“SEXUALLY TRANSMITTED DISEASES AND ADVANCED HIV DISEASE”

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INNOVATION
in
PUBLIC HEALTH

OVERVIEW

Statistics	Classification of sexually transmitted diseases	Dermatological skin signs	Clinical approach
Treatment principles	Summary and take-home message	Multiple-Choice Questions	Opening of the floor for questions

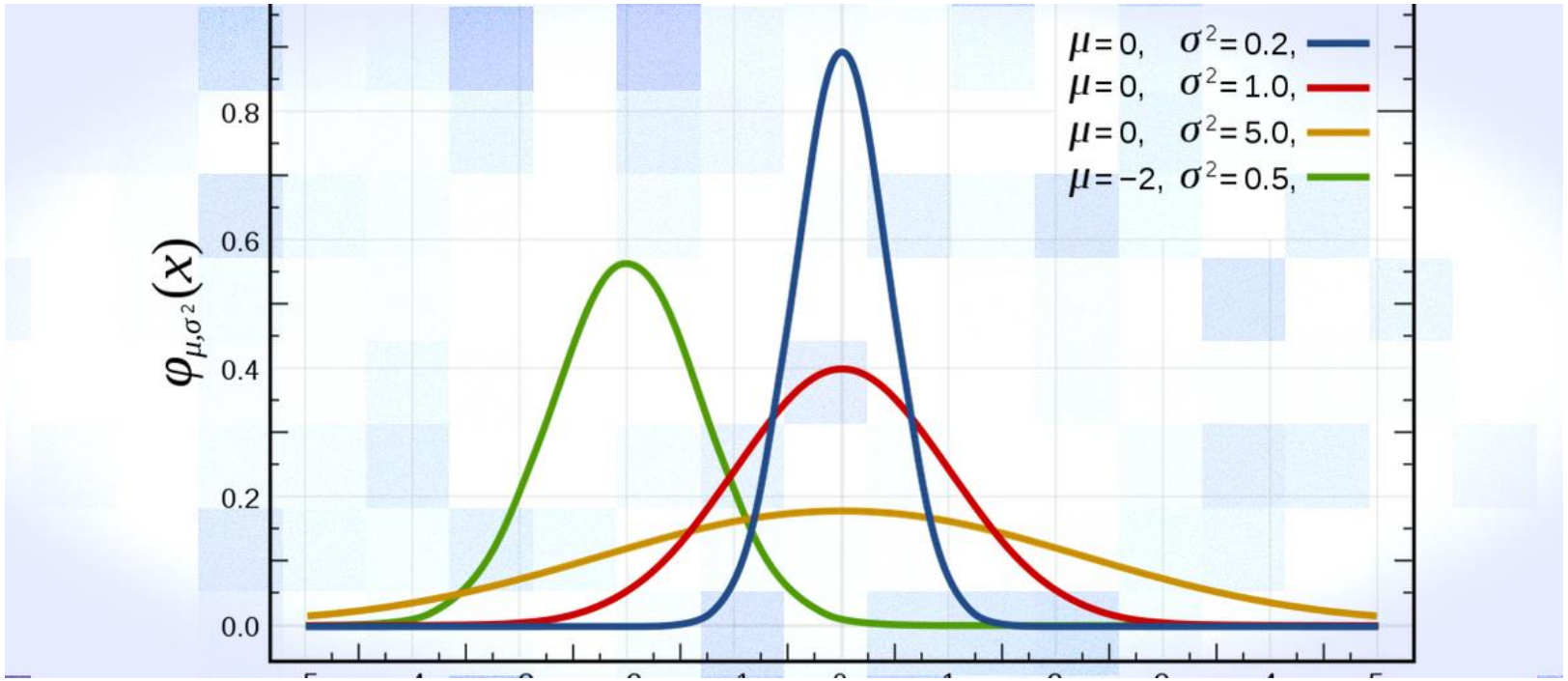

MED LIFE
Is it an
STI
OR
UTI?
Learn the difference between the two

STATISTICS

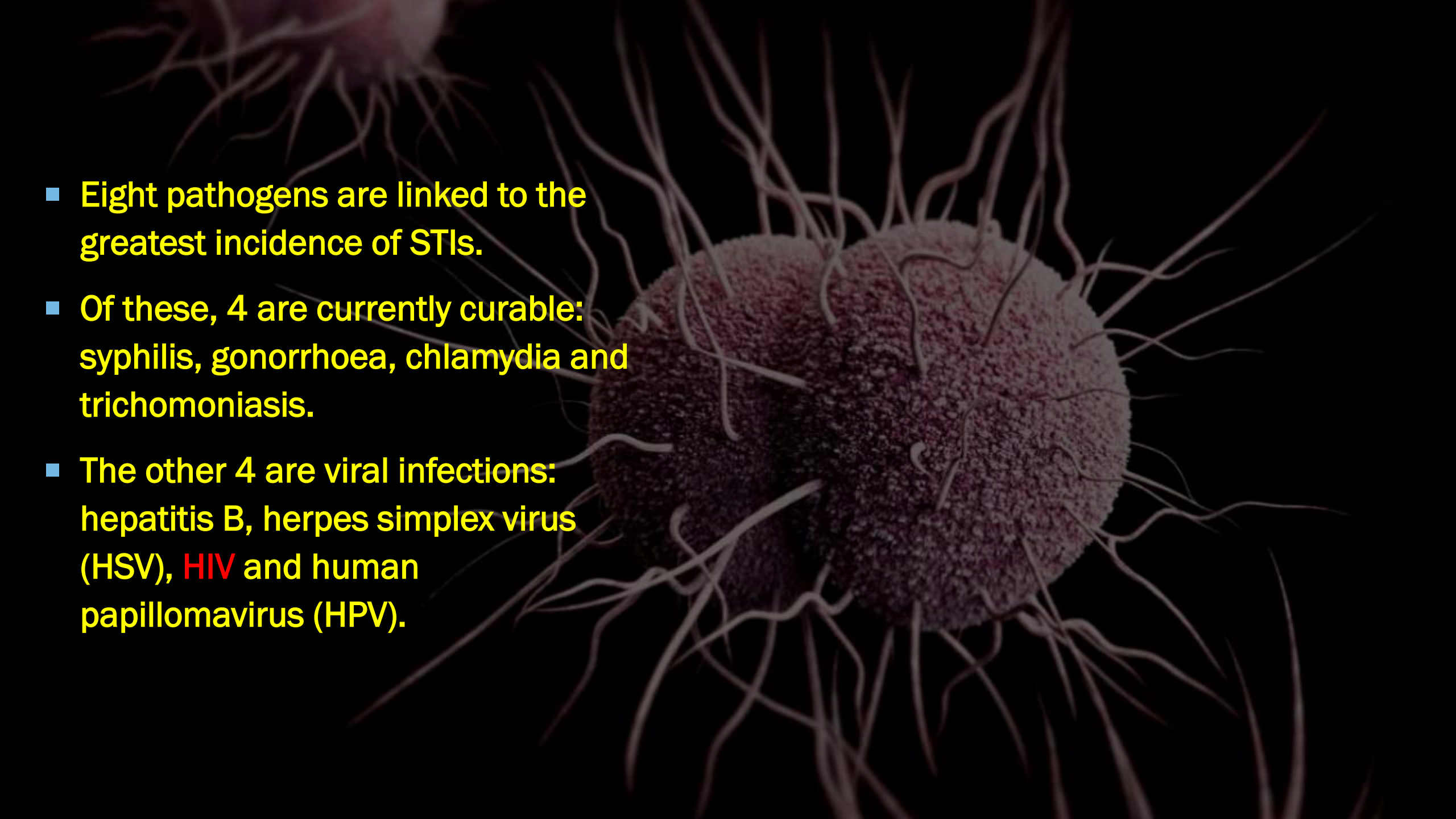
- More than 1 million curable sexually transmitted infections (STIs) are acquired every day worldwide in people 15–49 years old, the majority of which are asymptomatic.
- In 2020 there were an estimated 374 million new infections in people 15–49 years with 1 of 4 curable STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis.
- An estimated 8 million adults between 15 and 49 years old were infected with syphilis in 2022.
- More than 500 million people aged 15–49 years are estimated to have a genital infection with herpes simplex virus (HSV or herpes).
- Human papillomavirus (HPV) infection is associated with over 311 000 cervical cancer deaths each year.

STATISTICS (2)

- 1.1 million pregnant women were estimated to be infected with syphilis in 2022, resulting in over 390 000 adverse birth outcomes.
- STIs have a direct impact on sexual and reproductive health through stigmatization, infertility, cancers and pregnancy complications and can increase the risk of HIV.
- Drug resistance is a major threat to reducing the burden of STIs worldwide.



- More than 30 different bacteria, viruses and parasites are known to be transmitted through sexual contact, this includes vaginal, anal and oral sex.



- Eight pathogens are linked to the greatest incidence of STIs.
- Of these, 4 are currently curable: syphilis, gonorrhoea, chlamydia and trichomoniasis.
- The other 4 are viral infections: hepatitis B, herpes simplex virus (HSV), HIV and human papillomavirus (HPV).

OTHER VIRUSES THAT CAN BE SEXUALLY TRANSMITTED

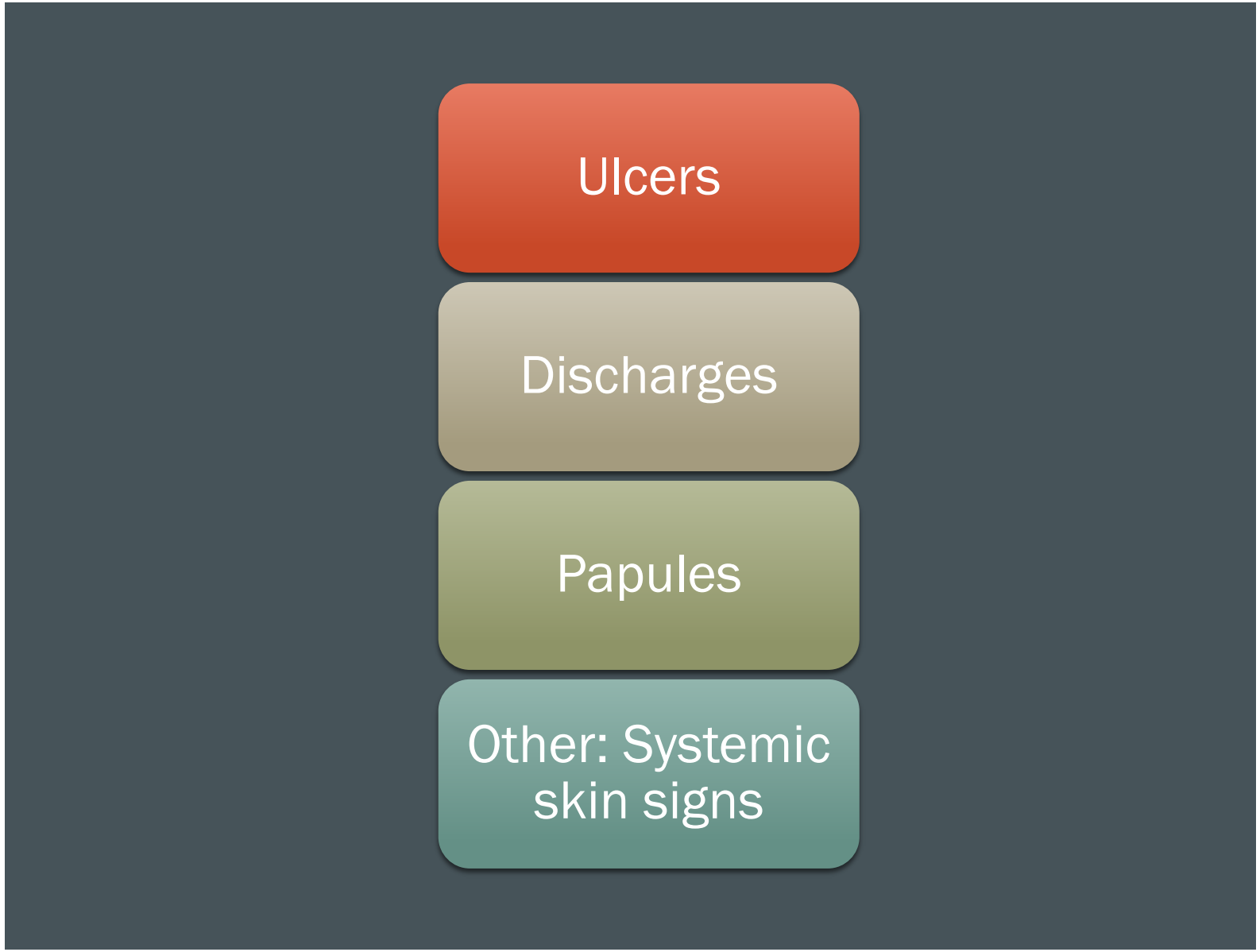
- Ebola
- MPOX
- Zika
- Others

CLASSIFICATION OF STI'S

Common sexually transmittable conditions:
Bacterial ❖ Gonorrhoea ❖ Syphilis ❖ Granuloma inguinale ❖ Chancroid ❖ Lymphogranuloma venereum
Viruses ❖ HIV infection ❖ Herpes simplex infection ❖ Human herpes virus, type 8 ❖ Human papillomavirus ❖ Hepatitis A ❖ Hepatitis B ❖ Hepatitis C ❖ Human T-cell lymphotropic virus ❖ Cytomegalovirus infection ❖ Molluscum contagiosum
Fungi ❖ Candidiasis
Protozoa ❖ Trichomoniasis ❖ Amebiasis ❖ Giardiasis
Ectoparasites ❖ Pediculosis pubis (pubic Lice) ❖ Scabies

Table 32.4 ***Common sexually transmittable infections.***

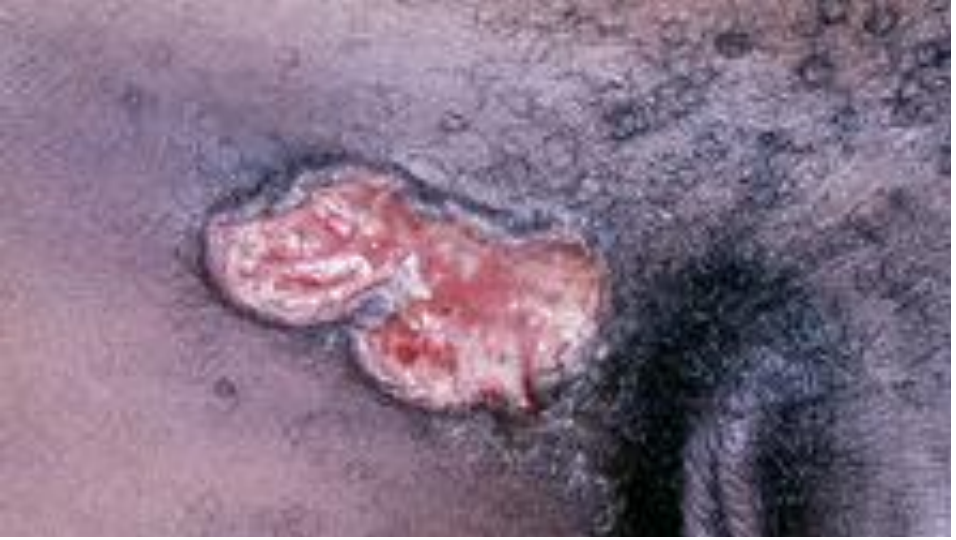
CLASSIFICATION OF SEXUALLY TRANSMITTED DISEASES



Infectious causes of genital ulcer disease (GUD)
❖ Chancroid ❖ Primary syphilis ❖ Genital herpes ❖ Granuloma inguinale ❖ Lymphogranuloma venereum

