Benign gynecological diseases

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Benign gynecological diseases – Lower genital tract

**Vulva**
- Skin diseases
- Infections
  - Vulvitis
  - STD (HPV, HSV)
- Vulvodynia
- Bartholin’s gland
  - Cyst
  - Abscess

**Vagina**
- Infections
  - Vaginitis
  - Vaginosis
  - Warts

- Cyst (para-urethral)

**Cervix**
- Infections
- Cervicitis
- Erosion/ectropion
- Lacerations
  - Birth
  - Iatrogenic
- Incompetence
Skin diseases of the vulva

**Lichen Simlex Chronicus**

Primary sign is itching
- Sharp border
- Thickened skin
- Excoriation

The pain and skin changes are due to excoriation and bruising

Diagnosis is with histology

Corticosteroid creams can lower the pruritus
Skin diseases of the vulva

Lichen sclerosus et atrophicus

- Whitish discoloration of the skin
- Itching
- Thinning of the skin

Atrophy due to lower estrogen levels when aging

More often around 50-60 years

Potentially premalignant!

Diagnosis is with histology

Local estrogen treatment,

Corticosteroid creams can lower the pruritus
2003. ISSVD „Vulvar discomfort, most often described as burning pain, occurring in the absence of relevant visible findings or a specific, clinically identifiable, neurologic disorder.”

Lifetime incidence ~13%

Types
- Localized provoked (vulvar vestibulitis)
- Generalized unprovoked (dysesthetic)
Localized provoked vulvodynia - Vulvaris Vestibulitis Syndorme

- Burning pain
- Localized to the vestibule
- Redness in the vestibular region
- Mechanical stimuli causes pain (sexual life, bike riding, sitting, tight underwear, gynecological examination)
- Cotton swab can even cause sharp pain /allodynia/
- Pain reveals by eliminating the stimuli
- Typical among young ladies
Generalized unprovoked vulvodynia

- Continuous pain
- No visible problem
- Pain on the pudendal nerve supplied area, may spread to the thighs and mons pubis
- Mechanical stress can cause pain but by eliminating it, it continues on
- From mild to severe pain
- Typical in postmenopausal ages
Vulvodynia

1. Inspection

2. Cotton swab test

3. Exclude
   - Infection
   - Chronic skin diseases
Therapy—Localized provoked vulvodynia

1. Topical
   - Local anesthetics (Lidocain)
   - Pain modulators (gabapentin)
   - estrogen

2. Oral
   - Tricyclic antidepressant (amitriptyline)
   - Anticonvulsive (gabapentin, pregabalin)
   - SSRI (duloxetine, venlafaxine)
Therapy - Localized provoked vulvodynia

3. Pelvic floor recovery
   Special physiotherapy, biofeedback training (Glazer)

4. Surgical
   Vestibulectomy (successful 60-95%)
   Well selected patients!

5. Psychotherapy
Therapy- Generalized unprovoked vulvodynia

1. Oral
   - Tricyclic antidepressant (amitriptyline)
   - Anticonvulsive (gabapentin, pregabalin)
   - SSNRI (duloxetine, venlafaxine)

2. Topical
   - Estrogen, Local anesthetics (Lidocain)
   - Pain modulators (gabapentin)

3. Pudendal nerve/ cauda equina blockade
Therapy- Generalized unprovoked vulvodynia

4. Pelvic floor rehabilitation
5. Psychotherapy
6. Surgical intervention is contraindicated!
Bartholin’s cyst

- Non painful
- Non infected
- Serosus fluid
- Congenital narrowing of the excretory duct
- Recurrent infection

Therapy
- Cystectomy
- Incision marsupialisation
Bartholin’s abscess

• acute or chronic infection of the Bartholin's gland (streptococci, staphylococci, E. coli, anaerobes; may result in infection).

• History - recent intercourse, venereal disease, trauma
Bartholin’s abscess

Signs and symptoms
• Mass in perineum
  • hot, tender, and fluctuant
• Pus draining from Bartholin's duct
• Pain

Treatment: Surgery ± antibiotics
• Incision+marsupialisation
• Cervix
  • Cervical infections - cervicitis
  • Erosion / ectropion
  • Lacerations – birth, iatrogen
  • Incompetence

Lacerations of the Cervix

The trauma of difficult childbirth deliveries may tear the cervix, producing permanent transverse or stellate lacerations.
Cervical erosion

- Eversion of the columnar epithelium
- Physiologic
- Should be treated in case of symptoms
  - Chronic discharge
  - Postcoital bleeding
- Treatment
  - Ablative
    - Laser
    - Cryo- ablation
  - Excisional
    - Cold knife
    - LOOP
Benign gynecological diseases – Lower genital tract

