Manifestations of genital infections that may present in general medical practice

Core Medical Teaching

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Alison Wright

Aims

- Curriculum competencies
  - Genital discharge and ulceration
- GUM related conditions which may present in General Medical practice

Outline

- Chlamydia and gonorrhoea in men and women
- Mycoplasma genitalium
- Other causes of vaginal discharge
- Genital ulceration
- Unmasking of viral STIs by illness and treatment
- Complications of genital CT and GC
- Enteric infections in MSM

Chlamydia trachomatis and *Neisseria gonorrhoeae*

- Adult
  - Urethra
  - Endocervical canal
  - Rectum
  - Pharynx
  - Conjunctiva
- Neonate
  - Conjunctiva
- Atypical pneumonia also in neonatal CT

CT and GC - male

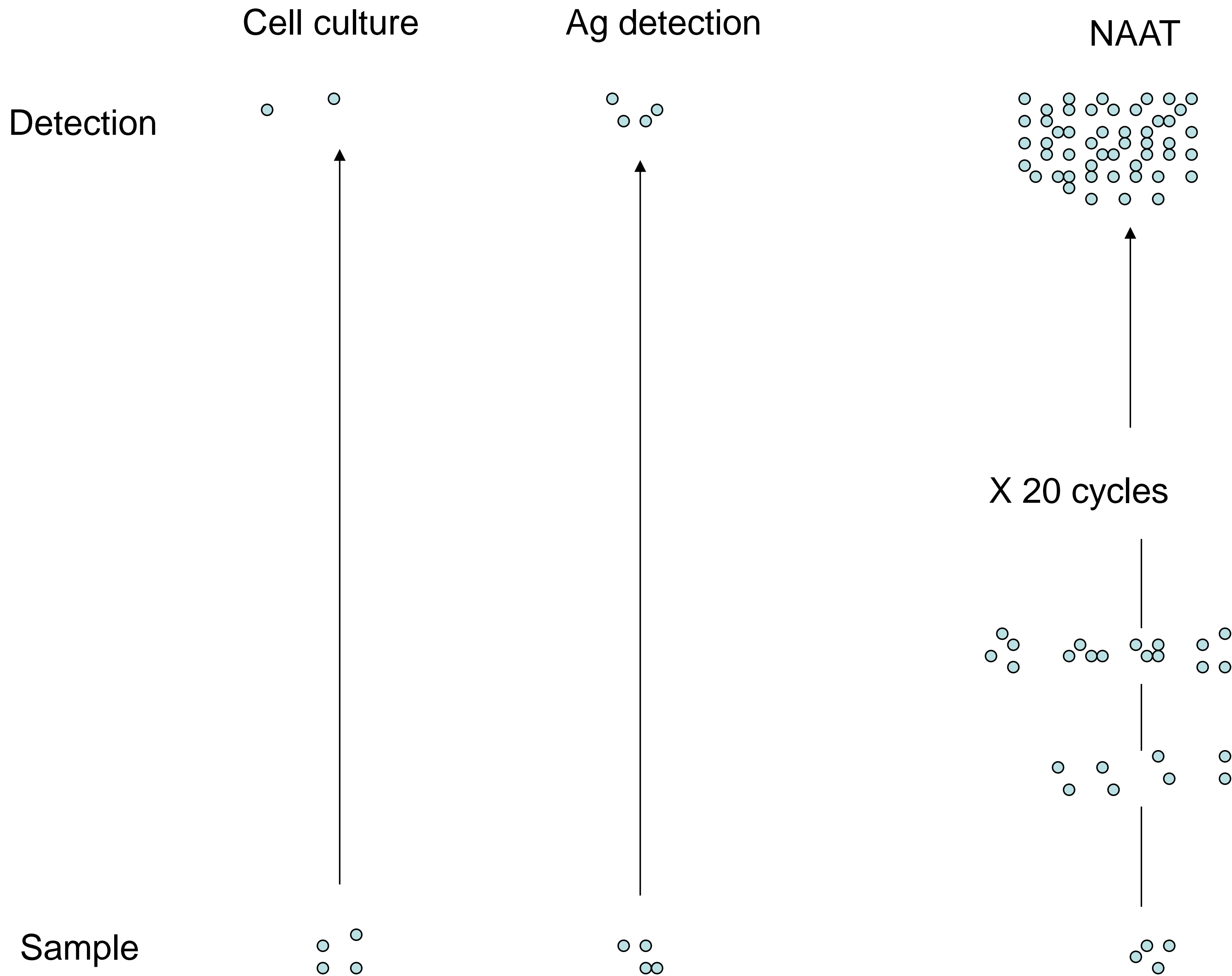
- Dysuria and urethral discharge
- Incubation
  - GC 2-5 days CT 7-21 days
- Asymptomatic
  - GC 10% CT at least 50%
- Transmission female to male
  - GC 20 – 60-80% CT 70%
- Complications mostly with CT– epididymo-orchitis; reactive arthritis

CT and GC female

- Non-specific symptoms – discharge, menstrual irregularity, dysuria
- Asymptomatic
  - GC 50% CT over 70%
- Incubation
  - GC up to 10 days CT ill-defined
- Transmission male to female
  - GC 50-90% CT 70%