Table 32.5 ***Infectious causes of genital ulcer disease***

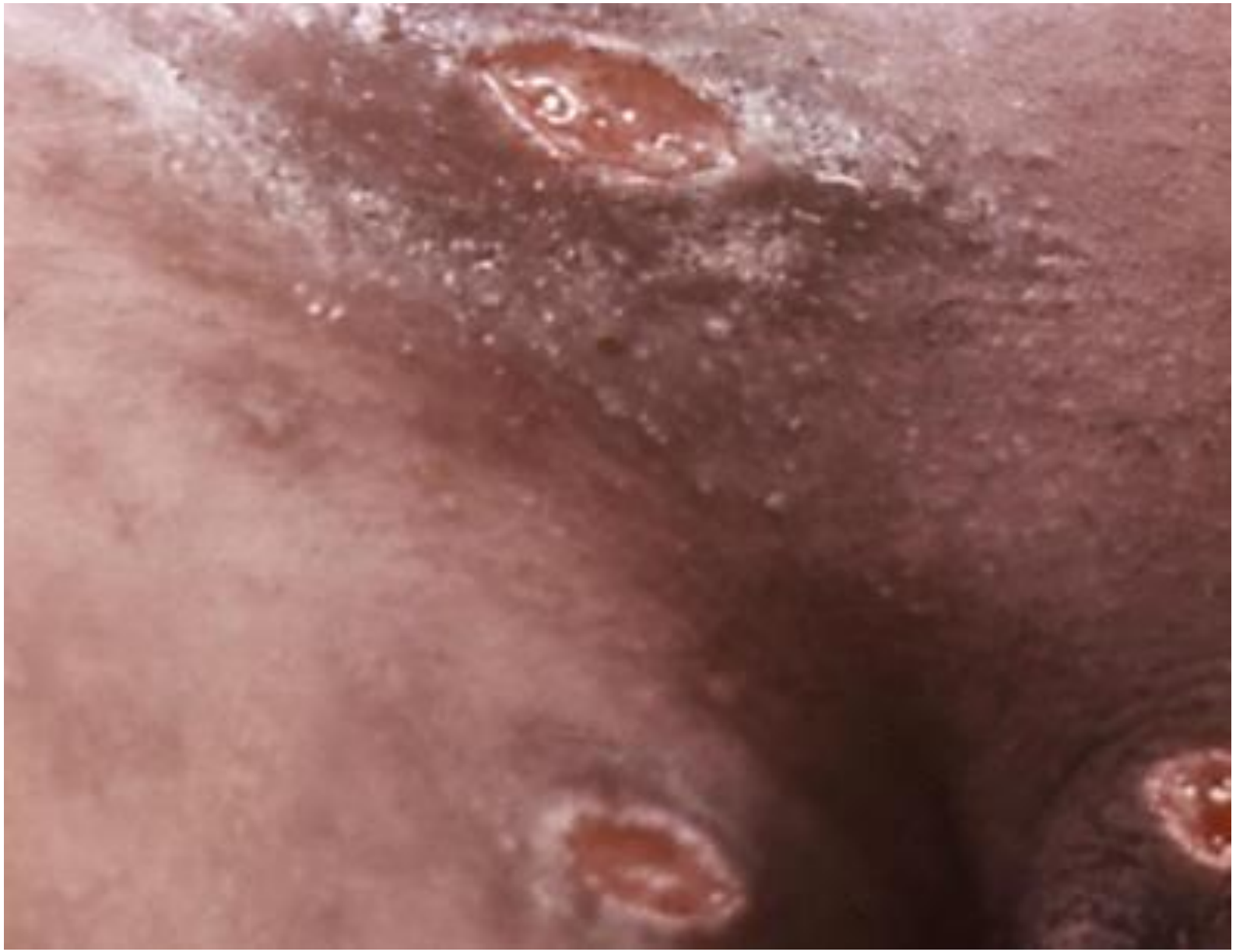
COMMON ULCERATING STI

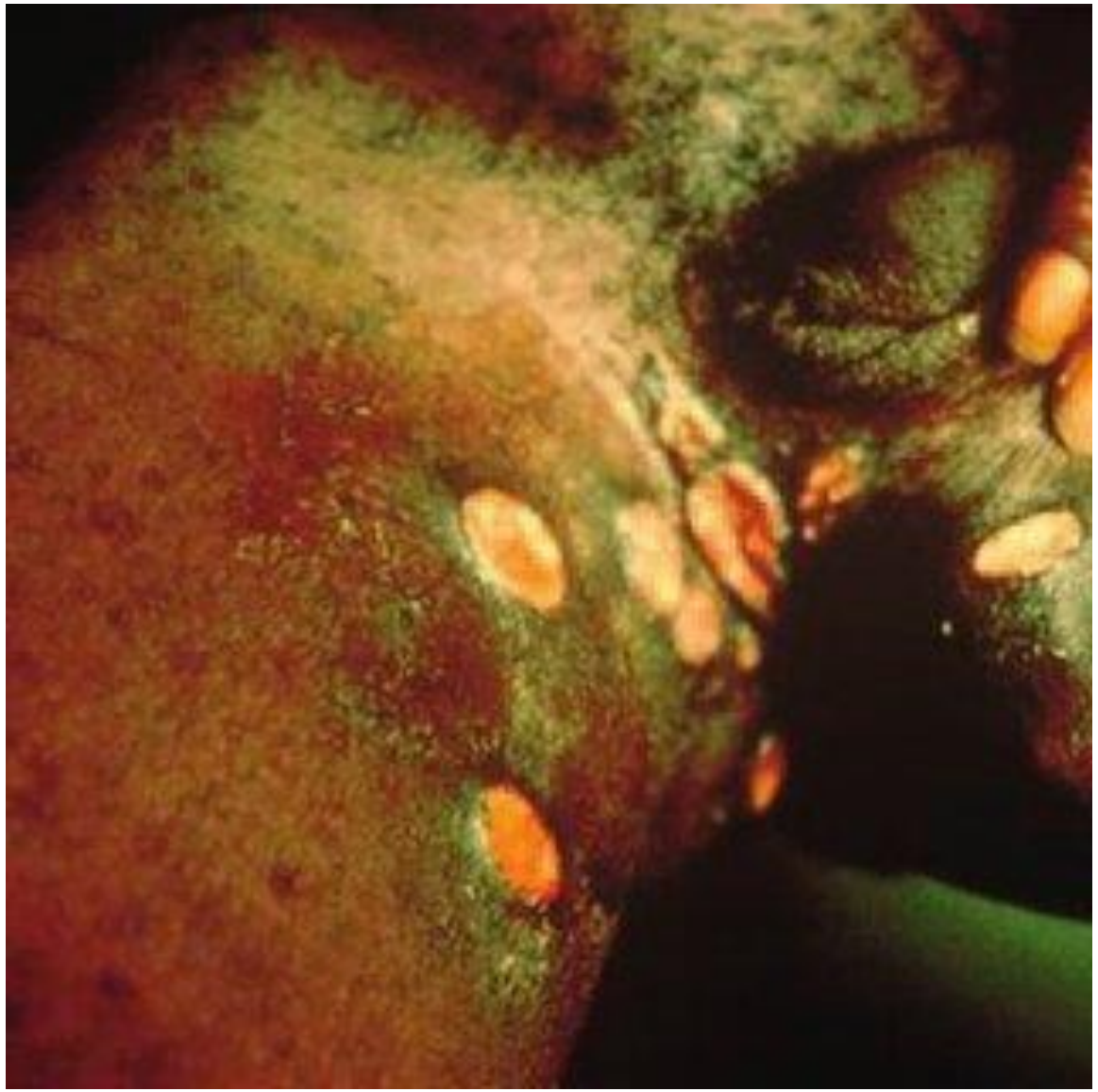


CHANCROID

- Haemophilus ducreyi
- Genital ulcers
- Lymphadenopathy

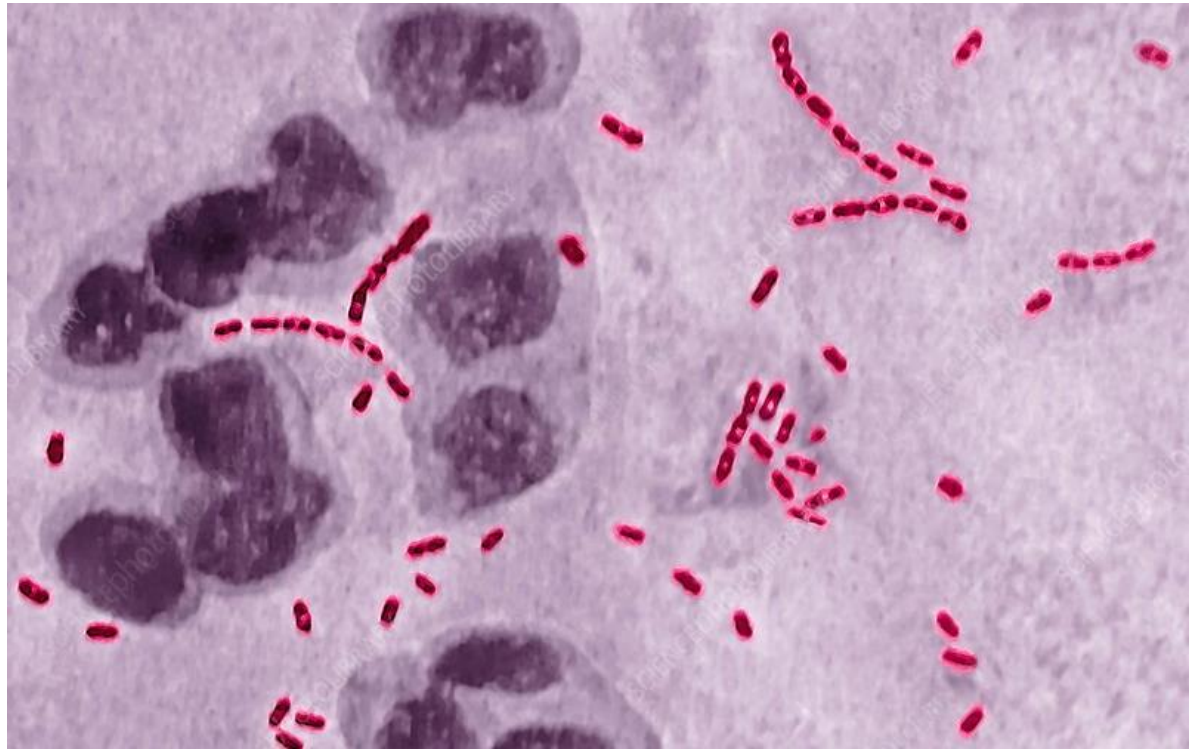
- Intubation period of 4–10 days (range 1–35 days).
- One or more red erythematous papules > pustule > painful ulcer with a purulent base with contact bleeding.
- Chancroid affects the sites most prone to friction during sex. In men, these include the foreskin, the glans and the corona.
- If left untreated, 50% of cases develop infected lymph glands, which become large, hard painful lumps called buboes on either one or both sides of the groin.





- In women, ulcers may be located on the labia, vaginal entrance, cervix, perineum and perianal area.
- Women generally have nonspecific symptoms such as painful urination or pain on defecation, vaginal discharge, dyspareunia and rectal bleeding.
- Some women are asymptomatic carriers and are unaware of the infection.
- Untreated chancroid ulcers may persist for 1–3 months and can result in scarring.
- They can increase the risk of human immunodeficiency virus (HIV) infection by providing a CD4-rich environment at the point of entry.
- An atypical presentation can occur in HIV-positive individuals.

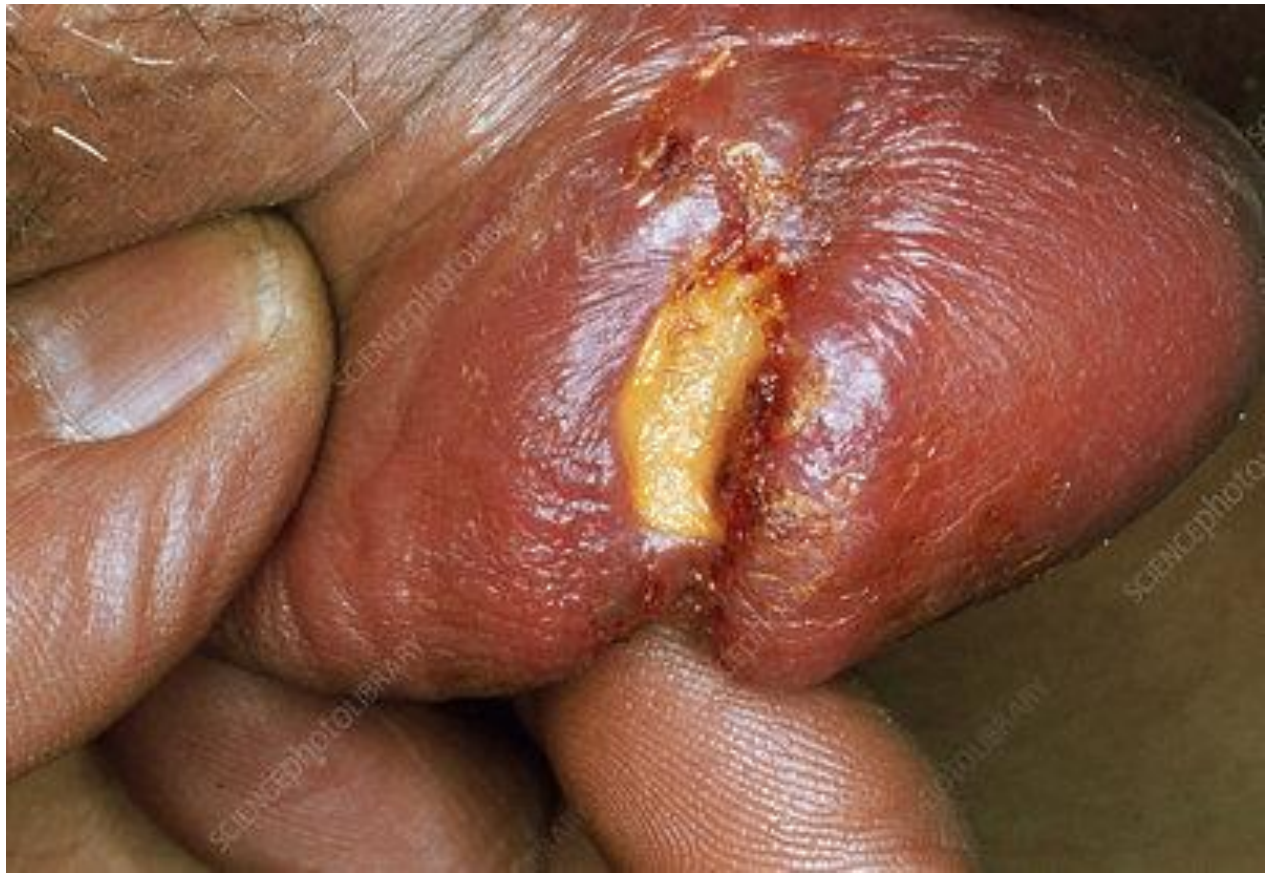
- The antibiotics of choice are azithromycin, ciprofloxacin, ceftriaxone or erythromycin.
- No antigen or antibody detection test is in routine clinical use.



TREPONEMA PALLIDUM

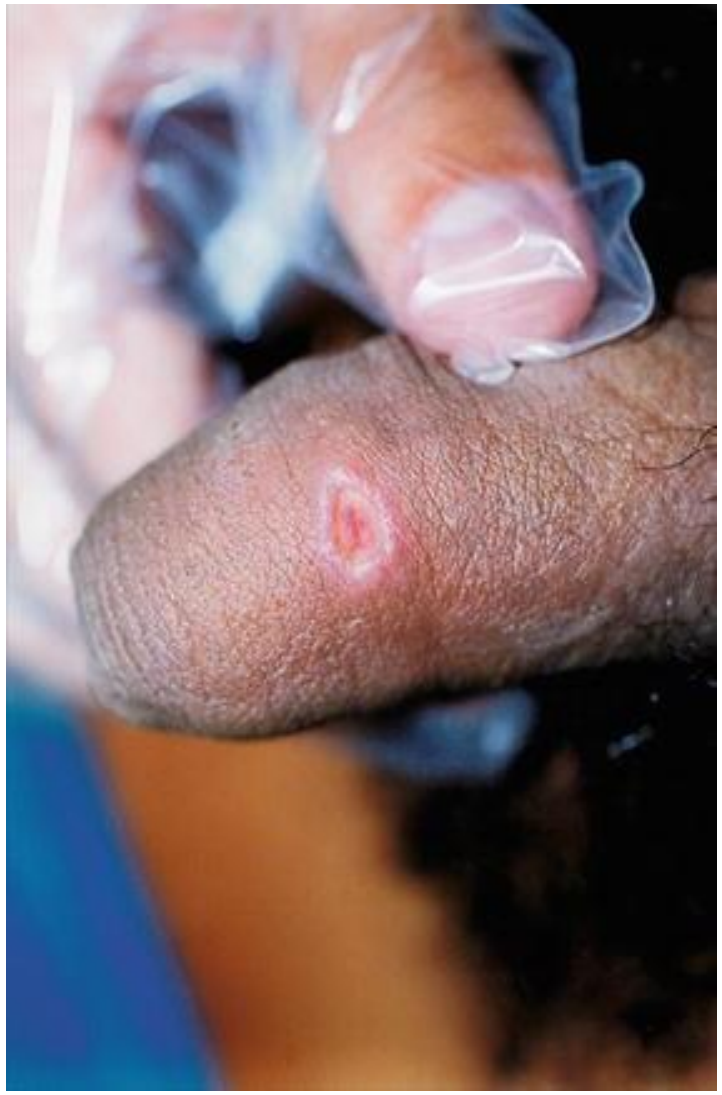
HAEMOPHILUS DUCREYI

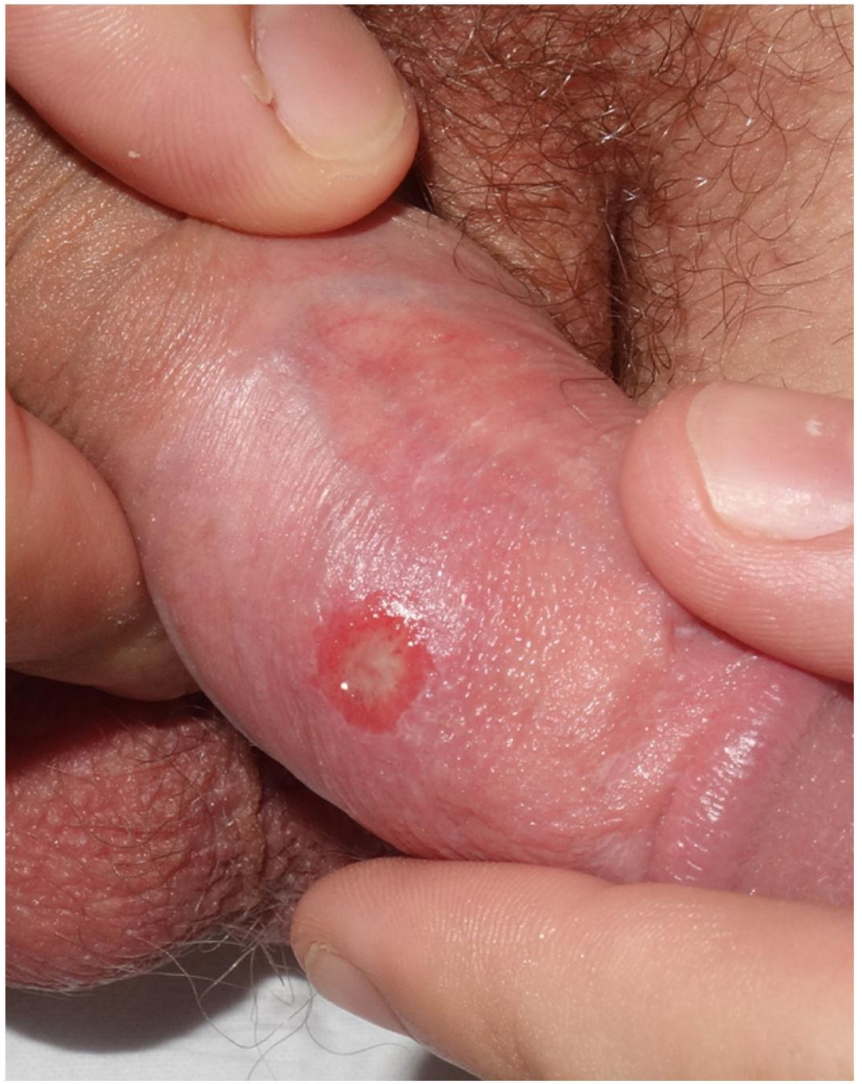
PRIMARY SYPHILIS

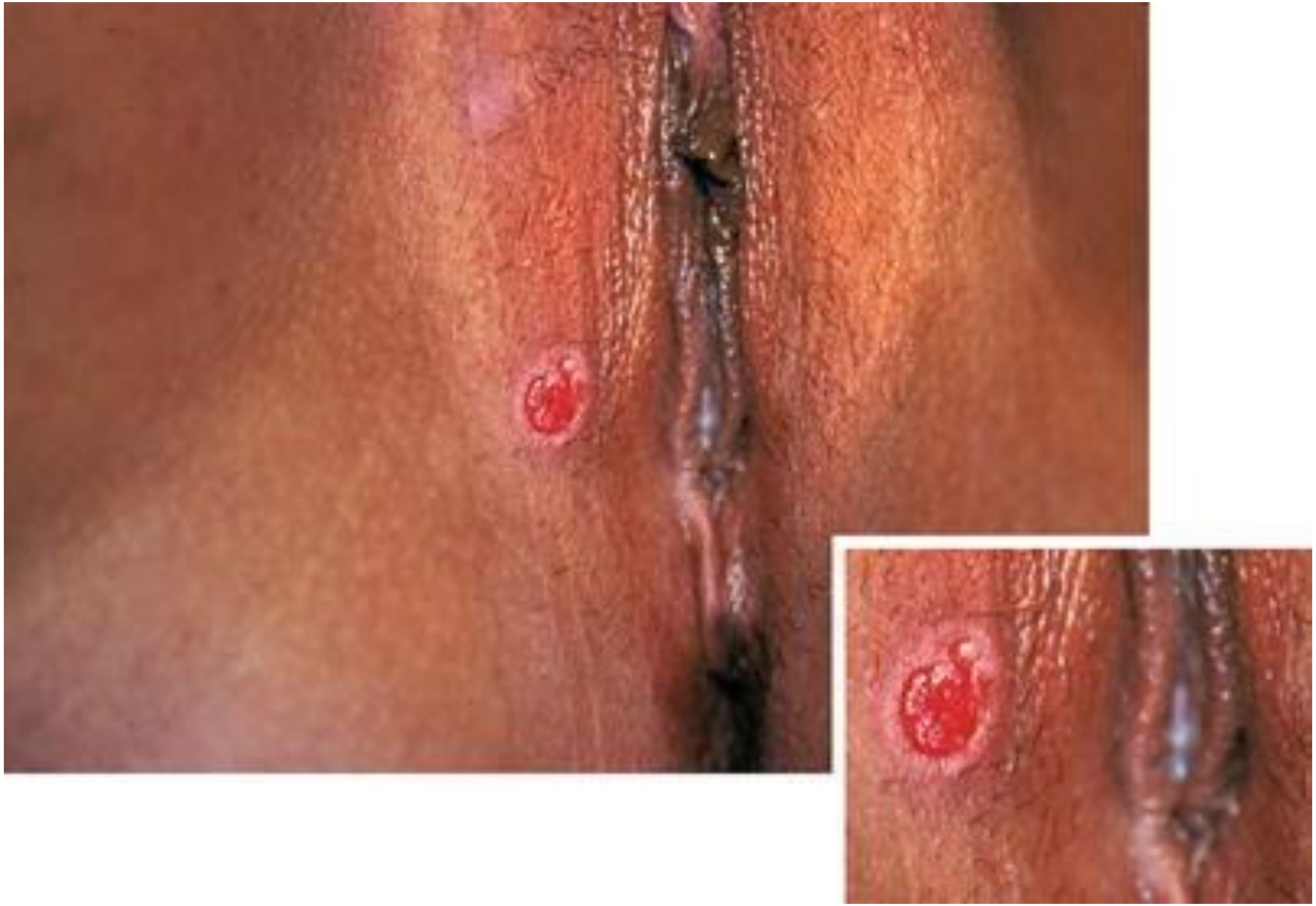


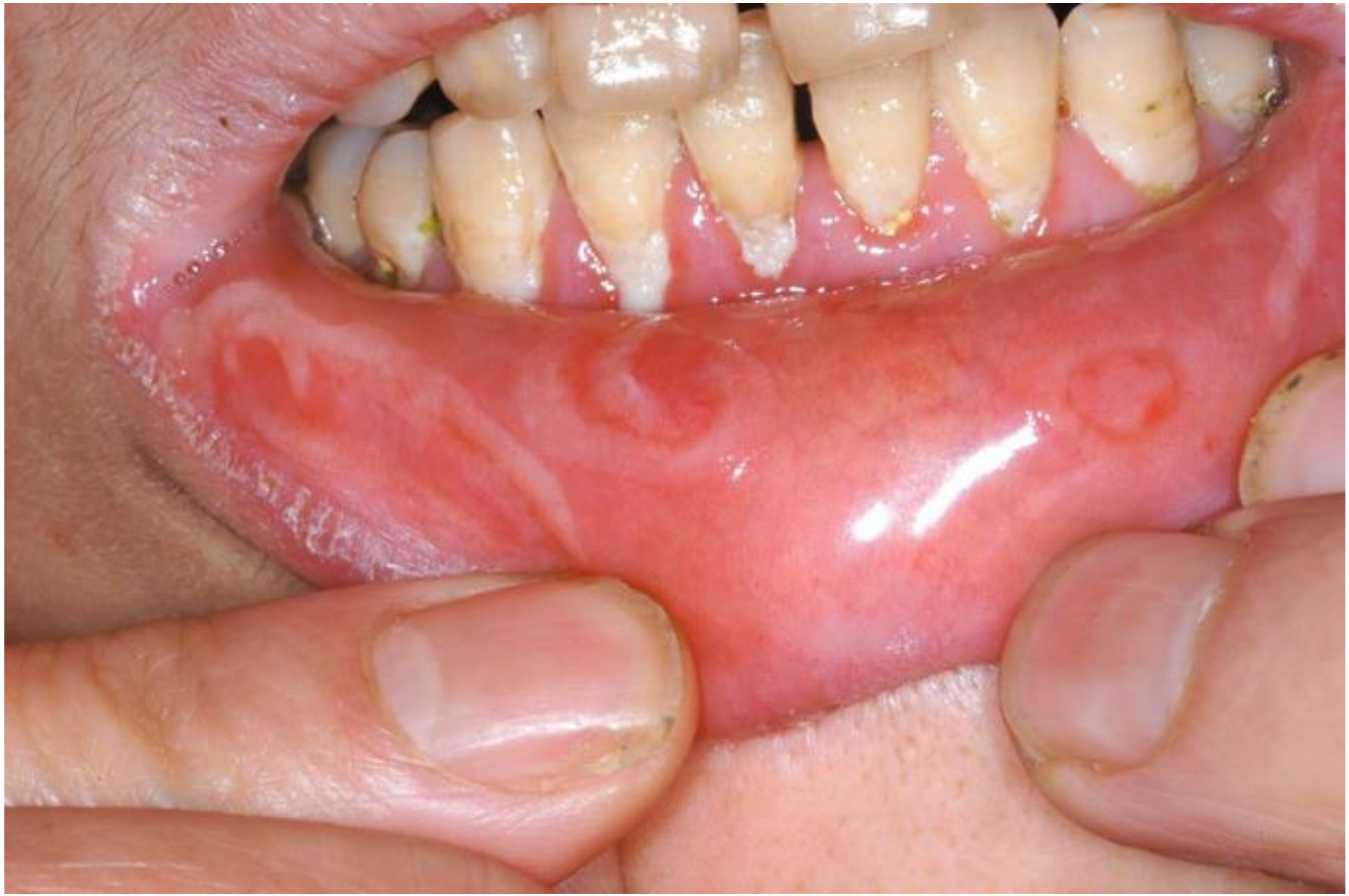
- The incubation period varies from 10 days to 10 weeks (average of 21 days).
- The typical lesion that develops initially is called the Hunterian ulcer.
- It is usually a single, painless and fairly shallow ulcer that starts as an indurated papule.
- It commonly occurs on the foreskin, coronal sulcus, vulva, urethra and cervix.
- About 5% of cases present extra-genitally, affecting the lips, oral mucosa or rarely on the trunk. The ulcer will eventually spontaneously heal even without treatment.

