

Sexually transmitted diseases

Dr. Lubna Hani Masaadeh

- The patient's confidentiality is paramount and patient details are not given to other patients or other healthcare professionals without the patient's informed consent. Sexual history taking should take place in a private environment.
- If a patient has an STI, at least one other person is also carrying it and needs to be sought, treated and contact traced.
- If a patient has one STI, she must be at risk of all other STIs. She should therefore be offered screening for all other infections.
- When swabs for STI are taken, it is important to obtain informed consent about the nature of the tests and explain what the follow-up procedure will be if the test is positive for an STI.
- Patients diagnosed with an STI should be advised not to have sexual intercourse until they and their partners have completed treatment and follow-up. This is to minimize further spread or reinfection.
- Patients should be given a detailed account of their condition, with particular emphasis on the long-term implications for themselves and their partner(s).



Chlamydia

Gonorrhea

Genital warts

Molluscum contagiosum

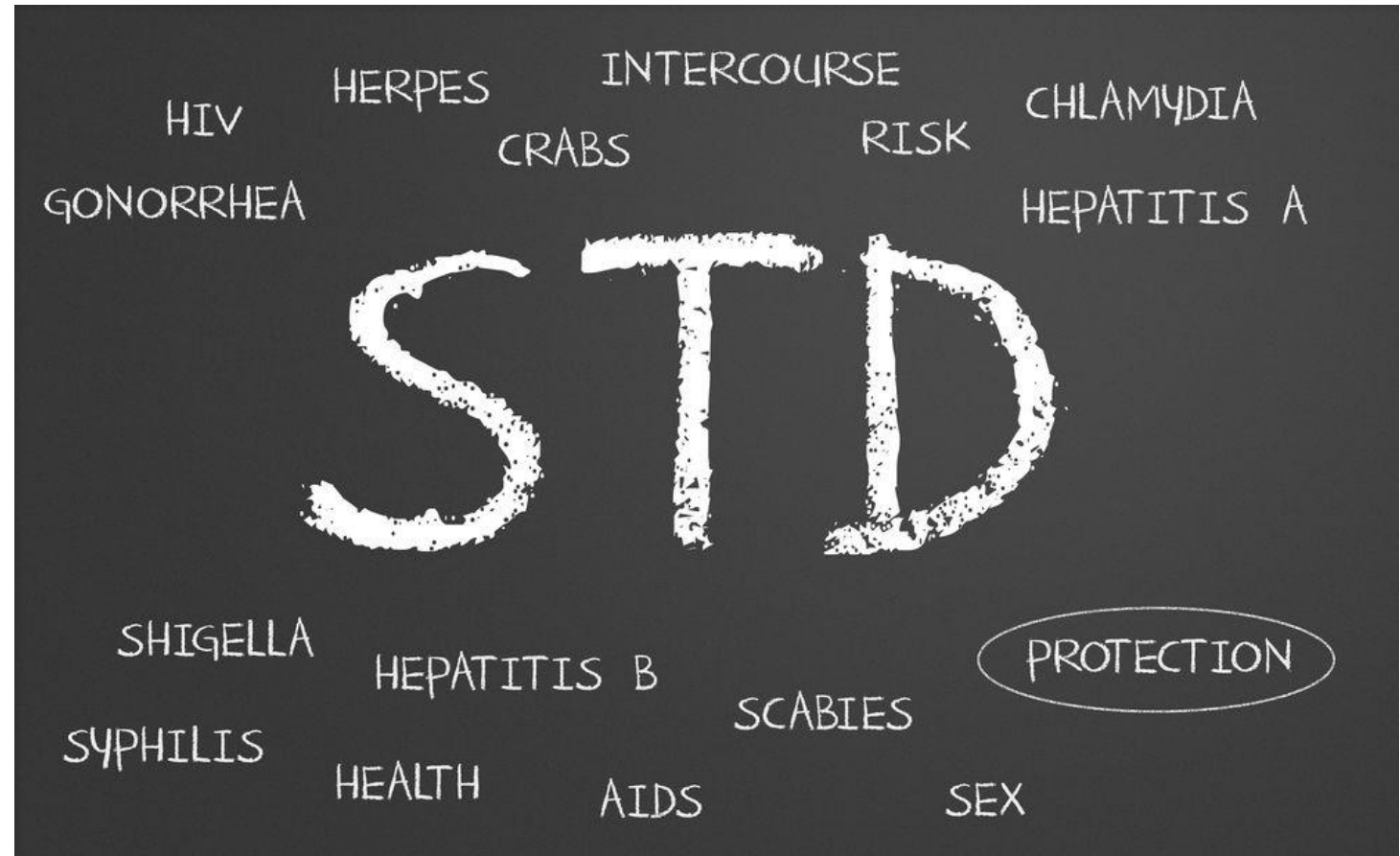
Herpes simplex of the vulva

Syphilis

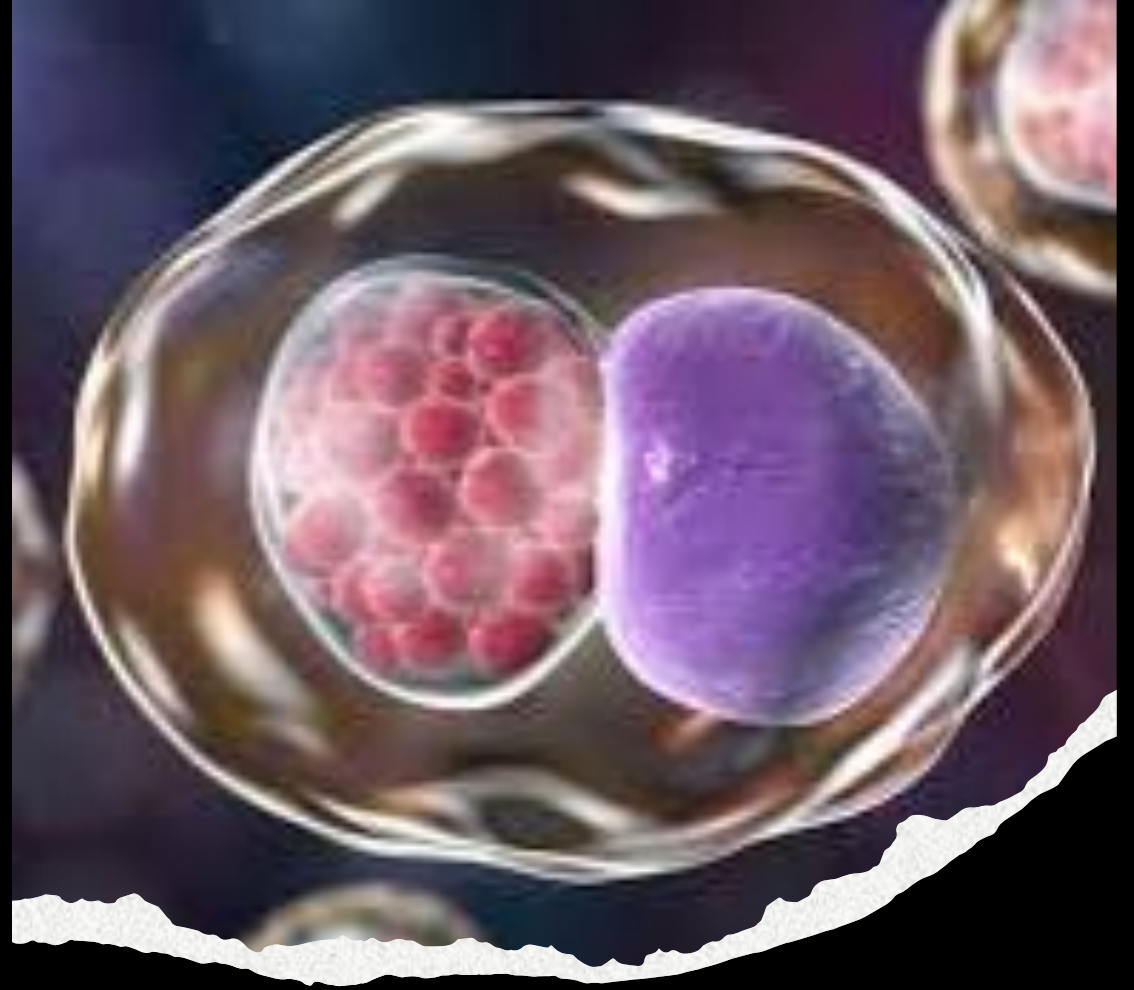
Chancroid

Donovanosis

Lymphogranuloma venereum



Chlamydia



- Caused by the obligate intracellular bacterium *C. Trachomatis*.
- Chlamydia is the most commonly reported curable bacterial STI
- Chlamydia infection has a high frequency of transmission, with concordance rates of up to 75% of partners being reported.
- Organism can be detected in the conjunctiva and nasopharynx without concomitant genital infection.
- If untreated, infection may persist or resolve spontaneously.
