

SEXUALLY TRANSMITTED INFECTIONS - II

Congenital Syphilis

- Congenital syphilis syphilis present *in utero* & at birth
- Prevention: VDRL at antenatal visit & treatment with penicillin G
- Transmission across placenta to foetus occurs at any stage of pregnancy
- Foetal damage does not occur until after fourth month
- Early: birth to 2 years of age
- Late: after 2 years of age
- Stigmata



Early congenital syphilis

- Asymptomatic; only identified on routine antenatal screening
- Poor feeding & rhinorrhea (snuffles) profuse serous discharge old man with a cold in head
- Hepatosplenomegaly, skeletal abnormalities, pneumonia & vesicobullous lesions known as 'pemphigus syphiliticus'

Late congenital syphilis

- Subclinical in about 60% of cases
- Interstitial keratitis (occurs at 5–25 years of age), eighth-nerve deafness & recurrent arthropathy
- Bilateral knee effusions are known as *Clutton's joints*
- Asymptomatic neurosyphilis in about one-third of untreated patients; clinical neurosyphilis occurs in one-quarter of untreated individuals >6 years age



Classic Stigmata

- Hutchinson's teeth centrally notched, widely spaced, peg-shaped upper central incisors
- Mulberry molars molars with multiple, poorly developed cusps
- Saddle nose
- Saber shins

Treatment

• Penicillin G



Chancroid / Soft chancre / Ducrey's disease

- Acute, autoinoculable STI
- Etiologic agent: Gram negative facultative, anaerobic bacillus *Haemophilus ducreyi*
- "School of fish" or "rail road track" appearance
- Age group: 20-30 years
- Males affected more commonly

- Incubation period- 3-10 days
- Sites: Frenum, prepuce, coronal sulcus in male and vulva, vestibule in females
- Painful genital ulcers, non-indurated (soft chancre/soft sore), bleed on touch
- Edema of prepuce
- Tender inguinal lymphadenopathy (unilateral in majority), sometimes suppurative



- Microscopy:
- Gram stain low sensitivity
- Culture < 80% sensitivity
- Molecular techniques- PCR

Treatment (CDC)

Recommended regimen

Azithromycin 1 g orally single dose

or

Ceftriaxone 250 mg IM in a single dose

or

Ciprofloxacin 500 mg twice daily x 3 days

or

Erythromycin base 500 mg orally three times a day x 7 days



Lymphogranuloma Venereum (LGV)

- Also k/a tropical bubo or lymphogranuloma inguinale
- Caused by Chlamydia trachomatis serovars L1, L2 & L3
- Incubation period 3-12 days

Pathogenesis

- Enters through skin abrasions or mucous membranes → via the lymphatics → multiply within mononuclear phagocytes in regional nodes
- Thrombolymphangitis & perilymphangitis occur
- Necrosis & the formation of stellate abscesses
- Fistulae & sinus tract formation; may be f/b healing with fibrosis



Clinical features

Primary stage (Genital)

- Superficial ulceration, which looks like herpes, is temporary and heals without scarring
- It may not be noticed (GUD with no ulcer)

Clinical features

Inguinal syndrome (Secondary stage)

- Most common manifestation: bubo
- Occurs 2-6 weeks later
- More common in males
- Painful inguinal lymphadenitis with associated constitutional symptoms
- Enlargement of the femoral & inguinal lymph nodes separated by the inguinal ligament "groove sign of Greenblatt"
- Suppuration and sinus formation



Clinical features

Genital syndrome (Tertiary stage)

- May occur many years later
- Results from fibrosis & lymphatic obstruction
- Penile and scrotal elephantiasis
- Females-elephantiasis of the vulva and clitoris
- Fistulae, chronic ulceration, scarring & deformity

- Late complications include rectal strictures, chronic rectovaginal & urethral fistulae
- May predispose to malignant change



