
بسم الله الرحمن الرحیم

sexually transmitted Infections (STI)

Hamid Emadi M.D
Professor of Infectious Diseases
Tehran University of Medical Sciences


Sexually Transmitted Diseases

"core populations"

- ***high rates of partner change,***
- ***multiple partners,***
- ***prostitutes and their clients,***
- ***some homosexual men,***
- ***persons involved in the use of illicit drugs, particularly crack cocaine and methamphetamine***

STIs, are most concentrated within "core populations"

- ***syphilis,***
- ***gonorrhea,***
- ***HIV infection,***
- ***hepatitis B,***
- ***chancroid***,

Other STIs are distributed more evenly throughout societies

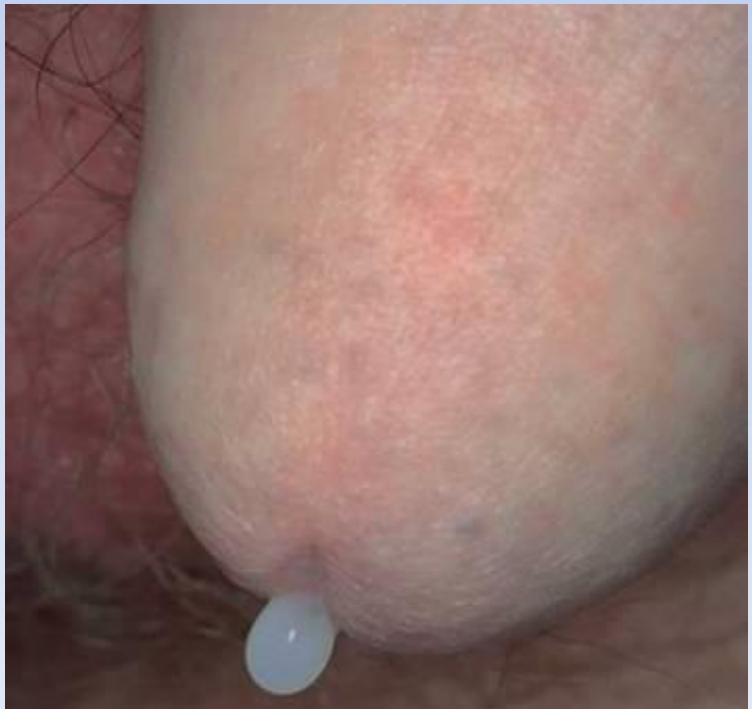
- ***chlamydial infections,***
- ***genital infections with HPV,***
- ***genital herpes***

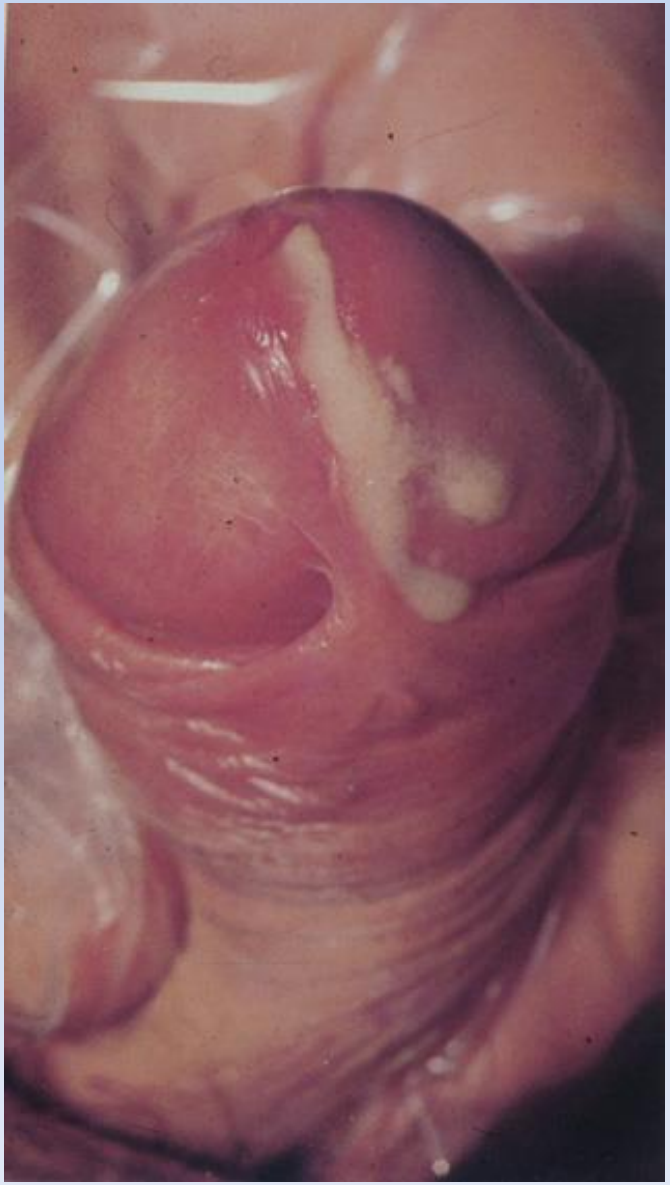
Urethritis in Men

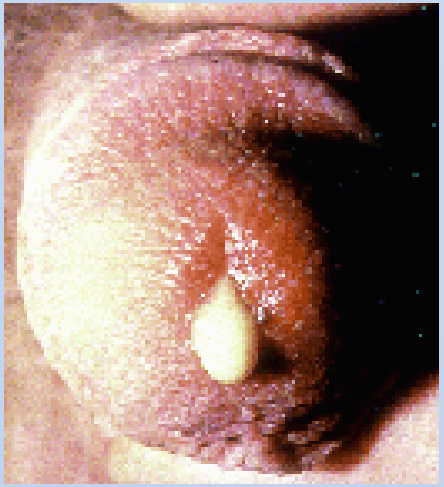
Urethritis in men

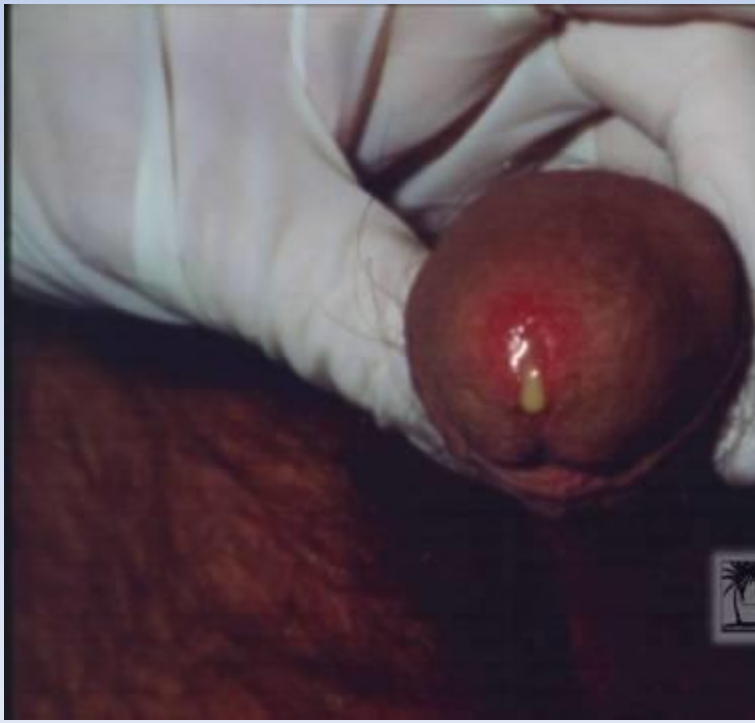
- ***urethral discharge,***
- ***dysuria,***

without frequency of urination









Major STD Syndromes and Sexually Transmitted Microbial Etiologies	
Syndrome	**Microbial Etiologies**
Urethritis: males	***Neisseria gonorrhoeae, Chlamydia trachomatis, Mycoplasma genitalium, Ureaplasma urealyticum Trichomonas vaginalis, HSV , Adenovirus some anaerobic bacteria, (Leptotrichia/Sneathia) Coliform bacteria***

Initial Treatment for Patient and Partners

- ***In practice, if Gram's stain does not reveal gonococci, urethritis Is treated with a regimen effective for NGU, such as azithromycin or doxycycline.***
- ***The efficacy of azithromycin for treatment of M. genitalium is rapidly declining.***
- ***Alternatives include moxifloxacin and pristinamycin,*** (a stretogramin antibiotic available in some countries)

Initial Treatment for Patient and Partners

- ***If gonococci are demonstrated by Gram's stain or if no diagnostic tests ar performed, treatment should include***
- ***parenteral cephalosporin for gonorrhea plus oral azithromycin, primarily***

Initial Treatment for Patient and Partners

Treat gonorrhea:	plus	Treat chlamydial infection:
Ceftriaxone, 250 mg IM; ***or***		***Azithromycin, 1 g PO;*** ***or***
C[illegible]ne, 40[illegible] PO		***Doxycycline, 100 mg bid for 7 days***

Management of Recurrence

- ***If patient was re-exposed to untreated or new partner, repeat treatment of patient and partner.***
- ***If patient was not re-exposed, consider infection with T. vaginalis or M. genitalium or Ureaplasma, and an intraurethral swab specimen and a first-voided urine sample should be done***

Management of Recurrence

- ***metronidazole* or *tinidazole* (2 g PO in a single dose) plus**
- ***azithromycin* (1 g PO in a single dose);**
- M. genitalium is often resistant to doxycycline and azithromycin but is usually susceptible to moxifloxacin. Until nucleic acid amplification testing for M. genitalium becomes commercially available, **moxifloxacin** can be considered for treatment of refractory **nongonococcal, nonchlamydial** urethritis

Acute epididymitis

Acute epididymitis

- ***Almost always unilateral,***
- ***produces pain,***
- ***swelling,***
- ***tenderness of the epididymis,***
- ***with or without symptoms or signs of urethritis***

Acute epididymitis

Must differentiated from testicular torsion,

- ***in the second or third decade of life***
- ***sudden onset of pain,***
- ***elevation of testicle within the scrotal sac,***
- ***rotation of the epididymis from a posterior to an anterior position,***
- ***absence of blood flow on Doppler examination or ^{99m}Tc scan***

Persistence of symptoms after a course of therapy for epididymitis suggests the possibility of

- ***testicular tumor or***
- ***a chronic granulomatous disease,***
  - ***tuberculosis***
  - ***brucellosis***

Acute epididymitis

Epididymitis	Microbial Etiologies
•*sexually active men under age 35*	*Chlamydia trachomatis, N. gonorrhoeae*
1) in older men *2) following urinary tract instrumentation* *3) men who have practiced insertive rectal intercourse*	*Enterobacteriaceae*

Epididymitis: Treatment

- ***Ceftriaxone***

(250 mg as a single dose IM)

followed by

- ***Doxycycline***

(100 mg PO twice daily for 10 days)

effective treatment for epididymitis caused by N. gonorrhoeae or C. trachomatis

Epididymitis: Treatment

- ***Oral cephalosporins & fluoroquinolones are resistance in N. gonorrhoeae, especially (but not only) among MSM***
- ***Oral levofloxacin (500 mg once daily for 10 days) is also effective when infection with Enterobacteriaceae is suspected; however,***
- ***this regimen should be combined with effective therapy for possible gonococcal or chlamydial infection***

Urethritis (Urethral Syndrome) in Women

Cause of urethritis

- ***C. trachomatis,***
- ***N. gonorrhoeae,***
- ***occasionally HSV***

Urethritis

- ***"internal" dysuria***
- ***(without urinary urgency or frequency),***
- ***pyuria,***
- ***absence of Escherichia coli and other uropathogens in urine at counts of 10^2/mL***

vulvovaginitis

the dysuria associated with

- ✓ ***vulvar herpes***
- ✓ ***vulvovaginal candidiasis***
- ✓ ***Perhaps trichomoniasis)***

is often described as

- ***"external dysuria“***
- ***painful contact of urine with the inflamed or ulcerated labia or introitus***

Bacterial cystitis

- ***Acute onset,***
- ***urinary urgency***
- ***urinary frequency,***
- ***hematuria,***
- ***suprapubic bladder tenderness***

Among dysuric women without signs of vulvovaginitis,

- ***bacterial UTI***

must be differentiated from the

- ***urethral syndrome***

urethral syndrome suggested

- ***young age,***
- ***more than one current sexual partner,***
- ***a new partner within the past month,***
- ***a partner with urethritis,***
- ***coexisting mucopurulent cervicitis***

From a dysuric woman with pyuria

- ***The finding of a single urinary pathogen, such as E. coli >10^2/mL in midstream urine indicates probable bacterial UTI,***
- ***whereas <10^2 ("sterile" pyuria) suggests acute urethral syndrome due to C. trachomatis or N. gonorrhoeae***

VULVOVAGINAL INFECTIONS

many women having

nonspecific symptoms of vaginal discharge

that do not correlate with objective signs of inflammation or with actual infection

Abnormal Vaginal Discharge

Abnormally

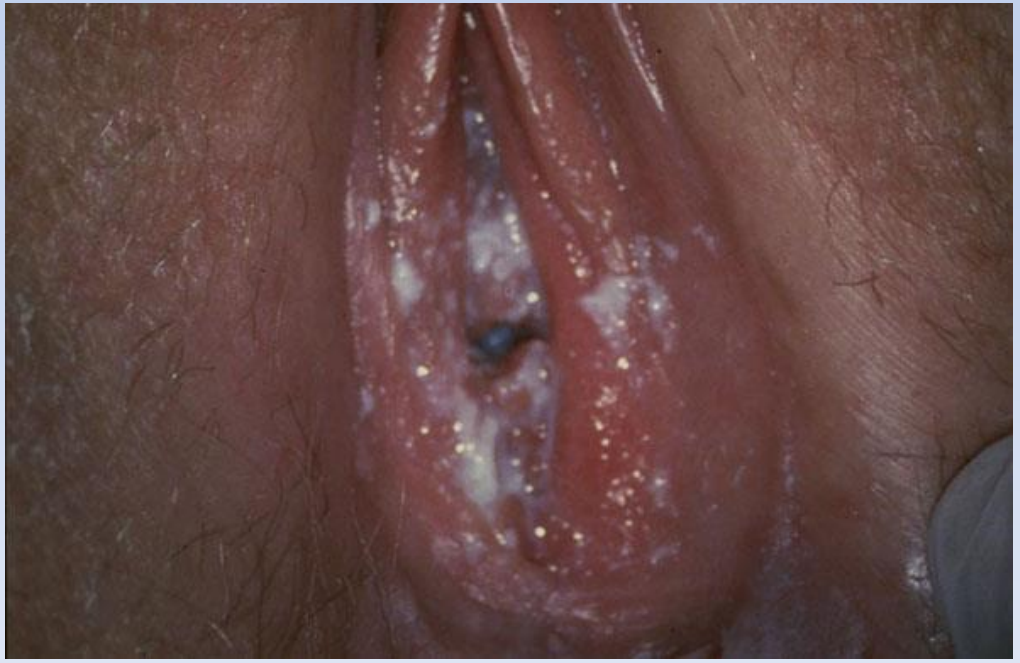
- ***increased amount***

or

- ***an abnormal odor of the discharge***

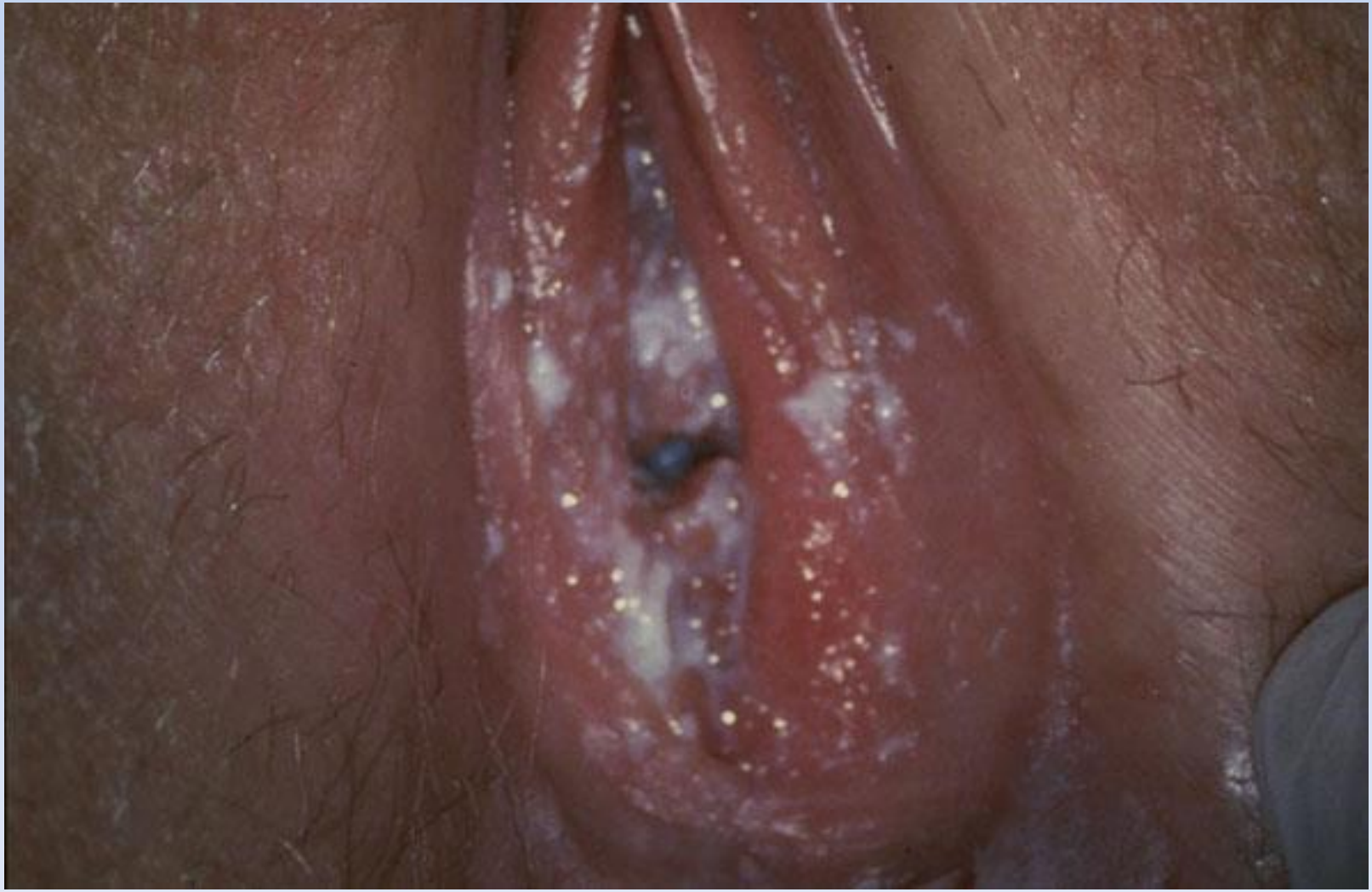
Vaginitis

- ***Dysuria***
  - ***–External labial or perineal***
- ***Itching***
- ***Discharge***

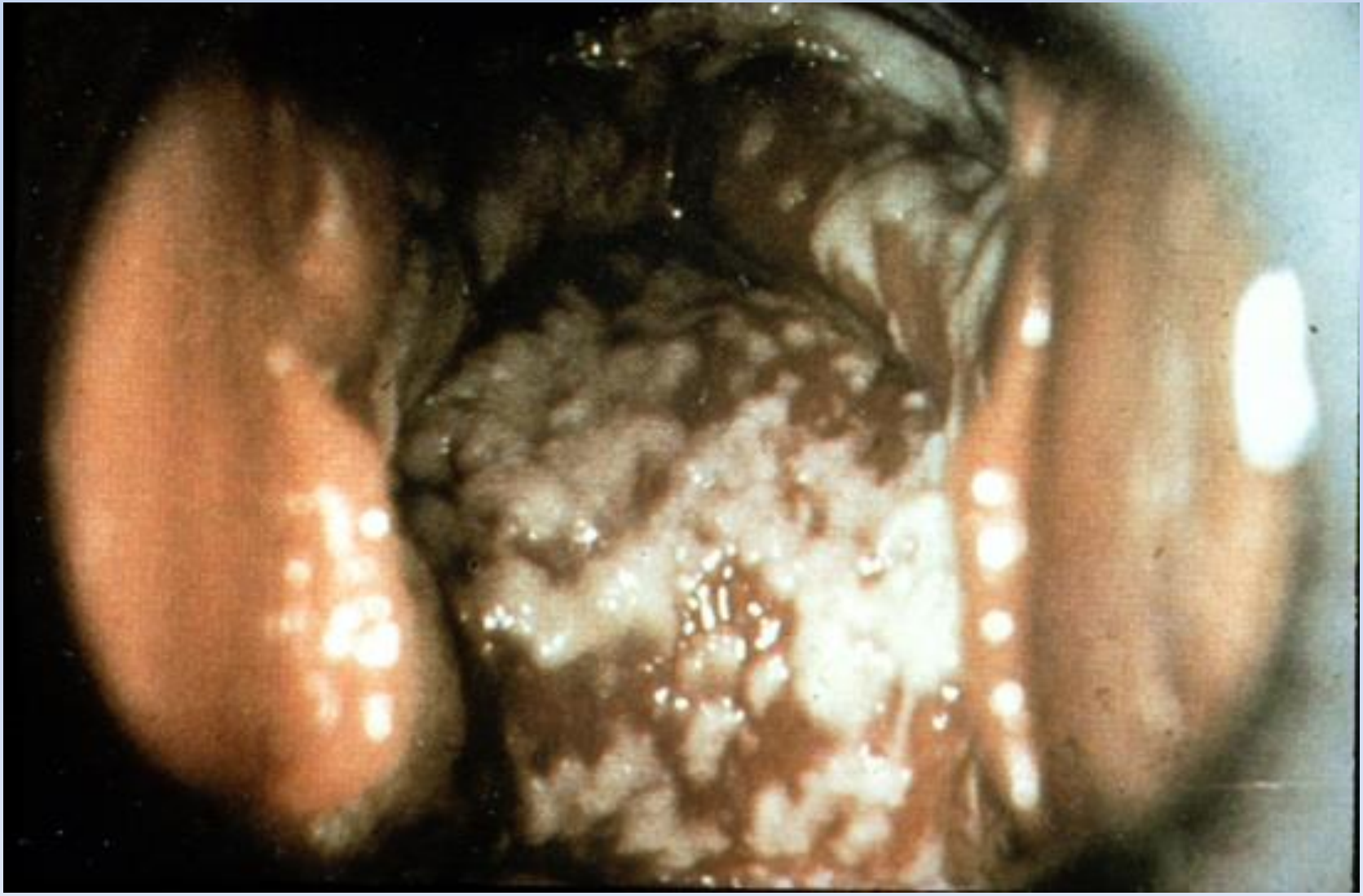


	Vulvovaginal Candidiasis	*Trichomonal Vaginitis*	*Bacterial Vaginosis*
Etiology	***Candida albicans***	***Trichomonas vaginalis***	***Associated with Gardnerella vaginalis, various anaerobic and/or noncultured bacteria, and mycoplasmas***
Consistency	***Clumped; adherent plaques***	***Homogeneous***	***Homogeneous, low viscosity; uniformly coats vaginal walls***

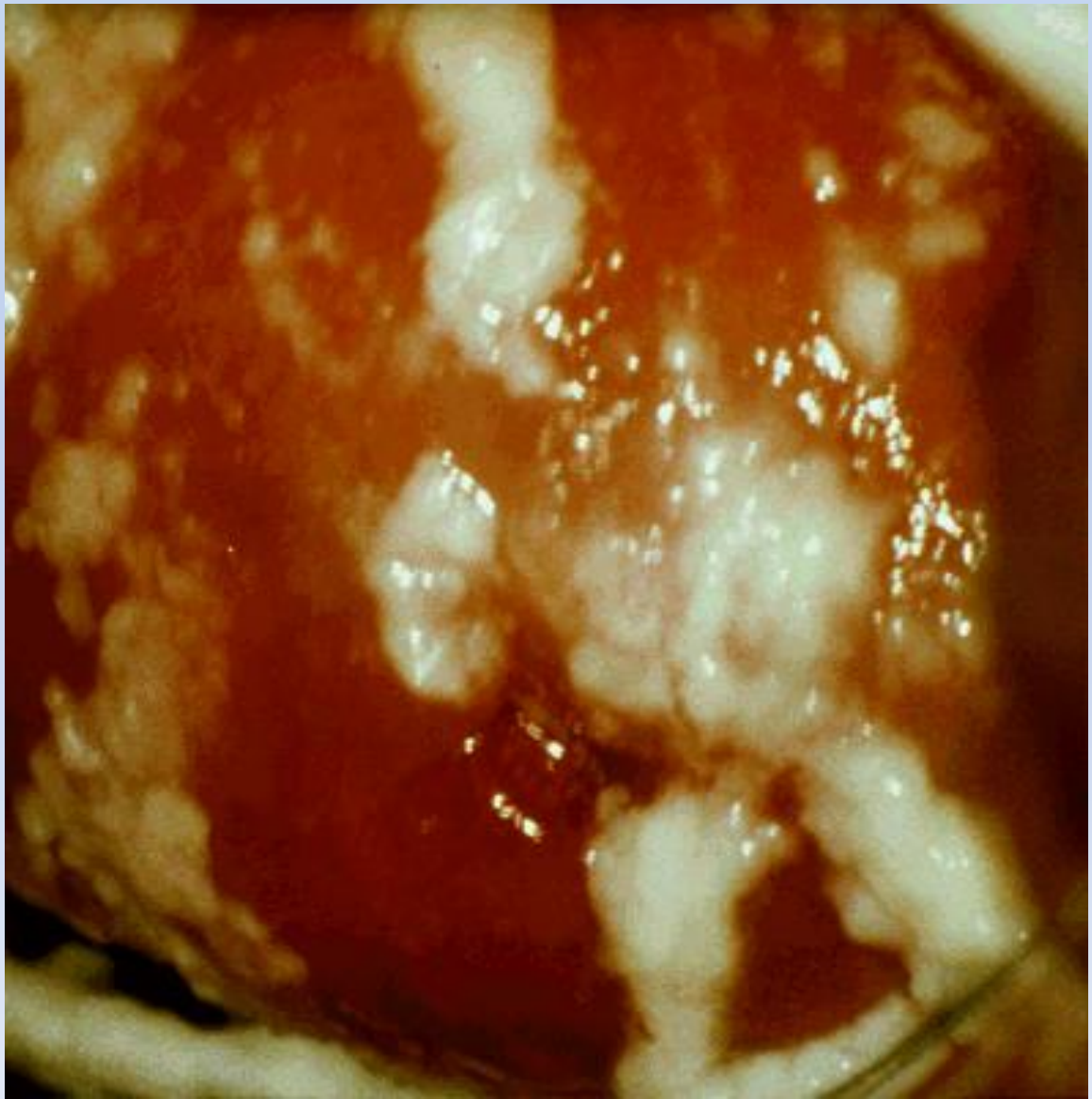
Candidial vaginitis

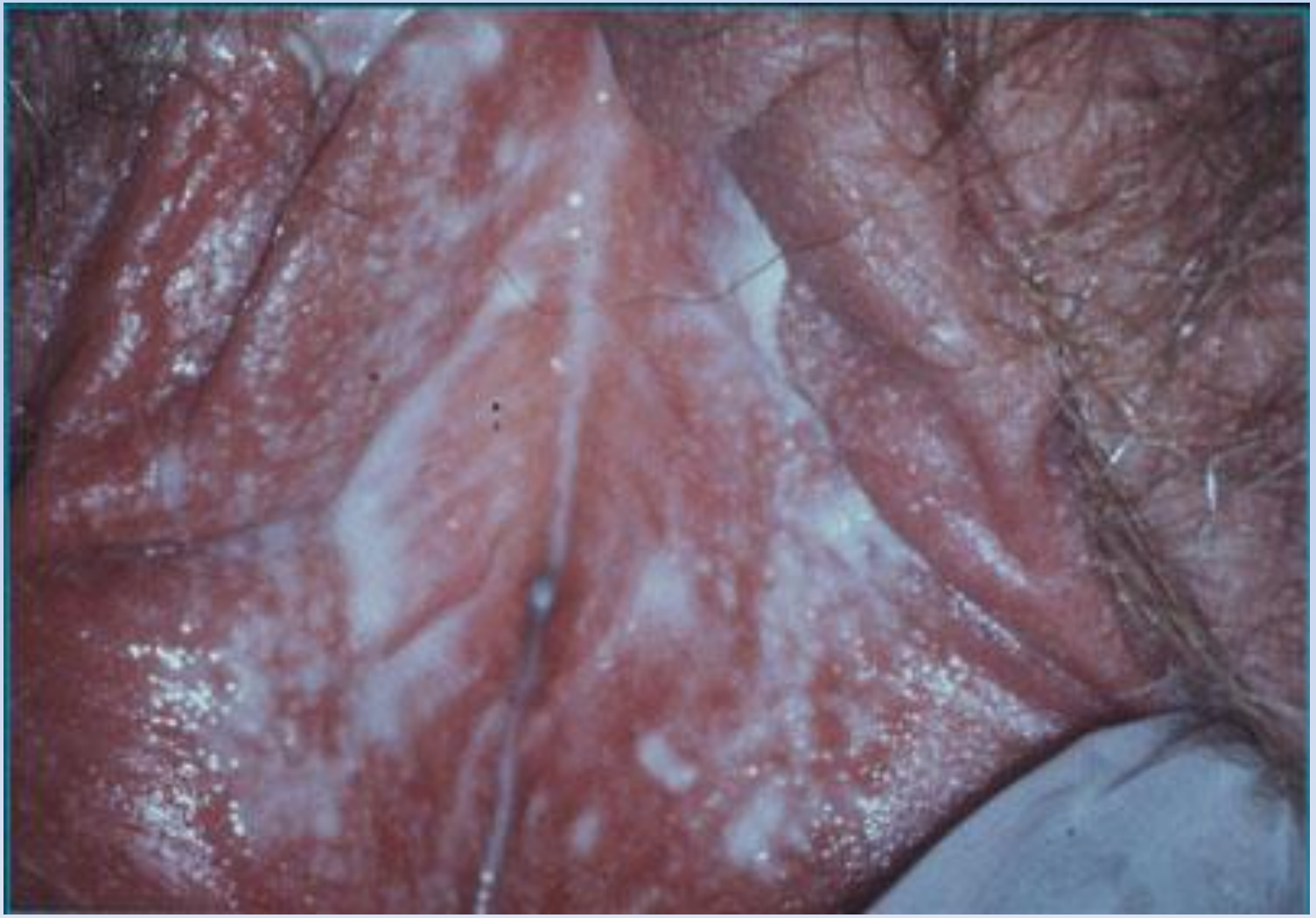


Candidial vaginitis



Candidial vaginitis

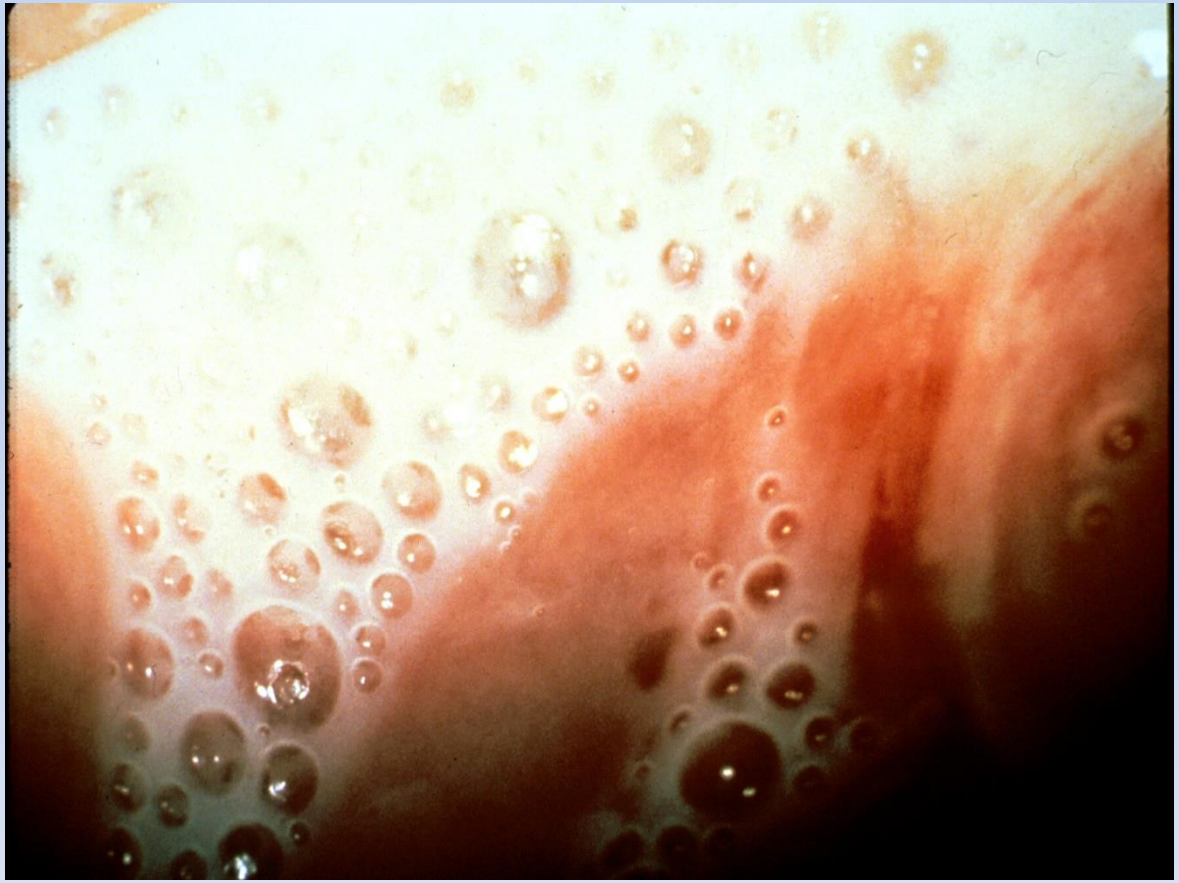


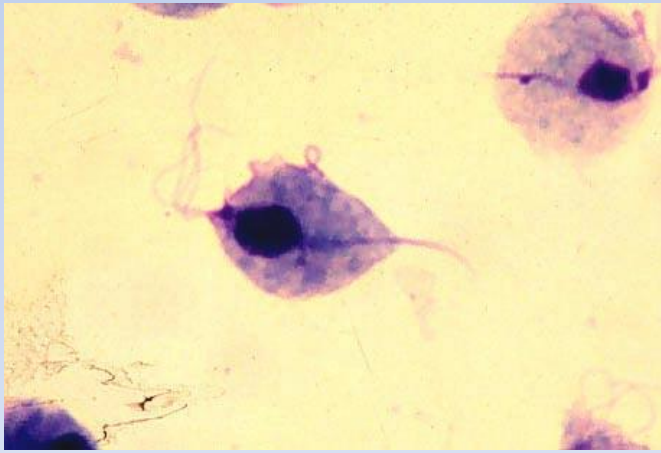


Tricomonas vaginalis

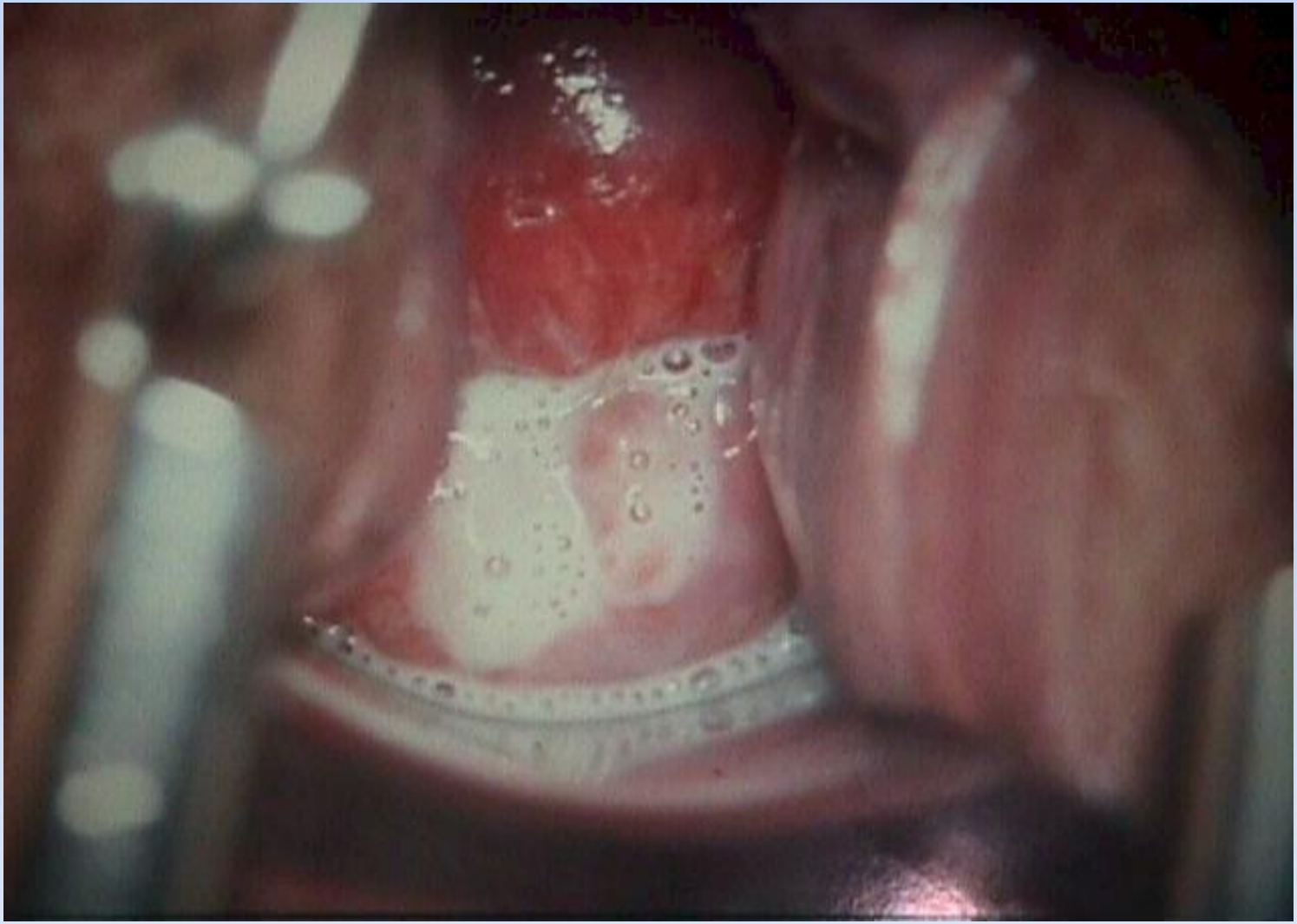
- ***profuse, yellow, purulent, homogeneous vaginal discharge***
- ***vulvar irritation, with visible inflammation of the vaginal and vulvar epithelium***
- ***petechial lesions on the cervix (the so-called strawberry cervix, usually evident only bycolposcopy).***
- ***The pH of vaginal fluid—normally <4.7—usually rises to ≥5.***

