Seminar 2 Review of OBGYN

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Topics included in the seminar 2 exam

- PCOS
- Pelvic Endometriosis
- Infertility
- Lower genital tract infections
- PID
- Pedia Gyne
- H mole
- Pelvic organ prolapse
- Clinical Pelvimetry
- Hypertension in Pregnancy
- Preterm labor
- Obstetrical Hemorrhage

Obstetrics

1. Hypertension in Pregnancy

Table 1. Classification of Hypertensive Disorders of Pregnancy

Type	Definition	Symptoms
Chronic hypertension (HTN)	Blood pressure >140/90 prior to pregnancy or before 20 weeks gestation, and/or after 12 weeks postpartum.	Usually asymptomatic.
Preeclampsia/eclampsia	Hypertension (BP 140/90) and proteinuria (≥300 mg/day) at or beyond 20 weeks gestation in previously normotensive women.	Elevated creatinine or transaminases, or low platelets, increase likelihood.
Preeclampsia superimposed on chronic hypertension	▮ Woman with HTN but no proteinuria at >20 weeks on chronic hypertension: new-onset proteinuria ≥300mg in 24 hours. ▮ Woman with HTN and proteinuria at <20 weeks: accelerating proteinuria, accelerating HTN.	Headache, blurred vision, right upper quadrant (RUQ) pain, elevated SCr or transaminases, or low platelets.
Gestational hypertension	HTN in absence of proteinuria.	Lab abnormalities at >20 weeks gestation.

Consideration for Delivery

- **Termination of pregnancy** is the *only cure* for preeclampsia.
- Headache, visual disturbances, oliguria, and epigastric pain are ominous signs. (may be indicative that convulsions may be imminent)
- Severe preeclampsia demands anticonvulsant and antihypertensive therapy, followed by delivery.
- Goals of treatment are to forestall convulsions, to prevent intracranial hemorrhage and serious damage to other vital organs, and to deliver a healthy newborn.

Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, Casey BM, Sheffield JS (eds).William's Obstetrics 25th edition; 2018; chap 40 Hypertensive disorders

Treatment (inpatient)

- Magnesium sulfate – to prevent eclampsia
- Antihypertensive agents
  - IV Hydralazine
  - Labetolol
  - Nifedipine

2. Preterm labor

- Labor that commences <37 weeks

- Preterm premature rupture of membranes : ruptures of membranes (bag of waters) < 37 weeks prior to onset of labor

treatment

- Cortocosteroids : given at 24-34 weeks
    - Dexamethasone 6mg q12h x 4 doses
    - Betamethasone 12 mg q24h x 2 doses

- Tocolytics:
    - **Beta-adrenergic agonists** (terbutaline, ritodrine)
    - **calcium-channel blockers** (nifedipine)
    - **Prostaglandin inhibitors** (indomethacin)
    - Magnesium sulfate
    - Atosiban
    - Nitric oxide donors

3. Obstetrical Hemorrhage

- Uterine atony: failure of the uterus to contract sufficiently after delivery and to arrest bleeding from vessels at the placental implantation site
  - Treatment: (uterotonic agents) oxytocin, methylergonovine, carboprost, dinoprostone
- Uterine inversion
  - Treatment: uterine replacement, surgery
- Injuries to birth canal

