

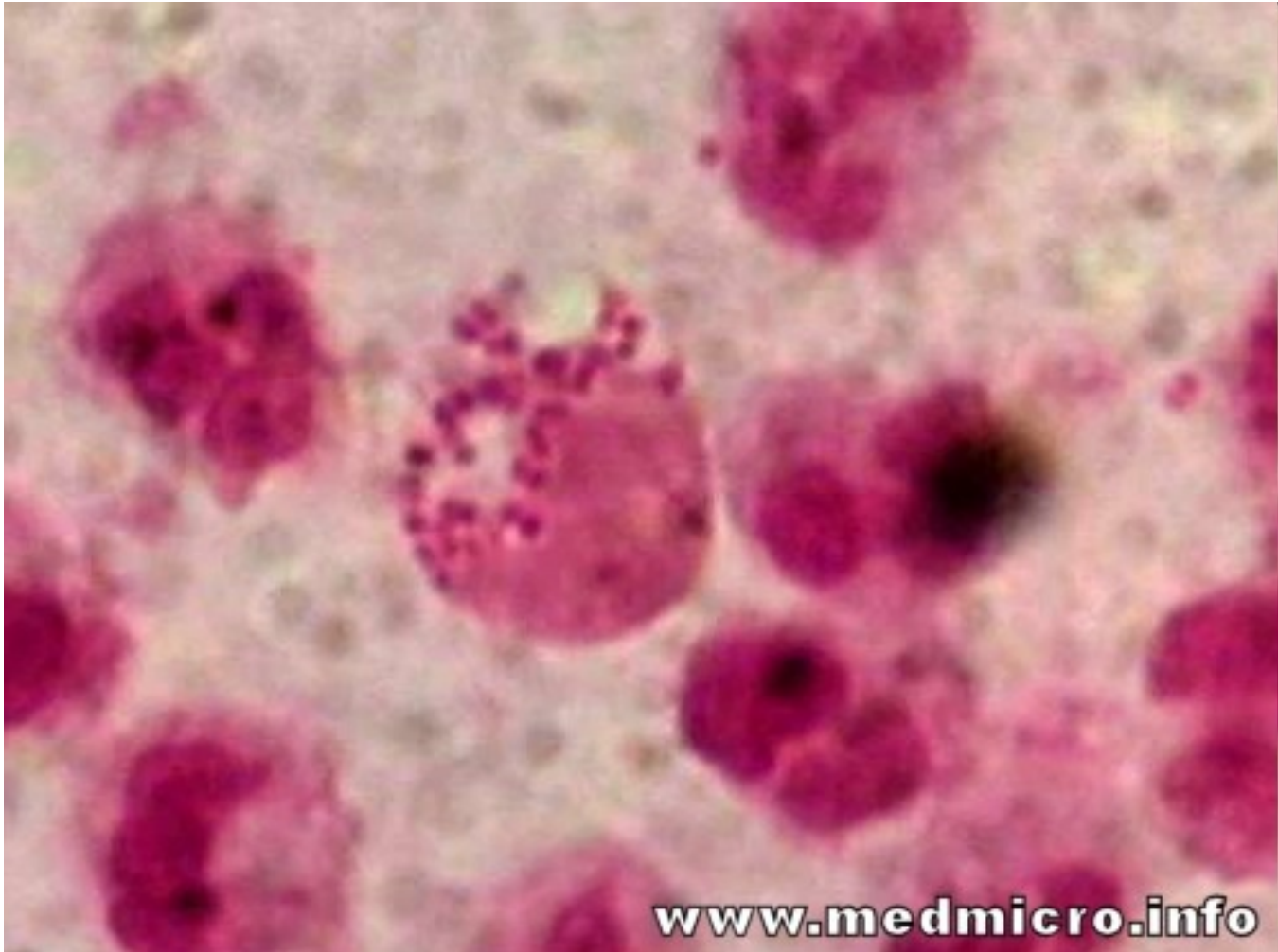
**Institute for Microbiology, Medical Faculty of Masaryk University
and St. Anna Faculty Hospital in Brno**

