, with resultant hypoestrogenic state, a 60–70% reduction in size of the fibroids can be expected. However, once leuprolide (Lupron) is terminated, there will be regrowth of the fibroid within 6 months. Thus, GnRH analogs cannot be used for definitive cure, but they can be used in the adjuvant setting with surgical therapy. If a myomectomy is done, a decrease in size will be associated with a decrease in blood loss, and if a hysterectomy is planned, then perhaps a vaginal instead of an abdominal hysterectomy can be performed

3. **Surgical** (the gold standard)

[2] If it is subserosal we can remove it by laparoscopy, but intramural usually removed by laparotomy

- Myomectomy. If patient wishes to maintain fertility. The uterus is incised and the myoma removed through either a laparoscopic or laparotomy approach. If the myomectomy incision entered the endometrial cavity, delivery of any subsequent pregnancy should be by cesarean section because of increased risk of scar rupture in labor. Recurrence is possible after myomectomy[3]. If we did it by laparotomy there is a chance of bleeding, to prevent bleeding we either ligate internal iliac (need expert surgeon) or ligate the uterine artery (we make 2 incisions near to the uterus and insert folly catheter to apply pressure on the uterine artery during the surgery or we suture the artery) a branch from the ovarian artery will go and supply the uterus, that branch start at the utero-ovarian ligament so we ligate at that site by using vascular clamp. That will decrease the risk of bleeding by 60%. Sometimes all those precautions won't work bc the uterus is highly vascular so you may end up with hysterectomy (don't forget to tell the patient there is a chance of hysterectomy in the consent or you will end up in court ☺)
- Hysterectomy If patient has completed her childbearing; definitive therapy is an abdominal or vaginal hysterectomy.

4. **Radiological embolization**
   - An invasive radiology procedure in which a catheter is placed into the vessels supplying the myoma. Microspheres are injected, causing ischemia and necrosis of the myoma. The interventional radiologist goes in the femoral artery to internal iliac and then uterine to block it bilaterally. But in the future and due to weak uterine supply the uterus will be week and patients may have abortions or uterine rupture or sometimes ovarian failure (why? Bc the uterus now depends only on the ovarian artery so there will be competition in the blood supply, this is very rare but you have to tell your patient epically if she is young and planning for family)

Management	Clinical effect/Method of treatment
Observation	• Most • Serial pelvic examination
Presurgical shrinkage	• ↓ size by 70% • GnRH analog 3-6 months; regrowth after stopping
myomectomy	• Preserve fertility • Laparotomy, laparoscopy
Embolization	• Preserves uterus • Invasive radiology
Hysterectomy	• Fertility completed • Total abdominal hysterectomy; total vaginal hysterectomy

Malignant transformation (sarcomatous).

It depends on:

1. Age. Increased risk with increased age. And if it was premenopausal it is supposed to shrink due to low estrogen, but if it doesn't, it means that's it already transformed into malignant.
2. Rapid ↑ in size especially in premenopausal age.
3. < 1% in OSCE I want you to say (it is extremely rare or less than 1%) don't be confused with what the book says.

[3] we don't know when it will come back, so if she completed her family we encourage her to go for hysterectomy

Endometrial Cancer

- The most common gynecological malignancy affecting the UK. women with an age related incidence of 95 per 100,000 women. And in Saudi the most common is ovarian. In developed countries it is endometrial cancer while in developing countries it is cervical cancer.
- The life-time risk of developing endometrial cancer is approximately 1 in 46.
- The mean age of diagnosis is 62 years, although cancers can be diagnosed in women throughout their reproductive life.
- Approximately 25% of endometrial cancers occur before the menopause.
- There is no screening test.
- It grows gradually, starting as hyperplasia without atypia until late stages of cancer. So we may catch it in any stage not necessarily as a cancer.

Risk factors

- Risk related to hormonal stimulation.
    - Estrogen-related endometrial cancer **(Type I)** tends to be a lower grade histologically. This results from excessive hyperstimulation of the endometrium without the stabilizing effect of progesterone.
- Risk factors unrelated to estrogen at all.
    - Endometrial cancers unrelated to hormones **(Type II)** tends to be a higher grade and stage e.g. Papillary, serous or clear cell tumors.