PRIMARY SYPHILIS









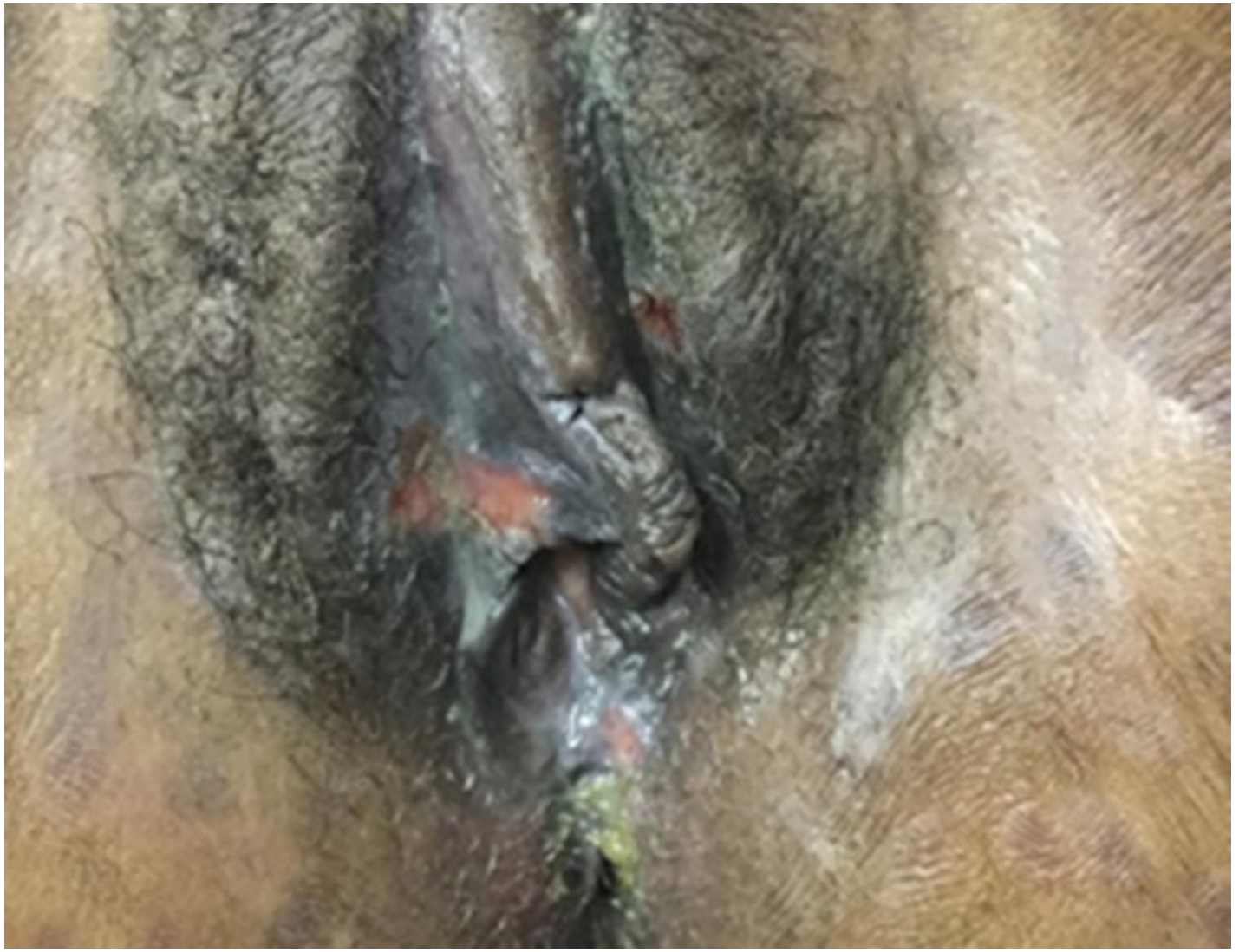
Causes of oral ulcers

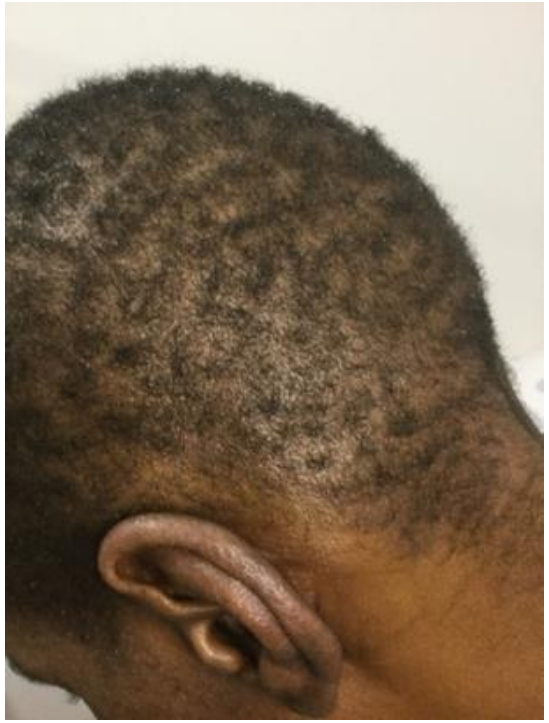
- Herpes simplex
- Bechet's disease
- Herpangina
- Systemic lupus erythematosus (SLE)
- Bullous dermatoses
- Syphilis
- Ulcerative colitis/Crohn's (Inflammatory bowel disease)
- LP
- Hand foot and mouth disease
- Aphthous ulceration

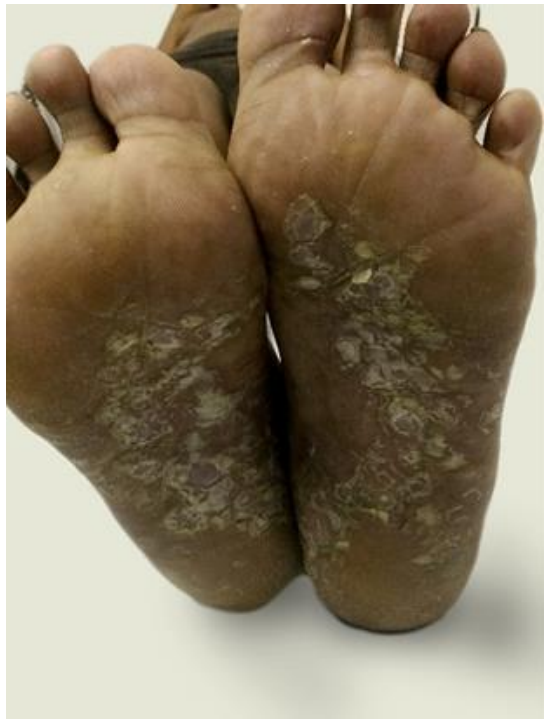
Table 24.3 ***Common conditions causing oral ulcers.***

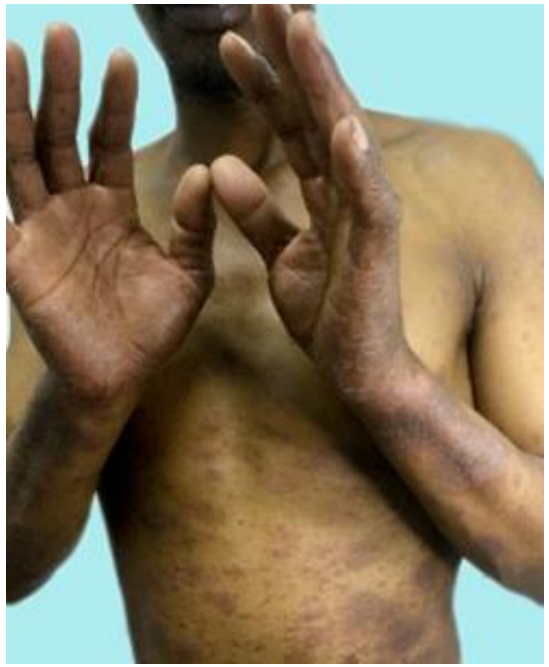
SECONDARY SYPHILIS

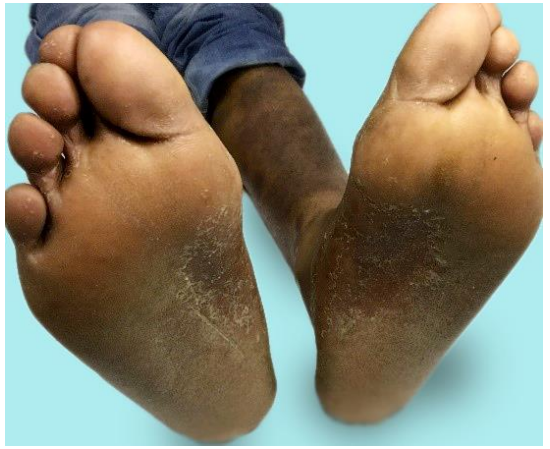
- Develops 2-8 weeks after primary manifestations.
- It is worth noting that some patients may not recall having had the primary phase.
- Clinical presentation of secondary syphilis takes many different forms.
- The rash is usually generalized, and asymptomatic affecting the palms and soles.
- Condylomata lata is characterised by the development of flat, moist, warty papules and nodules, typically on the perineum in females.
- Randomly distributed rash
- The secondary stage of syphilis can also present with systemic manifestations that include arthritis, nephrotic syndrome, patchy alopecia, meningitis and other systems may be involved.
- This stage can either resolve spontaneously or be marked with recurrent episodes of relapses. The majority of patients will recover fully and a period of latency will then begin where the patient remains asymptomatic for years before late syphilitic manifestations can occur.

