

Sexually Transmitted Infections – II; NACO Guidelines for STIs

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 in Gram stained smears
- Age group: 20-30 years
- Males affected more commonly

Clinical features

- Incubation period- 3-10 days
- Sites: Frenulum, 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

Investigations

- Microscopy:
- Gram stain – low sensitivity; may show classic appearance
- Culture - < 80% sensitivity
- Molecular techniques- PCR

Treatment

- 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 or Durand-Nicolas-Favre disease
- Caused by *Chlamydia trachomatis* serovars L1, L2 & L3
- Incubation period – 3-12 days
- Males in age group – 20-30 years

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 - u/l or b/l
- 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

Anorectal 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

Clinical features

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

Investigations

- 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 / venereum

- Chronic, destructive, granulomatous STI caused by Gram negative organism *Klebsiella (Calymmatobacterium) granulomatis*
- Also k/a donovanosis
- 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”

Clinical Features

- 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, foul-smelling, deep ulcers
- May be followed by pseudo-elephantiasis

Investigations

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

Doxycycline 100 mg orally twice a day for 3 weeks and until all lesions have completely healed

- Alternative regimens

OR Azithromycin 1 g orally once per week

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) tablet 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

Clinical features

- 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

Investigations

- 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

Valacyclovir 1 g orally once a day for 5 days

Or

Famciclovir 1 g orally twice a day for 1 day

Suppressive therapy for recurrence

If > 6 episodes/year

Acyclovir 400 mg orally twice a day

Or

Valcyclovir 500 mg or 1 g orally once daily

Or

Famciclovir 250 mg orally twice a day

Urethritis

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

Gonorrhea

- Gonorrhea - means “flow of seed”
- Albert Neisser identified the organism in 1879
- *Neisseria gonorrhoeae* - Gram negative encapsulated aerobic diplococcus with pili
- Incubation period- 2-5 days

Clinical features

- Acute catarrhal inflammation of genital mucosa
- Men – Acute 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

Investigations

- Gram-stained smear – PMNs with intracellular G negative diplococci
- Culture – Thayer-Martin, Chacko-Nair medium
- Ligase chain reaction – 97% sensitivity
- Blood culture – DGI, septicemic

Treatment

- Recommended regimen

Ceftriaxone 250 mg IM in a single dose OR

Cefixime 400 mg orally in a single dose

PLUS

Azithromycin 1 g orally in a single dose OR

Doxycycline 100 mg twice a day x 7 days

Nongonococcal Urethritis

Usual causative organisms:

- *Chlamydia trachomatis* [B,D,E,G,H,I,J,K]
- *Mycoplasma genitalium*
- *Ureaplasma urealyticum*
- *Trichomonas vaginalis*
- May co-exist with gonococcal infection

Clinical features

- 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 non-*albicans* sps e.g., *C. glabrata*