Agents of classical venereal infections

Classical venereal infections

- **Gonorrhoea** (rudely: the clap)
Neisseria gonorrhoeae
- **Syphilis** (in Central Europe also: lues)
Treponema pallidum
- **Chancroid** (soft chancre, ulcus molle)
Haemophilus ducreyi
- **Lymphogranuloma venereum**
Chlamydia trachomatis L₁, L₂, L_{2a}, L₃

Neisseria gonorrhoeae

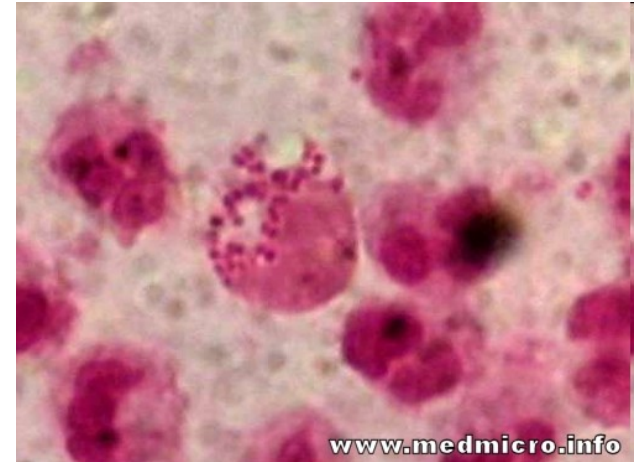


Clinical forms of gonorrhoea

1. Infections of **lower** parts of urogenital tract
2. Infections of **upper** parts of urogenital tract
3. Other **localized** infections
4. Rare gonococcal infections: **disseminated** ones
(skin, arthritis, meningitis, endocarditis)

GO: infections of the UGT

- Urethritis
- Epididymitis



- Cervicitis
- Urethritis
- Bartholinitis
- Endometritis
- Salpingitis, adnexitis (PID, pelvic inflammatory disease) → sterility!

GO: other localized infections

and :

