OB/GYN

MEDICINE
KING SAUD UNIVERSITY

Fibroid + Uterine Malignancy

Done by: Ghadah Almazrou , Hanin Bashaikh , Shoag Alahmari , Jawaher Abanumy , Laila Mathkour, Alanoud Almansour, Munira Hadlag, Alnoud Almetham

Revised by: Allulu Alsulayhim , Dina Aldussary, Rotana Khateeb

References: 437 Lectures and Notes, 436 Teamwork

Color code: 437 Notes, 436 Notes | Important | Extra | Kaplan

Editing file: https://docs.google.com/presentation/d/1C-IJHwIqf6tV5j8V9UIMv8PKAH4i4zLbfK6GOFB2PA4/edit?usp=sharing

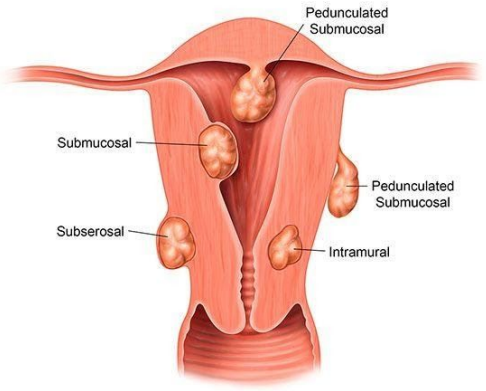
Objectives: Not Given

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 outside the uterus (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 (lies in the lining of the uterus, 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 a big peduncle (stalk)

5. Parasitic (originates in the uterus but found in another location or 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.

Patients can have multiple fibroids with different locations and that depends on some risk factors including: ethnicity (African American have higher number of fibroids and bigger in size) as well as the age (size & number increase with age)

Clinical presentation

- Menorrhagia. The most common symptom, the patient will come with signs and symptoms of anemia.
- 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
    - If it's sitting on the bladder the patient will complain of frequency, if on the rectum → constipation, and if it's on the ureters → hydronephrosis & hydroureters
    - Most leiomyomas are small, grow slowly, and cause no symptoms. Only when massive in size do they cause pelvic pressure symptoms.
- Lower abdominal pain. The most common symptom.
- Dysmenorrhea. Painful period
- Pelvic or pelviabdominal mass.

Degenerations of fibroids[1]

It is rare but happens when fibroids are not treated, they increase in size and undergo degeneration due to the lack of blood supply.
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.

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

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.
- 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, the number 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

- Any patients above 35 yo with abnormal uterine bleeding needs uterine biopsy even if we suspect it's bc of the fibroids , but if she has risk factors for endometrial cancer we do biopsy regarding of her age e.g 25

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

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:** (it doesn't work most of the time) 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.
   - We put the patient in a temporary menopause stage to help shrink the fibroids but it can't be used for more than 6 months due to its side effects (menopause: osteoporosis, hot flushes, etc) and the patient won't be able to tolerate it.
   - **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)
   - Myomectomy. If the patient wishes to maintain fertility (in younger with no parity patients we only remove the fibroids). 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 (gold standard) If the patient has completed her childbearing; definitive therapy is a total abdominal hysterectomy* or vaginal hysterectomy.
     * Total abdominal hysterectomy is the gold standard treatment for fibroids, with bilateral salpingectomy (we take out the fallopian tubes bc they can develop ovarian cancer later on, but we keep the ovaries bc they can still work for the next 10-15 years)

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

4. Radiological embolization (success rate is 50-80%)

- 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.

o 70% of the blood supply to the uterus is from the uterine artery which is a branch of the internal iliac artery while the remaining 30% is from the ovarian artery which is a branch of the aorta.

A. Uterine Artery Embolization:

- 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 premature ovarian failure bc sometime it might affect the blood supply of the ovaries (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)
- Best type is intramural followed by sub mucosal
- Least affected type is sub serosal

B. Uterine Fibroid Embolization (UFE): Go through the uterine artery to the fibroid itself & target the feeding vessels specific to the fibroid & block it

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 menopausal/ premenopausal age, thus we have to rule leiomyosarcoma.
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.