Tricomonas vaginalis





strawberry cervix



Bacterial vaginosis

- syndrome of complex etiology
- **G. vaginalis**, Mycoplasma hominis, and several **anaerobic bacteria** (e.g., Mobiluncus, Prevotella [formerly Bacteroides], and some Peptostreptococcus species)
- Atopobium vaginae, resistant to metronidazole, and recurrent bacterial vaginosis
- **Megasphaera, Leptotrichia, Eggerthella, and**
- **Dialister.**

Bacterial vaginosis

- ***vaginal malodor***
- ***increased white discharge, homogeneous, low viscosity, and evenly coats the vaginal mucosa.***

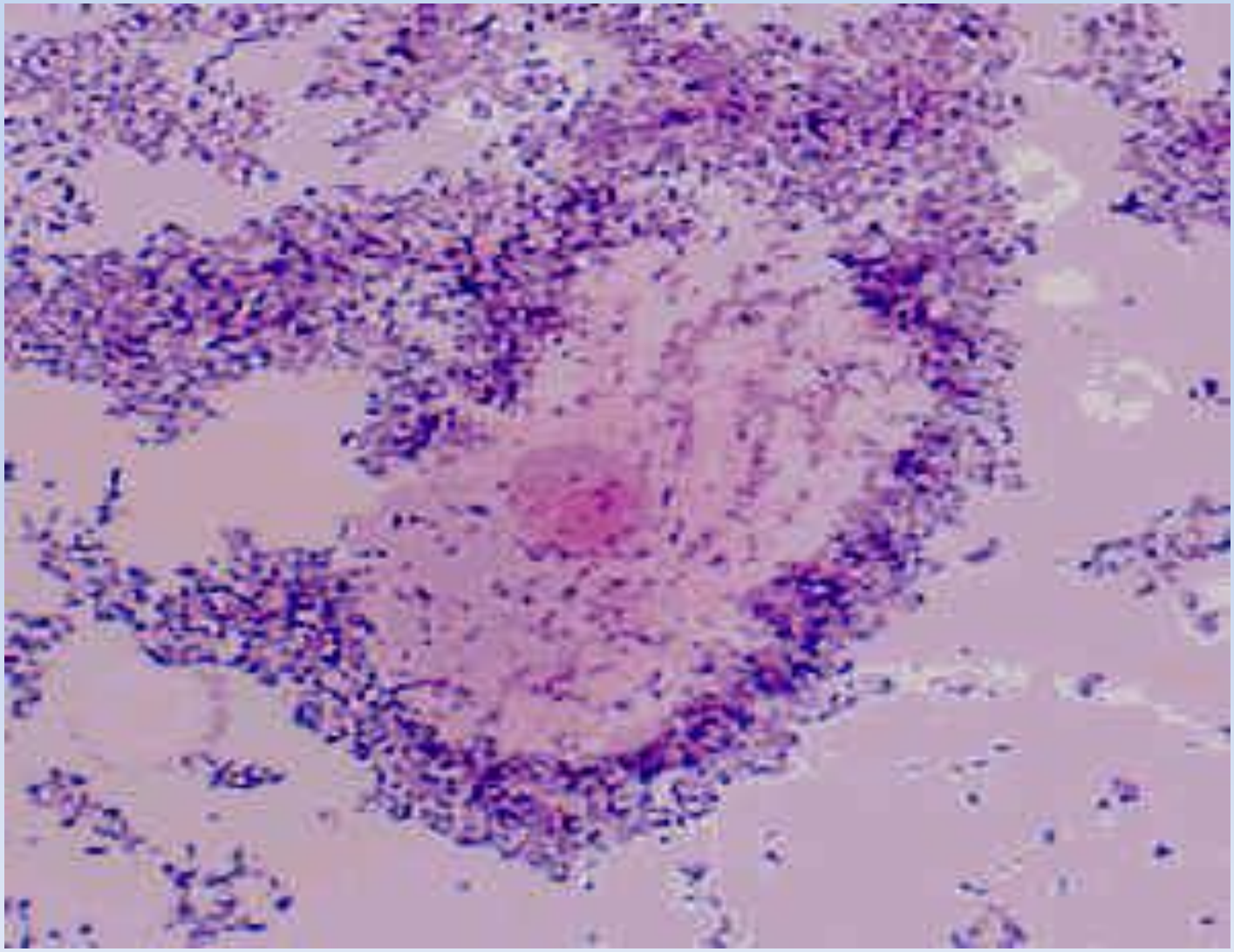
<u>risk factors include</u>

- ✓ ***recent unprotected vaginal intercourse***
- ✓ ***having a female sex partner***
- ✓ ***vaginal douching.***

Bacterial vaginosis

- ***Amsel criteria**, three of the following four clinical abnormalities:*
- *(1) increased white homogeneous vaginal discharge;*
- *(2) a vaginal discharge pH of >4.5;*
- *(3) liberation of a distinct fishy odor after mixed with a 10% solution of KOH;*
- *(4) microscopic demonstration of “clue cells”*

Bacterial vaginosis (clue cell)



	Vulvovaginal Candidiasis	*Trichomonal Vaginitis*	*Bacterial Vaginosis*
Usual treatment	***Azole cream, tablet, or suppository*** ***clotrimazole 100-mg vaginal tablet, once daily for 7 days*** ***Fluconazole, 150 mg orally (single dose***	***Metronidazole 2 g orally (single dose)*** ***Metronidazole, 500 mg PO bid for 7 days*** Intravaginal treatment with metronidazole gel is not reliable for vaginal trichomoniasis	***Metronidazole , 500 mg PO bid for 7 days*** ***Clindamycin, 2% cream, one full applicator vaginally each night for 7 days***

	Vulvovaginal Candidiasis	Trichomonal Vaginitis	Bacterial Vaginosis
Usual treatment	Azole cream, tablet, or suppository clotrimazole 100-mg vaginal tablet, once daily for 7 days Fluconazole, 150 mg orally (single dose	Metronidazole 2 g orally (single dose) Metronidazole, 500 mg PO bid for 7 days Intravaginal treatment with metronidazole gel is not reliable for vaginal trichomoniasis	Metronidazole , 500 mg PO bid for 7 days Clindamycin, 2% cream, one full applicator vaginally each night for 7 days

	Vulvovaginal Candidiasis	***Trichomonal Vaginitis***	***Bacterial Vaginosis***
Usual management of sexual partner	***None; topical treatment if candidal dermatitis of penis is detected***	***Examination for STD; treatment with metronidazole, 2 g PO (single dose)*** Intravaginal treatment with metronidazole gel is not reliable for vaginal trichomoniasis	***Examination for STD; no treatment if normal***

Other Causes of Vaginal Discharge or Vaginitis

- ***Ulcerative vaginitis associated with staphylococcal toxic shock syndrome***
- ***desquamative inflammatory vaginitis***
- Treatment with 2% clindamycin cream, in combination with topical steroid several weeks.
- ***retained foreign bodies (e.g., tampons)***
- ***cervical caps***
- ***vaginal spermicides***

Other Causes of Vaginal Discharge or Vaginitis

- ***vaginal antiseptic preparations or douches***
- ***vaginal epithelial atrophy (postmenopausal or prolonged breast-feeding)***
- ***allergic reactions to latex condoms***
- ***vaginal aphthae associated with HIV infection or Behçet's syndrome***
- ***vestibulitis (a poorly understood syndrome).***

Mucopurulent Cervicitis

- ***Mucopurulent cervicitis (MPC) refers to inflammation of the cervix.***
- ***MPC in women represents the "silent partner" of urethritis in men, being equally common and often caused by the same agents (N. gonorrhoeae, C. trachomatis***

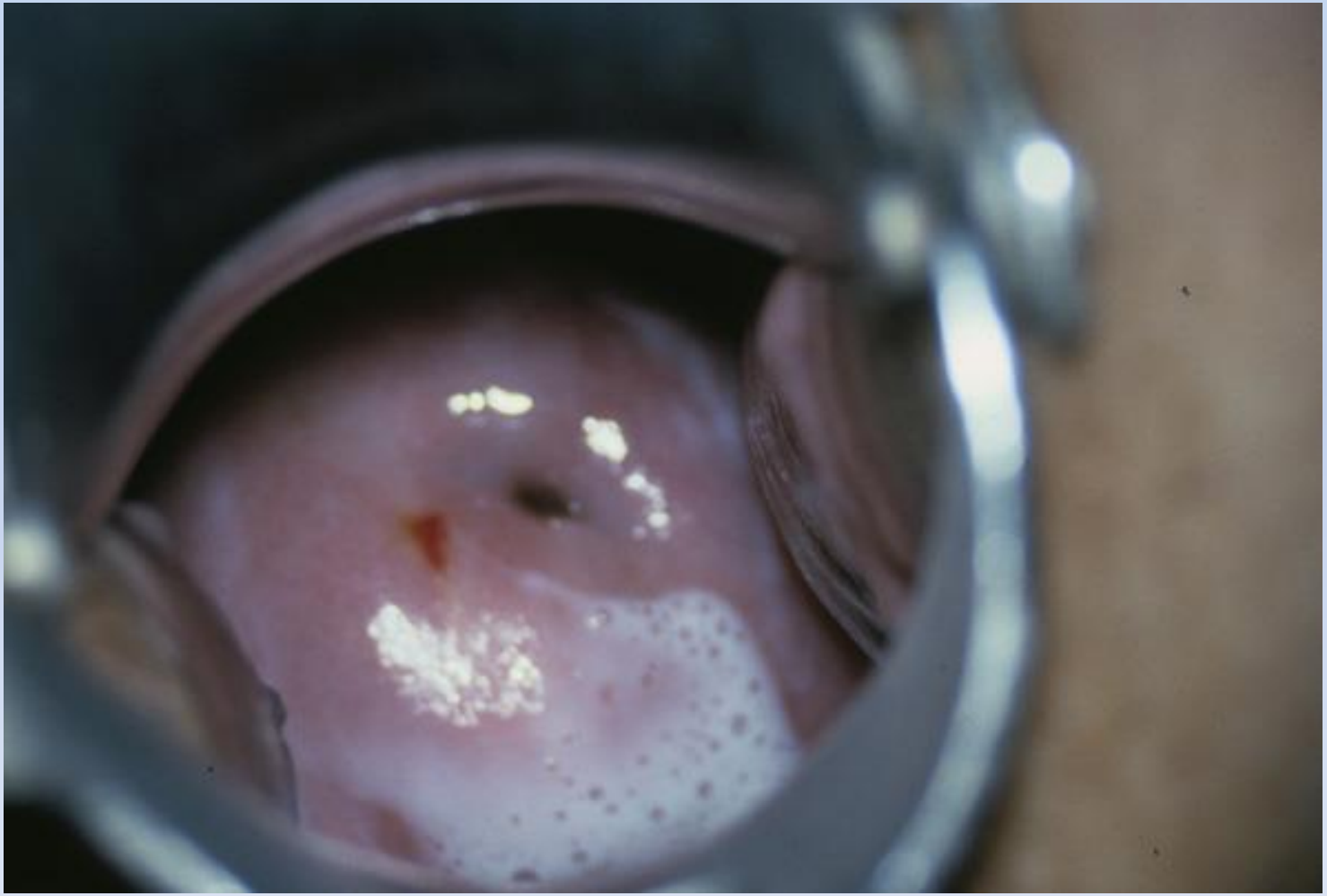
Diagnosis

- ✓ ***yellow mucopurulent discharge cervical os***
- ✓ ***endocervical bleeding by gentle swabbing,***
- ✓ ***edematous cervical ectopy***
- ***HSV produces ulcerative lesions on the squamous epithelium of the ectocervix***
- ***presence of PMNs (≥20 PMNs) on Gram's staining***

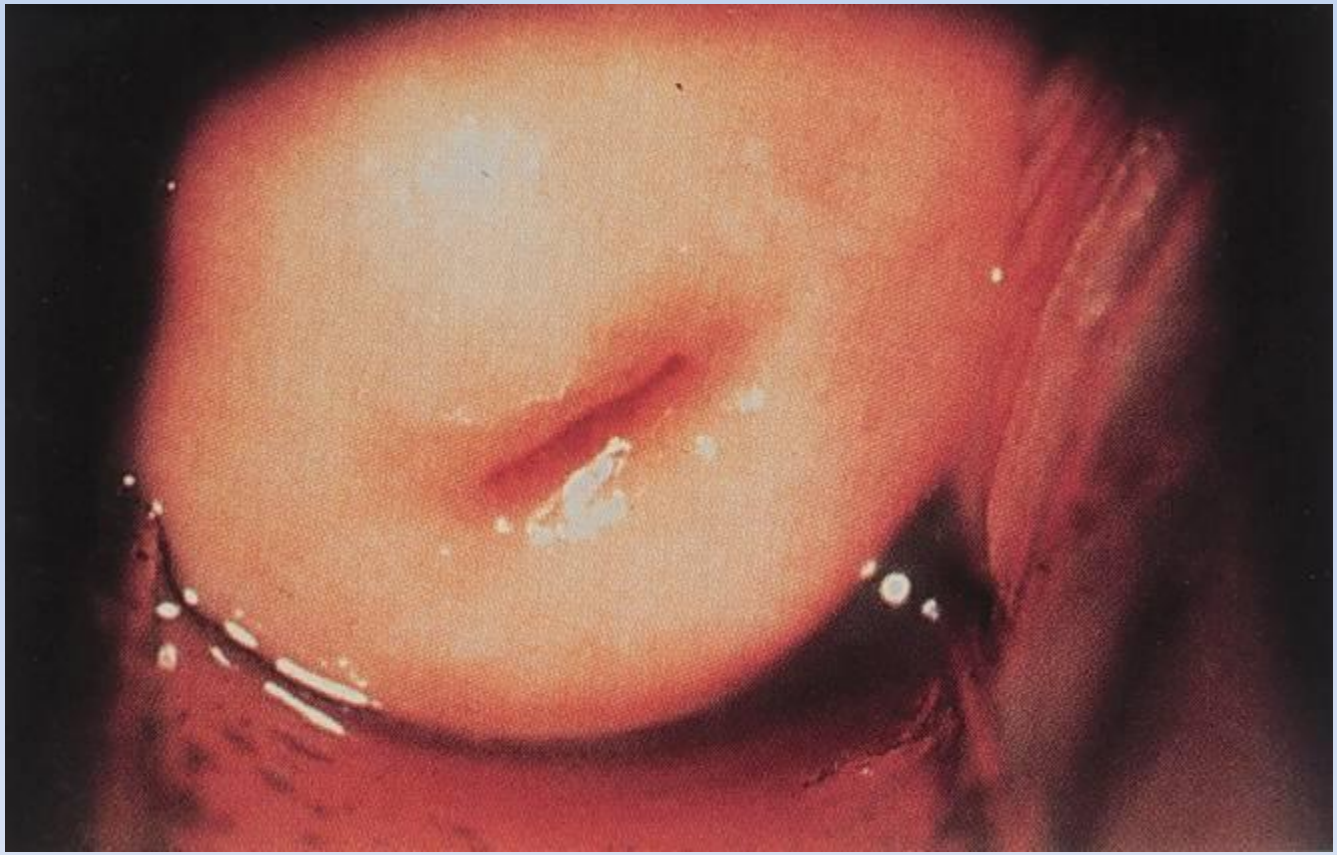
Diagnosis

- ***intracellular gram-negative diplococci endocervical mucus is quite specific but ≤50% sensitive for gonorrhea.***
- ***Therefore, specific and sensitive tests for N. gonorrhoeae as well as for C. trachomatis (e.g., NAATs) are always***
- ***indicated in the evaluation of MPC.***

mucopurulent discharge from the cervical os

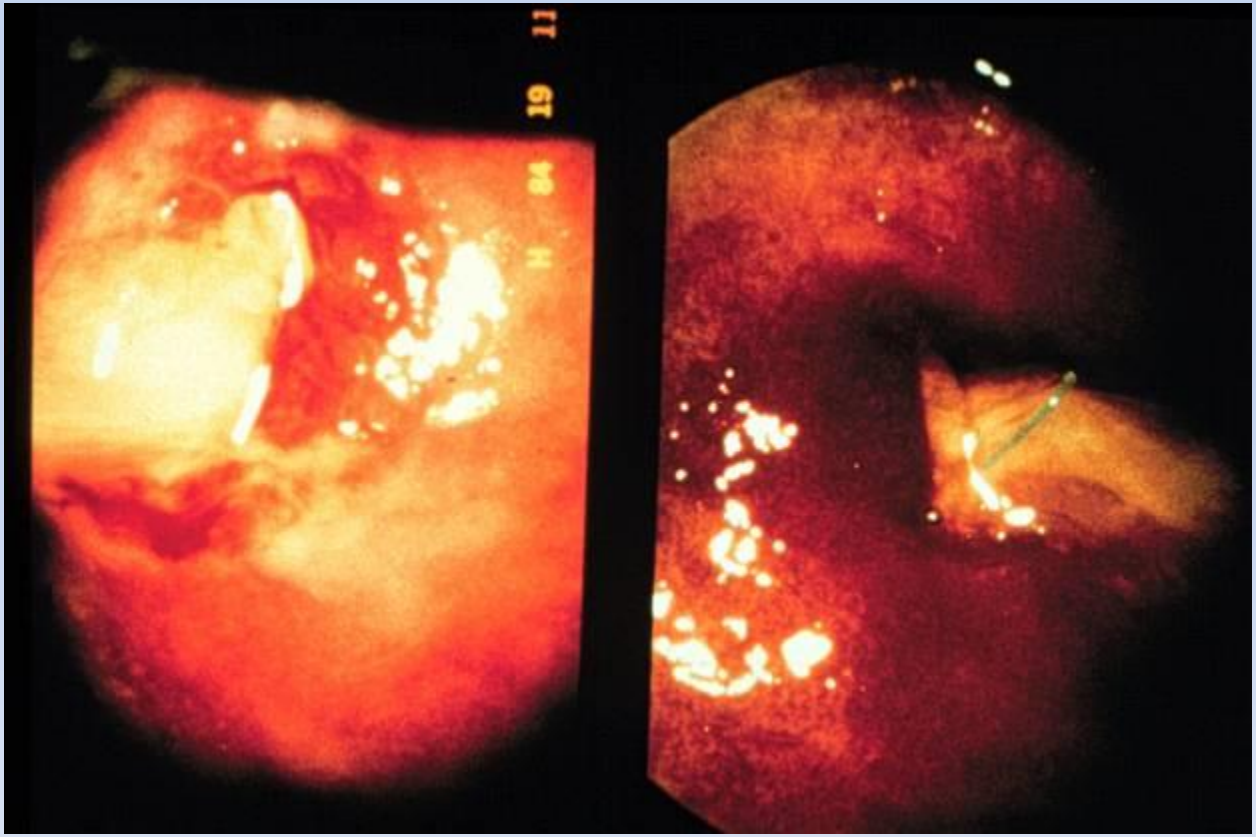


Normal Cervix

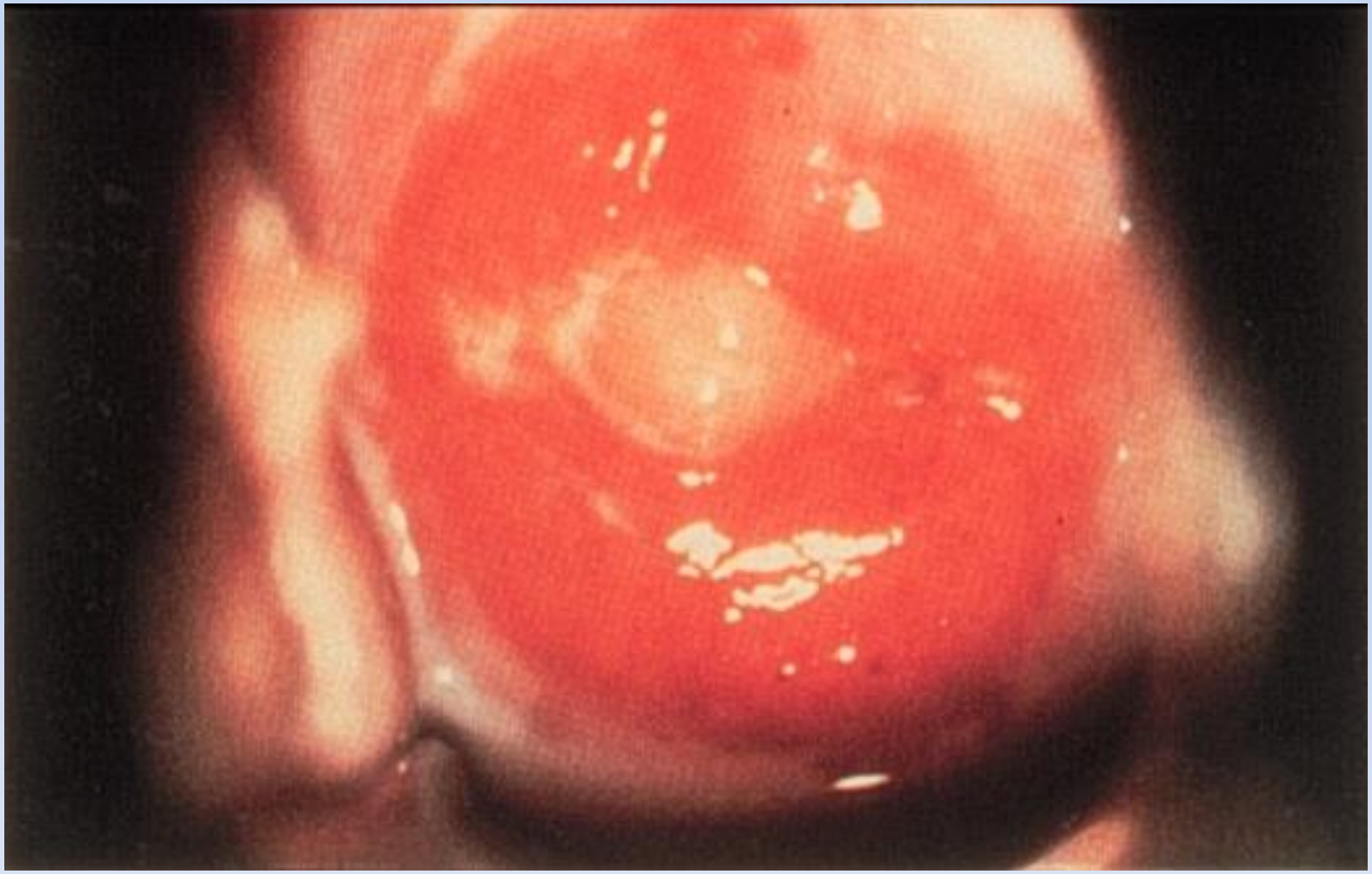


Source: *Claire E. Stevens, Seattle STD/HIV Prevention Training Center*

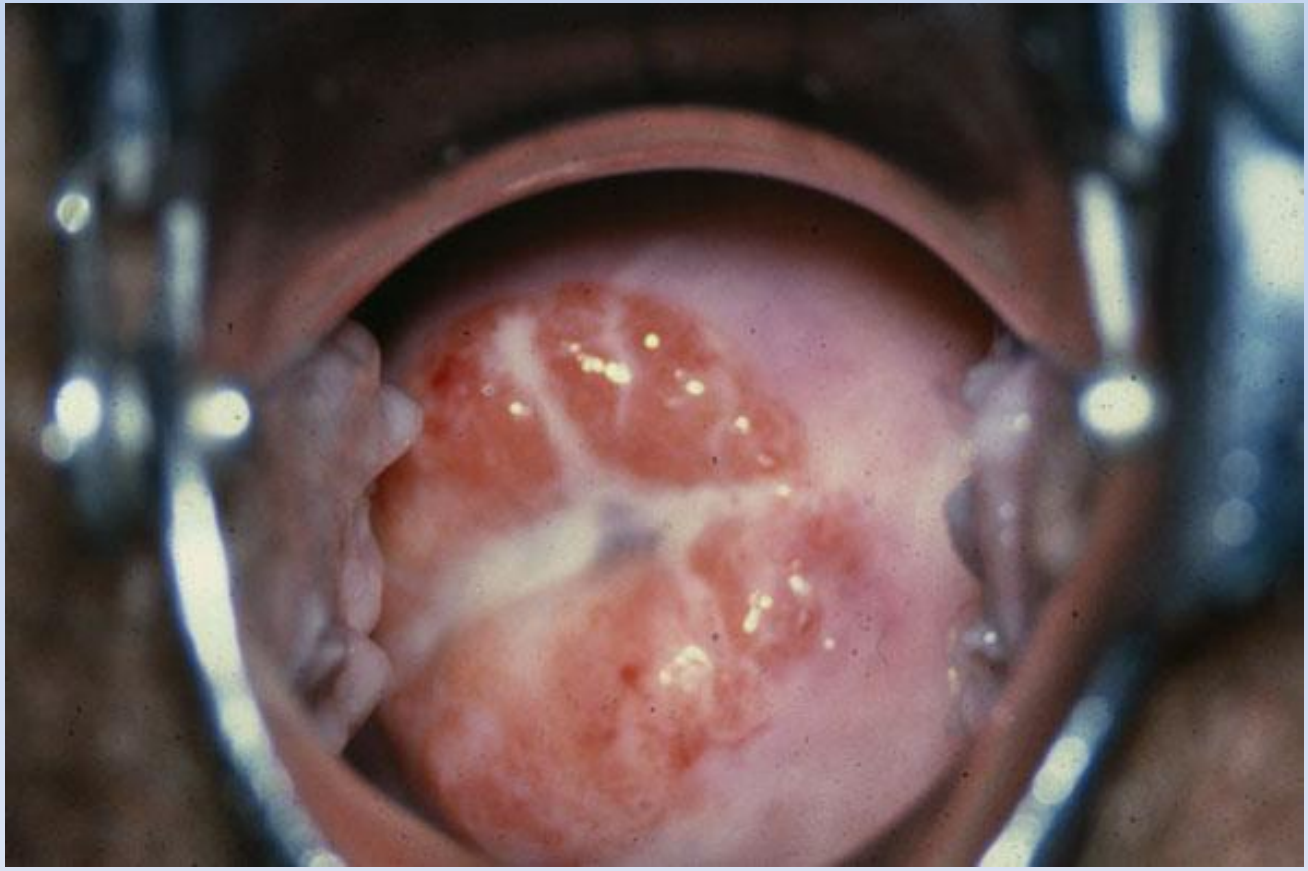
Chlamydia Cervicitis



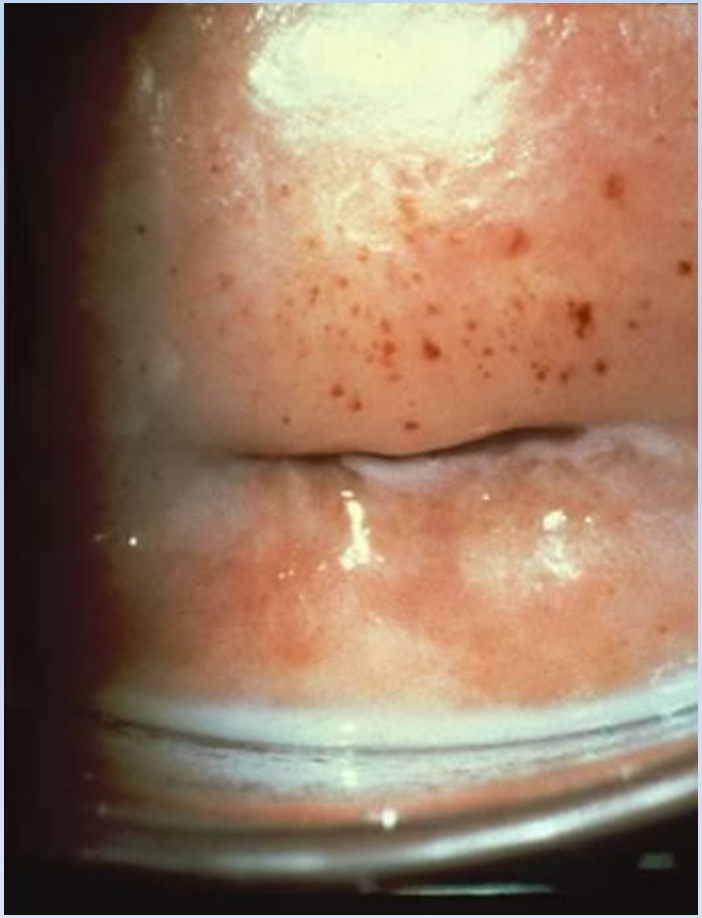
Source: St. Louis STD/HIV Prevention Training Center



