

A patient present with Genital lesions

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Differential Diagnosis of Genital Ulcer Disease

Infectious (most common)

- Herpes Simplex Virus (HSV)
- Syphilis
- Chancroid
- Lymphogranuloma venereum (LGV)
- Donavanosis (Granuloma Inguinale)
- Fungal infection (e.g. Candida)

Non-infectious

- Behcet's disease
- Trauma
- Drug-induced
- Psoriasis

STIs

- Sexual contact
- Generally **exclusive human pathogens** & Survive poorly outside the host
- **Incidence is increasing** worldwide
- Incidence of certain diseases has decreased (eg: syphilis)

**TABLE
105-1**

Infectious Causes of Genital Lesions

Sexually Transmitted Infections

Syphilis

Primary (chancre)

Secondary (condyloma latum)

Herpes simplex virus types 1 and 2

Chancroid (*Haemophilus ducreyi*)

Lymphogranuloma venereum

Granuloma inguinale (donovanosis)

Human papillomavirus

Sarcoptes scabiei

Molluscum contagiosum

Nonsexually Transmitted Infections

Folliculitis

Tuberculosis

Tularemia

Histoplasmosis

Candida (balanitis or vaginitis)

Amebiasis

Unique features of infectious genital lesions



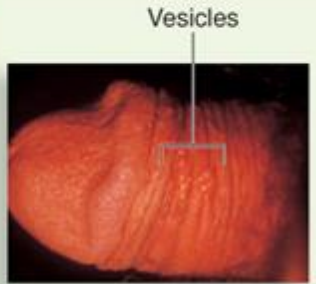
- Most are **communicable**
- Has a **public health** concern
- can harbor **more than one pathogen**

challenge proper diagnosis
management

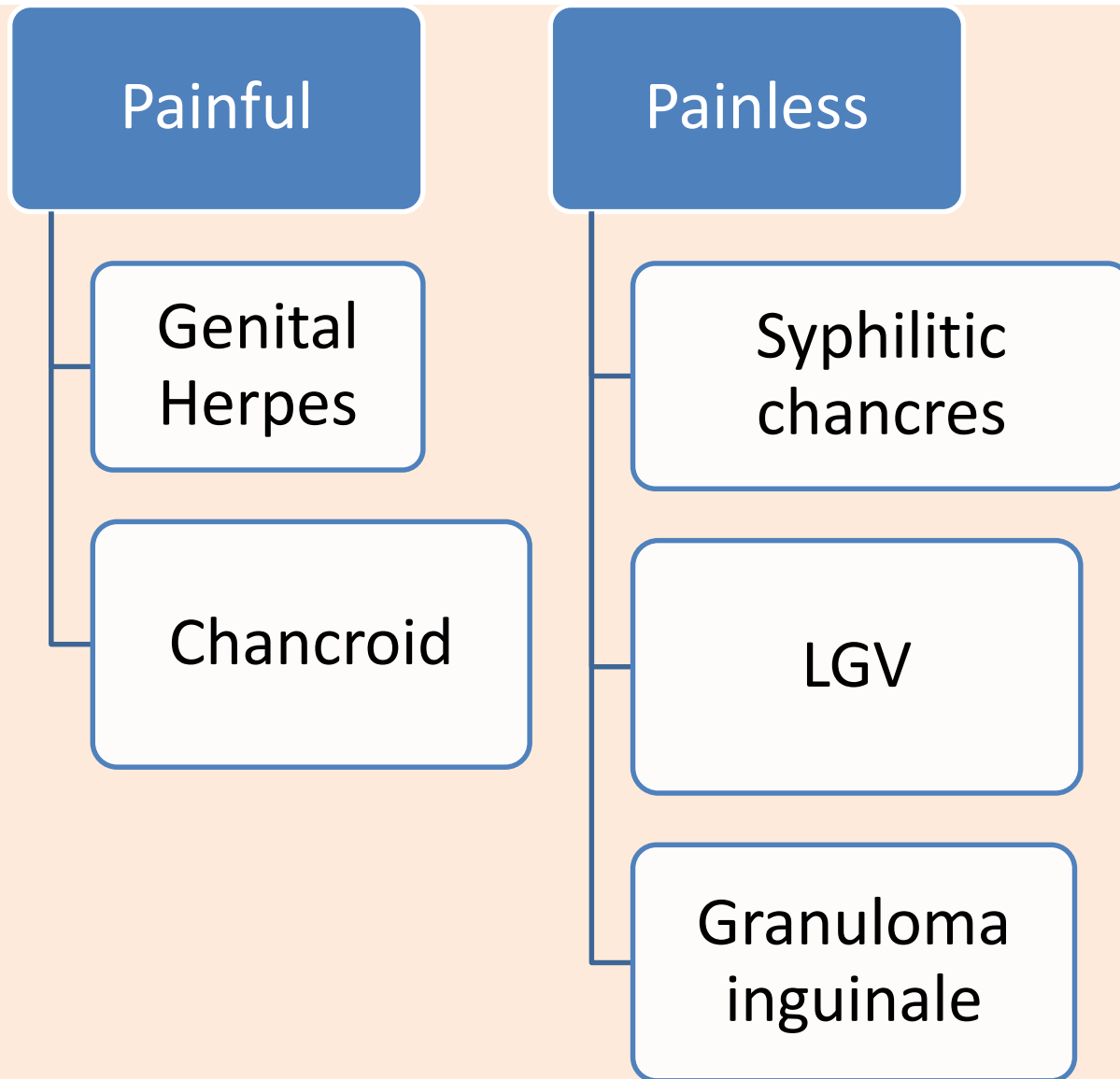
Unique features of infectious genital lesions