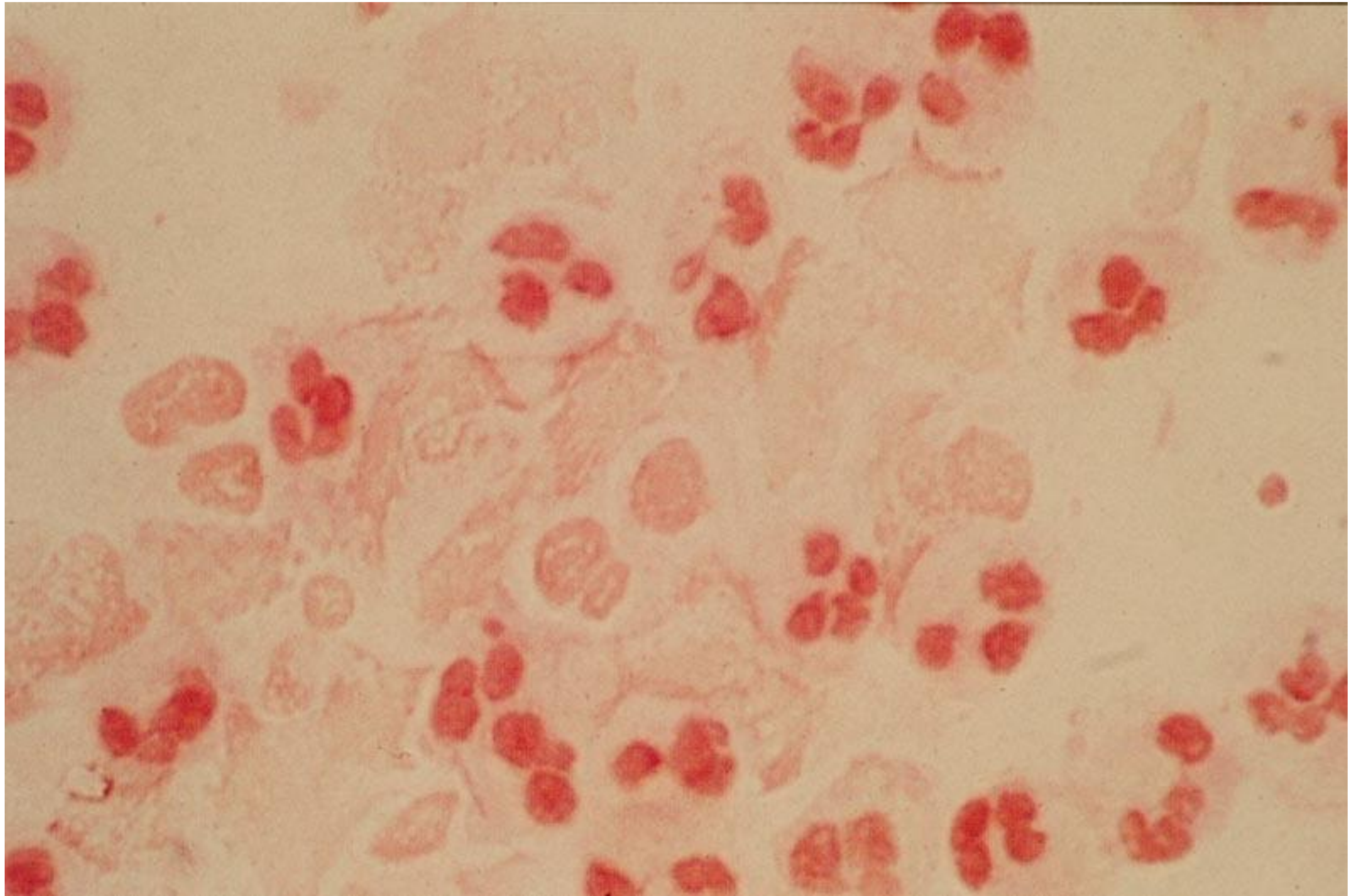
CT and GC female complications

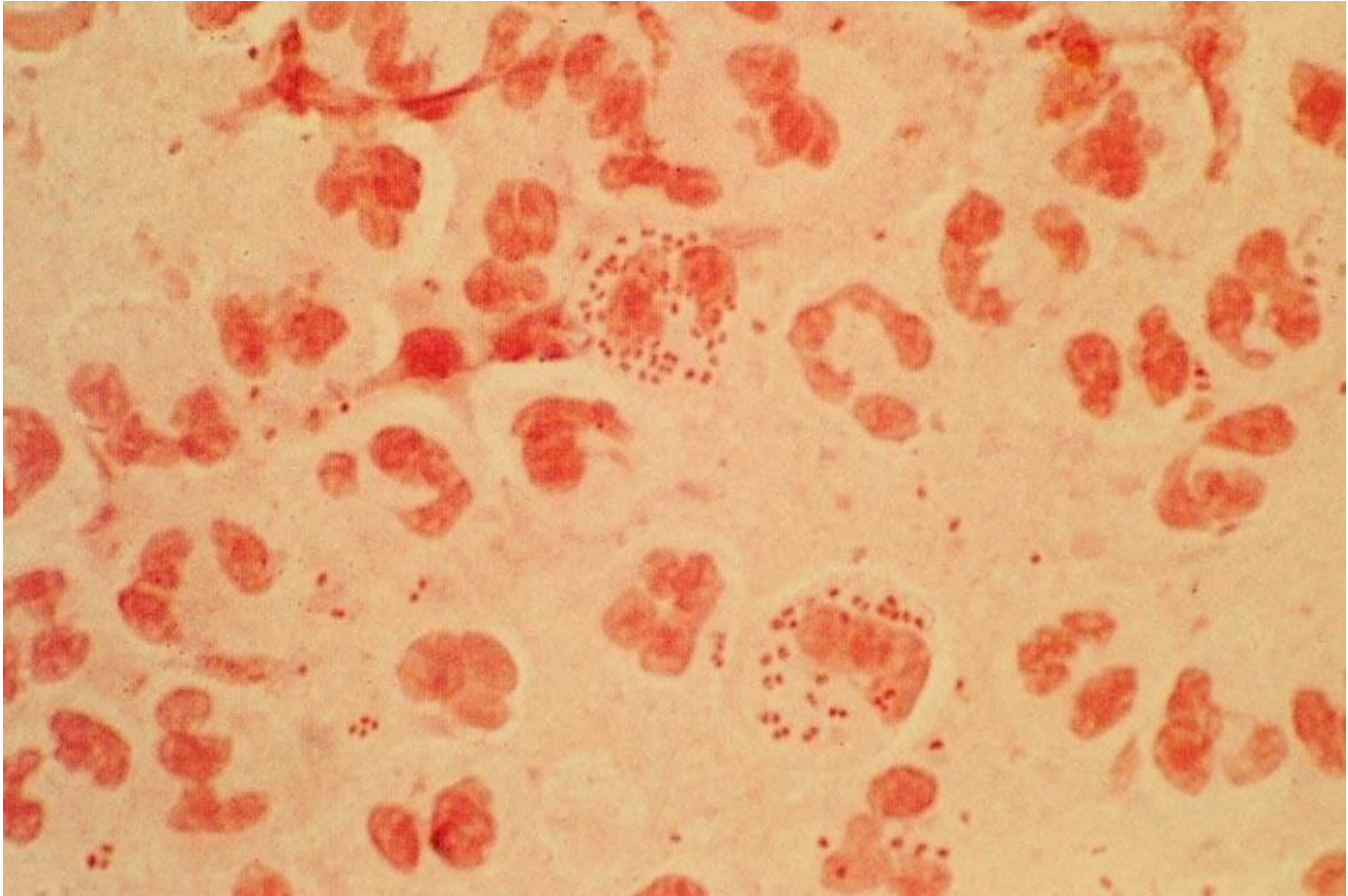
- Pelvic inflammatory disease
  - Tubal factor infertility
  - Ectopic pregnancy
  - Chronic pelvic pain
- Neonatal transmission
  - Ophthalmia neonatorum
  - Atypical pneumonia with CT
- Fitz Hugh Curtis syndrome – peri-hepatitis
  - Right upper quadrant symptoms and signs. Scan and LFTs normal


Cell culture
Ag detection
NAAT
Detection
X 20 cycles
Sample

Chlamydia and gonorrhoea diagnosis

- NAAT
  - Male first void urine
  - Female blind vaginal swab
  - Throat and rectal as indicated by sexual history
- If GC NAAT positive
  - Culture to monitor antibiotic sensitivity patterns
- Near patient testing in symptomatic patients
  - Microscopy of male urethral smear, female cervical smear, rectal smear if indicated