Bacteria: Chlamydia



“Strawberry cervix” due to *T. vaginalis*

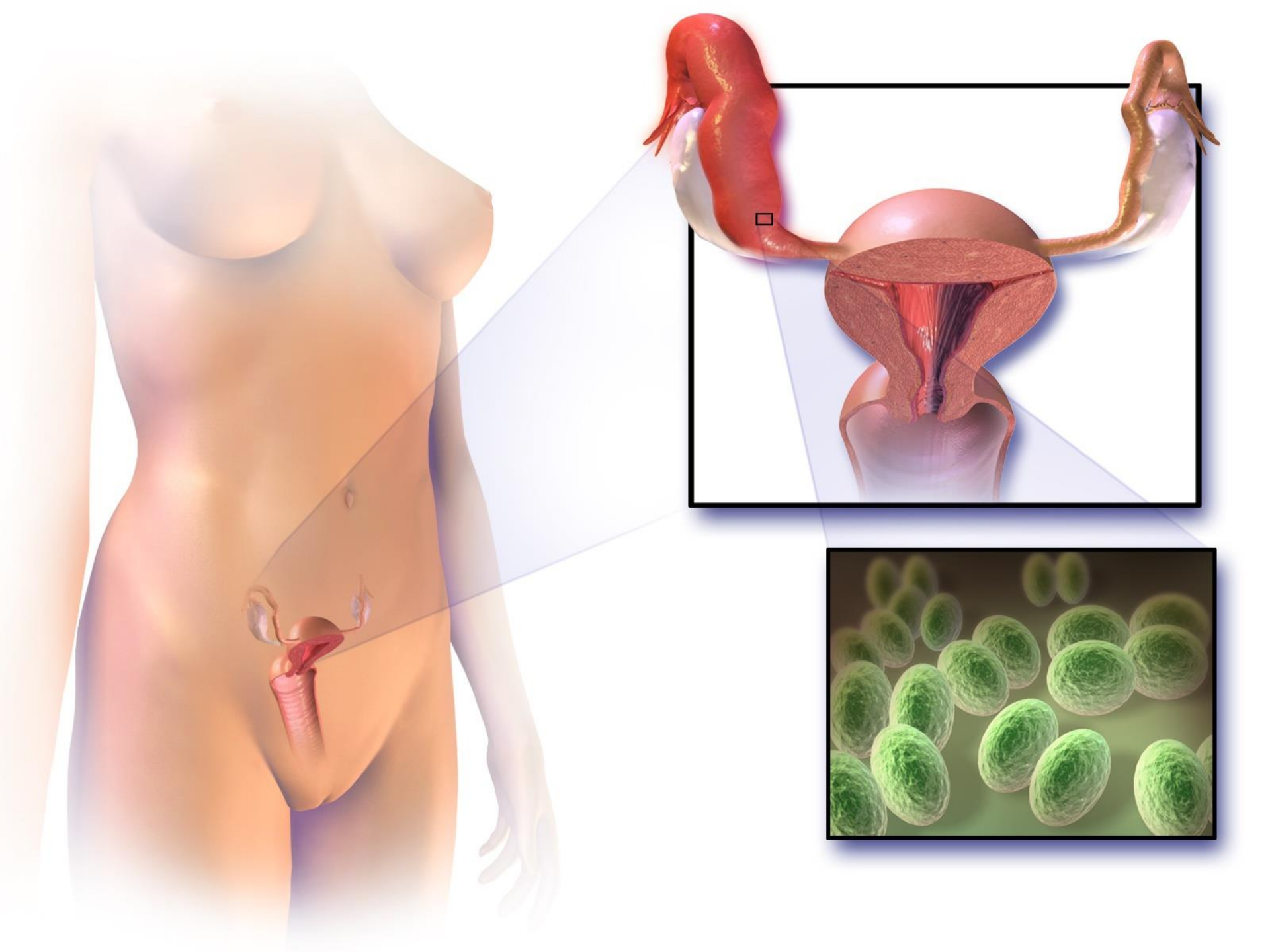


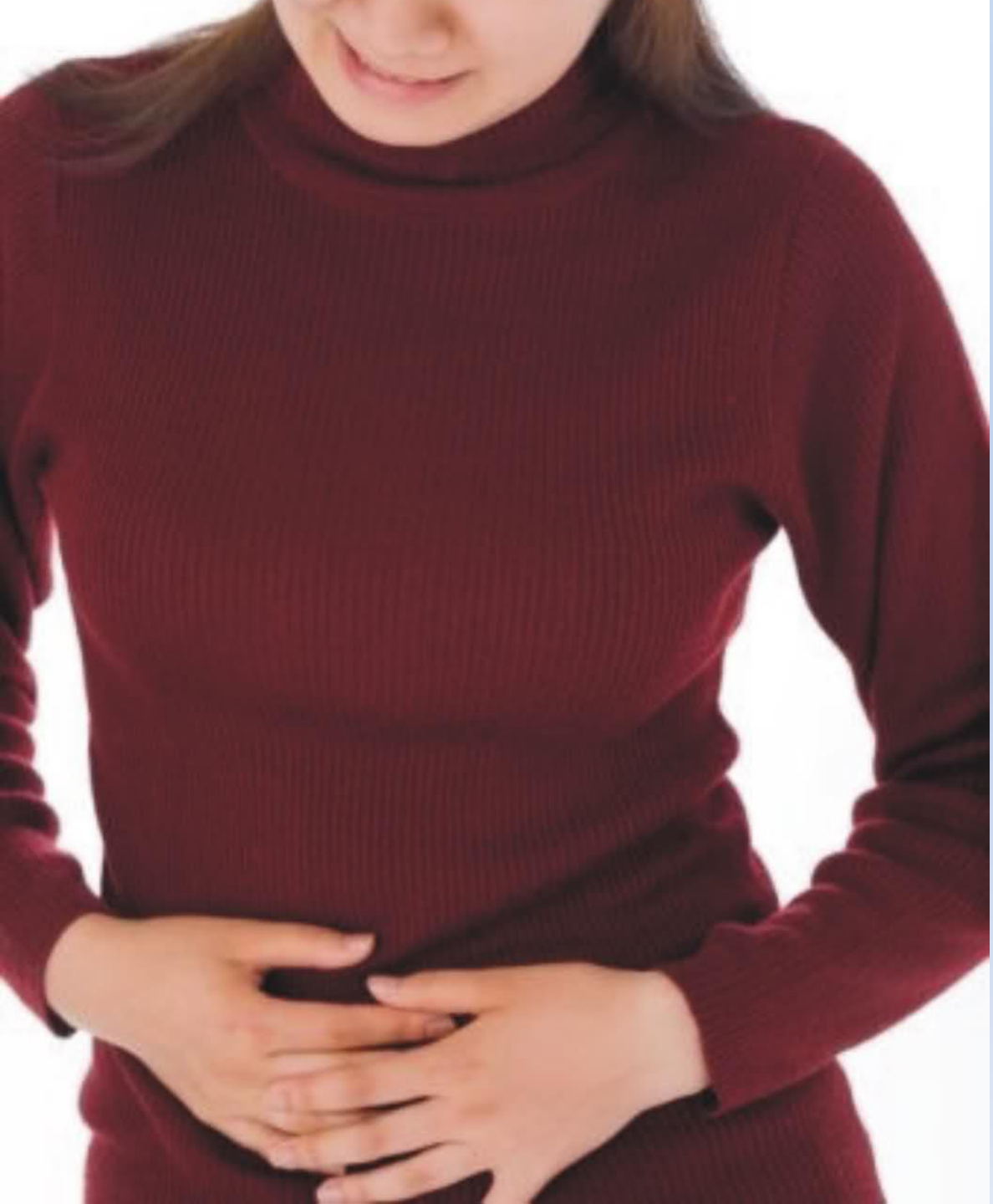
Initial Treatment similar Urethritis

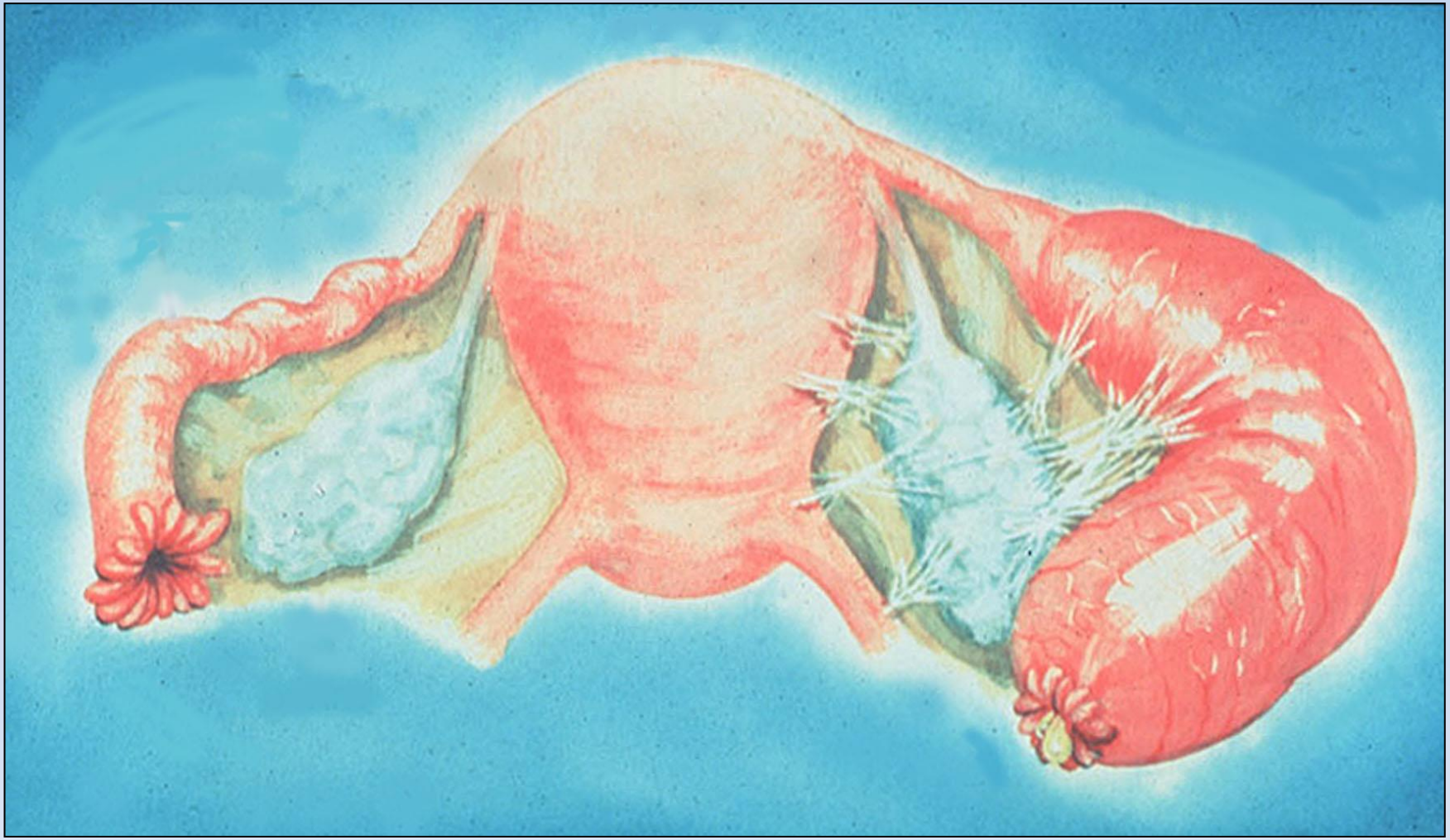
Treat gonorrhea:	plus	Treat chlamydial infection:
Ceftriaxone, 250 mg IM;		***Azithromycin, 1 g PO;***
		Doxycycline, 100 mg bid for 7 days

- ***With resistance of M. genitalium to azithromycin now recognized, moxifloxacin may be a reasonable alternative***
- ***The sexual partner(s) of a woman with MPC should be examined and given a regimen similar to that chosen for the woman***

Pelvic Inflammatory Disease







Intrauterine infection

- ***primary*** ***(spontaneously occurring and usually sexually transmitted)***
- ***secondary*** ***to invasive intrauterine surgical procedures***
  - ***dilatation and curettage,***
  - ***termination of pregnancy,***
  - ***insertion of an intrauterine device (IUD),***
  - ***hysterosalpingography***
  - ***parturition***

Etiology

Primary causes of endocervicitis

- ***N. gonorrhoeae***
- ***C. trachomatis***

Anaerobic and facultative organisms

- ***Prevotella species,***
- ***peptostreptococci,***
- ***E. coli, Haemophilus influenzae,***
- ***group B streptococci***

Symptoms of

- ***N. gonorrhoeae–associated***
- ***C. trachomatis–associated PID***
- ***often begin during or soon after the menstrual period; this timing suggests that menstruation is a risk factor for ascending infection from the cervix and vagina.***

Clinical Manifestations
Endometritis:

- ***Midline lower quadrant abdominal rebound tenderness;***
- ***fever***
- ***elevated C-reactive protein levels***
- ***abnormal vaginal bleeding***
- ***endometritis alone are at lower risk of subsequent tubal occlusion and resulting infertility than salpingitis.***

Clinical Manifestations

Salpingitis:

- ***yellow or malodorous vaginal discharge caused by MPC and/or bacterial vaginosis***
- ***bilateral lower abdominal and pelvic pain***
- ***adnexal, tenderness***
- ***nausea,***
- ***vomiting,***
- ***increased abdominal tenderness if peritonitis develops***

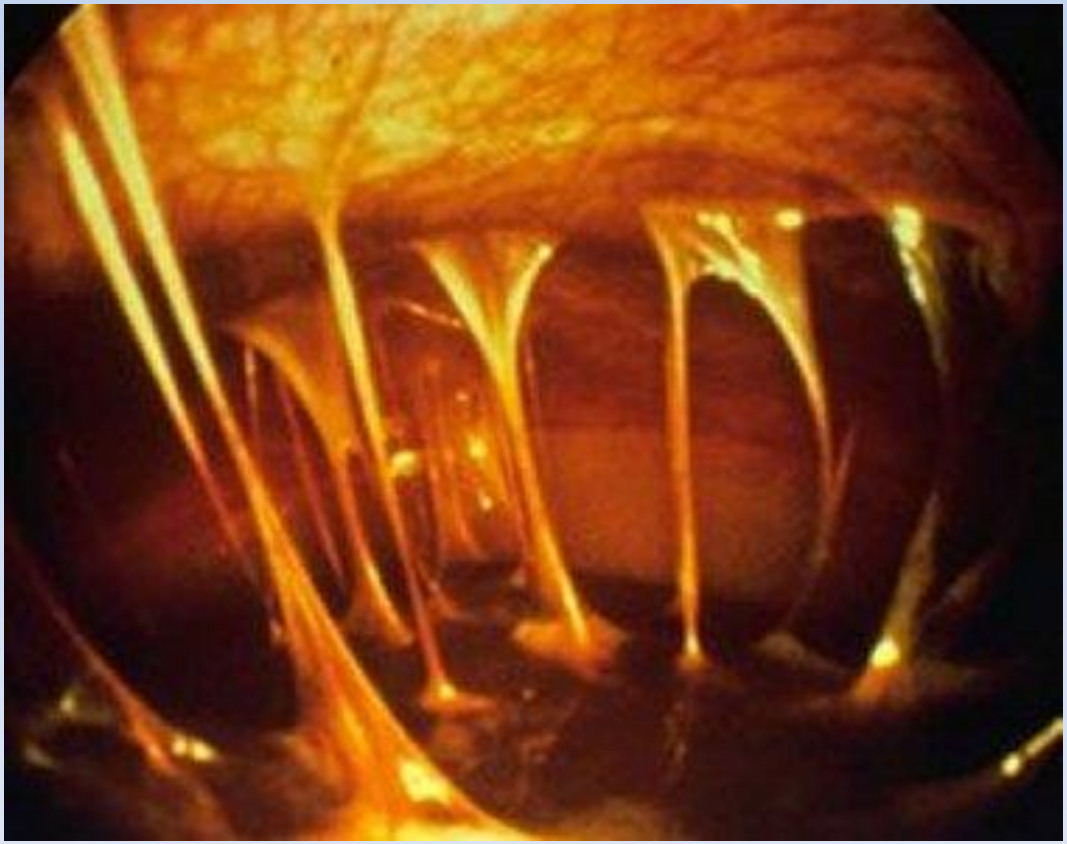
Tuberculous salpingitis

- ***In older women(postmenopausal)***
- ***abnormal vaginal bleeding***
- ***pain (including dysmenorrhea)***
- ***infertility.***
- ***¼ had adnexal masses.***
- ***Endometrial biopsy shows tuberculous granulomas***

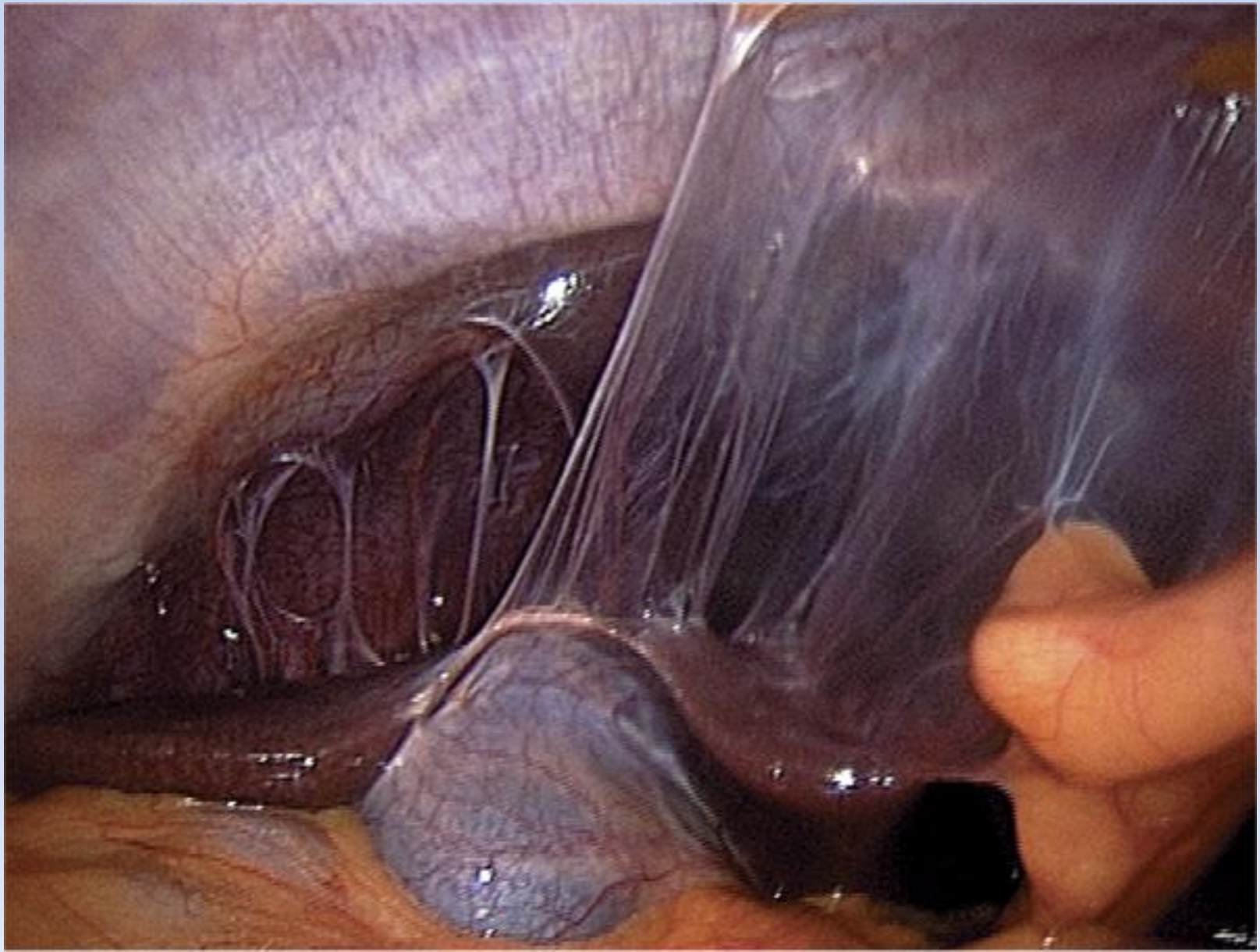
Perihepatitis

- ***Pleuritic upper abdominal pain and tenderness (usually localized to the right upper quadrant)***
- ***during or after the onset of symptoms of PID***
- ***mistaken diagnosis of cholecystitis***

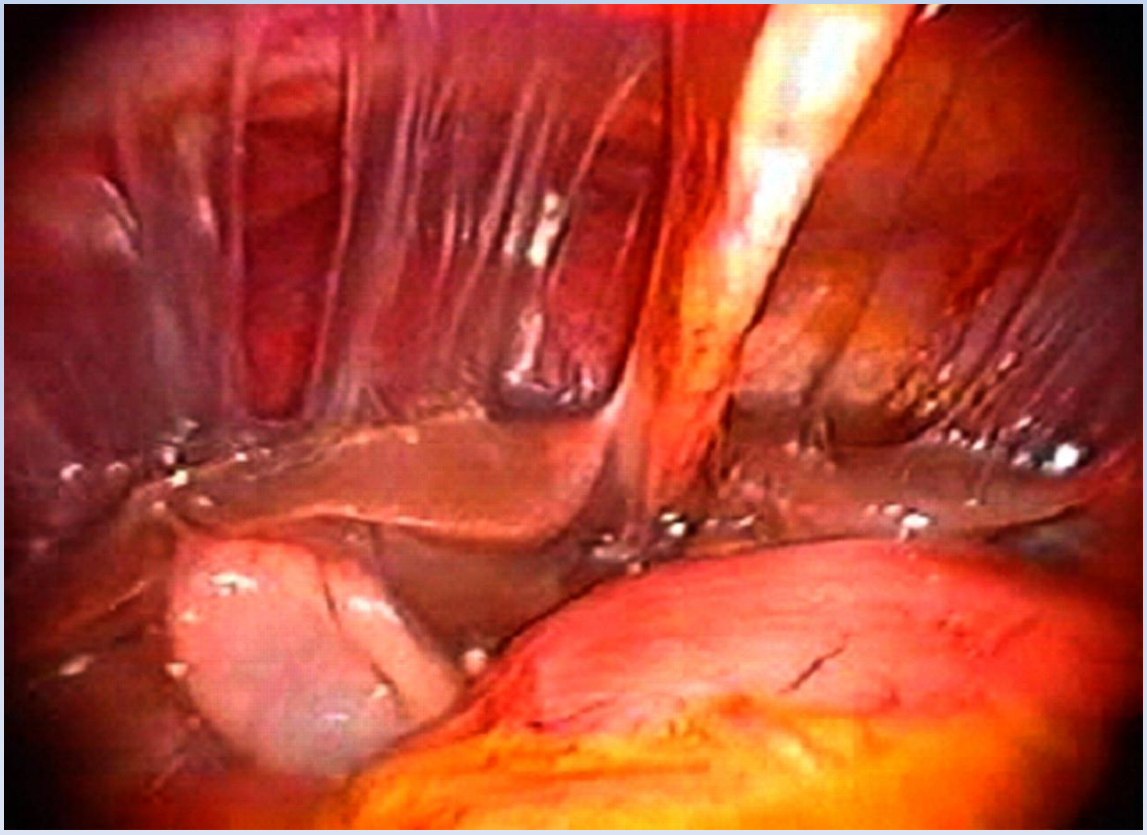
- dense "violin-string" adhesions can be seen over the liver



Fitz-Hugh–Curtis syndrome



Fitz-Hugh –Curtis syndrome, was for many years specifically attributed to gonococcal salpingitis, most cases are now attributed to chlamydial salpingitis



Physical findings include

- ***right upper quadrant tenderness***
- ***and usually include adnexal tenderness and cervicitis,***
- ***even in patients whose symptoms do not suggest salpingitis.***
- ***Results of liver function tests and right upper quadrant ultrasonography are nearly always normal.***

Diagnosis

- ***it is better to overdiagnosis and overtreatment.***
- ***On the other hand, it is essential to differentiate between salpingitis and other pelvic pathology, particularly surgical emergencies such as***
- ***appendicitis***
- ***ectopic pregnancy***

Hospitalization should be considered when

- ***(1) the diagnosis is uncertain and surgical emergencies such as appendicitis and ectopic pregnancy cannot be excluded,***
- ***(2) the patient is pregnant,***
- ***(3) pelvic abscess is suspected,***
- ***(4) severe illness or nausea and vomiting,***
- ***(5) the patient has HIV infection,***
- ***(6) the patient is assessed as unable to follow or tolerate an outpatient regimen,***
- ***(7) the patient has failed to respond to outpatient therapy.***

Outpatient Regimens

✓ ***Re[illegible]A***

- ***Oflox[illegible]00 mg PO bid for 14 days***

or

Levofloxacin 500 mg PO once daily

plus

- ***Metronidazole 500 mg PO bid for 14 days***

Outpatient Regimens

Regimen B

- ***Ceftriaxone 250 mg IM once***

plus

- ***Doxycycline 100 mg PO bid for 14 days***

plus

- ***Metronidazole 500 mg PO bid for 14 days***

Parenteral Regimens

- Initiate parenteral therapy with either of the following regimens; continue parenteral therapy until 48 h after clinical improvement; then change to outpatient

Regimen A

- ***Cefotetan 2 g IV q12h***

or

Cefoxitin 2 g IV q6h

plus

- ***Doxycycline 100 mg IV or PO q12h***

Parenteral Regimens

Regimen B

- ***Clindamycin* 900 mg IV q8h**

plus

- ***Gentamicin*, loading dose of 2 mg/kg IV or IM, then maintenance dose of 1.5 mg/kg q8h**

Follow-Up

- ***Hospitalized patients should show clinical improvement within 3–5 days.***

- ***Women treated as outpatients should be clinically reevaluated within 72 h for persistent symptoms, lack of symptoms, or side effects***

Follow-Up

- ***Male sex partners should be evaluated and treated empirically for gonorrhea and chlamydial infection.***
- ***After completion of treatment if symptoms persist or recur or if the patient has not complied with therapy or has been reexposed to an untreated sex partner.***

Surgery

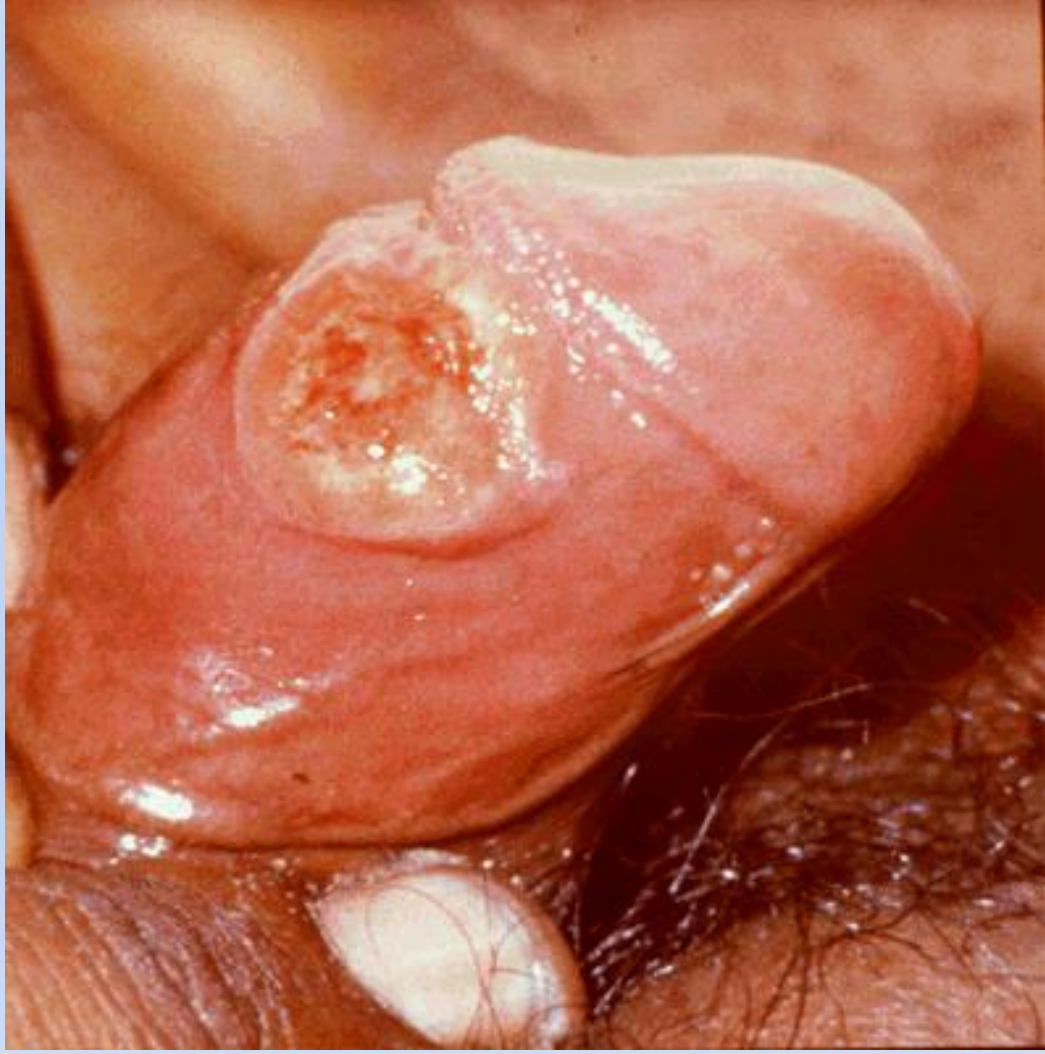
- ***Surgery is necessary for the treatment of salpingitis only in the face of life-threatening infection (such as rupture or threatened rupture of a tuboovarian abscess) or for drainage of an abscess.***

Late sequelae

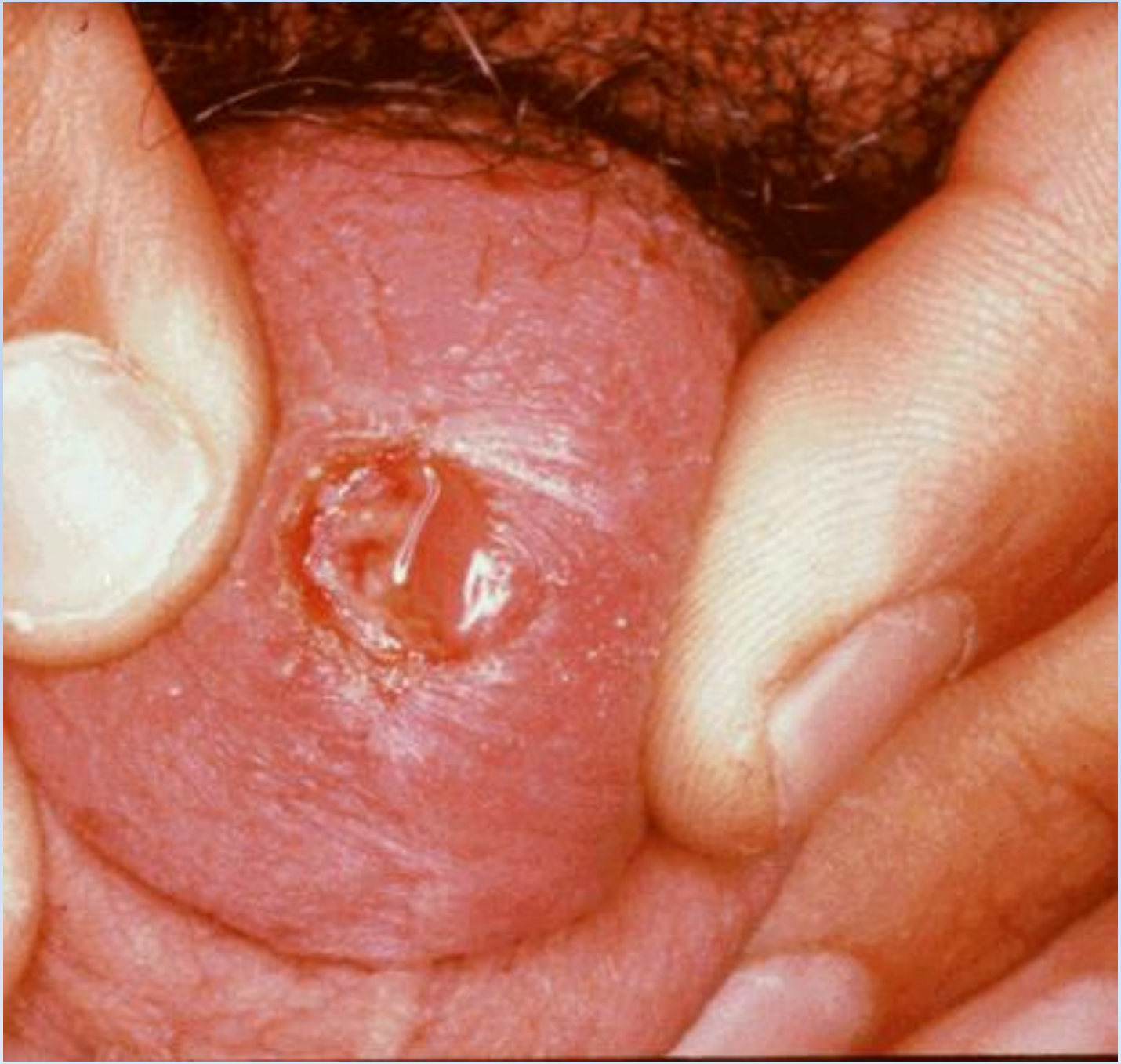
- ***Late sequelae include***
- ***infertility due to bilateral tubal occlusion,***
- ***ectopic pregnancy due to tubal scarring without occlusion,***
- ***chronic pelvic pain***
- ***recurrent salpingitis***