- Epithelial defects enhance the **Tx of other diseases** (HIV)
- Contribute substantially to worldwide **spread of HIV**
- **Appearance** of a genital lesion - implicate an **etiologic agent**

Genital Ulcers

	Syphilis	Chancroid	Herpes
Causative Organism(s)	<i>Treponema pallidum</i>	<i>Haemophilus ducreyi</i>	Herpes simplex 1 and 2
Most Common Modes of Transmission	Direct contact and vertical	Direct contact (vertical transmission <i>not</i> documented)	Direct contact, vertical
Virulence Factors	Lipoproteins	Hemolysin (exotoxin)	Latency
Culture/Diagnosis	Direct tests (immunofluorescence, dark-field microscopy), blood tests for treponemal and nontreponemal antibodies, PCR	Culture from lesion	Clinical presentation, PCR, Ab tests, growth of virus in cell culture
Prevention	Antibiotic treatment of all possible contacts, avoiding contact	Avoiding contact	Avoiding contact, antivirals can reduce recurrences
Treatment	Penicillin G	Azithromycin, ceftriaxone	Acyclovir and derivatives
Distinctive Features	Three stages of disease plus latent period, possibly fatal	No systemic effects	Ranges from asymptomatic to frequent recurrences
Effects on Fetus	Congenital syphilis	None	Blindness, disseminated herpes infection
Appearance of Lesions			

Work flow – patient present with genital ulcer/s



Genital Herpes

Primary Herpes

- Classically presents as a **cluster** of painful 1- to 3-mm ulcers an average of **4 days after exposure** (range 2–12 days)
- Ulcers located inside the foreskin, labia, vagina, or rectum.
- Ulcers may be larger, single, separated, or confluent

Genital Herpes

- Characterized by

vesicles



Pustules



Shallow ulcers on an
erythematous base



May erupt in tightly grouped clusters

Confluence of evolving vesicles and pustules

Genital Herpes

- Associated with a prodrome of and systemic symptoms including regional **paresthesias**, adenopathy, malaise, and headache
- **Recurrent** genital herpes is **milder** and usually not associated with systemic symptoms.

Genital Herpes.....