- Chlamydia can be transmitted to the neonate at the time of delivery, causing neonatal conjunctivitis (ophthalmia neonatorum) and pneumonitis.



Symptoms

- Asymptomatic
- Increased vaginal discharge
- Post-coital and intermenstrual bleeding
- Dysuria
- Lower abdominal pain
- Deep dyspareunia

Signs

- Mucopurulent cervicitis with or without contact bleeding
- Pelvic tenderness
- Cervical motion tenderness



Extra-genital infections

- **Rectal infection:**

Rectal infection is usually asymptomatic, but anal discharge and anorectal discomfort may occur

- **Pharyngeal infections**

Usually, asymptomatic

- **Conjunctival infections**

Usually sexually acquired - the usual presentation is of unilateral low-grade irritation; however, the condition may be bilateral





Cervicitis

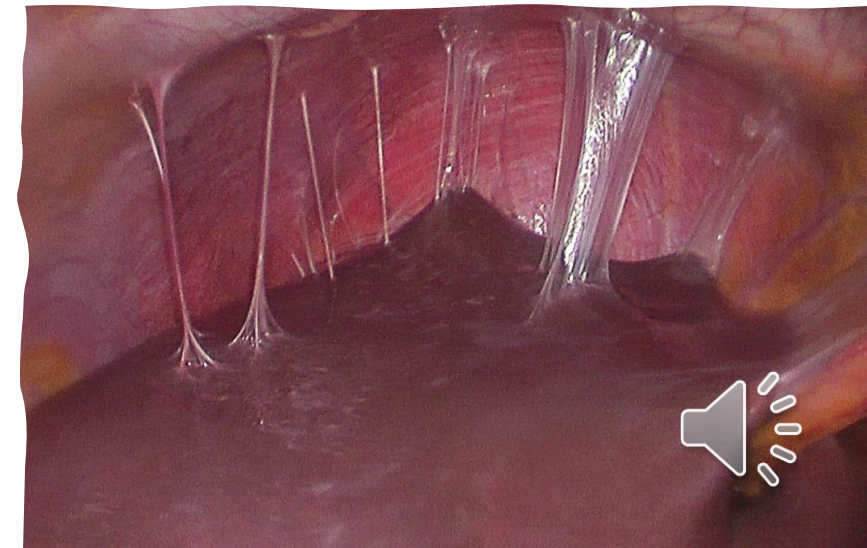
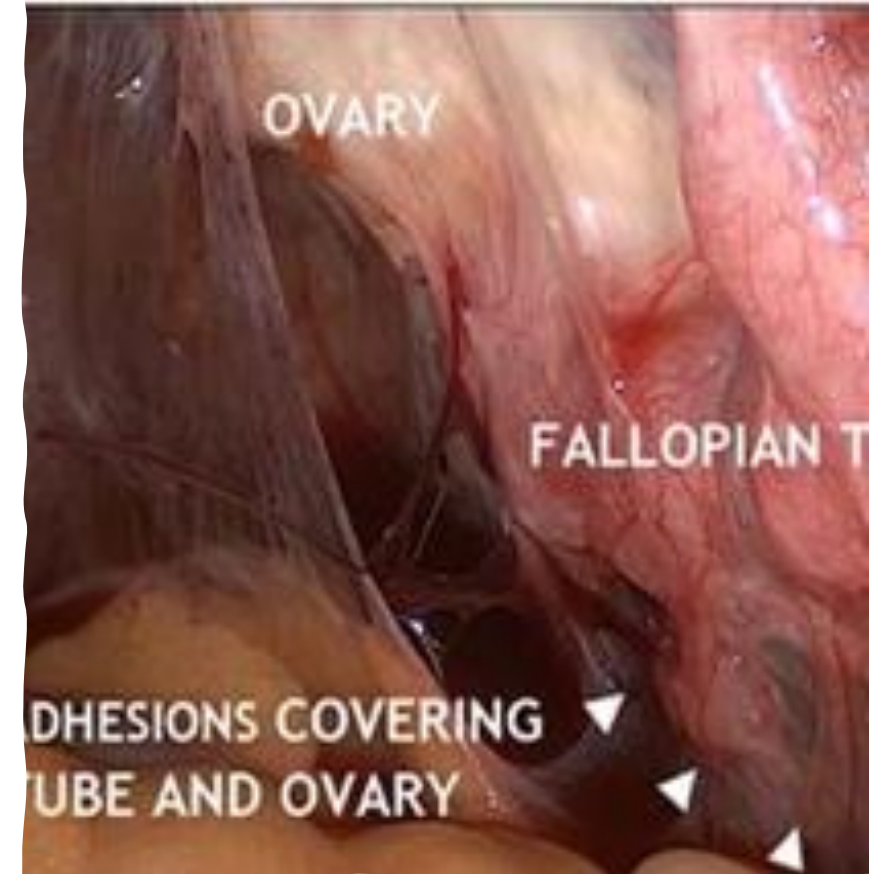