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Benign gynecological diseases – Upper genital tract

**Ovary**
- Cyst
  - Functional cyst
  - Benign tumor
- Infections
  - Adnexitis
  - Tuboovarian abscess

**Fallopian tubes**
- Infections
  - Adnexitis (PID)
  - Hydrosalpinx
  - Tuboovarian abscess
  - Blocked (infertility)

**Uterus**
- Fibroids
- Adenomyosis
- Endometrial hyperplasia/polyp
- Endometritis
Benign Ovarian Cysts

- Simple ovarian cysts are usually follicular or corpus luteum in origin

- **Follicular cysts**
  - Develops from a dominant ovarian follicle that does not release its ovum but remains active
  - Usually require no treatment
  - They either regress or rupture spontaneously
Benign Ovarian Cysts

- **Corpus Luteum Cysts**
  - Develops from a mature corpus luteum - persists abnormally and continues to secrete progesterone.
  - The cyst contains blood or fluid that accumulates in the corpus luteum cavity.
Benign Ovarian Cysts

• Symptoms if any include:
  • Dull pelvic pain, delayed menstruation followed by irregular or heavier than normal bleeding.
  • Rupture can cause
    • pain
    • bleeding
    Could require immediate surgery
  • Oral contraceptives may be used to prevent cysts in the future
Fallopian tube

- Hydrosalpinx
  - Background
    - Chronic – recurrent infection
    - Endometriosis
  - Symptoms
    - Chronic pain
    - Infertility
  - Therapy
    - Salpingectomy
    - Puncture, suction
Fallopian tube

**Tubo-ovarian abscess**
- Acute inflammation of the fallopian tube+ovary (+often uterus)
- Fever
- Heavy pain
- Pus
- STD, IUD
- Therapy
  - Antibiotics (combined, broad spectrum)
  - Operation (may need TAH+BSO)
FIBROIDS
Leiomyoma - Uterine Fibroid
Myoma - Fibroid

Benign tumors that develop from smooth muscle cells
Significance of uterine fibroids

- Common
- Often asymptomatic
- Incidentally detected on pelvic ultrasound
Significance of uterine fibroids

- Most common benign tumor of the uterus
- 25% of women will develop fibroids in the uterus
- Most common reason for hysterectomy
- Size of the tumor relates to hormonal fluctuations (related to estrogen levels)
- Costs: 1 - 3 billion dollars (USA)
ETIOLOGY

- Unknown
- Each individual myoma is unicellular in origin
- Estogens
  - no evidence that it is a causative factor, it has been implicated in growth of myomas
- Myomas contain estrogen receptors in higher concentration than surrounding myometrium
- Myomas may increase in size with estrogen therapy & in pregnancy & decrease after menopause
- They are not detectable before puberty
- There may be genetic predisposition
PATHOLOGY

• Frequently multiple
• May reach 15 cm in size or larger
• Firm
• Spherical or irregularly lobulated
• Have a false capsule
• Can be easily enucleated from surrounding myometrium
MICROSCOPIC STRUCTURE

- **Nonstriated muscle** fibers arranged in bundles running in different directions
- Individual cells are spindle shaped uniform
- Varying amount of connective tissue are interlaced between muscle fibers
- **Pseudocapsule** of areolar tissue & compressed myometrium
- **Arteries** are less dense than myometrium & do not have a regular pattern of distribution
- 1-2 major vessels are found at the base or pedicle
CLASSIFICATION

- Submucous leiomyoma
  - Pedunculated submucous
- Intramural or interstitial
- Subserous or subperitoneal
  - Pedunculated abdominal
- Parasitic (separate from the uterus)
- Intraligmentary
- Cervical
BENIGN DEGENERATION

- Atrophic
- Hyaline ➔ yellow, soft gelatinous areas
- Cystic ➔ liquefaction follows extreme hyalinization
- Calcific ➔ circulatory deprivation ➔ precipitation of calcium carbonate & phosphate
- Septic ➔ circulatory deprivation ➔ necrosis ➔ infection
- Myxomatous (fatty) ➔ uncommon, follows hyaline or cystic degeneration
BENIGN DEGENRATION

Red (carneous) degeneration
- Commonly occurs during pregnancy
- Edema & hypertrophy ➔ impedes blood supply ➔ aseptic degeneration & infarction with venous thrombosis & hemorrhage
- Painful but self-limiting
- May result in preterm labor & rarely DIC

