Sexually Transmitted Diseases

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Infectious Diseases
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Case 1:

- A 31y/o man comes to the STD clinic complaining of 2 days of painful urination, itching at the tip of his urethra and a yellow discharge from his penis.

- What else do you want to know?
- What is the differential dx?
- How would you evaluate and treat him?

Take a History

- Respectful and nonjudgmental
  - patients will be comfortable talking about sex if you are
- Questions should be direct – avoid questions that may not be clear
  - are you sexually active?

Components of the sexual history

- Sexual orientation
- Number of sex partners and new partners
- Sexual repertoire
- Condom use
- Hx of STDs
- HIV status of self and partners

- Do you have sex with men women or both?
- How many partners in the last 60 days? Year? How many were new?
- Vaginal, oral, anal (top or bottom)?
- How often do you use condoms?
- Have you ever had…?
- Do you ask you partners?

Case Continued

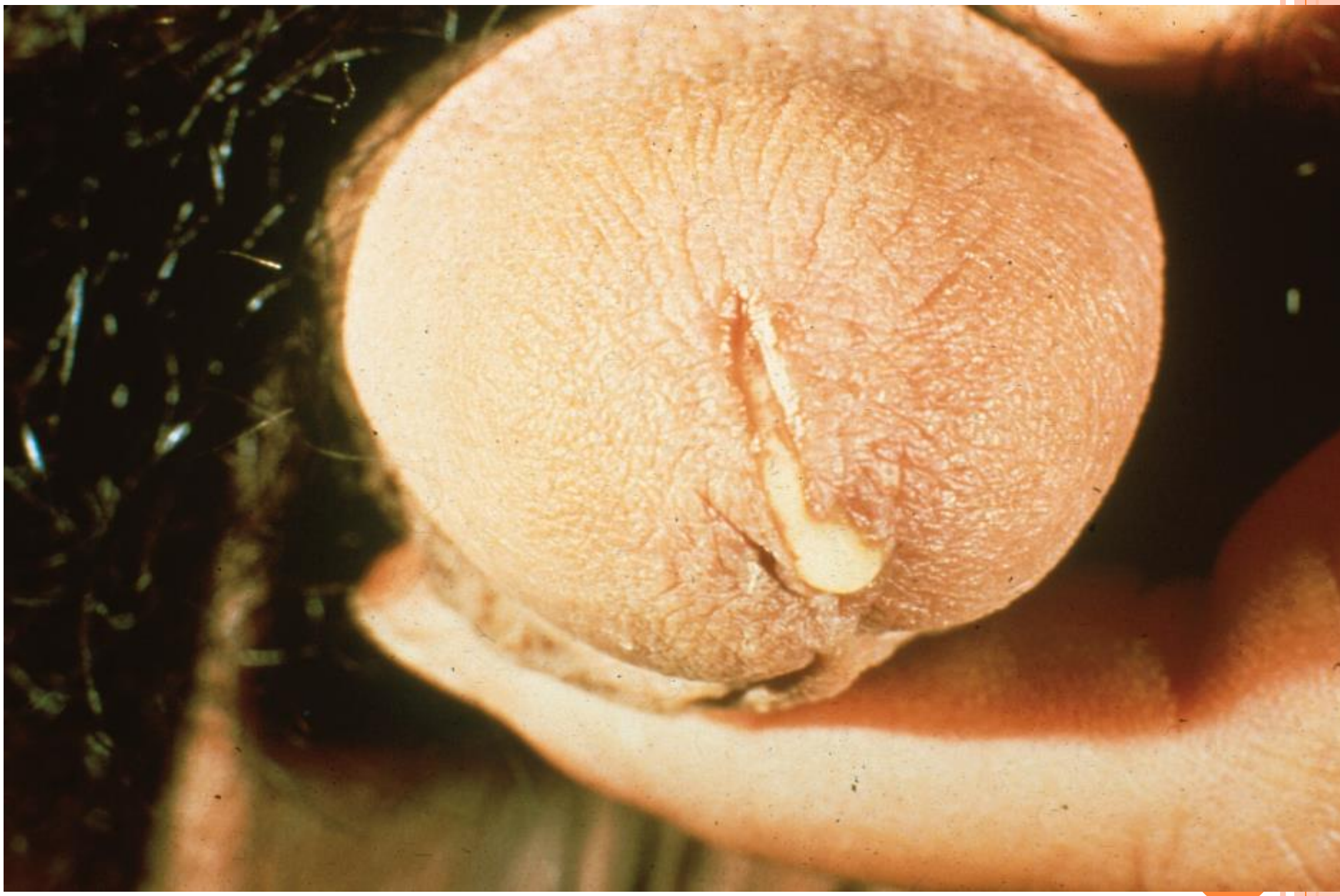
- The patient has sex with women only and reports one sex partner in the last 2 months, a new partner he met at school. He has had 2 partners in the last year. He has had oral (both directions) and vaginal sex and reports using condoms sometimes. He states his partner had no symptoms that he knows about.

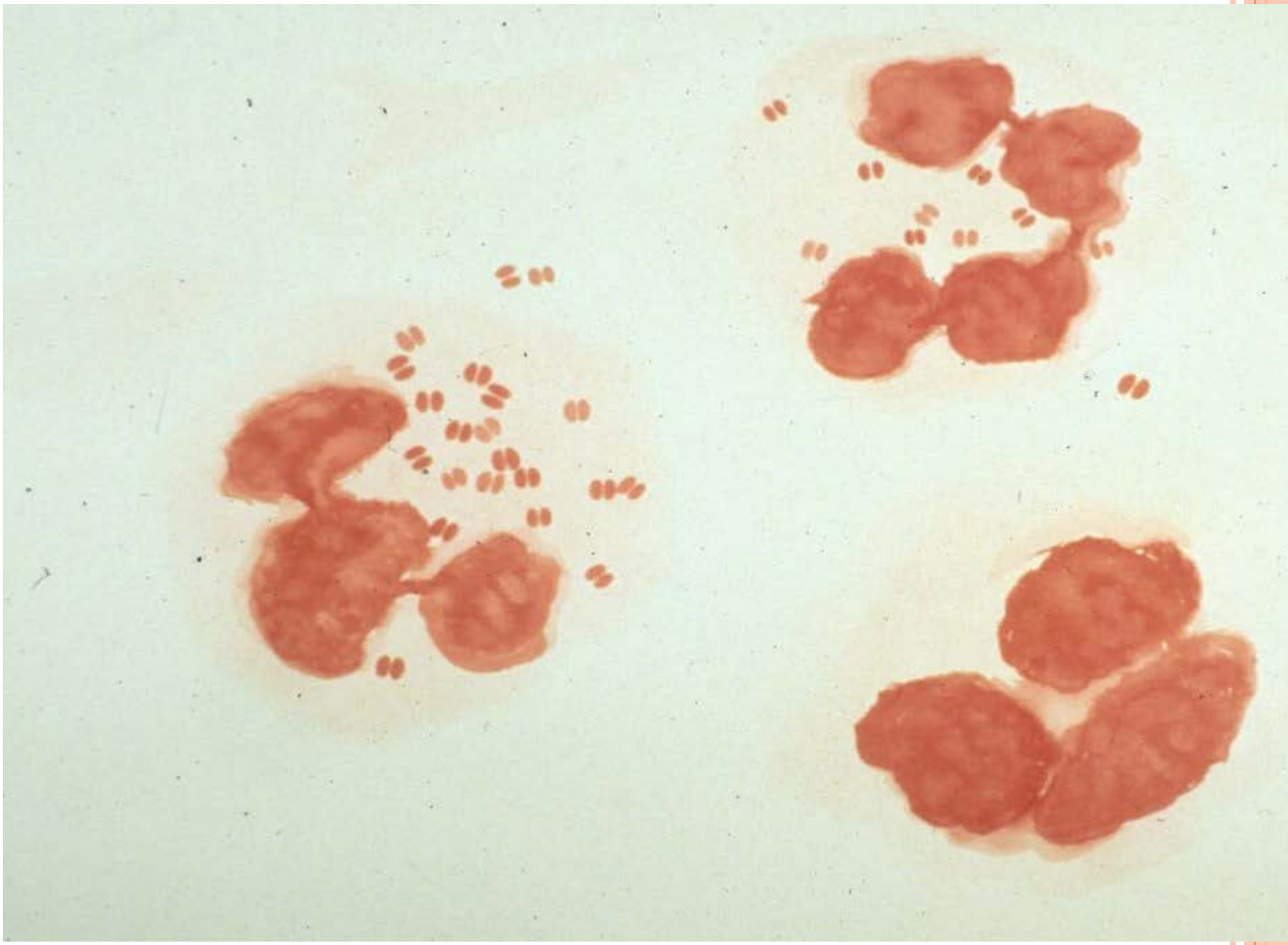
- What tests, if any, would you do or order?

