Gynecology & Obstetrics

Khaled khalilia

IMLE

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Menstrual disorders

Amenorrhea

- Absence of menes for X ≥ 3 Months
- Injury to arcuate nucleus
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- **Normal menes:**
  - Frequency → 21-35 day
  - Duration → 3-7 day
  - Volume → 30-80 ml
- **Oigomenorrhea:** bleeding > 35 day
- **Polymenorrhea:** bleeding < 21 day
- **Metrorrhagia:** bleeding at irregular interval
- **Hypomenorrhea:** low intensity bleeding ↓
- **Hypermenorrhea:** high intensity bleeding ↑
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Primary Amenorrhea

Def:

- No Menes at Age 14 without secondary sexual development.
- No Menes at Age 16 with/without secondary sexual development.

ET:

- **With secondary sex development:**
  - Müllerian agenesis
  - Androgen insensivity syndrome (Morris)
  - Imperforate Hymen
  - Hyperprolactinemia ↑
  - Hypothyroidism ↓
  - Polycystic Ovary Syndrome (PCOS)
  - Cushing Syndrome
  - Anorexia Nervosa
  - Congenital Adrenal Hyperplasia
  - Pituitary Tumor
- **without secondary sex development:**
  - Kallman Syndrome
  - Turner Syndrome XO (Gonadal Dysgenesis)
  - Diabetes Mellitus (DM)

Secondary Amenorrhea

Def:

- No Menes for X> 6 months or 3 cycles I a women with a previous normal cycle.

ET:

- Pregnancy (pregnancy should be ruled out first)
- Functional hypothalamic (stress, exercise)
- Sheehan Syndrome (Ant. Pituitary Necrosis)
- Asherman Syndrome (intrauterine scarring following D&C)
- Arcuate nucleus injury
- Ovarian Failure
- Hyperprolactinemia ↑
- polycystic ovarian syndrome
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Virilization

Premenstrual Syndrome

Hirsutism

Def: excessive growth of androgen-responsive hair in women. (Face)

ET:

- Idiopathic
- POS
- Adrenal
- Danazol, Cyclosporine, Phenytoin, Corticosteroids
- Prolactin ↑
- Cushing Syndrome
- Ovarian Tumor
- Von-Hipel-lindau
- Cong. Adrenal Hyperplasia
- Aromatase Deficiency
- Sulfatase Deficiency
- 21-Hydroxylase Deficiency
- 11-Hydroxylase Deficiency
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Tx:

- GnRH-Agonist
- Cyproterone Acetate
- Combined Oral Contraceptive

Dysmenorrhea

Primary	Secondary
Menstrual pain in absence of organic disease.	Menstrual pain due to organic disease.
• Allergic/ psychogenic • Ovulatory cycle • Normal pelvic exam •	• PID • Uterine Myoma • Adenomyosis • Endometriosis • Adhesion • Cervical stenosis • Uterine polyps

Tx:

- Antiprostaglandins (Naproxen)
- NSAIDs (first line)
- Combined oral contraceptive
- Progestin (IM,oral,IUD)
- Endometrial ablation (increase the risk of infertility, miscarriage, preterm labor, antepartum hemorrhage, and abnormal placental attachment. It is therefore contraindicated in women who wish to maintain the possibility of fertility.)

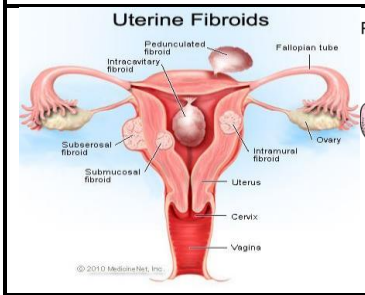
Development + Puberty

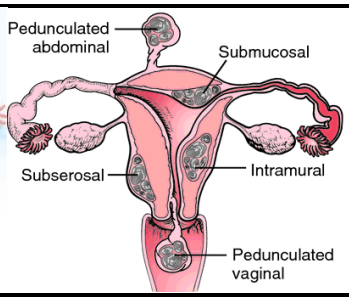
- The age of onset of puberty varies and is correlated with osseous maturation
- The breast bud (thelarche) is the 1st sign of puberty (10-11 yr), followed by pubic hair (pubarche) 6-12 mo later.
- Precocious puberty → pubertal changes before age **8** or menarche before age **10.**
- precocious puberty **Tx** → long-acting GnRH agonist→ leuprolide (Lupron)
- The production of sex steroids induces secondary sex characteristics, endometrial proliferation (leading to menstruation), vaginal cornification, and growth of long bones.

