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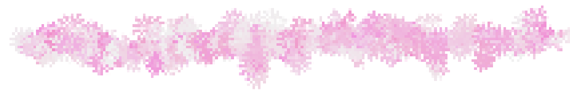

Uterine Fibroid & Malignancy

Objectives:

- Mention the differential diagnosis of postmenopausal bleeding.
- List the risk factors for endometrial hyperplasia and endometrial cancer
- Mention types of endometrial hyperplasia
- Discuss the diagnosis and management of endometrial hyperplasia
- Describe the signs and symptoms of endometrial cancer
- Discuss the diagnostic work up for a patient with postmenopausal bleeding.
- Describe the staging of endometrial carcinoma
- Discuss management of endometrial cancer according to the stage
- Discuss the prognosis of endometrial carcinoma versus sarcoma

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Sources: dr.Alobaid slides & notes, kaplan & 428.

Uterine Fibroids

Introduction:

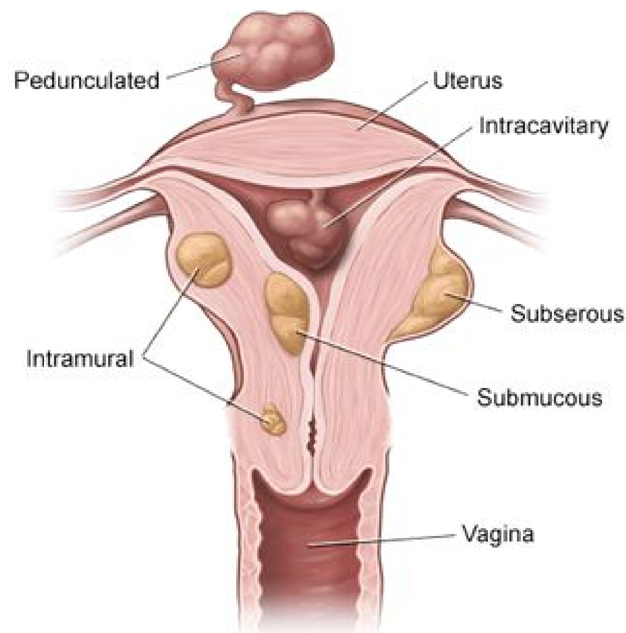
- Benign tumors derived from the smooth muscles of the myometrium.
- Most common benign uterine tumor.
- **Other names:** Uterine leiomyoma, myoma, fibromyoma, leiofibromyoma, fibroleiomyoma, and fibroma.
- They are strongly dependent on Estrogen & Progesterone for their growth.

Epidemiology:

- They are the most common neoplasm of uterus.
- Found in 25% of woman older than 35 years old. And 50% above the age 40.
- Their malignant potential is minimal (0.1%), since fibroids are very common, we see leiomyosarcomas often, it's very bad, it'll grow very fast and metastasize all over the body, unlike fibroids it's invasive so know the difference. (doctor focused on it)

Types:

- **Subserosal:** Located beneath the uterine serosa. As they grow they distort the external contour of the uterus causing the firm, nontender asymmetry. Depending on their location they can put pressure on the bladder, rectum or ureters.
- **Intramural:** Located within the wall of the uterus (**most common** location), When small it is usually asymptomatic and cannot be felt on examination.
- **Submucosal:** Located beneath the endometrium, can distort the uterine cavity. The distorted overlying endometrium may not respond appropriately to the normal hormonal fluctuations, resulting in unpredictable, often intermenstrual, bleeding. The most common symptom is abnormal vaginal bleeding. The most common fibroid that cause symptoms
- **Pedunculated:** attached to the uterus by a stalk



- **Parasitic:**If they are pedunculated, and break away from the uterus and receive their blood supply from another abdominal organ (such as the omentum or the mesentery of the intestine).