Chlamydia and gonorrhoea treatment

- Partner management
- Chlamydia -   alternatives
  - Doxycycline 100mg bd for 7 days
  - Azithromycin 1G stat (plus 500mg OD for 2 days)
  - Erythromycin 500mg bd for 14 days
  - Ofloxacin 200mg bd or 400mg OD for 7 days
- Gonorrhoea
  - antimicrobial resistance monitoring
  - Ceftriaxone 1G IMI

Mycoplasma genitalium

- Small, no cell wall, difficult to culture
- Good evidence as cause of urethritis
- Very probably involved in PID
- Increased appreciation of importance with molecular diagnostic tests
- Doxycycline eradicates in 30% but useful as decreases organism load followed by Azithromycin 1G stat and 500mg od for 2 days
- Macrolide or/& Quinolone resistance increasing

Other causes of vaginal discharge

- Candidiasis
- Bacterial vaginosis
- Foreign bodies
- *Trichomonas vaginalis*
- Atrophic
- Cancer – cervix, endometrium, fallopian tube
- Fistulae
- Physiological

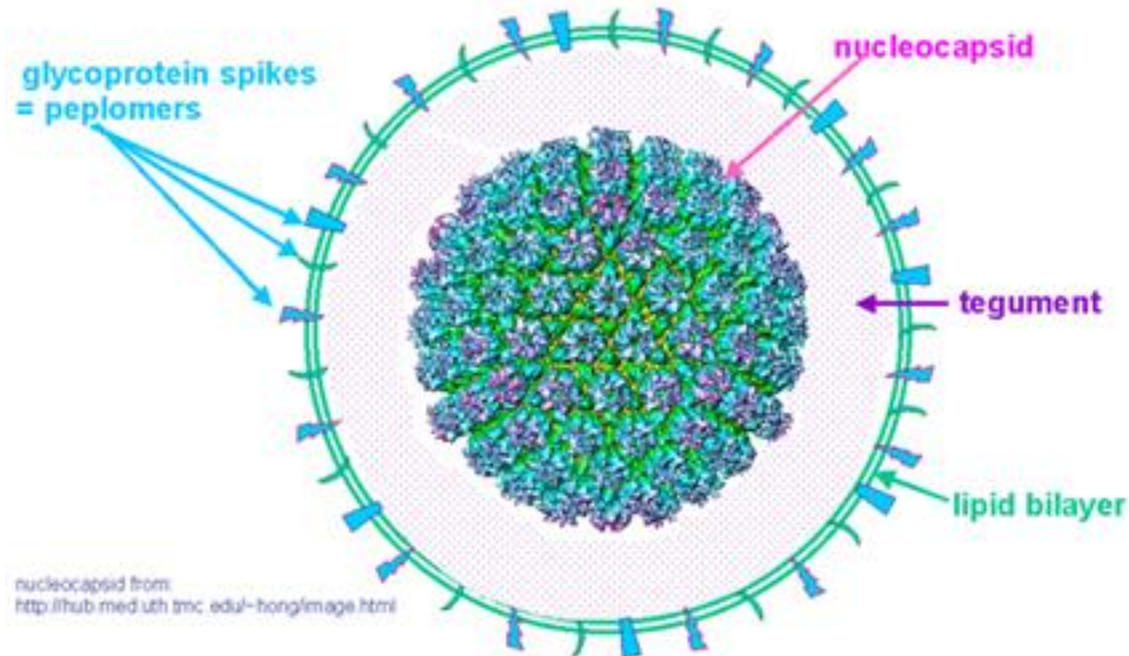
Candidiasis

- Candida albicans mostly
- Non-albicans species eg glabrata
- Acute – topical or oral azoles
- Azole resistance – polyene eg Nystatin pessary
- Recurrent – Fluconazole 150mg every 72 hours for 3 doses and then 150mg once per week for 6 months

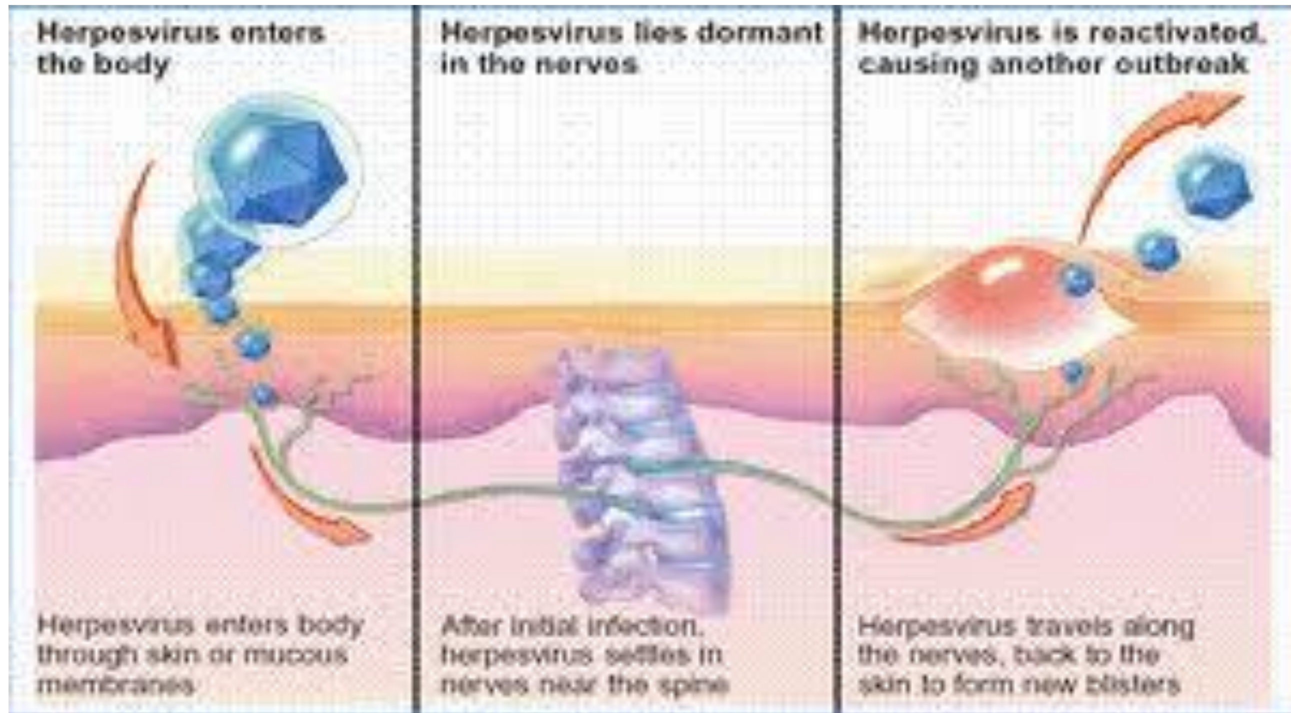
Genital ulceration

- Syphilis
- Herpes simplex virus
- Non- infective
  - Aphthous ulcers – Behcet's
  - Ulcus vulvae acutum
  - Related to lichen sclerosus or lichen planus
  - Crohn's
  - Intraepithelial and invasive neoplasia
  - Trauma