MALIGNANT TRANSFORMATION
- Transformation to leiomyosarcomas occurs in 0.1-0.5%
SYMPTOMS – Abnormal uterine bleeding

• Symptomatic in only 35-50% of Pt

• Symptoms depend on location, size, changes & pregnancy status

Abnormal uterine bleeding

• The most common 30%

• Heavy / prolonged bleeding (menorrhagia)  ➔ iron deficiency anemia
SYMPTOMS – Pain

- Feeling a mass
- Heaviness fullness in the pelvic area
- Vascular occlusion ➔ necrosis, infection
- Torsion of a pedunculated fibroid ➔ acute pain
- Myometrial contractions to expel the myoma
- Red degeneration ➔ acute pain
- If the tumor gets impacted in the pelvis ➔ pressure on nerves ➔ back pain radiating to the lower extremities
SYMPTOMS – Pressure effects

- distort or obstruct other organs like
  - Ureters, bladder → urinary symptoms, hydroureter
SYMPTOMS – Infertility

• The relationship is uncertain
• 27-40% of women with multiple fibroids are infertile ➔ but other causes of infertility are present
• Endocavitary tumors affect fertility more

SPONTANEOUS ABORTIONS
• ~2X ➔ incidence before myomectomy 40%
  after myomectomy 20%
• More with intracavitary tumors
EXAMINATION

• Most myoma are discovered on routine bimanual pelvic or abdominal examination
• Retroflexed retroverted uterus ➔ obscure the palpation of myomas

LABORATORY FINDINGS

• Anemia
• Depletion of iron reserve
• Acute degeneration & infection ➔ leucocytosis, fever
• **Pelvic US** is very helpful in confirming the Dg & excluding pregnancy / Partic especially in obese patient

• **Saline hysterosonography** ➔ can identify submucous myoma that may be missed on US

• **MRI** ➔ highly accurate in delineating the size, location & no. of myomas, but not always necessary

• **Hysteroscopy** ➔ for identification & removal of submucous myomas
IMAGING - MRI
Differential Diagnosis

Pelvic mass
- Usually easily diagnosed
- Exclude pregnancy
- Ovarian cyst
- Tubo-ovarian abscess
- Endometriosis
- Adenexa, omentum or bowel adherent to the uterus

Exclude other causes of uterine enlargement:
- Adenomyosis
- Leiomyosarcoma
- Myometrial hypertrophy
- Congenital anomalies (uterus bicornis)
DIFFERENTIAL DIAGNOSIS

Exclude other causes of abnormal bleeding

- Endometrial hyperplasia
- Polyps
- Adenomyosis
- Dysfunctional uterine bleeding

- Endometrial or tubal malignancy
- Uterine sarcoma
- Ovarian malignancy
- Exogenous estrogens
COMPLICATIONS IN PREGNANCY

- ≤ 2/3 of women with fibroids & unexplained infertility conceive after myomectomy
- Higher rate of miscarriage
- Higher rate of preterm birth
- IUGR
- Compressed fetus

Red degeneration
- In the 2nd or 3rd trimester of pregnancy ➔ rapid ↑ in size ➔ vascular deprivation ➔ degeneration
- Causes pain & tenderness
- May initiate preterm labor
- Managed conservatively with bedrest & tocolytics if indicated
- After the acute phase pregnancy will continue to term
- Surgery is contraindicated in pregnancy
- The only indication for myomectomy in pregnancy is torsion of a pedunculated fibroid
- Myomectomy is not recommended during caesarian section
COMPLICATIONS IN PREGNANCY

DURING LABOR

• Uterine inertia

• Malpresentation

• Obstruction of the birth canal

• Cervical or isthmeic myoma ➔ necessitate Cesarian Section

• Post Partum Hemorrhage
THERAPY

DEPENDS ON:
• Age
• Parity
• Pregnancy status
• Desire for future pregnancy
• General health
• Symptoms
• Size
• Location
THERAPY

- Most cases asymptomatic ➔ no treatment
- Postmenopausal ➔ no treatment
- Initial follow up every 6 M ➔ to determine the rate of growth of the myoma
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| • Uterine artery embolisation |
| • Focused Ultrasound ablation |
| • Medical |
|   • GNRH agonist |
|   • Anti progesterone |
Myomectomy vs. Hysterectomy

**Myomectomy**
- **Advantage**
  - Conserve fertility
  - Smaller operative stress
  - Less complication
    - Blood loss
    - Ureteral, Bladder
  - Better for the psyche
- **Disadvantage**
  - Residual fibroid
  - Recurrence
    - Symptoms recur
    - Repeated operation