Risk factors:

- Past Hx.
- Family Hx.
- ↑ Age during reproductive years.
- Ethnicity (high in African) 5 times more common in black women than white women.
- Nulliparity
- High BMI.
- OCP (low risk)
- Mydroxy-progesterone (low risk)

Symptoms:

- Most are **asymptomatic**.
- **Menorrhagia**: Prolonged & heavy menstrual bleeding is the **most common** if symptomatic with intramural & submucosal ones.
- Dysmenorrhea.
- Dyspareunia.
- Intermenstrual bleeding may occur with submucosal fibroids.
- Pelvic pressure
    - Urinary frequency, retention, hydronephrosis → Bladder and Ureteral compression
    - DVT → due to IVC compression and venous stasis
    - Constipation → due to Rectosigmoid compression

- Infertility can occur especially submucosal ones. After you rule out every other causes of infertility because only 3% of infertile women is due to fibroids especially submucosal.
- Might obstruct labor and lead to malpresentation if it was cervical
- Severe pelvic pain (due to **red degeneration** (central necrosis) especially in pregnancy).
- Lower back pain.
- Lower abdominal.

You're oncall and you get a call from the ER for a pt presenting with severe abdominal pain, they did a CT to rule out appendicitis and they found a big fibroid, so they called you thinking the fibroid is causing the pain. Immediately you say NO! It's not the fibroid, look for something else.
Fibroids usually don't cause any pain, the only exception is in pregnant women "Red degeneration" (fibroid grow more in pregnancy due to Estrogen effect → causing it to overgrow its blood supply → ischemia (ischemic pain))
What should you do? Treat the pain (nothing else). Do not touch the fibroid, it may cause severe bleeding

Characteristics:

- Spherical, well-circumscribed, white, firm lesions with a whorled appearance on a cut Section.
- They can undergo **degenerative change** such as:
    - **Hyaline** (most common).
    - Cystic degeneration.
    - Fatty degeneration.
    - Red degeneration (**painful** in pregnancy). red is the most common degeneration in pregnancy
    - Calcification degeneration.
    - Sarcoma degeneration (**malignant**).
- Fibroids can enlarge dramatically during pregnancy.

Diagnosis:

- **Pelvic examination:**
    - Usually unremarkable
    - Irregularly enlarged uterus with smoothly rounded masses if the tumor is subserosal or intramural. It moves with the cervix in palpation.
    - Tender uterus if red degeneration happened.
- **US.**
- **Hysteroscopy.**
- **Histology:** the only definitive diagnosis is by biopsy.

Management:

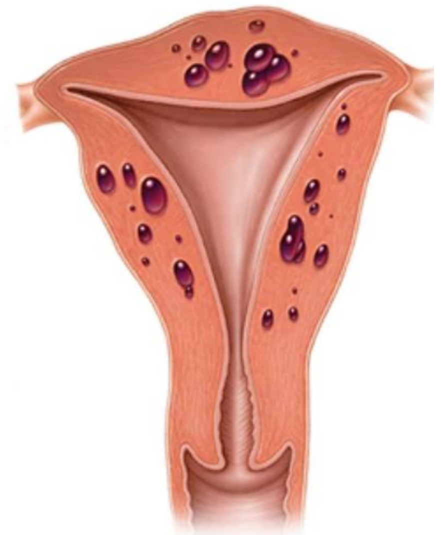
Observation	Most leiomyomas can be managed conservatively and followed expectantly with regular pelvic examinations.
Medical	▪ For heavy, prolonged menstruation or Dysmenorrhea: ○ OCP ○ Hormonal IUD. ○ Progesterone-only pills. ▪ To reduce uterine Leiomyomas' size: ○ GnRH agonists ○ Selective antiprogesterone receptor antagonists (mifepristone)
Surgical	▪ Myomectomy (if she desires to preserve fertility). ▪ Hysterectomy: ○ If the patient has completed her childbearing ○ Abdominal or vaginal hysterectomy is the definitive treatment.
Embolization	This is 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.

Adenomyosis

The doctor didn't talk about it, yet they asked about it in the previous exam

Definition:

It is a benign ectopic endometrial glands and stroma found within the myometrium without a direct connection with the endometrial cavity.



Epidemiology:

- 2nd most common benign cause of enlarged nonpregnant uterus.
- 50% of pts. with Adenomyosis have coexistent leiomyomas.
- 15% of pts. with Adenomyosis have coexistent endometriosis

Risk factors:

- Past Hx.
- Family Hx
- Multiparity
- Prior uterine surgery (C/S, Myomectomy)

Diagnosis:

- Examination.
  - Uterine symmetrical enlargement (up to 2–3 times the normal size).
  - Uterine tenderness (most commonly before and during menses)
- Imaging (shows a diffusely enlarged uterus with cystic areas found within the myometrial wall)
  - US
  - MRI
- Histology (The only definitive diagnosis)

Table II-4-3. Differential Diagnosis for Enlarged Non-pregnant Uterus

Leiomyoma	Adenomyosis
Asymmetric	Symmetric
Firm	Soft
Nontender	Tender

Symptoms: (The majority of women are asymptomatic)

- Secondary dysmenorrhea & menorrhagia (Prolonged, Heavy menstrual bleeding with large blood clots).