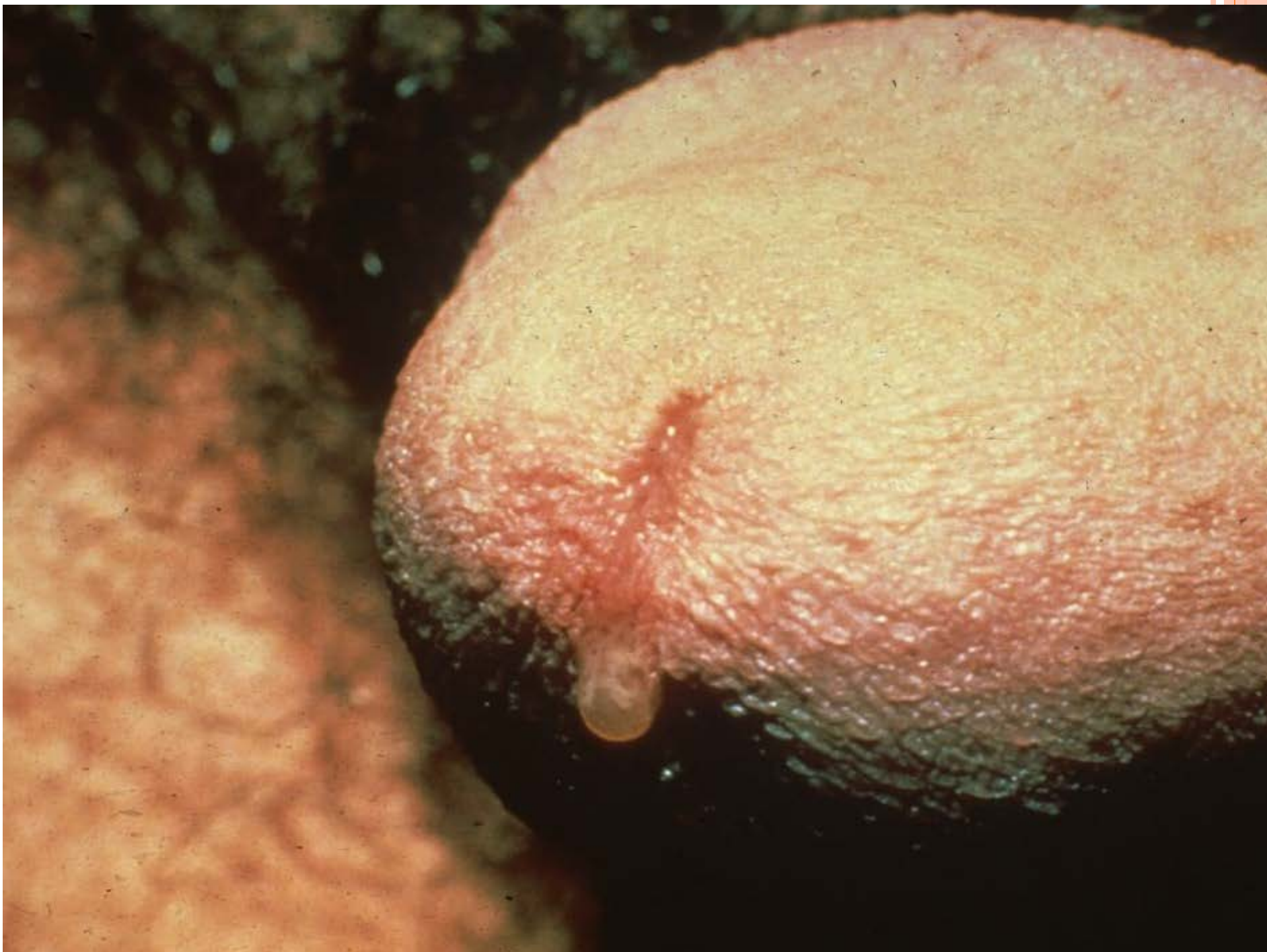
Workup

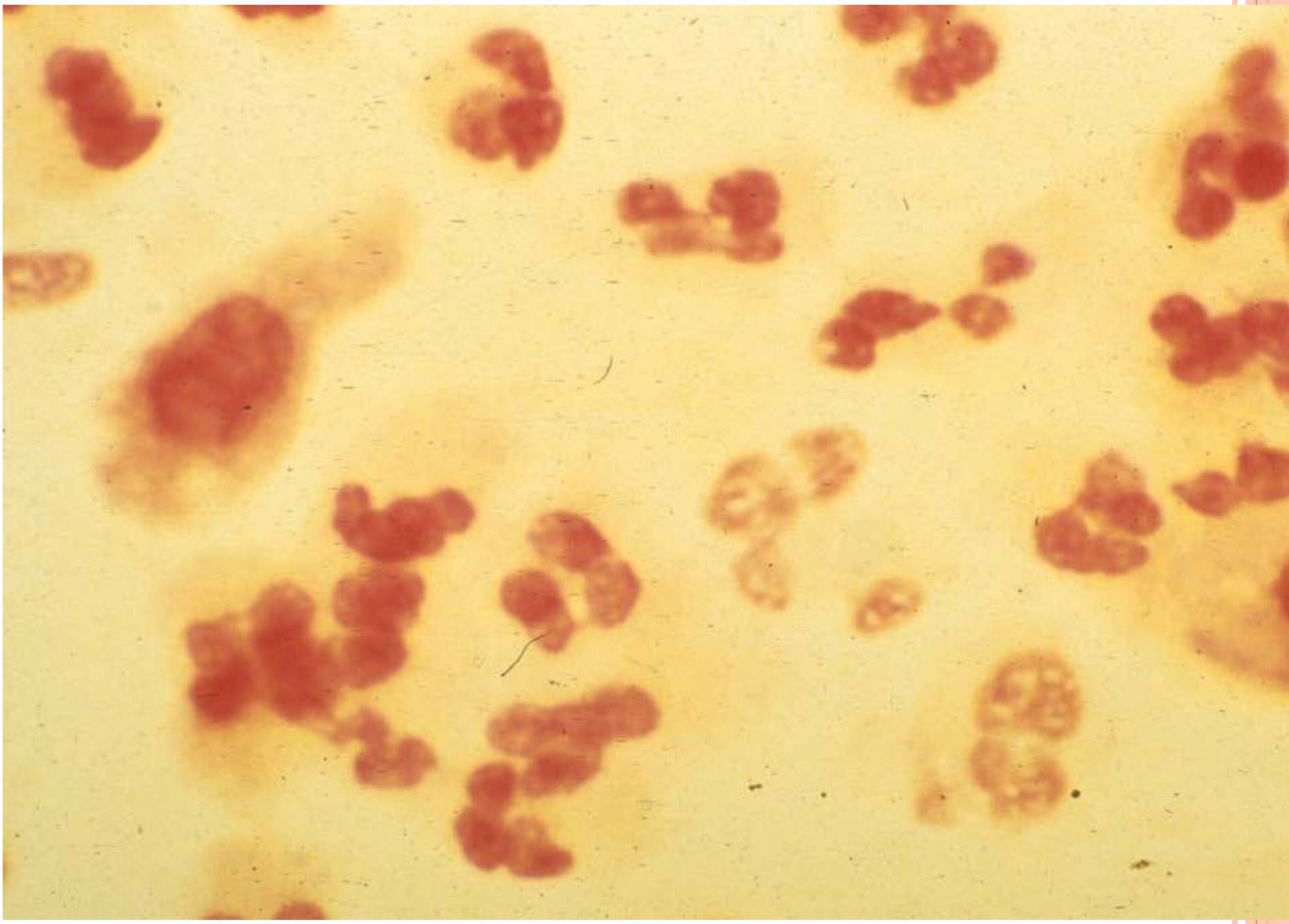
- GC/CT (PCR)
  - Urine specimen
  - Some places will still do a gram stain of fluid
- HIV
- RPR