- The risk of fibroids to transfer into malignant is 1 in 1000 to 1 in 8000 (rare)
- Three important things that make you suspect malignant transformation:
    1. Amount of bleeding
    2. A lot of calcific degeneration on MRI
    3. Rapid growth (the pt will tell you that it was stable for the last 10 years at the size of 8 cm and now all of the sudden it became 20 cm)

Endometrial Cancer

- Fourth most common cancer after breast, lung , and colorectal 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 (because of obesity) while in developing countries it is cervical cancer.
- The life-time risk of developing endometrial cancer is approximately 2.6%
- The average age of diagnosis of uterine cancer in the United States is 61 years old, although can be diagnosed in women throughout their productive life. (esp if they have risk factors)
- Endometrioid histology accounts for most cases (80%) , The remaining 20% of cases consist of non endometrioid.
- It usually has a good prognosis
- 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.

2 different clinicopathological sub types

- Type1 (least aggressive type):
  - E2 dependent,endometrioid (histologically)
  - (usually detected early bc patients are usually postmenoposal and presenting with vaginal bleeding).
  - Average age 63
  - 73% confined to the uterus.
- Type 2 (most aggressive):
  - Non E2 dependent, predominantly serous papillary, clear cell carcinoma, carcinosarcoma. Grade 3 endometrioid.
  - Average age 67 yrs
  - 50 % of pt present with metastasis

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%.

Risk Factors For Endometrial Cancer

- Risk related to hormonal stimulation.
  - Unopposed Estrogen
  - 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.

- **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. (high levels of progesterone in pregnancy is protective against the negative effect of estrogen).
- **Post Menopause** (median age at diagnosis is 61 years)
- **Obesity** or Diet, especially high fat. (adipose tissue full of estrogen)
- Menarche/Menopause: early menarche and late menopause (>52 years). (longer exposure to estrogen)
- Essentially prolonged estrogen exposure without the protection of progesterone.
- **Tamoxifen** (it is selective estrogen modulator 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.

Tamoxifen

- potent anti estrogenic agent which competes with estrogen for binding sites in breast and other tissues, but not in the uterus.
- Increases the risk of endo. Ca by 2-3 folds.
- Changes are:
  - Cystic glandular dilatation
  - Stromal edema
  - Myometrial hyperplasia and edema

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) بس لا تدخنون عاد :).

Hyperplasia

- Proliferation of endometrial glands resulting in a greater gland-to-stroma ratio.
- The glandular pattern can be either simple or complex with or without nuclear atypia.

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).

  types in histology (imp for patients counselling):

- Simple hyperplasia without atypia 1 % (progresses to cancer in the next five years)
- Complex hyperplasia without atypia 3 %
- Simple atypical hyperplasia 8 %
- Complex atypical hyperplasia 29 %

Treatment

- Hormonal management – Progestins are the usual therapy, since they oppose the effect of estrogen on the endometrium.

  It works in three mechanisms : 1- direct antagonist effect 2- down regulation of estrogen receptors 3- increase renal clearance of estrogen.

- Hysterectomy.

EIN

1. Used in any lesion with cytologic atypia
2. Only 50% respond to MPA
3. Concurrent endo ca 40%

Clinical presentation

- 90% The "classic symptom" is abnormal uterine bleeding[4].
- 20-30% of women with post-menopausal bleeding will have uterine cancer.

Post-menopausal bleeding (PMB)

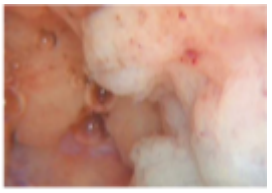
- PMB is a "red flag" symptoms for gynecological cancer and should always taken seriously.
- Careful inspection of external genitalia followed by speculum examination will exclude valval, vaginal and cervical cancer as the underlying cause.
- Physical examination may be normal in women with endometrial cancer, which only can be excluded by transvaginal ultrasound scan (TVUSS), hysteroscopy and/or endometrial biopsy.
- benign causes of PMB include unscheduled bleeding on hormone replacement therapy (HRT) and vaginal atrophy

Diagnosis and Workup

Most patients (90%) with endometrial carcinoma have abnormal vaginal bleeding

- Hysteroscopy with D & C= GOLD STANDARD 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. (gold standard in the books so* chose it in exam* but nowadays we only do it if we fail to take biopsy)
- EndoMetrila Sampling office EMB (EndoMetrial Biopsy).
  - 10 % false negative rate
  - So any symptomatic patient with –ve biopsy = HYSTEROSCOPY + D+C
  - 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.