proctitis

pharyngitis

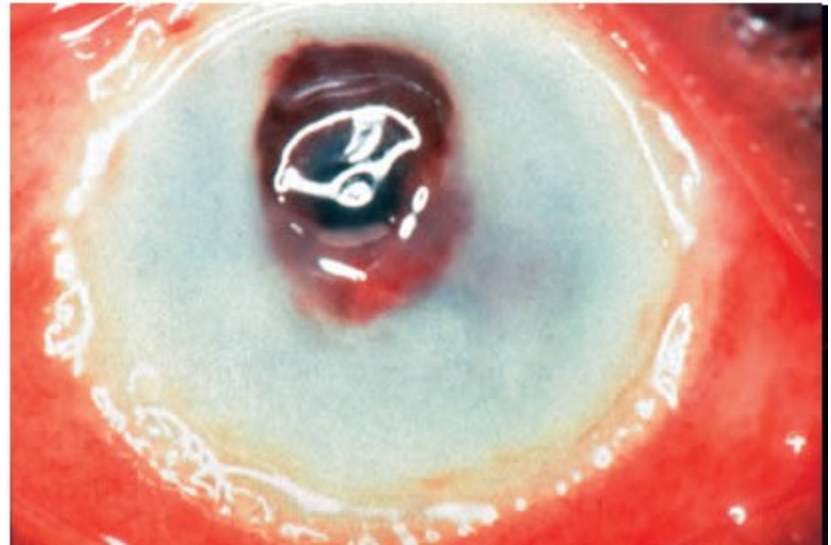
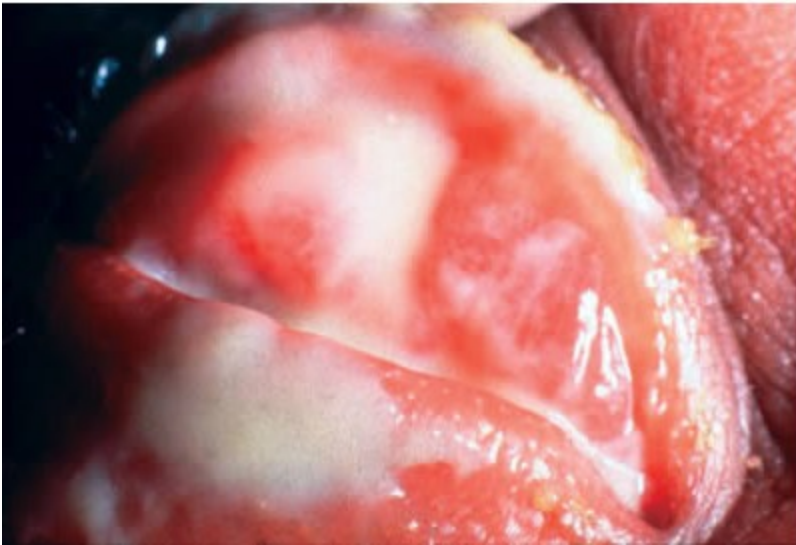
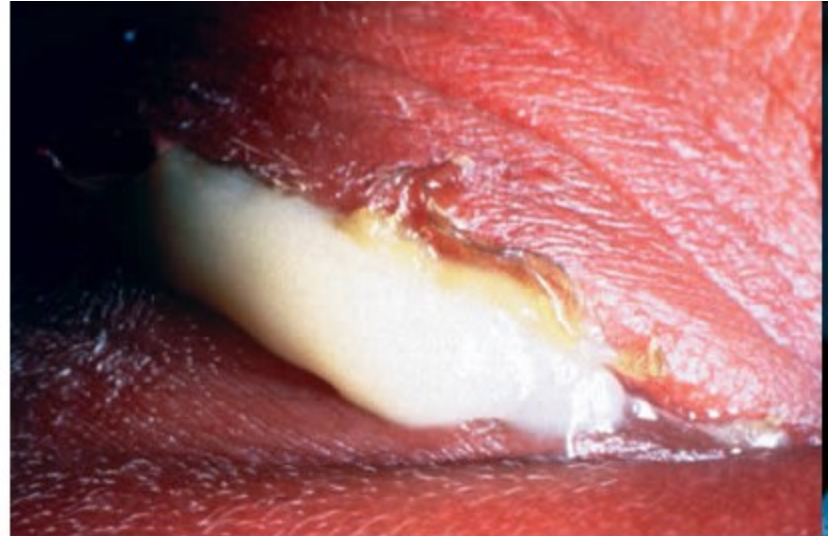
blenorhoea neonatorum

:

peritonitis (Fitz-Hugh syndrome)

perihepatitis (Curtis syndrome)

Blenorrhoea neonatorum



GO: complications

⋮

prostatitis

periurethral abscesses

⋮

cervicitis chronica

tuboovarial abscess

adnexitis chronica → sterility

graviditas extrauterina

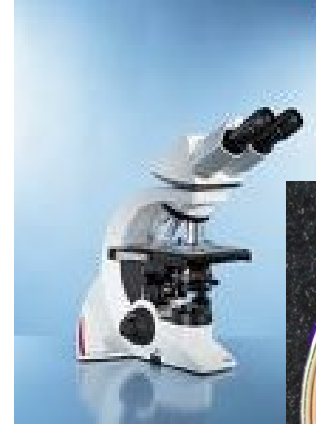
GO: laboratory diagnostics – I

Direct detection only:

microscopy

culture

molecular biology tests



Sampling places:

urethra

cervix, urethra, rectum, pharynx (if necessary)

GO: laboratory diagnostics – II

Way of sampling:

- **always 2 swabs**

the first one **inoculate directly on media** (warmed, not from the fridge), **or** put it into a **transport medium**, transport it at ambient temperature, from the second one **make a film on the slide**

Microscopy (Gram):

important in acute gonorrhoea in males, symptomatic gonorrhoea in females



www.medmicro.info

GO: laboratory diagnostics – III

Media for gonococci:

Combine non-selective **chocolate agar**
with a selective **medium with antibiotics**

Always fresh (**moist**), with added **CO₂** (candle jar),
read after 24 and 48 hrs