Endometrial Cancer

Introduction:

- It is the most common malignancy of the female genital tract
- 2-3% of women will develop endometrial cancer during their lifetime
- Endometrial cancer is a disease that occurs primarily in postmenopausal women

Epidemiology:

- The median age of adenocarcinoma of the uterine corpus is 61 years
- 20-25% of the patients will be diagnosed before the menopause

Risk factors:

All of these risk factors are related to excess estrogen

Risk factor	justification
Anovulatory cycles, polycystic ovary syndrome	Let's think of it ,in the menstrual cycle: the length of the follicular phase (estrogen dominant) is vary,while the length of the luteal phase (progesterone dominant) is always fixed 14 days.in normal length menstrual cycle, there's balance between estrogen & progesterone secretion ,the progesterone secretion in the luteal phase will counter the effect of estrogen on the endometrium. In case of abnormality in menstrual cycle(lengthening of the cycle مثلا الدورة ماتجيها الا كل ثلاث اشهر ,or anovulation) مدة الفوليكيلر فيز تزيد there will be longer exposure to estrogen therefore more chance of getting endometrial cancer.
Nulliparity	In case if it a result of infertility due to chronic anovulation
Late menopause	Long exposure to estrogen
Obesity	Fat cells produce estrogen
Unopposed estrogen exposure	From Exogenous estrogen or Obesity Or estrogen secreting tumor(like ovarian cancer: granulosa cell tumor & fibrothecoma) ▪ so that's why any pt with granulosa cell tumor or fibrothecoma we do for them hysterectomy with bilateral salpngioophorectomy ,but if the pt yonge don't want to remove the uterus ,what to do? Follow her regularly with endometrial biopsy to rule out cancer ▪ These estrogen-dependent tumors tend to be better differentiated and have a more favorable prognosis
Tamoxifen	Used to treat breast cancer, It's selective estrogen receptor modulator ,it works as antiestrogen in certain tissues [breast],and works as estrogen in others[endometrium]. ▪ The relative risk of endometrial cancer in women taking tamoxifen in the adjuvant setting was 2.2 (mean that people would be twice as likely to get the cancer than people who don't use it.so if the risk to get the cancer in general population is 3% ,it would be 6% for people who use tamoxifen) ▪ Tamoxifen causes subepithelial stromal hypertrophy which cause the endometrial stripe to be thickened on sonography ▪ Current consensus opinion recommends annual pap smears for women taking tamoxifen, and endometrial biopsy only for women with abnormal vaginal bleeding
DM & HTN	mechanism is unknown

Cowden Syndrome: Autosomal dominant condition that causes hamartomas as well as an increased lifetime risk of breast, thyroid, uterine, skin and other cancers.

Protective Risk Factors:

- Cigarette smoking apparently decreases the risk for development of endometrial cancer, because nicotine is toxic to the ovary so it decreases the estrogen secretion and they may get early menopause.
- Women who used COMBINED oral contraceptives at some time, had a 0.5 relative-risk (reduce the risk by % 50) of developing endometrial cancer compared with women who had never used oral contraceptives.الدكتور مره منهار على هالنقطه
  General notes about OCP:
  - What r the absolute contraindications of OCP use?thromboembolic diseases- smoker above age of 35
  - Does the ocp affect the fertility? Noooo الكلام الي بين العامه ان فيها ماده تقتل المبايض موب صحيح:)بالعكس اذا فكتها بتحمل على طول الفرتيليتي زادت عندها
- Hormone replacement therapy: Continuous Combined Estrogen with progesterone "both continues throughout the cycle" → will reduce the risk of endometrial cancer

HRT and endometrial cancer:

I will tell you the conclusions of famous study studied the effect of HRT on postmenopausal women:

- If I give Unopposed estrogen→will increase the risk
- Estrogen with cyclic progesterone "in the second half of the cycle"→the risk will be unchanged
- Continuous Combined Estrogen with progesterone"both continues throughout the cycle" →will reduce the risk