  So we start with EMB but if we fail (due to pain or bleeding) we do hysteroscopy
- US,CT ,MRI ,Colonoscopy ,Ca 125.
- Detection rates of endometrial cancer by pipelle was between 91 and 99%
- Detection of hyperplasia was 81%



Hysteroscopy with endometrial cancer

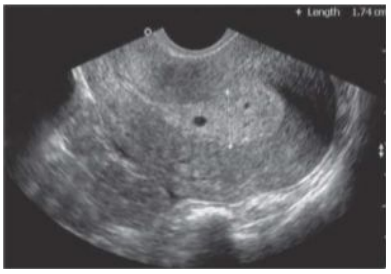
★ **Recommendation:** EMB as initial test; Hysteroscopy/D&C if EMB inconclusive or high suspicion (hyperplasia with atypia, pyometria, presence of necrosis, or persistent bleeding).

[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.
most common cause? vaginal or endometrial atrophy. most serious? Cancer. that's why biopsy is a must in these cases.

Treatment

- Total extrafascial hysterectomy with bilateral salpingo-oophorectomy with pelvic and para-aortic lymph node dissection is the standard
- staging procedure for endometrial carcinoma.
- Staging can be performed via a minimally invasive route or laparotomy.

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). (more than 6mm is abnormal) 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. (bc normal scan doesn't rule cancer out but abnormal can guide me)
- 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

FIGO 2010

Carcinoma of the Endometrium

- 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).

u dont have to memorise the staging for exam (focus on red only)

Stages	Invasion
IA	Tumor confined to the uterus, no or < 50% myometrial invasion
IB	Tumor confined to the uterus, > 50% myometrial invasion
II	Cervical stromal invasion, but not beyond uterus
IIIA	Tumor invades serosa or adnexa
IIIB	Vaginal and/or parametrial involvement
IIIC1	Pelvic node involvement

IIIC2	Para-aortic involvement
IVA	Tumor invasion bladder and/or bowel mucosa
IVB	Distant metastases including abdominal metastases and/or inguinal lymph nodes

Grade

- G 1: 5% or less of solid pattern
- G 2: 6-50%
- G 3: more than 50 %
-

Poor prognosis

- Grade 3
- Seropap, ccc, carcinosarcoma
- + LVI
- + peritoneal cytology
- T size

H . Receptors

- ER + PR levels are inversely proportional to the histologic grade.
- Pts with + ER / PR or both , have better Px.
- HER 2 NEU

Adjuvant Therapy

Decisions about adjuvant therapy for endometrial carcinoma are based upon clinicopathologic factors (eg, grade, tumor size, and patient's age). Its usually brachytherapy, EBRT +/- chemotherapy.

CLINICAL FINDINGS	ADVERSE RISK FACTORS[m]	HISTOLOGIC GRADE/ADJUVANT TREATMENT[b,n] G1	G2	G3
Completely surgically staged: Stage I — Stage IA (< 50%) myometrial invasion	Adverse risk factors not present	Observe	Observe or Vaginal brachytherapy	Observe or Vaginal brachytherapy
	Adverse risk factors present	Observe or Vaginal brachytherapy	Observe or Vaginal brachytherapy and/or pelvic RT (category 2B for pelvic RT)	Observe or Vaginal brachytherapy and/or Pelvic RT
Stage IB (≥ 50%) myometrial invasion	Adverse risk factors not present	Observe or Vaginal brachytherapy	Observe or Vaginal brachytherapy	Observe or Vaginal brachytherapy and/or Pelvic RT
	Adverse risk factors present	Observe or Vaginal brachytherapy and/or Pelvic RT	Observe or Vaginal brachytherapy and/or Pelvic RT	Pelvic RT and/or Vaginal brachytherapy ± chemotherapy[o,p] (category 2B for chemotherapy) or Observe (category 2B)