Conjunctivitis



Complications

- PID, endometritis, salpingitis
- Tubal infertility
- Ectopic pregnancy
- Sexually acquired reactive arthritis (SARA) (<1%)
- Perihepatitis (Fitz-Hugh-Curtis syndrome)



Diagnosis

- The current standard of care for all cases is **Nucleic Acid Amplification Test (NAAT)**:
 1. Vulvo-vaginal swabs (VVS) the specimen of choice in women.
 2. Endocervical swabs
 3. First-catch urine
 4. Urethral swabs



Management

- **Doxycycline** 100mg twice daily for 7 days is now recommended as first line treatment for uncomplicated urogenital, pharyngeal and rectal chlamydia infections.

OR

- **Azithromycin** 1g orally as a single dose, followed by 500mg once daily for two days.



Gonorrhoea



- Gonorrhoea is caused by the Gram-negative diplococcus *Neisseria gonorrhoeae*.
- The primary sites of infection are the columnar epithelium-lined mucous membranes of the urethra, endocervix, rectum, pharynx and conjunctiva.
- Transmission is by direct inoculation of infected secretions from one mucous membrane to another.
- Vertical transmission from mother to fetus may also occur during labour.



Clinical feature

- Female urethral infection
- Endocervical infection
- Rectal infection
- Pharyngeal infection



Complications

- Pelvic inflammatory disease (PID)
- skin lesions, arthralgia, arthritis and tenosynovitis (disseminated gonococcal infection)



Diagnosis

- The diagnosis of gonorrhoea is established by the detection of *N. gonorrhoeae* at an infected site, either by nucleic acid amplification tests (NAATs) or by culture.
- Positive NAATs should be confirmed by culture on selective medium which has been impregnated with antibiotics to prevent overgrowth of unwanted organisms.
- Female urethra, endocervix, rectum and pharynx.