Subclinical Viral Shedding

- **Recurrences** and **subclinical shedding** are much **less** frequent for genital **HSV-1** infection than for genital HSV-2 infection
- Frequency highest in **first year after acquisition**
- Responsible for **most transmission**

Genital Herpes.....

Recurrent Herpes

- Reactivation of virus
- Mild, self-limited
- Localized
- Prodrome: 1-2 days
- Lasting 6-7 days
- Shedding: 4-5 days

Genital Herpes.....

Diagnosis

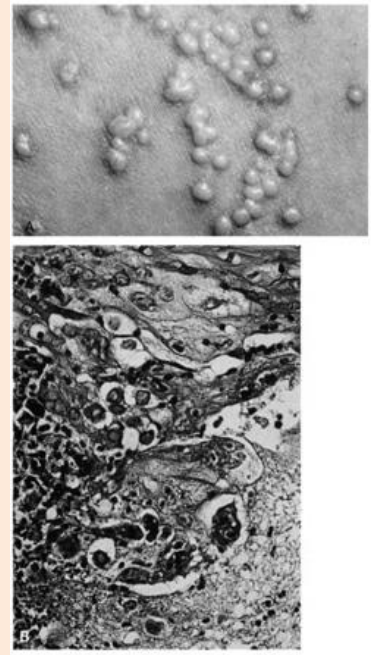
Tzanck smear

- epithelial cells - scraped from an **ulcer base**
- HSV infected genital lesions - identified by **light microscopy**
- Stain with **Giemsa stain**

Multinucleated giant cells

Intranuclear inclusions

characteristic of HSV infections



Genital Herpes.....

Diagnosis

- Direct detection of virus

PCR

- Viral isolation (culture)