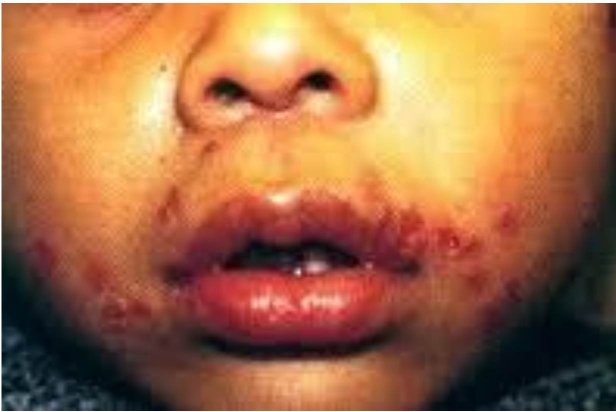
Herpes simplex virus types 1 and 2

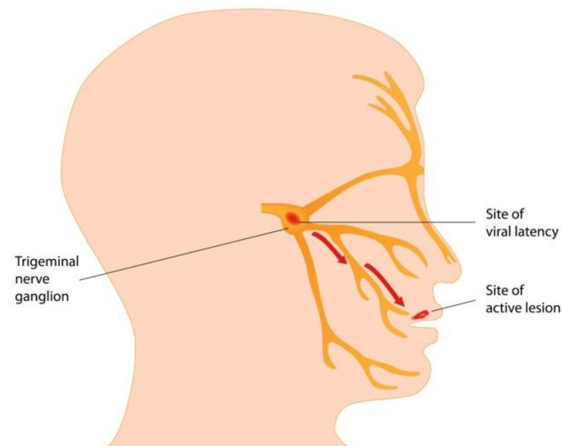


Primary infection, latency and reactivation



Orolabial HSV 1





Symptoms of primary genital herpes

- Incubation – a few days
- Itch and discomfort for a day or so
- Pain passing urine – when urine touches the skin
- Reluctance to pass urine

Diagnosis and treatment of primary genital herpes

- Diagnosis – swab to detect viral DNA
- Treatment – the sooner the better
  - Aciclovir 400mg tds for 5 days
  - Local anaesthetic gel
  - Rest
- Recovery usually within a few days to a week

Recurrent HSV

- Episodic treatment started with prodrome
  - Aciclovir 800mg tds for 2 days
- Suppression
  - Aciclovir 400mg bd for 6 months

HSV 2 in General Medical practice

- Unmasking of asymptomatic genital HSV 2 infection by illness or treatment
- Atypical genital HSV 2 in advanced HIV
  - Chronic ulcers
  - Hypertrophic lesions
- Mollaret's meningitis
  - Recurrent aseptic meningitis
  - Spontaneous resolution over about 7 days
  - Positive PCR on CSF
  - 30% have no genital lesions
  - Suppressive Aciclovir 400mg bd prevents episodes.

Human Papilloma Virus

- Genital warts
  - Types 6 and 11
  - Latent infection unmasked by immunosuppression
- Oncogenic HPV
  - Types 16 and 18
  - Increased risk of squamous cell carcinomas with immunosuppression

Systemic presentations of genital infections

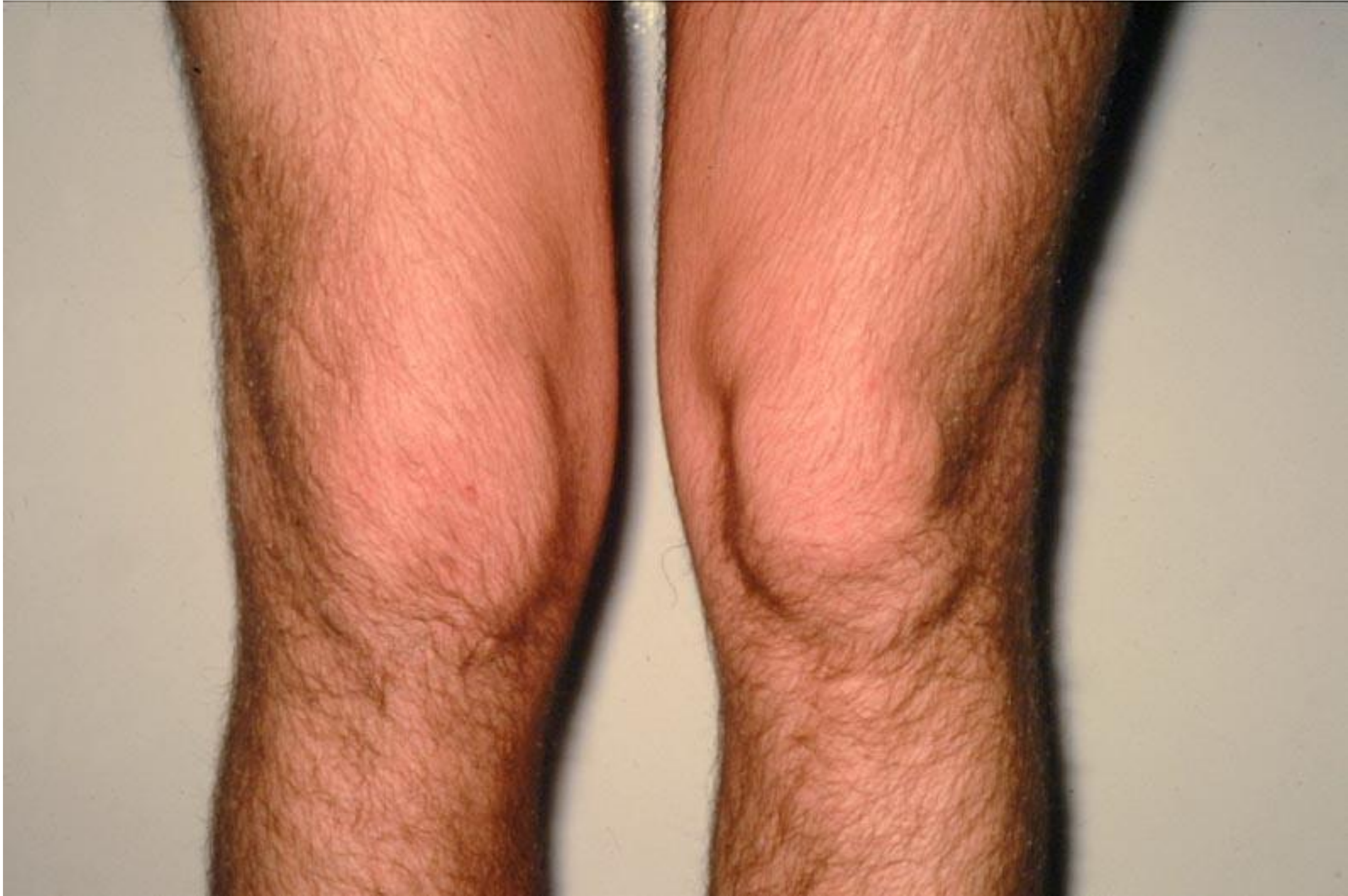
- Rheumatological
  - Sexually acquired reactive arthritis
  - Disseminated gonococcal infection
    - Teno-synovitis
    - Septic arthritis
- Gastrointestinal
  - Lymphogranuloma venereum (LGV)
  - Enteric infections – Shigella, Giardia