3. Obstetrical Hemorrhage

- Uterine rupture

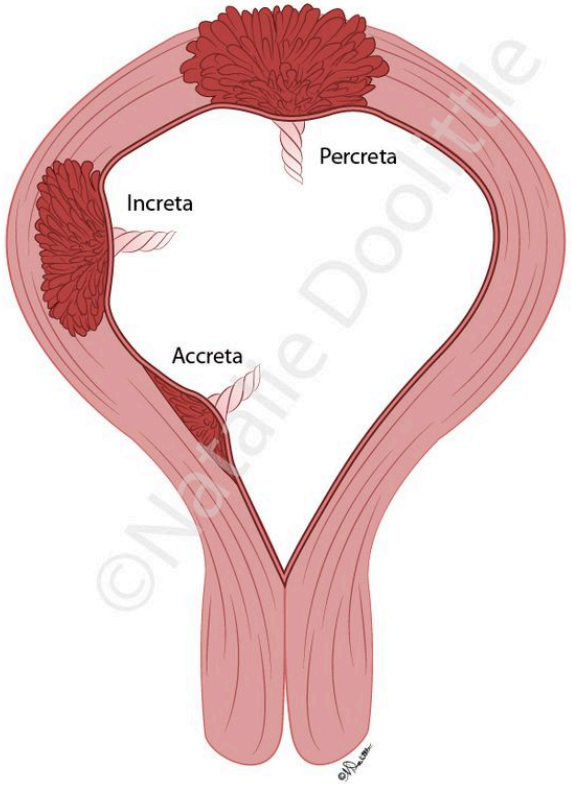
- Abruptio Placenta - Separation of the placenta—either partially or totally—from its implantation site before delivery
  - Tetanic contractions
  - Tx: emergency delivery;

3. Obstetrical Hemorrhage

- Placenta Previa
  - The “placenta goes before the fetus into the birth canal”
  - Total: placenta totally covering the internal os
  - Partial: placental partially covering the internal os
  - Low-lying placenta: implantation in the lower uterine segment, such that the placental edge does not reach the internal os and remains outside a 2-cm wide perimeter around the os.
  - Marginal previa: placenta that was at the edge of the internal os but did not overlie it.

3. Obstetrical Hemorrhage

- Placenta accrete
  - any placental implantation with abnormally firm adherence to myometrium because of partial or total absence of the decidua basalis and imperfect development of the fibrinoid or **Nitabuch layer**.
  - **Placenta accrete:** villi are attached to the myometrium.
  - **Placenta increta**: villi actually invade the myometrium
  - **Placenta percreta:** villi that penetrate through the myometrium and to or through the serosa.



4. Clinical Pelvimetry

	Adequate	Inadequate
Pelvic Inlet	diagonal conjugate >11.5cm; “sacral promontory cannot be reached”	diagonal conjugate < 11.5 cm; “sacral promontory reached"
Midplane	sacrum curved sacrosciatic notch wide ischial spines not prominent interischial diameter > 8.5cm sidewalls divergent	sacrum straight/shallow sacral concavity; sacrosciatic notch narrow; ischial spines prominent; interischial diameter < 8.5cm; Sidewalls convergent;
Outlet	intertuberous diameter > 8cm; subpubic angle > 90 deg; wide subpubic angle; coccyx moveable	intertuberous diameter < 8cm; subpubic angle < 90 deg/ narrow subpubic angle; coccyx not easily depressed/ coccyx not moveable

Gynecology

1. Polycystic ovary syndrome: "diagnosis of exclusion"

Table 41.1 Criteria for Diagnosis of Polycystic Ovary Syndrome

Study*	Criteria
National Institute of Child Health and Human Development 1990	Menstrual irregularity Hyperandrogenism (clinical or biochemical)
ESHRE-ASRM 2003 "Rotterdam criteria"	Menstrual irregularity Hyperandrogenism (clinical or biochemical) Polycystic ovaries on ultrasound (two of three required)
AEPCOS 2006	Hyperandrogenism (clinical or biochemical) and menstrual irregularity Polycystic ovaries on ultrasound (either or both of the latter two)
NIH Workshop 2012	Endorsement of Rotterdam criteria, acknowledging its limitations, and suggesting the name PCOS should be changed