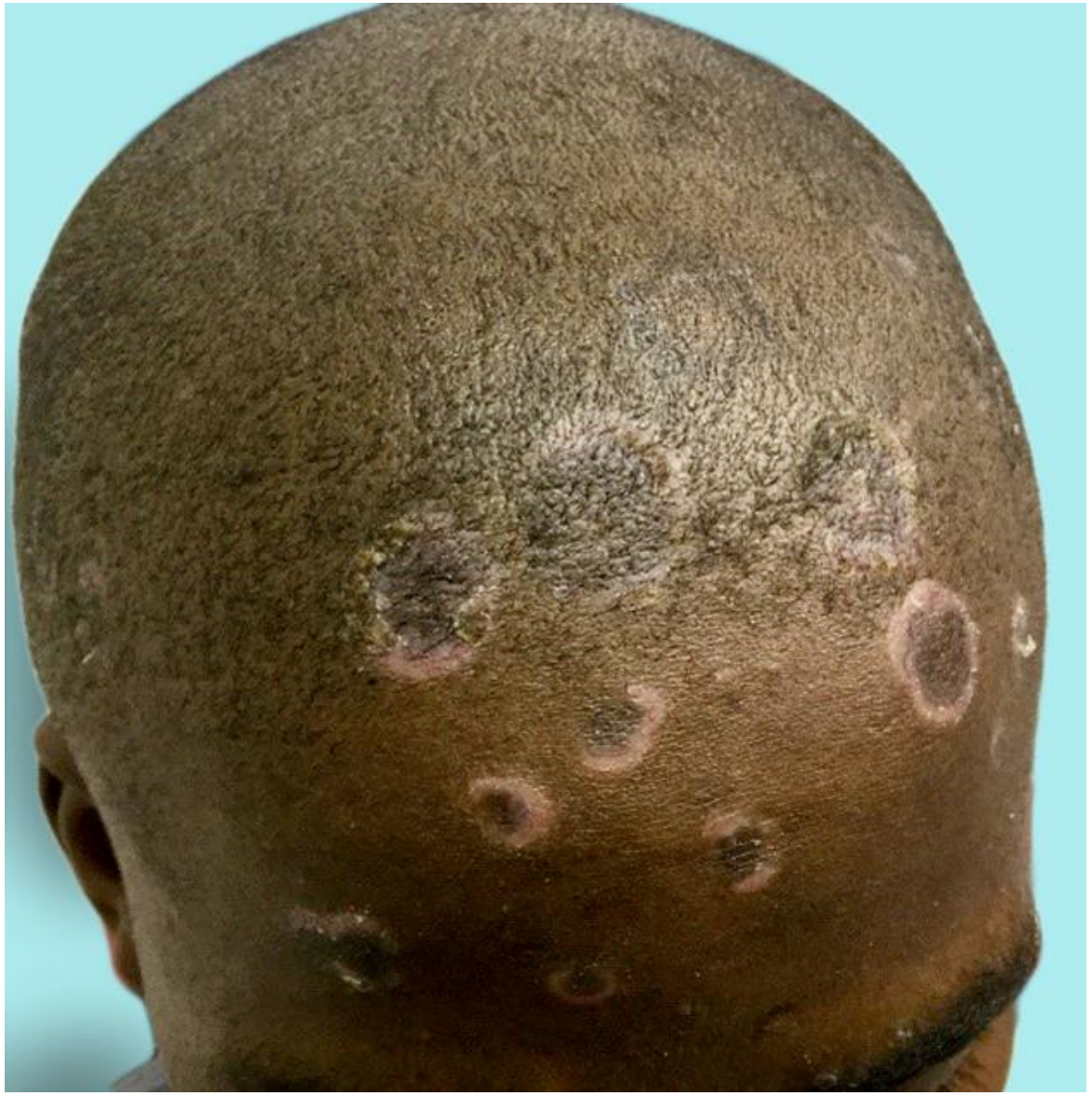


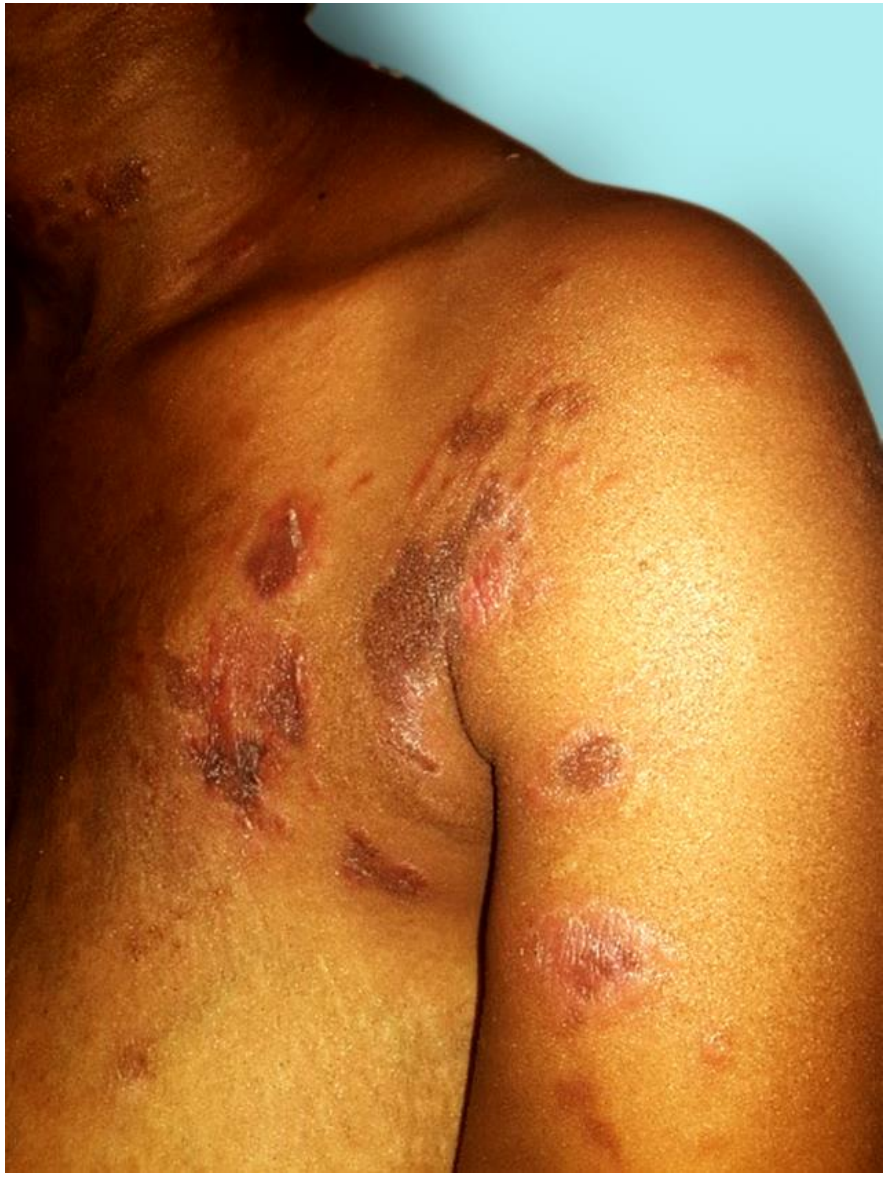


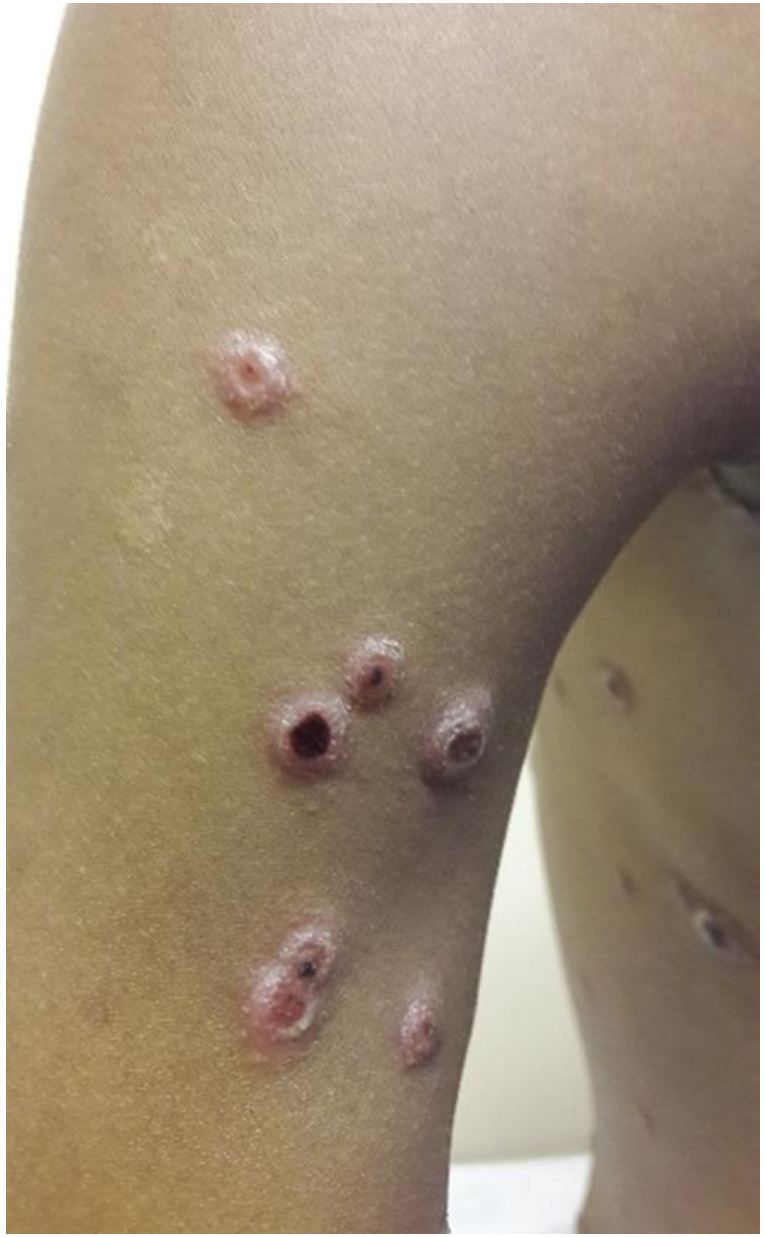


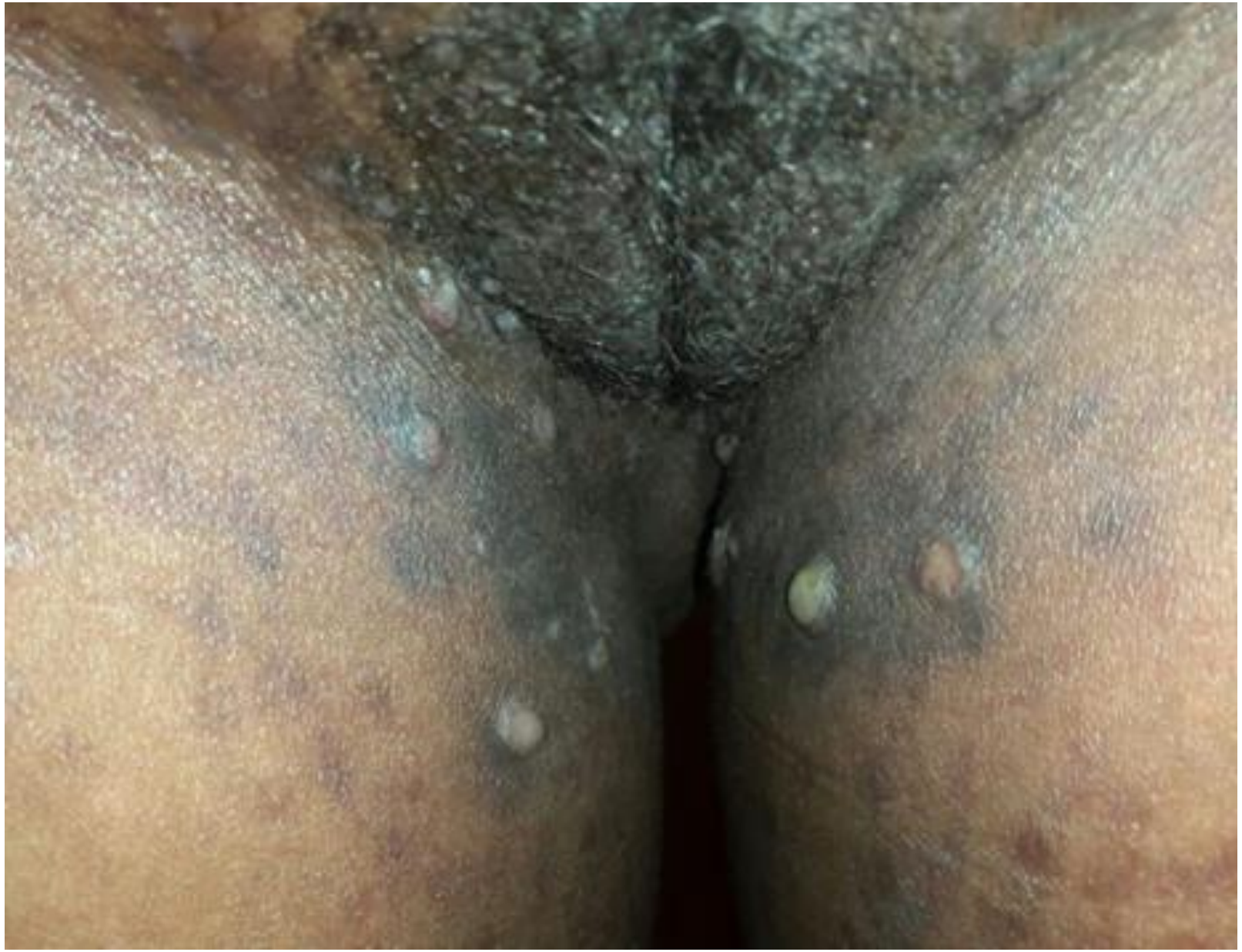


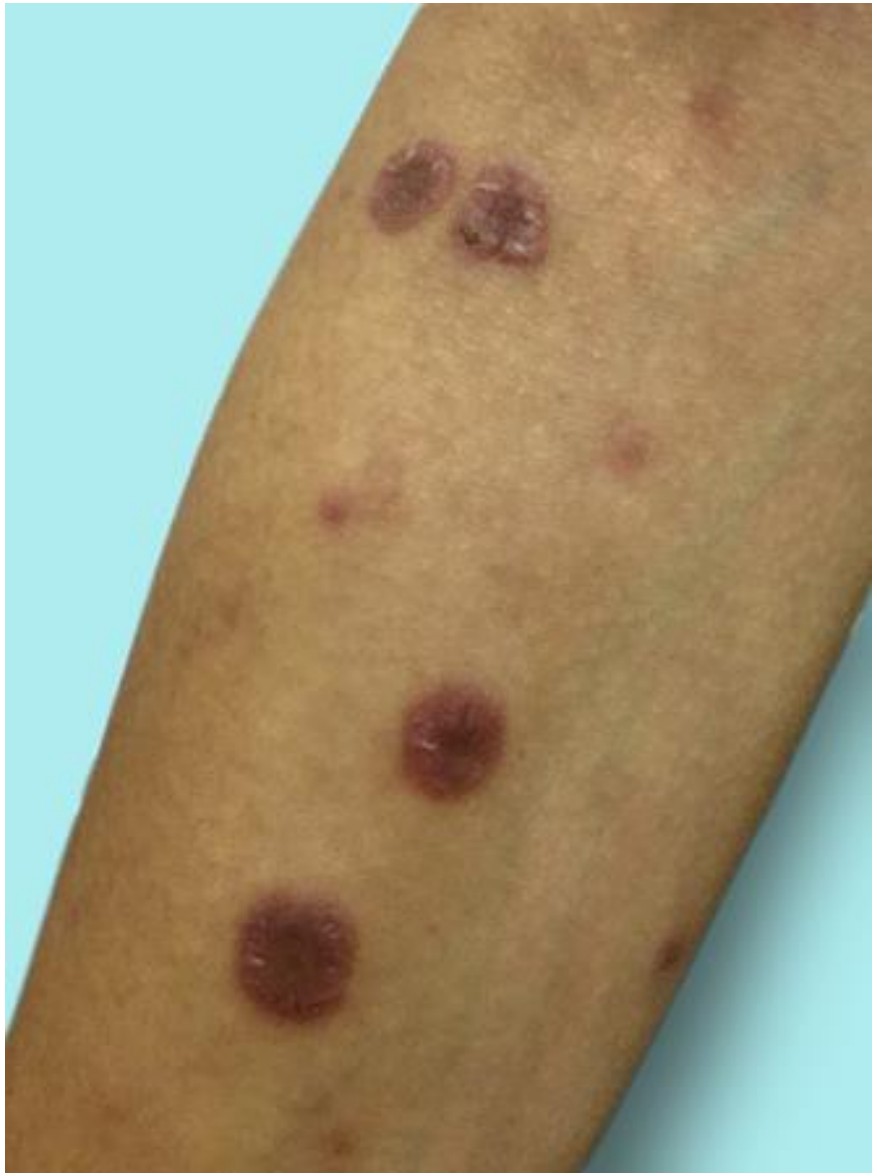


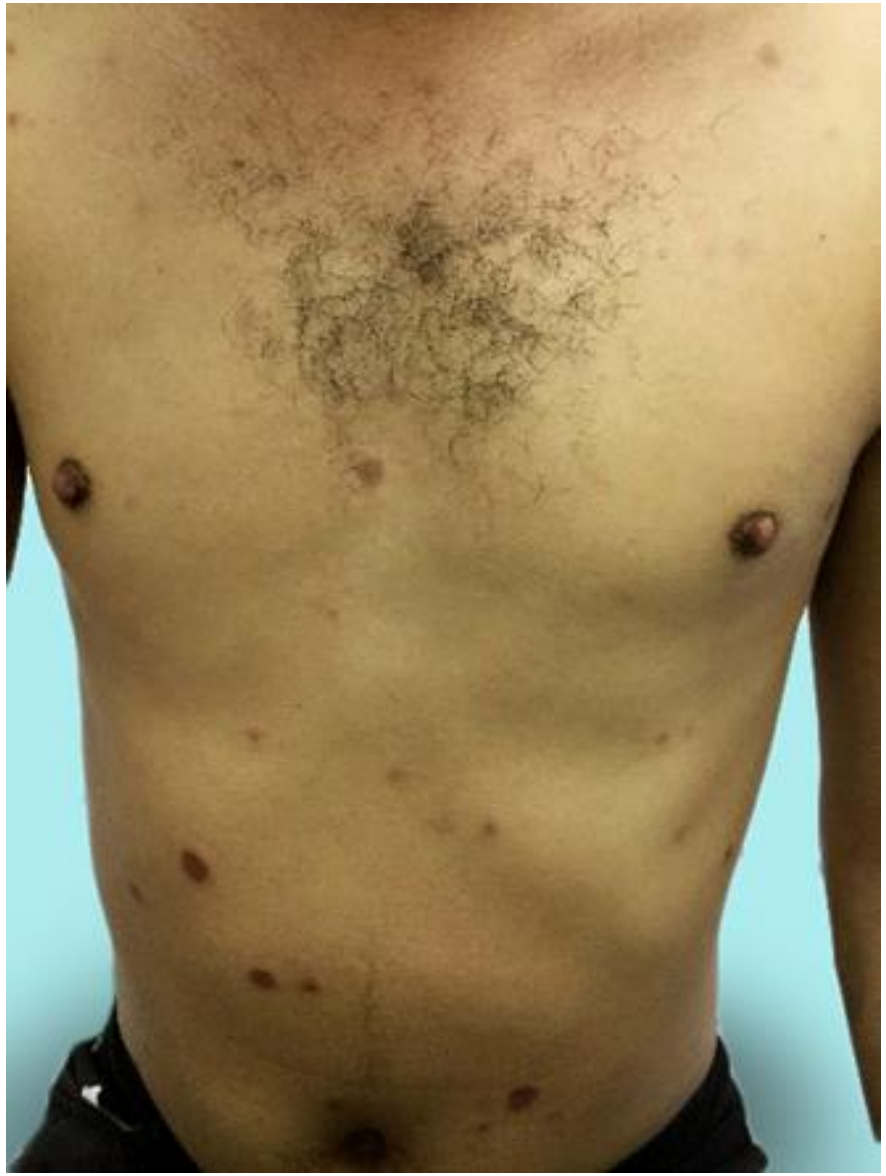


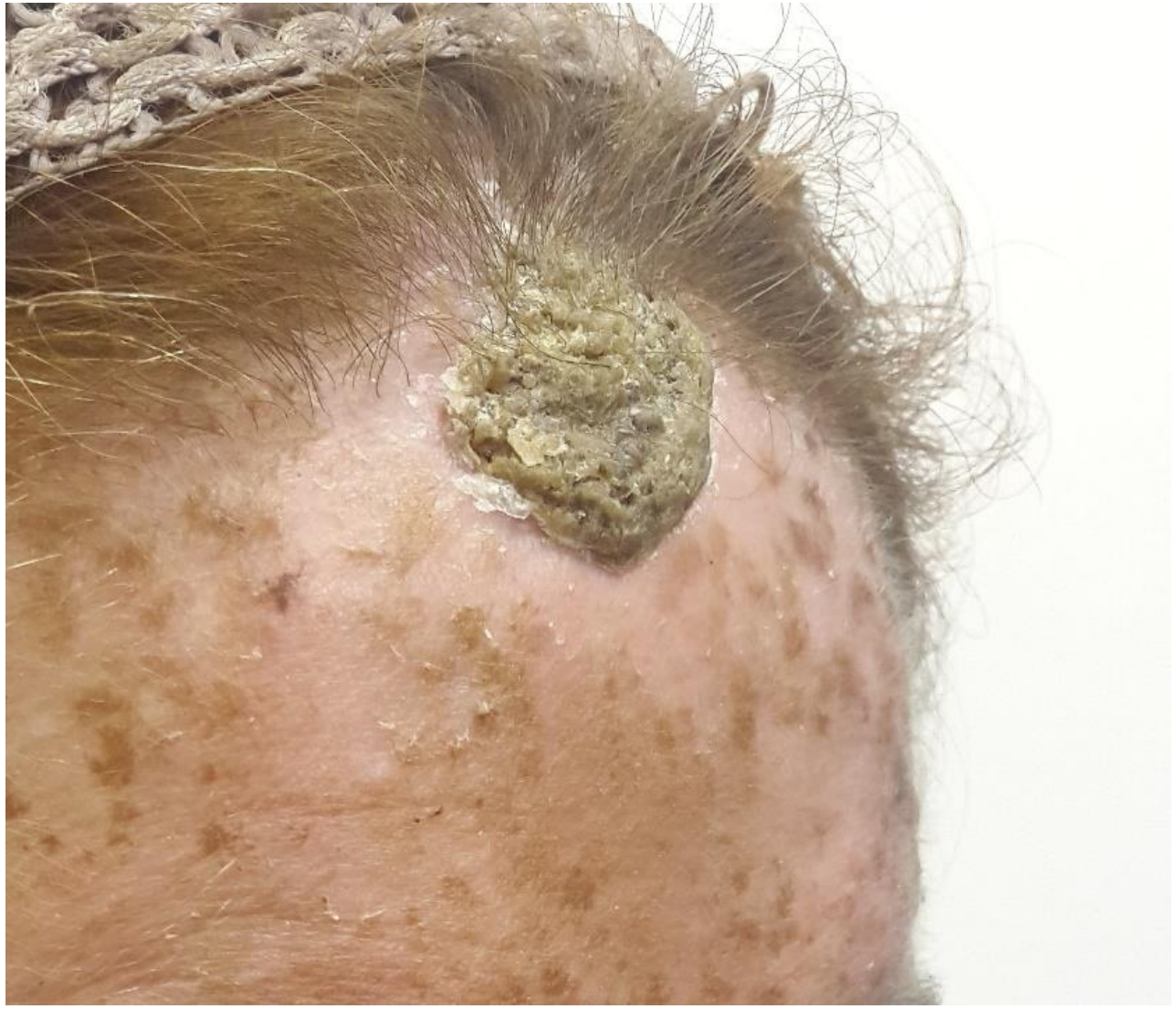