Other risk factors for endometrial cancer

- **Familial predisposition.**
    - E.g. Lynch syndrome II: hereditary nonpolyposis colorectal cancer (HNPCC), endometrial carcinoma (up to 43% of women of affected families will develop ovarian cancer). Accounts for 2–5% of all endometrial carcinoma (mean age at diagnosis is 50). In women with Lynch, lifetime risk of endometrial cancer is 10–20 times the general population. They may also develop bladder, ureter, biliary, pancreas and brain cancer, so if you have very young female with endometrial cancer do colonoscopy every 5 year + urine cytology every 6 month.
- Parity.
- Nulliparity in and of itself is not a risk factor as much as the anovulatory cycles that are associated with infertility.
- Obesity or Diet, especially high fat. (adipose tissue full of estrogen)
- Menarche/Menopause: early menarche and late menopause (>52 years).
- Essentially prolonged estrogen exposure without the protection of progesterone.
- Tamoxifen (it is estrogen blocker in breast cancers, but it has an opposite effect on the uterus, so they need continuous assessment and biopsy if indicated)
- Diabetes
- HTN.
- Chronic anovulation conditions, such as PCO disease.

Protective Factors

- Hysterectomy. (duh ☺)
- Oral contraceptives (combined or progesterone only): Decreases both the risk of ovarian and endometrial cancer (RR = 0.6 if used for one year…effect lasts for 15 years!). Protective effect probably due to progesterone.
- Intrauterine device, including cobber IUD and LNG-IUD (hormonal IUD)
- Pregnancy (due to high progesterone).
- Smoking (accelerates the metabolism of estrogen) (: عاد تدخنون لا بس.

❖ How endometrial hyperplasia is associated with endometrial cancer

- Endometrial hyperplasia is a continuum:
  - Simple hyperplasia → complex hyperplasia without atypia → complex hyperplasia with atypia→ endometrial cancer (well differentiated adenocarcinoma).
  - Simple hyperplasia without atypia – 1% (in the next five years) progress to endometrial cancer.
  - Complex hyperplasia without atypia– 3%.
  - Simple hyperplasia with atypia_ 10%.
  - Complex hyperplasia with atypia—28%.

Histopathology

Most common types of endometrial cancer:

1. Endometrioid adenocarcinoma (70-80%).
2. Clear cell and serous tumors are more aggressive and probably present at a more advanced age. (together 5-10%).
3. Mucinous and squamous about 2%.

Clinical presentation

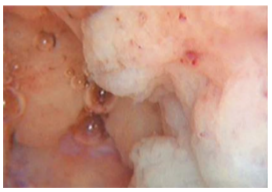
- The “classic symptom” is abnormal uterine bleeding[4].
- 20-30% of women with post-menopausal bleeding will have uterine cancer.

Post-menopausal bleeding (PMB)
• PMB is a “red flag” symptoms for gynecological cancer and should always taken seriously. • Careful inspection of external genitalia followed by speculum examination will exclude valval, vaginal and cervical cancer as the underlying cause. • Physical examination may be normal in women with endometrial cancer, which only can be excluded by transvaginal ultrasound scan (TVUSS), hysteroscopy and/or endometrial biopsy.

[4] The differential diagnosis of postmenopausal bleeding includes endometrial carcinoma, vaginal or endometrial atrophy, and postmenopausal hormonal replacement therapy. Although the most common cause of postmenopausal bleeding is vaginal or endometrial atrophy, the most important diagnosis to rule out is endometrial carcinoma.