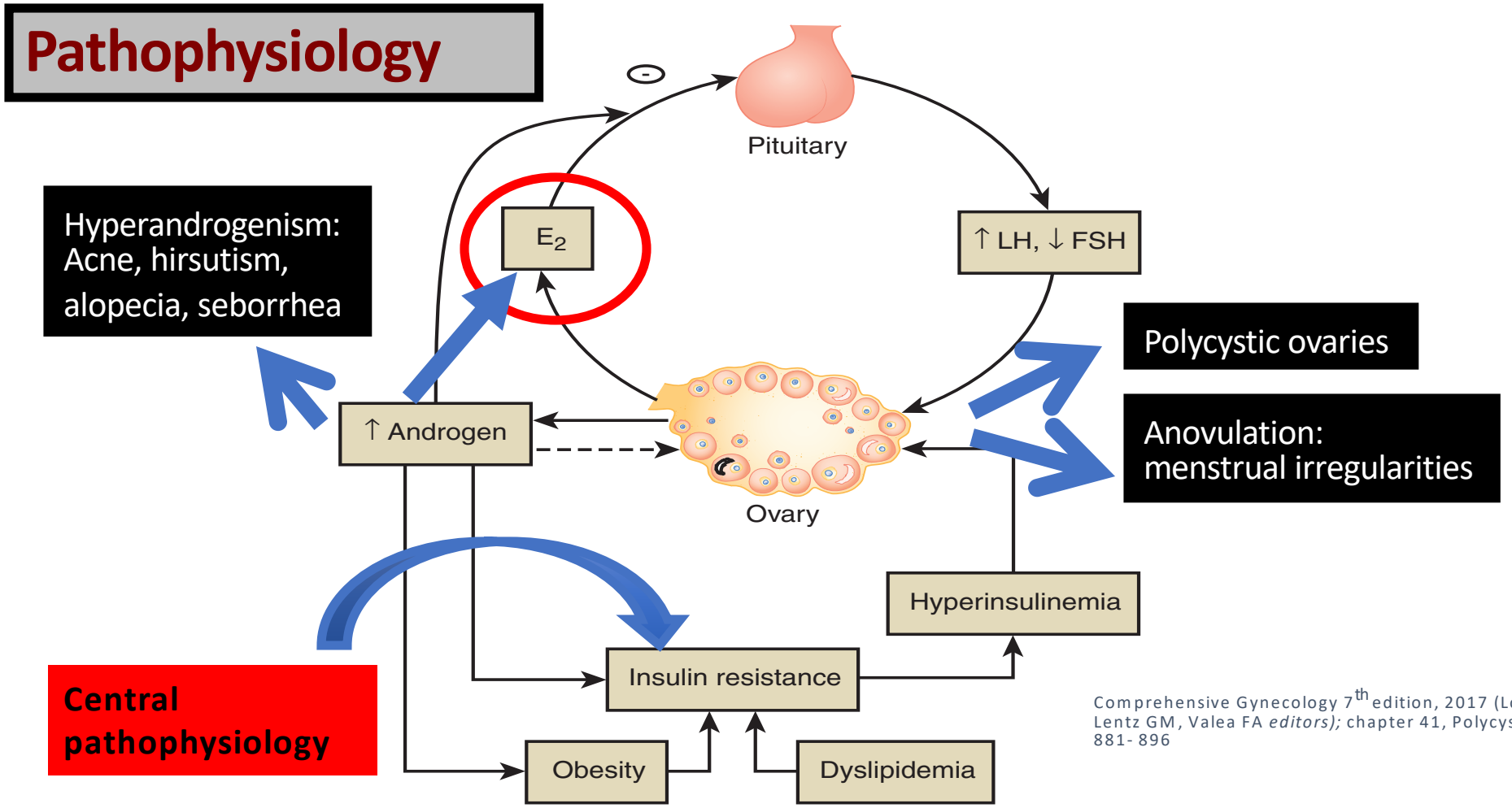
*All required the exclusion of other underlying hormonal disorders or tumors.

Exclude:

1. **Non classic adrenal hyperplasia**
2. **Cushings syndrome**
3. **Androgenic tumors**
4. **Hyperprolactinemia**
5. **Thyroid disease**

Comprehensive Gynecology 7th edition, 2017 (Lobo RA, Gershenson DM, Lentz GM, Valea FA *editors);* chapter 41, Polycystic ovary syndrome; pp 881- 896

1. Polycystic ovary syndrome: "pathophysiology"



Comprehensive Gynecology 7th edition, 2017 (Lobo RA, Gershenson DM, Lentz GM, Valea FA *editors);* chapter 41, Polycystic ovary syndrome; pp 881- 896

2. Pelvic Endometriosis

- Endometriosis is the presence and growth of the glands and stroma of the lining of the uterus in an aberrant or heterotopic location.
- The classic symptoms of endometriosis are **cyclic pelvic pain** and **infertility**
- The classic pelvic finding of endometriosis is a **fixed retroverted uterus**, with scarring and tenderness posterior to the uterus.
- The characteristic nodularity of the uterosacral ligaments and cul-de-sac may be palpated on rectovaginal examination in women with this distribution of the disease.