Management

- When antimicrobial susceptibility is not known prior to treatment:

Ceftriaxone 1g intramuscularly as a single dose

- When antimicrobial susceptibility is known prior to treatment:

Ciprofloxacin 500mg orally as a single dose

- Patients should be advised to abstain from sexual intercourse until seven days after they and their partner(s) have completed treatment



Indications for therapy:

- Identification of intracellular Gram-negative diplococci on microscopy
- A positive culture for *gonorrhoeae*
- A confirmed positive NAAT for *gonorrhoeae*
- Sexual partner of confirmed case of gonococcal infection



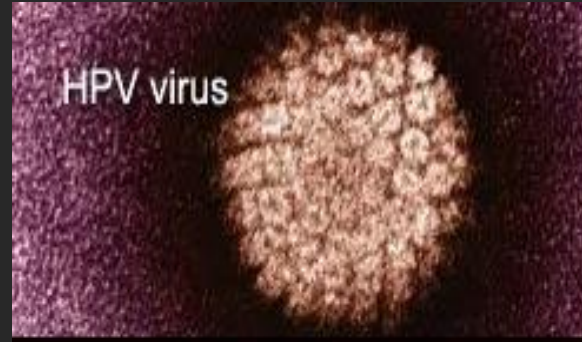
Follow up

All patients diagnosed with gonorrhoea should be advised to return for test of cure TOC, with extra emphasis given to patients:

- With persistent symptoms or signs
- With pharyngeal infection
- Treated with anything other than first line recommended regimen when antimicrobial susceptibility unknown



Genital warts



- Anogenital warts are benign lesions caused by the human papillomavirus (HPV).
- 90% are caused by HPV types 6 or 11
- Warts may also contain oncogenic HPV types but these typically cause dysplastic lesions and cancers
- HPV infection is very common and most infections do not result in visible genital tract lesions.
- Most infections resolve spontaneously within a year
- Incubation is variable, but generally between 3 weeks to 8 months
- Transmission is most often via sexual contact.



Clinical features

- Asymptomatic
- Irritation or discomfort
- Bleeding
- Rarely, secondary infection or maceration
- Commonly warts present as soft cauliflower-like growths of varying size but can be flat, plaque-like or pigmented. Lesions on moist, non-hair bearing skin tend to be soft and non-keratinised and those on dry and hairy skin, firm and keratinised. Lesions may be broad based or pedunculated.
- Warts can occur at any genital or peri-genital site and are common at sites of trauma
- Extra-genital lesions caused by genital HPV types may be seen in the oral cavity, larynx, conjunctivae, and nasal cavity



Diagnosis

- Clinical diagnosis / biopsy
- Examination should include the external anogenital and surrounding skin under good illumination.
- Speculum - As part of initial assessment of females.
- Proctoscopy



Management

- Treatment choice depends on examination findings and patient preference. No treatment may be an option as one third of patients will clear warts spontaneously. All treatments have significant failure and relapse rates and can cause local skin reaction.
- *Topical applications:* Podophyllotoxin*, Imiquimod 5% cream, TCA
- *Physical ablation:* Excision, Cryotherapy, Electrosurgery, Laser treatment
- Colposcopy is not routinely recommended unless diagnostic uncertainty.



Prevention

- Condoms
- HPV vaccine **Gardasil** (the quadrivalent)



Molluscum contagiosum



- Molluscum infection is a benign epidermal eruption of the skin, caused by molluscum contagiosum, a large DNA virus.
- Poxviridae family
- Molluscum infection may be spread by physical contact between individuals
- Usually affect the immunocompromised adults.



Clinical features

- Molluscum lesions are usually characteristic, presenting as smooth-surfaced, firm, dome-shaped papules with central umbilication.
- Lesions are usually 2–5 mm diameter
- 1–30 individual lesions at a time, occurring as clusters
- Can affect almost any part of the body
- Molluscum lesions are frequently asymptomatic, though occasionally associated with itch, discomfort or secondary bacterial infection.
- Molluscum lesions will usually regress spontaneously within 6– 18 months on average in immunocompetent individuals, leaving no sequelae.



Diagnosis and treatment

- Diagnosis is clinical
- Self-limiting
- patients should be advised against squeezing molluscum spots, both due to risk of super-infection and also as the central plug is full of infectious virus which is easily spread to uninfected skin.
- With genital molluscum, condoms may reduce transmission, but this is not absolute.
- Where active treatment for genital molluscum is required, liquid nitrogen therapy or topical podophyllotoxin may be used.