Clinical features

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

Investigations

- 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

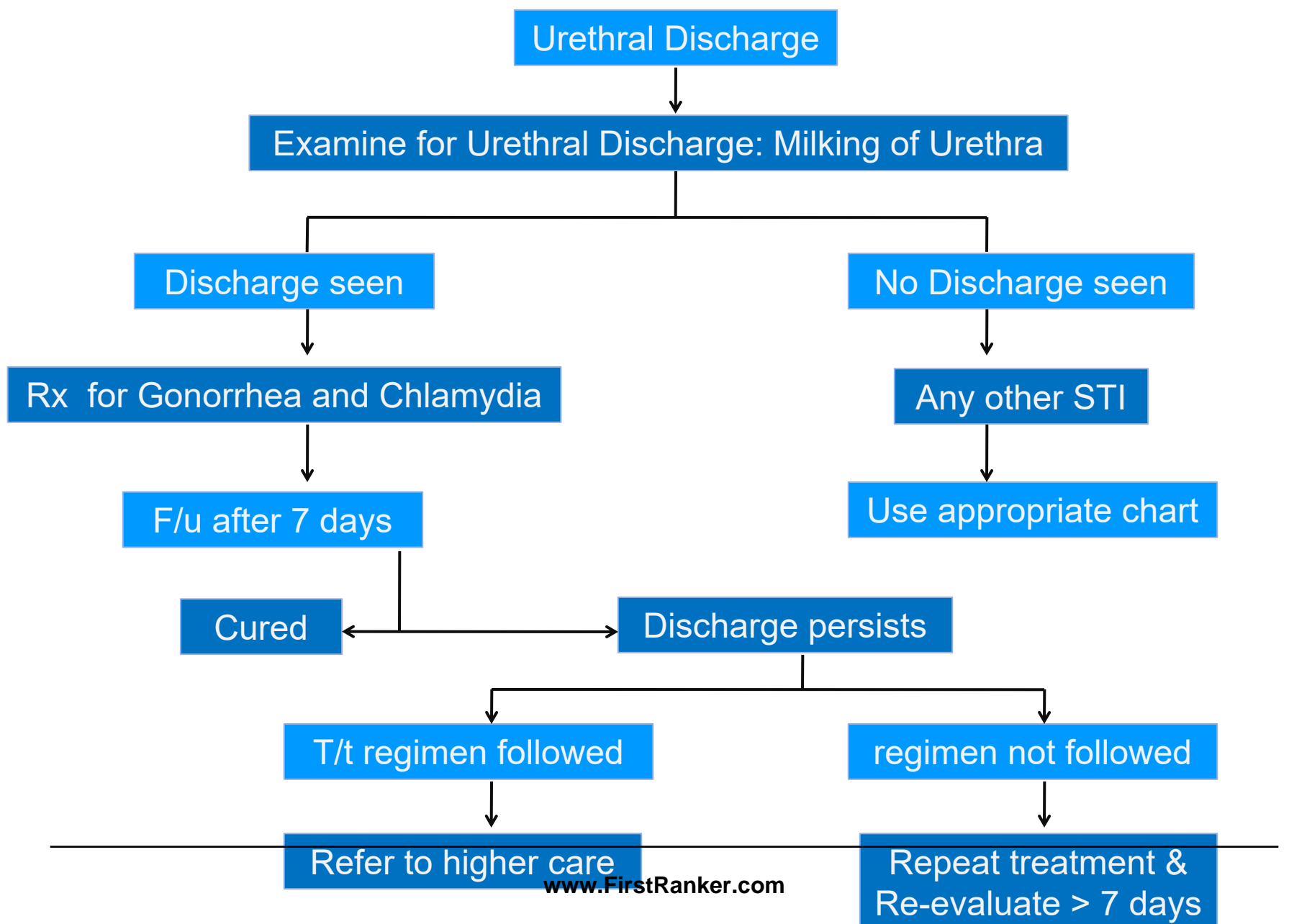
Advantages

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

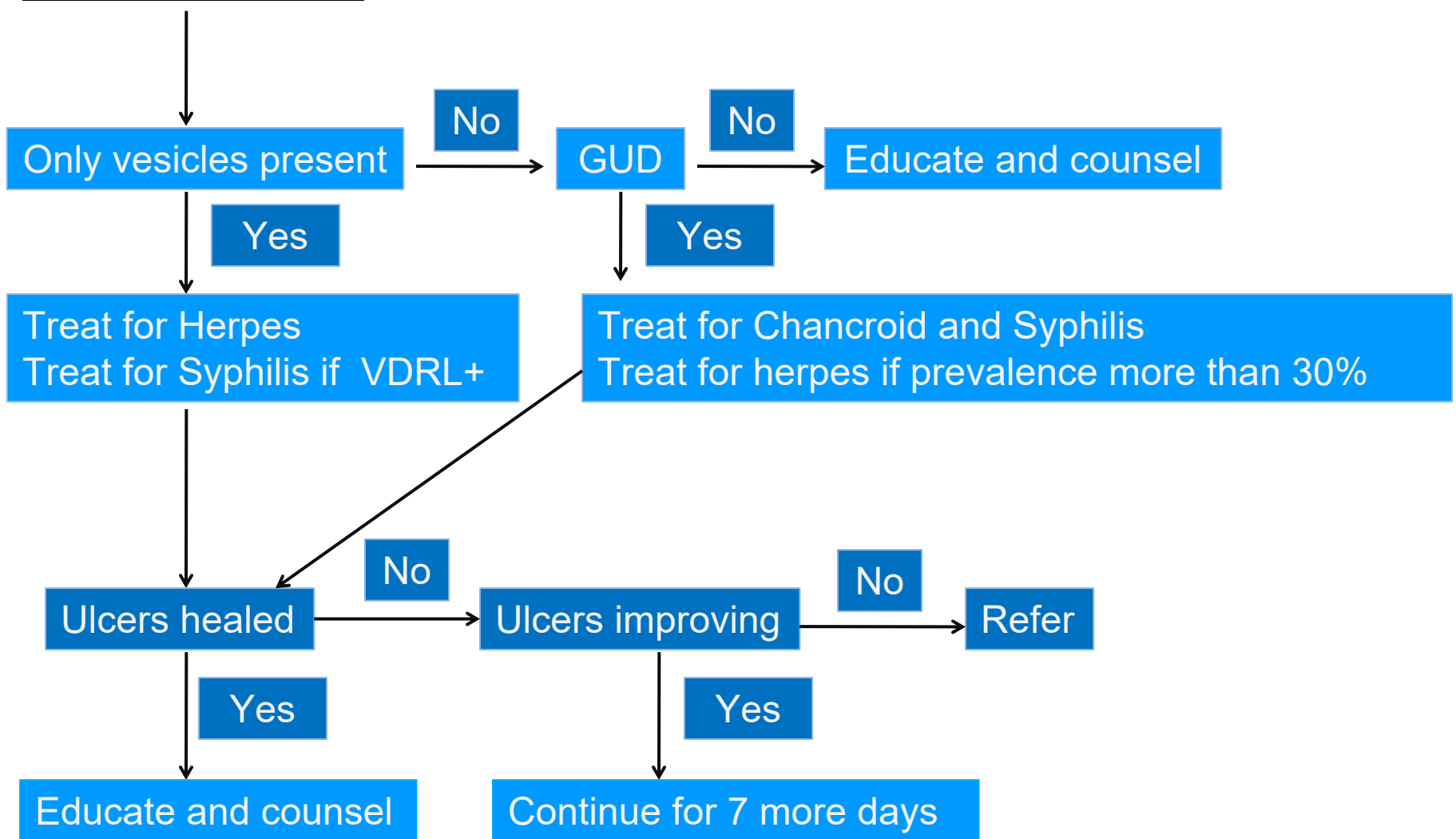
Disadvantages

- Over diagnosis and over Rx (multiple antimicrobials for single infection)
- Selection of resistant pathogens
- Does not address subclinical STI

Urethral Discharge



Genital Ulcer



Inguinal Bubo