High specificity, low sensitivity

- 50% for primary infection
- 20% for recurrent infection

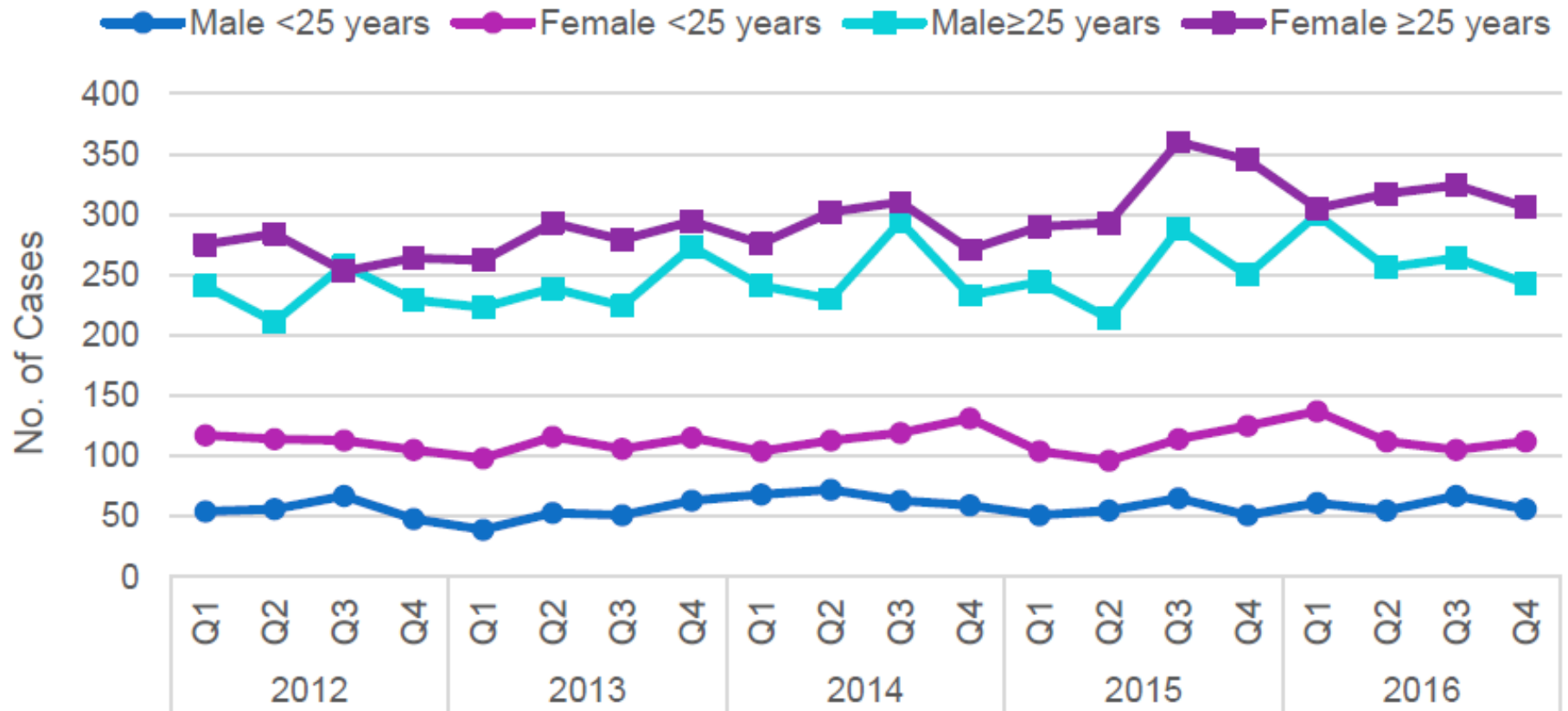
- Serology

ELISA (differentiate HSV – 1 from HSV -2)

Rx - Genital Herpes.....

- The first episode of HSV infection is treated with 7 to 10 days of **oral acyclovir** (**five** days for **recurrent** episodes).
- Rx - decrease signs and symptoms.
- Acyclovir **neither eradicate latent virus** nor **affect** the risk, frequency, or severity of **recurrences** after the drug is discontinued

Age and sex of patients with genital herpes from all STD Clinics



Chancroid (Soft Chancre)

- Causative agent: *Haemophilus ducreyi*
- Likely inoculated through **microabrasions**
- Incubation 4-7 days
- Begins as a soft, tender, erythematous papule at the point of contact

Chancroid (Soft Chancre)

- Followed by **pustule** which rupture in 2-3 days
- Develops into a **soft chancre**



- A combination of a **painful genital ulcer** and **tender suppurative inguinal adenopathy** suggests the diagnosis of chancroid

Chancroid

- Similar in size to syphilitic chancres
- But edges are ragged and undermined
- Ulcer base - necrotic with a purulent exudates
- less prominent induration (“soft chancres”)
- Single lesions are common
- Inguinal LNs - become swollen & tender



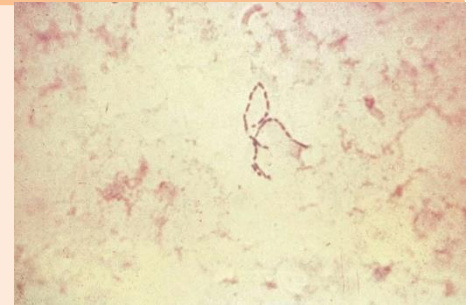
Chancroid

Diagnosis

G/S - Gram-negative, slender rods

or coccobacillus aligns in a pattern “school of fish”

Culture - on special nutrient media , Chocolate agar



Treatment:

- Single dose of intramuscular **ceftriaxone** or oral **azithromycin**, ciprofloxacin (3 d), or erythromycin (7 d).

Lymphogranuloma Venereum (LGV)

- Causative agent: *Chlamydia trachomatis* -serovars L1, L2, L3
- The lesion may appear as a papule at the site of inoculation, the **primary stage, resolves Spontaneously**
- Bacteria spread through lymph

Lymphogranuloma Venereum (LGV)

- Most **common clinical manifestation** s tender inguinal and/or femoral lymphadenopathy that is **typically unilateral**.



Lymphogranuloma Venereum (LGV)

Complications

- Suppurative lymphadenitis
- Fistulae, rectal strictures, chronic ulcerations

Treatment

- Lymphogranuloma venereum and donovanosis are treated with 21 days of oral doxycycline.