CLINICAL FINDINGS	HISTOLOGIC GRADE/ADJUVANT TREATMENT[b,n,p]		
	G1	G2	G3
Completely surgically staged: Stage II[q,r]	Vaginal brachytherapy and/or pelvic RT	Pelvic RT + vaginal brachytherapy	Pelvic RT + vaginal brachytherapy ± chemotherapy[o,p] (category 2B for chemotherapy)
Completely surgically staged: Stage IIIA	Chemotherapy ± RT or Tumor-directed RT ± chemotherapy or Pelvic RT ± vaginal brachytherapy	Chemotherapy ± RT or Tumor-directed RT ± chemotherapy or Pelvic RT ± vaginal brachytherapy	Chemotherapy ± RT or Tumor-directed RT ± chemotherapy or Pelvic RT ± vaginal brachytherapy

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 (stage 1A) , so she's treated by surgery only and nothing after (curative). If it's reaching more than 50% (stage 1B), 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. (after surgery)
- **Stage 4b:** Palliative care (either pure palliative or chemo palliative).

questions in exam will be either :

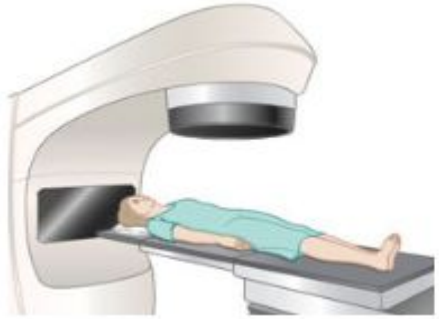
1-i will make it clear that its an early stage (less than 50%)..... no need for adjunctive therapy.

2-i will tell you it invades (more than 50%)..... Brachytherapy.

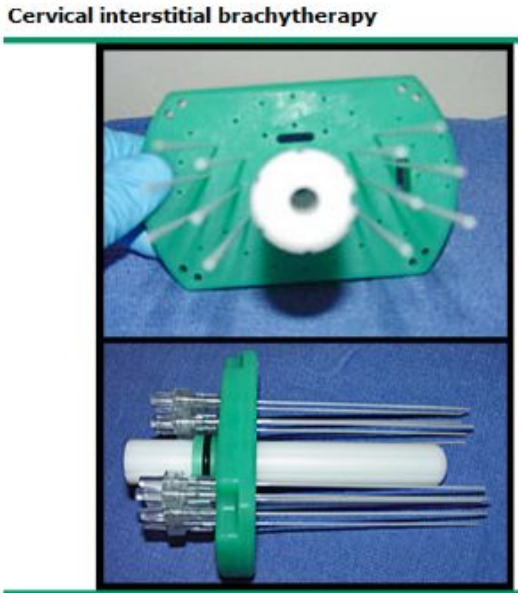
3-i will tell you a middle stage(from 3A-4A).....chemo and radiation after surgery.

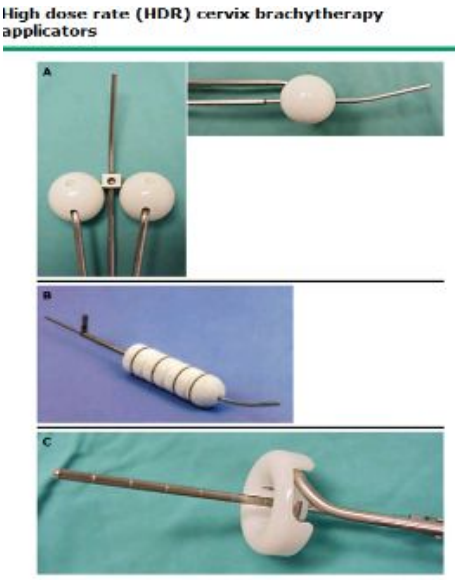
4- very advance (mets)..... palliative.