Genital herpes



- Primary infection: first infection with either HSV-1 or HSV-2 in an individual with no pre-existing antibodies to either type.
- Recurrent episode: recurrence of clinical symptoms due to reactivation of pre-existent HSV-1 or HSV-2 infection after a period of latency.
- HSV-2 the most common cause of genital herpes.
- Incubation of infection from 2 days to 2 weeks.
- Latent in local sensory ganglia



Clinical features

Symptoms

- May be asymptomatic
- Painful ulceration, dysuria, vaginal or urethral discharge.
- Systemic symptoms are much more common in primary than in non-primary or recurrent disease.
- Systemic symptoms consist of fever and myalgia.

Signs

- Blistering and ulceration of the external genitalia or perianal region (cervix/rectum)
- Tender inguinal lymphadenitis, usually bilateral.
- Recurrent outbreaks are limited to the infected dermatome/unilateral.



Complications

- Superinfection of lesions with candida and streptococcal species.
- Autonomic neuropathy, resulting in urinary retention.
- Post herpetic neuralgia
- Aseptic meningitis



Diagnosis

- Swab taken from the base of the lesion
- PCR
- Western blot is the diagnostic gold-standard, but it is not commercially available



Management

Primary herpes

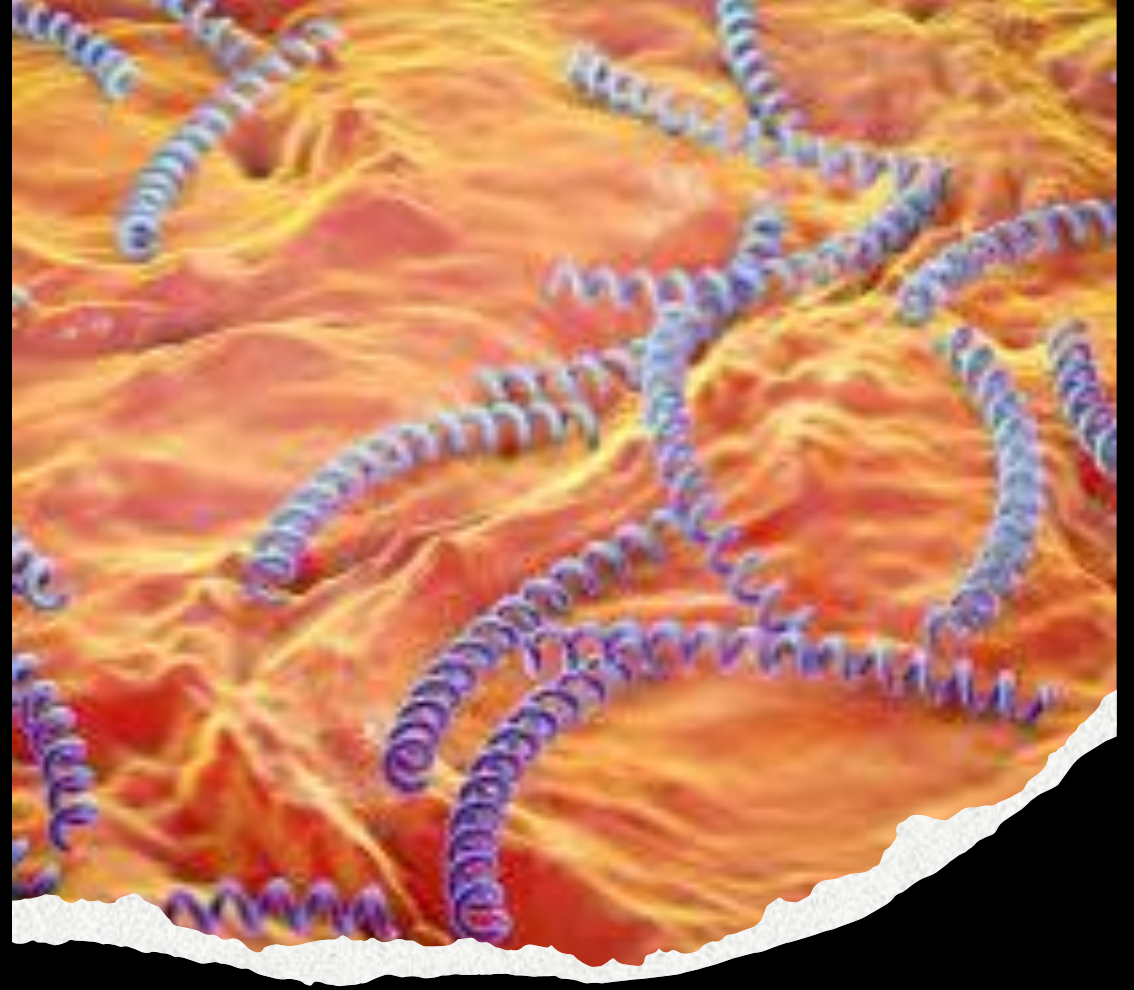
- Saline bathing
- Analgesia
- Topical anaesthetic agents, e.g. 5% lidocaine
- Avoid sexual contact
- Antiviral: **Aciclovir** 400 mg three times daily *or* **Valaciclovir** 500 mg twice daily