- Diagnostic method of choice is by nucleic acid amplification tests (NAAT) & confirmation by PCR assays for LGV-specific DNA
- Serology:
 - Complement fixation test lack sensitivity / specificity
 - Microimmunofluorescent (MIF) antibody testing to the L-serovar
- Frei intradermal test historical interest only; based on positive hypersensitivity reaction

Treatment

- Recommended regimen
 Doxycycline 100 mg twice daily for 21 days
- Alternative regimen
 Erythromycin base 500 mg four times daily for 21 days



Granuloma inguinale / Donovanosis

Chronic, destructive, granulomatous STI caused by Gram negative organism *Calymmatobacterium* (*Klebsiella*) *granulomatis*

- Incubation period: Not precisely known; about 50 days in human experimental inoculation studies
- The organism occurs inside large vacuolated histiocytes in the form of "closed safety pin"

- Initial lesion a papule or subcutaneous nodule that ulcerates
- Leads to large beefy-red, non-tender granulomatous ulcers that bleed easily & gradually extend
- Secondary infection result in necrotic, foulsmelling, deep ulcers
- May be followed by pseudo-elephantiasis



Microscopy:

- Giemsa or Leishman's stain (crush smear from ulcer) for Donovan bodies
- Clusters of blue-to-black organisms that resemble 'safety pins' within the vacuoles of enlarged macrophages

Treatment

Recommended regimen

Azithromycin 1 g orally once per week or 500 mg daily for at least 3 weeks and until all lesions have completely healed

Alternative regimens

Doxycycline 100 mg orally twice a day

OR Ciprofloxacin 750 mg orally twice a day

OR Erythromycin base 500 mg orally 4 times a day

OR Trimethoprim-sulfamethoxazole one DS (160/800 mg) wtablet orally twice a day



Herpes genitalis

- Organism-Herpes simplex virus (HSV-2, HSV-1)
- Incubation period: 2 days 2 weeks
- Primary episode: classically a group of vesicular lesions leading to discrete multiple painful ulcers
- Penile ulceration are most frequent on the glans, prepuce and shaft of the penis
- Painful & last for 2–3 weeks if untreated

- In the female, similar lesions occur on the external genitalia and mucosa of the vulva, vagina & cervix
- Pain and dysuria are common
- First episodes are usually more severe than recurrences



- Microscopy
 Tzanck smear nonspecific, multinucleate giant cells
- Culture from vesicle fluid
- Detection of viral antigen by immunofluorescence
- PCR for HSV DNA

Treatment

• First episode

Acyclovir 400 mg orally three times a day for 7-10 days

Or

Acyclovir 200 mg orally 5 times a day

Or

Valacyclovir 1 g orally twice a day

Or

Famciclovir 250 mg orally three times a day



Episodic therapy for recurrence

Acyclovir 400 mg orally three times a day for 5 days Or

Valcyclovir 500 mg orally twice a day for 3 days

Suppressive therapy for recurrence

Acyclovir 400 mg orally twice a day

Or

Valcyclovir 500 mg orally



Urethritis

- Characterized by findings of PMN leucocytes in urethral smear or sediment in the first void urine
- Gonococcal
- Nongonococcal

Gonorrhea

- Gonorrhea means "Flow of seed"
- Albert Neisser identified the organism in 1879
- Neisseria gonorrheae Gram negative encapsulated aerobic diplococcus with pili
- Incubation period- 2-5 days



- Acute catarrhal inflammation of genital mucosa
- Men Inflammation of penile urethra- urethritis
- Burning sensation, dysuria, discharge yellow, thick purulent discharge
- Females 50% may be asymptomatic- cervix infection
- Lower abdominal pain, vaginal discharge or dyspareunia
- Throat infection due to oral sex on an infected partner- usually asymptomatic; may cause sore throat

- May spread in ascending manner, causing prostatitis, epididymitis, salpingo-oophoritis, PID, later infertility
- DGI- pain and swelling in or around one or several joints, fever and chills and skin lesions
- Ophthalmia neonatorum due to infected birth canal during childbirth



- Gram-stained smear PMNs with intra/extracellular G negative diplococci
- Culture Thayer-Martin medium
- Blood culture DGI, septicemic