Identification:

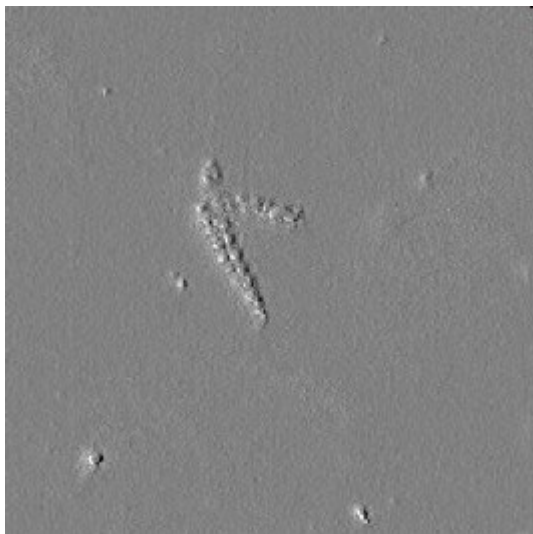
- **biochemistry (oxidase +, glucose +, maltose -)**
- **serology (slide agglutination)**
- **molecular biologic confirmation tests**

GO: therapy

Ceftriaxone or ciprofloxacin

usually in a single dose,
because of potential concurrent *Chlamydia trachomatis* infection: in a combination with doxycycline or azithromycine

Nowadays, many strains of *N. gonorrhoeae* are resistant to penicillin & tetracyclines



TREPONEMA PALLIDUM

Author: MUDr. Petr Ondrovčík

Syphilis: course

From the very beginning: syphilis = **systemic disease!**

Early syphilis: **primary** (ulcus durum)
secondary (mostly rash)
early latent

Late syphilis: **latent**
terciary (gummas, aortitis,
paralysis progressiva,
tabes dorsalis)

Congenital syphilis: early and late

Syphilis: therapy

„One night with Venus, the rest of life with Mercury“

Ehrlich and Hata: preparation No 606 – salvarsan
von Jauregg: malaria (because of high fever)

Nowadays, the drug of choice is **penicillin**

Primary syphilis:

benzathin penicillin (2,4 MIU) 1 dose

Secondary and late syphilis:

benzathin penicillin (2,4 MIU) 3 times after 7 days



Syphilis: laboratory dg – I

Direct detection

From exudative lesions only (mostly from ulcer durum)

darkfield examination

PCR

immunofluorescence

Indirect detection (serology)

= mainstay of laboratory diagnostics of syphilis

Two types of serologic tests:

with nonspecific antigen (**cardiolipin**)

with specific antigen (*Treponema pallidum*)



Syphilis: laboratory dg – II

Tests with cardiolipin (nontreponemal):