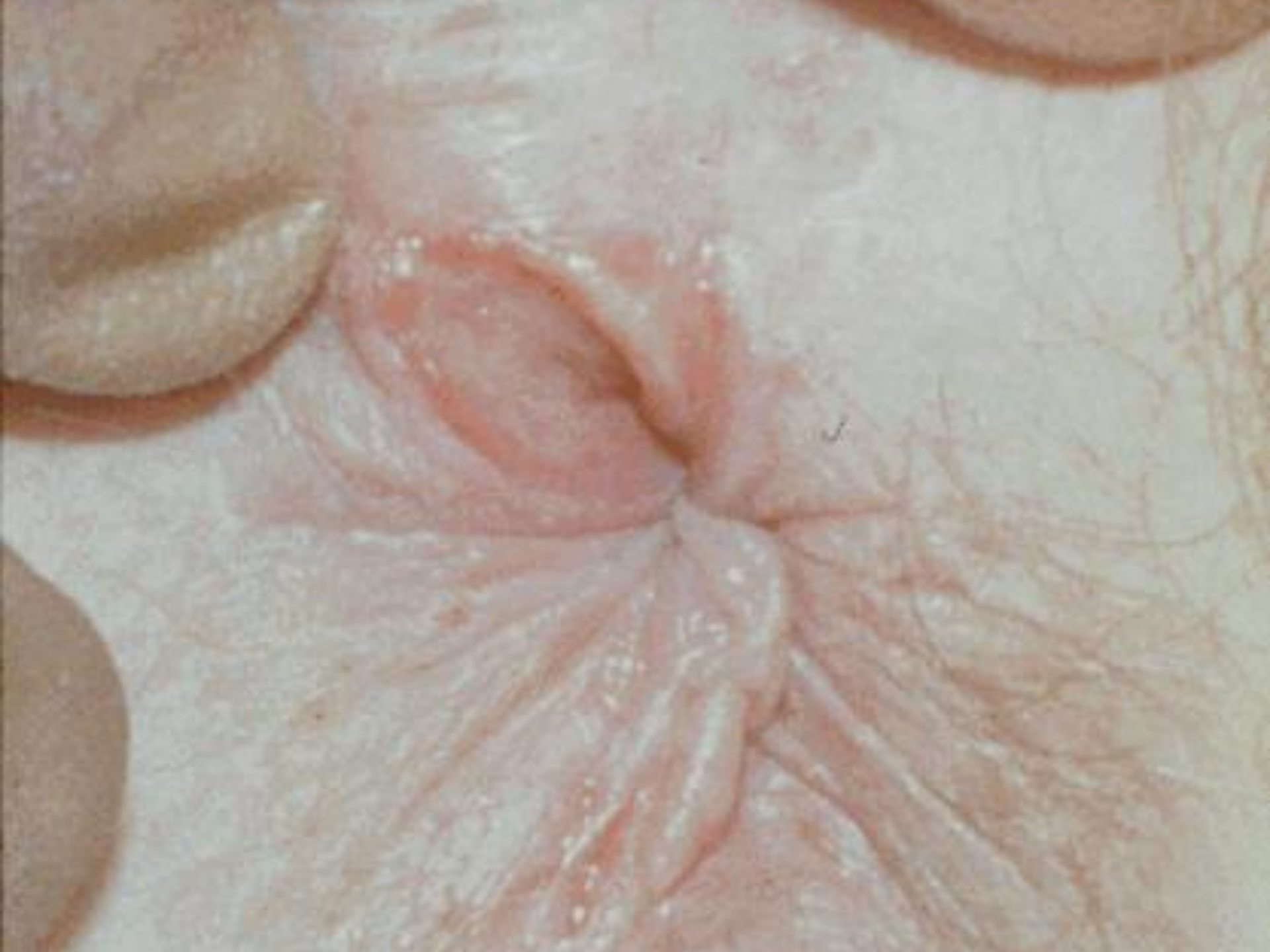
Ulcerative Genital or Perianal Lesions

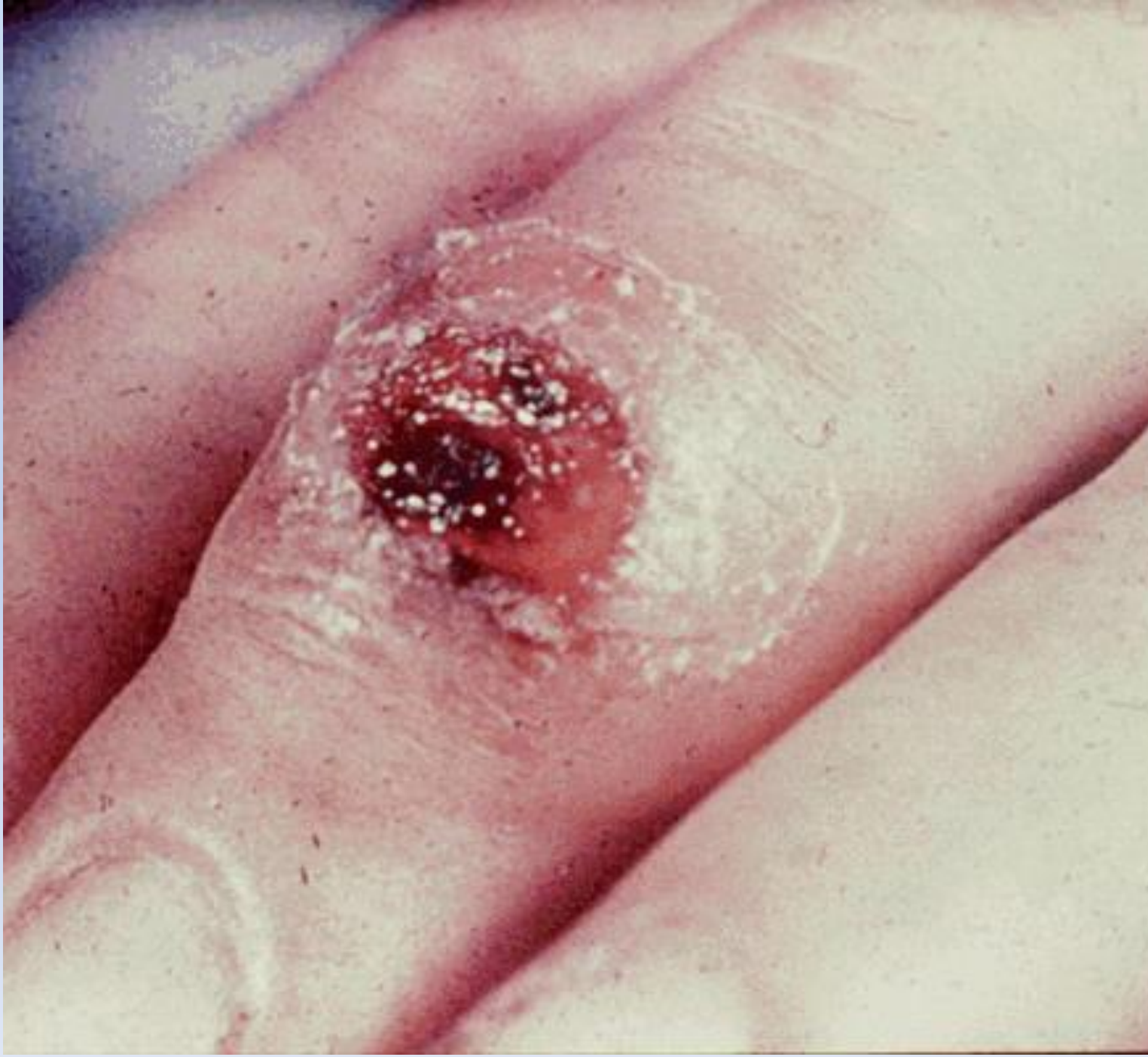
Syphilis

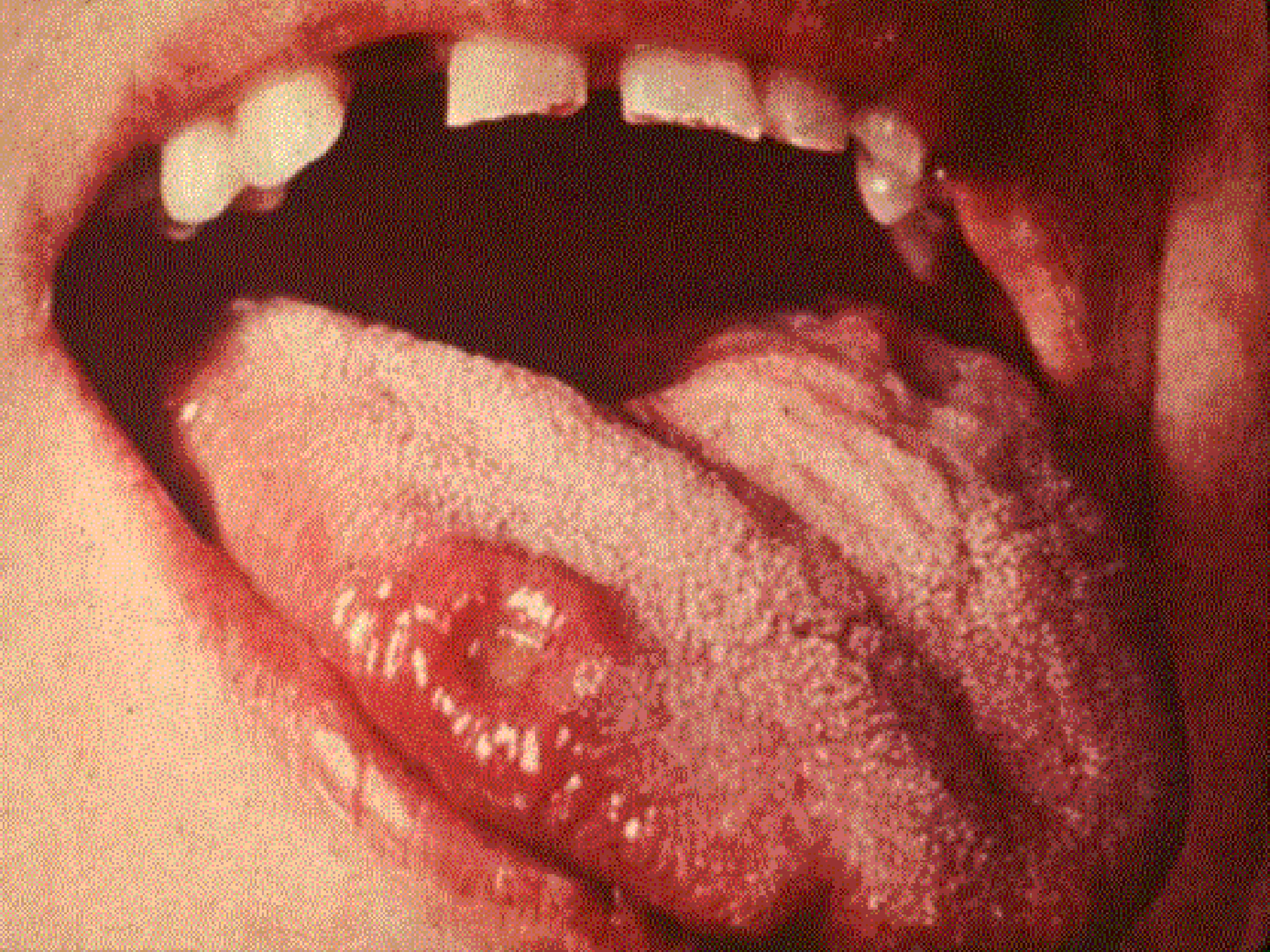


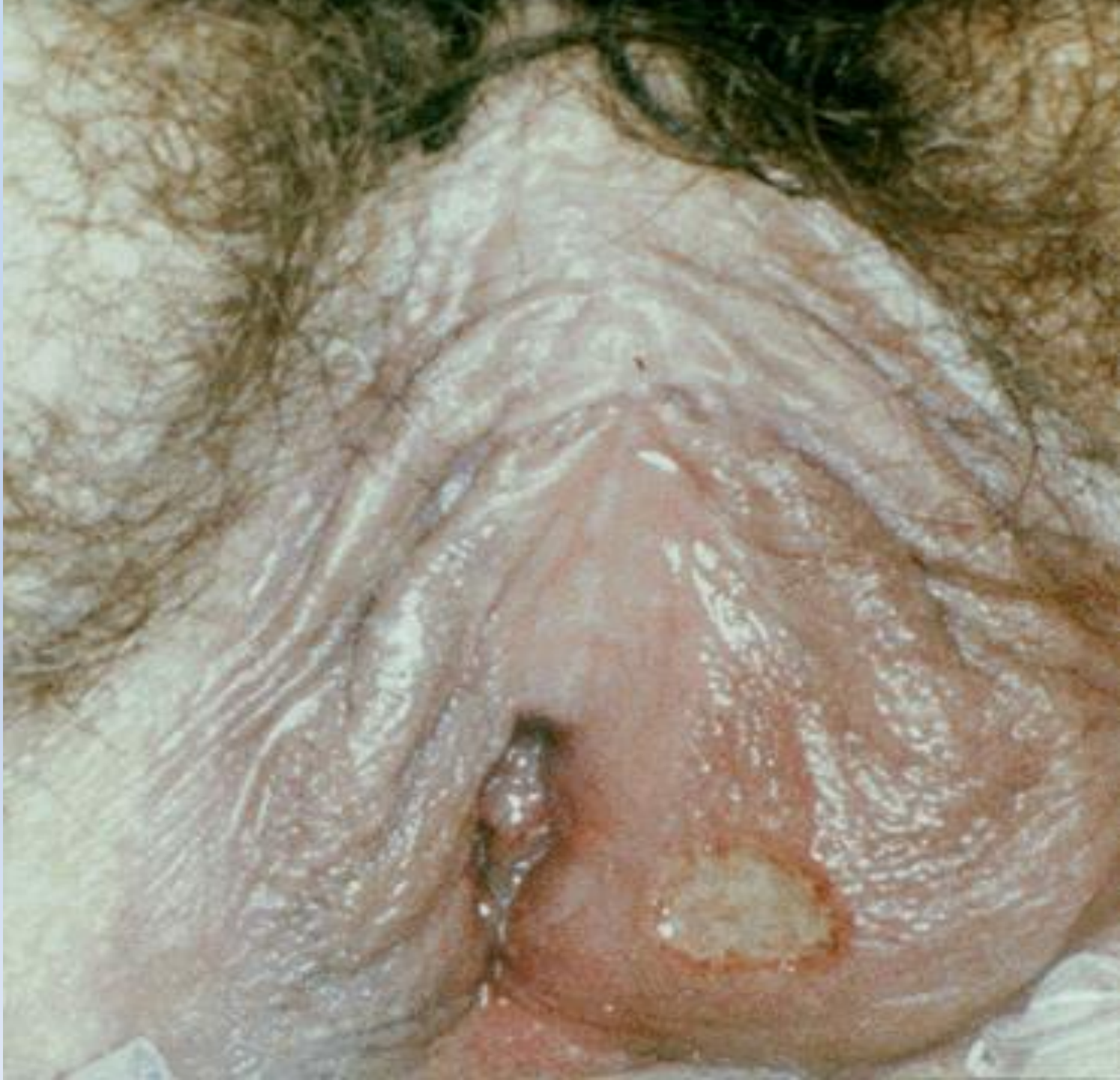
- *Painless,*
- *nontender,*
- *indurated ulcers*
- *firm, nontender inguinal adenopathy*



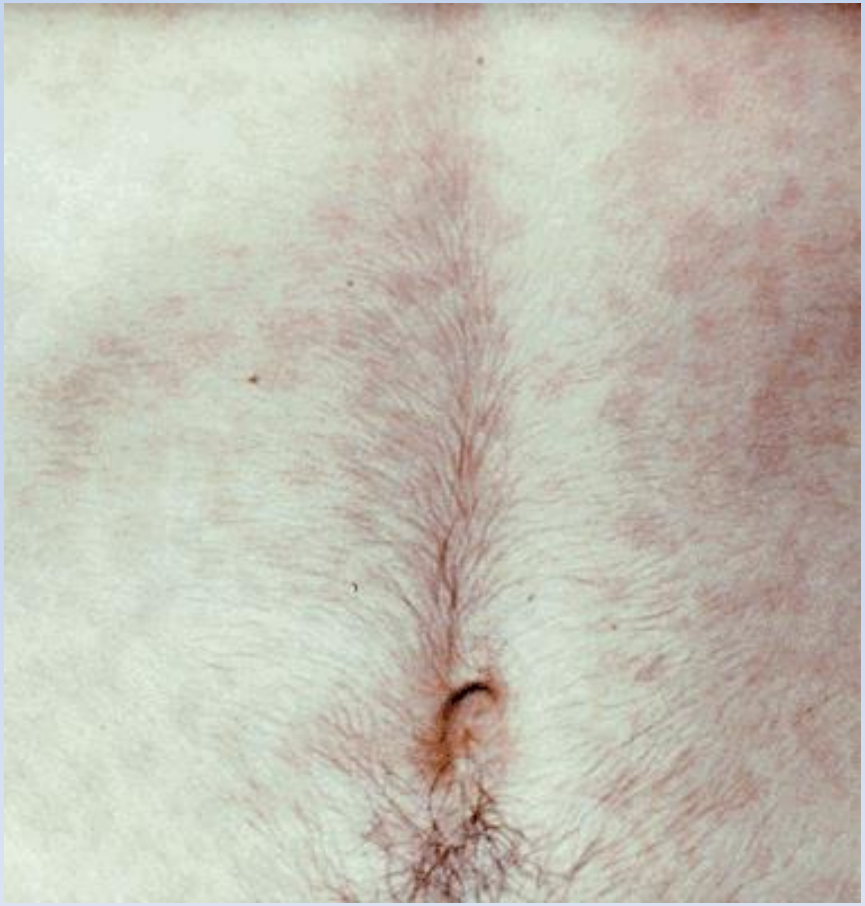


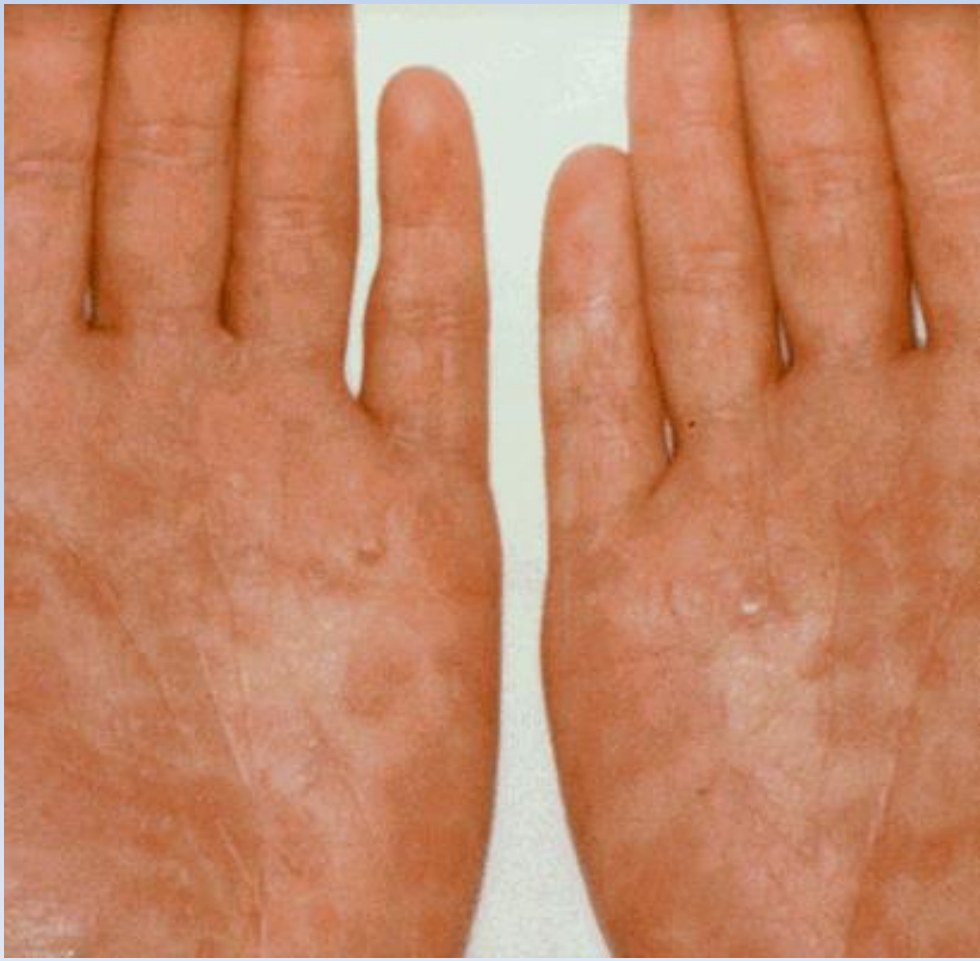




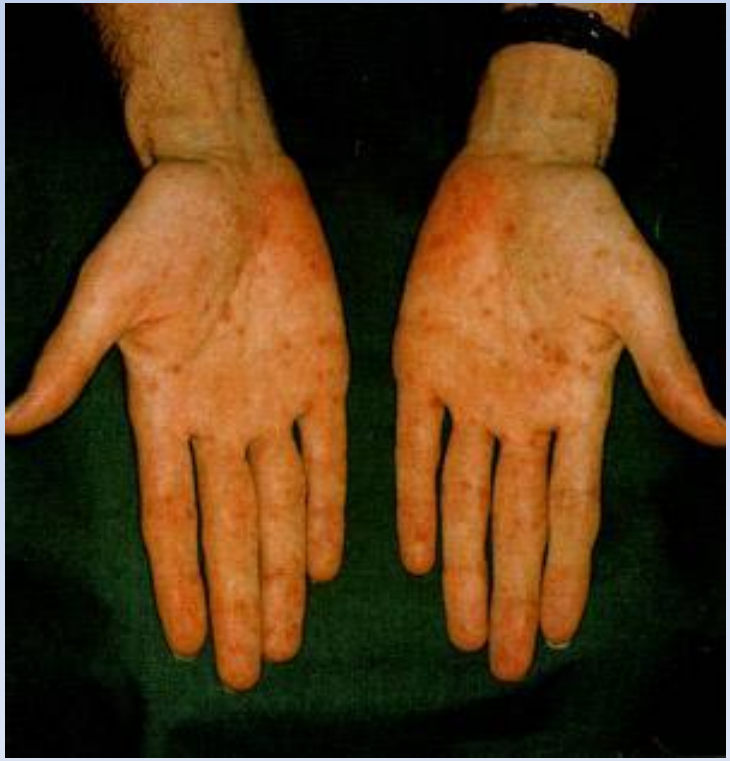


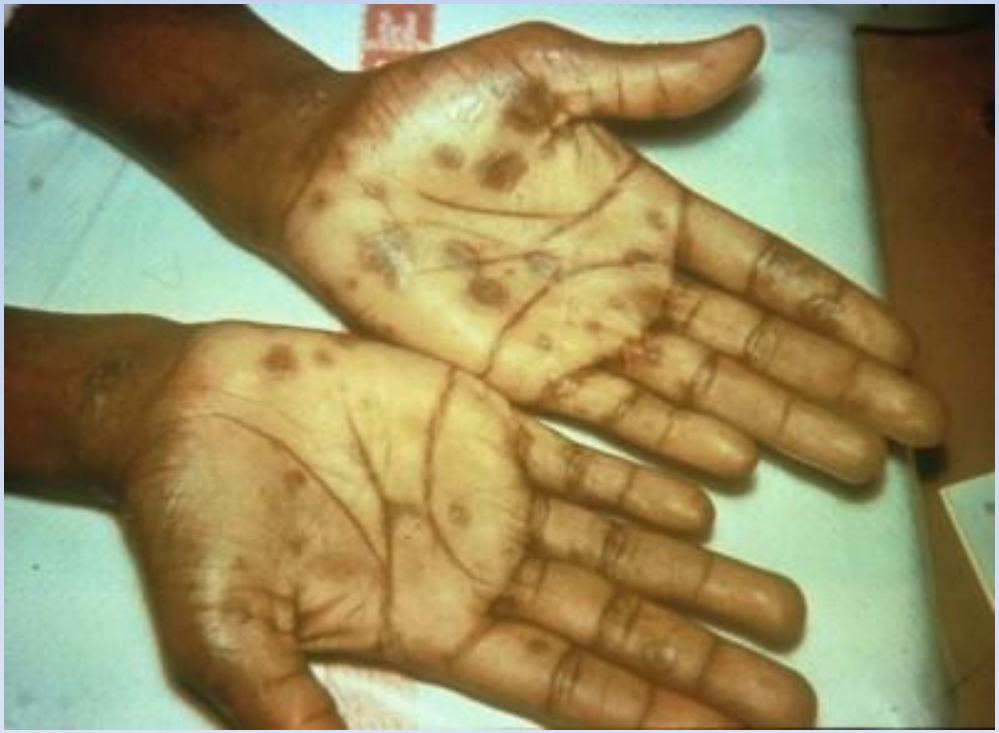
Feature	Syphilis
Incubation period	9–90 days
Early primary lesions	Papule
No. of lesions	Usually one
Diameter	5–15 mm
Edges	Sharply demarcated, elevated, round, or oval
Depth	Superficial or deep
Induration	Firm
Pain	Uncommon
Lymphadenopathy	Firm, nontender, bilateral



