

# Sexually transmitted **diseases** **STD** **STI** (infections)

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# Venereology

- Syphilis
- Gonorrhoea

# Venereology - STD

- Syphilis
- Gonorrhoea
  
- Ulcus molle- soft chancre- Hemophilus Ducreyi

- HSV
- HBV
- HIV

not STD: HCV

- Scabies – itch mite
- Pediculosis pubis - phthiriasis–crab louse

# Venereology – STD- STI

- **Syphilis**
- **Gonorrhoea**
- **Mycoplasma hominis infection**
- **Ureaplasma ureolyticum infection**
- **Ulcer molle- soft chancre- Hemophilus Ducreyi**
- **Chlamydia trachomatis infection- obligate intracellular bacterium**
  
- **Trichomonas vaginalis infection- flagellate parasitic protozoa**
  
- **HSV** **not STD: HCV**
- **HBV**
- **HIV**
  
- **Candida infections- yeast-like fungi** **not STD: chronic vulvovaginal candidiasis**
- **Scabies – itch mite**
- **Pediculosis pubis - phthiriasis–crab louse**
  
- **and others.....**

# You never have one patient!

- Partner/s - clusters

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- Partner/s - clusters
- MSM or MSW ?
- Family
  
- case-finding effectiveness of partner notification (PN)
- cluster investigation for sexually transmitted disease (STD)

# Syphilis

- “infinite malady” by Shakespeare in *Timon of Athens*
- 1530 poem by the renaissance physician Giralamo Frastatoro “Syphilis, sive morbus Gallicus” - an ancient myth about a shepherd named “Syphilis,”
- “great pox” was used for two centuries to differentiate syphilis from smallpox

# Syphilis

## mirroring cultural embarrassment

- Germans and English called it “the French pox”;
- Russians, “the Polish sickness”;
- Poles, “the German sickness”;
- French “the Neapolitan sickness”;
- Flemish, Dutch, Portuguese, and North Africans, “the Spanish sickness” or “the Castilian sickness”
- Japanese, “the Canton rash” or “the Chinese ulcer”

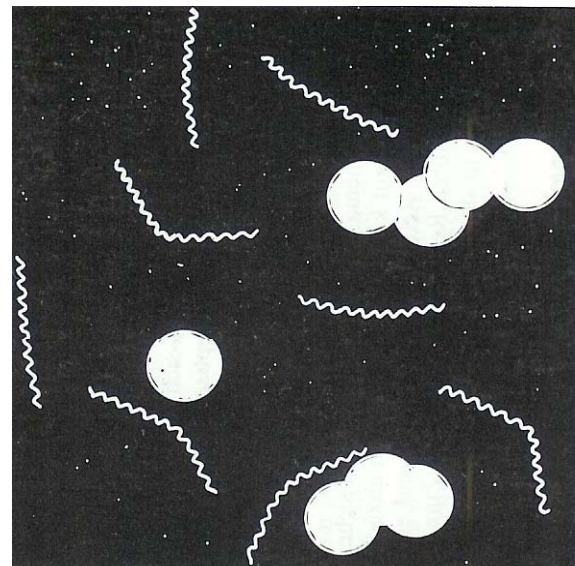
# Morbus Schaudinn

## Morbus Schaudinn-Hoffmann

- 1905, Fritz Schaudinn, Erich Hoffmann and Fred Neufeld
- In the women's ward of the Department of Dermatology at the Charite Hospital in Berlin
- First observation of *Treponema pallidum*.
- First decisive step towards the development of diagnostic and therapeutic procedures in subsequent years.