Diagnosis

- Easy to do with office EMB (EndoMetrial Biopsy). This office procedure has historically been the initial diagnostic test for postmenopausal bleeding, due to its high sensitivity, low complication rate, and low cost. It is ideal for global lesions but not very sensitive for diagnosing localized structural lesions such as polyps or submucous leiomyomas.
- Hysteroscopy with D & C This procedure allows direct visualization of the endocervical canal and endometrial cavity. Endocervical or endometrial polyps, or submucosal leiomyomas, can be removed at the time of hysteroscopy. By taking a biopsy from the most suspicious lesion.
- So we start with EMB but if we fail (due to pain or bleeding) we do hysteroscopy
- Detection rates of endometrial cancer by pipelle was between 91 and 99%
- Detection of hyperplasia was 81%

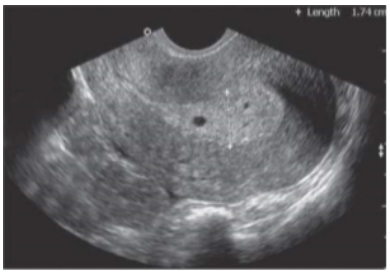


Hysteroscopy with endometrial cancer

★ **Recommendation:** EMB as initial test; Hysteroscopy/D&C if EMB inconclusive or high suspicion (hyperplasia with atypia, pyometria, presence of necrosis, or persistent bleeding).

Transvaginal ultrasound

- In postmenopausal women, an endometrial thickness of 4-5 mm or less is pretty reassuring (only 1% will have endometrial cancer if normal endometrial thickness especially in type 2). If normal TVS do you need an EMB with abnormal bleeding.
- A thicker endometrium requires EMB, hysteroscopy/D&C.
- Especially useful for women on estrogen who have bleeding, but overall TVS is not recommended as a screening tool.



- This is an acceptable alternative initial test for non-persistent minimal bleeding in women who are not on hormone replacement.
- One of the most common causes of postmenopausal cancer is atrophy, so if you did US and shows thickened endometrium, you may exclude atrophy and focus on cancer.

Cancer Staging

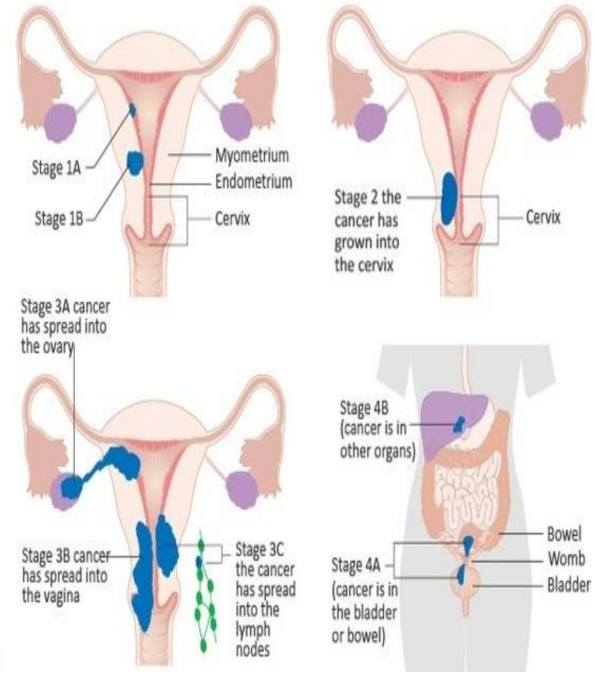
- Staging is utilizing the TNM (tumor, nodes, metastasis) classification.
- Stage 1 is the most common stage.
- Staging is always done surgically.
- Requires a total hysterectomy, BSO + PLND (pelvic lymph node dissection).

❖ Pre-op imaging

- CXR.
- CT CAP.
- Grade (severity) is obtained by biopsy (histology) but stage (spread) is with imaging.

❖ Labs

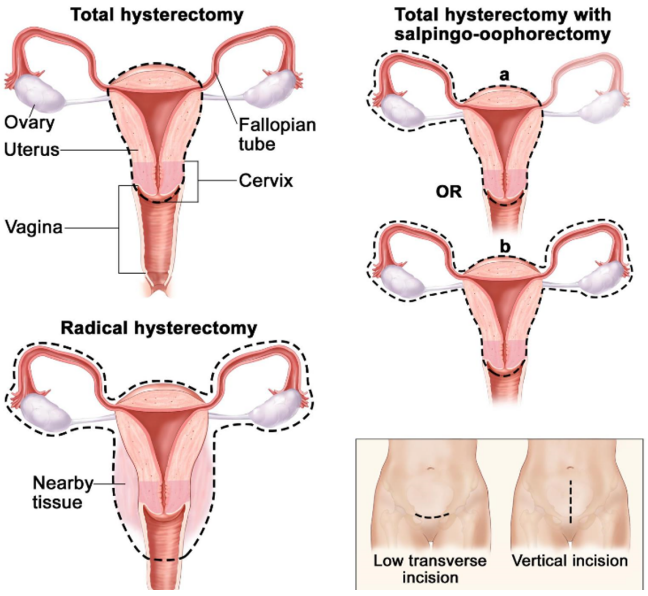
- CA-125 (ovarian cancer).
- LFT's and RFT's and CBC.