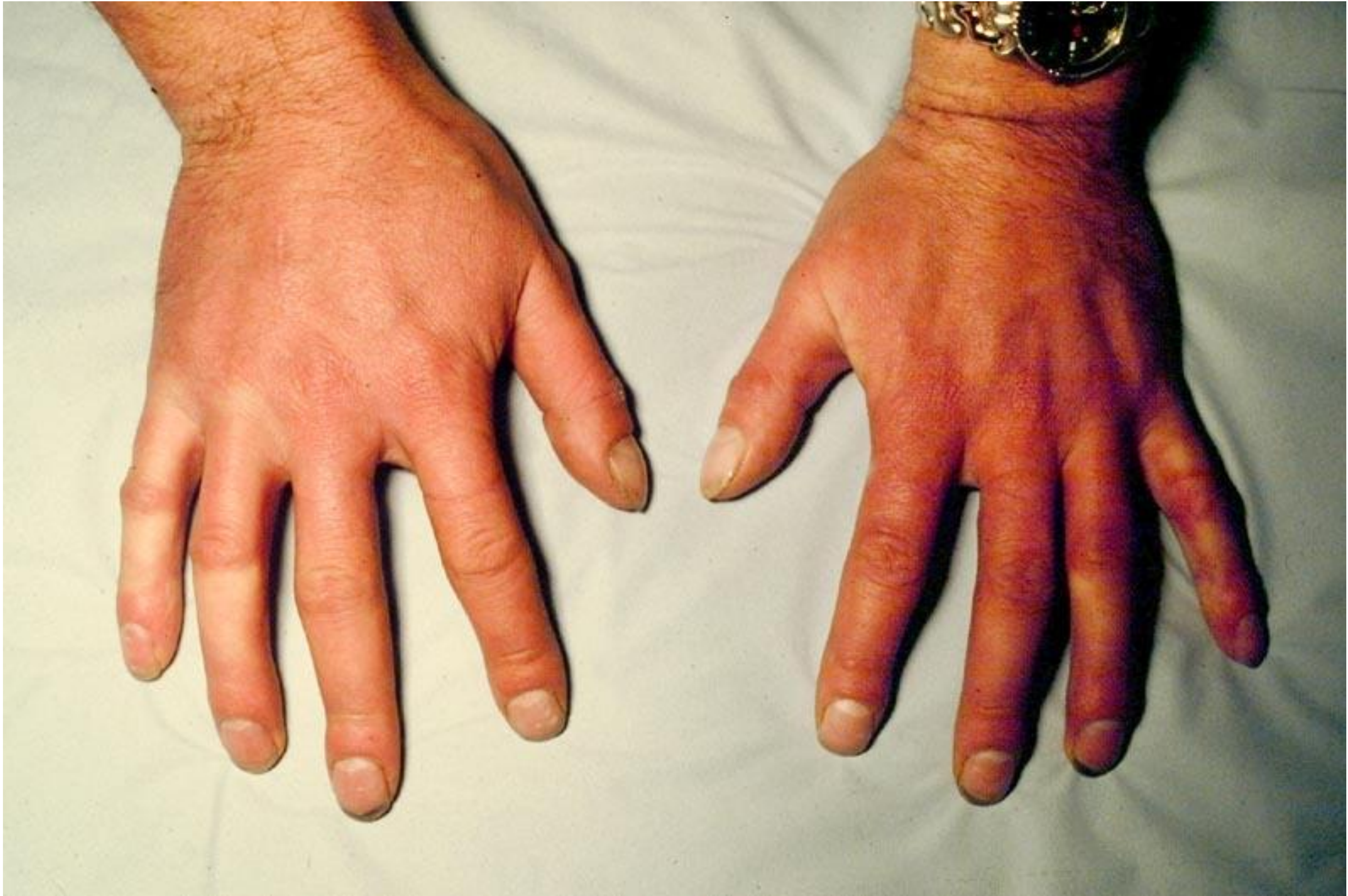
Reiter's syndrome

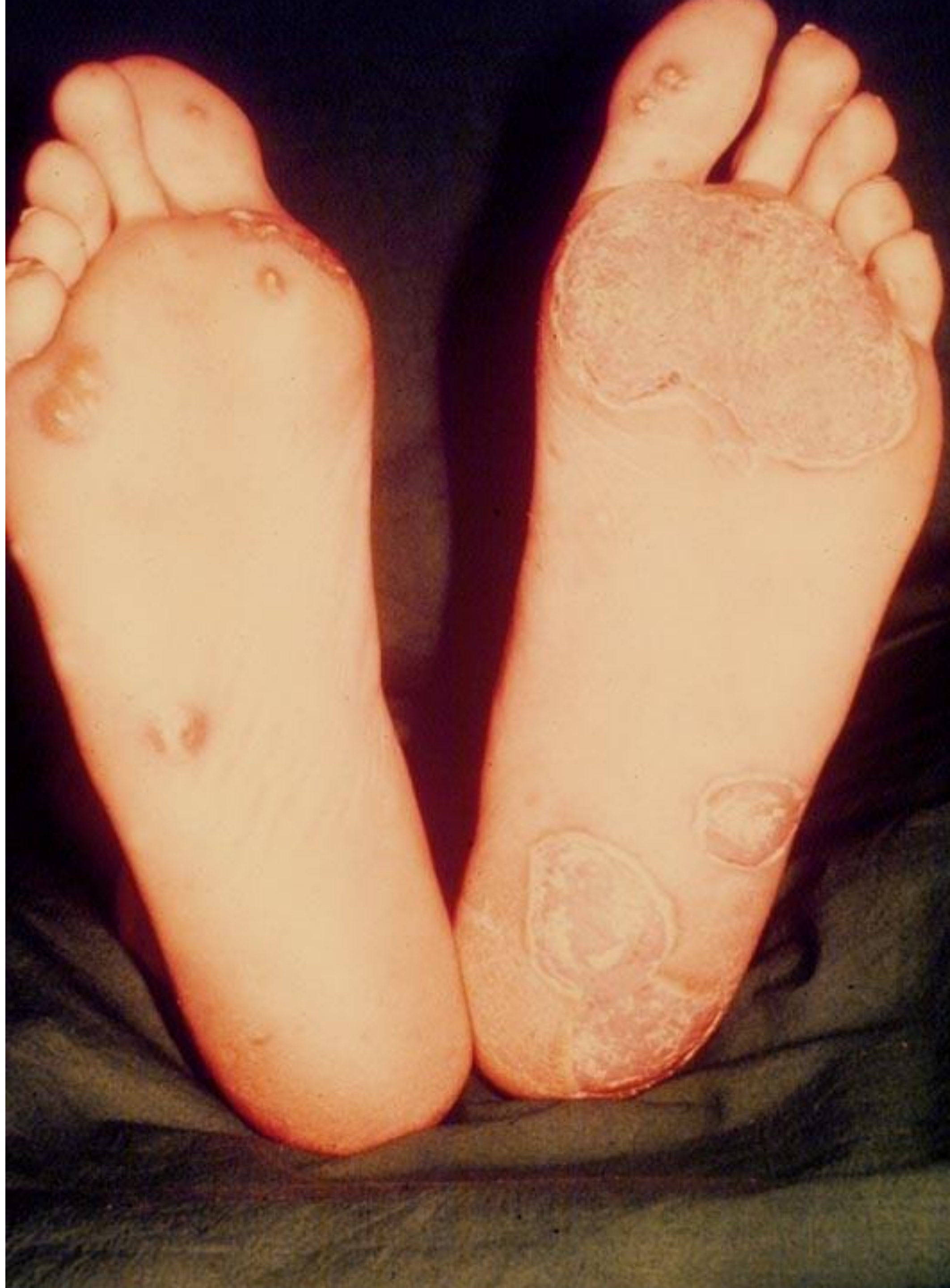
- Reactive arthritis triggered by mucosal infection in susceptible host
- HLA B27 strongly associated and associated with worse prognosis
  - Epidemic enteric
    - Shigella, Salmonella, Yersinia, Campylobacter
  - Endemic – sexually acquired reactive arthritis (SARA)
    - 1-3% of men with non-gonococcal urethritis
    - Chlamydia in 50% of cases of SARA