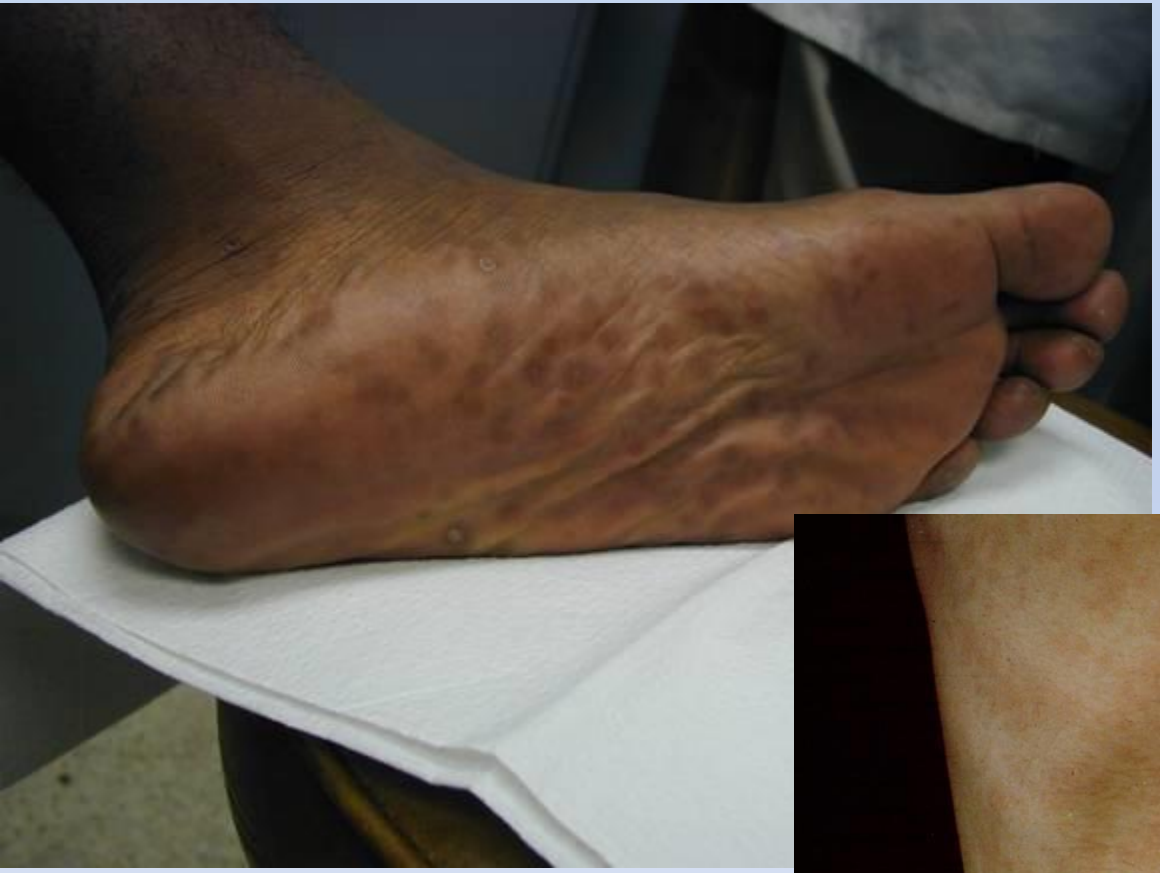


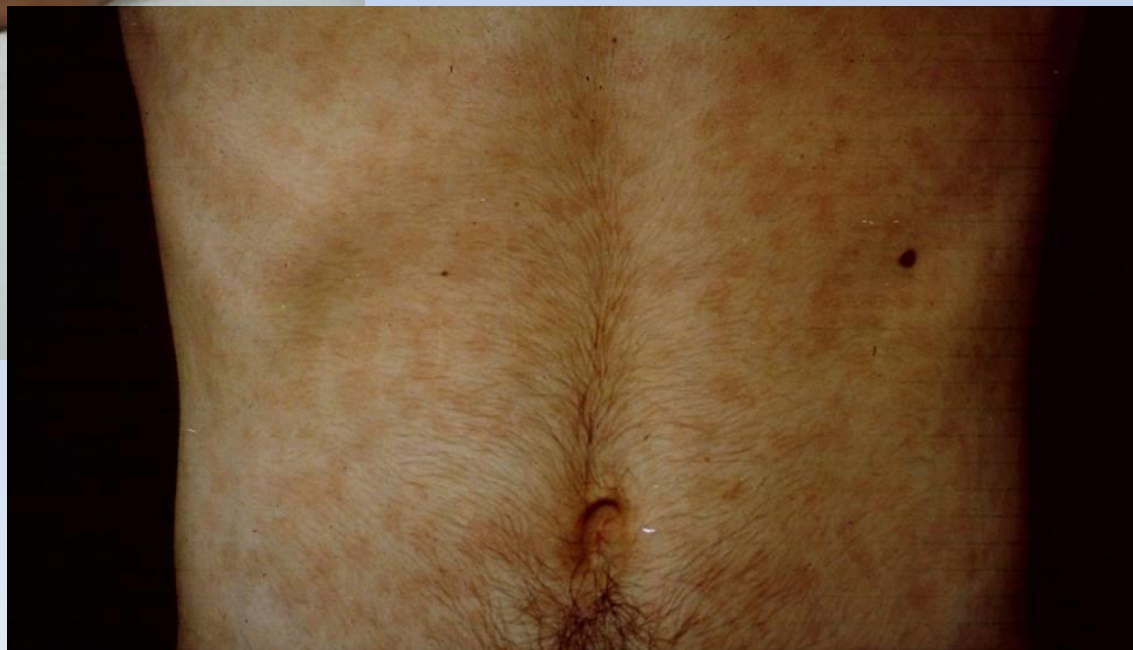
Syphilis



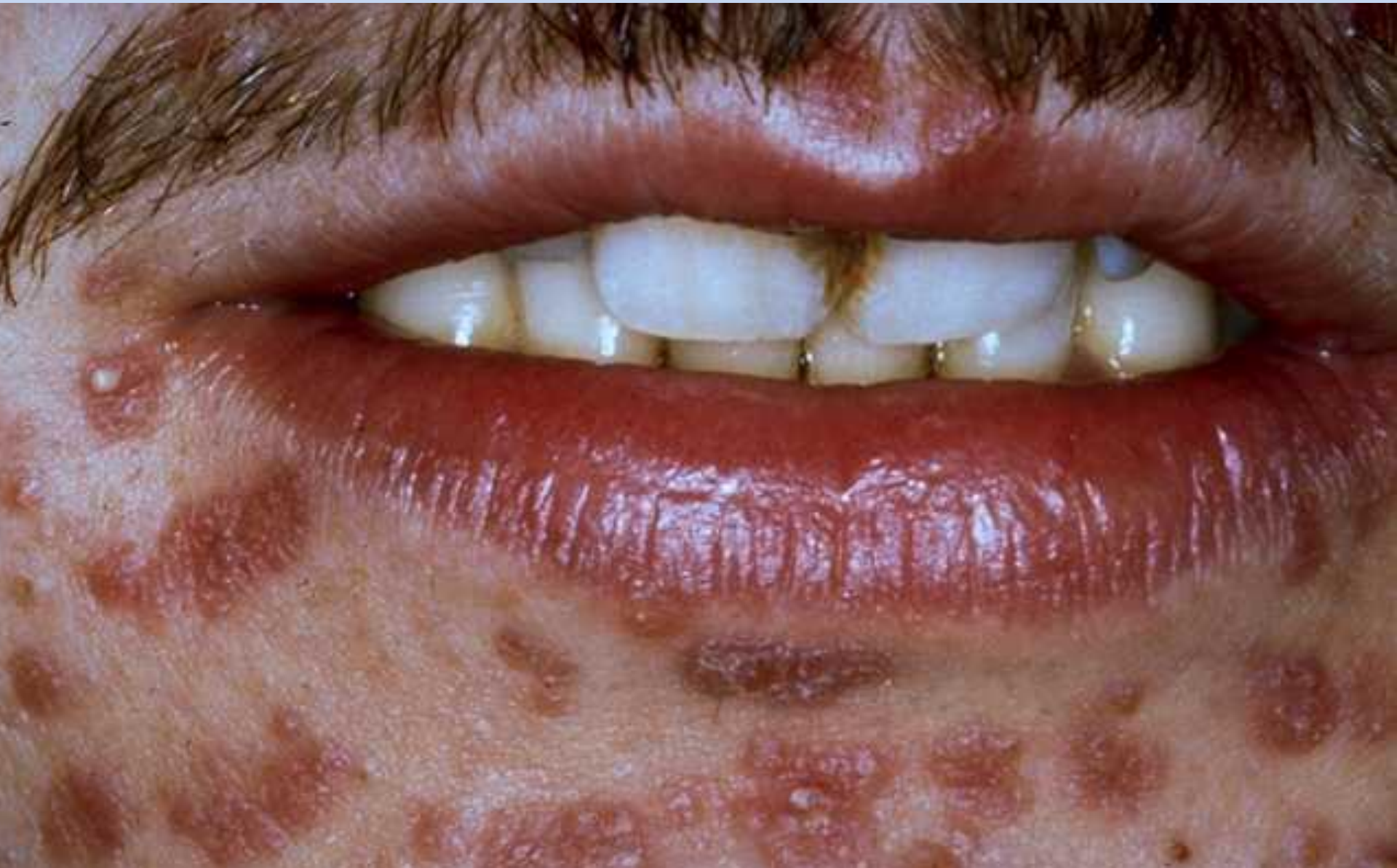


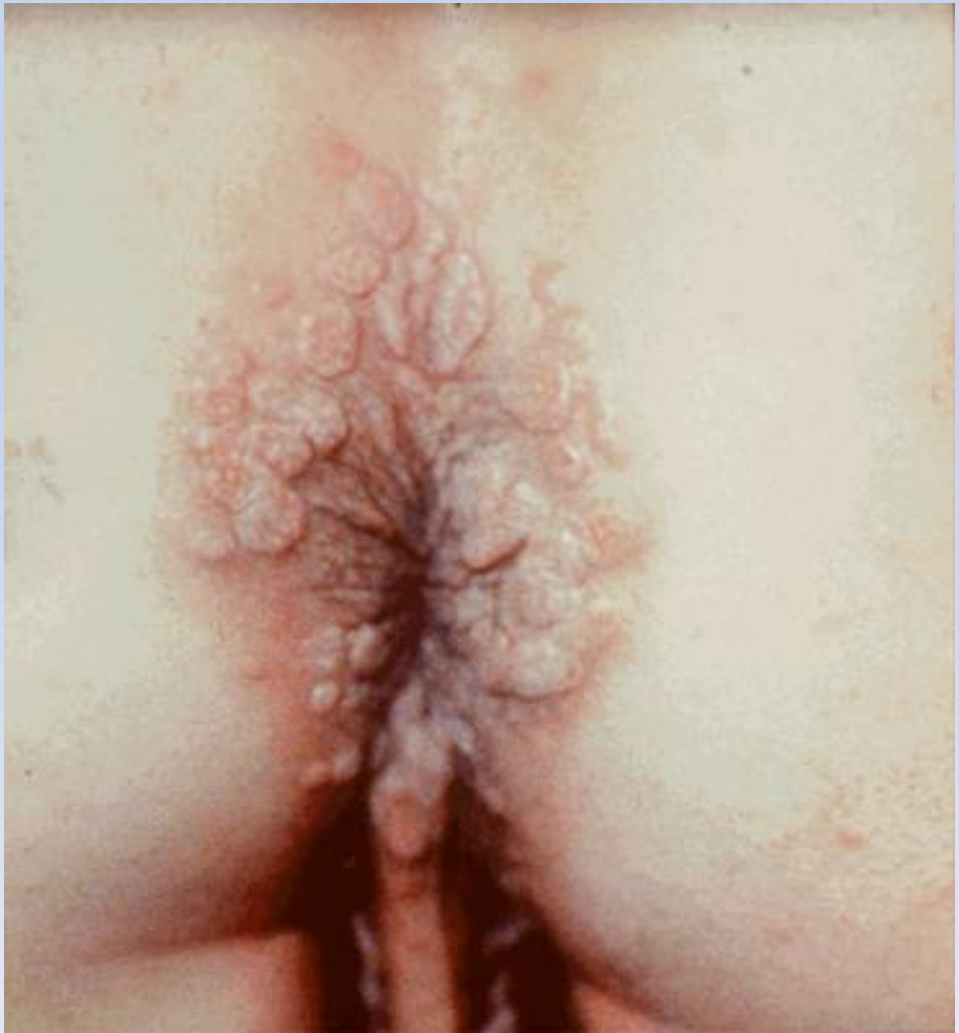
Secondary Syphilis Rash

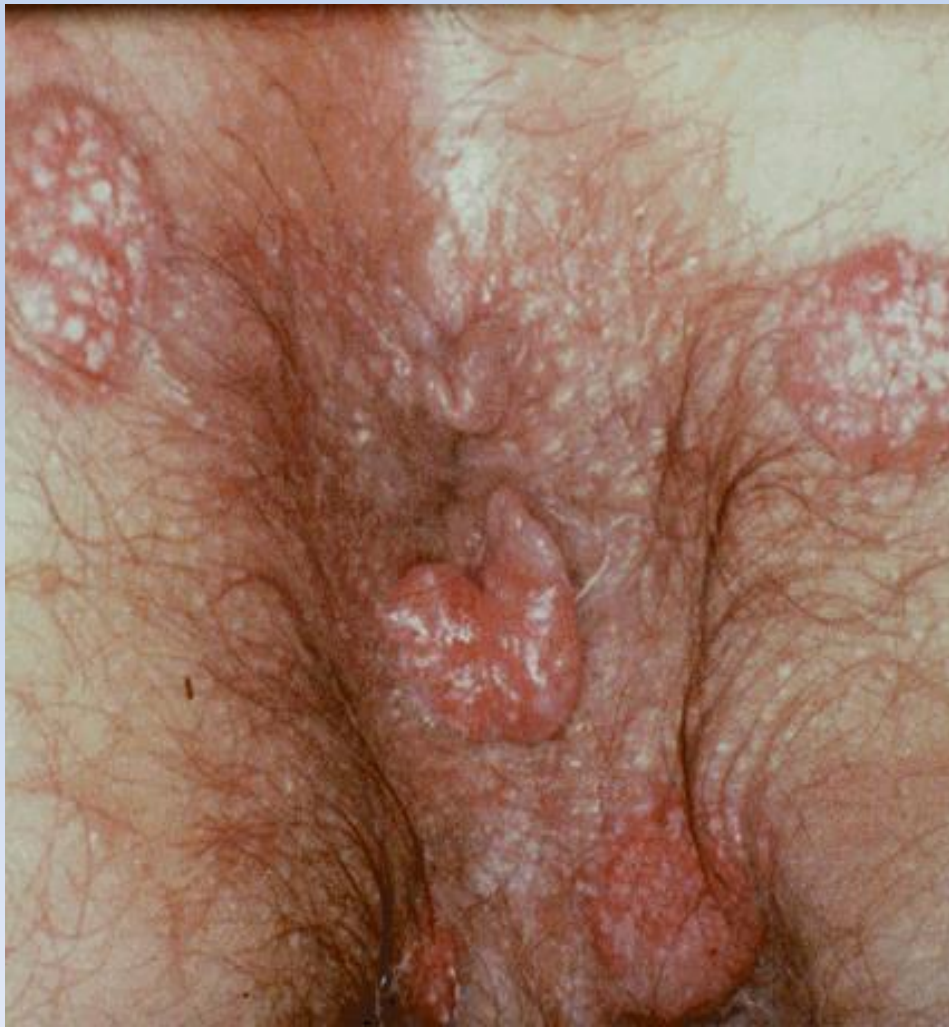


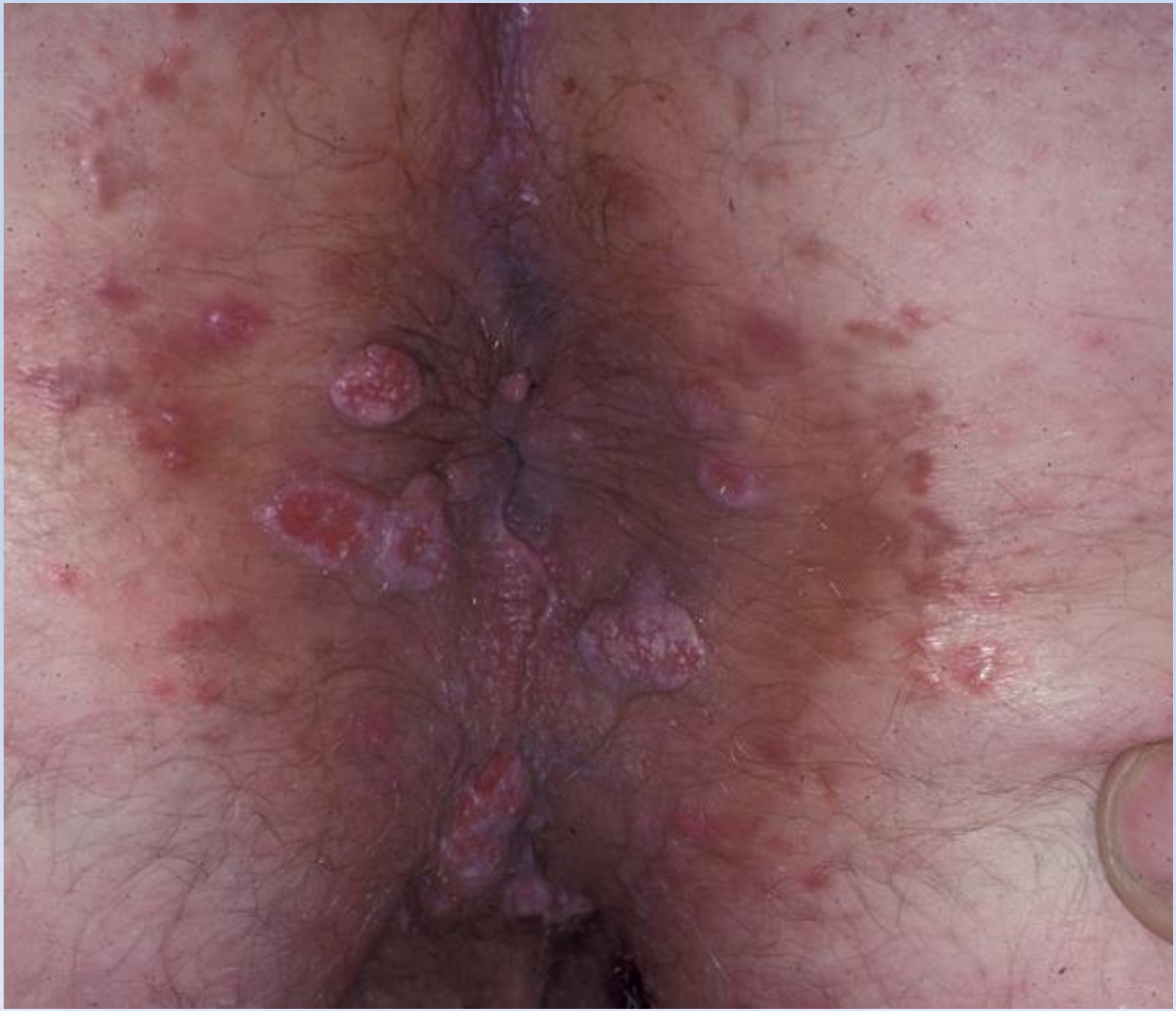


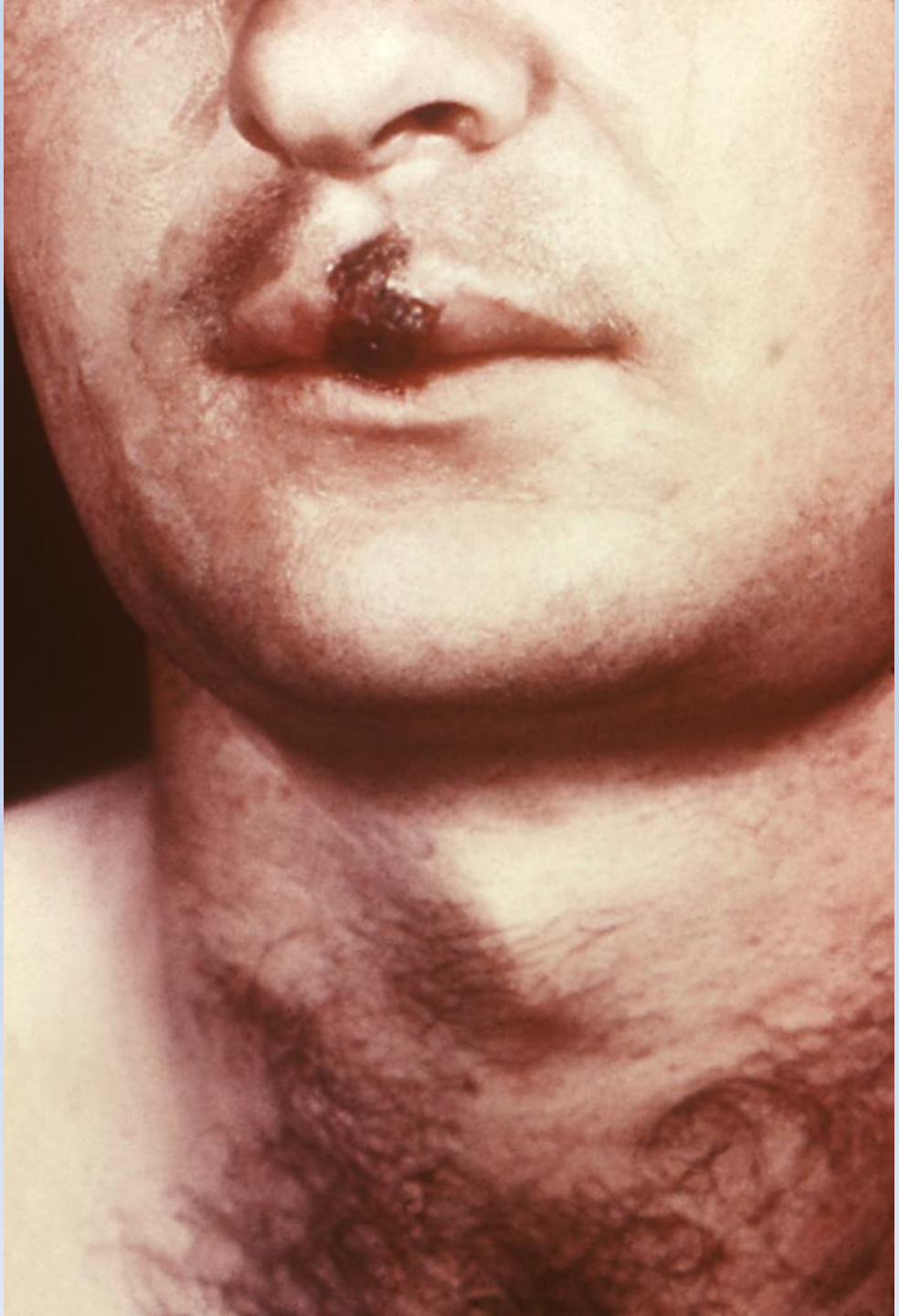
Secondary Syphilis

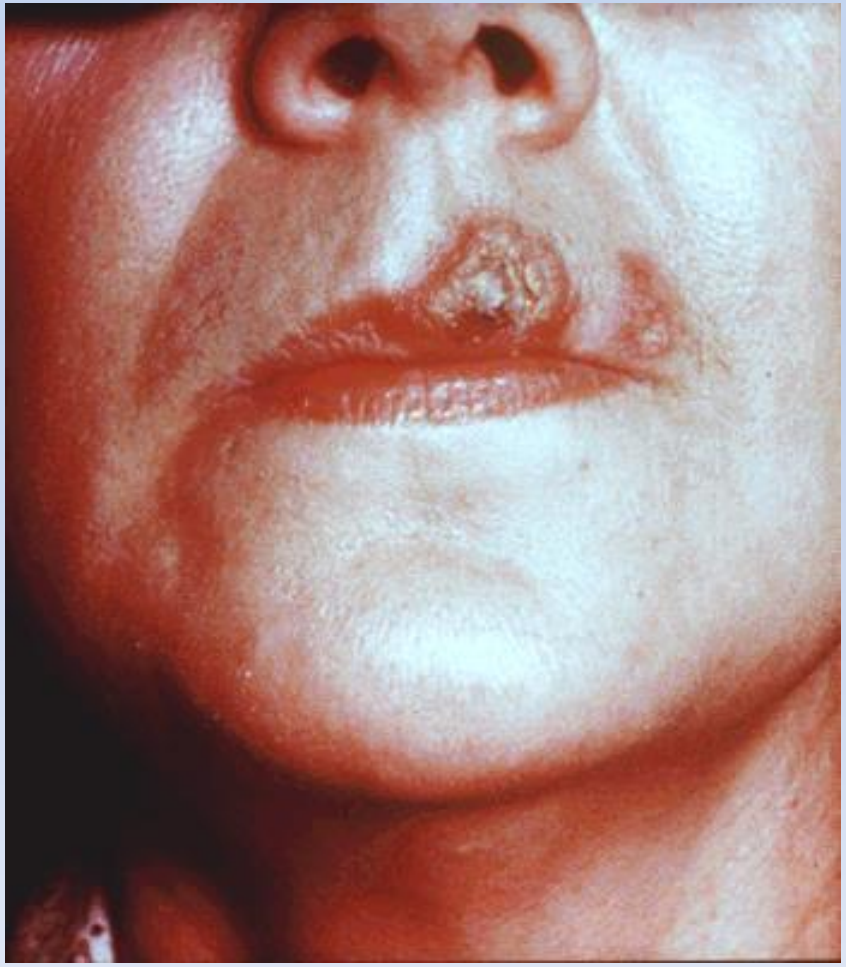


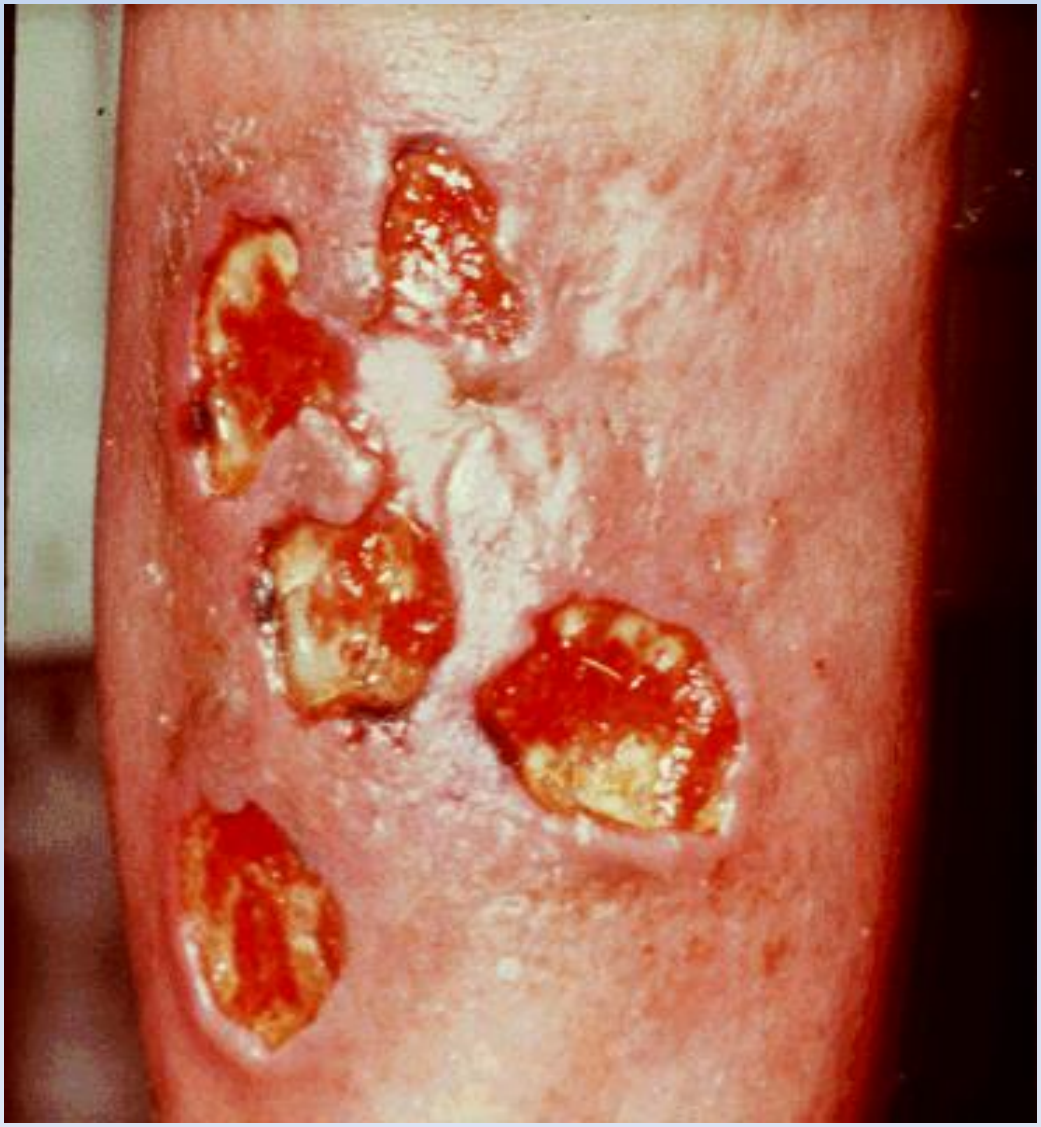












Syphilis confirmed

- ***dark-field,***
- ***FA***
- ***PCR showing T. pallidum,***
- ***RPR reactive FTA.ABS***

Initial Treatment

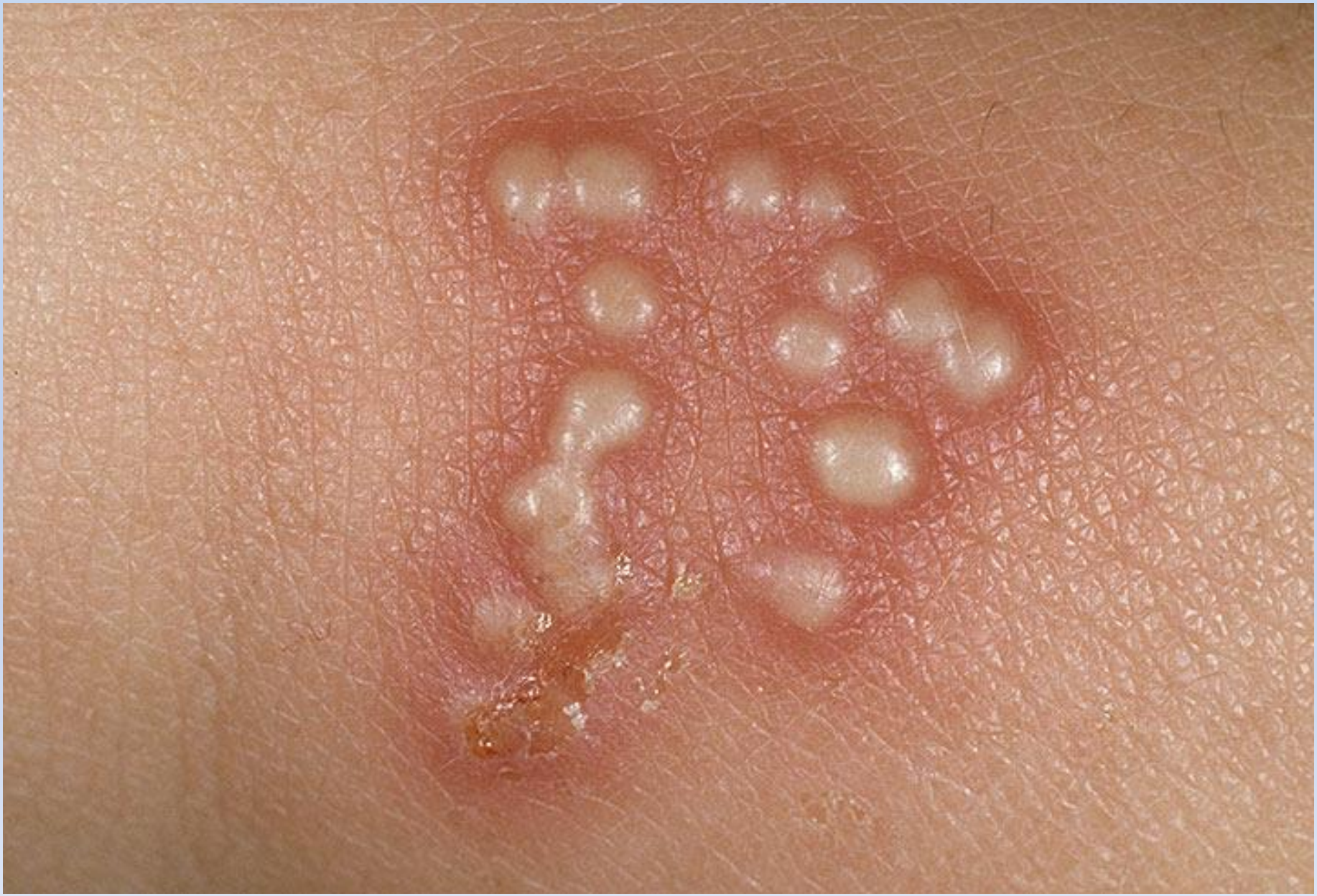
- ***Benzathine penicillin 2.4 million units IM once to patient,***

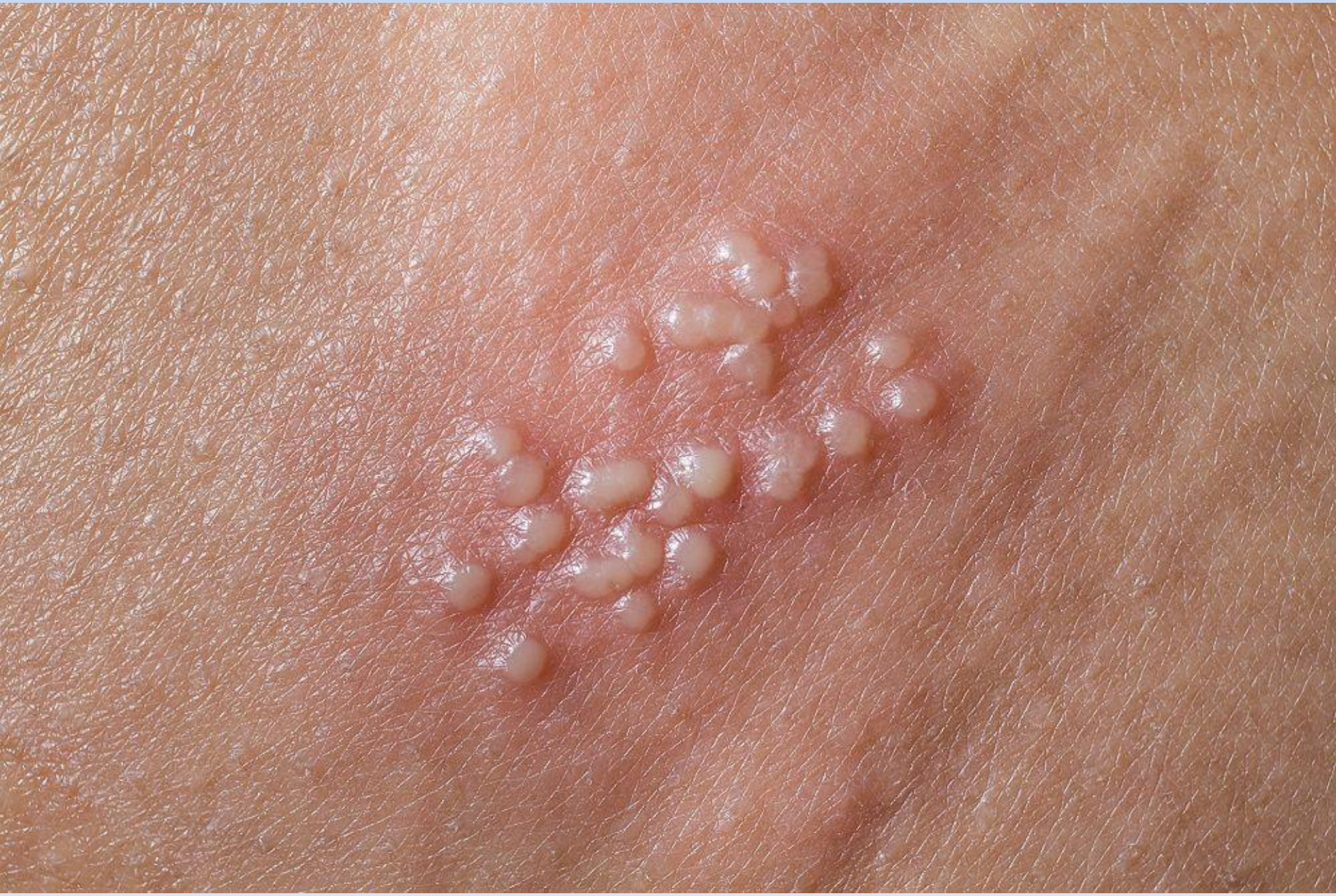
partners

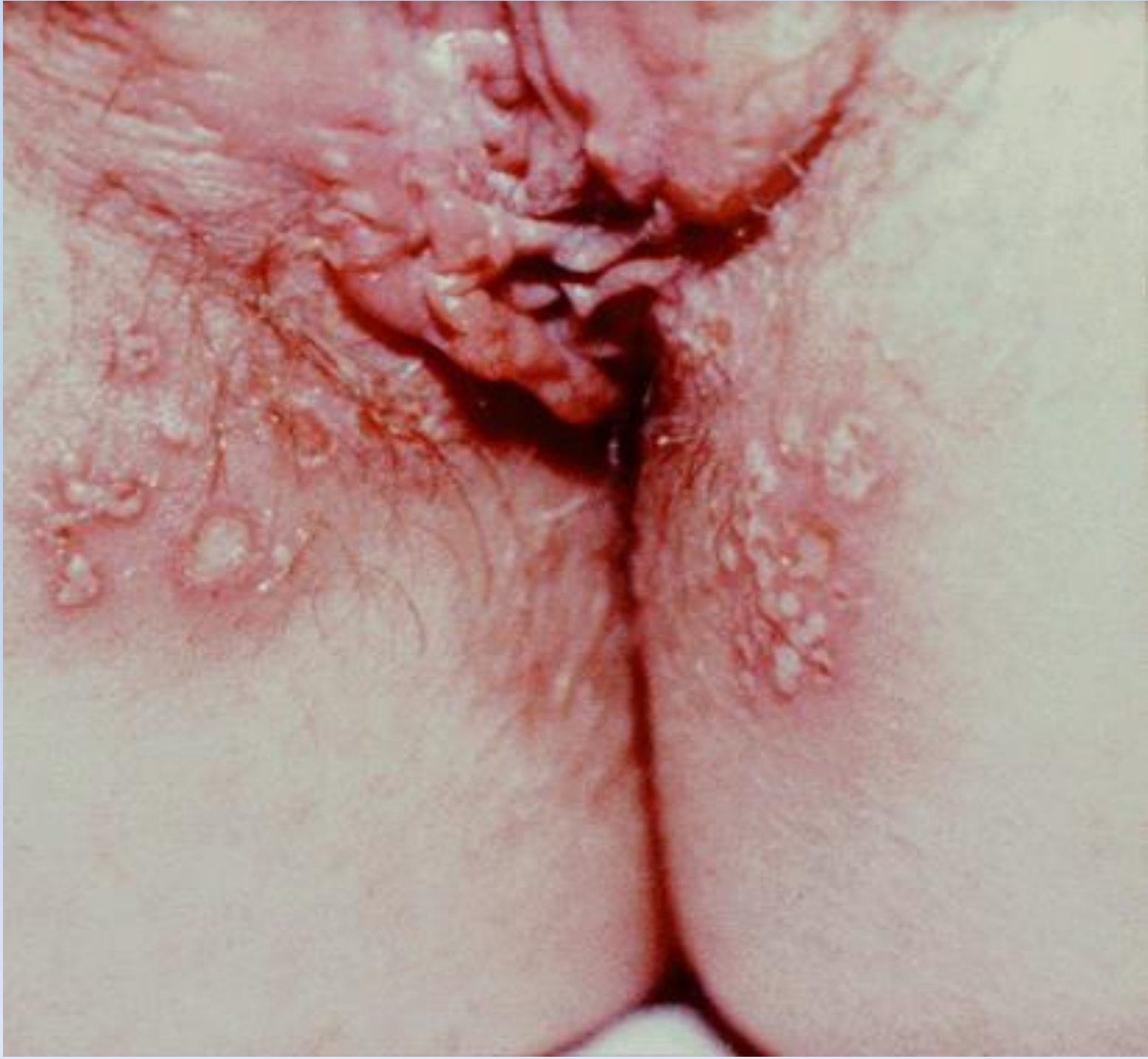
- ***recent (e.g., within 3 months) seronegative partner(s),***
- ***all seropositive partners***

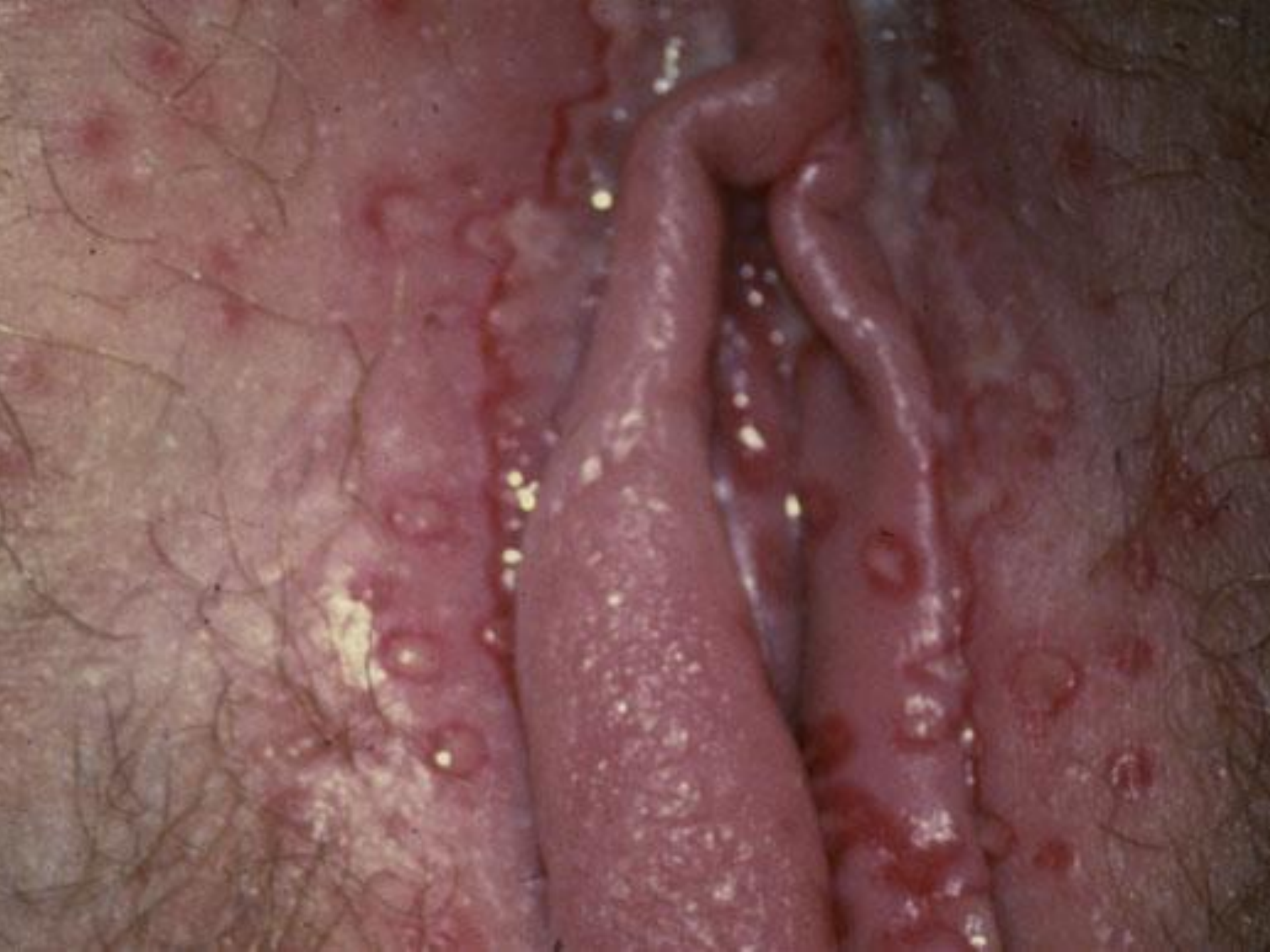
Genital herpes

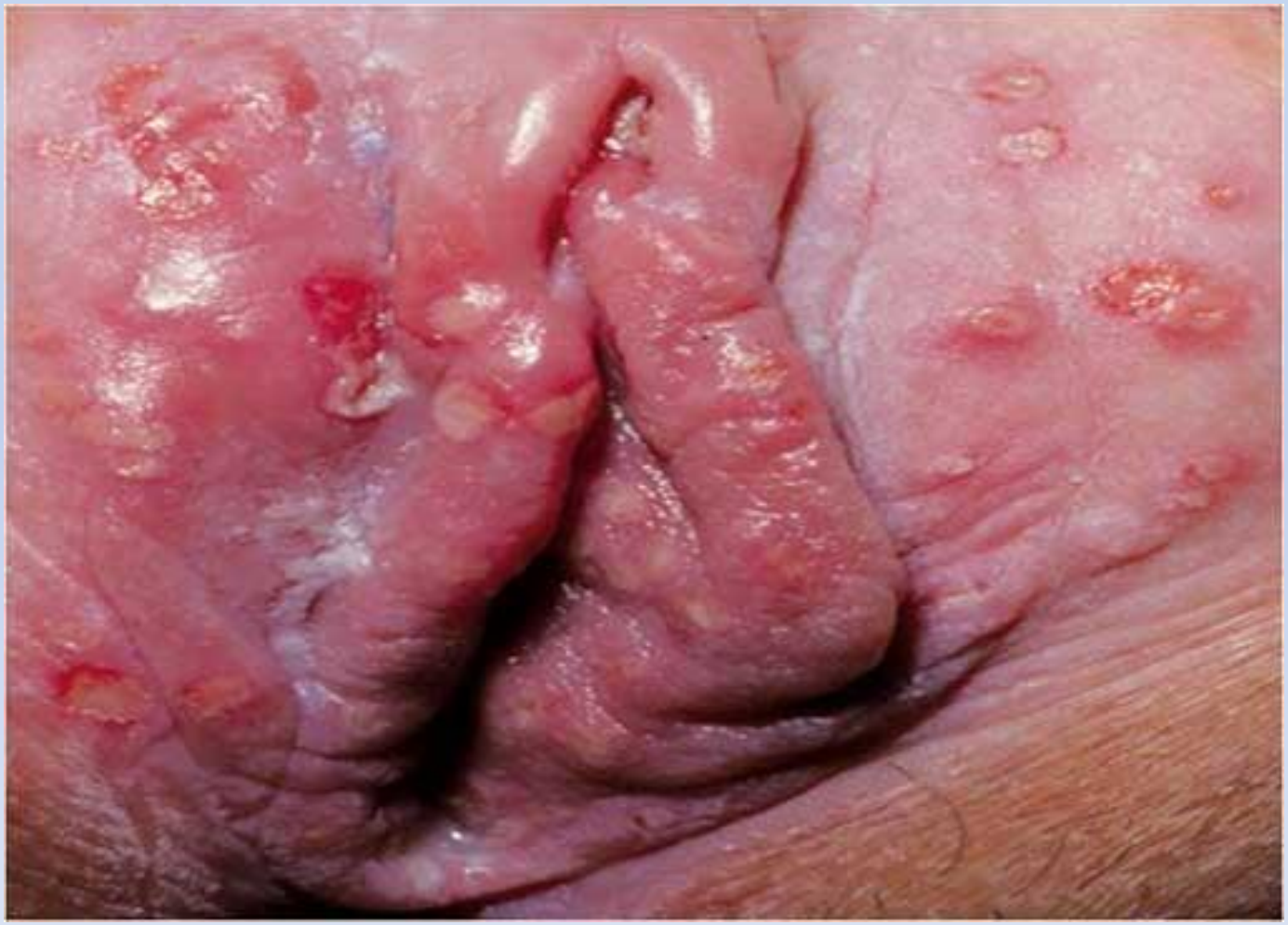
- ***Typical vesicles or pustules or a cluster of painful ulcers preceded by vesiculopustular lesions suggests genital herpes***