NB: progesterone will increase the risk of getting BREAST cancer much higher than estrogen
إصلا الدراسات الجديدة تقول الاستروجين ما يزيد الريسك لسرطان الثدي

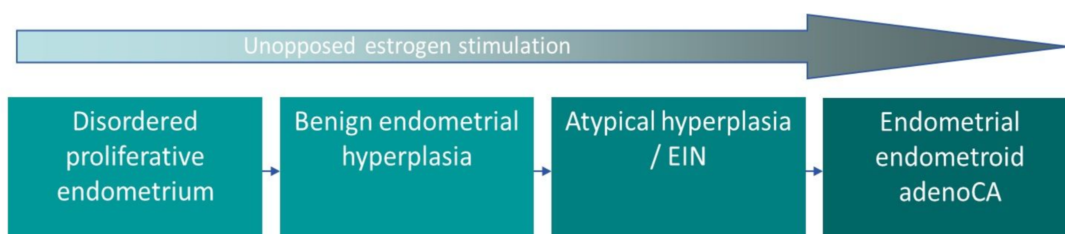
Is Endometrial Cancer Familial:

- in most of cases NOT ,but in case of lynch syndrome (HNPCC) they have 20% risk of getting the cancer, so we tell these pt finish your family early and by the age of 35 we will remove the uterus.

★ FYI: Hereditary nonpolyposis colorectal cancer (HNPCC) or Lynch syndrome is an autosomal dominant genetic condition that has a high risk of colon cancer as well as other cancers including endometrial cancer (second most common), ovary, stomach, small intestine, hepatobiliary tract, upper urinary tract, brain, and skin.

Endometrial hyperplasia:

Estrogen stimulation won't cause cancer على طول



- It represents a spectrum of morphologic and biologic alterations of the endometrial glands and stroma, ranging from an exaggerated physiologic state to carcinoma in situ.
- It results from protracted estrogen stimulation in the absence of progestin influence.
- The risk of endometrial hyperplasia progressing to carcinoma is related to the presence and severity of cytologic atypia, simple hyperplasia without atypia has the least probability to progress to carcinoma (1%). While, complex hyperplasia with atypia has the most(30%).
- Progestin therapy is very effective in reversing endometrial hyperplasia without atypia but is less effective for endometrial hyperplasia with atypia
  - The risk of cancer in simple hyperplasia without atypia is about 1% so we don't intervene surgically just observe regularly or treat medically if needed
  - While the chance of turning to cancer with complex hyperplasia with atypia is about 30% so we should intervene [do hysterectomy if post menopause or don't want to have children, if perimenopause give progesterone (orally or by intrauterine device "Mirena")

Symptoms of Endometrial Cancer:

- 90% of women have vaginal bleeding or discharge as their only presenting complaint (postmenopausal bleeding or irregular heavy period).
- Less than 5% of women diagnosed with endometrial cancer are asymptomatic.
- We don't have screening test for endometrial cancer because most of women will come with symptom in early stage(at stage 1) and most of them will be cured.

Postmenopausal Bleeding:

Causes of Postmenopausal Uterine Bleeding	
Causes of bleeding	**Frequency(%)**
Endometrial Atrophy most common cause,the bleeding usually is mild, why atrophy cause bleeding? The bleeding come from exposed blood vessels	60-80
Estrogen Replacement therapy	15-25
Endometrial polyps benign	2-12
Endometrial hyperplasia	5-10
Endometrial cancer	10

- 60-80% of patients with postmenopausal bleeding have endometrial atrophy
- Only about 10% of the patients have endometrial cancer (BUT in any bleeding case ALWAYS investigate to rule out the Uterine cancer مهمه)
- The older the patient is, the greater the risk of cancer
- Cancer Unrelated to uterus: like colon cancer ,or bladder cancer may mistaken as vaginal bleeding

Diagnosis:

- Office endometrial aspiration is the first step in evaluating a patient with abnormal uterine bleeding
- The diagnostic accuracy of office-based endometrial biopsy is 98%
- In the past we were use dilatation & curettage: however critical review of 33 reports of 13598 D&Cs and 5851 office biopsies showed that D&C had a higher complication rate than office biopsy but that the adequacy of the specimens was comparable,so nowadays it not used anymore.
- If the initial biopsy result is negative, further evaluation is recommended in patients with persistent symptoms, due to the high risk (11%) of an existing lesion having been overlooked, What to do in this case? Hysteroscopy looking for a lesion and take biopsy from it.
- Endometrial thickness of more than 4 mm as measured by ultrasonography in postmenopausal women is highly suggestive of endometrial cancer, endometrial thickness in premenopausal women doesn't have any value.