Etiology

Theories:

1. Retrograde menstruation
2. Coelomic metaplasia
3. Lymphatic and vascular metastasis
4. Iatrogenic dissemination
5. Immunologic changes
6. Genetic predisposition

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TREATMENT

- The two primary short-term goals in treating endometriosis are: 1) relief of pain 2) promotion of fertility

- primary long-term goal in the management of endometriosis is attempting to prevent progression or recurrence of the disease process.

- Treatment of endometriosis can be medical, surgical, or a combination of both.

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TREATMENT: Surgical

- Surgical therapy is divided into conservative and definitive operations.

- Conservative surgery involves the resection or destruction of endometrial implants, lysis of adhesions, and attempts to restore normal pelvic anatomy.

- Definitive surgery involves the removal of both ovaries, the uterus, and all visible ectopic foci of endometriosis. → analogous to cytoreductive surgery in ovarian carcinoma.

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TREATMENT: Medical

- **Aim**: suppression of lesions and associated symptoms, particularly pain.
- Best achieved by menstrual suppression, ideally without inducing hypoestrogenism.
- Unfortunately, once suppressive therapy is stopped, symptoms tend to recur at variable rates.
- The choice of medical therapy should be individualized, weighing in potential adverse effects, side effects, cost of therapy, and expected patient compliance.

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TREATMENT: Medical

- medical therapy usually suppresses symptomatology and prevents progression of endometriosis, but it does not provide a long-lasting cure of the disease.

- Although there are several medical therapies for endometriosis, the US Food and Drug Administration (FDA) has approved only **danazol** and **gonadotropin- releasing hormone (GnRH) agonists.**

- progestins

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3.Infertility

- Inability of a couple to conceive **after 1 year** of trying

➢After 6 months, if:

1. ≥ 35 years old
2. oligo/amenorrhea
3. known tubal obstruction
4. uterine disease
5. severe endometriosis
6. known male factor

Infertility: Causes

- ovulatory disorders : 27%
- Male factors: 25%
- Tubal/uterine disorders: 22%
- Endometriosis: 5%
- other: 4%
- unexplained factors, 17%. (UNEXPLAINED INFERTILITY)

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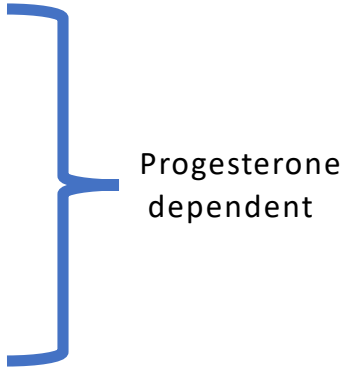
3. Documentation of Ovulation

- History of regular monthly cycles
- LH kits (“ovulation kits”)
- Mid luteal serum progesterone > 10 ng/ml
  (some books: 3 ng/ml)
- BBT (basal body temperature)
- Endometrial biopsy
- Ultrasound/ follicle monitoring
- Pregnancy – the best evidence of ovulation



Comprehensive Gynecology 7th edition, 2017 (Lobo RA, Gershenson DM, Lentz GM, Valea FA *editors);* chapter 42, Infertility; pp 897-923

4. Pelvic Organ Prolapse

Table 20-1 Staging of Pelvic Floor Prolapse Using International Continence Society Terminology

Stage 0
No prolapse is demonstrated. Points Aa, Ap, Ba, and Bp are all at −3 cm and either point C or D is between total vaginal length −2 cm.

Stage I
Criteria for stage 0 are not met, but the most distal portion of the prolapse is >1 cm above the level of the hymen.

Stage II
The most distal portion of the prolapse is less or equal to 1 cm proximal or distal to the plane of the hymen.

Stage III
The most distal portion of the prolapse is >1 cm below the plane of the hymen but protrudes no farther than 2 cm less than the total vaginal length in centimeters.