Treatment

• Recommended regimen

Ceftriaxone 250 mg IM in a single dose PLUS

Azithromycin 1 g orally in a single dose

Alternative regimen

Cefixime 400 mg orally in a single dose

PLUS

Azithromycin 1 g orally in a single dose



Nongonococcal Urethritis

Usual causative organisms:

- Chlamydia trachomatis
- Mycoplasma hominis
- Ureaplasma urealyticum
- Trichomonas vaginalis
- May co-exist with gonococcal infection

- Dysuria with odorless, mucoid, scanty discharge
- No diplococci but abundant PMNs
- > 5 pus cells / oil immersion field



Treatment

Azithromycin 1 g orally in a single dose Or

Doxycycline 100 mg orally twice a day for 7 days

WITH (for *Trichomonas*)

Metronidazole 2 g orally in a single dose

Or

Tinidazole 2 g orally in a single dose

Vaginitis

Etiology

- Candida albicans and other species of candida
- Trichomonas vaginalis
- Bacterial vaginosis



Candidal vulvovaginitis

- Normal flora of skin & vagina symptoms d/t
 excessive growth of the yeast
- Balanoposthitis in males
- Risk factors: Pregnancy, DM, HIV infection / AIDS, repeated courses of broad-spectrum antibiotics, corticosteroids
- Most cases caused by *C. albicans*, others by nonalbicans sps e.g., glabrata

- Pruritus, frequency & burning micturition
- Dyspareunia
- Thick curdy white discharge
- Pre-menstrual flare
- Examination reveals thick cheesy plaques



- 10% KOH mount: Pseudohyphae with budding yeasts seen
- Vaginal pH is normal (4-4.5)

Treatment

- Uncomplicated vaginal candidiasis
- OTC intravaginal agents
- Clotrimazole 1% cream 5 g intravaginally daily for 7-14 days
- Or Miconazole 200 mg vaginal suppository one suppository for 3 days
- Or Tioconazole 6.5% ointment 5 g intravaginally in a single application
- Oral agent

Fluconazole 150 mg orally in single dose



Trichomoniasis

- Caused by *Trichomonas vaginalis* a flagellated anaerobic protozoan
- Itching / burning sensation with dyspareunia & dysuria in females
- Frothy, foul-smelling yellowish-green vaginal discharge
- 'Strawberry cervix' petechiae on cervix
- May also cause upto 11-13% cases of NGU in males – usually asymptomatic

Investigations

- Saline wet mount: motile trichomonads in vaginal discharge
- Vaginal pH >4.5



Treatment

Recommended regimen
 Metronidazole 2 g orally in a single dose
 Or

Tinidazole 2 g orally in a single dose

Bacterial vaginosis

- A disturbance in vaginal microbial ecosystem
- Caused by a mixed flora *Gardnerella* (*Haemophilus*) *vaginalis*, *Mycoplasma hominis* and anaerobes
- Causes grey, homogenous discharge with characteristic fishy odour
- Pruritus not prominent



Diagnosis

- 'Clue cells' vaginal epithelial cells coated with *Gardnerella vaginalis* (at least 20%)
- Whiff test: fishy odour on adding KOH
- Vaginal pH >4.5

Treatment

Recommended regimen

Metronidazole 500 mg orally twice a day for 7 days OR

Metronidazole gel 0.75%, one applicator (5 g) intravaginally, once a day for 7 days

OR

Clindamycin cream 2%, one applicator (5 g) intravaginally at bedtime for 7 days



Syndromic Management

- Use of clinical algorithms based on an STI syndrome, the constellation of patient symptoms and clinical signs, to determine therapy
- Antimicrobial agents are chosen to cover the major pathogens responsible for the particular syndromes in a geographic area

Essential Components

- Syndromic Diagnosis and Treatment
- Education on Risk reduction
- Condom Promotion
- Partner Notification
- Counseling
- Follow-up