Gynecology Disorders

Gestational Trophoblastic Disease

1. Complete / Partial vesicular mole
2. Invasive mole (chorio-adenoma destruens)
3. Placental-site trophoblastic tumor
4. Chorio-carcinoma





Leiomyoma (Fibroids)

- Fibromyoma, Fibroid, Leiomyoma, Myoma
- Uterine myoma → most common benign Tumor of Female Genital Tract.
- Not detectable before Puberty. (↑ during reproductive years x> 35)
- Have rich vascular supply
- Anemia → most common complication
- Types:
- Summucous:
- Intramural: within uterine wall → prolonged bleeding + Dysmenorrhea
- Sunserous: bladder symptoms, constipation, back pain

S+S:

- Asymptomatic
- Uterine Bleeding
- Dysmenorrhea
- Pelvis pain
- Pelvis Pressure
- Urinary frequency + urgency
- Urinary retention
- Constipation
- Infertility
- Compression of ureter, Bladder, Rectum.

Dx:

- Pelvis examination
- US (confirm + location)
- CBC (Anemia)
- Biopsy (exclude cancer)
- IVU (Urography)

Complications:

- Anemia (most common)
- Inflammation: Endometritis, salpingitis)
- Infection
- Obstruction (Bowel, urinary)
- Malignancy

Tx:

- Only if symptomatic, rapidly enlarging, menorrhagia, intracavitary.
- Treat anemia if present.

• Conservative :(watch and wait) if:

- symptoms absent or minimal
- fibroids <6-8 cm or stable in size
- Currently pregnant due to increased risk of bleeding (follow-up U/S if symptoms progress).

• Medical:

- NSAIDS
- OCC /Depo-provera
- GnRH-analouges: (Leuprolide, Danazol)
  - Short term (6 months)
  - Before myomectomy,Hysterectomy → reduce fibroid size
  - Reduce bleeding
- Progesterone
- Mifepristone

• Surgery:

- Myomectomy (preserve fertility)
- Hysterectomy

Tumors

Ovarian Tumor

- **Benign**: cystic, smooth, unilateral, mobile
- **Malignant:** Solid, nodular, Bilateral, Fixed
- Protective Factors: OCP, Pregnancy, Breastfeeding
- **Serous:** most common ovarian cancer 50 % (Postmenopausal)
- Most common in Young patient (20s) → **Germ Cell origin** (Teratoma,**dysgerminoma**↑)

Dx:

- CA-125
- US
- Labaroscopy (Biopsy)
- Pelvic ultrasound findings of: ovarian **papillary vegetations**, **ovarian > 10 cm**, **ascites**, **ovarian torsion**, or **solid ovarian lesions** → Do exploratory laparotomy.
- **Transvaginal Ultrasaunde** with Doppler color flow imagining → detect Neuvascularity of tumor blood supply.

S+S:

- Asymptomatic
- Abd. discomfort (Nausea, Dyspepsia)
- Pelvic mass → Compression
- Constipation
- Urinary frequency
- Menstrual irregularities
- Ascites

Risk Factors:

- ↑Age > 40
- Nulliparity
- Family History (BRCA-1)

Stage:

Stage 1: Growth limited to ovaries	
1A	1 ovary
1B	2 ovary
1C	1 or 2 ovaries + Ruptured capsule/capsule involvement/malignant Ascites
Stage 2: Ovaries (one or both) + Pelvic Extension	
2A	Extension to Tube/ Uterus
2B	Extension to pelvic structures (Bladder, Rectum, Vagina
2C	
Stage 3: Ovaries + outside pelvic + Positive Nodes	
3A	Microscopic peritoneal metastasis outside pelvis
3B	Macroscopic peritoneal metastasis outside pelvic (X<2cm)
3C	Implant > 2cm / Retroperitoneal/ inguinal Nodes
Stage 4: Distant Organ Involvement (Liver, Lung)	

Tx:

Early Stage Disease:

- **X want children:** Total Hysterectomy + Bilateral Salpingo-oophorectomy.
- **Want children:**
  - surgery + preserve (uterus, opposite Tube + Ovary) if they are free of Tumor
  - Remove remaining reproductive Organs after Childbearing.

Advanced Stage Disease:

- III or IV (large pelvis mass, Ascites)
- **Total Hysterectomy** + **Bilateral Salpingo-oophorectomy** + **Omentectomy**
- Procedures may be necessary: Resection of Colon, intestine, retroperitoneal LN.