Stage IV
Essentially complete eversion of the total length of the lower genital tract.

5. Hydatidiform Mole

- typically presents in the first trimester as vaginal bleeding, with or without the passage of molar vesicles.
- Other classic signs of CHM include a large-for-date uterus, absence of fetal movement, anemia secondary to occult hemorrhage, gestational hypertension before 20 weeks' gestation, presence of theca lutein cysts, hyperemesis, hyperthyroidism, and respiratory distress from trophoblastic emboli to the lungs.

CHM vs PHM

CHM

- edematous enlarged villi
- lack of fetal or embryonic tissues;
- hydropic (edematous) villi;
- diffuse trophoblastic hyperplasia;
- marked atypia of trophoblasts at the implantation site
- absence of trophoblastic stromal inclusions.

PHM

- show subtle abnormaliities
- generally a smaller volume of hydropic villi
- presence of fetal or embryonic tissues;
- less diffuse, focal hydropic swelling of villi;
- focal trophoblastic hyperplasia;
- less pronounced trophoblastic atypia

- Comprehensive Gynecology 7th edition, 2017 (Lobo RA, Gershenson DM, Lentz GM, Valea FA *editors);* chapter 35

management

- Diagnosis: transvaginal ultrasound: ‘snowstorm pattern”
- Treatment:
    - Suction curettage
    - Hysterectomy
    - Methotrexate (prophylactic chemotherapy)

6. PID

- infection in the upper genital tract not associated with pregnancy or intraperitoneal pelvic operations.
- polymicrobial infection that is a mixture of aerobic and anaerobic bacteria, clinically appearing as a complex infection.
- It may include infection of any or all of the following anatomic locations:
  - endometrium (endometritis)
  - Oviducts/fallopian tubes (salpingitis)
  - ovary (oophoritis)
  - uterine wall (myometritis)
  - uterine serosa and broad ligaments (parametritis), and pelvic peritoneum
- Lower abdominal and pelvic tenderness during examination is the **hallmark** of acute PID.

6. PID

Box 23-8 CDC Guidelines for Diagnosis of Acute Pelvic Inflammatory Disease: Clinical Criteria for Initiating Therapy

Minimum Criteria

Empirical treatment of PID should be initiated in sexually active young women and others at risk for STIs if the following minimum criteria are present and no other causes(s) for the illness can be identified:

Lower abdominal tenderness *or*

Adnexal tenderness *o*r

Cervical motion tenderness

Additional Criteria for Diagnosing PID

Oral temperature $> 38^{\circ}C$

Abnormal cervical or vaginal discharge (mucopurulent)

Presence of abundant WBCs on microscopy of vaginal secretions

Elevated erythrocyte sedimentation rate

Elevated C-reactive protein

Laboratory documentation of cervical infection with *N. gonorrhoeae* or *C. trachomatis*

Definitive Criteria for Diagnosing PID

Histopathologic evidence of endometritis on endometrial biopsy

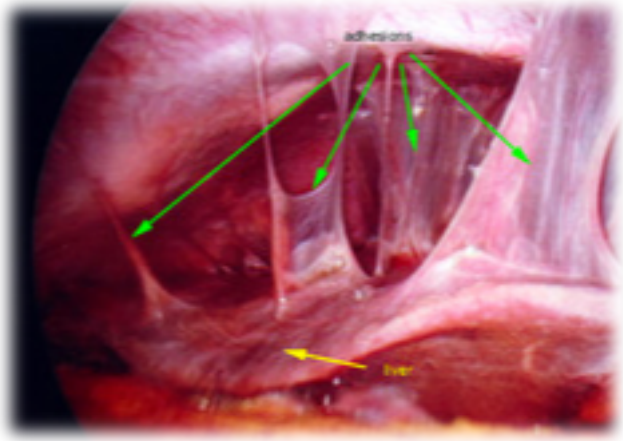
Transvaginal sonography or MRI showing thickened fluid-filled tubes, with or without free pelvic fluid or tubo-ovarian complex

Laparoscopic abnormalities consistent with PID

Although initial treatment can be made before bacteriologic diagnosis of *C. trachomatis* or *N. gonorrhoeae* infection, such a diagnosis emphasizes the need to treat sex partners.