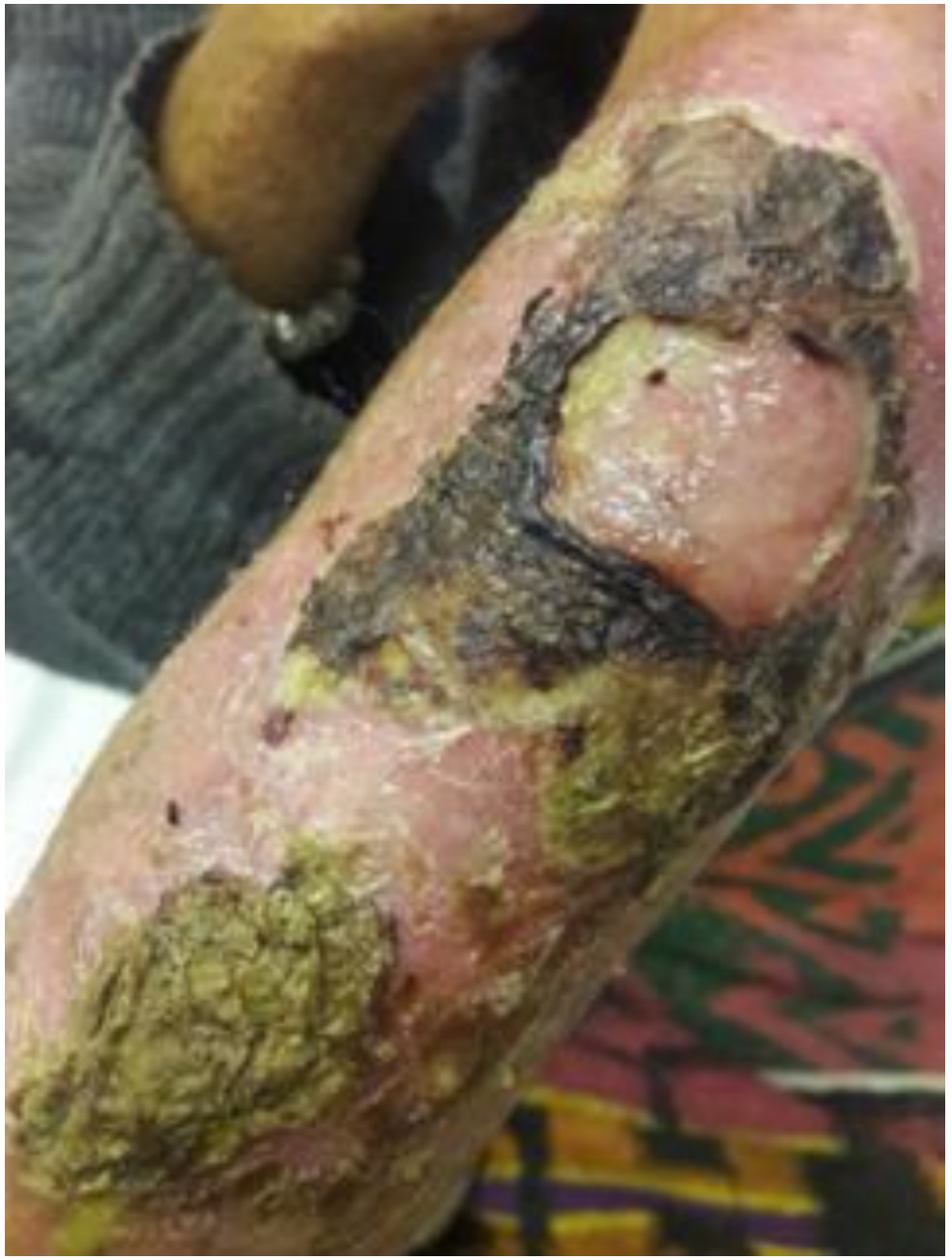


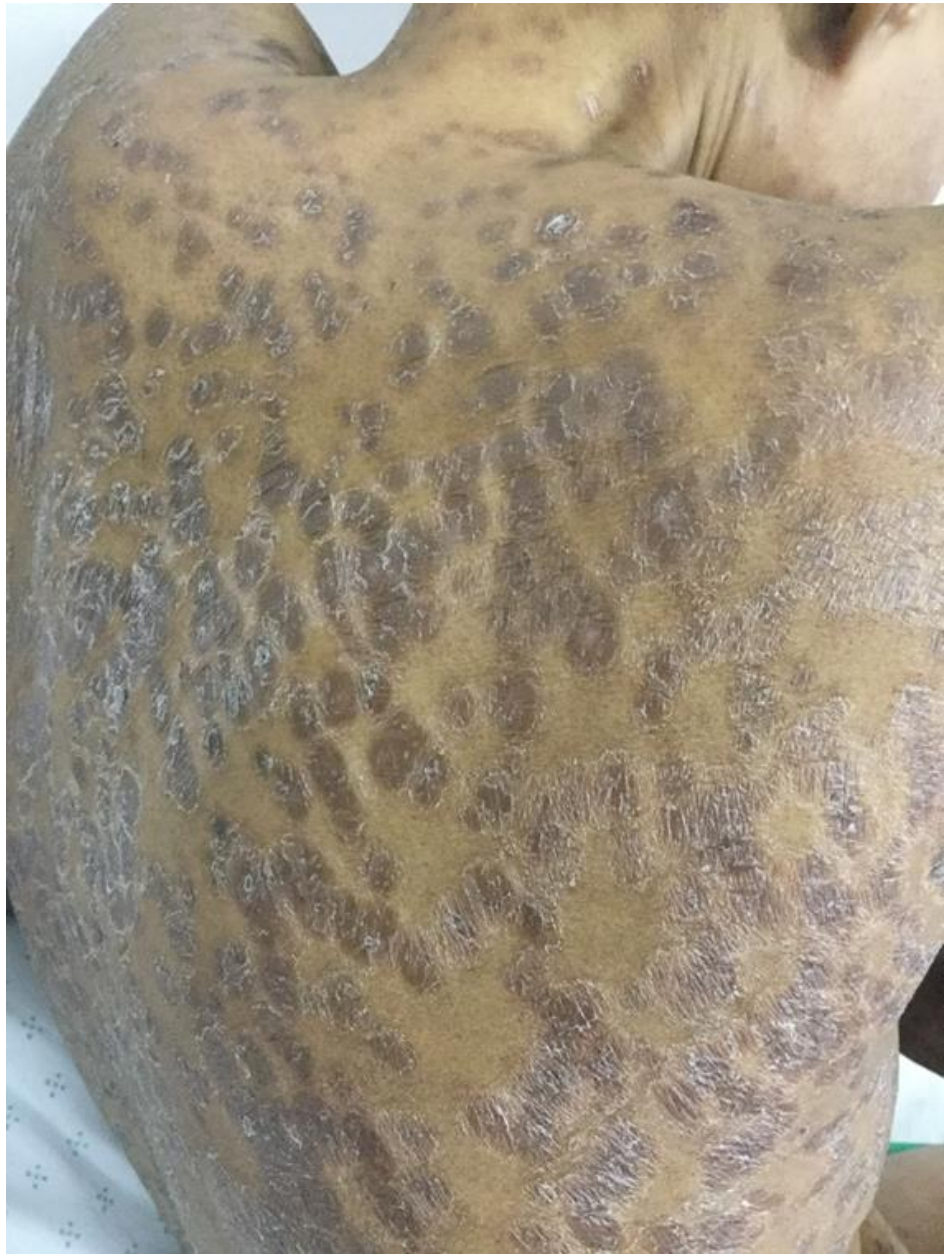


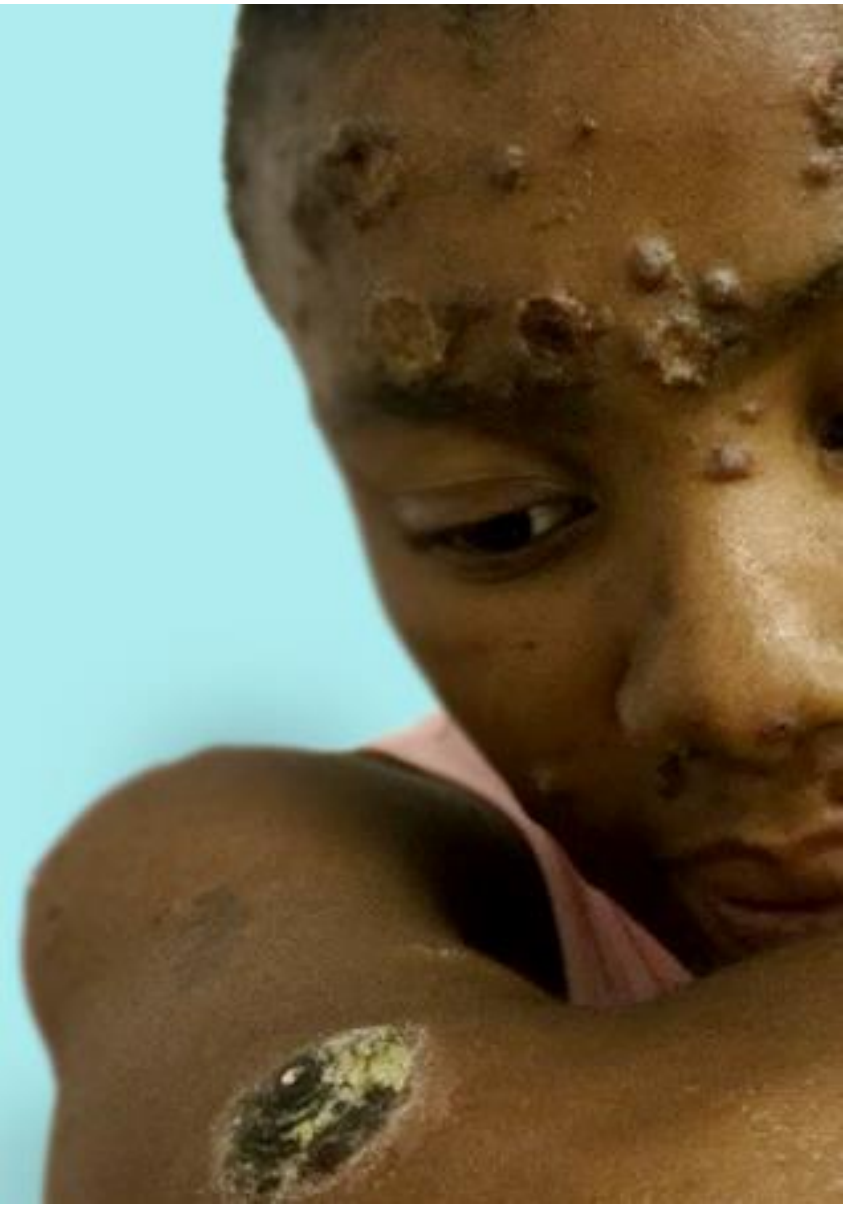


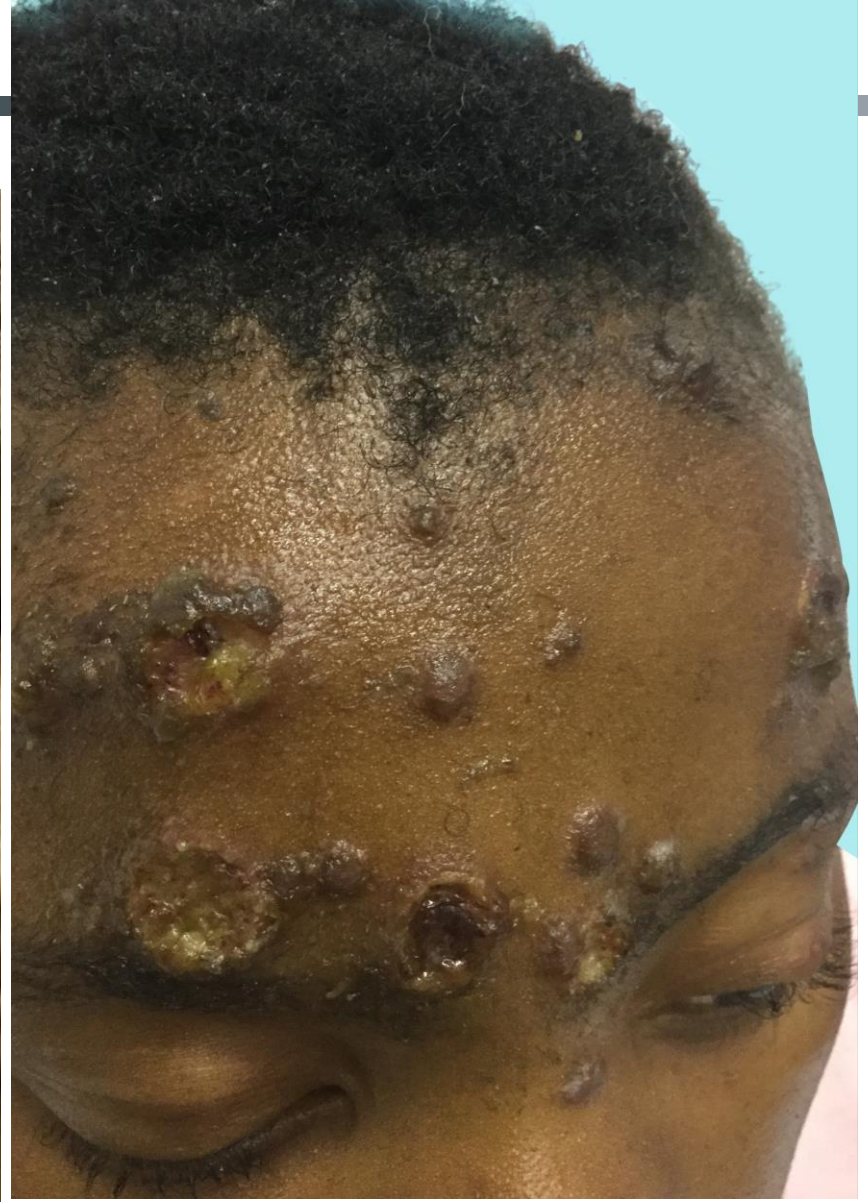


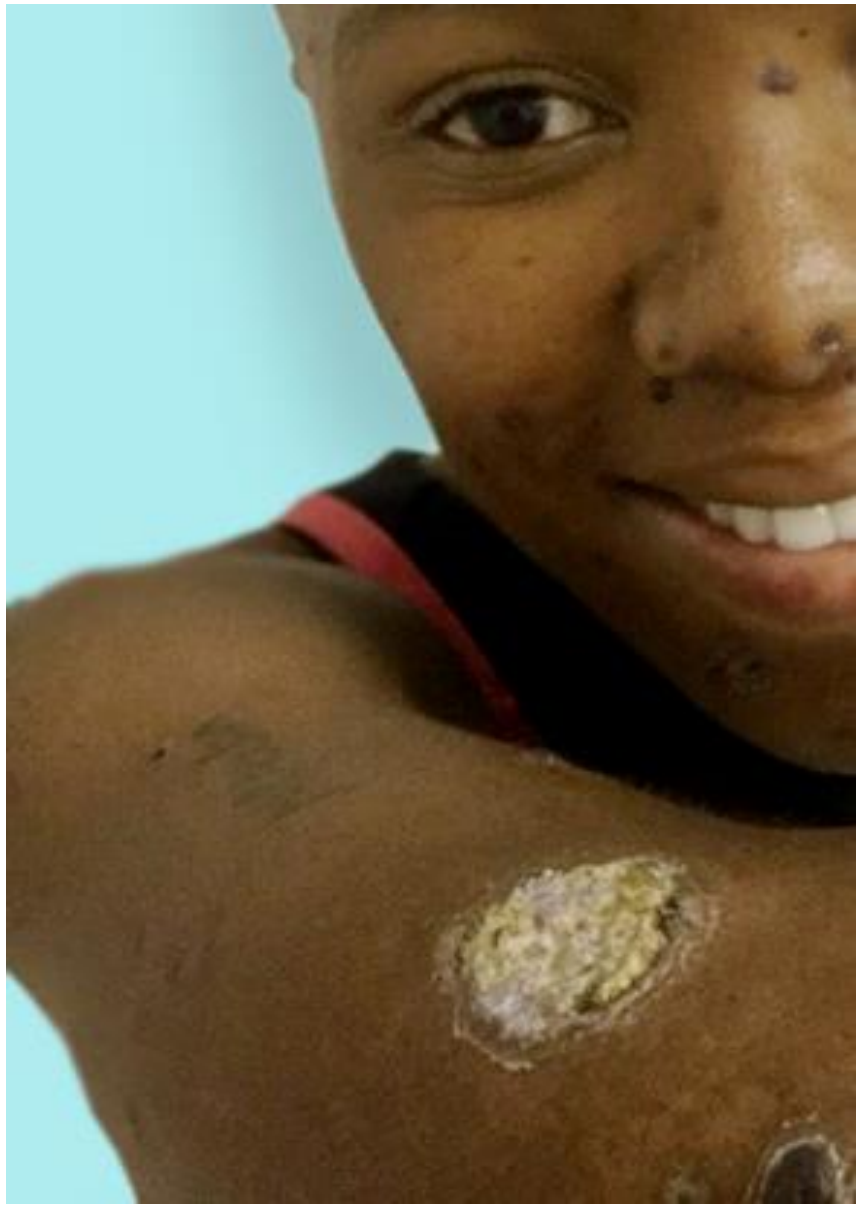


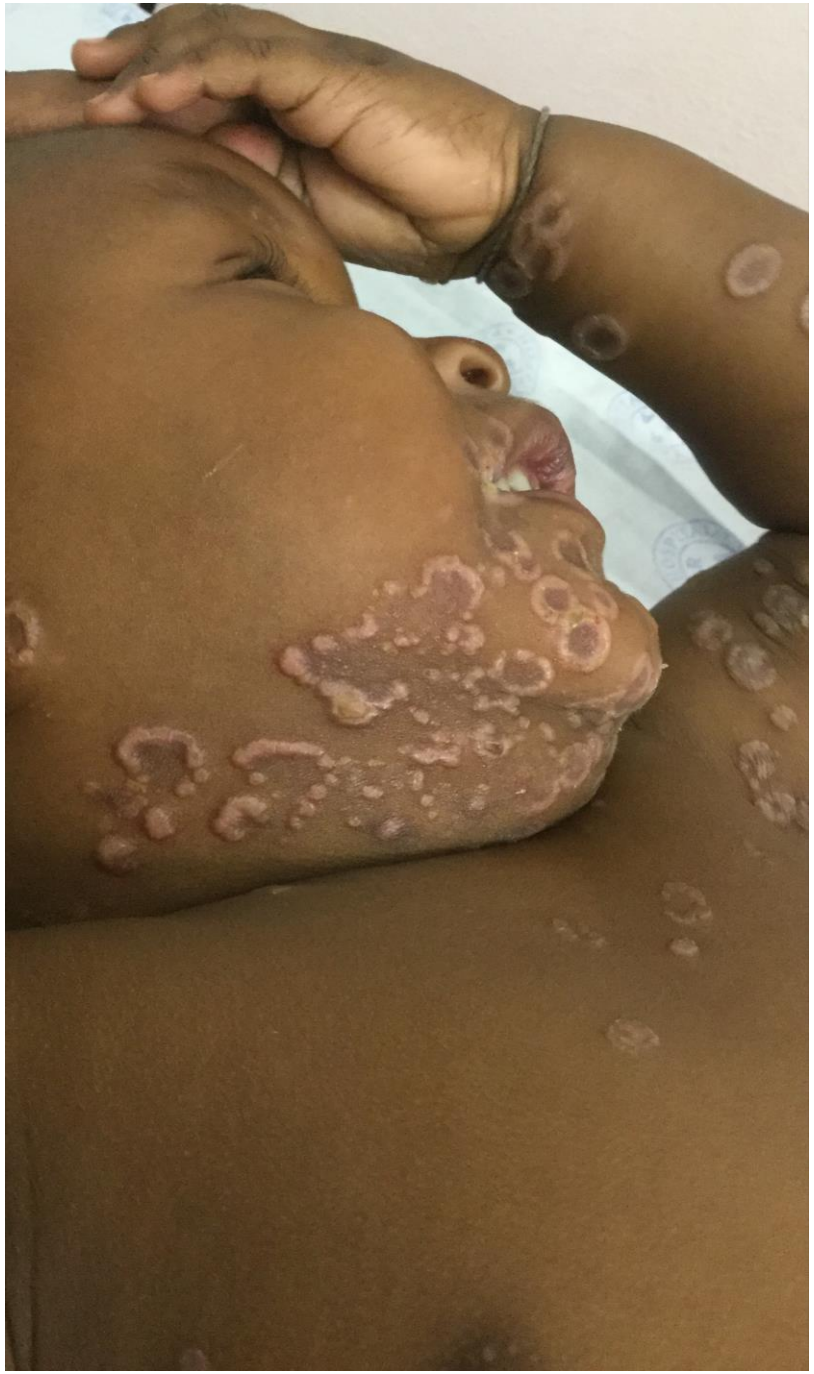
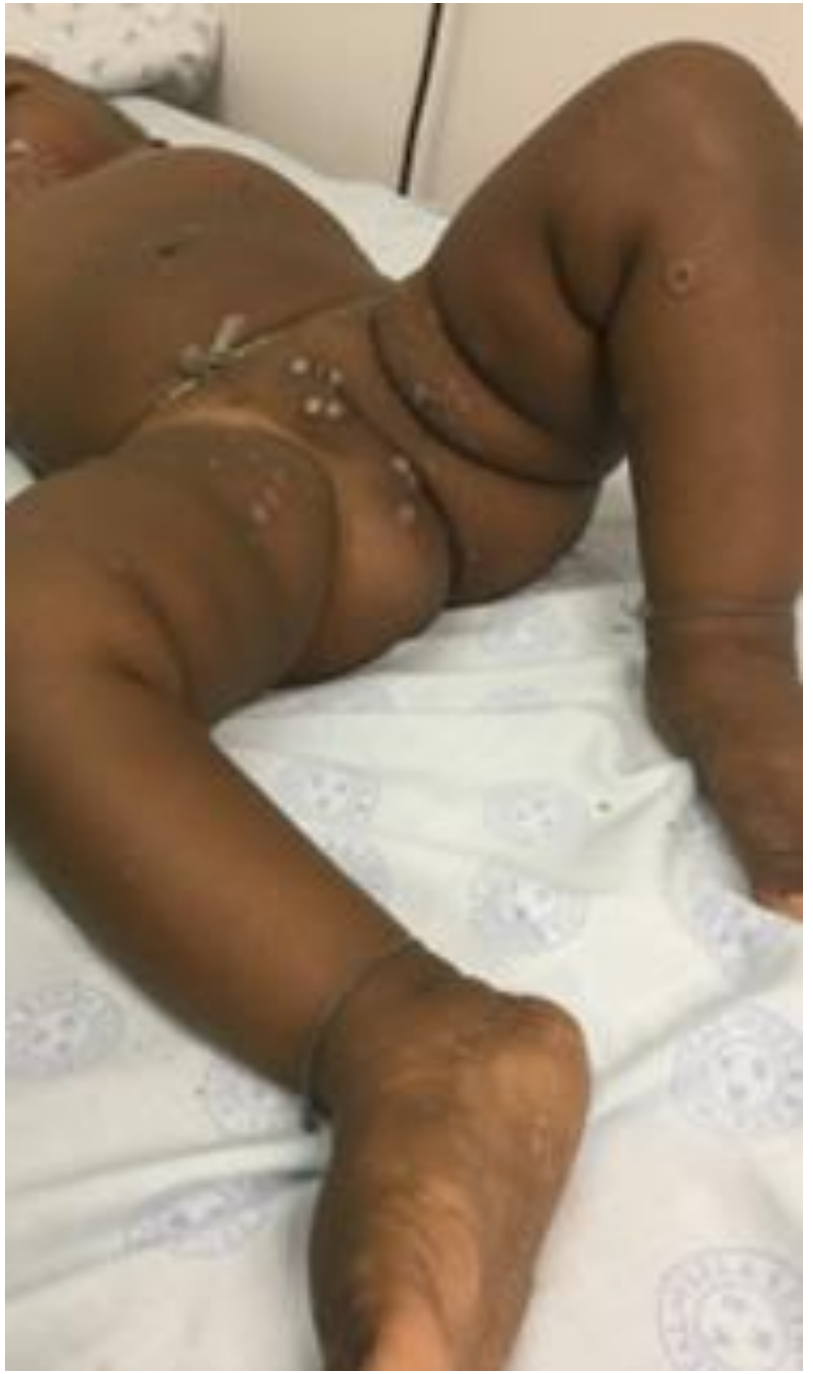


