

137: GENITAL INFECTIONS/LESIONS

GENITAL TRACT ULCERS

HERPES SIMPLEX VIRUS (HSV)

- Epidemiology
 - HSV 1 vs HSV 2 (HSV2 more commonly causes genital lesions)
 - 2/3 of cases occur from asymptomatic carrier
 - 10% annual transmission rate in HSV2 discordant couples (higher if seronegative for HSV 1 and 2)
 - Virus is latent in spinal nerve root ganglia and unknown reactivation triggers promote secondary lesions
- Clinical Manifestations
 - Asymptomatic infection common (50%??)
 - Lesion: grouped vesicles on erythematous base, rupture to ulcers, painful
 - Primary HSV: exposure w/o Abs: systemic s/s common (fever, malaise, h/a, myalgia, lymphadenopathy), lesions last up to three weeks
 - Secondary HSV: exposure w/ Abs: milder illness with less or no systemic symptoms; lesions last 7-10 days typically
- Diagnosis
 - Culture of lesion (best)
 - Serology for type specific antibodies
 - Tzanck smear for multinucleated giant cells (unreliable - 50%)
 - NO current rapid diagnostic kit for obstetrical decision making
- Treatment
 - **Acyclovir:** Systemic acyclovir >> topical acyclovir; acyclovir does not eradicate the latent virus
 - 1st episode
 - genital: acyclovir 200mg po 5Xs per day for 7-10 days
 - proctitis: acyclovir 400 mg po 5Xs per day for 7 - 10 days
 - Recurrence:
 - acyclovir 200mg po 5Xs/day for 5days
 - or 800mg po bid for 5 days
 - or 400mg po tid for 5 days
 - Suppression
 - reduces recurrences by 75% among pts w/ >6 recurrences per year but doesn't eliminate shedding
 - acyclovir 400 mg po bid
 - safe for up to 5yrs daily therapy
 - stop a/f 1yr to reassess recurrence rate
- HSV and Pregnancy
 - Obstetrical risks: miscarriage, IUGR, PTL, PROM
 - Neonatal transmission: **50%** if primary, **5%** if secondary
 - Neonatal risks: microcephaly, MR, SZ, encephalitis, hepatitis, lung, adrenal gland problems, eye/mouth/skin vessicles, death, microphthalmos
 - Best mx: careful vaginal inspection at time of delivery and C-section for active lesions (primary or secondary); breast feeding OK unless breast lesions



CHANCROID

- Epidemiology
 - Hemophilis ducreyi: gram -ve bacillus
 - Increasing incidence
 - Co-infection w/ HSV, syphilis, HIV (**must r/o HIV**)
- Clinical Manifestations
 - Pustule or papule that breaks to form an ulcer
 - Ulcer: usu painful, undermined edges, sharply demarcated, **necrotic** centre w/ purulent exudate, friable granulomatous base, “putty” like consistency
 - Painful inguinal nodes in 50% (BUBO) usu unilateral, may be suppurative
- Diagnosis
 - Exclude HSV, syphilis w/ appropriate tests
 - Clinically typical ulcers enough for dx/tx
 - Culture not commercially available: fastidious ∴ difficult to grow
 - Gram stain: gram -ve bacilli in parallel (“school of fish”)
- Treatment
 - Azithromycin 1 gm po X 1
 - Ceftriaxone 250 mg IM X 1
 - Alternatives: erythromycin, amoxicillin + clavulanic acid, cipro
 - Sex partner referral and treatment
 - HIV testing