OSCE station (doctor said it will come in your OSCE)		
how to approach woman with postmenopausal bleeding		
1	**History**	when did it start, amount of bleeding, is it the first time, was she investigated before, medical history, medications, past gyne hx (age of menarche,details about her period,\age of menopause, OCP, HRT) & ob history (parity..)
2	**Exam**	→ start with general exam → then do focused pelvic exam:on lithotomy position,inspect the vulva rule out any vulvar lesions,then do speculum exam look at the cervix & vagina make sure there's no any masses or polyps ,check the bleeding source,then do bimanual exam to assess uterus size → end up doing rectal exam:to rule out rectal cancer ,may the pt mixed up the source of bleeding
3	**investigations**	3 test u should do: → pap smear: to rule out cervical cancer → U\S :look for the uterine thickness (if more than 4 MM) not always mean cancer but mean suspicion of cancer you have to do further investigations → Endometrial Biopsy: to rule out endometrial cancer

Staging:

Staging is done after an evaluation of the pathology report. Staging is surgical.

Doctor said you don't have to know the stages in details

Stage I:	Spread limited to the uterus (most common stage at diagnosis)
Stage II:	Extension to the cervix but not outside the uterus
Stage III:	Spread adjacent to the uterus
Stage IV:	Spread further from the uterus - Stage IVA:Involves bladder or rectum - Stage IVB: Distant metastasis

Histologic grade does not change the stage:

- Grade 1 Well differentiated ,better prognosis
- Grade 2 Moderately differentiated
- Grade 3 Poorly differentiated

Type II endometrial cancers won't have increased thickness, ALWAYS do a biopsy in MCQ cases

If type I invaded, it'll be minimal, unlike type II

The risk of endometrial cancer if the biopsy showed: A- Simple 1% B- Simple with atypia 10%

C- Complex gland 3% D- Complex with Atypia 30%

Type I endometrial cancers are thought to be caused by excess estrogen.Type II cancers include all endometrial carcinomas that aren't type 1, such as papillary serous carcinoma, clear-cell carcinoma, undifferentiated carcinoma, and grade 3 endometrioid carcinoma.

Treatment:

- Exploratory laparotomy, peritoneal washing (cytology), total abdominal **hysterectomy and bilateral salpingo-oopherectomy** مايكفي تقولِ هيستروكتومي بس are the primary operative procedures for carcinoma of the endometrium, Why to do oophorectomy ?to remove the estrogen source + it's part of staging
- Most of pt do NOT respond to hormonal therapy
- We individualized the treatment according to the stage and pt status,in general the treatment of:

Stage I :	surgery ,the chance of cure is high
Stage II :	surgery with adjuvant radiotherapy b\c the chance to recurrent is significant يرجع ينمو التيومر في مكان اليوتيرس حتى معنا شايلينه
Stage III:	surgery + postoperative adjuvant pelvic radiation therapy
Stage IV :	surgery + chemotherapy ,however if the pt is sick has renal failure cannot tolerate the chemotherapy give her hormonal therapy [that's what I mean by individualized the treatment according to pt status]

Follow-up:

The chance of recurrent in the first 5 years is high,and it much higher during first two year

- Patients are followed up in the first two years every 3-4 months, thereafter the patients are followed every 6 months for the following three years
- After 5 years of remission, the follow-up will be annualاذا عدت أول خمس سنوات و ماجاها ريكرنت نضمن بإذن الله انها تشافت ومرح يرجعلها مره ثانيه

Recurrence:

- In the early stage disease treated by surgery only, recurrences are usually local/pelvic
- Local recurrences: are preferably managed by radiation, surgery, or a combination of the two
- non-localized recurrences: are treated with hormonal therapy or chemotherapy

Sarcoma

Doctor skipped it,and said don't go into details

Introduction:

- Sarcomas of the uterus are rare, and carry a poor prognosis.
- 2-6% of uterine cancers.
- The incidence appears to be changing, increasing recently, why?
    - part of this may be due to better recognition by pathologists.
    - Some of this increase, also, can be attributable to the greater use of pelvic radiation therapy.