Stage	Invasion
I	Confined to uterine body
IA	Less than 50% invasion
IB	More than 50% invasion
II	Tumor invading cervix
III	Local and/or regional spread of tumor
IIIA	Invades serosa of uterus. Reaching the ovaries or tubes or serosa (Horizontal).
IIIB	Invades vagina (Vertical) and/or parametrium (tissue around the cervix)
IIIC	Metastases to pelvic and/or para-aortic nodes
4A	Nearby metastasis (bladder or rectum).
4B	Distant metastasis (brain, liver or bones).

Management[5]

- If the endometrial histology sampling reveals atrophy and no evidence of cancer, it can be assumed the patient is bleeding from atrophy and can be treated with hormone replacement therapy. With hormone replacement therapy, estrogen and progesterone should be given to the patient. If estrogen is given alone, the risk endometrial cancer increases.
- **If the endometrial sampling reveals adenocarcinoma, the patient should be treated surgically**
- **Surgical therapy:** The mainstay of treatment of endometrial carcinoma is a total abdominal hysterectomy (TAH) and bilateral salpingo-oophorectomy (BSO), pelvic and para-aortic lymphadenectomy, and peritoneal washings.
- **Radiation therapy:** An evaluation of the postoperative pathology report will classify patients into poor or good prognosis. Patients with poor prognosis should be considered for radiation therapy. Poor prognostic factors include metastasis to lymph nodes, >50% myometrial invasion, positive surgical margins, or poorly differentiated histology.
- **Chemotherapy.** Medical treatment is used for metastatic disease and involves progestins and cytotoxic agents.



- **Stage 1:** Patient will undergo surgery (Tubes, ovaries, uterus, cervix and pelvic lymph nodes excision). In pathology they will determine whether it is reaching more than 50% or not. If no, so

[5] الدكتور مرررره ركز على المانجمنت، بلييييز أبغاكم تطلعون من المحاضرة صامين نوتر الدكتور في المانجمنت

she's treated by surgery only. If it's reaching more than 50%, we have to proceed with **vaginal radiotherapy**, 3 sessions intravaginal to avoid recurrence (adjuvant therapy), and follow up.

- **Stage 2:** 1- Neoadjuvant (before surgery) pelvic radiation (which has many side effects). Followed by simple hysterectomy.
  Or 2- Radical hysterectomy (big surgery with risk of bleeding and bladder + rectum injury).
- **Stage 3AB & 4A:** Chemotherapy and radiation.
- **Stage 4b:** Palliative care (either pure palliative or chemo palliative).

Prognosis

- The overall 5-year survival rate for endometrial cancer is 80%, although this varies depending on tumor type, stage and grade of tumor. In stage 1 disease, overall 5-year survival range from 93% for patients with low-grade 1A disease to 66% in patients with high-grade 1B disease.
- Adverse prognostic features include advanced age, grade 3 tumors, type 2 histology, deep myometrial invasion, lymphovascular space invasion, nodular involvement and distance metastases.