- Bonus point: where else would you consider testing?









Case continued

- The patient tests positive for *Chlamydia trachomatis*. On learning his diagnosis, he becomes upset and launches into a flurry of invective about his girlfriend, accusing her of cheating on him.

- What treatment would you offer him?
- How would you counsel him regarding his partner?
- What other obligations do you have after making this diagnosis?
- Does he require any follow-up?

Treatment and follow up

1. Chlamydia
   a) Azithromycin 1gm
   b) Doxy 100mg bid x 7 days
   c) Oflox 300mg bid x 7 days
   d) Levofloxicin also OK

   } Rare use, alternative option for non pregnant patients who cannot tolerate one of 1st line Tx.

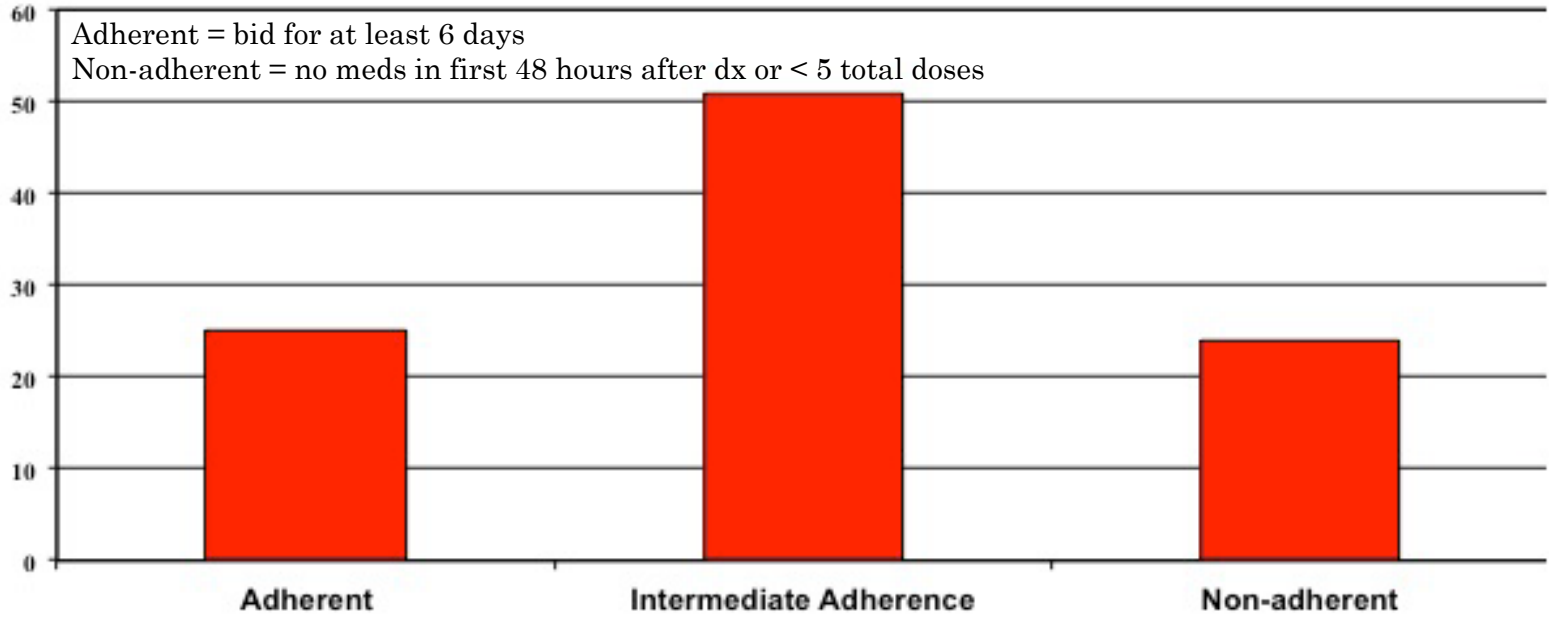
   e) Alternatives in pregnancy: amoxicillin and erythromycin

2. GC + treatment for CT
   a) Ceftriaxone 250mg IM – **first choice**
   b) Cefixime 400mg po once – Alternative therapy
   ~~e) Cefpodoxime 400mg po once~~
   ~~d) Ciprofloxicin 500mg~~ – >20% resistance in areas

3. Counseling
   - No sex for 7 days
   - This diagnosis does not mean an infidelity has occurred

4. Treat partners! – 30-70% infected

Adherence to Doxycycline for Genital Chlamydial Infection among 223 STD Clinic Patients



Cure	Azithromycin	Doxycycline
Bacteriologic	338/347 (97)	161/163 (99)
Clinical	224/261 (86)	96/116 (83)

Source: Genitourinary Med 1996;72:93

Failure to improve with treatment

- If presents similar to above and fails to improve with standard treatment
- Has:
  - GS of urethral secretions demonstrating > 2 WBC per HPF
  - Positive LE test on first void urine
  - Exam of sediment from spun first void urine with >10 WBC per HPF
- Consider:
  - Reinfection
  - M genitalium that did not respond to therapy
  - T vaginalis- rare in MSM
  - HSV