SYPHILUS

- Introduction
 - Treponema pallidum (spirochete)
 - High prevalence with HIV (**must r/o HIV**)
 - Three presentations typical: ulcer, inguinal lymphadenopathy, rash
- Clinical Manifestations
 - Primary: painless ulcer that heals spontaneously in 5 days
 - Secondary: inguinal lymphadenopathy 4-5 weeks after ulcer, variable systemic illness, condyloma lata (flat warts); rash develops 6-20 wks after exposure, maculopapular, symmetric, palms and soles, serology +ve, scrapings show spirochetes; may have patchy alopecia, loss of lateral 1/3 of eyebrow
 - Latent: serologic evidence but no clinical manifestations
 - Tertiary: CV, neuro, gumma
- Diagnosis
 - Dark field microscopy (definitive)
 - Direct fluorescent antibody
 - Non-specific serology: VDRL, STS, RPR (screening only)
 - Treponemal specific serology: FTA-Ab, MHATP
 - Enzyme immunoassay
 - Western blot
 - PCR
 - *** add HIV testing ***
- Management
 - Early (primary, secondary, early latent) Benzathine PCN G 2.4 mU im or doxycycline for pen allergy
 - Late (late latent or tertiary) benzathine PCN G 2.4 mU im q1wk X 3
 - Follow serology titers for 3 months after primary and 6 months a/f



secondary

LYMPHOGRANULOMA VENEREUM (LGV)

- Chlamydia trachomatis
- Uncommon
- Small, shallow, painless, evanescent vesicle/pustule that ruptures to form ulcer
- Large inguinal lymphadenopathy (**groove sign**) may develop in 2-12 weeks
- Constitutional symptoms can occur
- Dx = serology (culture not usually available)
- Rx = doxycycline 100 mg po bid X 3 wks (Rx b/f serology returns); erythromycin alternative

GRANULOMA INGUINALE (DONOVANOSIS)

- Calymmatobacterium granulomata
- Uncommon
- Slowly eroding ulcer, “beefy” or “velvety” red ulcer with rolled border
- Subcutaneous granulomas (pseudobubos) may develop in groin
- Head and neck innoculation in 6%
- Dx = donovan bodies (monocytes around clusters of m/o that look like safety pins); many labs won’t recognize
- Rx = doxycycline 100mg po X healing time; sulpha alternative

COMPARE GENITAL ULCERS

HERPES

- Painful
- Shallow erosion
- Grouped vesicles on erythematous base
- Recurrence at same site (had 3Xs b/f at same site)
- Systemic illness w/ primary HSV
- NOT persistent

SYPHILIS

- Raised edges
- Clean base
- moderately deep

CHANCROID

(Chlamydia trachomatis)

- Painful
- flat
- undermined
- soft base
- very deep

GRANULOMA INGUINALE

(Donovanosis, Calymmatobacterium granulomatosis)

- painless
- raised and beefy red edges
- persistent
- Painless

LYMPHOGRANULOMA VENEREUM

(Chlamydia trachomatis)

- painless
- shallow erosions
- may be vesicular
- groove sign



GENITAL DISCHARGE

BACTERIAL VAGINOSIS

- Epidemiology
 - Most prevalent vaginal infection
 - Dysequilibrium syndrome: marked decrease in lactobacilli w/ replacement of mixed flora (*Gardnerella vaginalis*, anaerobes, *Mycoplasma hominis*)
 - *Gardnerella* is a marker and may or may NOT be present with BV; it is not the cause and is only predictive in 50%
- Clinical Manifestations
 - 50% asymptomatic
 - FISHY odor + thin, gray vaginal d/c
 - Associated complications
 - Obstetrics: PTL, PROM, fetal death
 - Gyne: PID, cuff cellulitis (top of vagina a/f hysterectomy), postabortal PID, post op infections
- Diagnosis
 - Gold standard is 3/4 composite clinical criteria
 - (1) Homogenous vaginal d/c
 - (2) Clue cells
 - (3) Elevated vaginal pH
 - (4) Whiff test (add 10% KOH , smell amines, can see w/ trich)
 - Epithelial cells > wbc.s on NS prep (BV rarely increases wbc.s, think ddx)
 - Gram stain
 - Culture not helpful
- Treatment
 - Metronidazole 500 mg po bid X 7days (NOT safe in pregnancy)
 - Alternatives: clindamycin 300 mg po bid X 7/7, clindamycin 2% cream 5g qid X 7days PV, metrogel 0.75% gel 5g bid X 5days PV (use in pregnancy)