Recurrent genital herpes

- Recurrences are self-limiting and generally cause minor symptoms.
- Supportive management



Syphilis



- Caused by infection with the spirochete bacterium *Treponema pallidum*.
- One-third of sexual contacts of infectious syphilis will develop the disease.
- Transmission is by direct contact with an infectious lesion or by vertical transmission during pregnancy.
- Primary, secondary, latent and tertiary.





Clinical features

Primary Syphilis

- Incubation is usually 21 days (range 9-90)

Signs

- **Chancre** (develops from a single papule)
- Anogenital, single, painless and indurated with clean base, non-purulent
- Can be multiple, painful and purulent (usually extra-genital)
- Resolve over 3-8 weeks



Secondary syphilis

- If primary syphilis is untreated 25% will develop secondary syphilis.
- Occurs 4-10 weeks after initial chancre.
- Multi-system
- Rash
- **Condylomata lata**
- Hepatitis
- Splenomegaly
- Glomerulonephritis
- Neurological complications





elevated plaques

Condylomata lata
(Secondary syphilis)



Latent disease

- Secondary syphilis will resolve spontaneously in 3–12 weeks and the disease enters an asymptomatic latent stage
- Approximately 25% of patients will develop a recurrence of secondary disease during the early latent stage



Late (tertiary) disease

- In approximately one third of untreated patients
- 20-40 years after initial infection
- Divided into gummatous, cardiovascular and neurological complications.



Table 1. Clinical features of symptomatic late syphilis.

	Timing after infection	Signs and symptoms
Neurosyphilis		
Asymptomatic	Early/late	Abnormal CSF with no signs/symptoms; this is of uncertain significance given that CSF abnormalities have been found in up to 30% of primary and secondary syphilis yet this does not become clinically significant in the majority of patients.
Meningovascular	2–7 years	Focal arteritis inducing infarction/meningeal inflammation; signs dependent on site of vascular insult. Occasional prodrome; headache, emotional lability, insomnia.
Parenchymous		
• General paresis	10–20 years	Cortical neuronal loss; gradual decline in memory and cognitive functions, emotional lability, personality change, psychosis and dementia. Seizures and hemiparesis are late complications.
• Tabes dorsalis	15–25 years	Inflammation of spinal dorsal column/nerve roots; lightning pains, areflexia, paraesthesia, sensory ataxia, Charcot's joints, mal perforans, optic atrophy, pupillary changes (e.g. Argyll Robertson pupil).
Cardiovascular	10–30 years	Aortitis (usually ascending aorta); asymptomatic, substernal pain, aortic regurgitation, heart failure, coronary ostial stenosis, angina, aneurysm.
Gummatous	1–46 years (average 15)	Inflammatory granulomatous destructive lesions; can occur in any organ but most commonly affect bone and skin.