Mycoplasma Genitalium

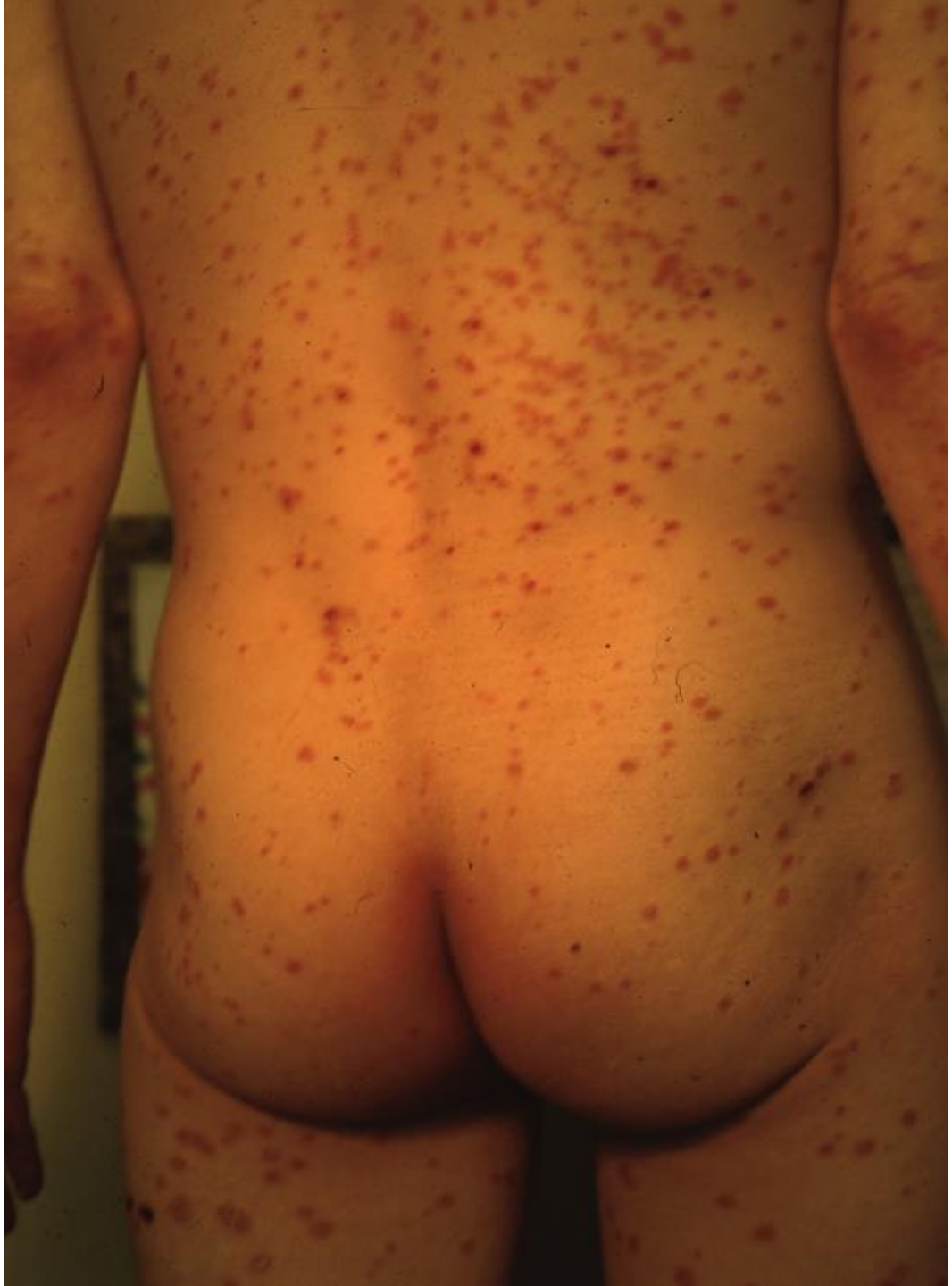
- Mod to strong association with non-gonococcal urethritis (p to 30% of cases) and up to 35% of persistent urethritis
- Mod to strong association with cervicitis and PID; weaker association with infertility
- Emerging drug resistance
- No FDA cleared diagnostic tests
  - NAAT is only one most large commercial labs offer
- TREATMENT
  - Azithromycin 1g PO x1 (85%) vs Z pack
  - Doxycycline 100g p bid x7 days (~30%)
  - If azithromycin fails- moxifloxacin 400mg x14 days

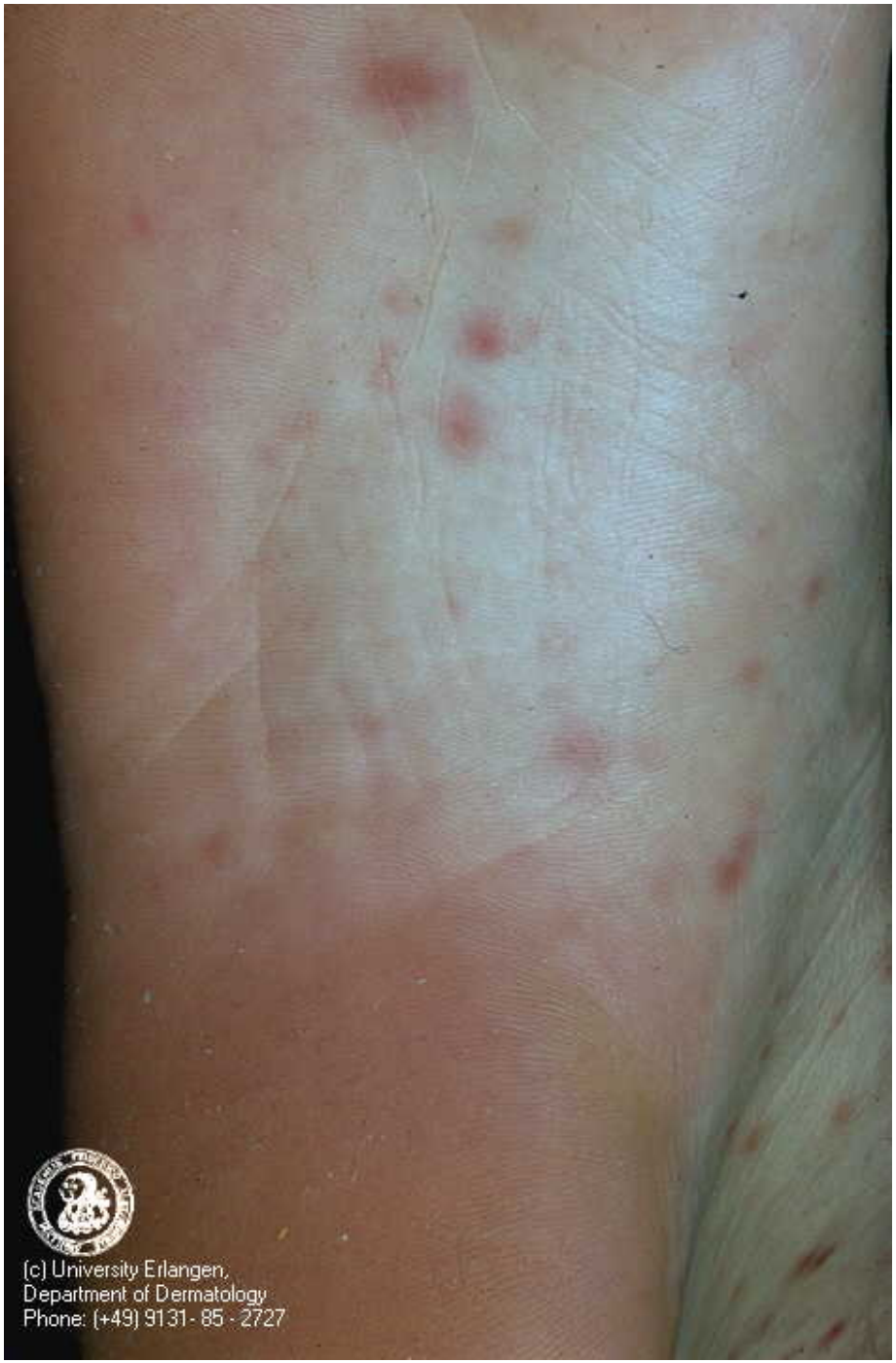
Case Two

- A 33 y/o man comes to the STD clinic complaining of a rash for the last 3 days. It started on his trunk, and now affects his palms and soles. He denies any sores on his penis or genital complaints. He believes he has had a fever and feels run down. He denies sore throat.