# Syphilis- Lues- M. Schaudinn

- Treponema pallidum 5-15 um, rotation-movement, dark-field microscopy, diff: pathogenic and non-pathogenic
- penicillin sensitive
- chronic disease
- **SY: the great imitator**



Schaudinn and Hoffmann

# SY

## Acquired lues

### Spontaneous healing is possible

#### **Early: infectious**

within the first 1-2 years

- Lues I.
- Lues II.
- latent lues, seropositive early

#### **Late: non infectios**

3-5 years or more later

- lues III
- latent lues – seronegative-late
- cardiovascular or neurosyphilis

## Lues connata

Up to the age of 2 years

# SY I.

## Primary Sy

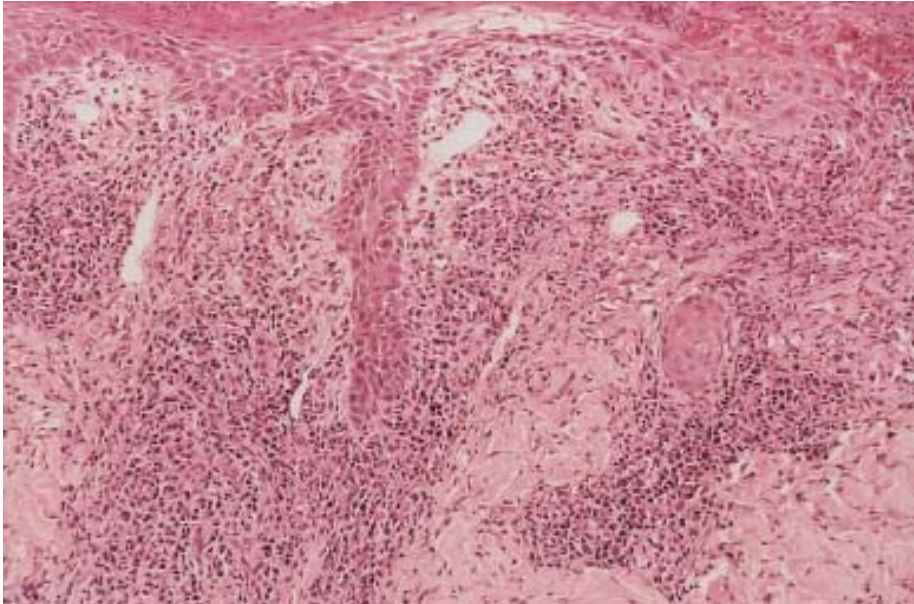
- **primary** chancre or affection : painless ulcer accompanied by bilateral painless lymphnode
- firm (ulcus durum), livid-red
- two-three weeks after the infection
- lymphangitis sy, chorda sy,
- dg: dark field microscopy, serology

# Primary syphilis

# Balanitis syphilitica Follmann

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# Syphilis



Histology: many plasma  
cells

PCR

# Sy II

## Secondary

- generalized lymphadenopathy, condyloma(ta) latum(ta), corona syphilitica, roseola,
- papules, follicular sy, plaques muqueuses, leukoderma syphiliticum
- alopecia syphilitica diffusa o. parvomaculata), syphilis magna (necrotic ulcera -HIV)

## Secondary syphilis

# Papulonodular syphilis

# Lues maligna

# Secondary syphilis

Young male  
red papules with scales on the palms and soles  
perianal erythematous, exsudative papules

- young female
- sudden loss of visus
- steroid treatment for uveitis
- syphilis serology positive

# Corymbiform syphilis: early-late border

# SY III.

## **tertiary sy**

- = granulomatous sy
- skin: gumma
- tuberous, tubero-serpiginous- gumma
- cardiovascular : aortitis sy
- neurosyphilitic manifestations: tabes dorsalis, paralysis progressiva, atrophia nervi optici, pachymeningitis

# Sy III.

Tuberoserpiginous sy

Gumma

# Sy III.

Gumma

# Syphilis in HIV positive patients

HIV positive patient  
with primary chancres.