Chemotherapy: Cisplastin + Cyclophosphamide

Extra:

- ovarian endodermal sinus tumor → Schiller-duval body
- mucinous ovarian tumors → Usually very large.
- Intestine → first affected by spread and encroachment of ovarian cancer.
- the leading cause of gynecological cancer deaths
- Androgen-secreting tumors → produce Hirsutism (Sertoli-leydig cell tumors, Luteoma)

Endometrial Cancer

- Adenocarcinoma: x > 80% (most common)
- ↑Estrogen, X progesterone → Endometrium→ Hyperplasia→Adenocarcinoma
- most endometrial cancers are diagnosed as **Stage I**

Dx:

- Endometrial Sample:
  - Endometrial Biopsy (office)
  - D&C +/- Hysteroscopy
- US
- X-ray, CT, MRI, Urography
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- Any Genital Bleeding during post menopause must be investigated to rule out **Endometrial Carcinoma**.

S+S:

- ↑Age (60-70)
- Uterine Bleeding (postmenopausal).
- Uterus: enlarged, soft
- Hematuria

Risk Factors:

- Age postmenopausal ↑↑
- obesity ↑↑
- Estrogen replacement Therapy
- nulliparity
- late menopause (after 52)
- polycystic ovarian syndrome
- estrogen-producing tumors
- Tamoxifen

Stage: **FIGO Classification** ↗

Stage 1: Limited to Uterine Fundus	
1A	X N0 myometrial invasion
1B	Myometrial invasion X≤ 50 %
1C	Myometrial invasion X > 50 %
Stage 2: Extend to Cervix → Stromal invasion	
Stage 3: Local/Regional spread	
3A	Invade serosa / Adnexa
3B	Vaginal metastasis
3C	Pelvis metastasis / para-aortic LN metastasis
Stage 4: invade Bladder/Bowel mucosa + Distant metastasis	
4A	Invade Bladder/Rectum (confirmed by Biopsy)
4B	Distant metastasis

Tx:

Stage I:

- Total Hyterectomy
- + Bilateral Salpingo-oophorectomy
- + peritoneal cyto. Examination

Stages 2 + 3 , grade 1 with deep myometrial invasion:

- Total Hyterectomy + Bilateral Salpingo-oophorectomy + pelvic and para-aortic lymphadenectomy.
- Extended-field radiation for extra pelvic cancer (depending on the site and extent)

Stage 4: systemic chemotherapy

Recurrence: high-dose progestins (Depo-Provera)

Endometrial Hyperplasia

It is considered weakly premalignant because it progresses to endometrial carcinoma in approximately 1% of women.

Tumors

Uterine Sarcoma

- Arise from Stromal components (Endometrial stroma, mesenchymal).
- Bad prognosis
- most common after age 40
- rapidly enlarging uterus → Pain
- Vaginal Bleeding: most common symptom
- vaginal discharge.

Types:
- Leiomyosarcoma
- Endometrial stroma carcinoma
- Adenosarcoma
- carcinosarcoma

Lichen Sclerosus

- White, thin skin extending from labia to perianal area.
- Most common in postmenopausal women (can occur at any age)
- associated with a higher risk of cancer → Vulvar carcinoma

S+S:
- Pruritus
- Dyspareunia
- Burning
-

Tx: Topical steroid (clobetasol)

Squamous cell Hyperplasia

- Surface thickened and hyperkeratotic
- Postmenopausal women ↑
- Pruritus (most common symptom)
- **Dx:** Biopsy
- **Tx:** corticosteroid

Vulvular Cancer

1) squamous cell carcinoma:
- most common type 90%

S+S:
- Pruritus
- Bloody vaginal discharge
- Postmenopausal bleeding
- Ulcerated lesion
- cauliflowerlike lesion

Dx: Biopsy (always)

Squamous cell carcinoma staging	
0	Carcinoma in situ
I	Limited to vaginal wall x<2cm
II	Limited to vulva/perineum X>2cm
III	Spread to lower urethra/anus/Unilateral LN
IV	Invade into Bladder/rectum/bilateral LN
IVa	Distant metastasis

Risk factors:
- HPV 16 positivity
- smoking
- immunosuppression

Staging: done during surgery

Tx:
- Unilateral lesion without LN involvement → modified radical vulvectomy
- Bilateral → radical vulvectomy
- Involved LN must undergo Lymphadenectomy

lymphatic drainage : superficial inguinal lymph nodes → deep femoral nodes → external iliac lymph nodes.

2) Paget disease Intraepithelial neoplasia

S+S:
- Soreness
- Pruritus
- Reddening + superficial white coating

Dx: Biopsy (always)

Tx:
- Bilateral Lesion: radical vulvectomy
- Unilateral Lesion: modified Vulvectomy