Pelvic Inflammatory Disease (PID): **Fitz-Hugh–Curtis syndrome**

- **Five percent to 10%** of women with acute PID develop symptoms of perihepatic inflammation, the **Fitz-Hugh–Curtis syndrome**
- the liver capsule will appear inflamed, with classic violin string adhesions to the parietal peritoneum beneath the diaphragm.
- Persistent symptoms and signs include right upper quadrant pain, pleuritic pain, and tenderness in the right upper quadrant when the liver is palpated



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Treatment: Outpatient

Box 23-9 CDC Recommendations for Ambulatory Management of Acute Pelvic Inflammatory Disease

Ceftriaxone, 250 mg IM, single dose

or

Cefoxitin, 2 g IM, single dose, and probenecid, 1 g PO administered concurrently in a single dose

or

Other parenteral third-generation cephalosporin (e.g., ceftizoxime, cefotaxime)

plus

Doxycycline, 100 mg PO bid for 14 days

with or without

Metronidazole, 500 mg PO bid for 14 days

Treatment: Inpatient

Box 23-11 Inpatient Management of Acute Pelvic Inflammatory Disease

Parenteral Regimen A

Cefotetan, 2 g IV every 12 hr

or

Cefoxitin, 2 g IV every 6 hr

plus

Doxycycline, 100 mg PO or IV every 12 hr

Note: Because of pain associated with infusion, doxycycline should be administered orally when possible, even when the patient is hospitalized. PO and IV administration of doxycycline provide similar bioavailability.

Parenteral Regimen B

Clindamycin, 900 mg IV every 8 hr

plus

Gentamicin, loading dose IV or IM (2 mg/kg of body weight) followed by a maintenance dose (1.5 mg/kd) every 8 hr. Single daily dosing may be substituted.

Alternative Parenteral Regimens

Limited data support the use of other parenteral regimens. The following regimen has been investigated in a least one clinical trial, and has broad-spectrum coverage:

Ampicillin-sulbactam, 3 g IV every 6 hr

plus

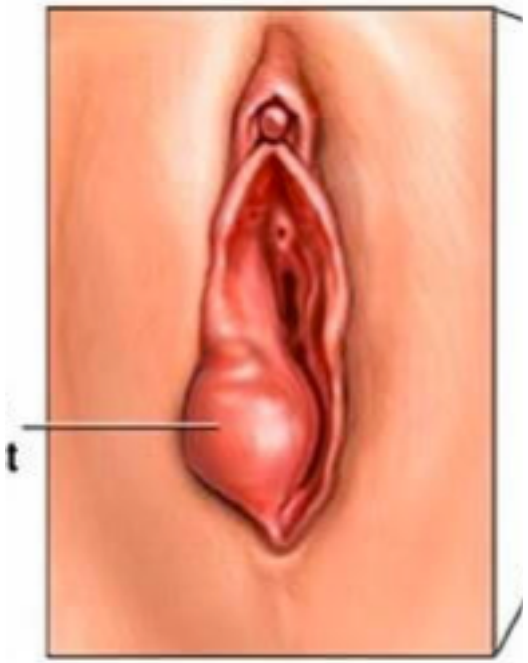
Doxycycline, 100 mg PO or IV every 12 hr

One trial has demonstrated high short-term clinical cure rates with azithromycin, either as monotherapy for 1 wk (500 mg IV × one or two doses followed by 250 mg PO, 5-6 days) or combined with a 12-day course of metronidazole.