CANDIDA

- Epidemiology
 - 75% of women at least once, 45% second episode
 - *C. albicans* in 90% (*C. glabrata*, *tropicalis*)
 - Predisposing factors: pregnancy, exogenous estrogen, antibiotics, douce, tight clothes, immunosuppression, diet, premenstrual, hypothyroid, zinc deficiency
 - Transmission: self inoculation, sexual transmission very MINOR role
- Clinical Manifestations
 - Puritis in 90%
 - Vaginal d/c: white, curdy
 - Dysuria, dyspareunia
 - Vaginal erythema in 20%



- Trush patches (satellites)
- Diagnosis
 - pH normal
 - Hyphae on NS or KOH slide
 - Stained smear
 - Culture rarely used unless recurrent infections
- Treatment
 - ONLY treat symptomatic pts, candida w/o s/s should not be treated
 - Topical azoles are the tx of choice
 - Miconazole 200 mg vag supp X 3days
 - Miconazole 100 mg vag supp X 7 days
 - Clotrimazole cream, Clotrimazole vag tab, Butoconazole cream, Tioconazole ointment, Terconazole cream and supp
 - Dyes: Gentian violet (effective, messy)
 - Polyenes: Nystatin (less effective)
 - Oral azoles
 - **Fluconazole** (diflucan) 150 mg po X 1(1st oral agent recently approved for oral treatment of vaginal candidiasis)
 - Ketoconazole, Itraconazole (HEPATOTOXICITY)
 - Effectiveness approximately equal to topical agents
- Special Considerations
 - Recurrent candidiasis (>3/yr) does NOT result from resistant yeast
 - Approach to recurrent candidiasis
 - Take culture to confirm dx
 - Identify and eliminate possible predisposing factors: DM, steroids, OCP, HRT, barrier contraceptives, douching, tight clothes, synthetic undies, antibiotics
 - Longer course of treatment, treat partner
 - GI colonization, underclothing as a resevoir
 - Diet, Zinc
 - Prophylactic maintenance treatment
 - Pregnancy, HIV (**must offer HIV testing**)
 - Investigations: CBC, HIV test, Fasting blood sugar, TSH

TRICHOMONAS

- Epidemiology
 - Sexual transmission
 - Nonsexual transmission rare but possible
 - Predisposing factors: menses, cervical mucorrhea, other vaginal conditions w/ increased pH, vaginal/cervical lesions, mature vag epithel
- Clinical Features



- Discharge: profuse, frothy, greenish, foul smell
- Pruritis
- Foul smell
- Dysparenia, dysuria
- Strawberry vagina (stippled, punctate vag mucosa or cervix b/c of punctate hemorrhages)
- Vaginal erythema
- 1/3 of asymptomatic women b/cm symptomatic w/i 6mo
- Relationship to PTL, PROM ????????
- Diagnosis
 - NS prep show trichomonads and wbcs (see 137-1)
 - pH > 5
 - Culture
 - Pap smear
- Treatment
 - Metronidazole 2 g po single dose (NOT in pregnancy)
 - Metronidazole 500 mg po bid X 7 days
 - Treat partner
 - Metronidazole may cause yeast infection ∴ think this if not “healing”
 - Metronidazole resistant trich can occur

METRONIDAZOLE

- Alcohol dehydrogenase inhibitor
- Must warn not to drink (antabuse!)
- Peripheral neuropathy
- Rx failure -----> think of candida superinfection b/c flagyl can lead to this