- He is a gay man. He states that he has had 10 partners in the last 2 months. He had insertive and receptive anal sex with two of them. He has been to the bath houses several times. He used condoms for receptive anal sex, but not insertive anal sex or oral sex. He does not know the HIV status of any of his partners. He was HIV - 3 years ago.

- What is your differential diagnosis?
- What work-up would you initiate?

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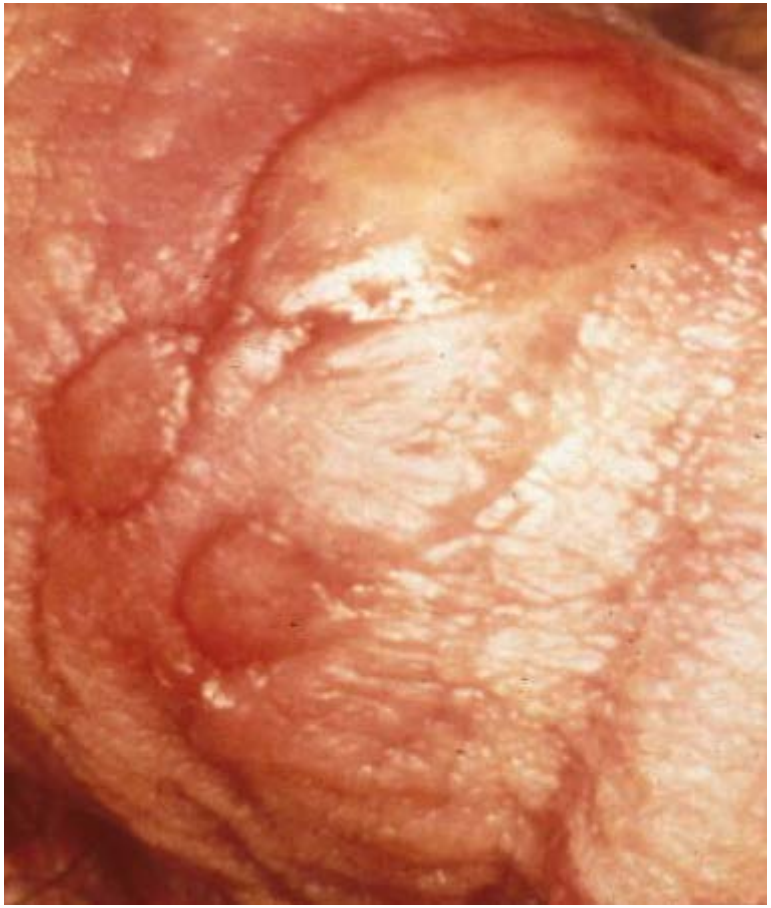
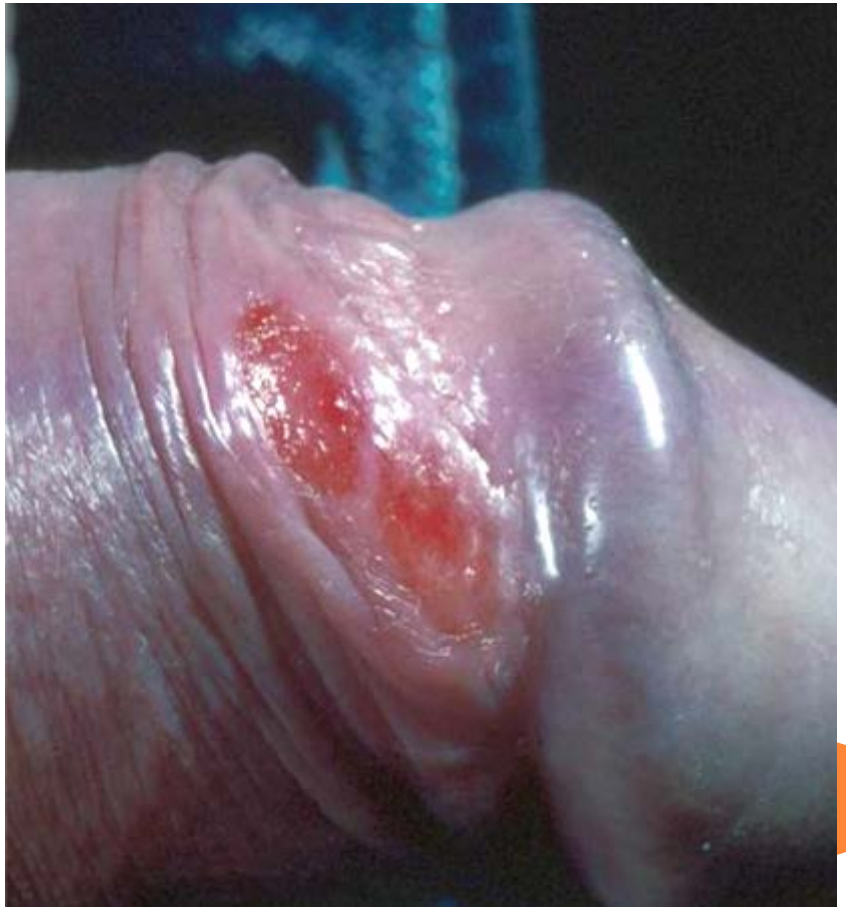
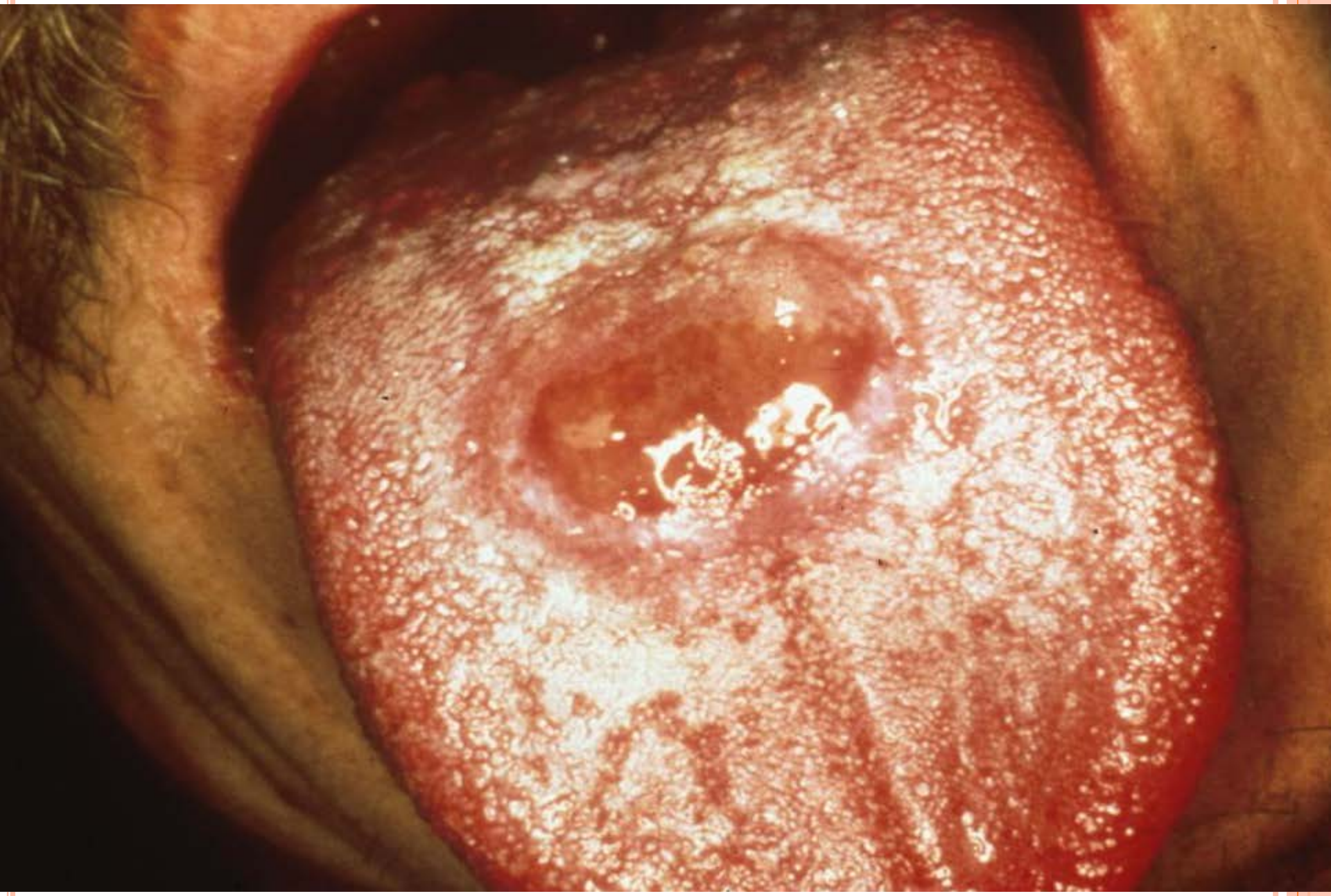
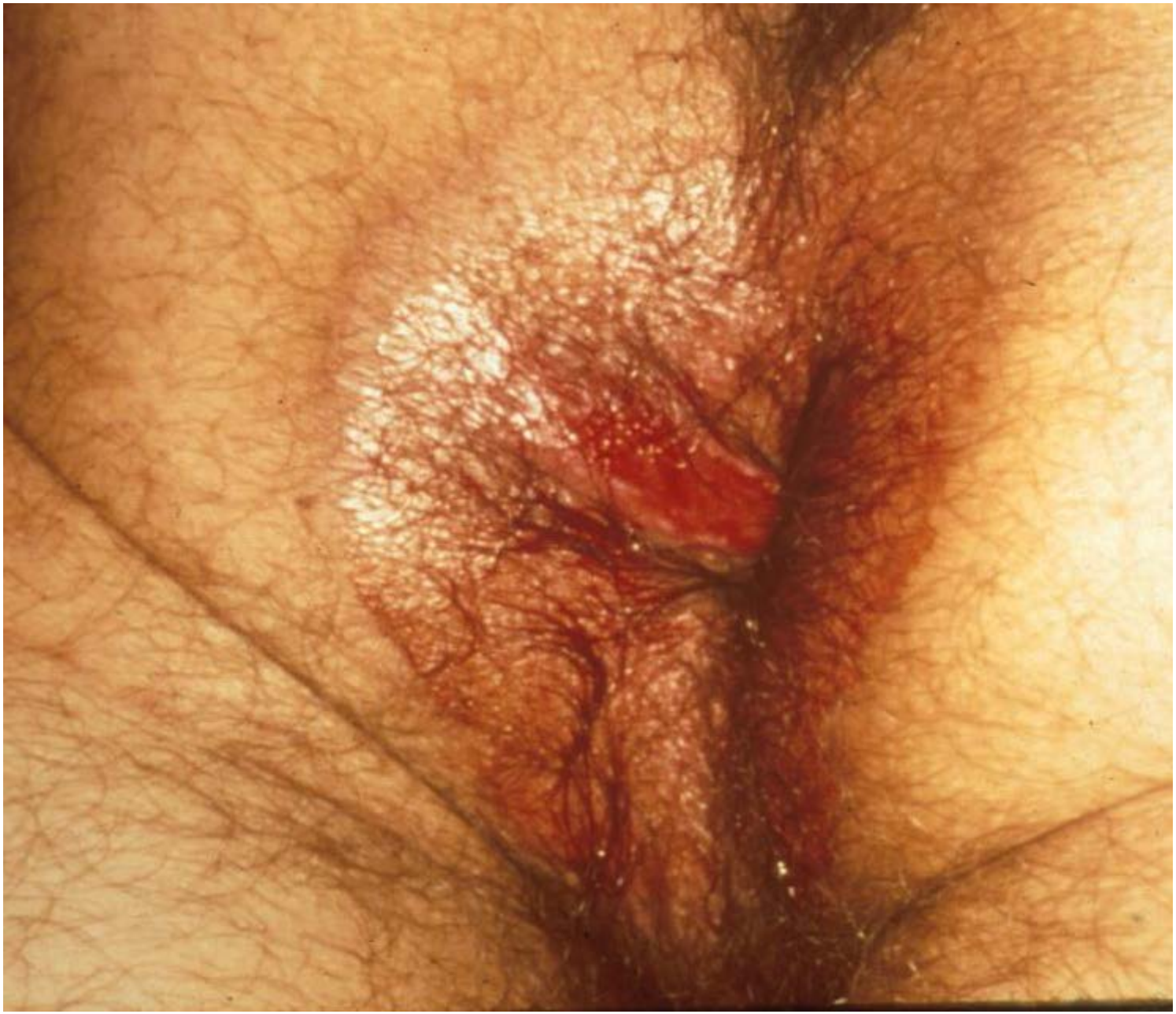