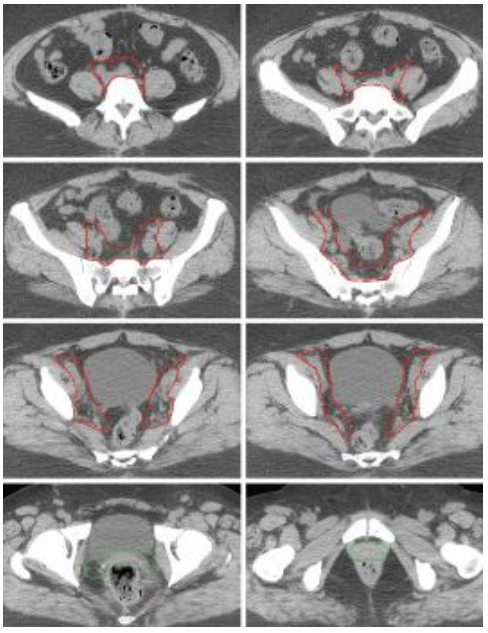
External Beam Radiation Therapy



Brachytherapy







Complications

- TAH/BSO complications – mortality (<1%), infection, wound dehiscence, fistula, bleeding
- Frequency and urgency of urine and/or stool
- Vaginal stenosis – use dilators
- Thrombocytopenia with WART