Each component is important for control



Advantages

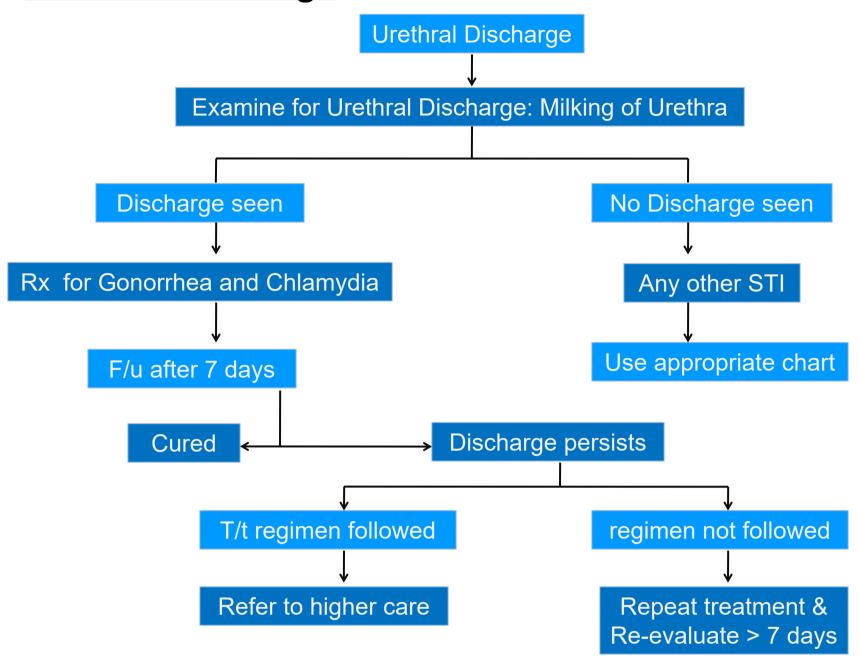
- Simple, inexpensive, rapid and implemented on large scale
- Requires minimum training and used by broad range of health providers

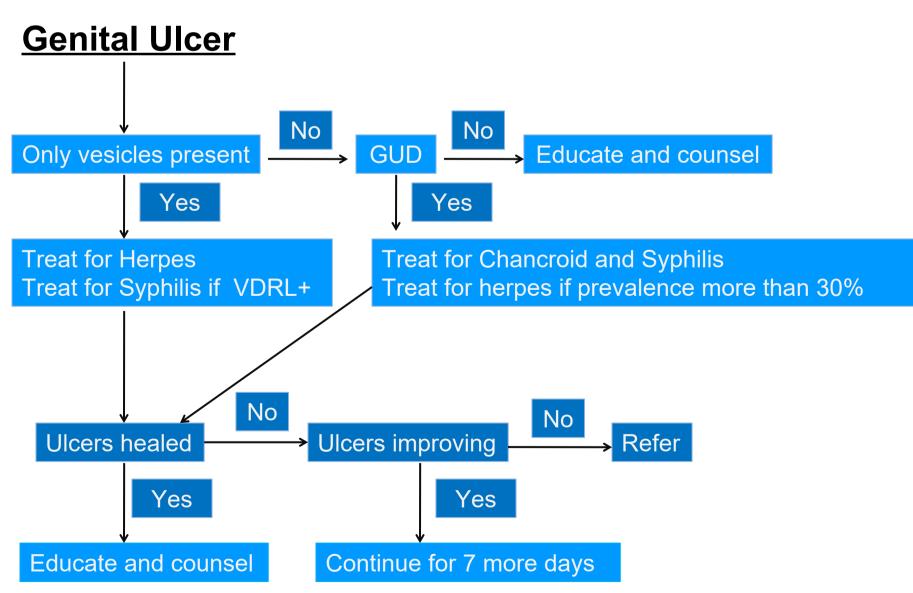
Disadvantages

- Algorithm for vaginal discharge has limitations e.g., in cases of cervicitis (*Chlamydia* / gonococci)
- Over diagnosis and over Rx (multiple antimicrobials for single infection)
- Selection of resistant pathogens
- Does not address subclinical STI