Endometrial cancer and fertility

- Primary infertility due to polycystic ovarian syndrome (PCOS) is a risk factor for premenopausal endometrial cancer.
- Women diagnosed with endometrial cancer during investigation for primary infertility face two devastating diagnoses at once.
- Alternatives to hysterectomy for premenopausal women are only possible for precancer or early-stage low-grade endometrial cancer.
- Hormone therapy (oral progestogens or LNG-IUS) is associated with moderate response and high relapse rate. I can give high dose progesterone in case of: So there should be endometrial cancer type1, grade 1, no myometrial invasion seen on MRI, no pelvic lymph mets, patient's wish. If all those are applied give progesterone, then after 3 months do another biopsy: 1- the cancer is gone do IVF. 2- the cancer is still there double the dose, after 3 months and still +ve do MRI to check if there is any invasion if it is –ve then complete the progesterone for 3 month, if it didn't work then this is failed medical treatment she needs to go for surgery ☹
- Women faced with losing their fertility should be referred to a specialist to discuss ovarian conservation and/or stimulation for egg retrieval and surrogacy.

طيب خلوني أقول لكم السالفة خطوة خطوة
هذي يا طويلين العمر أنثى عمرها ٦٠ سنة جتكم في عيادة النساء تقول إن دورتها الشهرية وقفت من ٧ سنوات وألحين بدا ينزل معها دم. طبعًا DDx أشياء غير السرطان بس حنا نحطه ببالنا عشان نستبعد أسوأ الاحتمالات. أخذتم هيستوري ولسى تحسون إنكم في grey zoon هنا أول شي بتسوونه TVUS بس مهما كانت النتيجة (فيه thikning of the endometrium أو لا) راح تروحون للخطوة الجاية ألا وهي office endometrial biopsy. بتدخلينها في عيادة procedures وتسوين speculum وتاخذين biopsy وترسلينها للباثولوجي. هذي prosedure مؤلمة أحيان أو ممكن مهما حاولتي تدخلين وتاخذين عينة ما تقدرين. بهالحالة بتحجزين hystroscopy with D/C وبتودين العينة للباثولوجي. وصلك تقرير الباثولوجي يقول فيه abnormality which suggest cancer بهالحالة لازم تسوين CT CAP عشان تشوفين فيه mets. ولا تنسين تشيكين على Cx من خلال vaginal examination إذا فيه mass on the cervix or not. طيب لو فيه cervical mass هنا بتبدين بعدين neuadjuvint بعدين simple hystrectomy وإذا فيه distal mets بس بتسوين palitave. طيب فرضًا ما لقينا ولا وحده من هذول وش بنسوي؟ بنحجز للمريضة OR وبنسوي لها TAH + BSO بعدين نودي كل اللي شلناه للباثولوجي، حسب تقرير الباثولوجي بنحدد وش بنسوي بعد العملية: ١- إذا قالوا إن <50% invasion of the edometrium خلاص الحمدلله تشافت بس تحتاج follow up. ٢- قالوا إن فيه >50% invasion هنا بتعطينها vaginal radiation. ٣- وصل لبرا الرحم بس مب للأعضاء البعيدة هنا بتحتاج chemo and radiation
وخلاص هذي سالفة سرطان بطانة الرحم شفانا الله وجميع مرضى المسلمين يارب

Sarcomas of the uterus

These are rare tumors accounting for approximately 15% of all uterine cancers. They are classified into pure sarcomas, mixed epithelial sarcoma and heterologous sacromas. The most common type are leiomyosarcomas and carcinosarcomas.

Pure sacromas

- This group includes endometrial stromal sarcoma and leiomyosarcoma. Endometrial stroma sarcomas occur in perimenopause women presenting with irregular bleeding and a soft, enlarge uterus. The majority are low grade and surgery is the main treatment
- Leiomyosarcomas are rare tumors of the myometrium. Rarely (0.75%), they are associated with malignant transformation of benign fibroid and present with a rapidly growing pelvic mass and pain. Preoperative diagnosis is difficult, but may be aided by MRI, which can delineate areas of necrosis within the fibroid, suggestive of malignancy change. The uterus is enlarged and soft on palpation. Surgery is the main treatment and adjuvant treatment may be considered if the mitotic count is high (above 10 mitoses per high powered field). Metastatic spread is usually vascular to distance sites, such as lung and brain