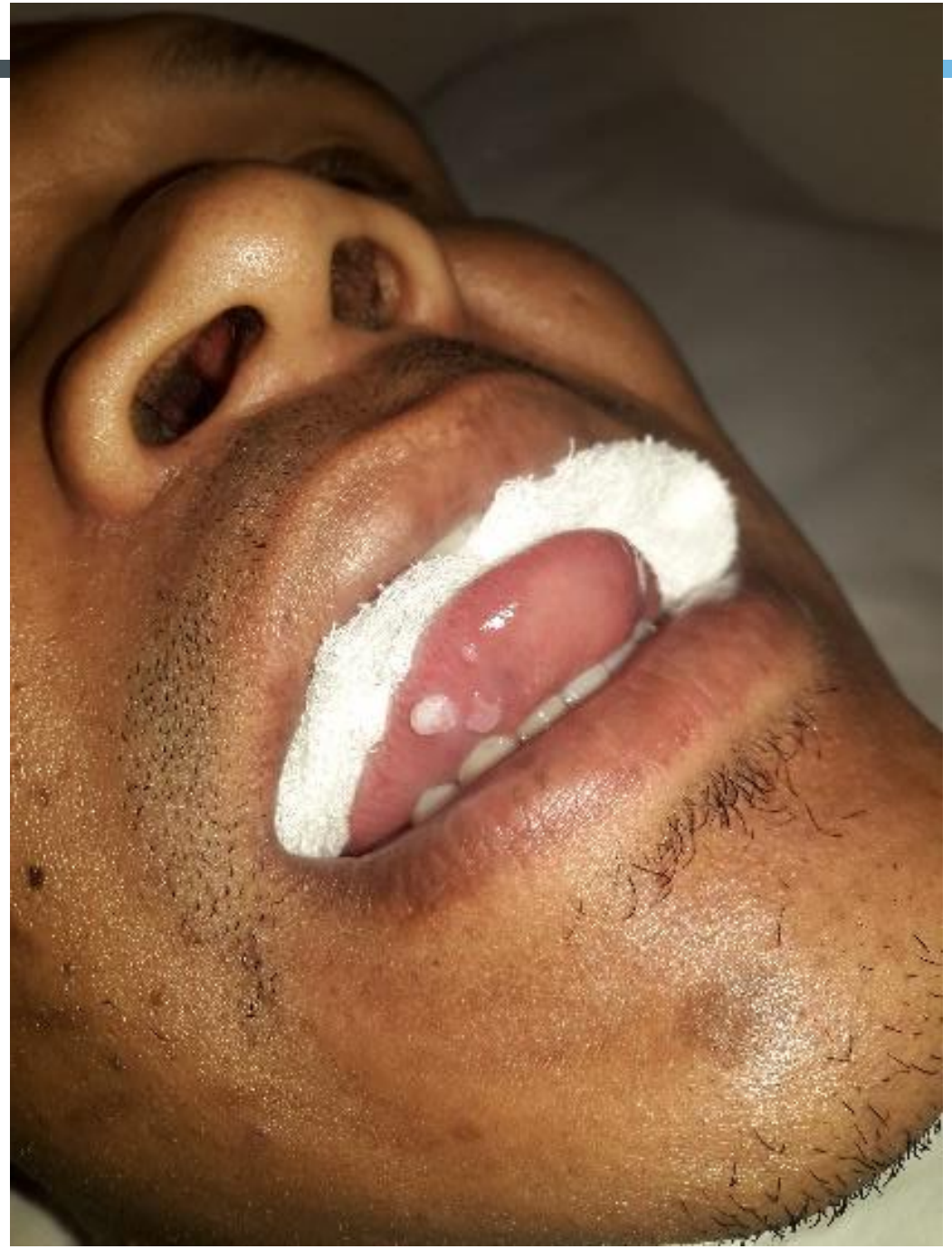


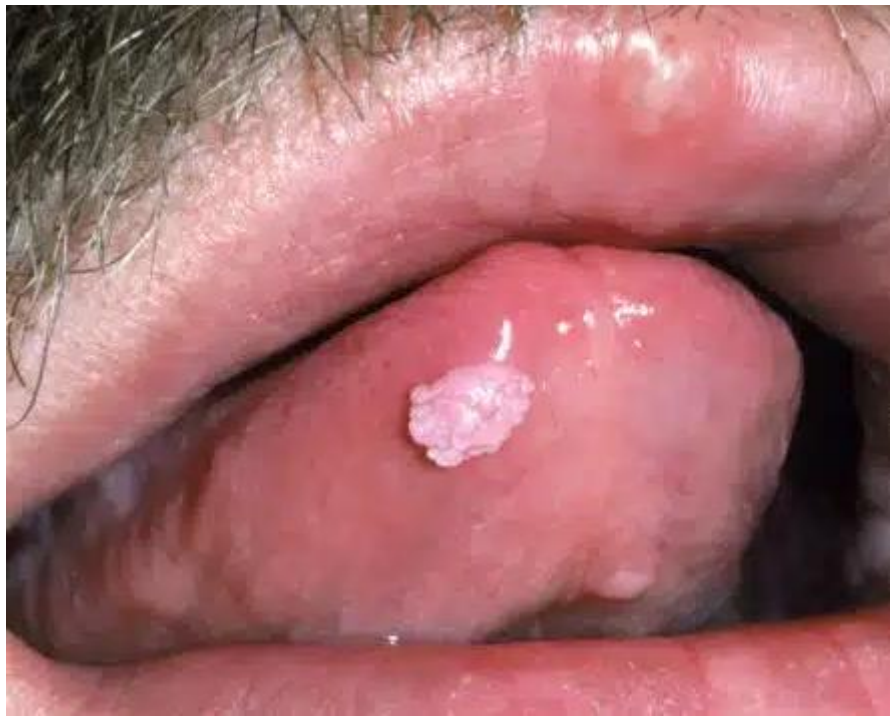






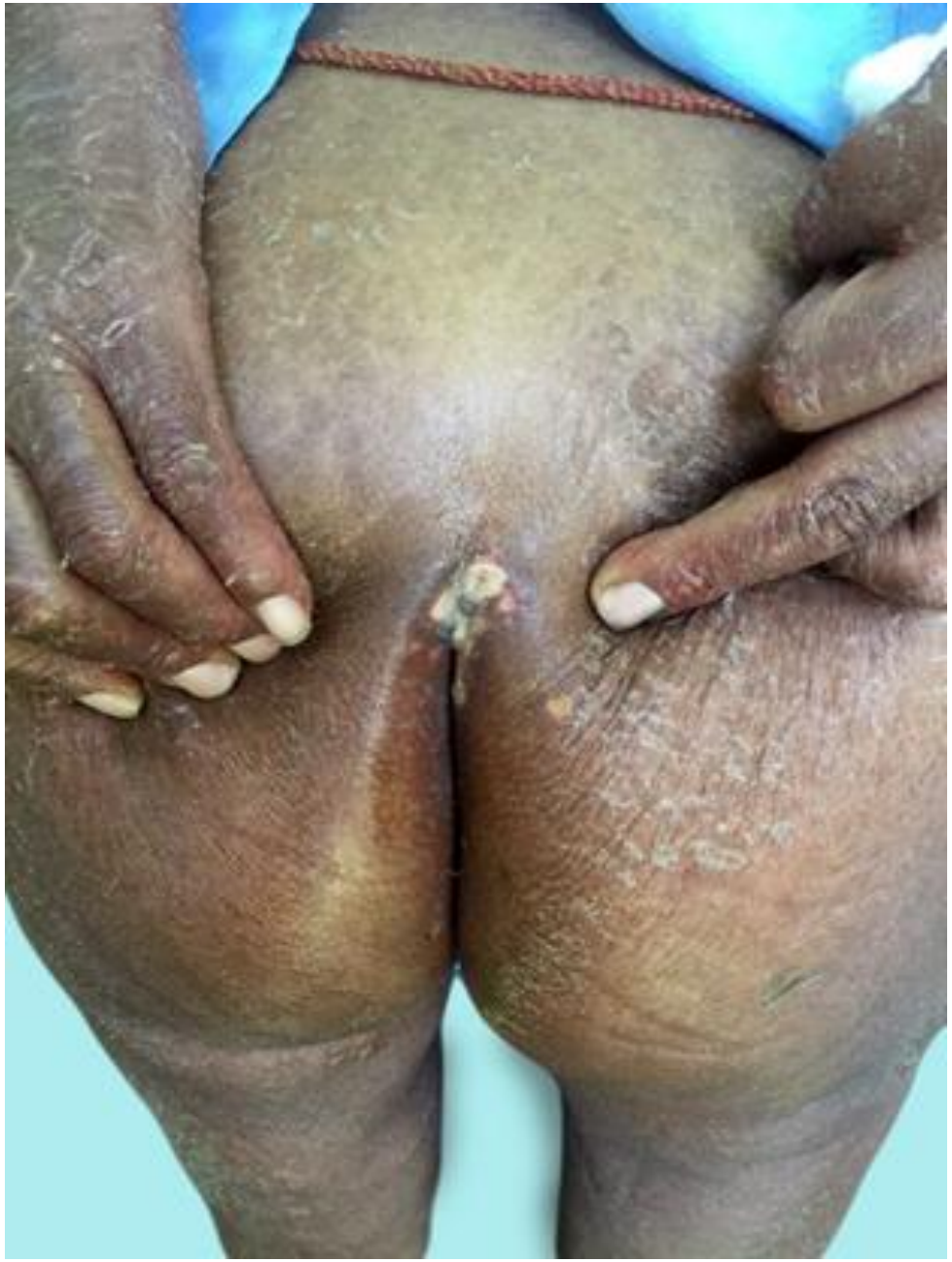




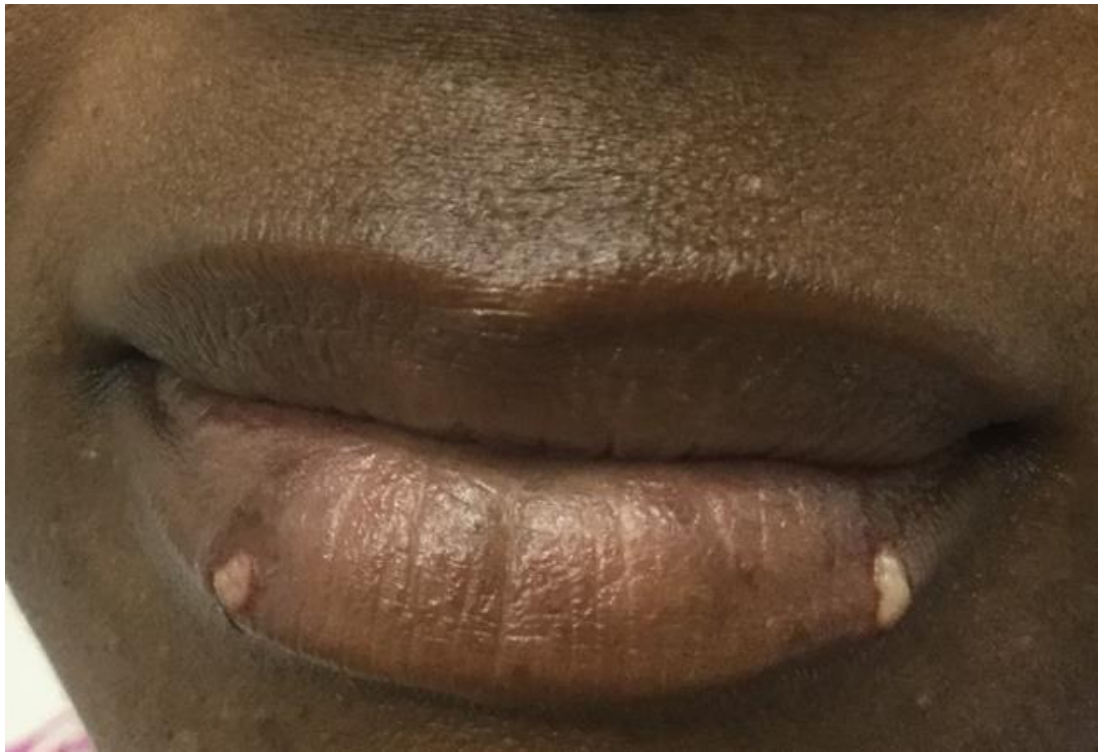


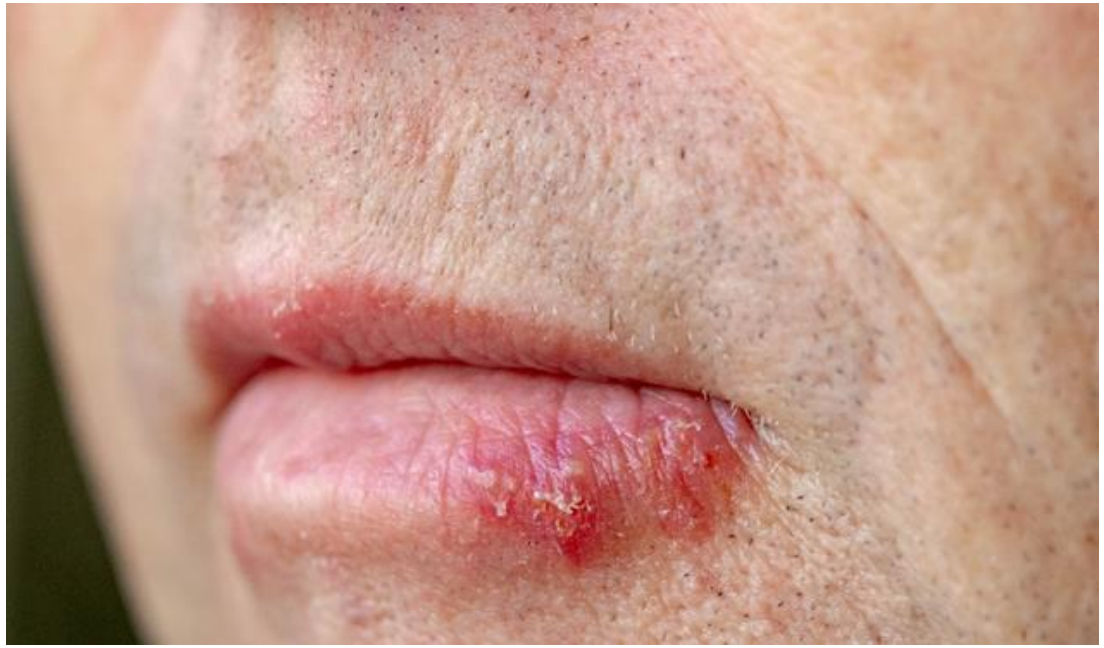


GENITAL HERPES

- Clinical manifestation can vary greatly, from asymptomatic to a prodrome of general malaise, tender lymphadenopathy, fever and **localised pain**.
- Initially, patients can complain of a burning painful sensation. An erythematous papule then develops, later becoming a vesicle resting on an erythematous base.
- Infections tend to be **recurrent**, later even forming a pustule which can ulcerate then form a superficial crust.
- The duration of the evolution of the skin lesions can last up to ten days, resolving with pigmentary changes.





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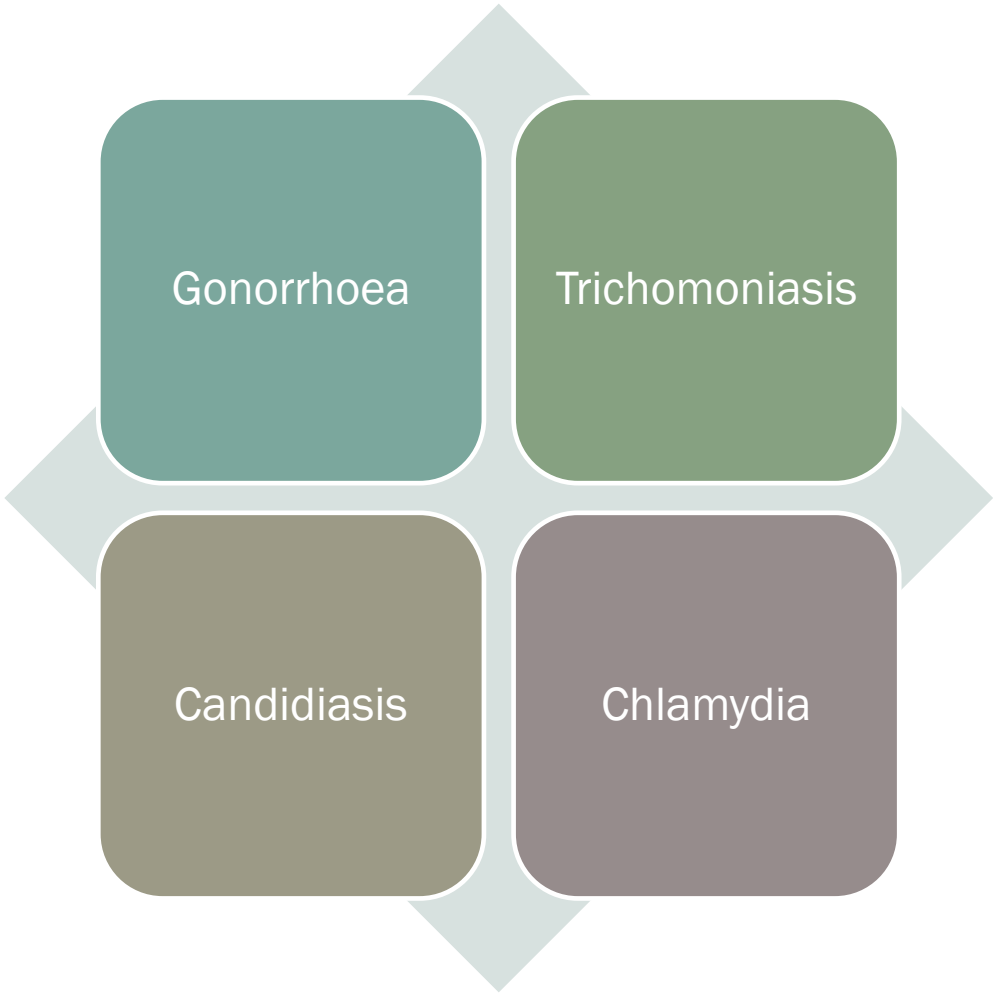
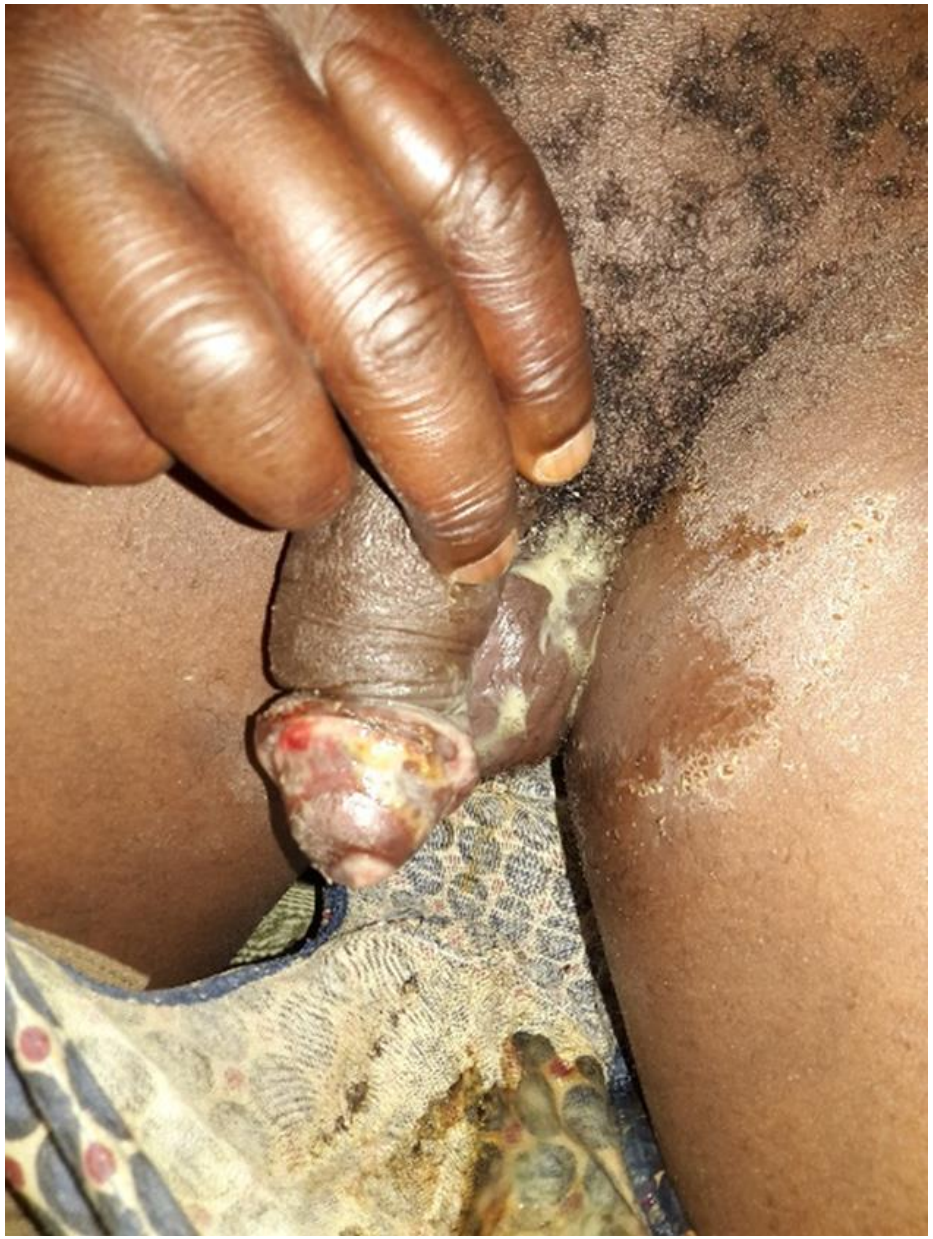
COMMON DISCHARGE STI





GONORRHOEA

- Neisseria gonorrhoeae.
- The incubation period is on average two to seven days.
- Gonorrhoea is asymptomatic in 10–15% of men and in up to 80% of women.
- The common sites of infection are the mucous membranes of the urethra, endocervix, rectum, pharynx and conjunctiva.
- Mother to child transmission > Conjunctivitis

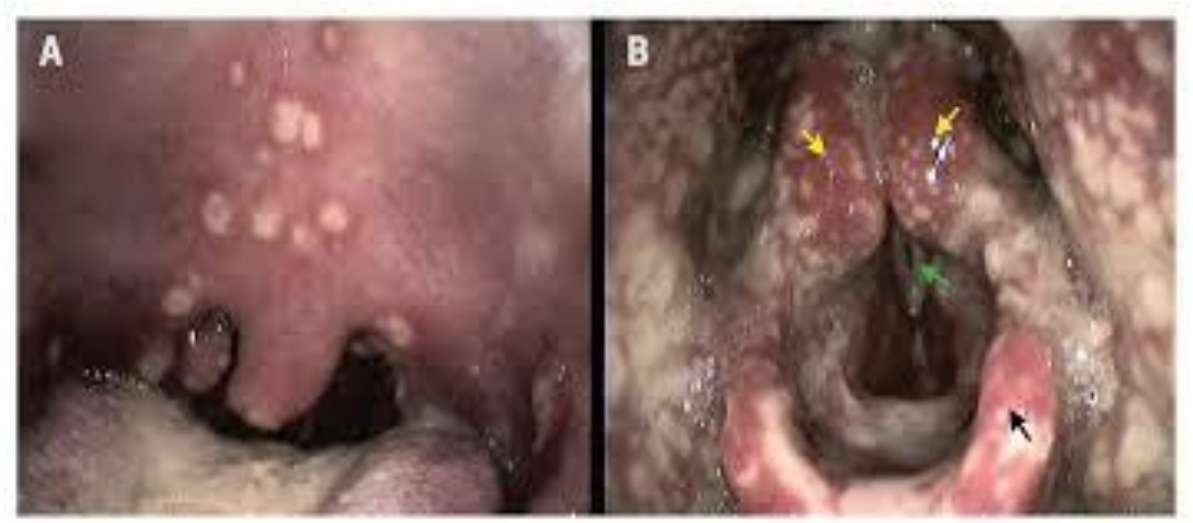
PHARYNGEAL INFECTION IS BECOMING INCREASINGLY COMMON PARTICULARLY IN MEN WHO HAVE SEX WITH MEN (MSM) AND IS LARGELY ASYMPTOMATIC.

Males

- Painful urination (dysuria)
- Urethral discharge (often mucopurulent)
- Testicular discomfort and swelling due to epididymo-orchitis
- Anal discomfort and discharge due to proctitis)

Females

- Increased vaginal discharge
- Lower abdominal pain which may be due to pelvic inflammatory disease (PID)
- Dysuria
- Tender periurethral glands and Bartholin glands
- Anal discomfort and discharge due to proctitis



Complications in females

- Pelvic inflammatory disease (endometritis, salpingitis, tubal-ovarian abscess).
- Scarring of the female upper genital tract can lead to chronic pelvic pain, ectopic pregnancy and infertility.

Complications in males

- Epididymo-orchitis
- Urethral strictures

Pregnancy and neonatal infection

- Miscarriages
- Preterm delivery
- Postpartum endometritis
- Vertical transmission from mother to child can cause neonatal conjunctivitis
- More rarely, bacterial sepsis.

Conjunctival infection

- Adult conjunctivitis can occur from auto-inoculation and is less common than neonatal conjunctivitis.
- Conjunctival gonococcal infection can result in scarring, permanent visual impairment and blindness.