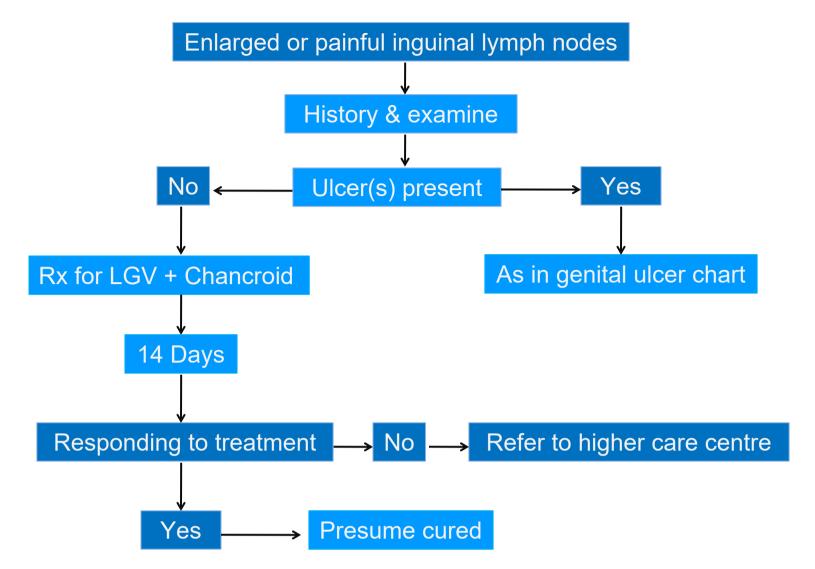
<u>Urethral Discharge</u>

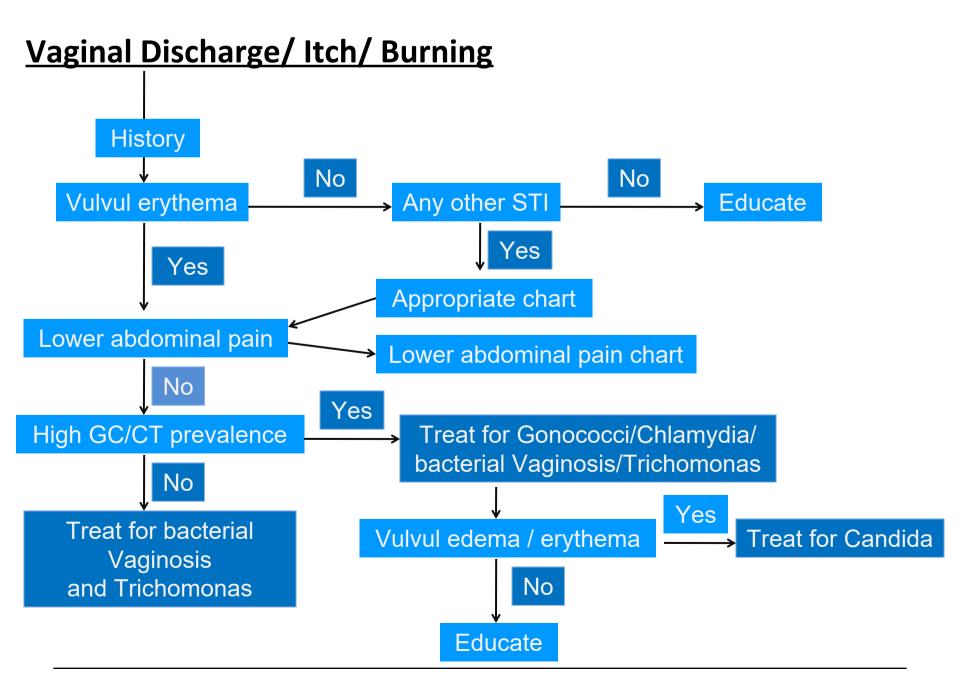






Inguinal Bubo







Thank you

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