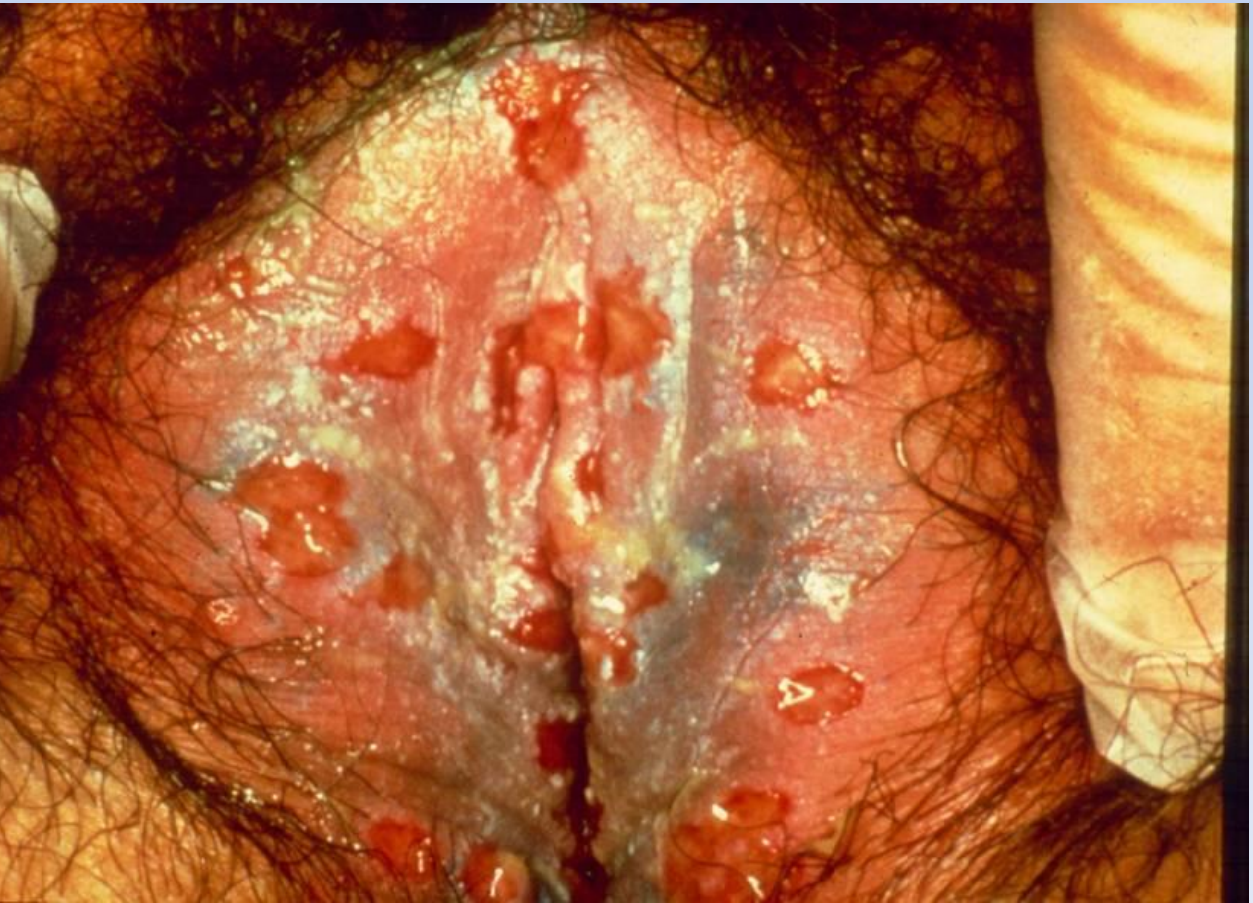


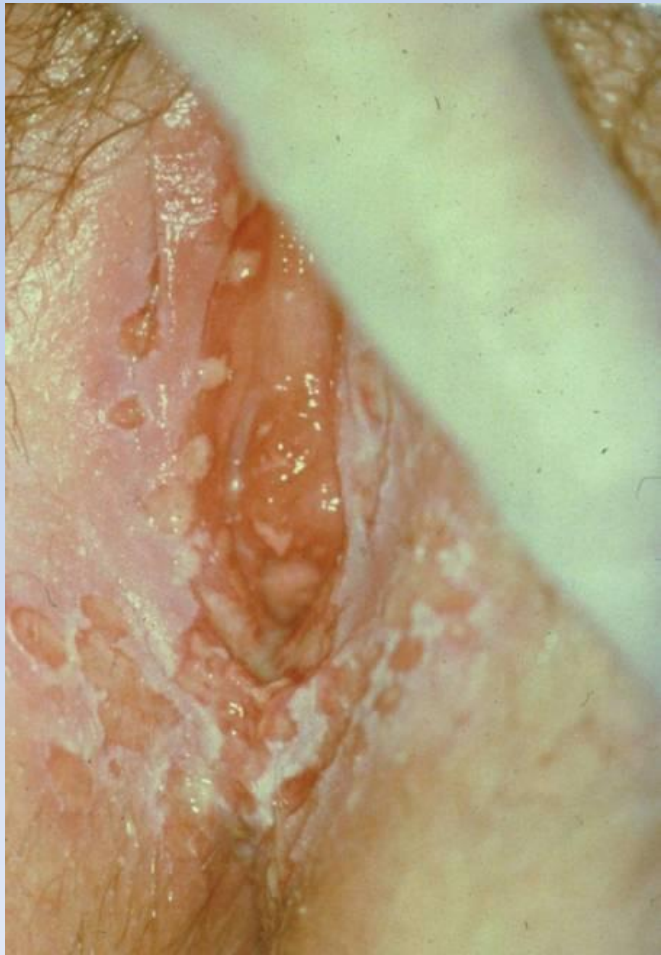


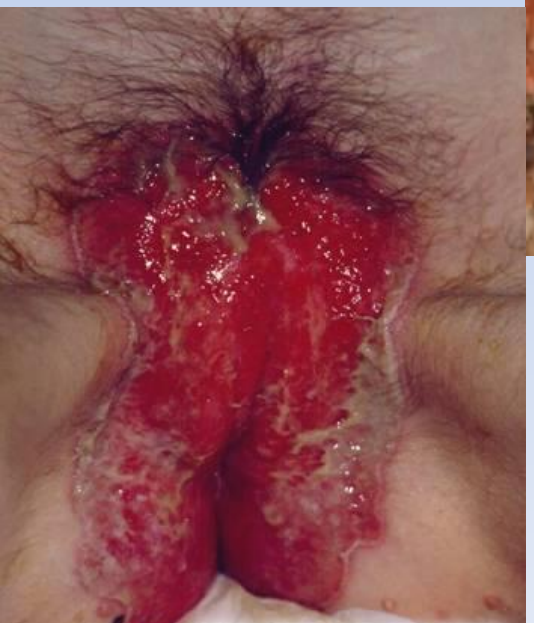


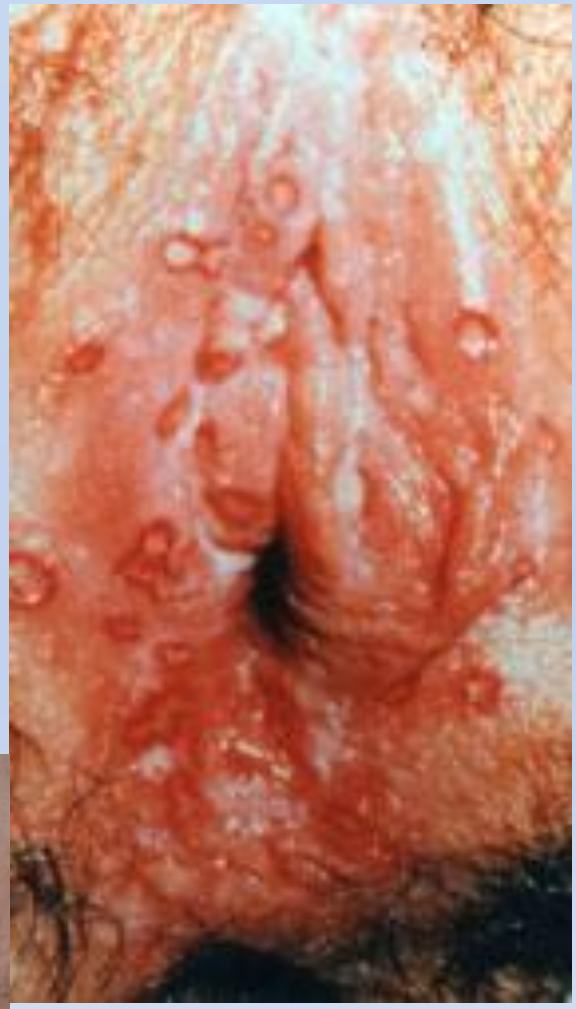


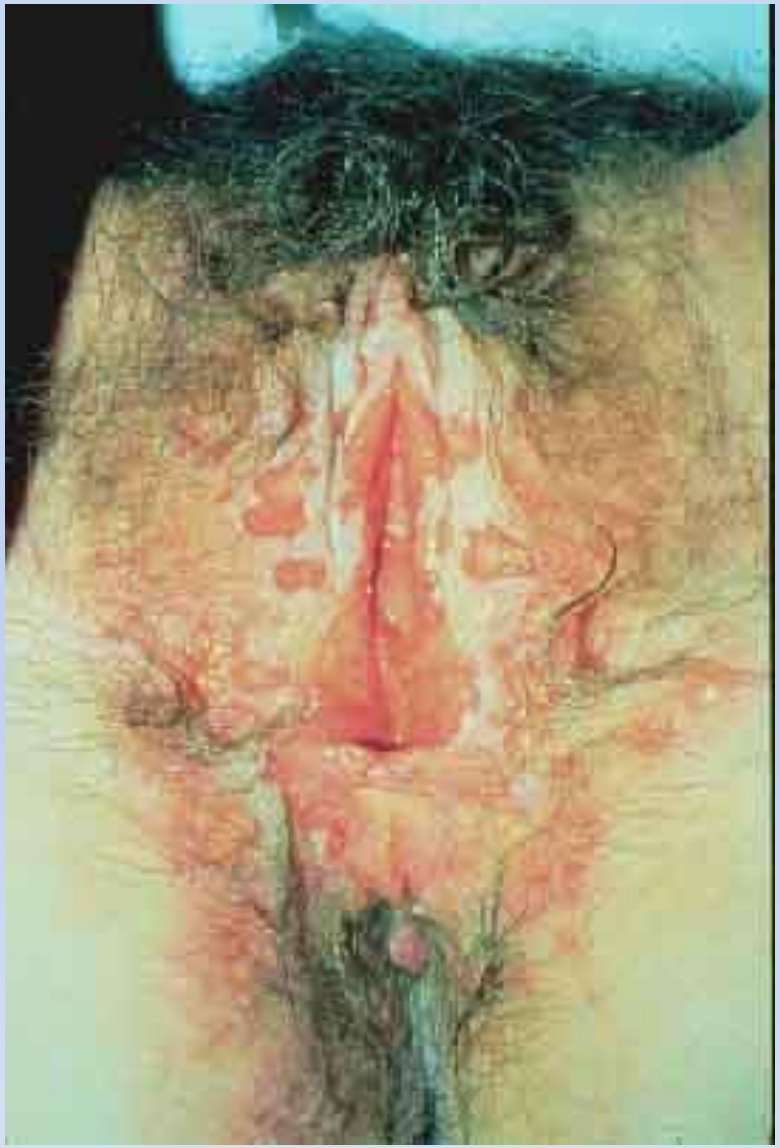
Genital Herpes Simplex in Females



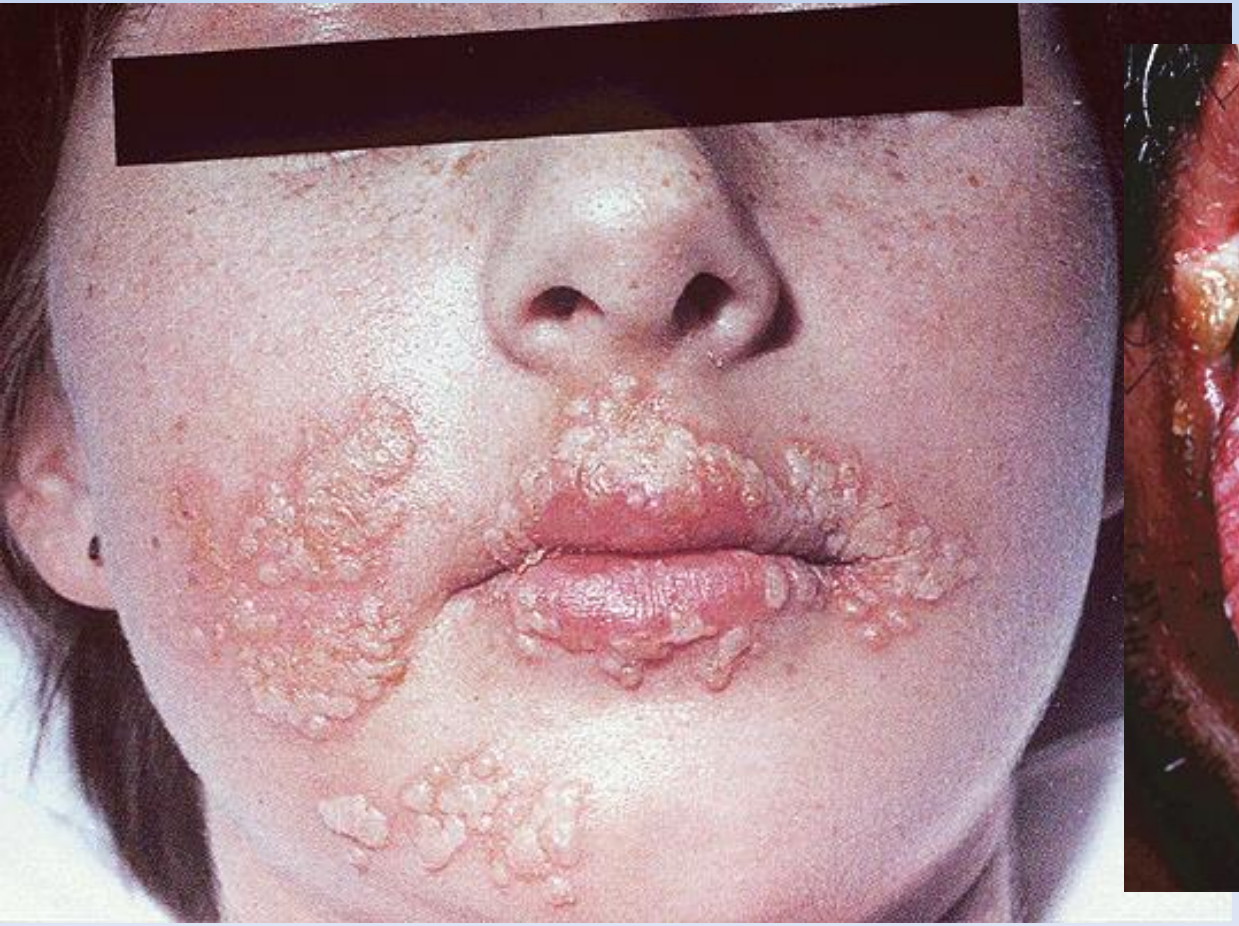


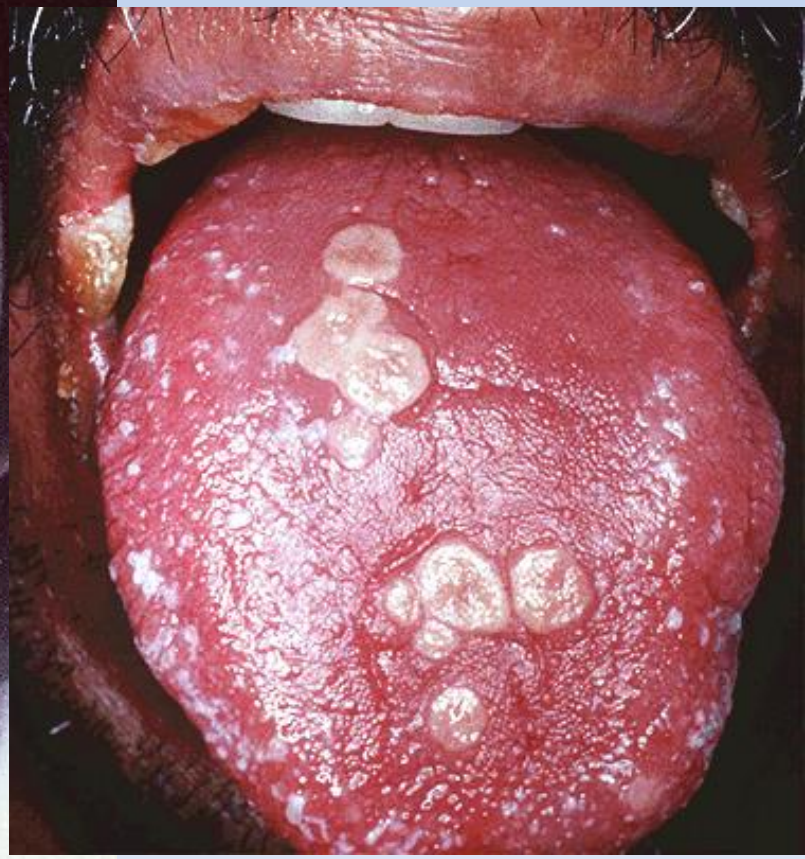


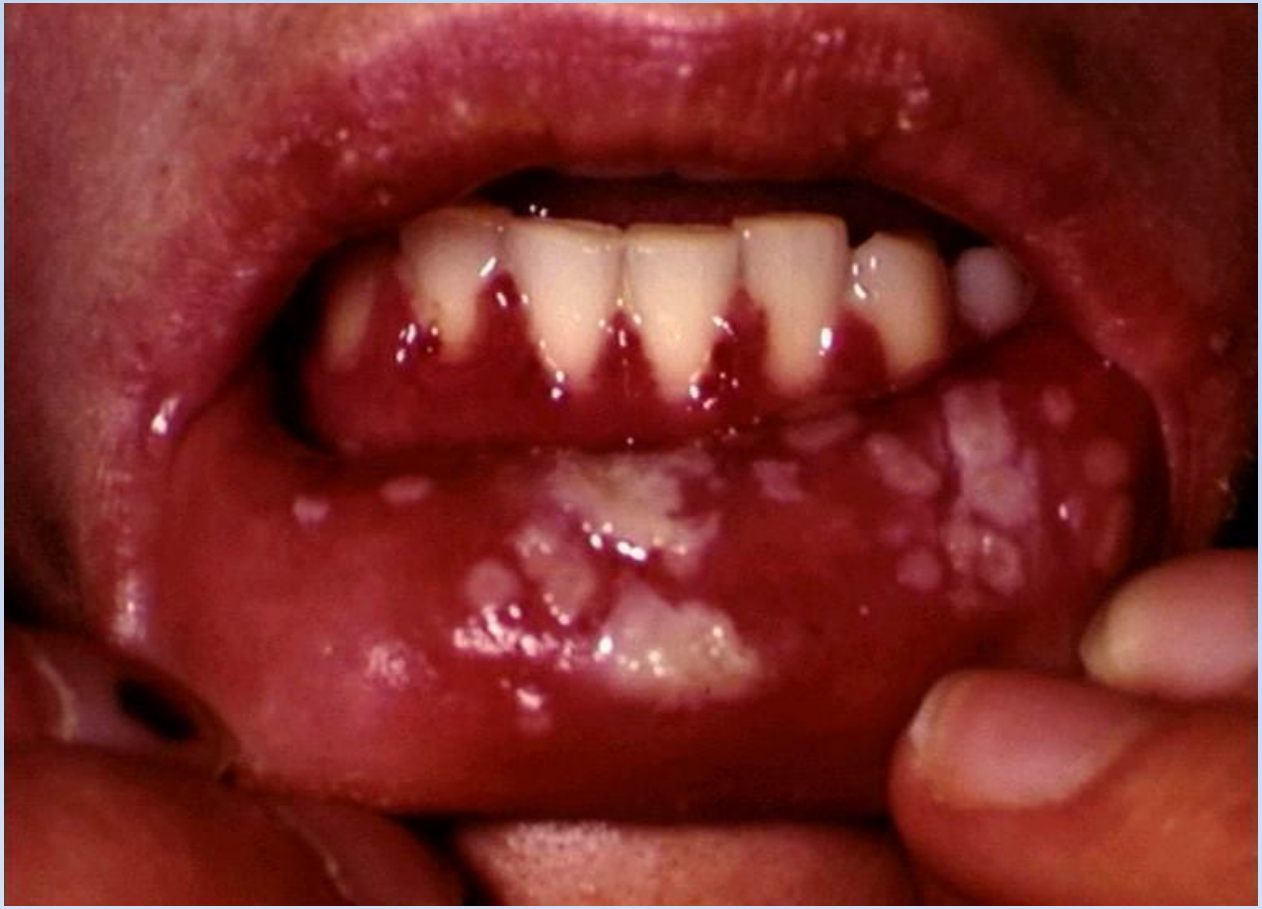


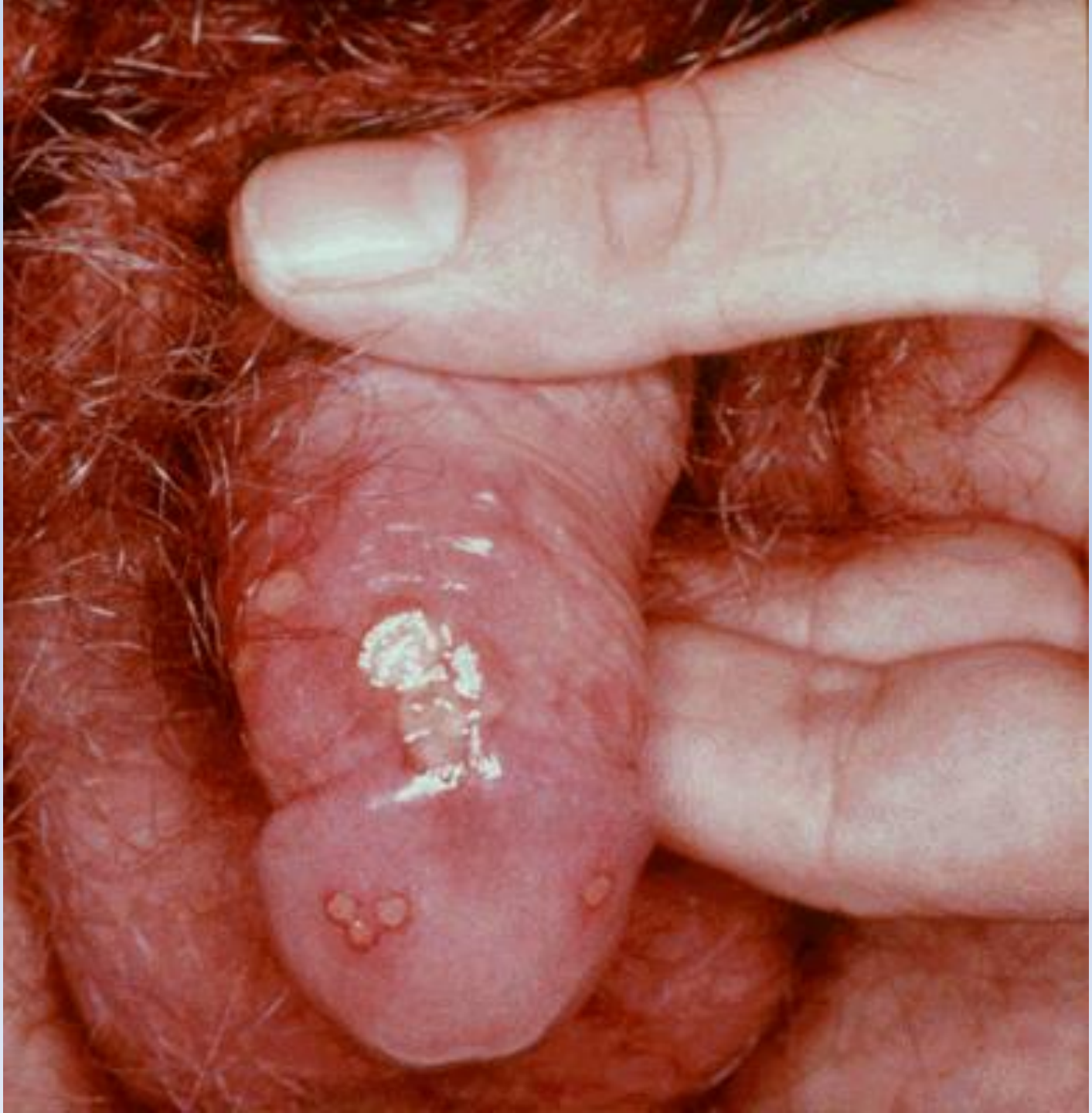


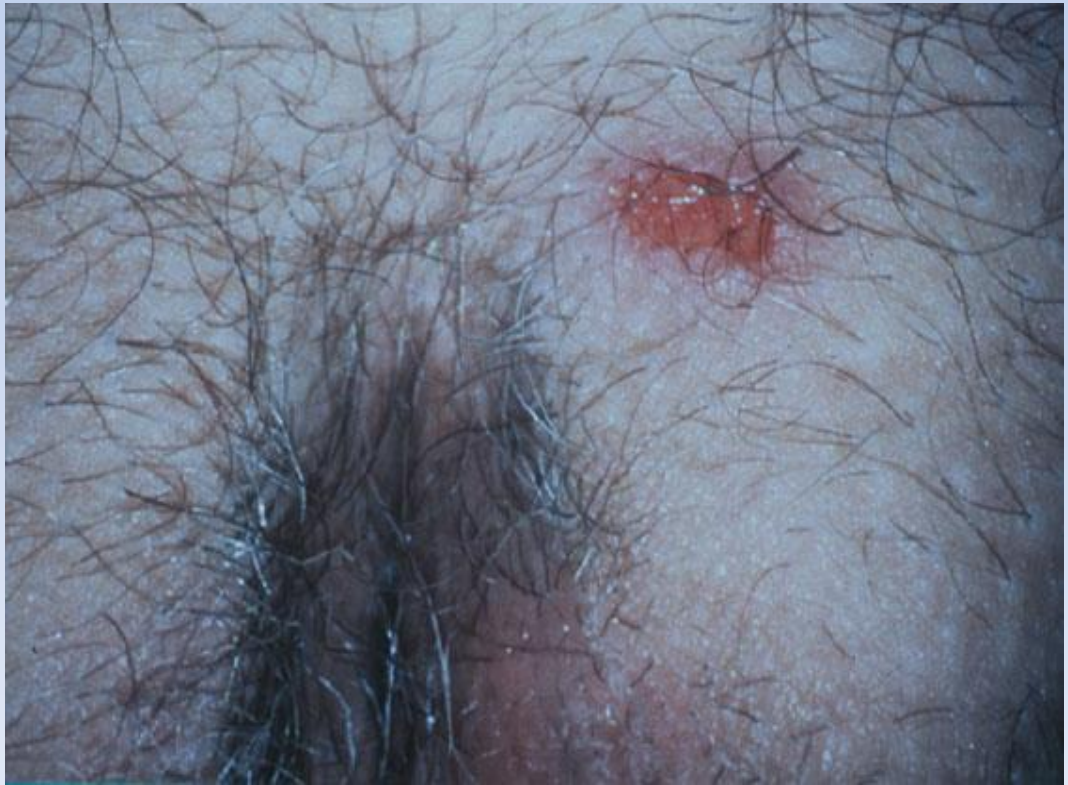
Labial Herpes Simplex

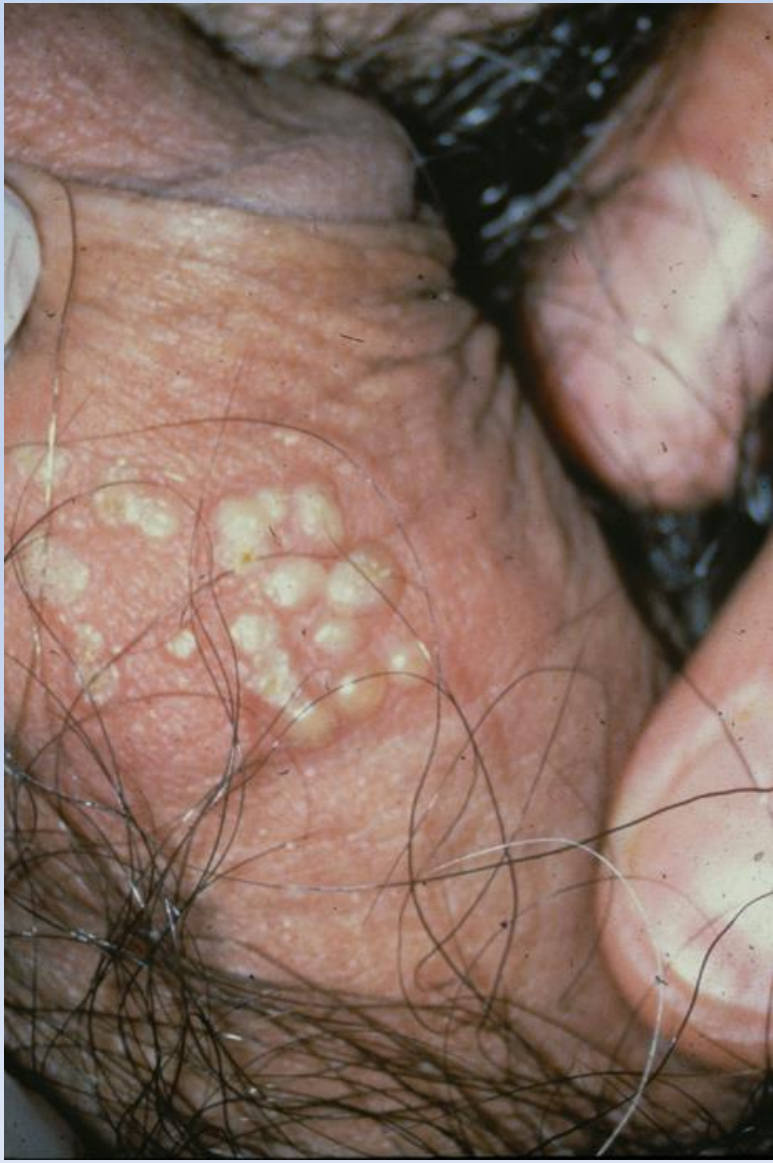


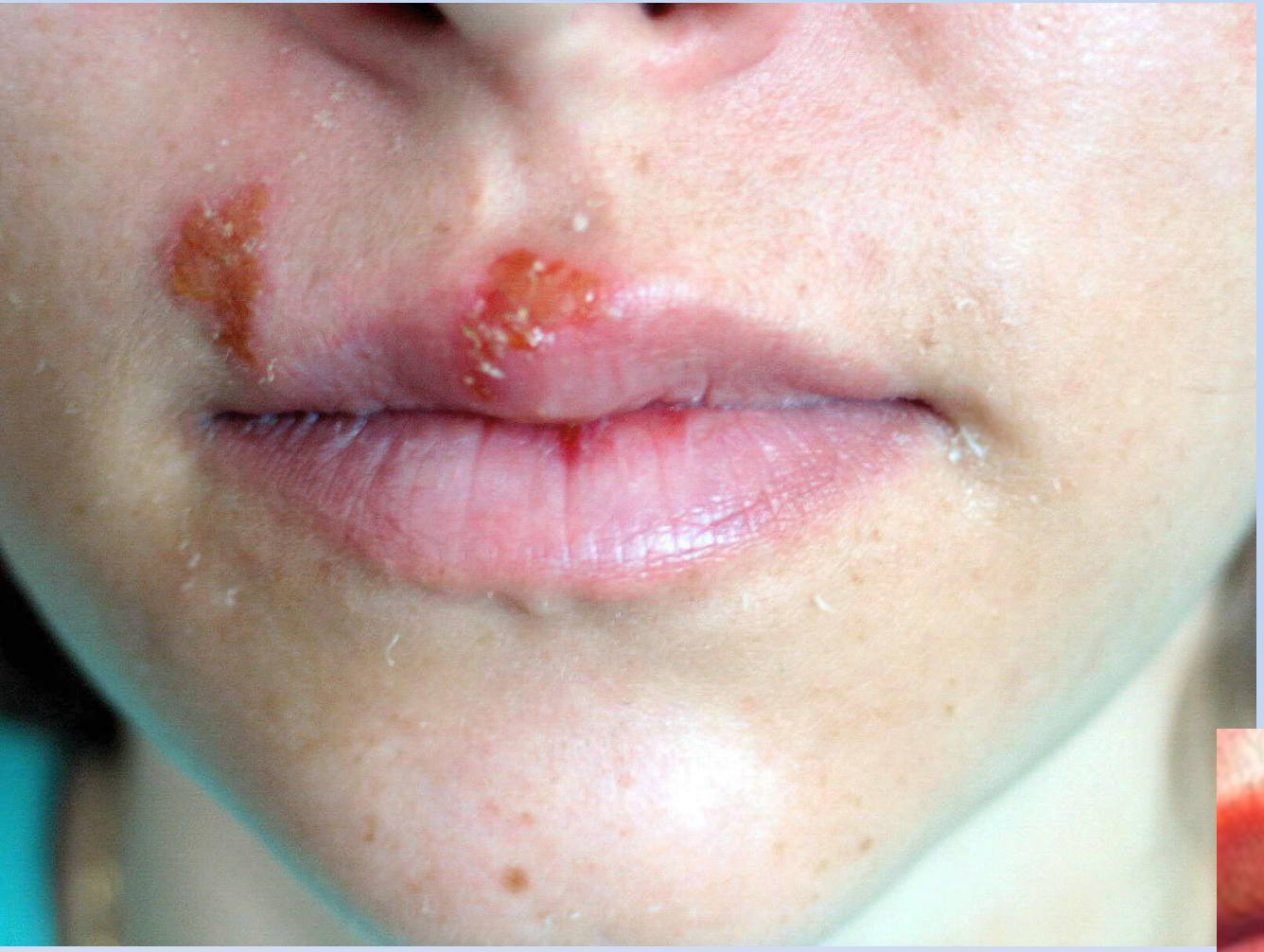


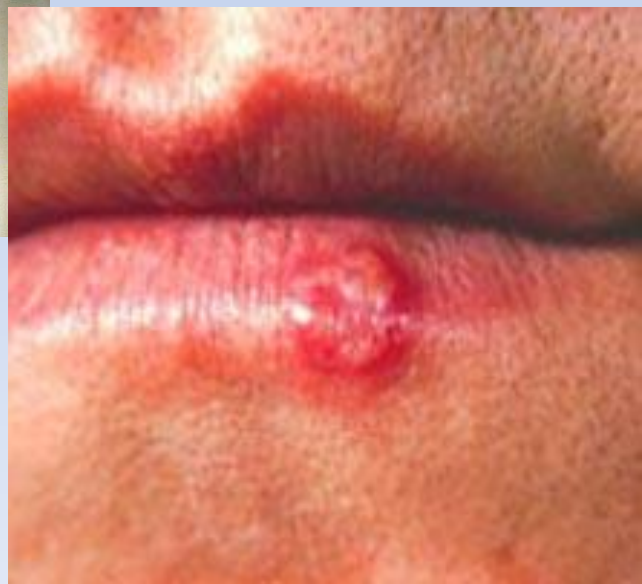












Feature	Herpes
Incubation period	2–7 days
Early primary lesions	Vesicle
No. of lesions	Multiple
Diameter	1–2 mm
Edges	Erythematous
Depth	Superficial
Base	Serous, erythematous, nonvascular
Pain	Frequently tender
Lymphadenopathy	Firm, tender, often bilateral