Workup for genital ulcer disease

- Physical exam is unreliable!
- History and Epidemiology more useful in defining risk for causes other than HSV

DDX for Genital Ulcer Disease

- **Syphilis** – indurated, painless ulcer with a clean base. Can overlap with secondary syphilis.
- **Lymphogranuloma Venereum (LGV)** – painless ulcers rarely seen, small, shallow with rapid spontaneous healing – inguinal nodes become multiloculated, fluctuant (buboes), and painful – rare in US. C. trichomonas serovars L1-L3. Tx is different.
- **Granuloma inguinale** – extensive, indolent and progressive with rolled edges – rare. K granulomatis
- **Herpes** – multiple, shallow, painful ulcers – vesicles
- **Chancroid** – single, painful, irregular, purulent, undermined edges, kissing lesions on thighs – very rare in US. H ducreyi
- **Fixed drug eruption** – NSAIDs, sulfa drugs, doxycycline

Work-up in Patient with Syphilis

- Serological tests
  - RPR, VDRL – nonspecific
  - MHATP, FTA, TPPA – specific treponemal tests

Test	Primary	Secondary	Tertiary
VDRL	70%	99%	56%
RPR	80%	99%	56%
FTA*	85%	100%	98%
MHA-TP*	65%	100%	95%

STD Screening guidelines

- **Sex with other men in past 12 months**
  - **HIV serology, if HIV- or not previously tested**
  - **Serological test for syphilis**
  - **Pharyngeal GC culture or NAAT**
- **Receptive anal sex in past 12 months**
  - **Rectal GC culture or NAAT**
  - **Rectal chlamydia culture or NAAT**
- **Urethral/urine GC/CT testing not recommended**
- **Retest every 3 months if:**
  - **Unprotected anal intercourse partners of unknown or discordant HIV status**
  - **Crystal meth or popper use**
  - **Bacterial STD in prior year**
  - **$\geq$ 10 sex partners in the prior year**

Treatment of Syphilis

- CDC Indications for LP
  - Neurologic or ophthalmic involvement
  - Evidence active tertiary disease
  - Treatment failure
- Treatment
  - Early syphilis – 2.4 M units Benzathine PCN IM
  - Latent syphilis – 2.4M units Benzathine PCN IM qw x 3
- Serological Follow-up in HIV
  - 3,6,9, and 12 months
- Treatment failure
  - Sustained 2 titer (4-fold) increase in VDRL/RP
  - High titer ($\geq$1:32) syphilis that does not decline 2 titers (4-fold) over 6-12 months (1° or 2° syphilis) or 12-24 months (latent syphilis)– soft indication