Disseminated gonococcal infection

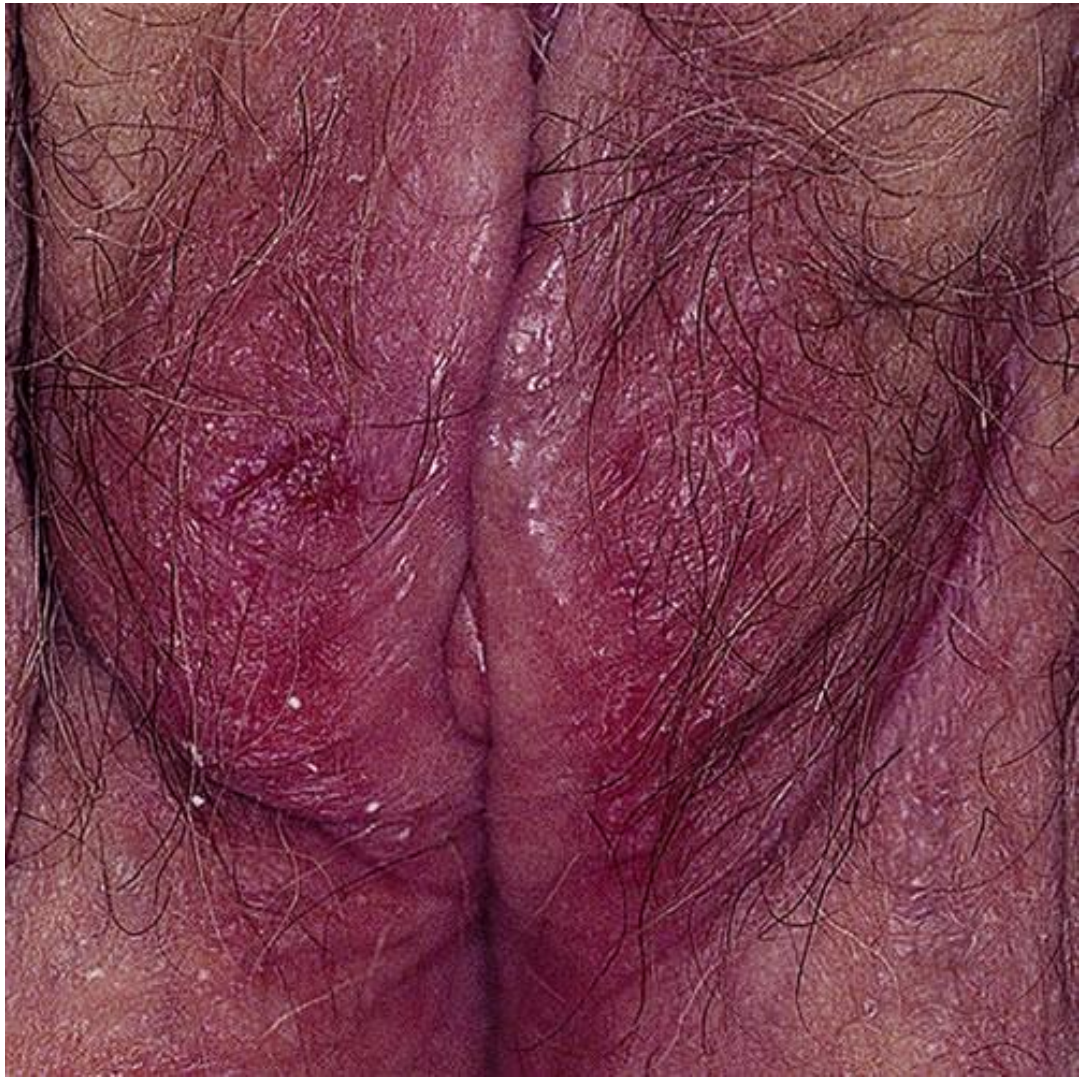
- 0.5–3% of infected individuals.
- A spectrum of symptoms include:
  - Tenosynovitis
  - Skin lesions
  - Polyarthralgia and oligo-arthralgia, or purulent arthritis
  - Constitutional symptoms (such as fever chills and malaise

Very rare complications of gonococcal infection include meningitis endocarditis, osteomyelitis and vasculitis.

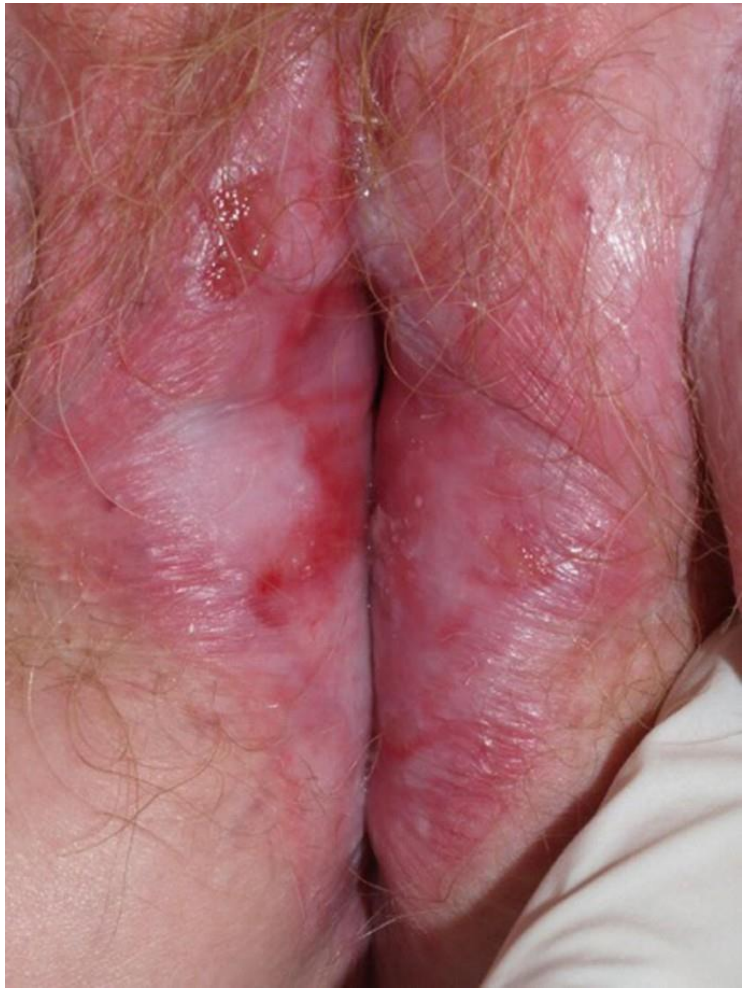
The treatment of uncomplicated gonorrhoea should be started as soon as possible to prevent further complications. The recommended empirical regime for the treatment of Neisseria gonorrhoea is **ceftriaxone 500 mg by intramuscular injection plus azithromycin 1 g orally**. The addition of azithromycin is important, as dual therapy is thought to limit the emerging **resistance** that is beginning to occur with ceftriaxone alone. Azithromycin will also treat a concurrent chlamydia infection.

CANDIDIASIS

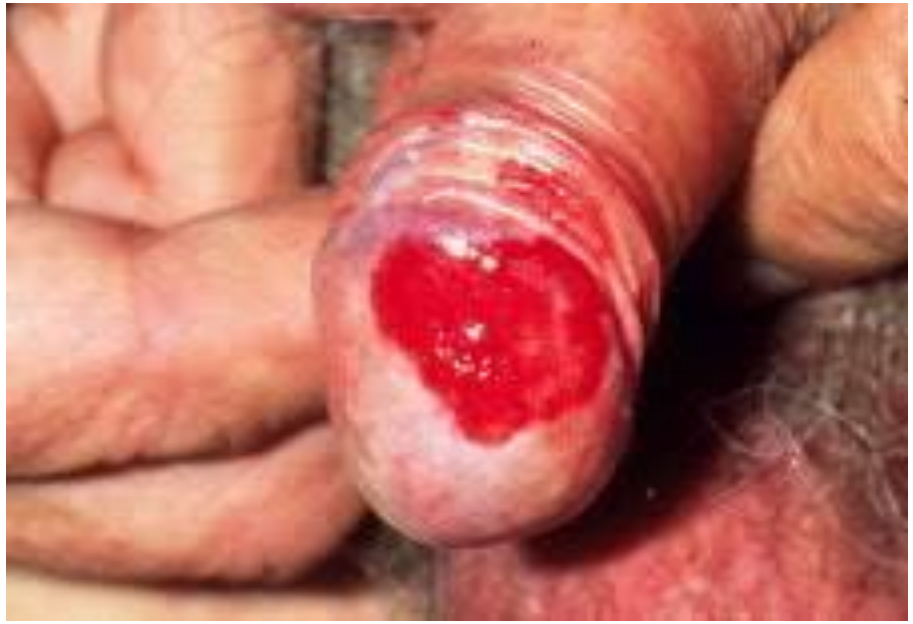
- *Candida albicans*, a polymorphic opportunistic fungus; vulvovaginitis secondary to candidiasis is also known as vaginal candidiasis.
- Candidal **vulvovaginitis** is responsible for about one-third of vulvovaginitis occurrences.
- Typical clinical features include vulvar and vaginal erythema, excoriations, thick white adherent discharge, and swelling.
- The condition is primarily diagnosed by clinical examination and diagnostic studies, including vaginal wet prep, pH testing, and cultures to exclude other etiologies of vaginal discharge and infection (eg, bacterial vaginosis and gonococcal and chlamydial disease).



CANDIDIASIS



- However, *Candida* is part of the normal flora in many women, identified in 10% of asymptomatic women.
- Therefore, candidal vulvovaginitis requires both the presence of *Candida* in the vagina and associated symptoms (e.g, irritation, itching, dysuria, or inflammation).
- Approximately 70% of women report having had candidal vulvovaginitis in their lifetime.
- An estimated 8% of women suffer recurrent candidal vulvovaginitis.
- The most common responsible pathogen is C. albicans, accounting for 90% of cases, with most of the remaining cases caused by Candida glabrata. Because over-the-counter treatments are widely available, candidal vulvovaginitis is under-reported; therefore, detailed epidemiological data for this disease process is unavailable.
- 10% of asymptomatic women have positive candidal cultures, overestimate the disease incidence



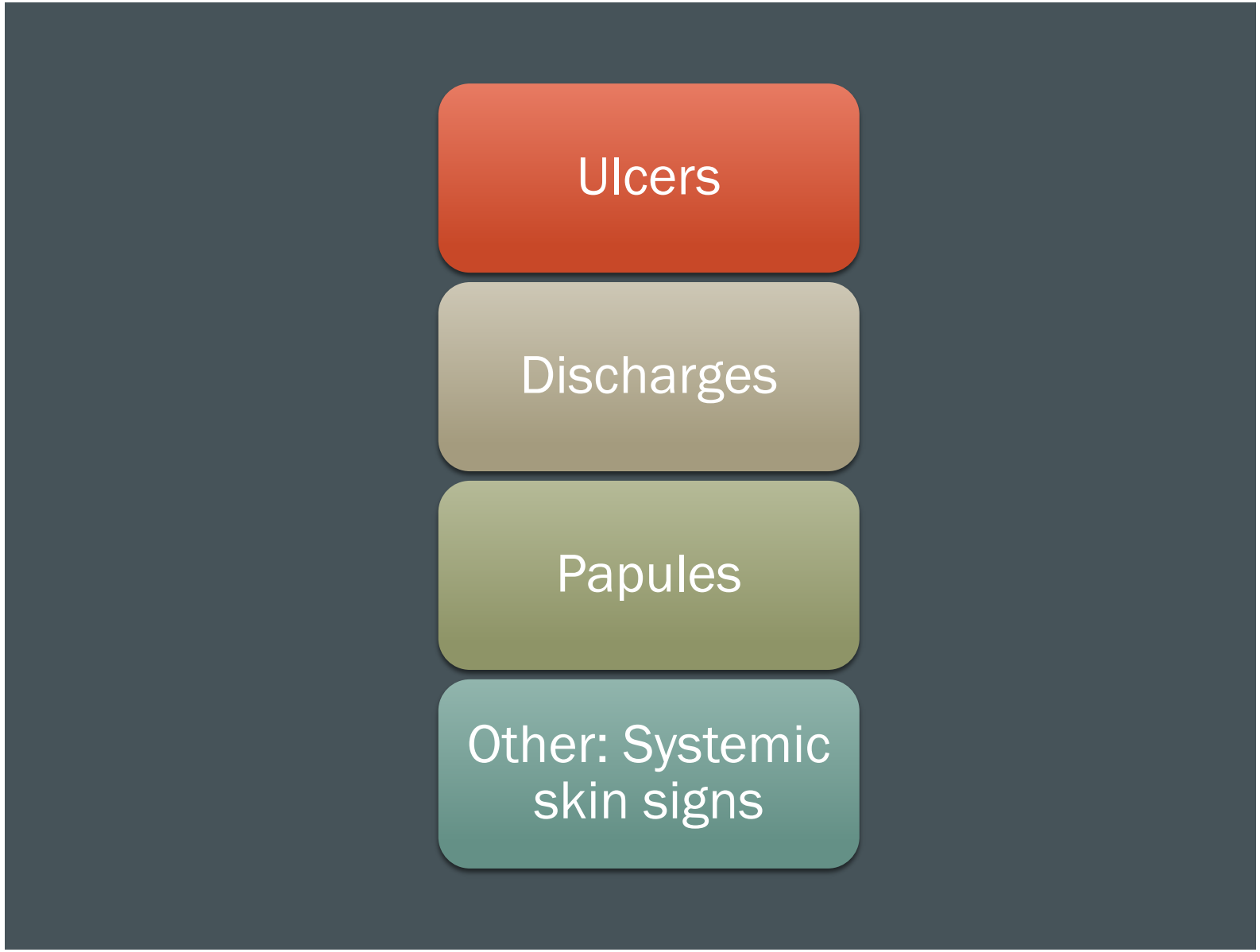
RISK FACTORS FOR CANDIDIASIS

- Oestrogen use, elevated endogenous oestrogens (eg, pregnancy or obesity),
- Diabetes mellitus,
- Immunosuppression (i.e, chemotherapy or antimetabolite medications,
- HIV infection, or transplant patients),
- **Broad-spectrum antibiotic use.**
- Although candidal vulvovaginitis is more common in sexually active women, evidence that candidal infection is sexually transmitted is lacking

TREATMENT FOR CANDIDIASIS

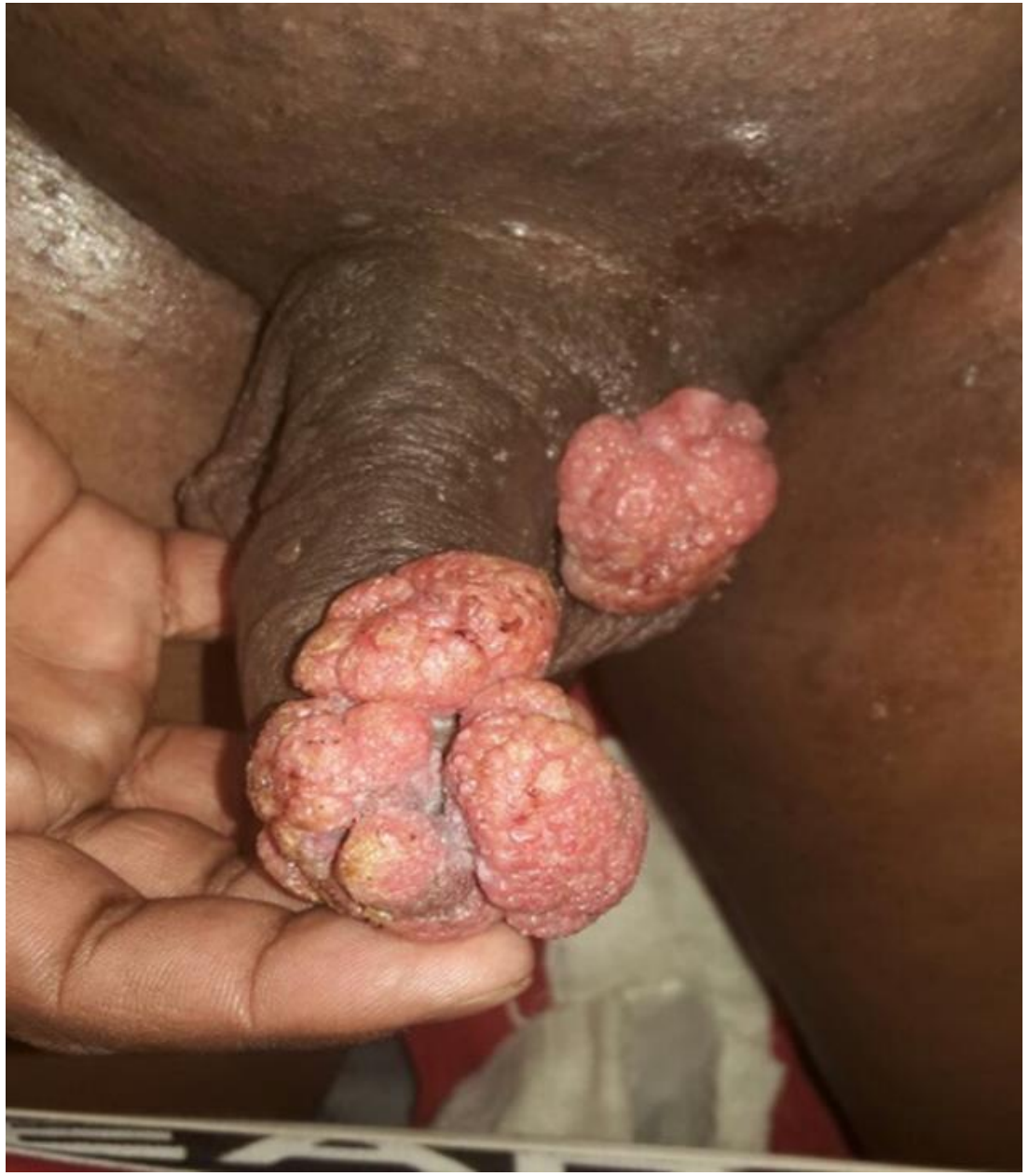
- Azole antifungals, these are the agents of choice.
- Antifungals may be administered through several methods, including a single dose of fluconazole 150 mg orally