Classifications:

- These tumors arise either from:

Origin	example
endometrium	Malignant Mixed Mullerian tumors(AKA carcinosarcoma)
	Endometrial stromal sarcomas
myometrium	Leiomyosarcoma

- Currently they are classified and and treated as poorly differentiated adenocarcinomas
- Outcome is generally poor

Leiomyosarcoma (LMS)

Origin:

- Arise from fibroid but the risk for malignant transformation in a benign fibroid is less than 1%.
- They arise from either the myomertrium itself or the smooth muscle of the myometrial veins.
- Most cases are diagnosed incidentally while performing surgery to fibroids
- مكتوب بالكتاب If a known fibroid uterus appears to be rapidly enlarging, especially postmenopausally, malignancy should be suspected. بس بالسلايد ينفي هذا الكلام ويقول There is scant evidence in the literature to support the common teaching that rapid uterine enlargement heralds the onset of LMS.

Spread:

- The spread of LMS is hematogenous, so most recurrences are in distant sites

Treatment:

- Treatment is surgical(hysterectomy and bilateral salpingo-oophorectomy)
- Chemotherapy is reserved for patients with advanced or recurrent disease

Prognosis:

- The prognosis is much worse than endometrial cancer 2 years survival,but the good thing is it's rare.

MOST IMPORTANT POINTS IN THIS LECTURE:

بنهاية المحاضرة جاء الدكتور وقال يله نراجع اهم النقاط وكل شوي قعد يعيد ويزيد عليها متأكده انها الاسئلة

Fibroid:

- Overall what's the incidence of fibroid in women at their reproductive age? 20% ,but at the age of 35 or 40 it becomes 50%
- The most common degeneration is? Hyaline degeneration
- In pregnancy which degeneration do they have? Red
- How to manage red degeneration with pregnancy? Conservative don't interfere
- The most serious degeneration is? Sarcomatous, what is its incidence? Less than 1 % (0.1 - 0.5%)
- The medical treatment we use it to? Relieve the symptoms temporary (not definitive)
- The surgical options are? Hysterectomy or Myomectomy
- The most common symptoms that associated with fibroid is? Menorrhagia
- Choose the correct answer: Most of pt have the following symptoms: Menorrhagia - dysmenorrhea - dyspareunia - Asymptomatic (the answer is Asymptomatic)
- Is the fibroid the frequent cause of infertility? NO, the chances of causing infertility is very low (3 out of 100 infertile women with fibroid)
- The symptoms are related to? The size and the location
- The most common fibroid that cause symptoms is? SUBMUCOUS

You're doing a c/s for a pregnant women that has fibroids, would you remove the fibroids after you take the baby out (مره وحده نضرب عصفورين بحجر) ? No!!! You leave the fibroids! Why???! Because during pregnancy uterine blood flow increases 3.5 folds (25% of mothers blood flow goes to the uterus), thus the resection will lead to massive hemorrhage and to stop it you may need to do a hysterectomy. (The only exception is pedunculated fibroids). - dr.Masha

Uterine Cancer:

- How to approach pt with postmenopausal bleeding?Hx →Px →investigations (general investigations CBC,liver function test,coagulation profile..etc)but the most imp 3 investigations are Ultrasound+endometrial biopsy+pap smear, if I have to choose only 2 between them I would choose ultrasound and endometrial biopsy.
- the chance of postmenopausal bleeding caused by cancer? 10%
- Most common cause of postmenopausal bleeding is **ATROPHY**
- The benign causes of postmenopausal bleeding: polyps, atrophy,HRT
- the cut off of endometrial lining on ultrasound:4 mm
- Which of the following is not risk factors of endometrial cancer:unopposed estrogen-tamoxifen - OCP - obesity ,the answer is OCP
- OCP reduce the risk of endometrial cancer by 50%
- The lifetime chance of having endometrial cancer in general population:2-3%
- What is the screening test for endometrial cancer?no screening test,b\c it's symptomatic in most of pt (90%)
- The most common symptoms of endometrial cancer is: abnormal bleeding ,whether irregular heavy period or postmenopausal bleeding
- PCOS has higher chance of endometrial cancer because of ANOVULATION
- The treatment of endometrial cancer is total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH-BSO), it's not enough to say hysterectomy
- Young pt has complex hyperplasia with atypia how to treat her?if she want to have children I give her progesterone either orally or by IUD,but I have to counsel her and her husband about the chance of cancer ,and ask her to follow up regularly ,once she finished her family come to me to do surgery.