**Hysterectomy**
- **Advantage**
  - No recurrence
  - Prevent malignant transformation
    - Leiomyosarcoma?
    - Endometrial carcinoma
    - Cervical cancer
  - Better for Hormone replacement therapy
    - Mono E2
    - No side affect due to progesteron
- **Disadvantage**
  - Loss of fertility
  - More operative stress
  - More complications
Abdominal Myomectomy

- Repairing defect
  - Multi layered approach
- Deep sutures to close dead space
- May require removal of excess myometrial tissue to allow adequate closure
Laparoscopic Myomectomy

Procedure

- Place of 3-4 operating ports
- Injection of Vasopressin
- May use endoloop for pedunculated fibroids
- Dissect out fibroid through single incision
- Monopolar diathermy

- Similar to open approach
Hysteroscopy
Hysterectomy

• Potential problems with hysterectomy
  • Causes infertility
  • Perioperative complications
    ▪ Bleeding
    ▪ Ureter, bladder injury
    ▪ Vaginal prolaps
  • Post hysterectomy depression (?)
  • Lack of interest in sex (7%) (not significant)
  • Lack of enjoyment of sex (1%)
Hysterectomy

Methods

- Abdominal
- Laparoscopic
- Robotic
  - Total
  - Supracervical
- Vaginal
- Laparoscopic assisted Vaginal
Uterine Artery Embolization

- Minimally invasive interventional radiology treatment for uterine fibroids

- Embolization of fibroids was first used as an adjunct to help decrease blood loss during myomectomy.

- To the surprise of the initial users of this method, many patients had spontaneous resolution of their symptoms after only the embolization and no longer needed the surgery.
Uterine Artery Embolization

- MRI to determine fibroids
- It does not require general anesthesia.
- Catheter into the femoral artery.
- Real-time imaging, the physician guides the catheter through the artery and then releases tiny particles, the size of grains of sand, into the uterine arteries that supply blood to the fibroid tumor.
Uterine Fibroid Embolization
Uterine Fibroid Embolization

- Fibroid embolization usually requires a hospital stay of one night.
- Return to normal activities within seven to 10 days.
- On average, 85-90 percent of women who have had the procedure experience significant or total relief of heavy bleeding, pain and/or bulk-related symptoms.
- The procedure is effective for multiple fibroids and large fibroids.
- Recurrence of treated fibroids is very rare.
- The expected average reduction in the volume of the fibroids is 50% in three months, with reduction in the overall uterine volume of about 35%.
Uterine Artery Embolization

Case 1: Pre-embolization

Case 1: 3 months after embolization
Uterine Artery Embolization - Side Effects

- Moderate to severe pain
- Nausea
- Fever
- Decreased blood supply of the uterus
- Infection of the uterus
  - Hysterectomy to treat occurs in less than 1% of patients
- Premature menopause
Pregnancy after Uterine Artery Embolization

- Uncertain effect on fertility and the ability to carry a pregnancy to term.

- The large majority of the patients that had this procedure are finished with childbearing.

- We cannot recommend the procedure for women who plan to have children.
Magnetic Resonance Guided Focused Ultrasound Uterine Fibroid Surgery

- Non-invasive outpatient, procedure
- Uses high intensity focused ultrasound waves to ablate the fibroid tissue.
- MRI's provide
  - three-dimensional view of the targeted tissue
  - precise focusing and delivery of the ultrasound energy
  - monitor tissue temperature in real-time to ensure adequate but safe heating of the target. (85°C)
  - The procedure lasts about 3 hours depending upon the size and number of fibroids treated.
Magnetic Resonance Guided Focused Ultrasound Uterine Fibroid Surgery
GNRH AGONISTS

results in:
1-↓ size of the myomas 50% maximum
2- This shrinkage is achieved in 3 month
3- Amenorrhea & hypoestrogenic side-effects occur
4- Osteopososis may occur if treatment last > 6 month

It is indicated for
1-↓ bleeding from myoma except for the polypoid submucous type
2- Preoperative to ↓ size ⇒ allow for vaginal hysterectomy
   ⇒ myomectomy
   ⇒ laparoscopic myomectomy
Esmya

• Uripristal-acetat
  • Selective progesteron modulator
  • Anti progesteron effect
  • Apoptosis
  • Inhibit proliferation myometrial cells

• Shrinkage of fibroid
• Reveals symptoms

• Preoperative therapy (3 months)
  ▪ Decreases blood loss
• Definitive therapy (2x 3 months)
Uterine fibroids

- Common disease
- Wide choice of treatment option
- Personalized therapy
- Information should be given
- Informed consent (patients choice)
Thank you for your attention!