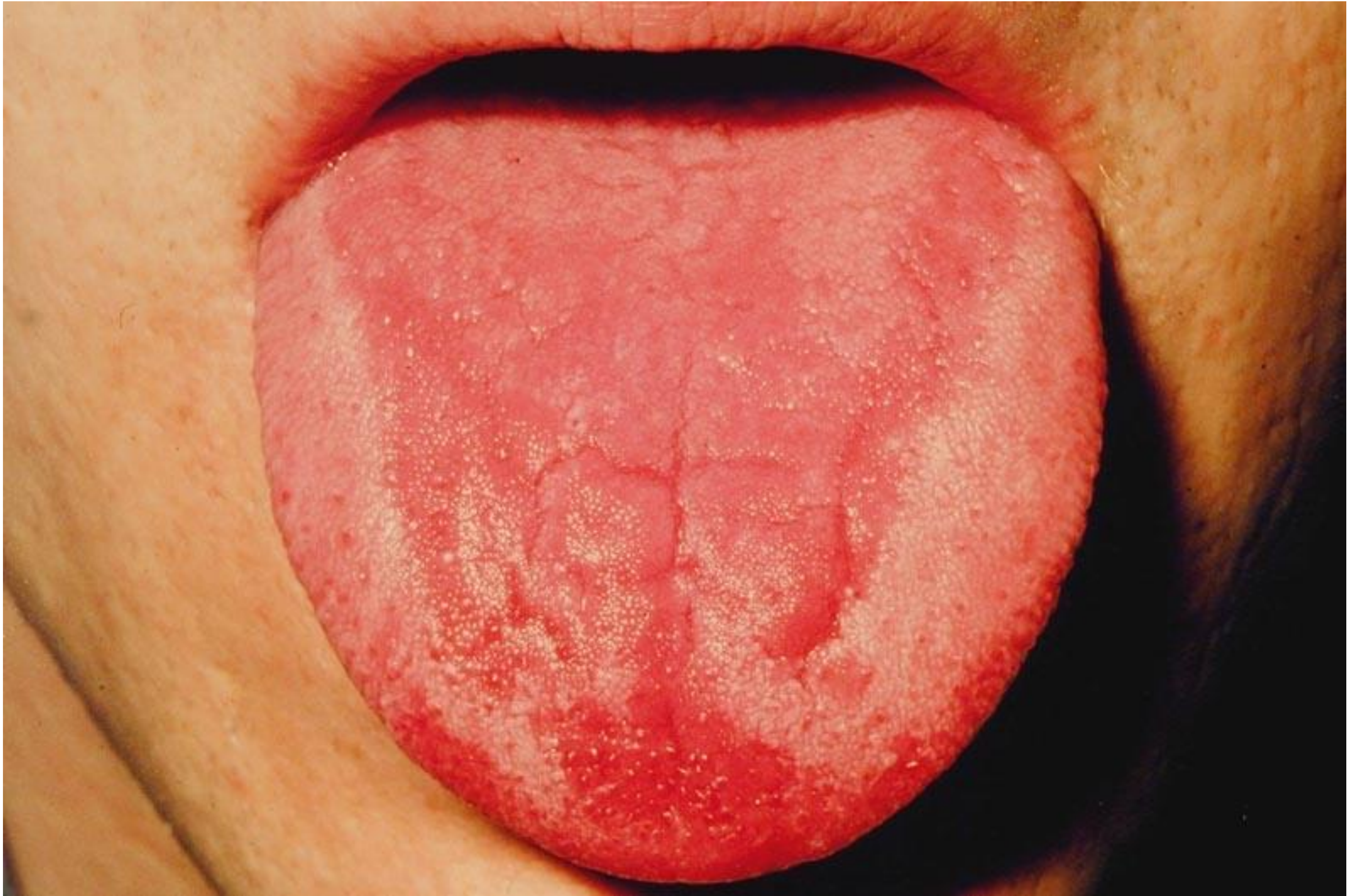
SARA clinical

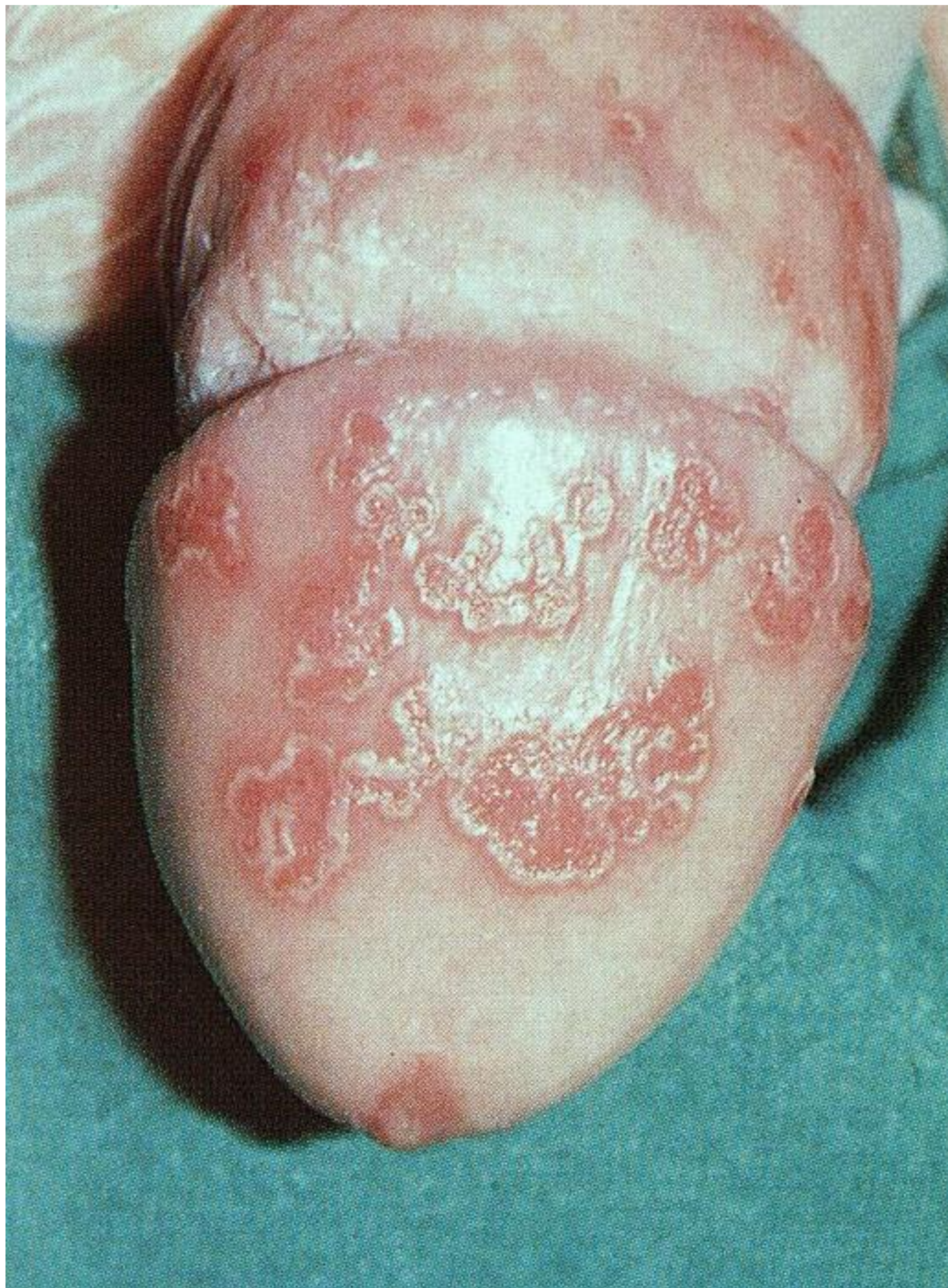
- Small number of weight bearing joints
- Enthesitis
- Sacro-iliitis
- +/- urethritis
- +/- conjunctivitis
- Skin manifestations
  - Keratoderma blennorrhagica
  - Circinate balanitis











SARA diagnosis and management

- Urethral slide for microscopy
- First voided urine for NAAT testing for Chlamydia and gonorrhoea
- Standard treatment for genital Chlamydia
  - Doxycycline 100mg bd for 7 days or
  - Azithromycin 1G stat (+ 500mg od for 2 days)