7. Lower genital tract infections

INFECTIONS OF BARTHOLIN GLANDS

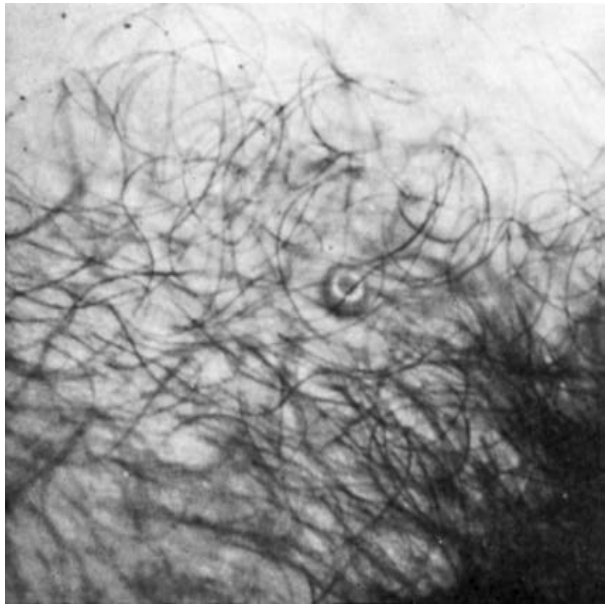
- The cysts may vary from 1 to 8 cm in diameter and are usually unilateral, tense, and nonpainful.
- abscess of a Bartholin gland tends to develop rapidly over 2 to 4 days presenting with difficulty in ambulation and sitting.
  - Acute pain and tenderness can be severe, secondary to enlargement, hemorrhage, or secondary infection.
  - signs : erythema, acute tenderness, edema and, occasionally, cellulitis
  - Positive cultures from Bartholin gland abscesses are often polymicrobial and contain a wide range of bacteria similar to the normal flora of the vagina.
- Treatment: marsupialization



Comprehensive Gynecology 7th edition, 2017 (Lobo RA, Gershenson DM, Lentz GM, Valea FA *editors);* chapter 23, Genital tract infections

MOLLUSCUM CONTAGIOSUM

- chronic localized infection consisting of flesh-colored, dome-shaped papules with an umbilicated center.
- molluscum is spread by direct skin-to-skin contact.
- it is primarily an asymptomatic disease of the vulvar skin, and, unlike most STIs, it is only mildly contagious.
- Widespread infection in adults is most closely related to underlying cellular immunodeficiency, such as during an HIV infection, chemotherapy or corticosteroid administration.
- To confirm diagnosis → white waxy material from inside the nodule may be expressed on a microscopic slide → *intracytoplasmic molluscum bodies with Wright or Giemsa stai*n confirms the diagnosis.
- the major complication of molluscum contagiosum is bacterial superinfection
- Molluscum contagiosum is usually a self-limiting infection and spontaneously resolves after a few months in immunocompetent individuals



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Genital Ulcers

Table 23.1 Clinical Features of Genital Ulcers

	Type				
Parameter	**Syphilis**	**Herpes**	**Chancroid**	**Lymphogranuloma Venereum**	**Donovanosis**
Incubation period	2-4 wk (1-12 wk)	2-7 days	1-14 days	3 days-6 wk	1-4 wk (up to 6 mo)
Primary lesion	Papule	Vesicle	Papule or pustule	Papule, pustule, or vesicle	Papule
Number of lesions	Usually one	Multiple, may coalesce	Usually multiple, may coalesce	Usually one	Variable
Diameter (mm)	5-15	1-2	2-20	2-10	Variable
Edges	Sharply demarcated Elevated, round or oval	Erythematous	Undermined, ragged, irregular	Elevated, round or oval	Elevated, irregular
Depth	Superficial or deep	Superficial	Excavated	Superficial or deep	Elevated
Base	Smooth, nonpurulent	Serous, erythematous	Purulent	Variable	Red and rough (beefy)
Induration	Firm	None	Soft	Occasionally firm	Firm
Pain	Unusual	Common	Usually very tender	Variable	Uncommon
Lymphadenopathy	Firm, nontender Pseudoadenopathy bilateral	Firm, tender, often bilateral	Tender, may suppurate, usually unilateral	Tender, may suppurate, loculated, usually unilateral	

From Holmes KK, Mårdh PA, Sparling PF, et al, eds. *Sexually Transmitted Diseases*, 2nd ed. New York: McGraw-Hill, 1990.