Case Three

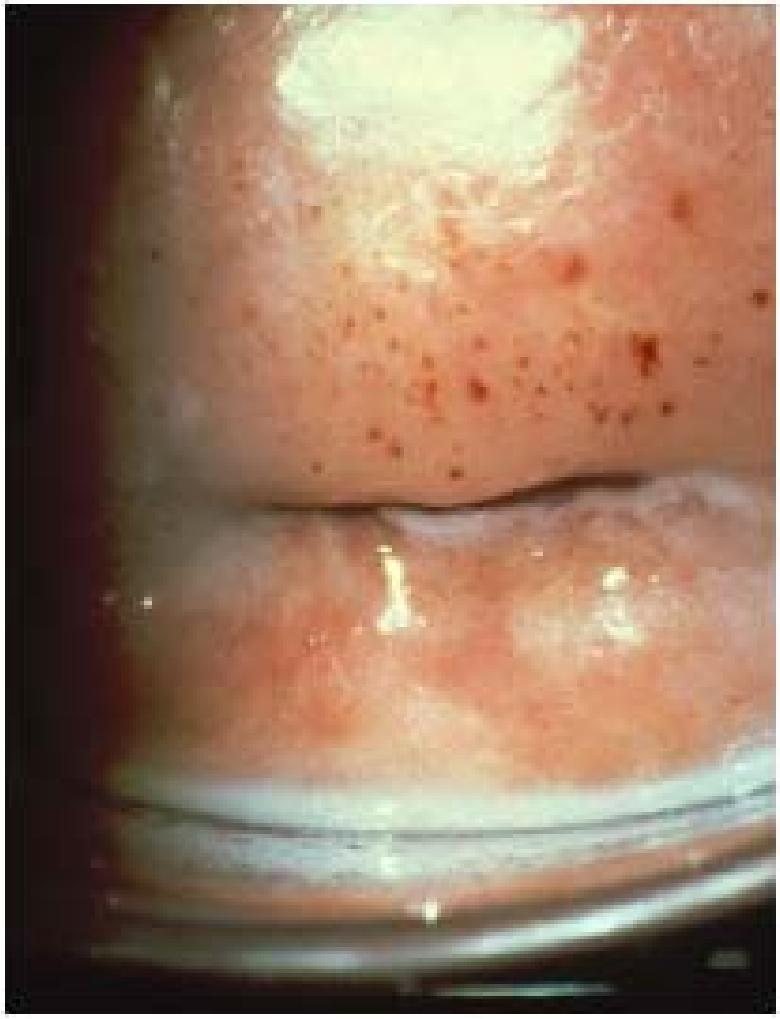
- A 22 year old woman presents complaining of vaginal discharge.

- Her exam is remarkable for a gray homogenous discharge. A vaginal swab is obtained which reveals a pH>6, motile trichomonads, + whiff test, and the presence of 3 Amsel's criteria

Trichomonas vaginalis

- May be asymptomatic in both men and women
- Can cause vaginitis and NGU
- No need to screen asymptomatic pregnant woman
- Screen all HIV+ women annually
- Diagnosis culture and PCR; wet mount is not sensitive
- Partners of preceding 90 days need to be treated
- Treat: metronidazole 2g x1 dose

Trichomonas vaginalis



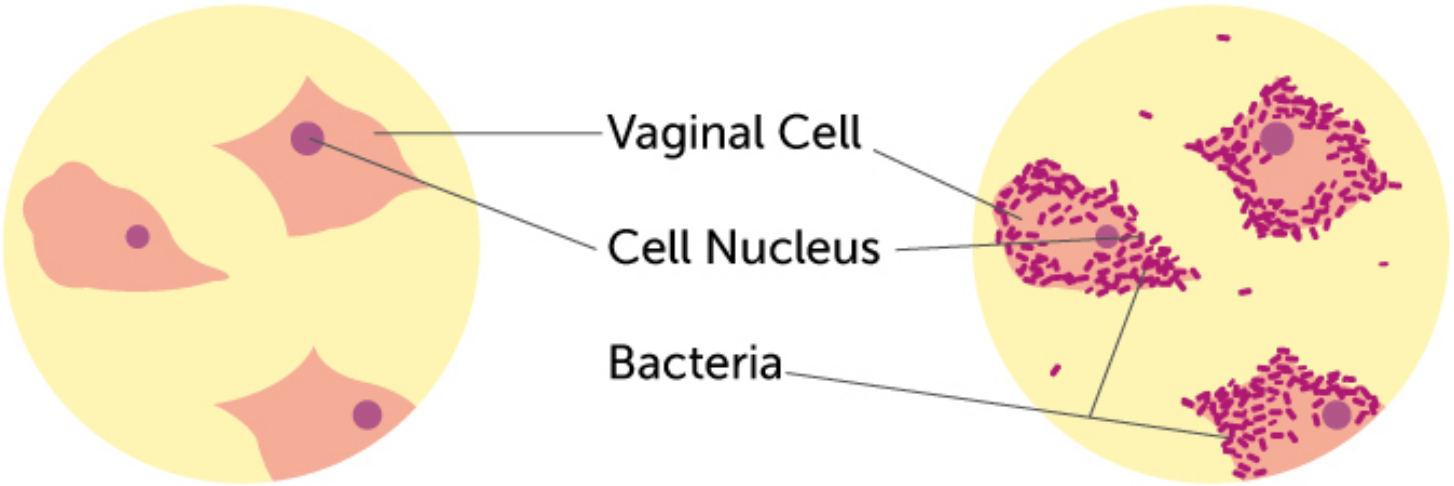
Bacterial Vaginosis

- Complex polymicrobial infection causes vaginitis, cervicitis, may increase risk of PID
- In pregnancy associated with preterm labor, PROM, post partum endometritis
- May be sexually associated NOT a STD
  - Partners do not need to be treated.
- Treat and screen ALL pregnant women otherwise don't screen
  - Metronidazole 500mg po bid x 7 days

Amsel's Criteria

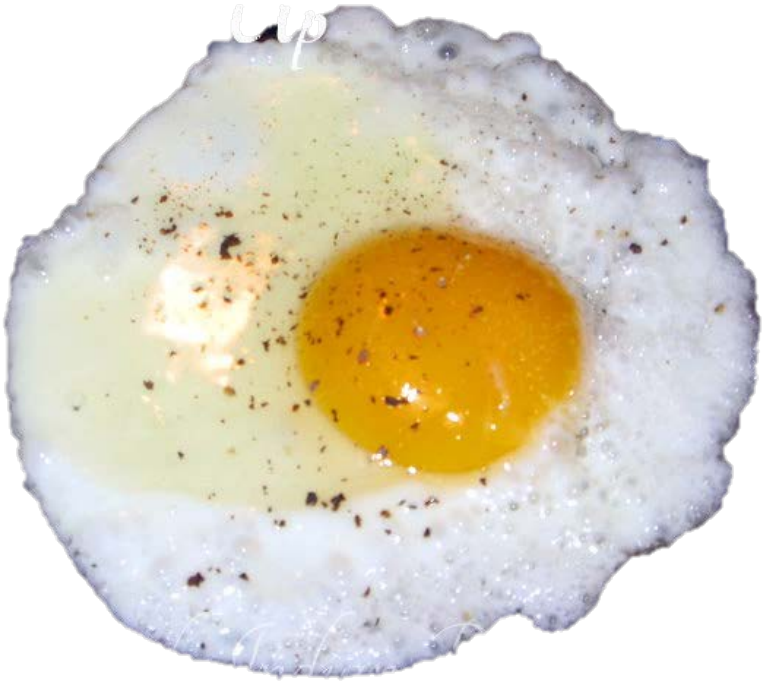
1. Discharge
2. pH>4.5
3. Clue cells
4. Amine odor with KOH (whiff test)