HIV positive patient. Biopsy  
confirmed seronegative secondary  
syphilis

HIV positive patient. Kissing  
chancroids

# Syphilitic granuloma in HIV positive patient

Penicillin



# SY

## Acquired lues

**Early:** infectious  
within the first 2 years

- Lues I.
- Lues II.
- latent lues, seropositive

## Lues connata

Up to the age of 2 years

**Late:** non infectious

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# Congenital syphilis / early form

**spectrum ranges from asymptomatic infection to fulminant disease**

- before 2 years of age
- generalized papulosquamous eruption that includes the palms and soles
- rhinorrhea,
- periostitis, osteochondritis,
- hepatosplenomegaly, lymphadenopathy
- failure to thrive
- mortality rate for the severely ill is still almost 20%
  - fulminant hepatitis, hematologic derangements, respiratory failure, acidosis, nephrosis, anasarca, and secondary infections
  - stillbirth occurs in 30% to 40% of cases
  - funisitis, placentitis, hydrops, growth retardation, preterm labor, and premature rupture of membranes occur in utero at an increased rate

# Syphilis congenita/early manifestations

# Syphilis congenita/ late manifestations

late form manifests after 2 years of age

- frontal bossing
- saddle nose
- Hutchinson's teeth, mulberry molars
- Clutton's joints, saber shins
- neurologic and other abnormalities

# Syphilis congenita /late manifestations

Notched (Hutchinson's) teeth of congenital syphilis.

# SY treatment

## Sy I, II and III

- Benzathine-Penicillin G 2.4 M IU /repeat it on day 8. and in case sy latens tarda on day 15.
- Procain penicillin 1 ME/day for 15 days, repeat it in one month
- 2 gr erythromycin/day (4x2 capsules) p.os 2x 15 days
- Doxycyclin 2x100 mg/day for 2-4 weeks
- Tetracyclin 4x500 mg/day for 2-4 weeks
- Jarisch-Herxheimer reaction
- contact tracing
- serological follow-up

# Dr Karl Herxheimer



Herxheimer, who was of Jewish stock, had already resigned his positions because of high age when the Nazis took power in 1933. Despite the advice from his friends, he stubbornly refused to leave his native country. With no regard to his fame and great achievements he was imprisoned in the autumn of 1941 and on August 27, 1942, aged 81, he was taken to the concentration camp Theresienstadt, where it is assumed that he succumbed on December 6 that year.

# Sy retreatment : if failed

- evidence of treatment failure (e.g., less than a fourfold decline in RPR titer since initial treatment).

# SY treatment

## neurosyphilis

- **aquous crystallpenicillin G** 18-24 M IU/day **i.v.** (4.5-6 M in 4 hours) for 10-14 days
- repeat if necessary
- iv. doxycyclin or iv ceftriaxon
- serological follow-up and liquor controll

# Sy preventive treatment

- For contact persons who are seronegative
- For **gravid females** who had had sy before, and who had been treated correctly before

# Syphilis diagnostic

- clinical symptoms!!
- dark-field microscopy from sy I and II
- serological tests
- liquor if neurosyphilis can not be excluded
- histology from gummas
- internal, ophthalmological and neurological studies sy III.

# Sy diagnostic

Serology:

Screening tests:

- RPR, VDRL- non- treponemal (cardiolipin) antigen - precipitation
- ELISA, **TPHA (hemagglutination)**

Verifying tests:

- TIT, TPHA, FTA-ABS (more specific)
- Immunoblot
- PCR

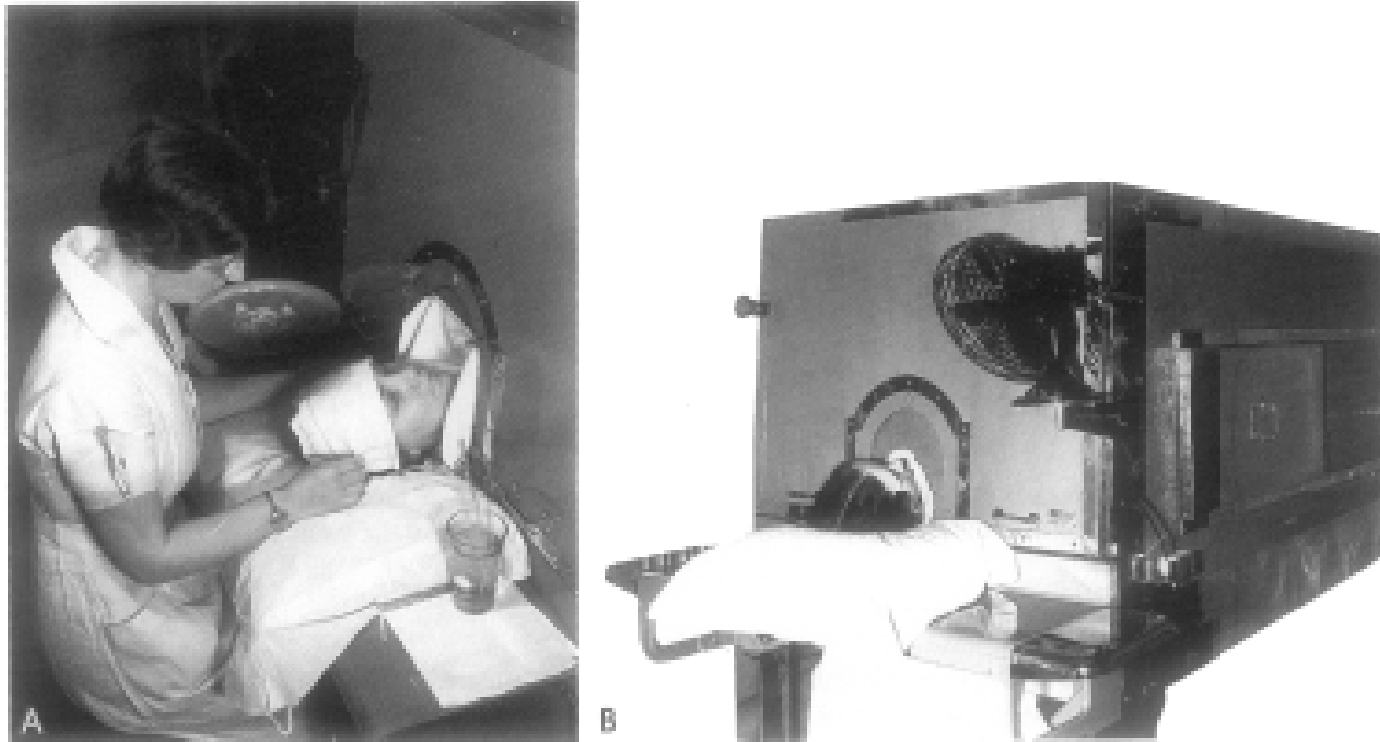
## Neurosyphilis continues to be a difficult diagnosis for clinicians

- decision : to perform a lumbar puncture
- interpretation of cerebrospinal fluid findings
- clear diagnostic guidelines
- establishment of definitive therapy (including alternatives to penicillins)
- and approach to the follow-up of patients with neurosyphilis
- → coinfection with HIV

**Table 1. Recommended management for syphilis in HIV-infected patients<sup>1</sup>**

Stage	Treatment	Follow-up
Primary, secondary, or early latent syphilis	2.4 × 10 <sup>6</sup> U intramuscular benzathine penicillin G once	Clinical and serologic exams at 3, 6, 9, 12, and 24 mo
Late latent syphilis or syphilis of unknown duration	2.4 × 10 <sup>6</sup> U of intramuscular benzathine penicillin G weekly for 3 wk	Clinical and serologic exams at 5, 12, 18, and 24 mo
Neurosyphilis or ocular syphilis*	3-4 × 10 <sup>6</sup> U of intravenous aqueous crystalline penicillin G every 4 h for 10-14 days (or) intramuscular procaine penicillin 2.4 × 10 <sup>6</sup> U daily and oral probenidol 500 mg 4 times per day for 10-14 days	If CSF pleocytosis was initially present, CSF exams every 6 mo (for up to 2 yr) until this parameter returns to normal

\*Some experts recommend the addition of a single intramuscular dose of 2.4 × 10<sup>6</sup> U of benzathine penicillin G to the conclusion of therapy in cases of neurosyphilis.