Key points

- Endometrial cancer is the most gynecological malignancy.
- The majority of cancer present with stage 1 disease, and the overall 50year survival is 80%
- The type2 and high-graded tumor have the worst prognosis
- Obesity and other hyperoestrogenic states play a major etiological role
- The majority of patient of patients present with PMB; however, 25% of cases occur in premenopausal women
- 5-10% of women with PMB will have an underlying gynecological malignancy.
- Endometrial biopsy ± hysteroscopy is the golden stander for diagnosis, while MRI defines the extent of disease
- Total hysterectomy and BOS is the treatment of choice for most patients

Summary

	Fibroids
Types	Subserosal, Intramural, Sub mucus, Pedunculated, Parasitic
Presentation	• Lower abdominal pain • Dysmenorrhea • Pelvic or pelvi-abdominal mass • **Menorrhagia** (most common) • Infertility (if submucosal + >2.5cm) • Pressure symptoms (frequency, constipation)
Pregnancy	• ↑ in size, can cause obstruction of labour, and cause abdominal pain • Should not be removed • Undergo **red degeneration!!**
DDX	Ovarian masses, or any other pelvic abdominal masses e.g. renal, GT etc.
Diagnosis	• Clinically by history and examination, • **U/S** • CT • MRI Remember to R/O other causes for abnormal bleeding like endometrial hyperplasia!
Treatment	1. Medical: Deprovera, GnRH analogous, Danazol 2. Surgical: Myomectomy vs Hysterectomy 3. Radiological embolization

	Endometrial Cancer
Types	Type **I** (**Estrogen**-related) & Type **II** (**Unrelated** to hormones)
Risk factors (***for type 1***)	Obesity, diabetes, nulliparity, late menopause (>52), early menarche, unopposed estrogen therapy, tamoxifen therapy, family history. (note: anything that ↑ estrogen will ↑ risk).
Protective factors (***for type 1***)	Hysterectomy, combined OCP, progesterone based contraceptives, pregnancy, smoking.
Presentation	Classic symptom → **abnormal uterine bleeding.** 20-30% of women with **post-menopausal** bleeding will have uterine cancer.
Diagnosis	• Transvaginal U/S → >5 mm thickness is abnormal. • EMB (endometrial biopsy) → initial test • Hysteroscopy w/ D & C → gold standard
Treatment	• **Stage 1A: TAH + BSO** • **Stage 1B: TAH + BSO followed with vaginal radiotherapy** • **Stage 2: Neoadjuvant pelvic radiation Followed by simple hysterectomy. Or Radical hysterectomy** • **Stage 3A, 3B, 3C and 4A: TAH + BSO + chemo + radiation** • **Stage 4B: palliative**

MCQs

1- Which type of fibroid degeneration do you expect to see in pregnancy?

A- Hyaline. B- Calcific. C- Red. D- Fatty.

2- A 33 year-old nurse presented to your clinic complaining of menorrhagia and infertility. U/S revealed a fibroid 3 cm in size. Which type of fibroid best explains her symptoms?

A- Subserosal. B- Submucosal. C- Intramural. D- Parasitic.

3- A 20 year-old, G1P0, at 20 weeks gestation presented to your clinic complaining of menorrhagia. US confirmed fibroid. How will you proceed?

A- Urgent myomectomy. B- Radiological embolization.

C- Conservative management. D- Induce labor.

4- A 54 year-old lady attends the gynecology department with PMB. A TVUSS measures her endometrial thickness as 8 mm. an endometrial biopsy shows moderately differentiated adenocarcinoma cells. What is the most appropriate staging investigation?

A- chest X-ray. B- CT CAP.

C- hysteroscopy. D- Pelvic MRI.

5- Which of the following has a higher risk for endometrial cancer?

A- A multiparous woman who smokes.

B- A 60 year-old who underwent hysterectomy.

C- A young lady with an IUD.

D- A lady diagnosed with breast cancer undergoing tamoxifen therapy.

6- A 72-year-old women has an MRI after an endometrial biopsy shows endometrial adenocarcinoma of the endometrium. Staging from MRI is stage 2, What is the management indicated in this case?

A- Carboplatin-based chemotherapy. B- total hysterectomy + BOS.

C- external beam radiation therapy to the pelvic. D- radical hysterectomy.

Answers: 1-C. 2- B. 3- C. 4-B. 5-D. 6-D.