Bacterial vaginosis



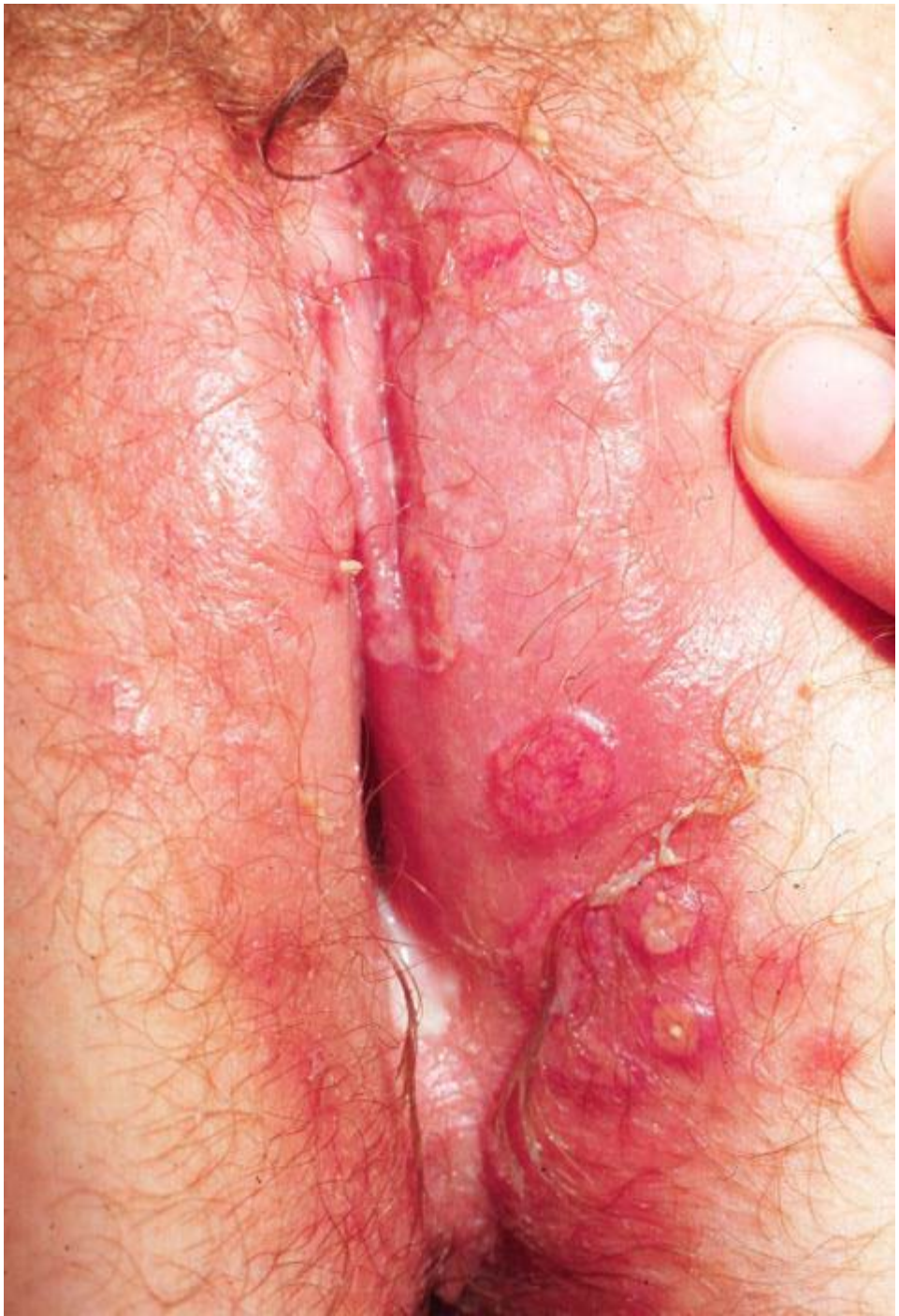
Normal vaginal cells seen under a microscope.

"Clue Cells", vaginal cells with bacteria stuck to them.



Case Four

- A 30y/o woman comes to see you in the internal medicine clinic complaining of painful lesions on her labia for 4 days. She is concerned she has herpes. She has been married for 2 years, and has had no other partners. She believes her husband is also monogamous, but is now questioning that.
  - What other history would you like to know?
  - On PE she has several shallow, tender ulcers on her labia and palpable, bilateral inguinal nodes.
  - What is the differential dx?
  - What labs do you order? What treatment?
  - How will you counsel her? Is her husband cheating on him?
  - What if she becomes pregnant?



HSV Treatment

- 1° infection
  - All patients should be treated
  - Acyclovir, valacyclovir, or famciclovir for 7-10 days
- Recurrence
  - Chronic: treatment for those with frequent recurrences of neg. partners
    - Daily acyclovir or valacyclovir can reduce recurrences and subclinical shedding
    - Suppression is important for decrease in transmission
  - Episodic: self administered therapy when an outbreak arises
  - None: infrequent episodes

First Episode of Genital Herpes

- Primary HSV - 50% incident HSV-1 or 2 in absence of pre-existing HSV-1
  - 37% symptomatic
  - Sx: 40-70% fever, myalgia, HA
  - Signs: vesicles to tender ulcer, adenopathy,
  - Lab - no evidence HSV on ELISA or WB
- Non-primary initial infection: 25%
  - new HSV-2 with old HSV-1
- First symptomatic episode preexisting HSV-2: 25%
- ELISA & WB negative -up to 12 weeks to convert

Genital Herpes Recurrences and Subclinical Reactivation

- Symptomatic Recurrences
  - 90% in 1st year - median 0.33/month
  - 38% $\geq$ 6 recurrences in 1st year
  - Over initial years, decreases 1 recurrence/year
- Subclinical Recurrence - 33-50% of recurrences
  - First year
    - 6% days HSV+ by culture
    - 20-35% HSV+ days by PCR
- Most people can recognize recurrences if taught signs & symptoms

Herpes and Pregnancy

Risk of Transmission to Neonate (116 cases)

Primary HSV	50%
Initial infection non-primary (i.e. HSV-1+)	20%
Recurrent	<1%

- Routine C-section **not** indicated for all women with recurrent HSV.
- C-section is done on women with active lesions.

HPV

- Most common STD
- Direct links to malignancy both cervical penile and anal
  - Types 16 and 18 most commonly linked
- Diagnosis PCR
- Treatment: topical agents
- PREVENTION: GET VACCINATED
  - Females: generally age 11 or 12 can start at 9 and get up to 26.
  - Males same however only to 21,
    - 22-26 years if they are MSM or immunocompromised otherwise permissive use

Conclusions STD

- Sexual history is important
- Urethral discharge
  - Gonorrhea and Chlamydia predominant
  - Treat empirically for CT – Azithro or Doxy
  - Partner treatment is critical
  - If persistent consider M genitalium
- Genital ulcer
  - Herpes >> syphilis – esp. heterosexuals
  - Clinical dx can be misleading – test for syphilis
  - Counseling important for HSV
- Controlling STD is a critical component of HIV control