**Fig. 3. A and B, So-called fever cabinet, or "Electronic Cabinet of Kettering," was in use at Mayo Clinic as an alternative to the much-touted malaria therapy for treatment of tertiary syphilis.**



# Lyme serology

## cross reactivity between treponemas

- Retrospective case analysis of Lyme serology in 440 patients with optic neuritis examined
- Lyme enzyme-linked immunosorbent assay (ELISA) was positive in 28 (6.4%) patients with optic neuritis, three of whom had syphilis with cross-reactive antibodies.

# Frambrosia not venereal treponematosi



# Gonorrhoea

- *classical* STD
- *Neisseria gonorrhoeae*
- Gram negative coccus
- incubation: 2-5 days
- purulent discharge
- in women usually symptom-free

# Gonorrhoea(GO)

- **cylindroepithelial cells**
- **urethra, cervical canal, rectum, conjunctiva**
  
- genital discharge
- pharyngitis
- proctitis

neonatal: conjunctivitis

rarely: vulvovaginitis (only in girls, gravid, old or castrated women)

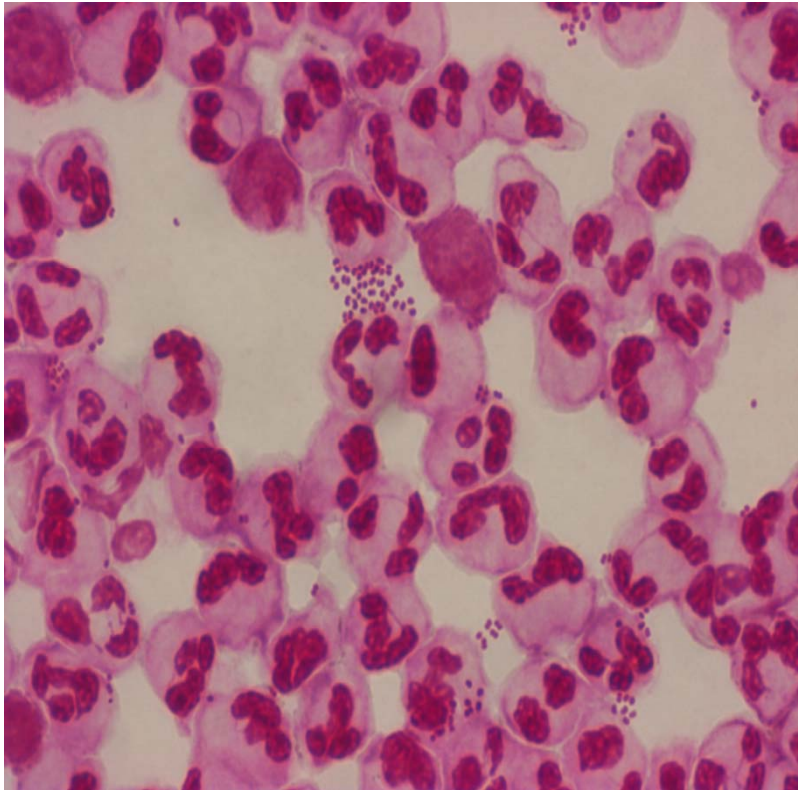
# Disseminated gonococcal infection

- rare complication: sepsis
- more women affected
- joint pain
- tenosynovitis- monarthritits
- rash: scattered purpuras
- occasionally: pericarditis, endocarditis, meningitis

