PID

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Vag Discharge Syndrome

• Is a complex mixed clinical entity that encompasses normal physiology and pathological manifestation
• Often presents as “mixed” clinical picture
• Good clinical history of symptoms, physical exam, lab investigations if available testing facilities
Physiology of Vag Discharge

What controls contents of vaginal environment in a woman of reproductive age?

Micro-environment vagina-cervical compartment is controlled by lactobacillus species to maintain ph acid <4.5)
CAUSES OF PHYSIOLOGICAL DISCHARGE

• Menstruation
• Sexual activity
• Pregnancy/lactation
• Hormonal contraception
Anatomic Origin of vaginal discharge

• Uterine (endometritis, PID)
• Cervical (Gonococcal, chlamydial, cervicitis, cervical warts, cervical ulcers from herpes, chandroid, ICC
• Vaginal (trichomoniasis, candida and gardnerella vaginitis, foreign body)
Vaginal Discharge

Inflammation of vagina (Vaginitis) is by far more common cause of symptomatic vag discharge than inflammation of cervix (cervicitis)

Cervicitis has more serious outcome from GC or Chlamydia

Absolutely essential to differentiate between vaginal discharge from cervix compared to vaginal origin
Vaginal Discharge and STI

• What is the prevalence of STI (HIV, GC, CT, TV, Syphilis) among women presenting with abnormal vaginal discharge
• How much does Candida albicans and BV contribute to this prevalence in abnormal discharge?
• Candidiasis and BV are not necessarily STI but associated with sexual intercourse
Cervicitis

- Anatomically, the cervix has 2 distinct portions namely ectocervix that merges into upper vaginal wall and endocervix that merges into endometrial gland lining
- Cervicitis is inflammation of endocervical mucosa
- Most commonly caused by an STI
Cervicitis

- C. trachomatis and N. gonorrhoeae cause muco-purelent discharge
- Herpes simples virus and T. vaginalis cause an ectocervicitis
- ICC, foreign body, trauma, other viral infections, schistosomiasis are less frequent causes
Complications of cervical infections

• Cervix is entry to upper genital tract (normally sterile if there is no anatomic disruption)
• Can result in ascending infection  PID
• Neonatal infection (CT, GC, Herpes)
• Reinfection of original partner or new partner
• Disseminated GC
Gonorrhoea in F

• 5-10 days incubation (20-40% sub-clinical)
• Cervicitis, urethritis, pharyngitis, conjunctivitis and proctitisymptomatic
• Gonococcal cervicitis is often asymptomatic
• Neisseria gonorrhoea is gram neg diplococci under the microscope
Chlamydia

- Typically presents as muco-purelent discharge, in a cervix that exhibits contact bleeding and has oedema
- 1-3 weeks incubation, often subclinical
- Is an intracellular bacterium detected by DNA methods
PID

• Is an upper genital tract infection (endometritis, salpingitis, oophoritis and/or pelvic peritonitis)

• The infection occurs from ascending genital infection unrelated to child birth or surgical manipulations

• Clinically divided into sub-clinical, mild (most cases) severe
PID

• Complications of untreated PID include:
• Pelvic abscess, severe peritonitis
• Infertility from blocked fallopian tubes and pelvic adhesions
• Chronic pelvic pain and dysparunia
• Ectopic pregnancy that can rupture and cause death
Aetiology of PID

- GC and CT are the most common aetiologicaal agents
- Several other anaerobic bacterial species found in vagina (bacteriodes, anaerobic Gm positive cocci, E.coli, facultative Gm neg rods and Mycoplasma hominis) are usually accompanying pathogens
- Typically a woman with PID has 2 or more of these pathogens
PID

- Because the infection is often of mixed pathogens that we may not be able to detect precise microbiological species, a broad spectrum of antibiotics is cornerstone to managing these women
Clinical Features of PID

• LAP is common presentation that must be differentiated from women with ectopic pregnancy, appendecitis or complications of pregnancy like miscarriage

• Dyspareunia

• Vaginal discharge

• Abnormal Uterine bleeding

• Others (fever, nausea/vomiting)
PID

• Clinical symptoms and signs are variable and therefore a good history and physical exam are critical in making a correct DX
• LAP, cervical exitation tenderness, adnexae tenderness, rebound tenderness may be present in a woman with abnormal vaginal discharge
• Adnexae/pelvic mass that is tender may be a significant finding
PID

• All patients with severe PID must be hospitalized to allow IV antibiotic therapy and response to treatment (Temp chart and clinical response of lower/pelvic exam)

• In general, clinicians would rather over treat than under treat women suspected to have PID
PID in HIV positive

• Several studies have found an increase in seroprevalence of HIV in hospitalized PID patients.

• Clinical presentation is observed to be more severe in HIV positive compared to HIV negative (Cohen 1998, Kenyan study) particularly with lower WBC count.
• Tubo-ovarian abscess, CMV, TB, TV are reported in African studies to be more common in HIV infected women (Margolis Cape Town 1992, Moodley Durban 2002).
• Microbiology of infection and response to standard AB regimens are similar to HIV uninfected women.

• CDC recommends aggressive parenteral regimen when managing HIV infected women with PID.
Summary of gynaecological problems that manifest among HIV infected women.

- Abnormal uterine bleeding
- Genital ulcer disease
- Cervico-vaginal discharge
- P.I.D
- HPV infections (cervix, vagina, vulva, peri-anal)
Abnormal uterine bleeding

• A normal menstrual period occurs every 21 to 35 days lasting between 2 to 6 days with 20 – 60ml average blood loss (>80ml results in anaemia)

• Menstrual disorders are frequently reported among HIV positive women, but no controlled studies have come out with definitive disorder in hypothalamus – pituitary – ovarian pathway.
Menstrual disorders in the setting of HIV infection maybe related to confounding variables like:

- Weight loss
- Chronic disease
- Contraceptive use particularly progesterone like derivatives

- Steroidal contraceptive interactions with drugs that alter liver metabolism via cytochrome P450.
Cervico-Vaginal Discharge

DDX

- Bacterial vaginosis
- Vulva-vagina candidiasis
- Trichomonas vaginalis
- Gonorrhoea/chlamydia
BV Diagnostic criteria

- Homogeneous greyish discharge
- Clue cells on microscopic exam
- Ph > 4.5
- Positive whiff test
**Vulvo-vagina candidiasis**

- Pruiritis, vaginal soreness, dyspareunia, external dysuria.
- Thick, whitish discharge

**T. Vaginalis**

Vulvar irritation, dyspareunia, dysuria

- Profuse, frothy, yellow-green discharge
Gonorrhoea and chlamydia trachomatis

= colonizes endocervix, urethra, rectum, pharynx.

= should be sampled for culture or DNA probe testing, PCR, LCR.

= 10 to 20% develop PID if untreated.
Probability of HIV Transmission per Coital Act in Monogamous, Heterosexual, HIV-Discordant Couples in Rakai, Uganda

- No Genital Ulcer Disease
- Genital Ulcer Disease

Source: Gray et al., *Lancet* 2001;257:1149