8. Pedia Gyne

Tanner staging

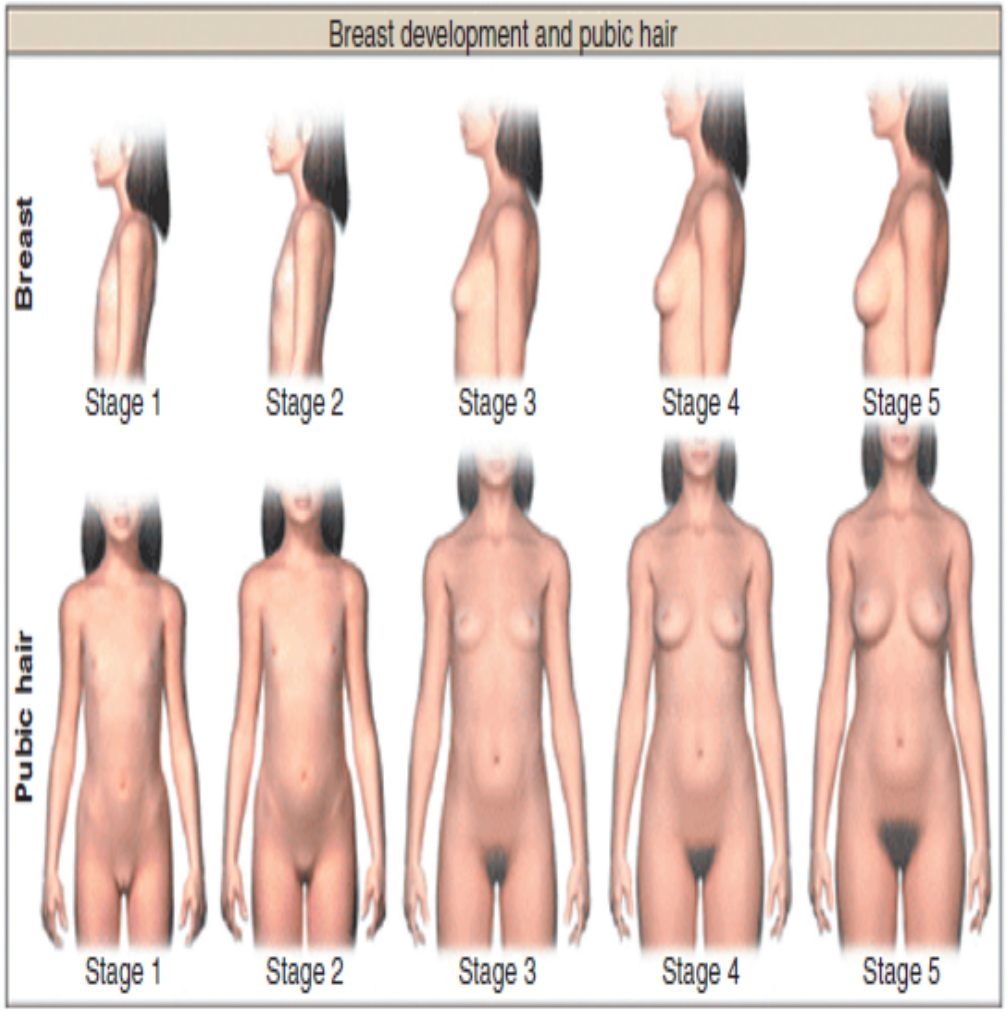

Table 38-1 Classification of Breast Growth and Pubic Hair Growth

Classification	Description
Breast Growth	
B1	Prepubertal: elevation of papilla only
B2	Breast budding
B3	Enlargement of breasts with glandular tissue, without separation of breast contours
B4	Secondary mound formed by areola
B5	Single contour of breast and areola
Pubic Hair Growth	
PH1	Prepubertal—no pubic hair
PH2	Labial hair present
PH3	Labial hair spreads over mons pubis
PH4	Slight lateral spread
PH5	Further lateral spread to form inverse triangle and reach medial thighs

Puberty development

- The first sign of puberty is usually the appearance of breast budding followed within a few months by the appearance of pubic hair.
- Sequence of pubertal development:
  Breast budding → pubic hair →growth spurt → menarche

- Breast budding is the earliest sign of puberty and menarche the latest.

- The mean interval between breast budding and menarche is **2.3 yrs + 1 yr**

- Thank you for attending this review session