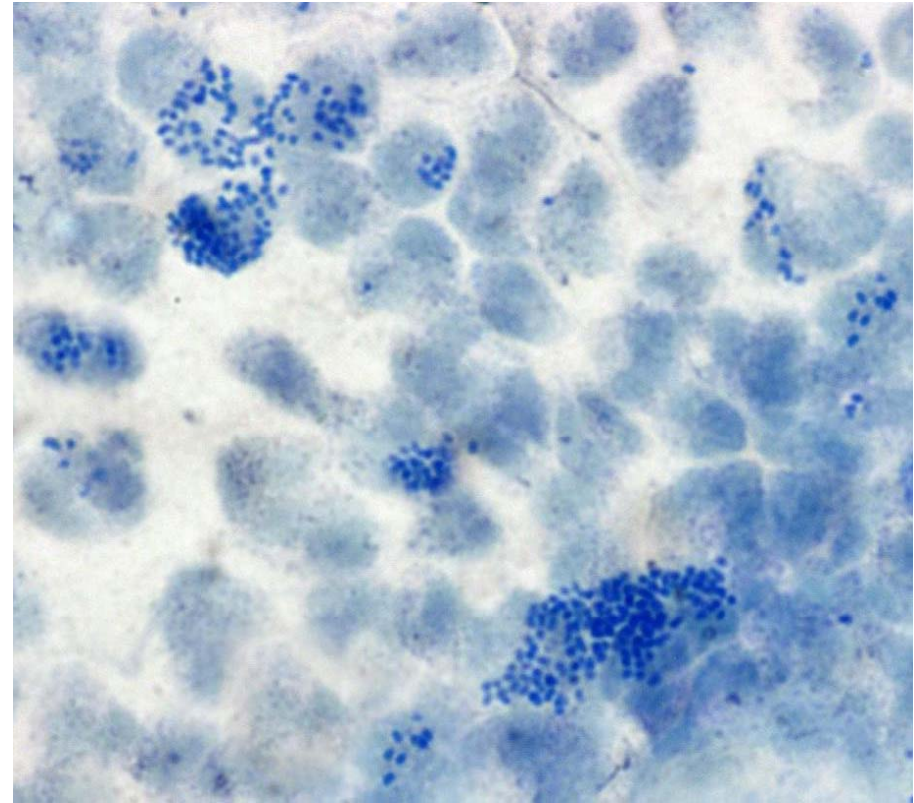
# GO - diagnosis

- smear- color/ not methylen blue- *all bacteria are blue*
- Gram stain: Neisseria - red
- diplococci - intracellular!
- diagnosis: culture, CO<sub>2</sub>,  
**PCR**
- penicillinase producing strains are common

# Gram-stain



# Methylen blue



# Go in women

- acut : might be asymptomatic
- chronic - 3-6 weeks later
- cystitis
- Bartholin' abscess or gonorrhoeic bartholinitis: labial pain, swelling, pus
- go infantile vulvovaginitis
- endometritis ( 30%)
- go salpingitis - pyosalpinx- sterility (tubes)
- perioophoritis, oophoritis, peritonitis - adnextumor- sterility
- adnexitis go - acut: fever, pain- subacut - chronic - sterility

- Bartholinitis

# Go sepsis

# GO in men

## Urinary tract

- urethritis go. anterior acuta-
- urethritis go. anterior chronica- bonjour-drops
- complications: cavernitis go (Littre-glands), lymphangitis, cowperitis /Cowper's gland/ , foreskin: balanitis acuta purulenta, phimosis, paraphimosis

Gonorrhoea in men : in 2-3 days

# GO in men

## Male reproductive system

- urethritis go posterior acuta- alcohol, sport- strictures
- prostatitis go. acuta( frequent urination, retention) and chronica (aching pain)
- superficial and deep vesiculitis go.
- funiculitis and epididymitis go (fever, chills, swollen E)
- sterility, azoospermia

# GO treatment

- **start immediately** to prove the diagnosis / the treatment
- make a quick test (smear) and treat! Do not let the patient without treatment! AB resistance
- Ceftriaxon 250 mg i.m. /also in gravidity
- Spectinomycin 2 gr/4 gr i.m.
- azithromycin 1 gr/per os
- temperature at the same evening (SY)
- blood test for syphilis and HIV, HBV
- contact tracing
- check the patient for other infections – chlamydia- if symptoms still present

# HPV

JAAD

# HPV- SY II

# HPV- diff: Sy II