Sexually Transmitted Diseases

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Objectives

- Review the diagnosis and treatment of the following sexually transmitted diseases and conditions:
  - Herpes
  - Pelvic Inflammatory Disease
  - Syphilis
  - HIV/AIDS
  - Human Papilloma Virus
  - Infectious Vaginitis

History

- Detailed sexual history important
  - sexual practice affects the risk of infection
- Most infections require skin to skin contact or exchange of bodily fluids for transmission

Physical Examination

- Examine inguinal region for rashes, adenopathy, skin lesions
- Examine vulva for lesions and ulcerations
- Use speculum to examine cervix and vagina for discharge and lesions
- Palpate uterus and adnexa
  - Note presence of tenderness
  - Note masses in adnexa

Laboratory Testing

- Examine vaginal discharge if present
  - Wet Mount-saline mixed with vaginal discharge
  - Potassium hydroxide mixed with dried vaginal secretions
- Culture cervix for gonorrhea and chlamydia if patient is at high risk for these infections

STD

- Sexual partners of patients diagnosed with sexually transmitted diseases should be tested and treated to prevent reinfection
- Fifty percent of patients diagnosed with one sexually transmitted infection will have co-existing infections

Herpes Genitalis

- Herpes is very contagious
- 75% of sexual partners of infected individuals will contract the disease
- 85% of genital herpes is caused by the type 2 virus

Herpes Genitalis

- Clinical course
  - 2-5 days after infection patient experiences burning and tingling in vulva and vagina
  - 3-7 days after infection patient will develop very painful vesicular and ulcerated lesions
  - Many patients will have difficulty urinating because of the pain

Herpes Genitalis

- Primary infection
  - In addition to the painful lesions patients can develop malaise, fever, inguinal adenopathy
  - Aseptic meningitis may also develop one week after the lesions appear
    - Patients will have fever, headache and stiff neck
    - This resolves within one week without treatment

Herpes Genitalis

- Physical examination
  - Clear vesicles may be found
  - Vesicles burst and form shallow painful ulcers with a red border
  - Vesicles and ulcers may appear on vulva, vagina, cervix, buttocks

Herpes Genitalis

- Diagnosis
  - Mostly based on the typical history and physical findings
  - Patients with recurrent herpes will know themselves when they develop a recurrence based on the typical symptoms
  - Herpes virus is shed for three weeks after the lesions appear
    - lesions can be cultured for herpes

Herpes Genitalis

- Diagnosis
  - The lesions may be scraped and the scrapings stained
  - Under the microscope giant cells may be found which are characteristic of herpes infection

Herpes Genitalis

- Treatment
  - Treatment should be focused on the lesions themselves and the symptoms
  - Keep lesions clean and dry to avoid bacterial infection
  - Topical anesthetics such as lidocaine may help

Herpes Genitalis

- Treatment
  - Oral medications such as acyclovir only decrease the duration of symptoms
  - Oral medication must be started within 3 days of the start of symptoms to be effective
  - Oral medication can be used to reduce the chance of recurrent herpes in patients with frequent episodes

Herpes Genitalis

- Herpes and Pregnancy
  - If herpes lesions are present at the time of vaginal delivery, there is a 50% chance of transmission to the baby
  - Risk is lower for recurrent lesions
  - 80 % of babies infected with herpes at birth will die
  - Cesarean section recommended for patients who have active herpes lesions while in labor

Pelvic Inflammatory Disease (PID)

- PID is the infection of the upper female genital tract: uterus, fallopian tubes and ovaries
- Bacteria ascend to the upper genital tract through the cervix
- Most common organisms are *Nisseria Gonorrhea* and *Chlamydia Trachomatis*

Pelvic Inflammatory Disease (PID)

- In chlamydia infection it is more common to find pus coming from the cervix
- The cervical mucus resists spread of infection upward
  - Mucus is thicker in the second half of the menstrual cycle because of progesterone
  - Oral contraceptives make the mucus thicker which helps to reduce the chance for infection

Pelvic Inflammatory Disease (PID)

- Tubal ligation also protects against PID
- PID may involve infection of the endometrium or fallopian tubes and ovaries
  - Abscesses may form in the adnexa
- Other organisms, mostly anaerobic bacteria, infect the the tubes

Pelvic Inflammatory Disease

- Chlamydia
  - More common than Gonorrhea
  - Can cause chronic infections, chronic pelvic pain, infertility
  - Women with three or more sexual partners have a 5 times higher risk of infection
  - Mild cases may be asymptomatic yet lead to infertility or ectopic pregnancy from tubal damage

Pelvic Inflammatory Disease

- Chlamydia: Physical Findings
  - Cervicitis-mucopurulent cervical discharge
  - Culture from cervical secretions will confirm the diagnosis
  - Perihepatitis (Fitz-Hugh-Curtis syndrome) may develop after chlamydia or gonorrhea infections

Pelvic Inflammatory Disease

- Chlamydia-Treatment
  - Doxycycline-first choice
  - Erythromycin-second choice, also use in pregnant patients