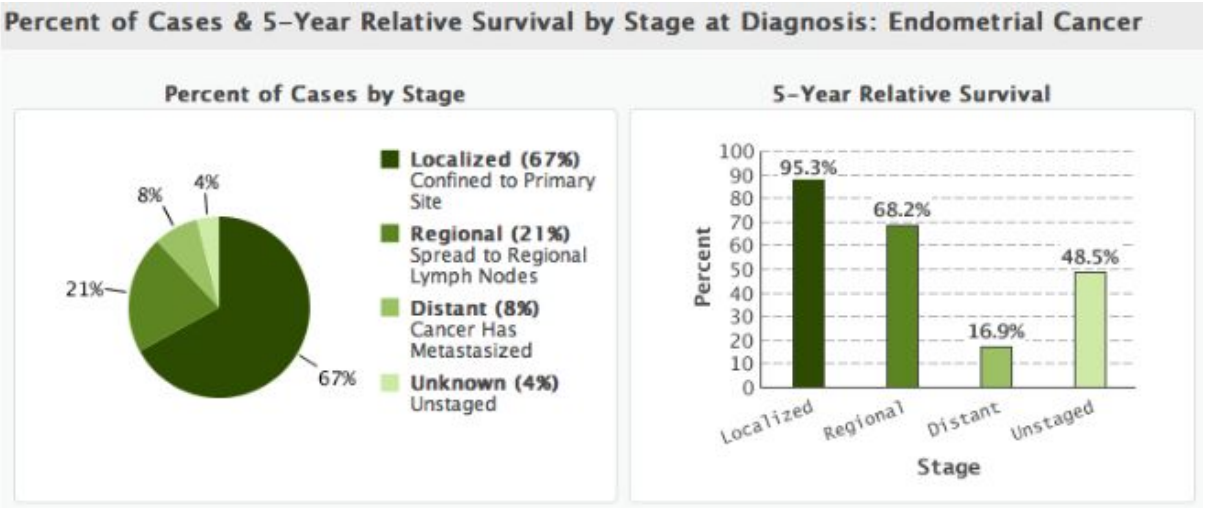
Fertility Preservation

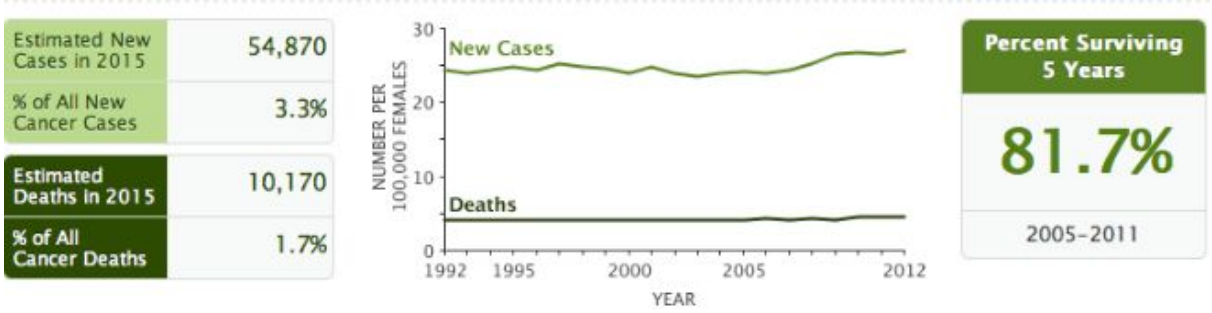
Women with low-risk endometrial carcinoma who wish to preserve fertility may be candidates for treatment with progestin therapy .

Evaluation prior to medical therapy (eg, dilation and curettage, imaging studies) is necessary to try to confirm that the lesion is confined to the uterus and is grade 1.

Survival

In general, the rate of five-year for stage I disease is approximately 80 to 90 percent, for stage II it is 70 to 80 percent, and for stages III and IV it is 20 to 60 percent.





Lymphadenectomy

Lymph node metastases found in about 10% of patients with endometrial cancer clinically confined to the uterus.

Lymph node evaluation is part of FIGO staging for endometrial cancer.

- **Advantages:**
  - Assigning patients to their proper FIGO stage.
  - Useful in planning post operative treatment.
- **Complications:**
  - Prolonged operative time.
  - Increase blood loss.
  - Injury to adjacent structures.
  - Lymphocele and lymphedema.

Sentinel node (SLN)

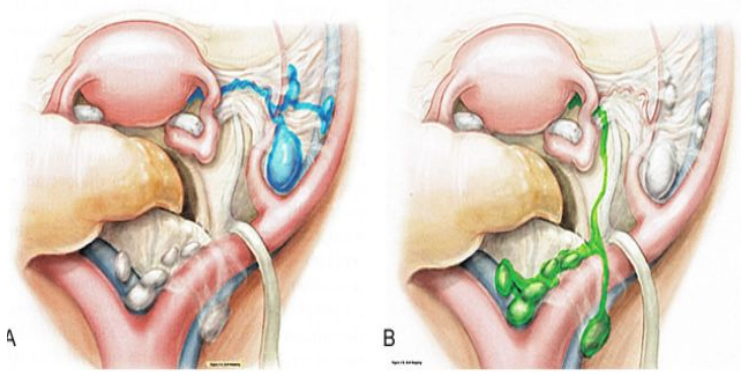
- SLN is considered the standard of care in many solid tumors (breast, melanoma, vulva).
- Precise and less invasive than complete lymphadenectomy.
- Allow identification of aberrant drainage sites.
- Detect more metastases (ultra-staging)

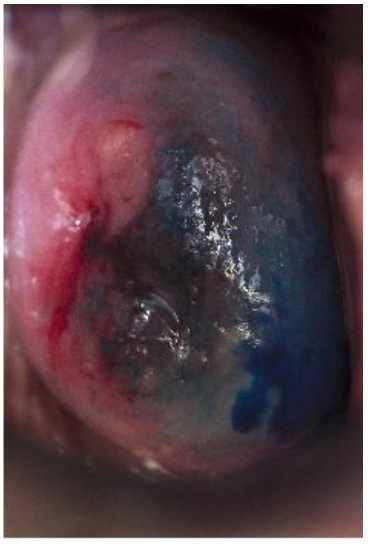
Goals of SLN

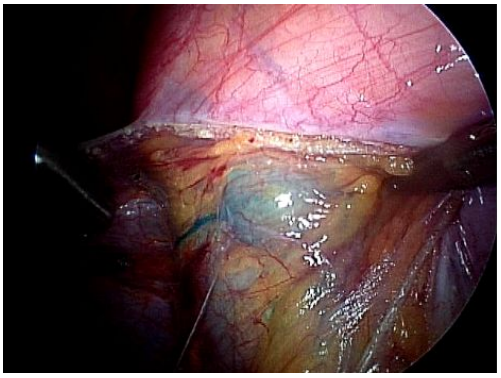
1. Avoid complete lymphadenectomy if SLN is negative bilaterally.
2. Reduce the morbidity of lymphadenectomy.
3. Avoid under/over treatment.