A 35 years old lady with uterine fibroid has been prescribed gonadotropin releasing hormone agonist.
She wants to know the side effects. Which one of the following is the most common side effect of this drug?
A. Increased vaginal secretions.
B.Menorrhagia.
C. Osteoporosis
D. Hirsutism

Lady presents with menorrhagia and abdominal pain what's the cause ?
A.Endometriosis.
B.Adenomyosis
C.PCOS
D.Sheehan syndrome.

A 36 Year old woman who is 20 weeks pregnant came to the ER complaining of severe abdominal pain.
She's known to have a fibroid that has red degeneration, How should she be managed?
A.Analgesics.
B.Abortion.
C.Myomectomy.
D.Delivery

A 60 year old menopausal women presented with vaginal bleeding. Which one of the following is the likely cause?
A.Candida infection
B.Cervical erosions
C.Genital atrophy
D. Vaginal warts

31 years old P1 came with heavy menstruation causing anemia. She was found to have submucosal bleeding. Which of the following is the best management option?
A-Laparoscopy
B-Total Hysterectomy
C-Hysteroscopy
D- D&C

Obese smoker old lady diagnosed with endometrial cancer What is the greatest risk factor for developing endometrial cancer?
A- Smoking
B-Old age
C- Obesity

45 y/o postmenopausal bleeding and everything were normal what is your next step? Endometrial biopsy

60 y/o women came because of postmenopausal vaginal bleeding. She was morbidly obese and type II DM. Endometrial biopsy shows endometrial cancer, What is your management?
A. Surgical staging
B. Referral to palliative care

40 years lady, smoker, nulliparous with BMI of 23 was diagnosed with Endometrial Cancer ,What is the risk factor in her condition?
A. Age
B. Her BMI
C. Nulliparity
D. Smoking

A 60 year old lady diagnose to have stage 1 endometrial carcinoma. Which of the following is the most accepted mode of treatment?
A- Chemotherapy
B- Progesterone therapy
C- Surgery

A 75 year old lady obese who is diabetic and hypertensive present to the outpatient with history of vaginal bleeding. What is the best investigation for this case?
A. Hysteroscopy and endometrial biopsy
B. Laparoscopy
C. MRI
D. Pap smear

34 year old lady presented to the clinic with secondary dysmenorrhea ,which one of the following can cause this problem?
a. Adenomyosis
b. Bilateral tubal ligation
c. IUCD
d. PCOS

Which one of the following fibroid is responsible of heavy bleeding?
a. Broad ligament fibroid
b. Intramural fibroid
c. Submucous fibroid
d. Subserous fibroid

a 42 yr old lady had an ultrasound scan showing a uterine fobroid 2 x 3 cm in size. however she has no symptoms which one of the following is your management in her condition?
a. Reassure the patient
b. gonadotrophin releasing hormone agonist
c. hysterectomy
d. myomectomy

Which one of the following ovarian tumors causes endometrial hyperplasia?
A. Granulosa cell tumor
B. Mucinous cyst adenoma
C. Teratoma
D. Yolk sac tumour

A 35 year old Sudanese nulliparous lady complains of heavy menstrual bleeding. She was found to have a pelvic mass attached to the uterus. What is the most likely diagnosis?
A- Dysfunctional uterine bleeding
B- Endometriosis
C- Ovarian tumor
D- Uterine fibroid

A 50 year old lady who is known to have uterine fibroid and has noticed a rapid increase in the size of the fibroid. What is the percentage of malignant transformation of this fibroid?
A- <1 %
B- 5-10 %
C- 10-15 %
D- 20-30 %

37 years women presented with heavy bleeding that cause severe anemia due to large fibroid,which one of the following is the treatment of choice?
A. Myomectomy
B. Hysterectomy

Which one of the following increases the risk of endometrial cancer?
A. Tamoxifen therapy
B. Hormonal replacement therapy
C. Hormonal IUCD
D. Combined oral contraceptive pills