Granuloma inguinale (donovanosis)

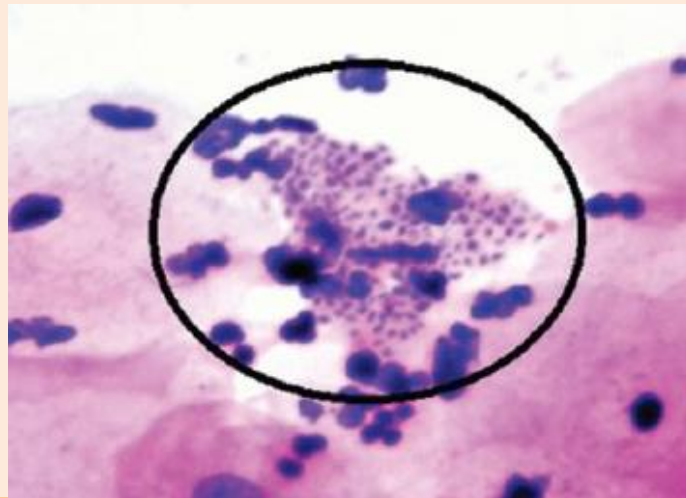
- Causative agent :

Klebsiella (Calymmatobacterium) granulomatis (G -)

- Characterized as **painless, slowly progressive ulcerative lesions** on the genitals or perineum **without regional lymphadenopathy**
- The lesions are highly vascular (bleeds easily)
- Extensive local tissue destruction

Granuloma inguinale.....

- Specimen - scrapings of a lesion base/ biopsy
- Causative organism is difficult to culture
- Giemsa staining
- Clusters of blue rods, within infected epithelial cells (Donovan bodies)



Granuloma inguinale.....

Rx

- Oral doxycycline, 100 mg twice daily for 21 days

Syphilis

Primary Syphilis - Hard chancre

- Painless, non tender, well-demarcated genital ulcer
- Ulcer develops from a **macule** which progresses to a **papule** and then to an **ulcer** at the site of inoculation of *Treponema pallidum*



Syphilis

Primary Syphilis - Hard chancre

- The ulcer typically is well circumscribed
- Has a smooth base
- presents 10 to 90 days after exposure and resolves over a period of weeks.



Syphilis

Secondary stage

- 2-10 weeks later: flu-like symptoms
- Skin and mucosal rashes



Syphilis

Secondary stage

- Unique lesions of secondary syphilis -**condylomata lata** - raised, moist nodules or plaques -teeming with treponemes
- **Highly infectious**
- Resolves spontaneously



Syphilis

Tertiary stage

- Years later
- **Gummas** on many organs
- Neurological damage around 20 yrs after initial infection
- Non infectious



Syphilis

Diagnosis of Syphilis

- Direct diagnosis
 - Darkfield microscopy
 - lesion exudate from chancre or condylomata lata
- Non specific - rapid screening
 - **VDRL, RPR**
- Specific – confirming
 - Anti-treponemal antibodies
 - **TPPA**
 - **TPHA**
 - **FTA**