GONNORRHEA

- Clinical Manifestations
 - Asymptomatic 30%, cervicitis 30%, PID 30%, anorectal/pharyngeal 10%
 - Disseminated Gonococcal Infection: arthritis - dermatitis syndrome (arthritis, tenosynovitis, rash); immune and septic mechanisms
 - Can also cause epididymitis, prostatitis, proctitis. endocarditis, meningitis
 - Pregnancy risks: PTL, PROM, chorioamionitis, endometritis pp, ophthalmia neonatorum and sepsis (30% transmission rate)
 - Male: purulent d/c 2-7 days after exposure, dysuria



- Female: increased vag d/c, dysuria, scant vag bleeding 3 - 45 days after
- Diagnosis
 - Culture: Gonotest swab for culture (also do C&S swab)
 - Gram stain (gm -ve intracellular diplococci)
 - Other: Gonozyyme enzyme immunoassay, DNA probe, Gonostat, PCR
- Treatment
 - Table 137-3: cefixime, ceftriaxzone im, cipro, ofloxacin + doxycycline
 - Screen for syphilis w/ VDRL (dark field is diagnostic) and refer partner
 - MUST consider HIV, hepatitis testing; counsel re STDs, contraception, Px
 - Treatment of choice in Sask
cefixime 400mg po X 1 + Azithromycin 1g po X1
(50% coinfectd w/ clamylia)
 - Treatment of choice in Alberta
Ciprofloxacin 500mg po X 1 + Azithromycin 1g poX1

CHLAMYDIA TRACHOMATIS

- MC STD; obligate intracellular bacteria with viral properties
- Clinical Manifestations
 - Asymptomatic
 - Urethral syndrome
 - Endometritis, salpingitis
 - Pregnancy
 - risks: PTL, PROM, LBW babies
 - conjunctivitis
 - pneumonia
- Diagnosis
 - Culture: swab cervix to get CELLULAR material not the discharge. Swab requires cellular material to be sensitive
 - Gram Stain > 10 PMNs @ 1000 magnification
 - Other: PCR, DNA probes, enzyme assays, direct immunofluorescence
- Treatment
 - Many options: doxycycline, azithromax, ofloxacin, erythromycin,
 - VDRL screen and referral of partner
 - Treatment of choice in Sask....
Azithromycin 1gm po X 1 + Cipro 500 mg po X1 for GC



PELVIC INFLAMMATORY DISEASE (PID)

- Definition
 - spontaneous ascending reproductive tract infections in nonpregnant females
 - GC and Chlamydia are MC organisms (80%)
 - Other m/os: Ureoplasma urelyticum, Mycoplasma hominis, normal flora
 - Acute, subacute (intermittent), or chronic PID
 - Pathophysiology: inflammation of cervix, endometrium, myometrium, fallopian tubes, peritoneum
- Epidemiology
 - Dev'ps in 40% of nontreated GC or Chlamydia infxs
 - 10Xs more common for adolescent females than older females
 - Common: 10%, 75% are < 25yo
 - Risk: promiscuity, recent menses, abortion, trauma, IUD, BV, douching
- Complications
 - Adhesions: most common sequelae
 - Infertility: risk related to number, severity, and age of infection. Up to 15% subfertility after one infection
 - Fitz-Hugh-Curtis syndrome: perihepatitis with inflammation of liver capsule leading to adhesions (RUQ pleuritic pain, sharp, few weeks after PID)
 - Ectopic pregnancy: 10Xs risk a/f PID
 - Chronic pelvic pain: 15%
 - Recurrent PID: 25%
 - Pelvic abscesses
- History
 - Lower abdominal pain, usually bilateral but unilateral does not r/o dx
 - Increased vaginal discharge, pelvic pain, urethritis/dysuria typically starts 3 - 5 days after menstruation
 - Tenderness when walking or during intercourse
 - Systemic symptoms variable: chills/fever
 - Irregular bleeding 40%
 - May be more chronic: mild pelvi pain after intercourse, menstruation, trauma with no fever or physical findings
- Physical Examination
 - Abdominal tenderness — “essential” finding
 - Cervical Motion Tenderness — essential finding
 - Adnexal mass/tenderness — essential finding
 - Fever > 38 degrees
 - Purulent cervical d/c — confirmatory
- Laboratory/Investigations