- Partner notification
- Standard treatment for joints

SARA Prognosis

- Usually self limiting over 4-6 months. 50% have recurrent episodes
- Aggressive arthritis more likely if HLA-B27+
- Change of job 16%
- Long term unable to work 11%

Community Chlamydia screening

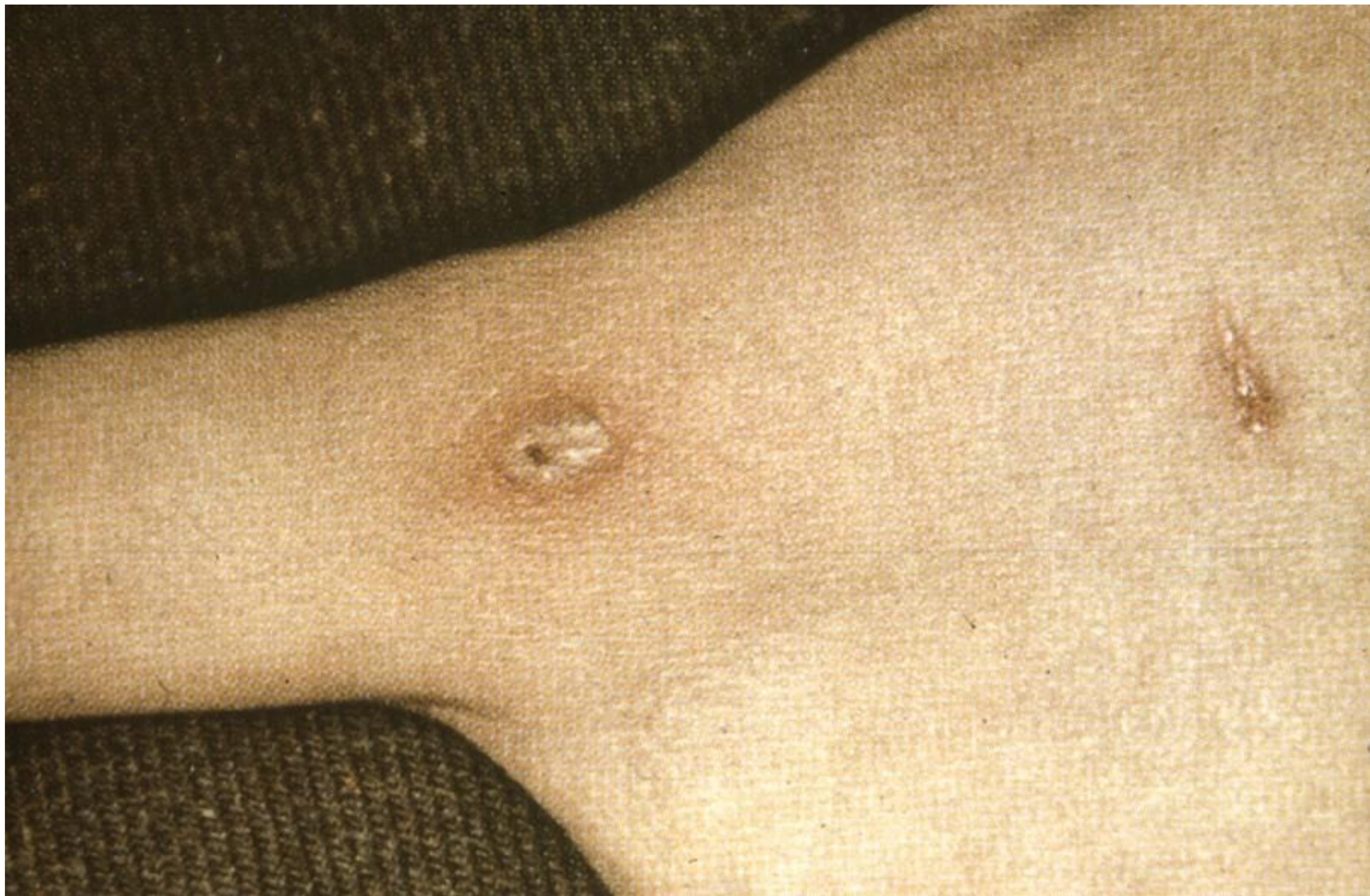
- 10% prevalence in under 25 year old
- Many asymptomatic
- Non- invasive sampling
  - Men first void urine
  - Women self taken vaginal swab
- Aim to reduce prevalence and reduce complications