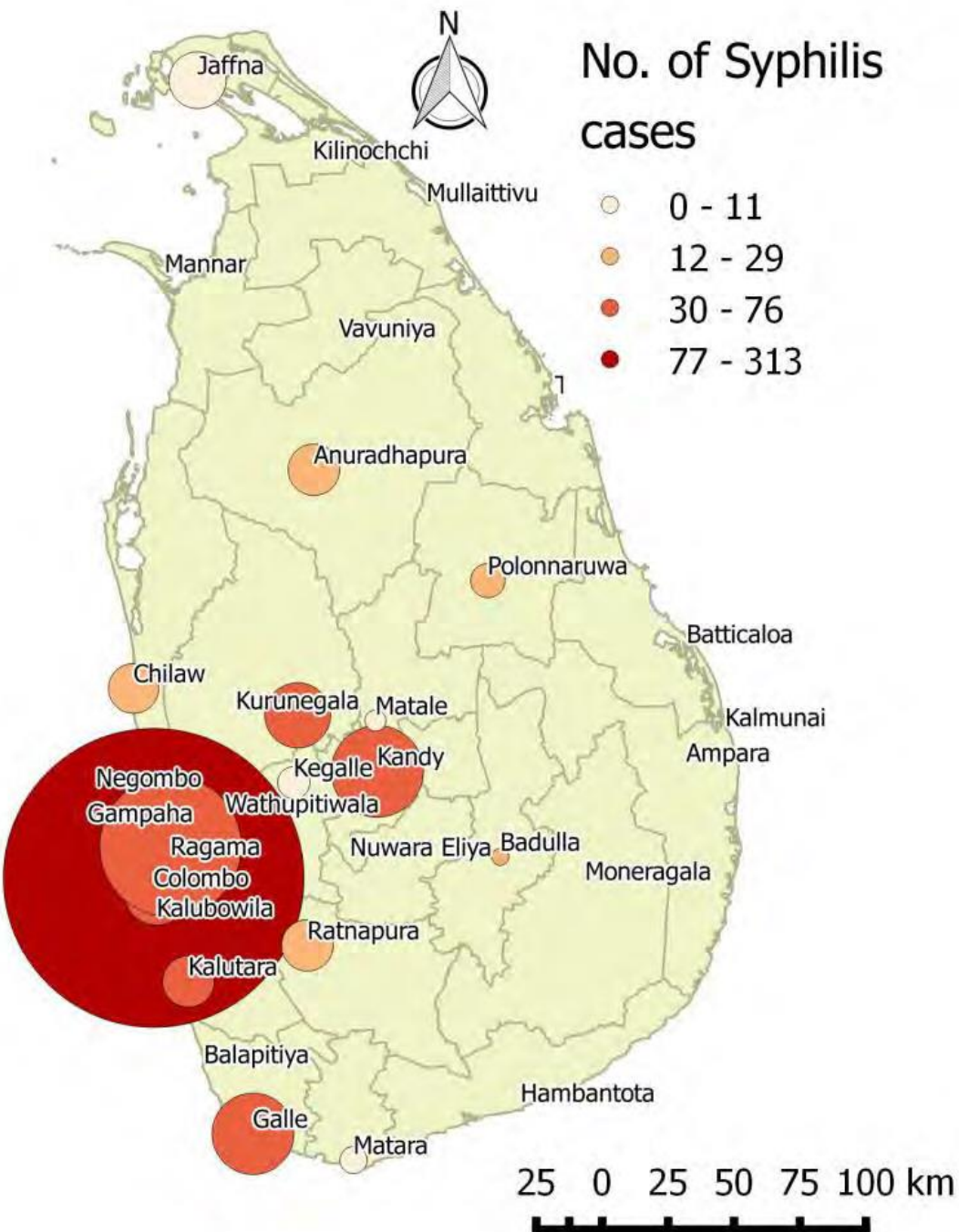


Syphilis

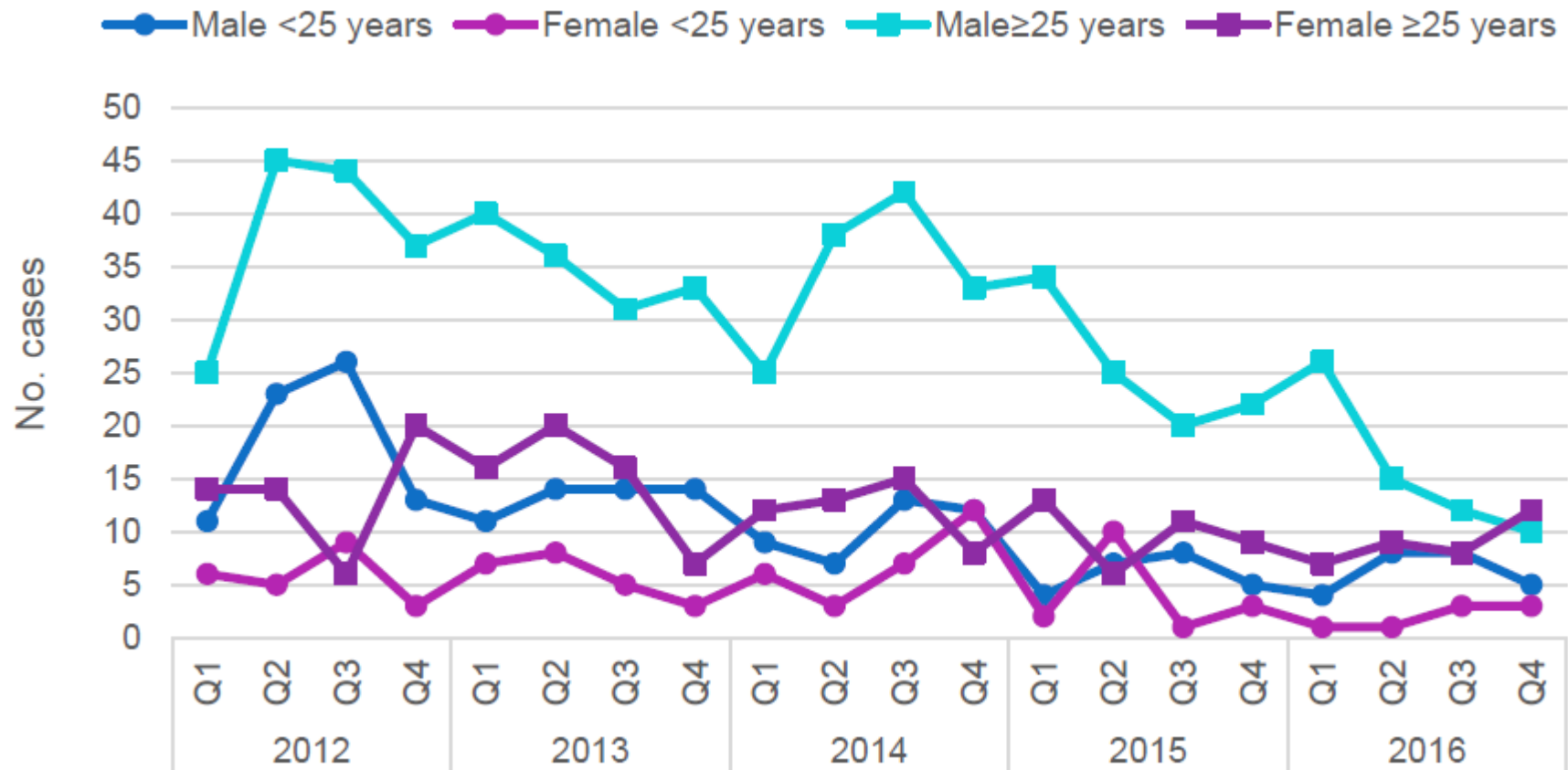
Rx

- Benzathine penicillin G 2.4 million units IM in a single dose is recommended to treat genital ulcers caused by primary syphilis
- Tertiary stage - not well respond to antibiotics

Syphilis cases (early and late) reported from STD clinics during 2016





Age and sex of early syphilis cases in all STD clinics 2012-2016



Differential Features of Sexually Transmitted Genital Ulcers

	Lesions	Tenderness	Edge	Base	Adenopathy
Syphilis	Usually single	None or mild	Indurated	Clean	Indolent
Chancroid	Usually multiple	Marked	Soft	Dirty	Tender, fluctuant
Herpes	Multiple	Marked	Soft	Clean	Tender
Donovanosis	Multiple	None	Serpiginous, may be white	Beefy red, granulation tissue	Erosive lesions overlying nodes
LGV	Single	None	Soft	Eroded papule	Prominent, tender