Diagnosis

- ***PCR for HSV***
- ***HSV-2-specific serology (Anti HSV 1 , 2 Ab)***

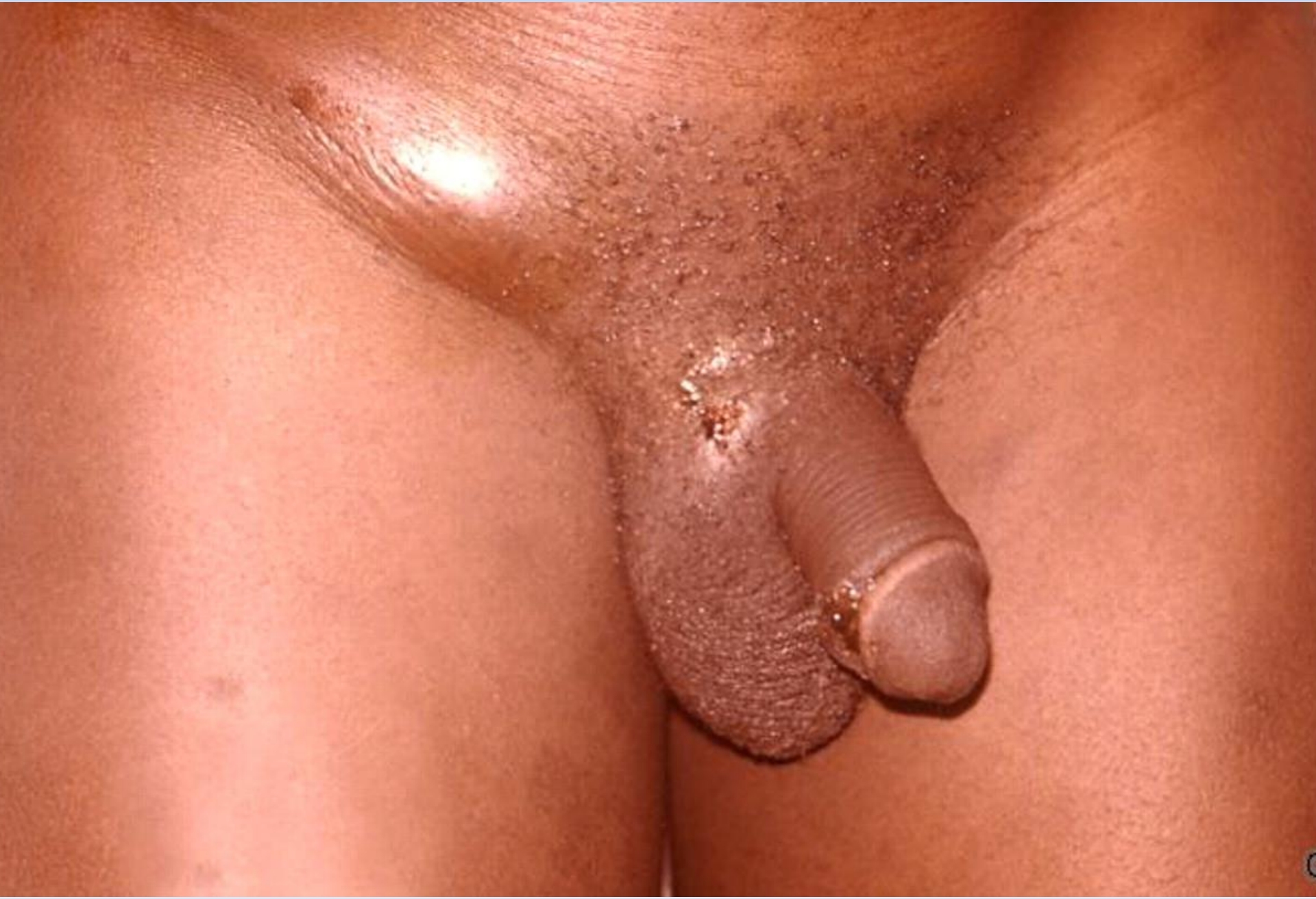
Initial Treatment

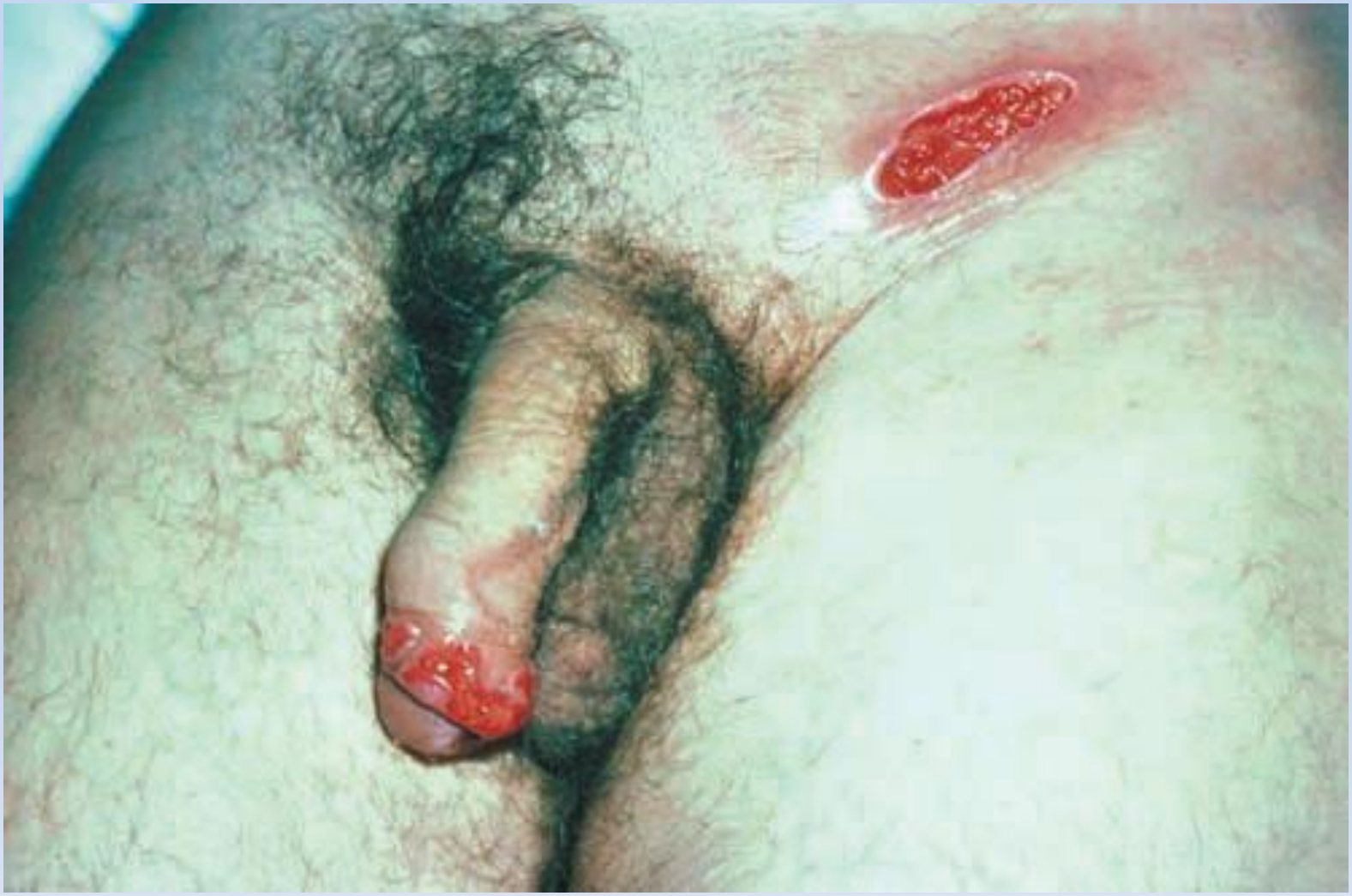
- ***Herpes confirmed or suspected (history or sign of vesicles):***

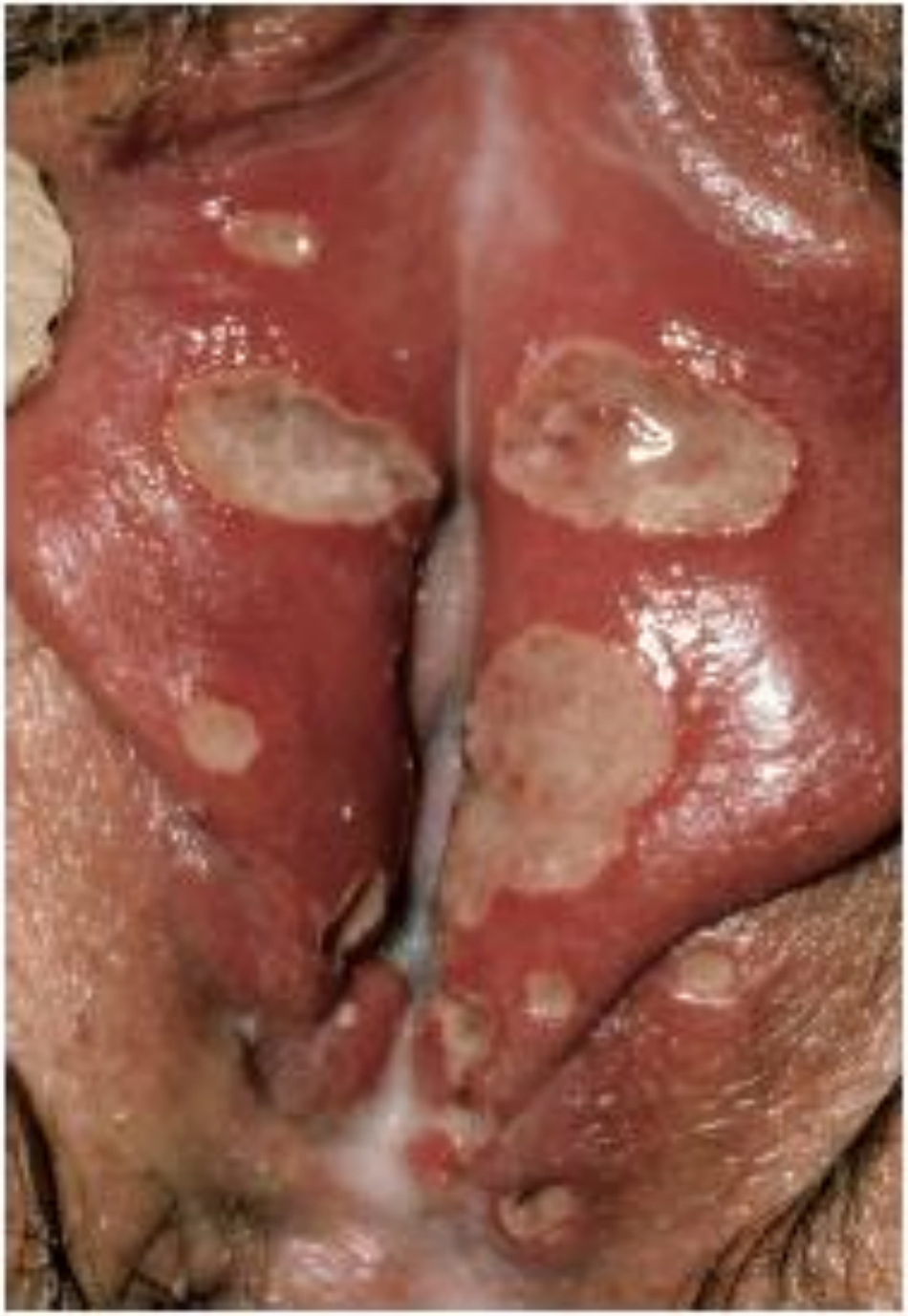
- ***Treat for genital herpes with***
- ***Acyclovir,***
- ***Valacyclovir,***
- ***Famciclovir***

Chancroid (Haemophilus ducreyi)

- ***ulcers are painful and purulent,***
- ***inguinal lymphadenopathy with fluctuance overlying erythema***







Feature	Chancroid
Incubation period	1–14 days
Early primary lesions	Pustule
No. of lesions	Usually multiple, may coalesce
Diameter	Variable
Edges	ragged, irregular
Depth	Excavated
Base	Purulent, bleeds easily
Induration	Soft
Pain	Usually very tender
Lymphadenopathy	Tender, may suppurate, loculated, usually unilateral

Diagnosis

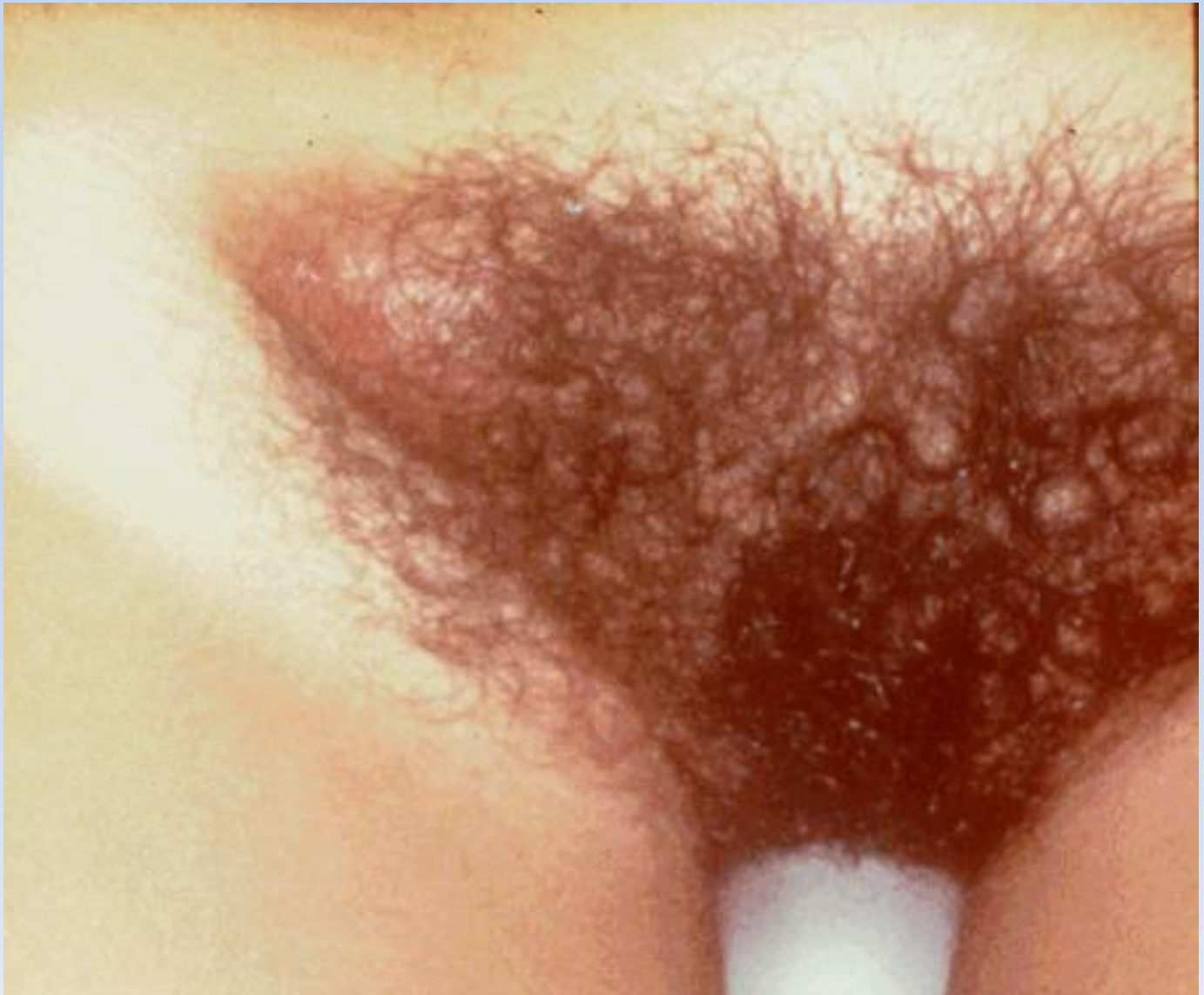
- ***PCR or culture for H. ducreyi***

Initial Treatment

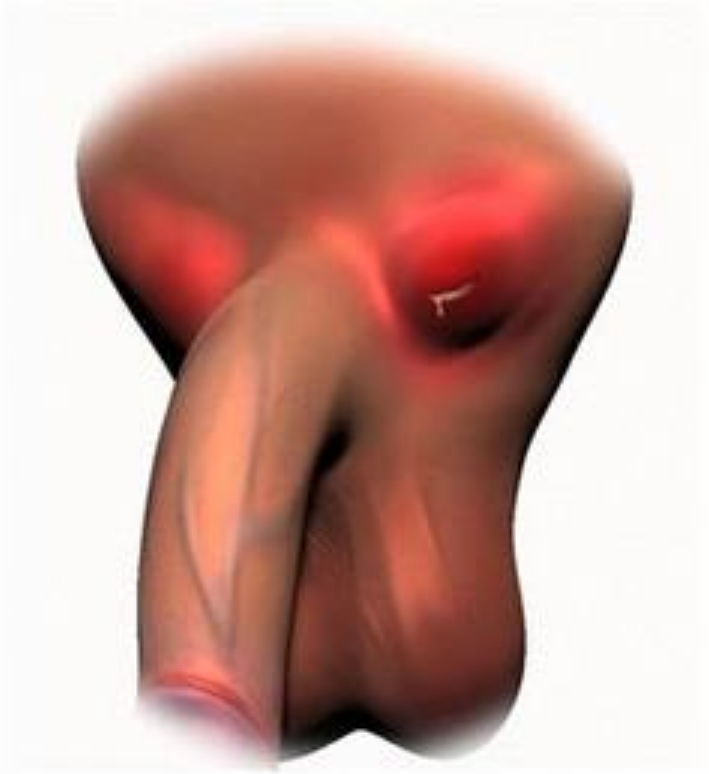
- ***Chancroid confirmed or suspected Demonstration of H. ducreyi by culture (or by PCR test, when available)***

- ***Ciprofloxacin 500 mg PO as single dose***
- ***Ceftriaxone 250 mg IM as single dose***
- ***Azithromycin 1 g PO as single dose***

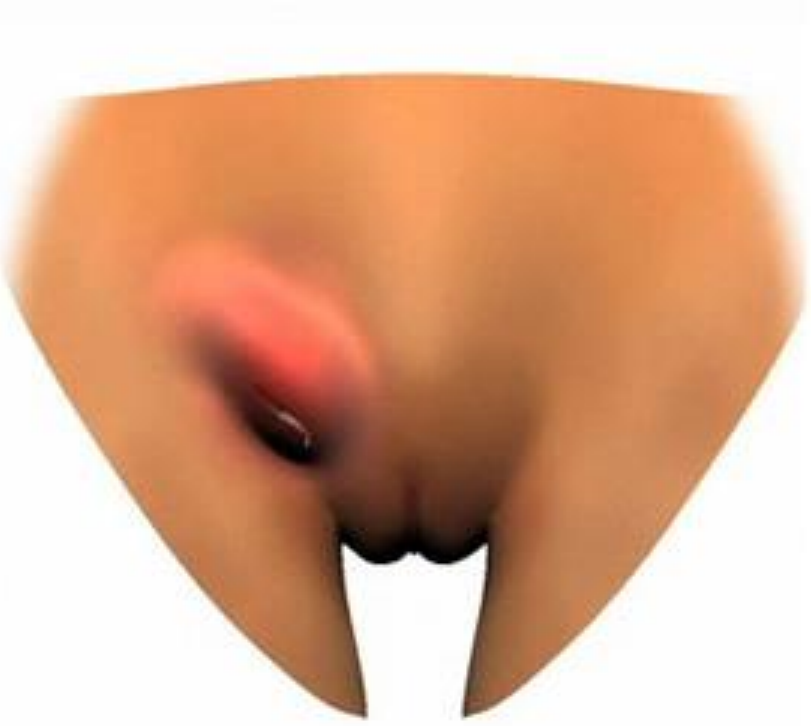
Lymphogranuloma Venereum

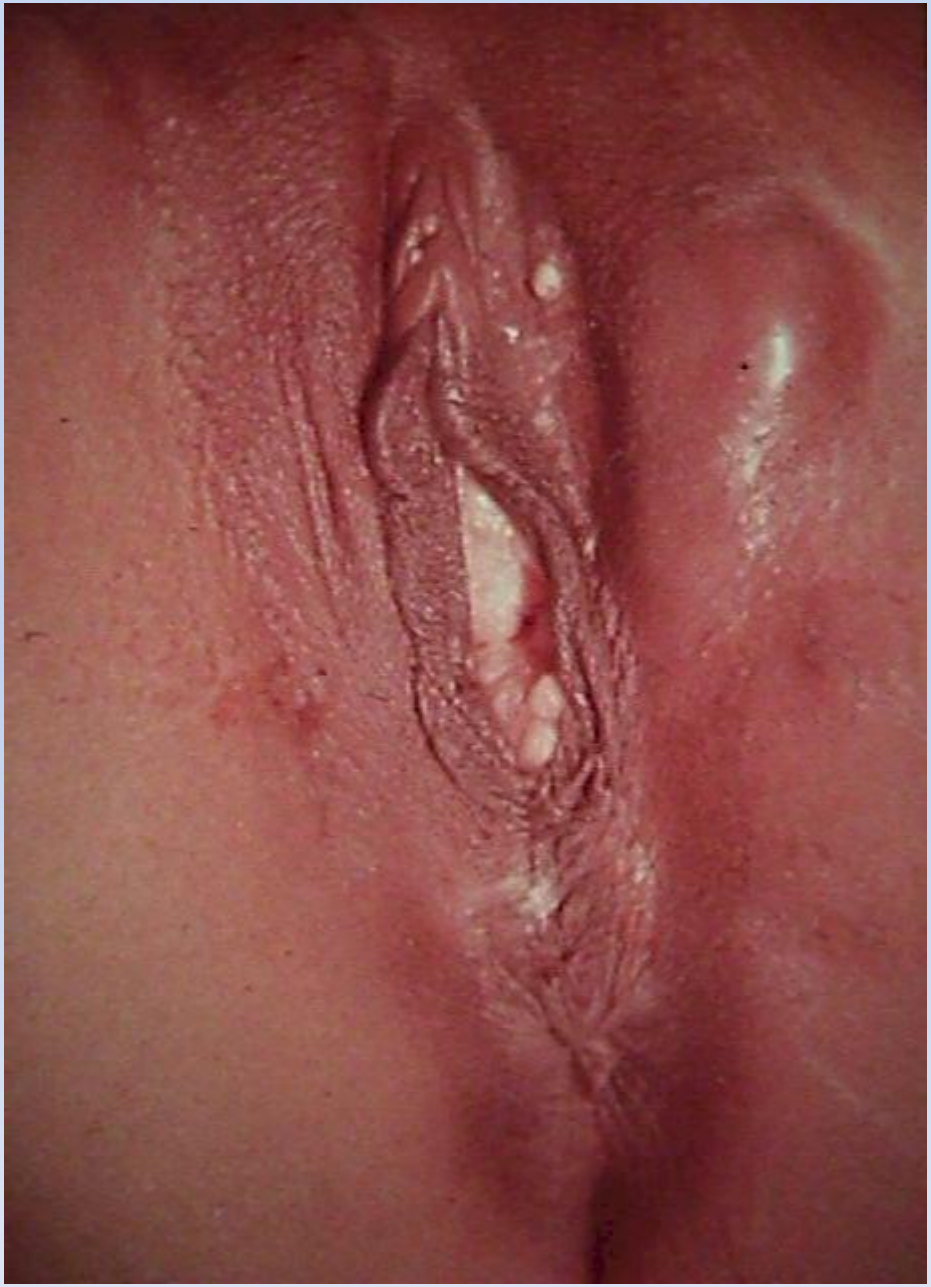


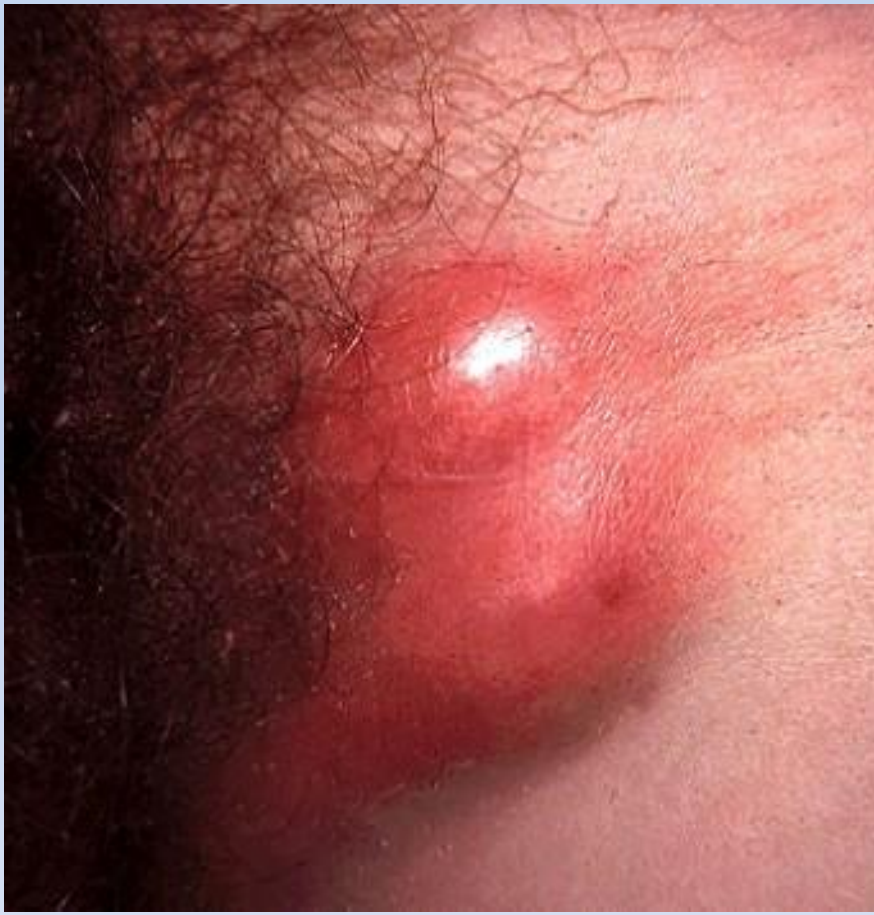
PENIS



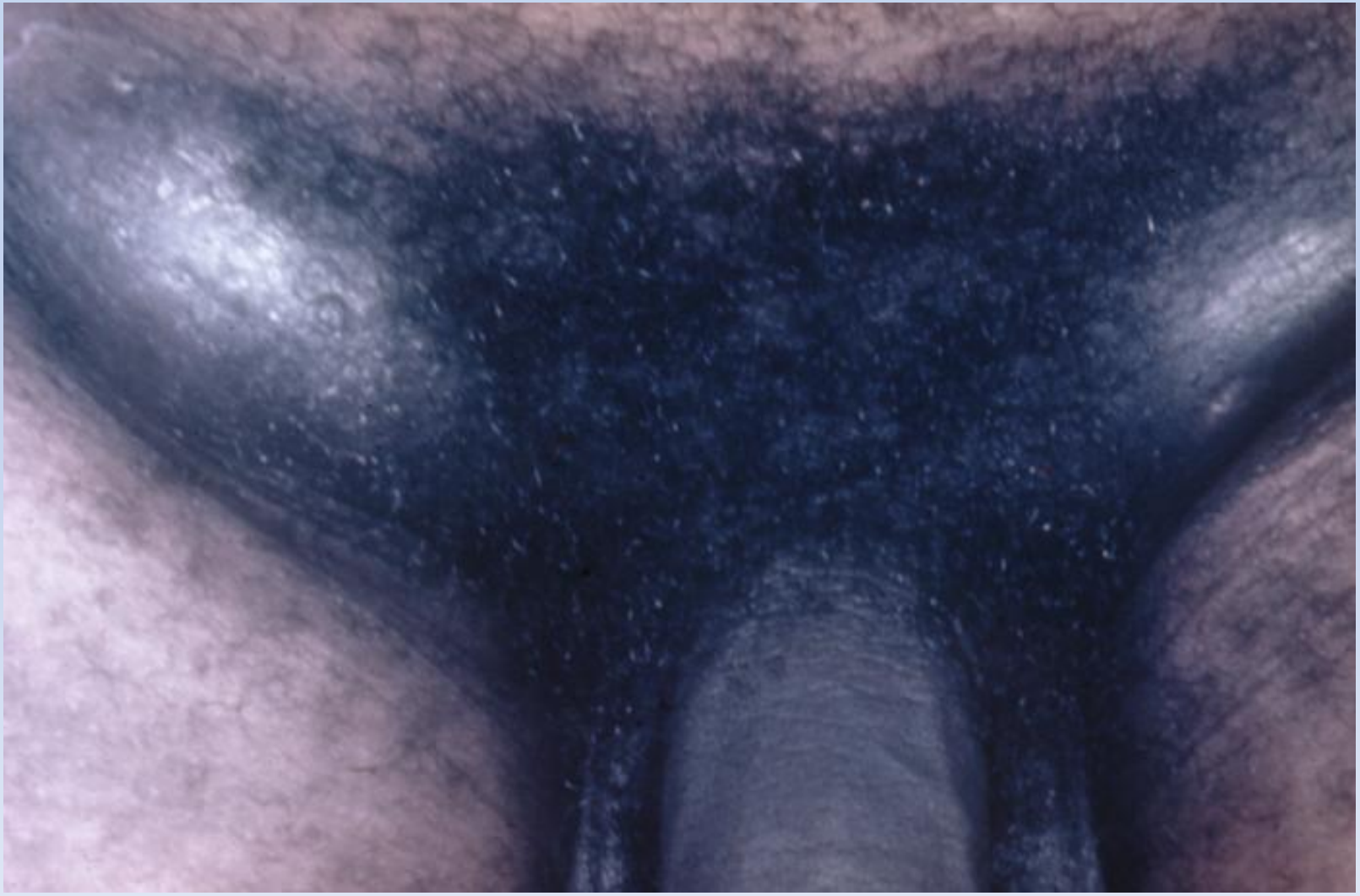
VAGINA





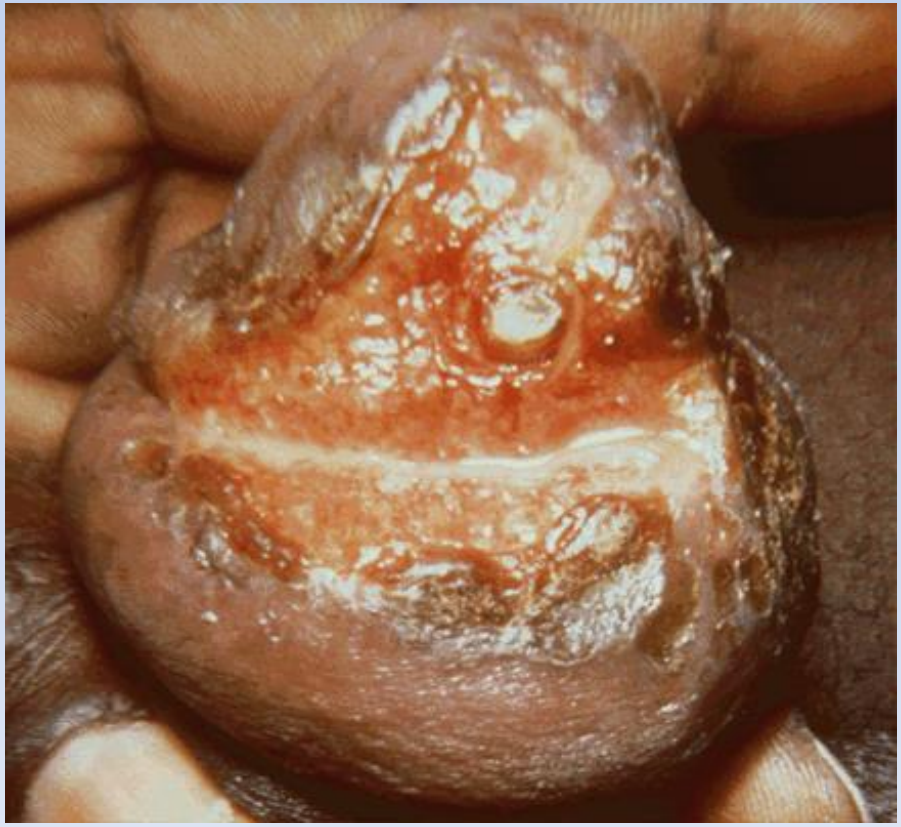


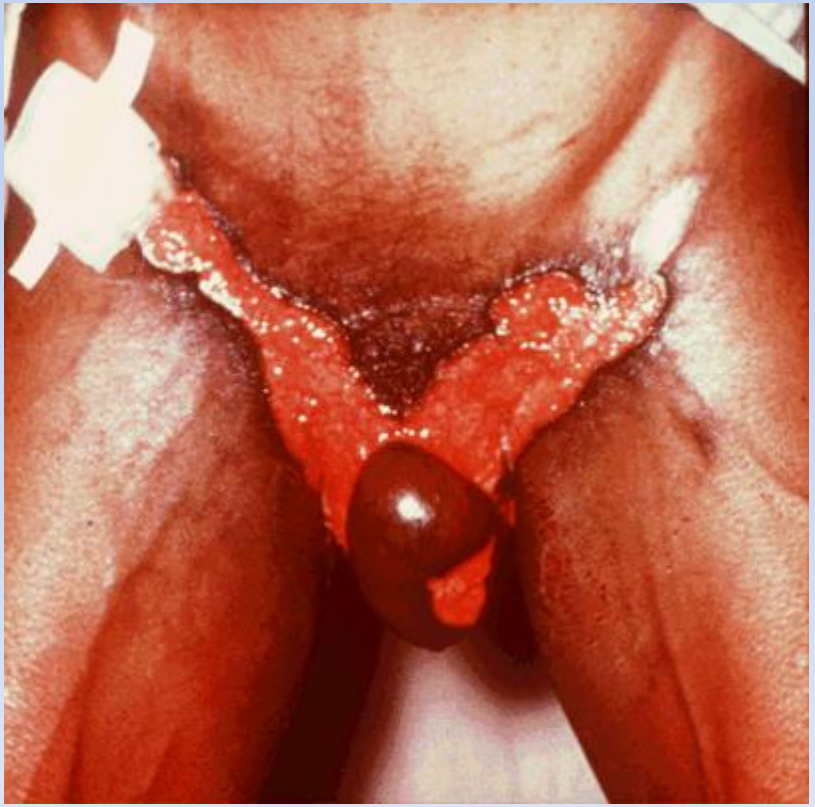
Inguinal Bubo



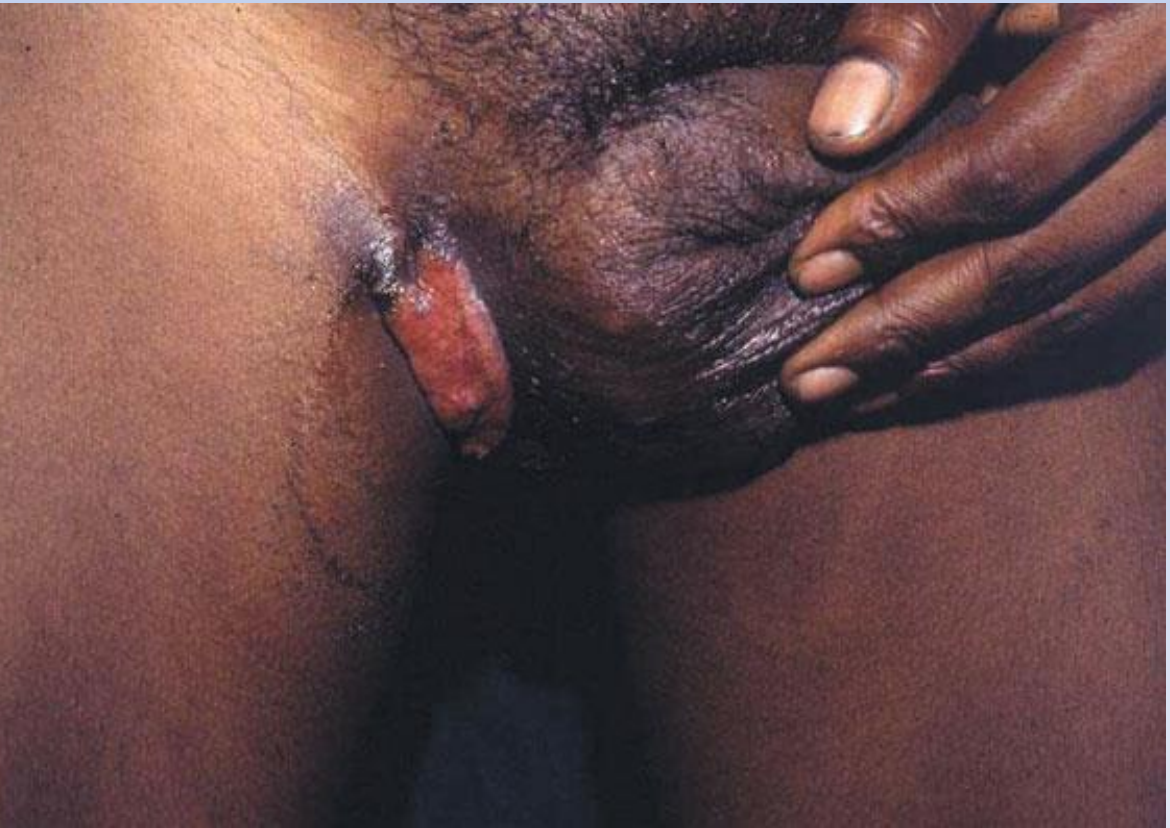
Feature	Lymphogranuloma Venereum
Incubation period	3 days–6 weeks
Early primary lesions	Papule, pustule, or vesicle
No. of lesions	Usually one; often not detected, despite lymphadenopathy
Diameter	2–10 mm
Edges	Elevated, round, or oval
Depth	Superficial or deep
Base	Variable, nonvascular
Induration	Occasionally firm
Pain	Variable
Lymphadenopathy	Tender, may suppurate, loculated, usually unilateral