Pelvic Inflammatory Disease

- Gonorrhea
  - Like chlamydia, gonorrhea may cause recurrent infections, pelvic pain and infertility
  - Infertility occurs in 15% of patients after a single episode of salpingitis
  - Gonorrhea may infect the pharynx or joints as well as the pelvic organs

Pelvic Inflammatory Disease

- Gonorrhea-symptoms
  - Malodorous, purulent discharge from the cervix, urethra, or anus
  - Bartholin's gland may also become infected
  - Gram's stain of cervical discharge will reveal intracellular diplococci
  - 15% of women with Gonorrhea infections will develop acute pelvic inflammatory disease (PID)

Pelvic Inflammatory Disease

- Clinical Criteria for PID diagnosis:
  - Tenderness (Require all 3 for diagnosis):
    - Direct abdominal
    - Adnexal
    - Cervical Motion
  - At least one of the following:
    - Positive Gram Stain of cervical pus
    - Temperature more than 38 degrees Celsius
    - White blood count more than 10,000
    - Pus on culdocentesis or laparoscopy
    - Abscess detected on pelvic exam or laparoscopy

Pelvic Inflammatory Disease

- Symptoms of PID are present in many other conditions making diagnosis difficult
- Appendicitis, endometriosis, corpus luteum bleeding, ectopic pregnancy all may have similar symptoms to PID

Pelvic Inflammatory Disease

- Treatment
  - Gonorrhea
    - Ceftriaxone 125 mg intra-muscularly
    - Oflaxacin 400 mg orally
    - Treat for chlamydia at same time
  - PID
    - Cefoxitin/cefotetan plus doxycycline
    - Clindamycin plus gentamycin
    - Ceftriaxone and doxycycline

Tuberculosis

- Genital tuberculosis results from spread via bloodstream or lymphatics
- Initially involves the fallopian tubes, spread to ovaries and endometrium in 30-50% of cases
- Diagnosis by biopsy and culture of endometrium
- Treat with anti-tuberculosis drugs
- Surgery required if abscess forms or disease is persistent

Human Papillomavirus (HPV)

- Virus is very common (5% of women have active infections)
- Causes growths/warts(condyloma accuminata) on vulva, cervix, perineum, anus
- Patients with certain HPV subtypes (16, 18, 31 and 45) are at risk for developing cervical cancer

Human Papillomavirus (HPV)

- Treatment
  - Podophyllin 25% (not in pregnancy)
  - Trichloroacetic acid
  - Excision

Syphilis

- Caused by the spirochete *Treponema Pallidum*
- Infects the vulva, vagina and cervix
- Primary syphilis: 10-60 days after infection a painless ulcer (chancre) forms
- Secondary syphilis: occurs4-8 weeks after the primary chancre appears

Syphilis

- Secondary syphilis
  - occurs 4-8 weeks after the primary chancre appears
  - Characterized by fever, headache, malaise, sore throat, anorexia, swollen lymph nodes, diffuse symmetric maculopapular rash
    - rash may occur on palms and soles
  - Condyloma lata form-flat topped and broad based lesions

Syphilis

- Late disease
  - Damage may occur to the central nervous system, heart or great vessels
  - Gummas develop: destructive, necrotic and granulomatous lesions

Syphilis

- Diagnosis
  - Examination of aspirated material from primary or secondary lesions on darkfield microscopy
  - Serum testing-VDRL or RPR tests
- Treatment
  - Penicillin
  - Follow VDRL titers

AIDS

- Caused by human immunodeficiency virus (HIV)
- Spread by:
  - Sexual contact
  - Perinatal transmission from mother to child
  - Use of contaminated needles or blood products
- Diagnosis: serum antibody testing
- Treatment: multiple anti-retroviral drugs (when available)

AIDS

- Gynecologic disorders associated with AIDS
  - Cervical dysplasia and cancer
  - Vulvar dysplasia and cancer
- Perinatal transmission can be reduced by treating with AZT during pregnancy
  - Cesarean section also reduces risk of transmission

Vaginitis

- Symptoms
  - Vaginal discharge, itching, painful urination
- Causes
  - Yeast infection, trichomonas, bacterial vaginosis

Vaginitis

- Diagnosis
  - Examine vaginal discharge
    - Yeast infections-white clumped discharge, pH of vaginal normal (4)
    - Trichomonas- Copious, frothy green discharge, pH of vagina high (greater than 5)
    - Bacterial Vaginosis-White, thin discharge, fishy odor when potassium hydroxide is added, pH high (greater than 5)

Vaginitis

- Diagnosis
  - Microscopy
    - Yeast infection: Pseudohyphae
    - Trichomonas: Motile forms on wet mount slide
    - Bacterial vaginosis: Bacterial stuck to epithelial cells on wet mount slide (clue cells)

Vaginitis

- Treatment
  - Yeast infections
    - Topical antifungal cream in vagina
  - Trichomonas
    - Oral metronidazole (2 grams one dose)
    - Treat sexual partner as well
  - Bacterial Vaginosis
    - Oral metronidazole (500 milligrams twice a day for one week)