RRR, VDRL, RPR

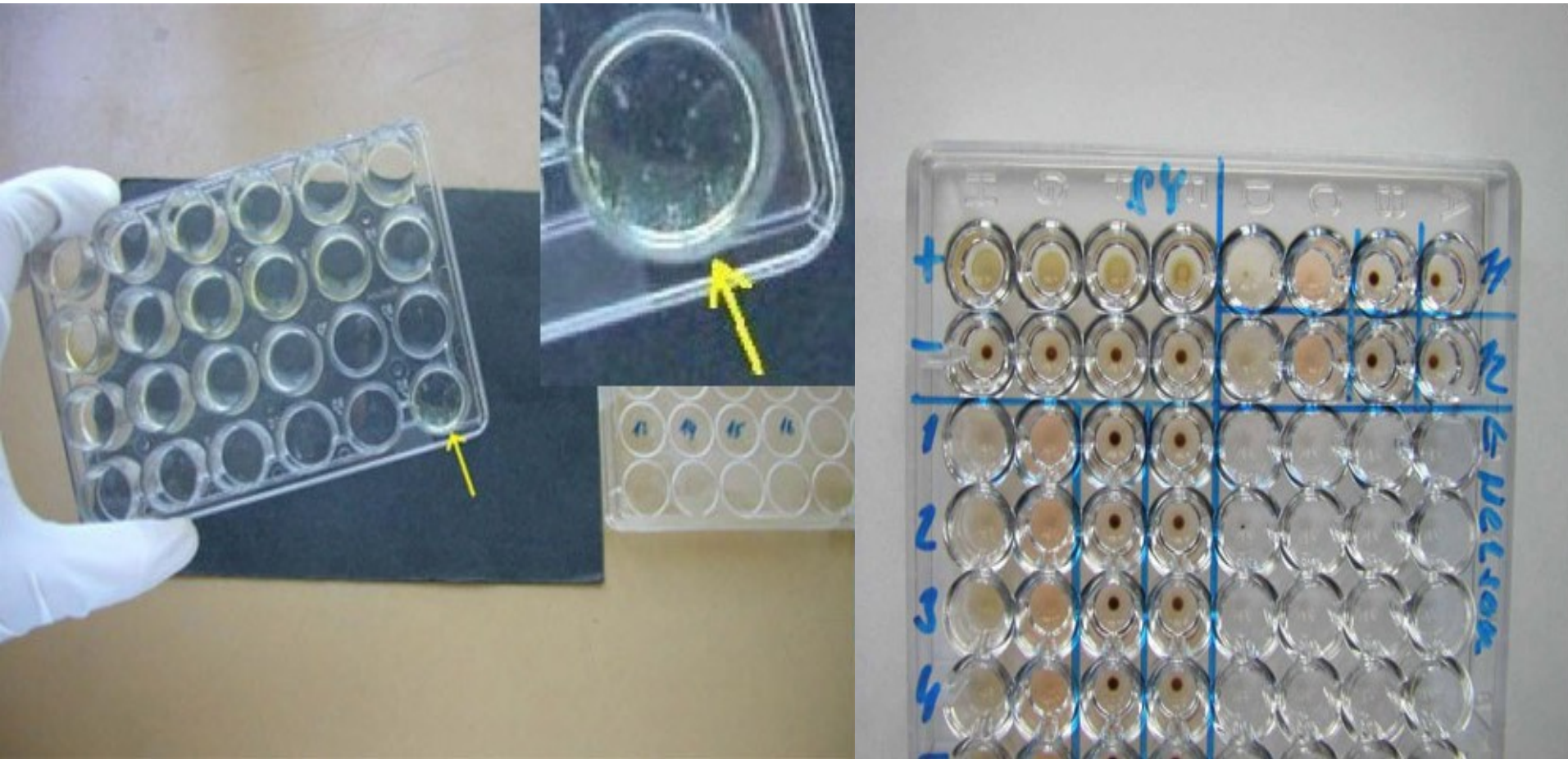
fast, cheap, positive early, reflecting the activity, but often falsely positive

Treponemal tests:

TPHA, ELISA, WB, FTA-ABS, TPIT

sensitive, more expensive, more specific, but positive later, remaining positive for life

Screening: **cardiolipin test (RRR) + TPHA**



a Blood Test for all



PROTECTS YOU
against Syphilis

Poster, 1940

Soft chancre (chancroid)

Agent of *ulcus molle*: *Haemophilus ducreyi*

Occurrence: the tropics

Course: genital **ulcerations** (easier transmission of HIV) & purulent lymphadenitis

Dg: only **culture** on enriched media (chocolate agar with supplements), 3 days at 33 °C in 10% CO₂

Lymphogranuloma venereum

Agent of LGV: *Chlamydia trachomatis*
serotypes L₁, L₂, L_{2a}, L₃

Occurrence: the tropics and subtropics

Course: purulent **lymphadenitis** (tropical bubo) & lymphangoitis with **fistulae** & **scars** devastating the pelvic region in females

Dg: mostly **serology** – CFT with the common antigen of chlamydiae



FIGURE 64. — Typical inguinal bubo in a patient with lymphogranuloma venereum. (Courtesy, Col. John J. Deller, Jr., MC.)

Homework 4 – solution

Gerrit van Honthorst (1590-1656): Dentist (1622)



Homework 5