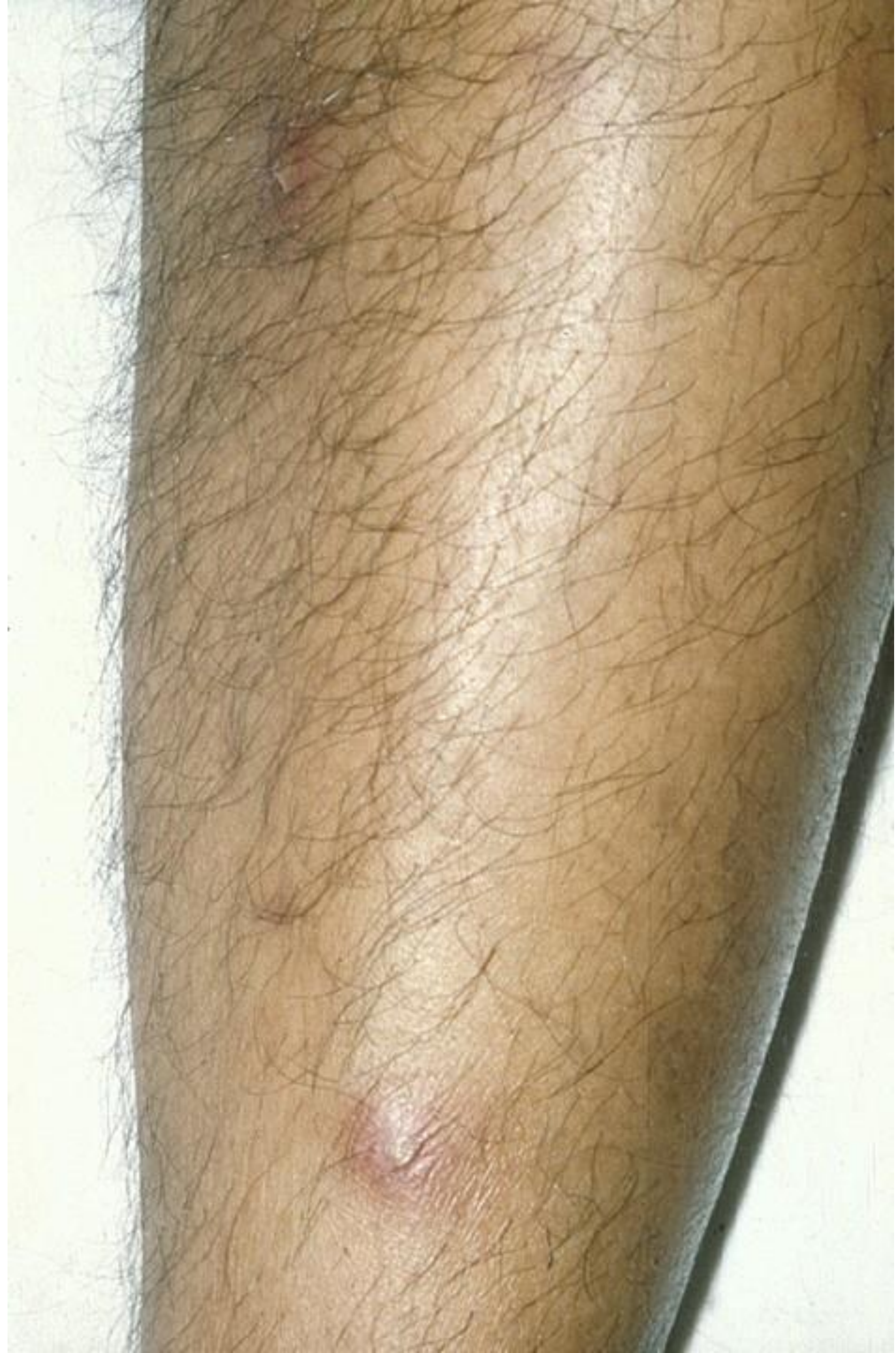
Disseminated gonococcal infection - tenosynovitis pattern

- More common in young women (79-97%)
- Triad of tenosynovitis, dermatitis and polyarthralgia (usually knees, wrists, small joints of hand, ankles &elbows) without purulent arthritis
- Small effusions- sterile
- Blood cultures may be positive if taken within 2 days on acute onset

DGI skin lesions

- few, asymmetrical, often close to affected joint, painful
- start as red macules & become either vesiculopapular then pustular or haemorrhagic then purpuric
- Last 4-5 days but may see cropping
- Neisseria gonorrhoeae rarely isolated from skin lesions





DGI - tenosynovitis diagnosis and management

- Vaginal swab for NAAT testing for Chlamydia and gonorrhoea
- Refer to GUM for direct plating, treatment and partner notification
- Joint symptoms respond promptly to treatment or gonorrhoea

Disseminated gonococcal infection - Septic arthritis

- Purulent arthritis without associated skin lesions
- Usually 1 joint often knee/ ankle/ wrist, effusion with Neisseria gonorrhoeae
- Rarely: endocarditis, meningitis, osteomyelitis

DGI septic arthritis diagnosis and management

- Joint fluid microscopy and culture
- Blood cultures
- Joint wash out
- Microbiology advice re antibiotic
- Refer to GUM for partner notification

Lymphogranuloma venereum

- Chlamydia trachomatis serovars L1, L2, L3
- Stages
  - Ulcer - transient
  - Inguinal syndrome (buboes) or anorectal syndrome
  - Late complications

Anorectal LGV in MSM

- Strong association with HIV, multiple partners and unprotected sex.
- L2
- Rectal pain, tenesmus, constipation, purulent discharge with blood, lower abdo pain
- Proctoscopy - proctitis
- Histology – very similar to Crohn’s
- Diagnosis – NAAT test for CT, positive samples sent for specific L1,2,3 probes

LGV management

- GUM referral
  - Test for other STIs
  - Partner notification
  - Health promotion
- Doxycycline 100mg bd for 3 weeks
- Follow-up 6 weeks after treatment

Enteric infections in men who have sex with men

- Shigella
  - Outbreaks in MSM
  - Marker for high risk sex
  - Stool culture
  - Treatment usually Ciprofloxacin of Azithromycin
  - Refer to GUM for STI testing and health promotion
- Giardia lamblia
  - Diarrhorea, abdo cramps, borborygmy
  - Stool microscopy for O/C/P
  - Treatment with Metronidazole
- Hepatitis A – recent outbreaks associated with sex in Spain

Summary

- Molecular diagnostics for Chlamydia and Gonorrhoea
  - Helpful for testing outside GUM
- Unmasking of HVS and HPV by immunosuppression from illness or treatment
- Gastrointestinal presentations of infections in MSM – markers for high HIV risk behaviour