CSF: cerebrospinal fluid.



Diagnosis

- Direct demonstration of Treponema Pallidum from lesions or lymph nodes
 1. Dark-field microscopy
 2. PCR

- Serology:
 1. Cardiolipin test
 2. Carbon antigen test RPR
 3. Treponemal enzyme immunoassay



Management

Early syphilis (primary, secondary and early latent)

- **Benzathine penicillin G** 2.4 MU IM single dose

Late latent, cardiovascular and gummatous syphilis

- **Benzathine penicillin G** 2.4 MU IM weekly for three weeks

Jarisch-Herxheimer reaction: An acute febrile illness with headache, myalgia, chills and rigours which resolves within 24 hours



Chancroid



- Chancroid is disappearing from most countries.
- Caused by the small Gram-negative bacterium *H. ducreyi*
- Found in tropical countries
- The incubation period for chancroid is short. Three to seven days after sexual intercourse with an infected person
- Tender erythematous papules develop, most often on the prepuce and frenulum in men and on the vulva, cervix, and perianal area in women.



Diagnosis and management

- Nucleic acid amplification techniques (NAATs) are excellent for demonstrating *H. ducreyi* in clinical sample material.
- Microscopy is not recommended for diagnosis due to low sensitivity and specificity
- Patients should abstain from any sexual contact until they and their partner(s) have completed therapy
- Testing for syphilis and herpes
- 1st line treatment
 - **Ceftriaxone** as a single intramuscular injection or
 - **Azithromycin** as a single 1 g oral dose





Chancre vs. Chancroid

- Incubation 3 weeks
- Painless, no ulcer, no surrounding inflammatory zone
- Oval, hard
- Lymphadenopathy may be bilateral, nontender, nonsuppurative
- Incubation 4-7 days
- Ulcer inflamed, very painful, inflammatory zone
- Soft, covered by a membrane
- Lymphadenopathy unilateral, tender, suppurative



Donovanosis



- Donovanosis is a sexually transmitted infection that usually manifests itself as genital ulceration.
- It is seen chiefly in small endemic foci in tropical countries.
- The causative organism *Klebsiella granulomatis*.
- Decreasing worldwide
- one or more papules/nodules developing into friable ulcers or hypertrophic lesions which gradually increase in size.
- Painless
- Can coexist with other sexually transmitted pathogens.
- It can disseminate to intra-abdominal organs, bones, or the mouth



Diagnosis and management

- Dark-staining Donovan bodies on tissue crush preparation
- Biopsy
- Test for HIV

- **Azithromycin** 1 g orally once per week or 500 mg daily for at least 3 weeks and until all lesions have completely healed
- Relapse can occur 6–18 months after apparently effective therapy.
- Notify sexual partners



lymphogranuloma
venereum



- Chlamydia trachomatis
- Increasing in Europe
- endemic in tropical areas
- The main risk factor is being HIV-positive
- An association with rectal cancer has been reported



Symptoms

- Self-limiting genital papules
- Ulcers
- Painful inguinal lymphadenopathy
- Femoral lymphadenopathy
- Swelling and redness of the skin in the groin area
- Affects lymph nodes around the rectum in people who have anal intercourse
- Tenesmus
- Late: rectal stricture



Diagnosis

- **Nucleic acid amplification tests (NAATs)** have high sensitivity and specificity
- Lymph node biopsy
- Serology
- Culture



Management

- Screening for other STIs
- High rates of incident HIV/HCV infections have been observed in LGV infected MSM and risk reduction advice should be offered
- 1st choice: **doxycycline** 100 mg twice daily orally for 21 days
- 2nd choice: **erythromycin** 500mg four times daily orally for 21 days
- Promote for Condom use



Etiology of anogenital ulceration

- Herpes simplex
- Syphilis
- Chancroid
- Lymphogranuloma venereum
- Donovanosis
- Candidiasis (severe)
- Behçet's disease
- Scabies-excoriated



THE END