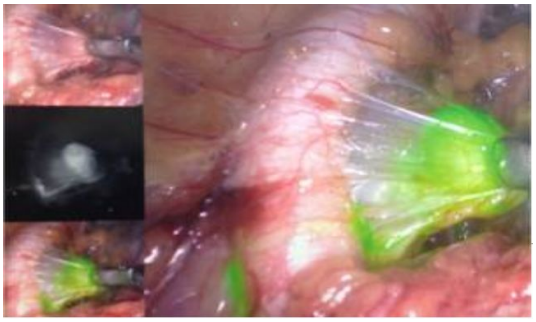
Sentinel lymph node mapping in endometrial cancer

1. Colometric detection with Patent Blue (PB) and/or radio-isotopic detection with Technetium (TC99) to identify SLN.
2. Injection site: cervix at 3 and 9 o'clock



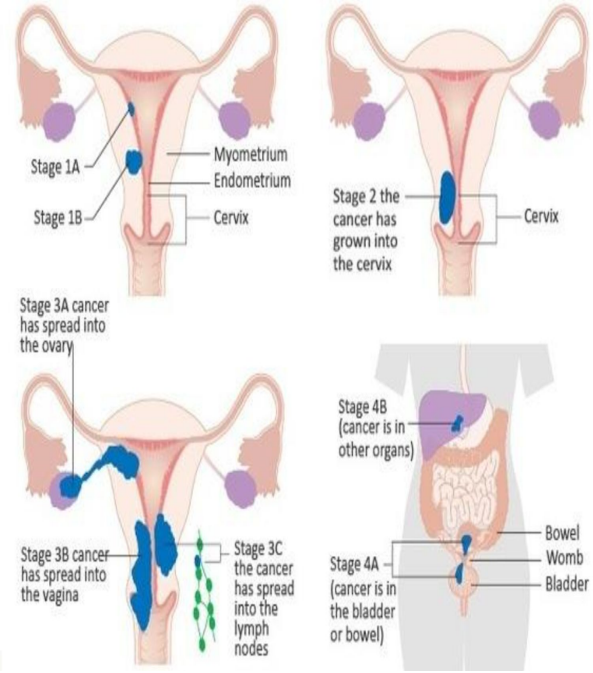






EXTRA(Just go through it)

- **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.



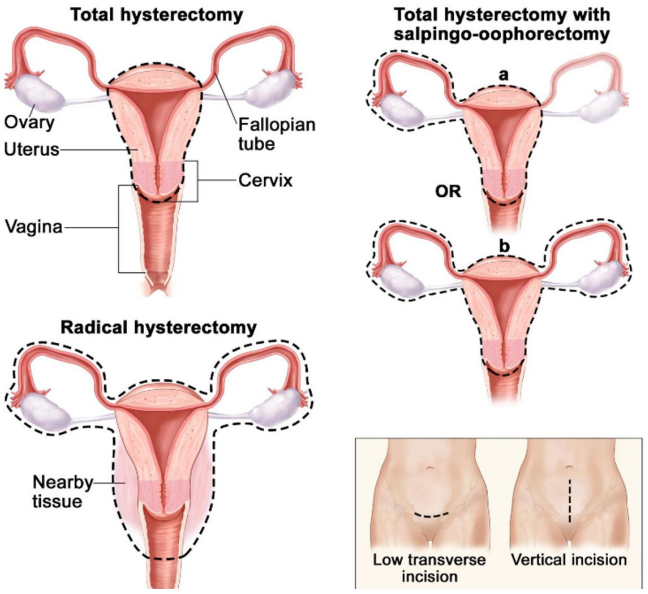
Management[5]

- 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 of endometrial cancer increases.

- **If the endometrial sampling reveals adenocarcinoma, the patient should be treated surgically**

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

- **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.



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. also if cancer cells detected in the peritoneal fluid

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 ولّسى 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 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

They have a 9 months window for fertility preservation.

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.