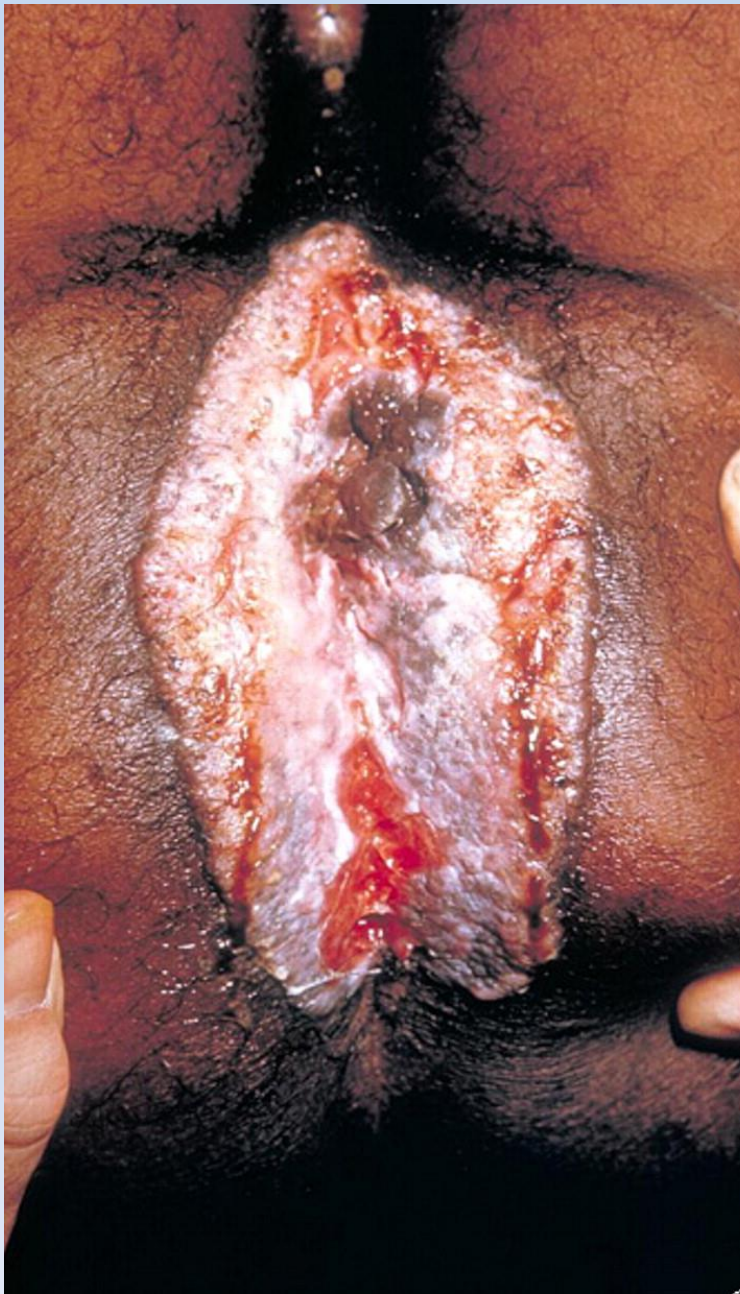
Donovanosis granuloma inguinale (due to Klebsiella granulomatis)





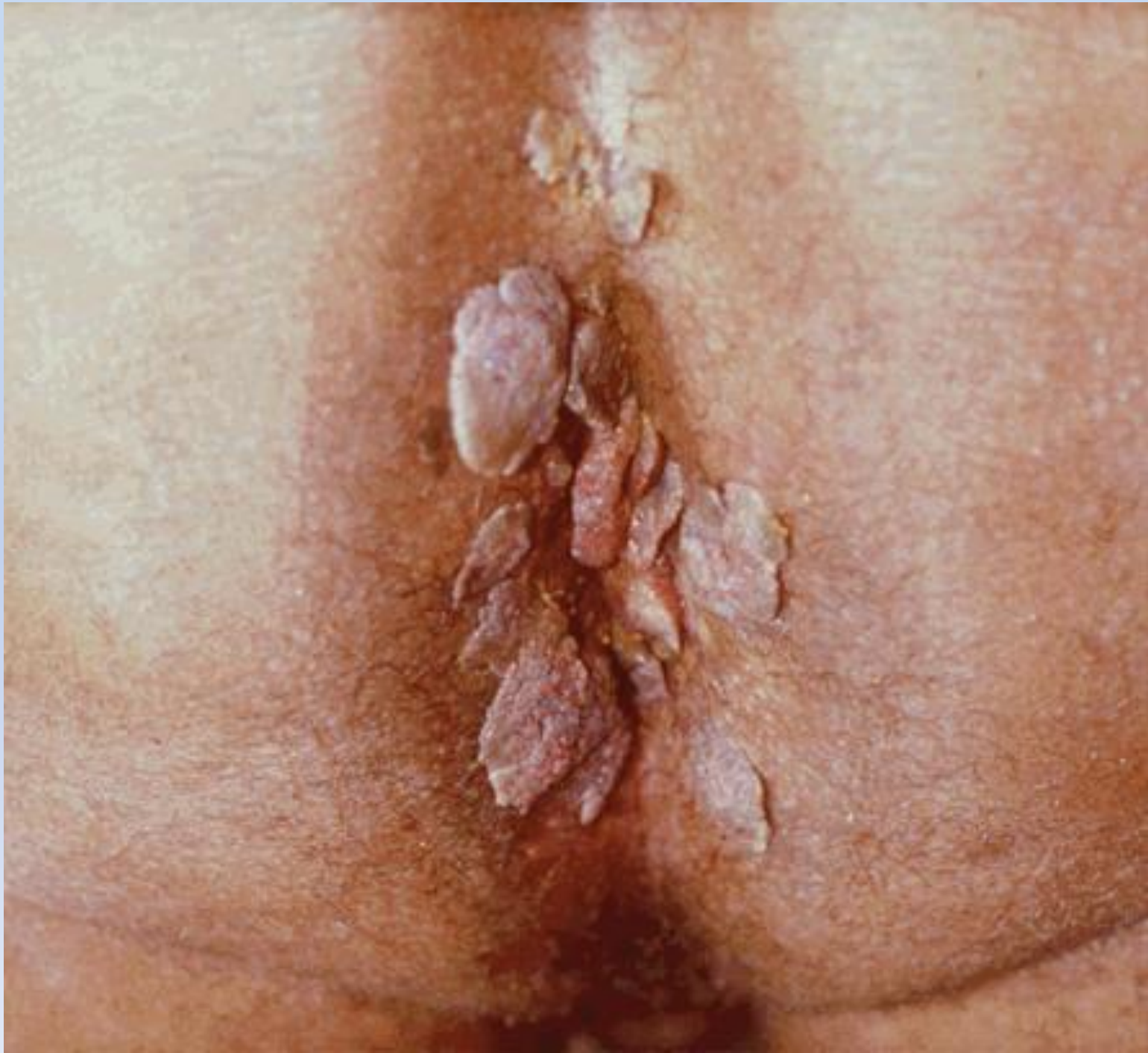
Donovanosis

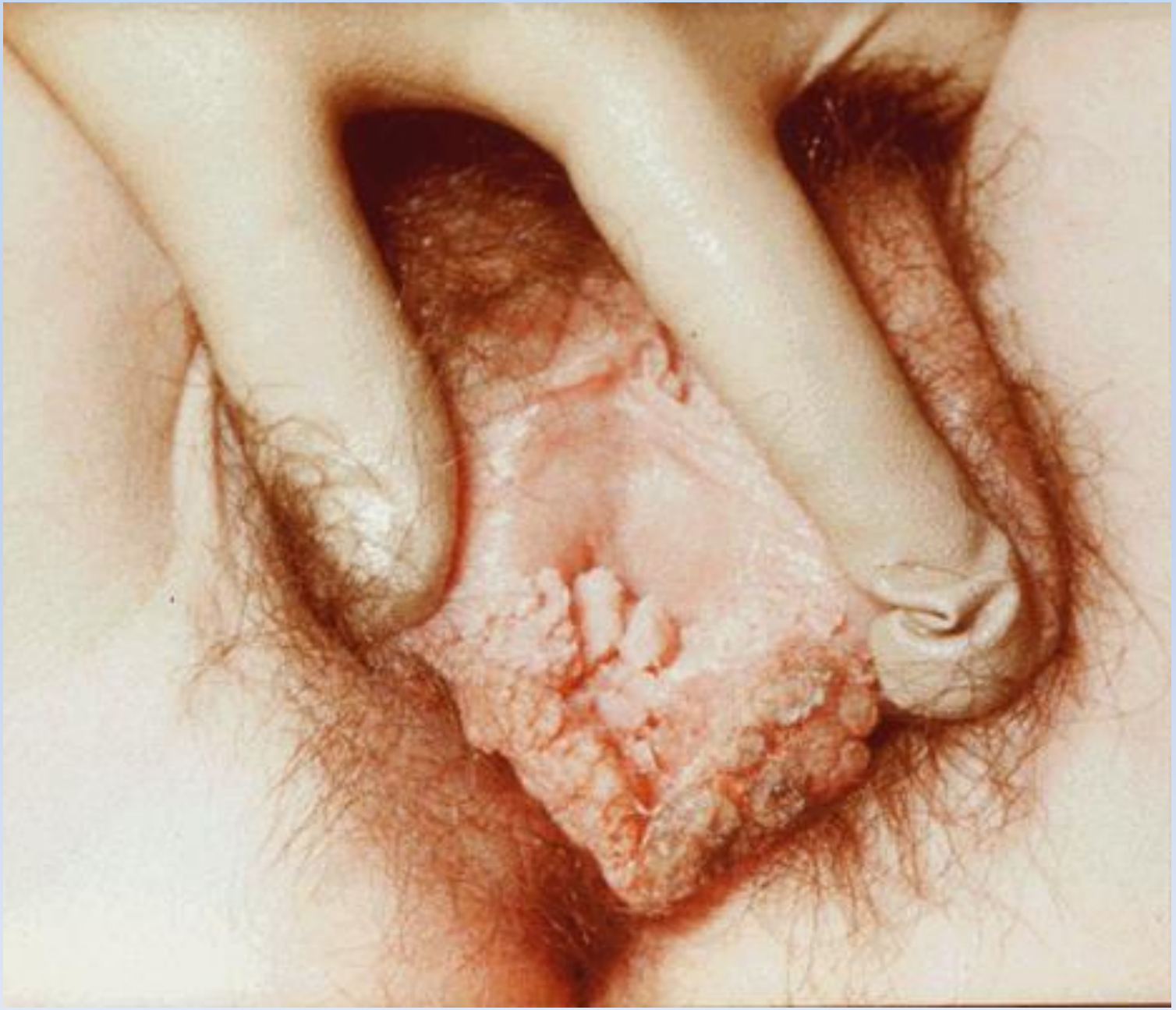


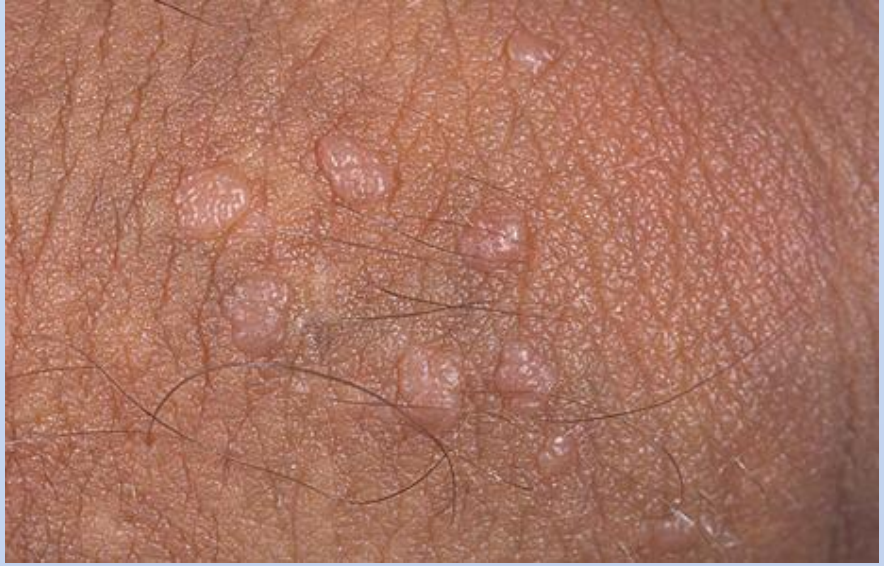


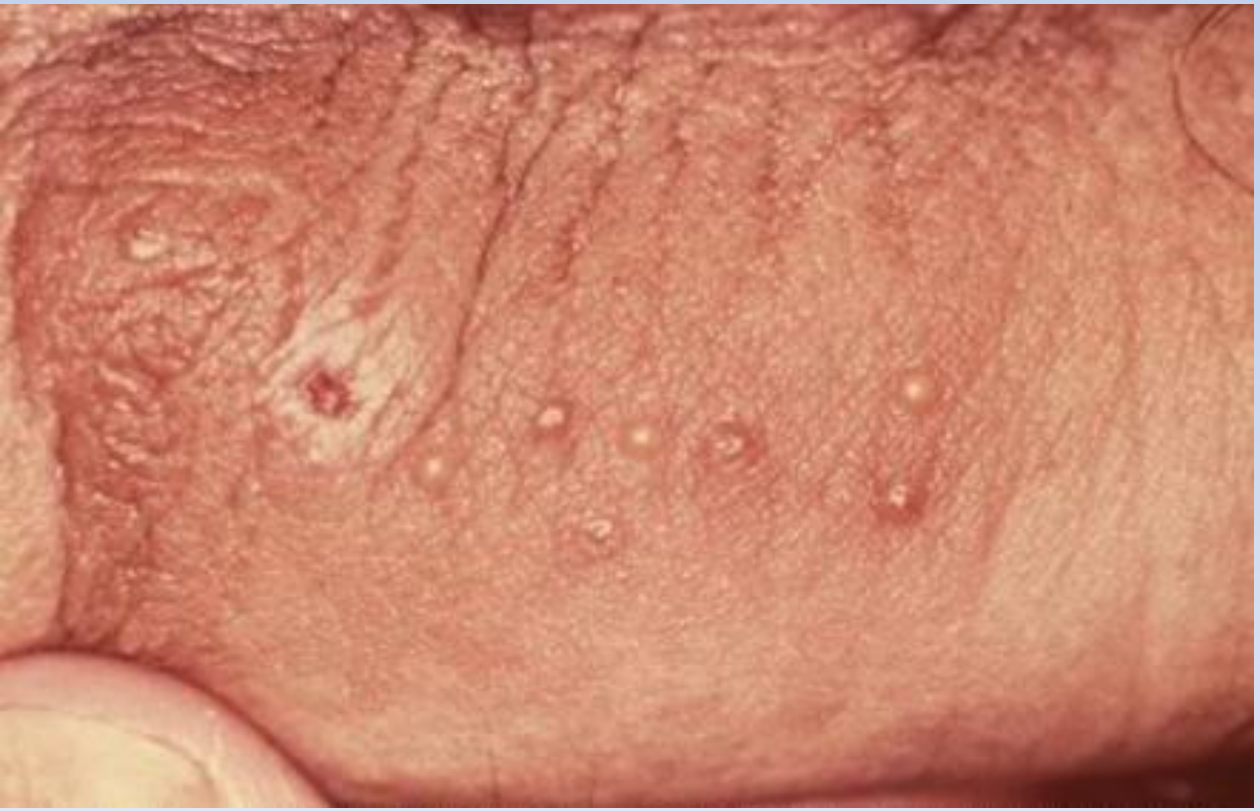
Feature	Donovanosis
Incubation period	1–4 weeks (up to 6 months)
Early primary lesions	Papule
No. of lesions	Variable
Diameter	Variable
Edges	Elevated, irregular
Depth	Elevated
Base	Red and velvety, bleeds readily
Induration	Firm
Pain	Uncommon
Lymphadenopathy	None; pseudobuboes

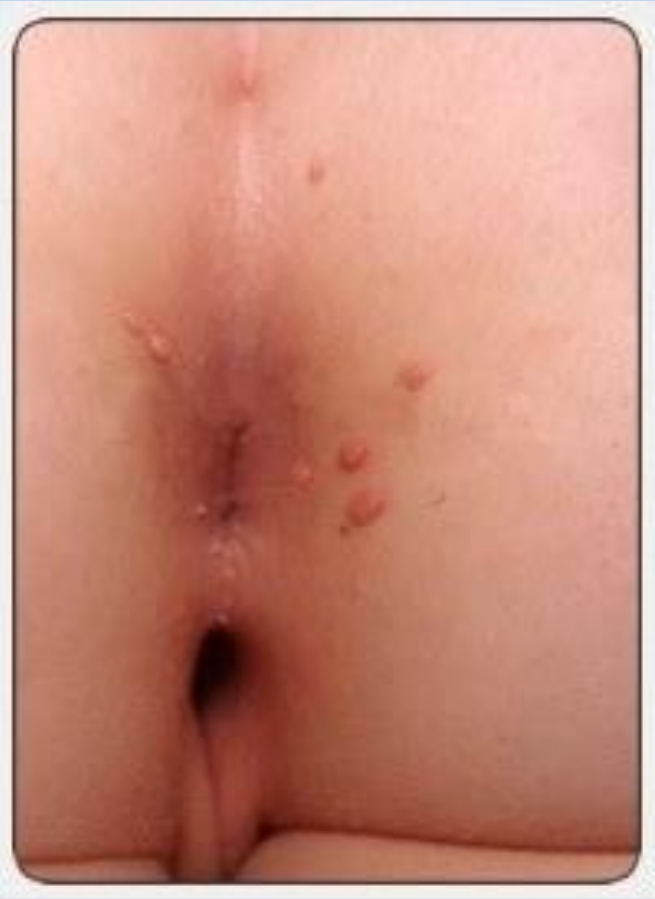
Human Papiloma Virus



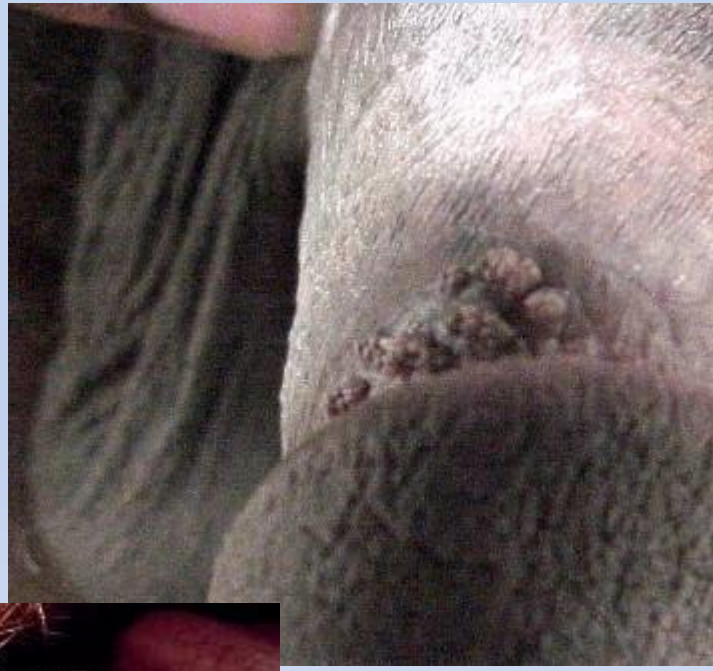


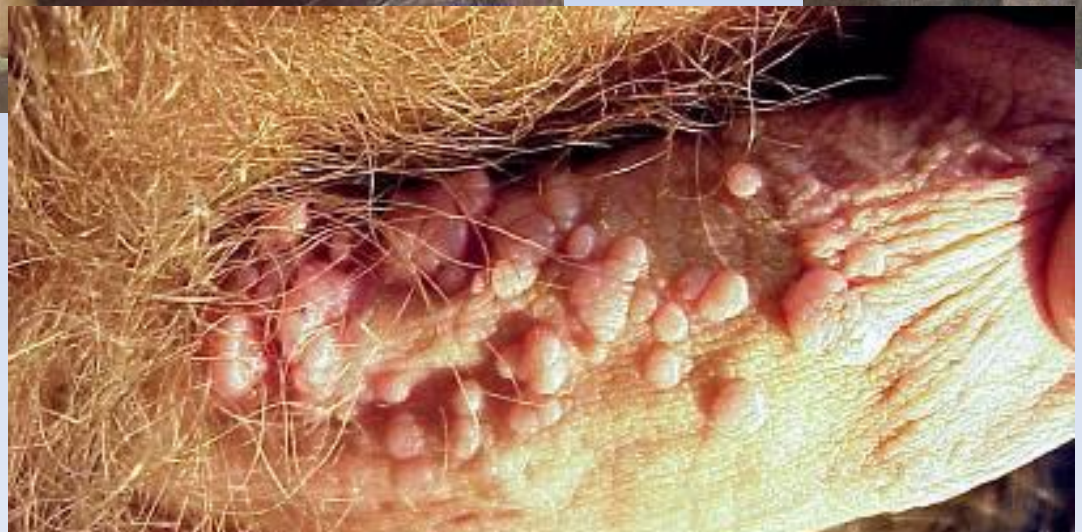




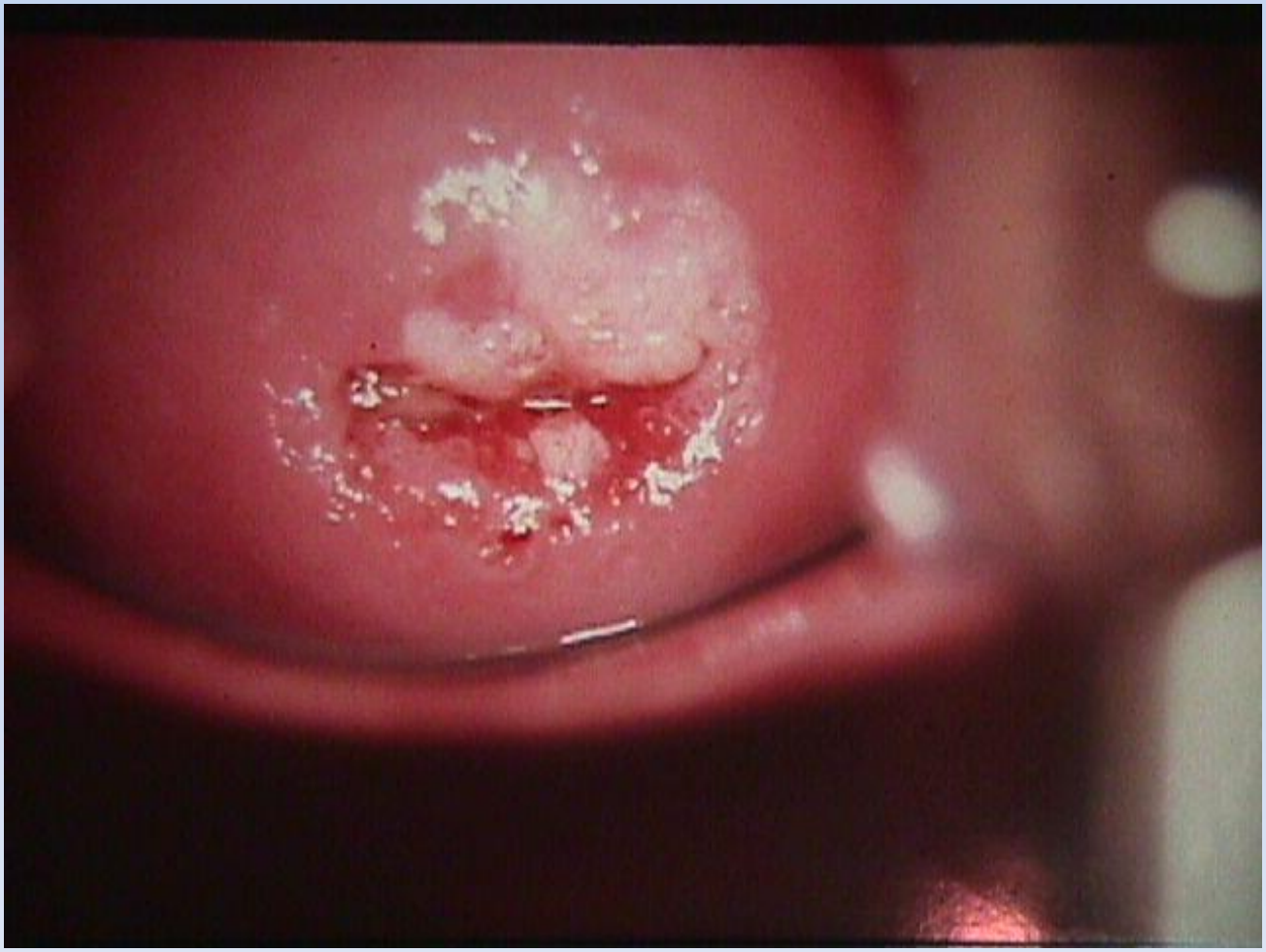


HPV Penile Warts

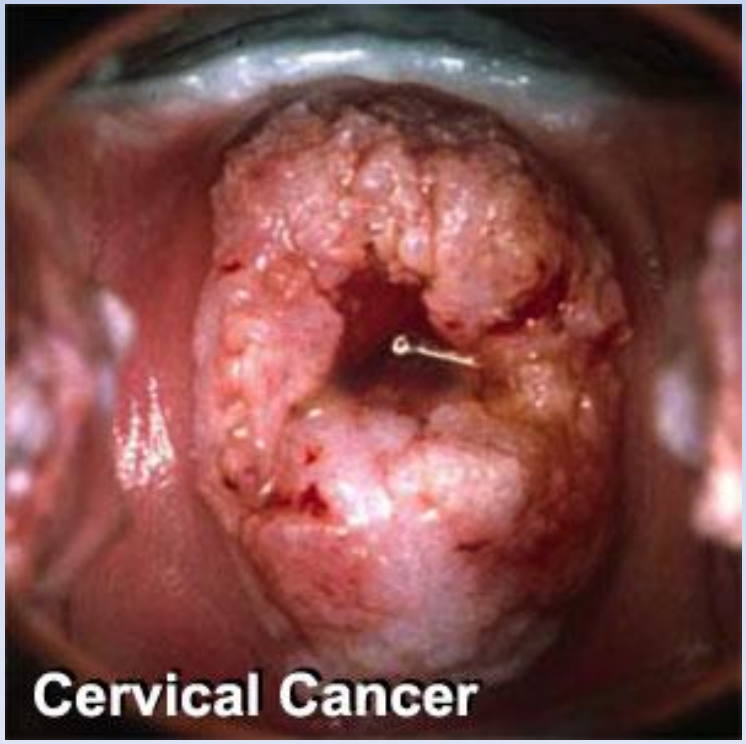


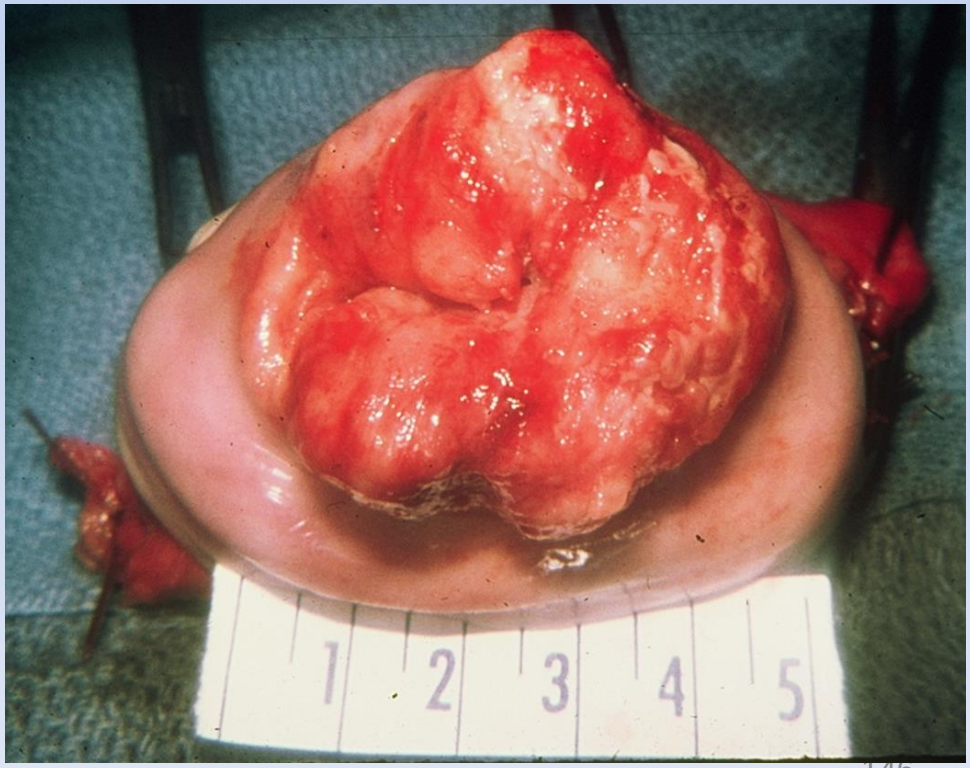


Cervix with HPV virus



CERVICAL CANCER





- In 2007, routine immunization of 9- to 26-year-old girls and women with the quadrivalent HPV vaccine (against HPV types 6, 11, 16, and 18)
- In 2011, to boys at 11 or 12 years of age and to males 13–21 years of age who have not yet been vaccinated


GARDASIL® 9
Human Papillomavirus 9valent Vaccine (Recombinant, adsorbed)
Suspension for injection
1 pre-filled syringe (0.5 ml) with 2 needles
Intramuscular use.
sanofi pasteur MSD
GARDASIL 9
Human Papillomavirus 9valent Vaccine

Proctitis, Proctocolitis, Enterocolitis, and Enteritis

- ***Proctitis:*** ***inflammation limited to the rectal mucosa (the distal 10–12 cm***
- ***Proctocolitis:*** ***inflammation extending from the rectum to the colon***
- ***Enterocolitis:*** ***involving both the small and the large bowel***
- ***enteritis :*** ***involving the small bowel alone***

can result from ingestion of typical intestinal pathogens through oral-anal exposure during sexual contact.

- ***proctitis or protocolitis :***
  - ***Anorectal pain***
  - ***mucopurulent, bloody rectal discharge***
- ***Proctitis***
  - ***commonly produces tenesmus (, but not true diarrhea) and constipation,***
- ***proctocolitis and enterocolitis***
  - ***more often cause true diarrhea.***

- ***In all three conditions, anoscopy usually shows***
- ***mucosal exudate***
- ***easily induced mucosal bleeding***

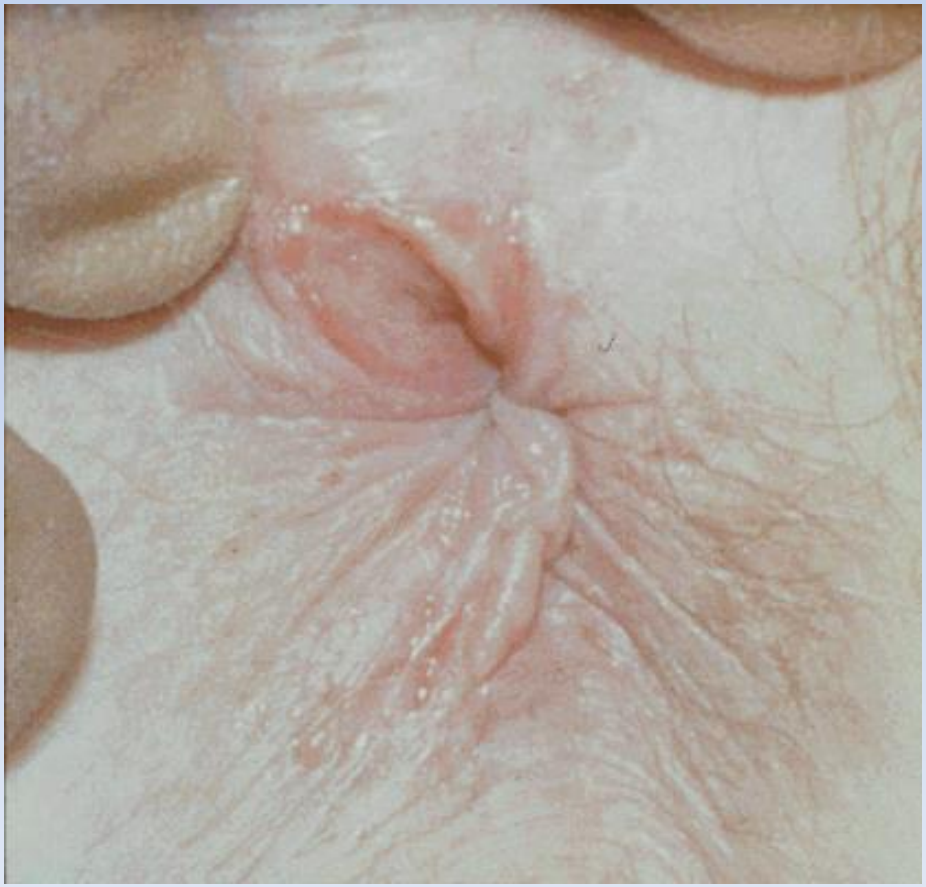
Acquisition of

- ***HSV,***
- ***N. gonorrhoeae***
- ***C. trachomatis (LGV strains)***

during receptive anorectal intercourse causes most cases of infectious proctitis in

<u>women</u> and <u>homosexual men</u>

- ***Primary and secondary syphilis can also produce anal or anorectal lesions, with or without symptoms***



- ***Gonococcal* or *chlamydial* *proctitis* involves the most distal rectal mucosa and is clinically *mild*, without systemic manifestations.**
- ***In contrast, primary *proctitis due to HSV* and *proctocolitis* due to the strains of C. trachomatis that cause LGV usually produce *severe anorectal pain* and often cause *fever***

enteritis

- ***Diarrhea and abdominal cramping pain without anorectal symptoms***
- ***In homosexual men without HIV infection, enteritis is often attributable to Giardia lamblia.***
- ***Sexually acquired proctocolitis is most often due to Campylobacter or Shigella spp.***

Treatment

Patients with proctitis should receive empirical syndromic treatment

- ***ceftriaxone (a single IM dose of 250 mg for gonorrhea)***
- ***plus Doxycycline (100 mg PO twice daily for 7 days for possible chlamydial infection)***
- ***plus treatment for herpes or syphilis if indicated***

Treatment

If LGV proctitis is proven or suspected, the recommended treatment is

- ***Doxycycline (100 mg by mouth twice daily for 21 days);***
- ***alternatively, 1 g of azithromycin once a week for 3 weeks***