- Leukocytosis, increased ESR or CRP
- Preg test: must do in any female w/ abd pain
- Culture: what is present in cervix does not necessarily represent what is present in upper genital tract. Treat b/f culture returns.
- Endometrial bx
- Ultrasound: not usu necessary unless suspecting abcess
- Laparoscopy: gold standard
- Diagnostic concerns: only 67% of suspected pts with PID actually had it; appendicitis vs PID can be difficult and U/S is NOT 100% accurate
- Management
 - Remember sex partner referral and treatment. Remember males often asymptomatic. Counsel re STDs, contraception, HIV testing suggested
 - Test of cure in 3/52
 - Outpatient treatment
 - **Ceftriaxone 250mg im X 1** (or cefoxitin 2gm im X 1 + probenecid 1gm po X1) PLUS **Doxycycline 100mg po bid X 14d**
 - Inpatient treatment
 - **Cefoxitin 2gm iv q6h**
 - **Doxycycline 100mg iv q12h until improved then follow with Doxycycline 100mg po bid X 14d**
 - Alternatives are clinda + gent
 - Reconsider dx if no improvement made in 48hr
 - Possible role of laparoscopy for lysis of adhesions, aspiration of TOA, irrigation
 - Indications for admission
 - uncertain dx: could be ectopic ∴ do not send home, tubo-ovarian abcess, pregnancy, adolescent, severe presentation, unable to tolerate outpatient tx or not responding, cannot follow up w/i 72hrs, can't take oral meds (N/V, ileus, peritonitis), noncompliant, HIV or immunodeficient, nulligravid b/c iv Rx treats faster to prevent scarring

OTHER GENITAL LESIONS

HUMAN PAPILLOMA VIRUS (HPV)

- Epidemiology
 - Most common STD
 - > 60 subtypes; > 20 infect LGT
 - High risk types: 16, 18, 31, 33, 35 associated w/ LGT neoplasia
 - Nonsexual transmission uncommon but possible
 - Genital warts in child is **sexual abuse UPO**
- Clinical Manifestations
 - Overt (minority): condylomata acuminata, flat warts

- Subclinical (majority): NO gross findings, evidence via cytology, PCR...
- Urethral involvement: dysuria with clear, mucoid d/c
- Ddx: condyloma lata (flat wart - like lesions of secondary syphilis - dark field)
- Treatment
 - NO therapy has been proven to eradicate HPV (cannot get rid of it) and recurrence is most likely due to reactivation not re-infection
 - Topical
 - Podofilox 0.5% solution bid for 3d (NOT in pregnant)
 - Podophyllin 10% in compound of tincture of benzoin
 - Trichloroacetic acid 90% (**only one approved in pregnancy**)
 - F/U with GP to ensure resolution
 - Mechanical
 - Cryotherapy
 - Electrodesiccation/cautery
 - CO2 laser (extensive warts)
 - Surgical excision (extensive warts)

BARTHOLIN CYST/ABCESS

- Bartholin gland: lubrication gland, duct opens on labial mucosal surface
- Bartholin cyst
 - Duct obstruction, cyst +/- inflammation
 - Relatively painless, nontender, ovoid lump just lateral to posterior fourchette (more painful if inflamed but then usu will present like abscess)
 - Sitz baths, with follow up
 - I&D if large
- Bartholin abscess
 - Inflammation and infection (GC, chlamydia, Ecoli, proteus)
 - Unilateral, painful, swelling at lateral vaginal opening
 - Pain with walking, sitting, squatting
 - Very tender ovoid mass with edema
 - May fluctuate in size, tenderness
 - I&D, penrose drain or catheter X24hr, sitz bath, look for concurrent urethral/vaginal/cervical infection which requires abx