Wart Diseases

CHECKPOINT 23.8 Wart Diseases		
	HPV	Molluscum Contagiosum
Causative Organism(s)	Human papillomaviruses	Poxvirus, sometimes called the molluscum contagiosum virus (MCV)
Most Common Modes of Transmission	Direct contact (STD)—also autoinoculation, indirect contact	Direct contact (STD), also indirect and autoinoculation
Virulence Factors	Oncogenes (in the case of malignant types of HPV)	–
Culture/Diagnosis	PCR tests for certain HPV types, clinical diagnosis	Clinical diagnosis, also histology, PCR
Prevention	Vaccine available; avoid direct contact; prevent cancer by screening cervix	Avoid direct contact
Treatment	Warts or precancerous tissue can be removed; virus not treatable	Warts can be removed; virus not treatable
Distinguishing Features	Infection may or may not result in warts; infection may result in malignancy	Wartlike growths are only known consequence of infection
Effects on Fetus	May cause laryngeal warts	–
Appearance of Growths		

Human papilloma virus (HPV)

- Involve different types of virus
- Cause warts in about half of infected people about 3-8 /52 weeks after infection
- Infects deep layers of epithelium
- Clinically visible warts usually cause by viral types with low oncogenic potential (types 6 and 11)
- Most are asymptomatic

Human papilloma virus (HPV)

- Lesions range from flat papules - verrucous, pedunculated, or large cauliflower-like masses (**condylomata acuminata**)
- Certain HPV types (**16, 18, 31, 33**) have **oncogenic** potential for **SCC** of the penis / anus



HPV.....

Diagnosis

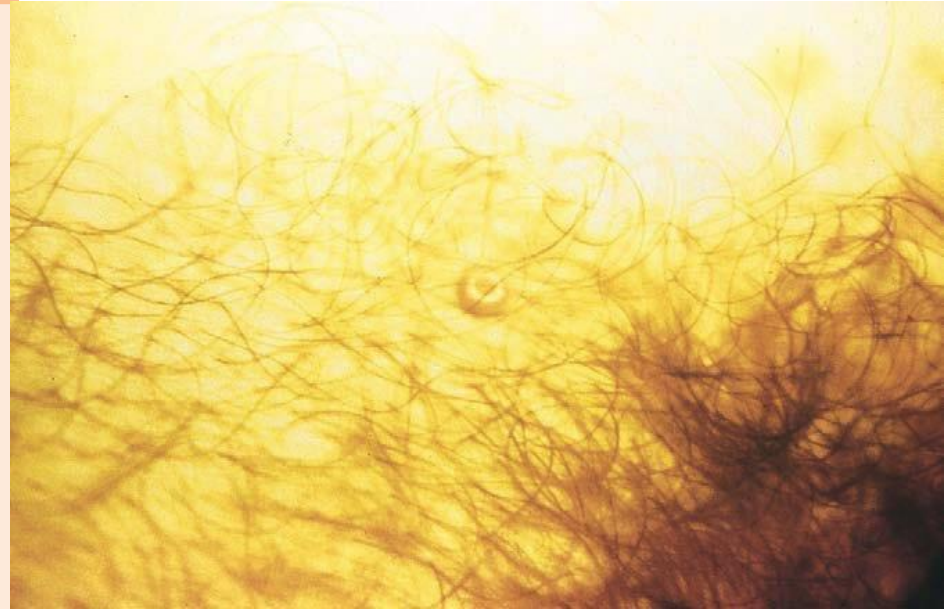
- Clinical appearance
- **No cell culture** system
- Presence of virus in non-keratinized tissue

Molluscum contagiosum

- Causes benign, wart-like lesions
- Etiologic agent - member of the **poxvirus** family
- Spread -**sexual or nonsexual** contact
- Lesions are **small**
- 3 to 5mm in diameter
- **Multiple**
- Clustered in the genital or inguinal areas, perineum or inner thighs

Molluscum contagiosum

- Appear pearly with an area of **central umbilication**
- Can be appreciated only on very close inspection



STI diagnoses reported from STD clinics by sex during 2016