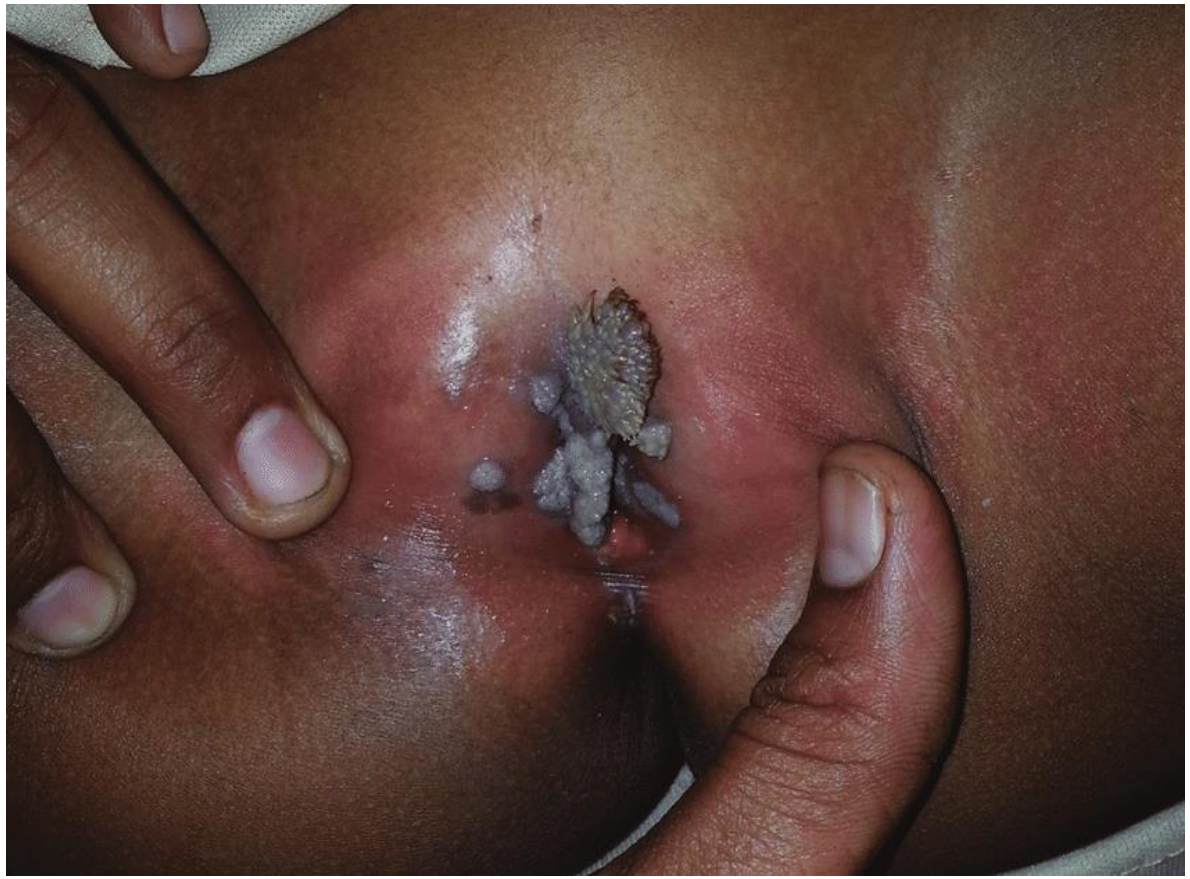
CLASSIFICATION OF SEXUALLY TRANSMITTED DISEASES

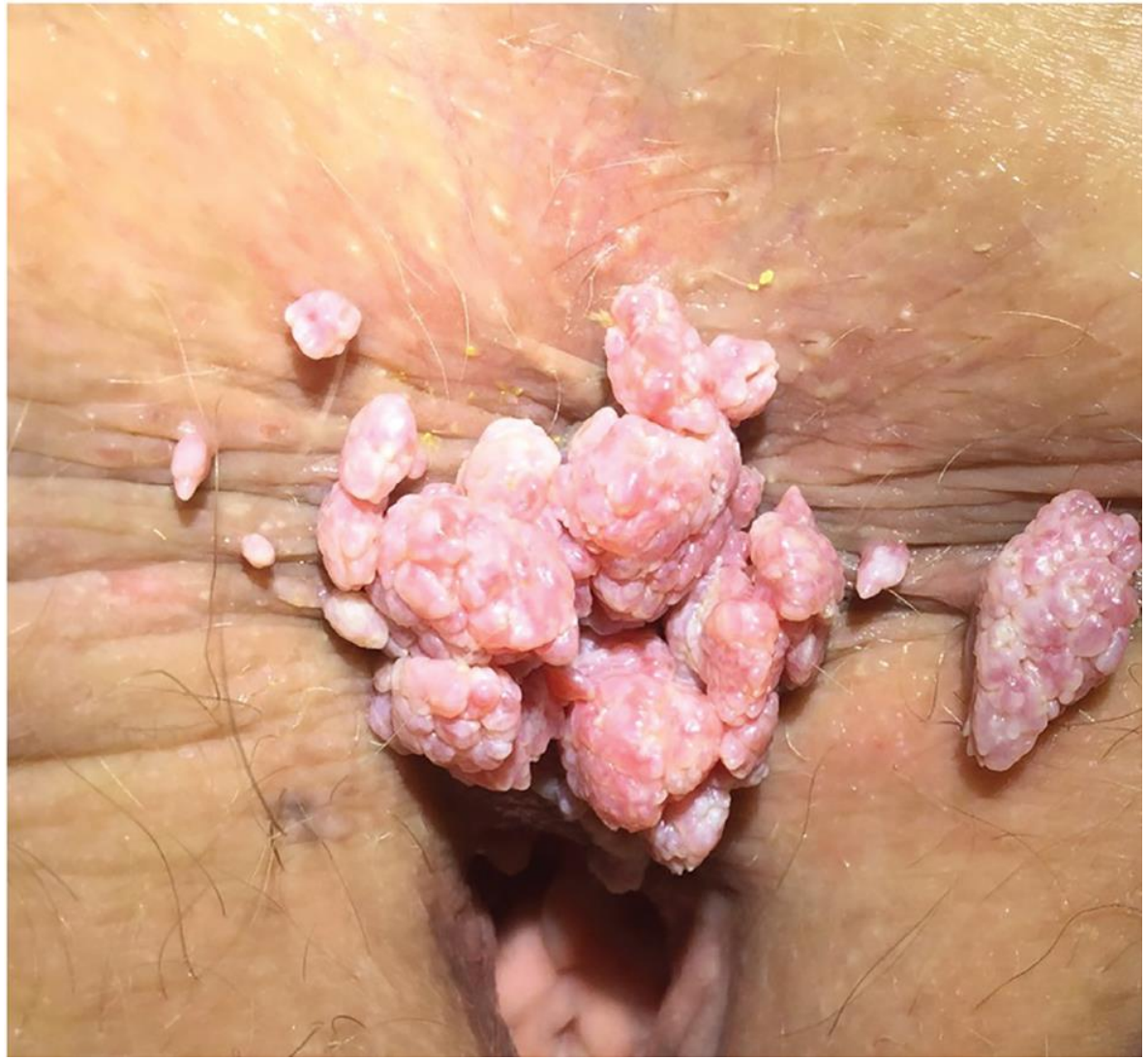


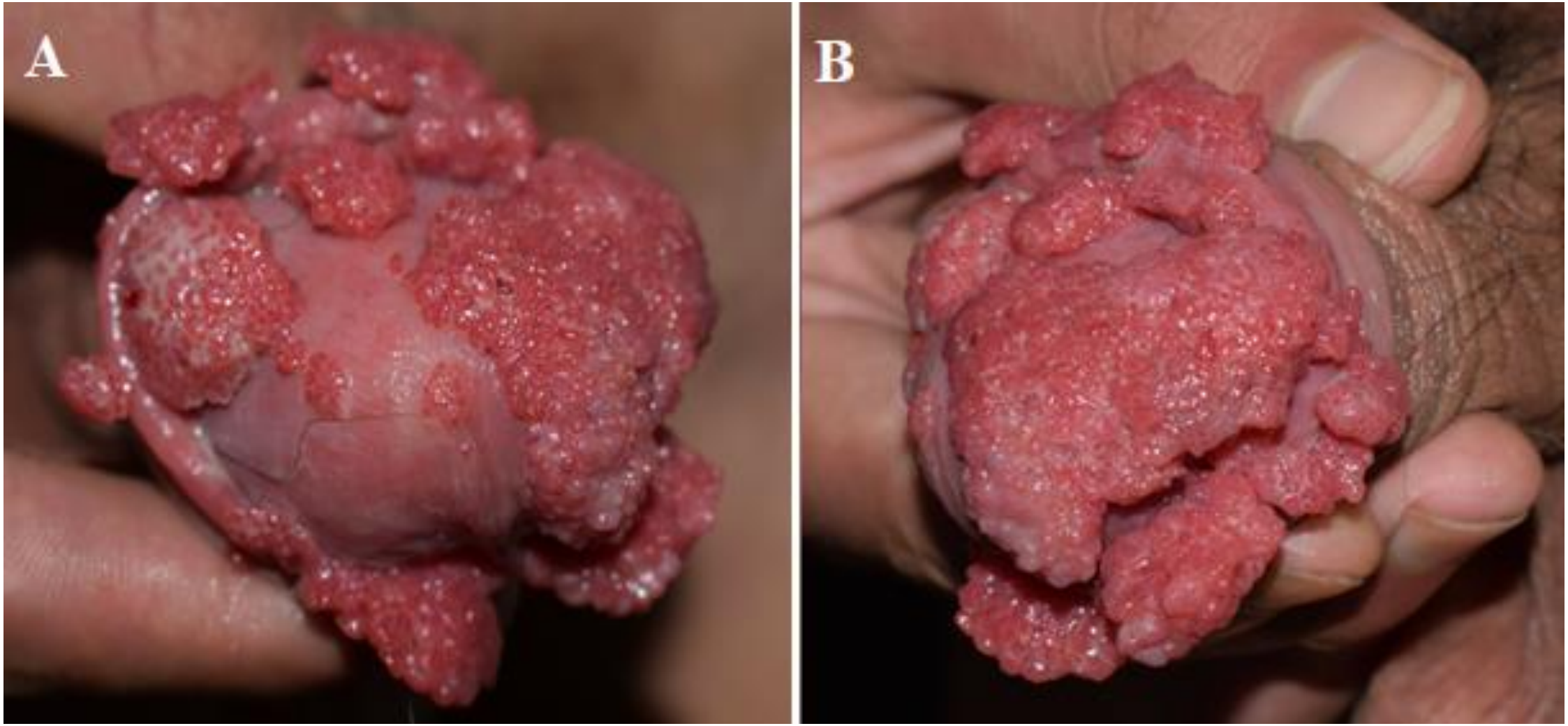
HUMAN PAPILLOMA VIRUS (HPV)

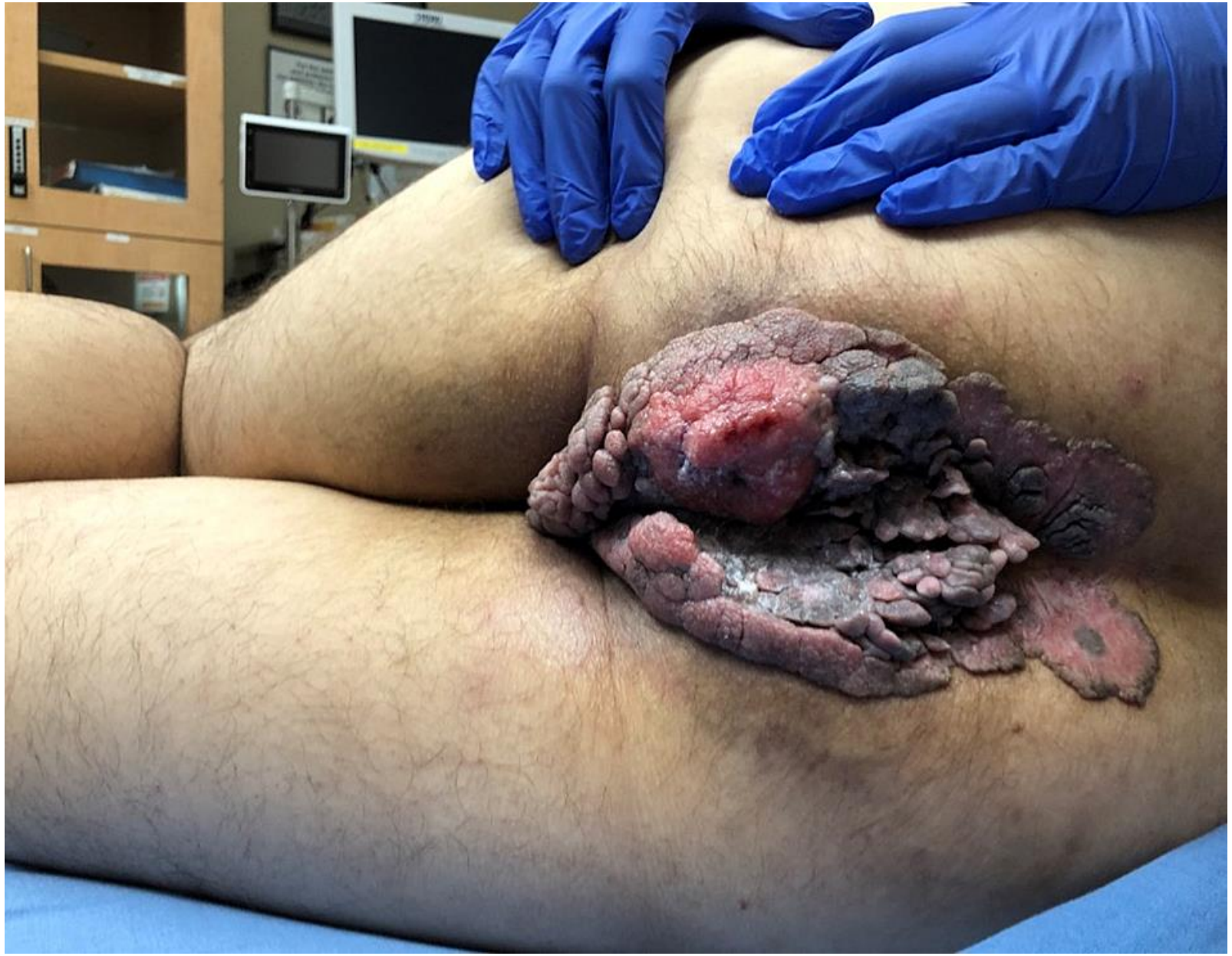
- Asymptomatic, cauliflower floret-like, exophytic papules and nodules.
- Subtype 6 and 11
- After this specific HPV infection, it usually takes up to three months before genital warts can develop.
- If the warts are small, they can resolve without any active treatment, remain unchanged or even grow bigger.
- Even after clinical regression, a subclinical infection may persist for life, rendering the anogenital warts as one of the most prevalent sexually transmitted infections.
- Regression has been found to also increase the risk of recurrences



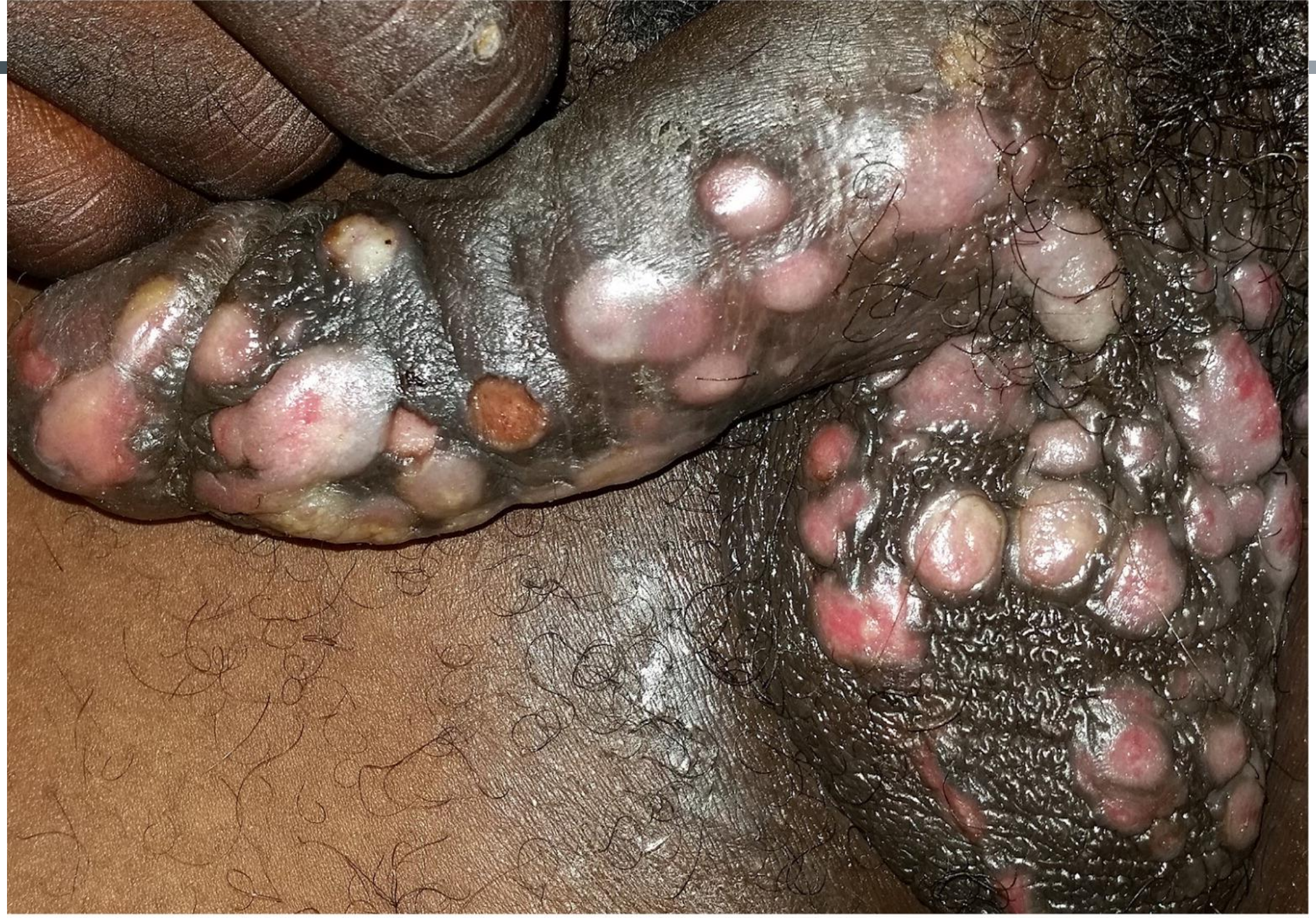


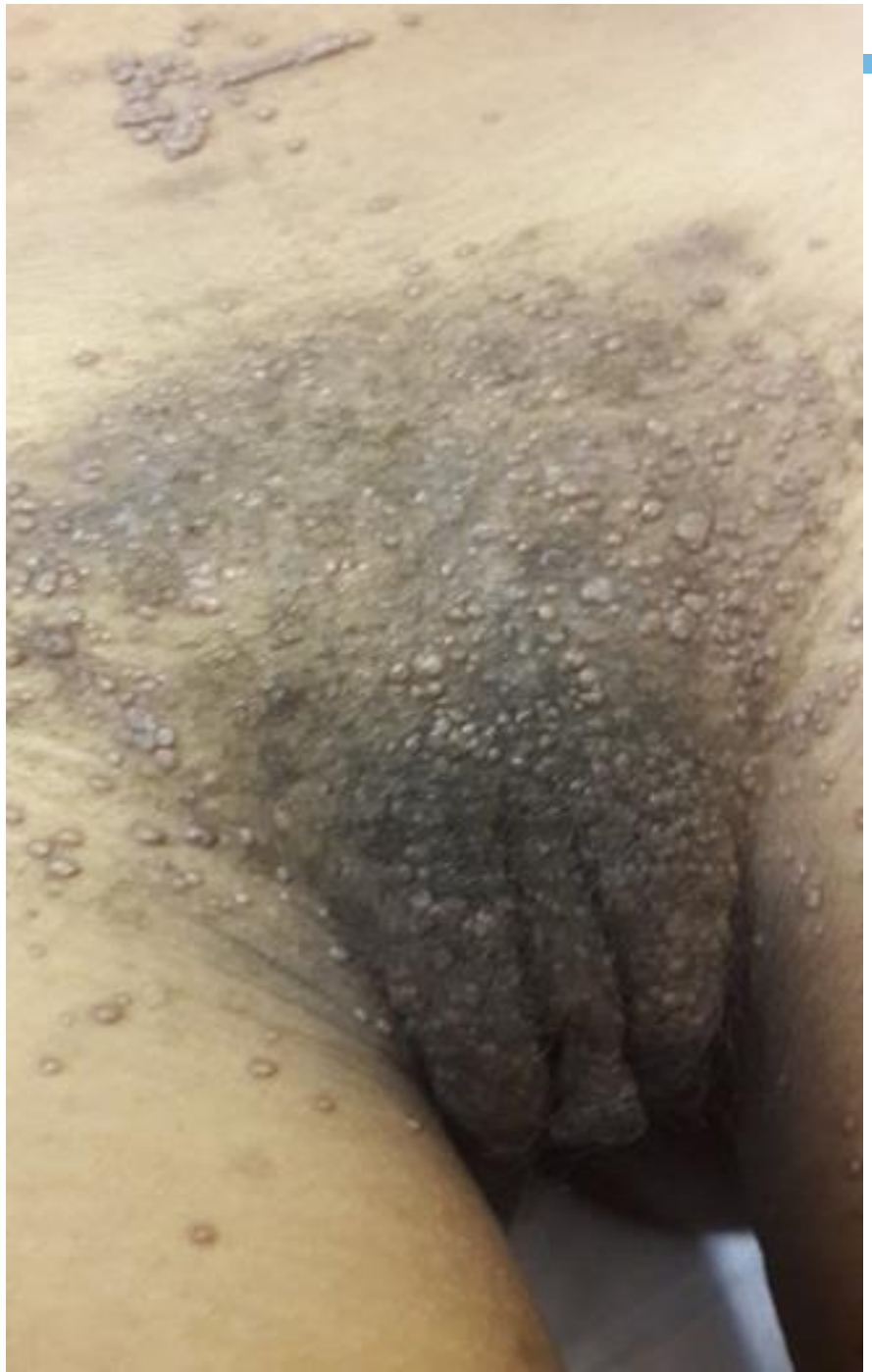


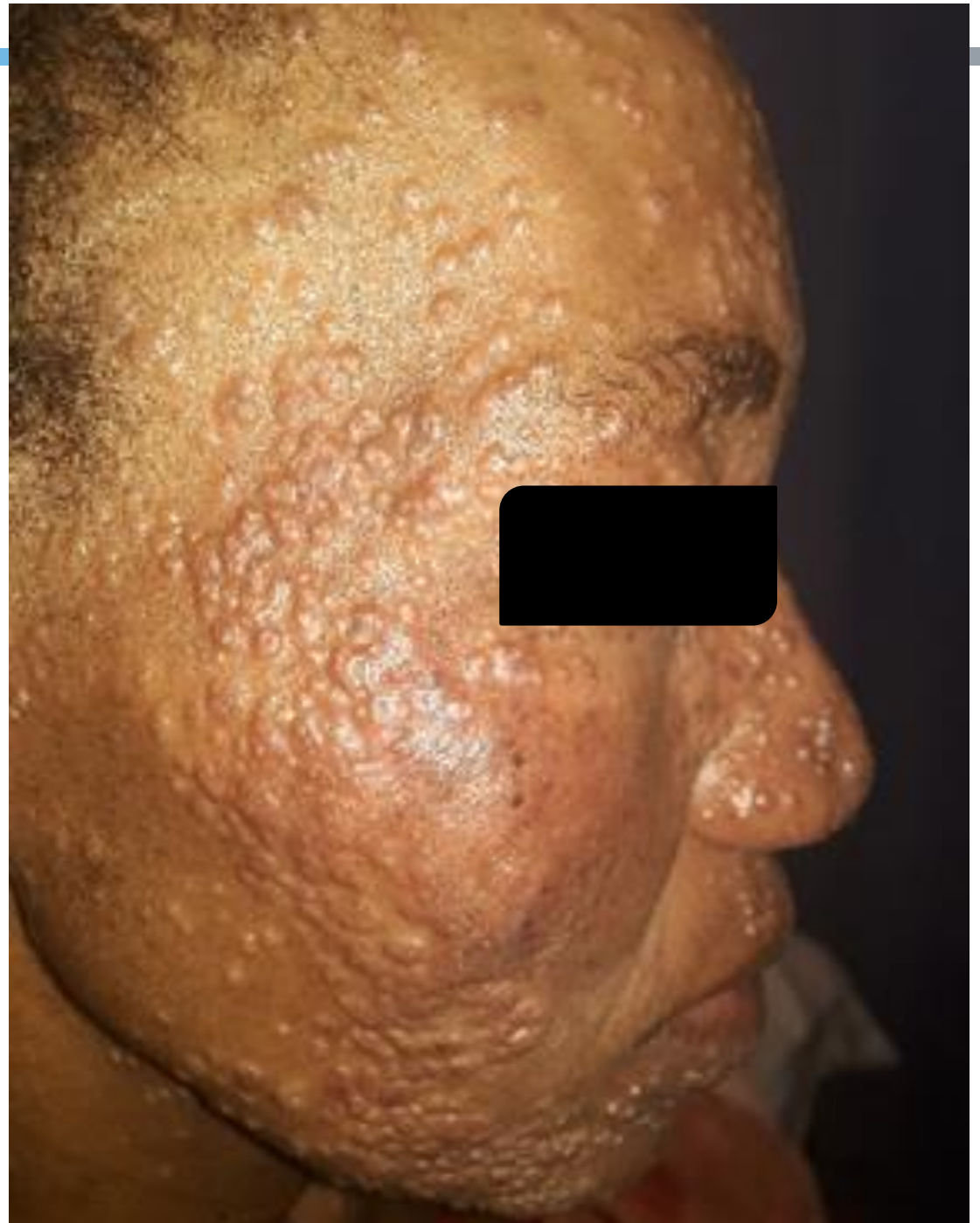

A
B



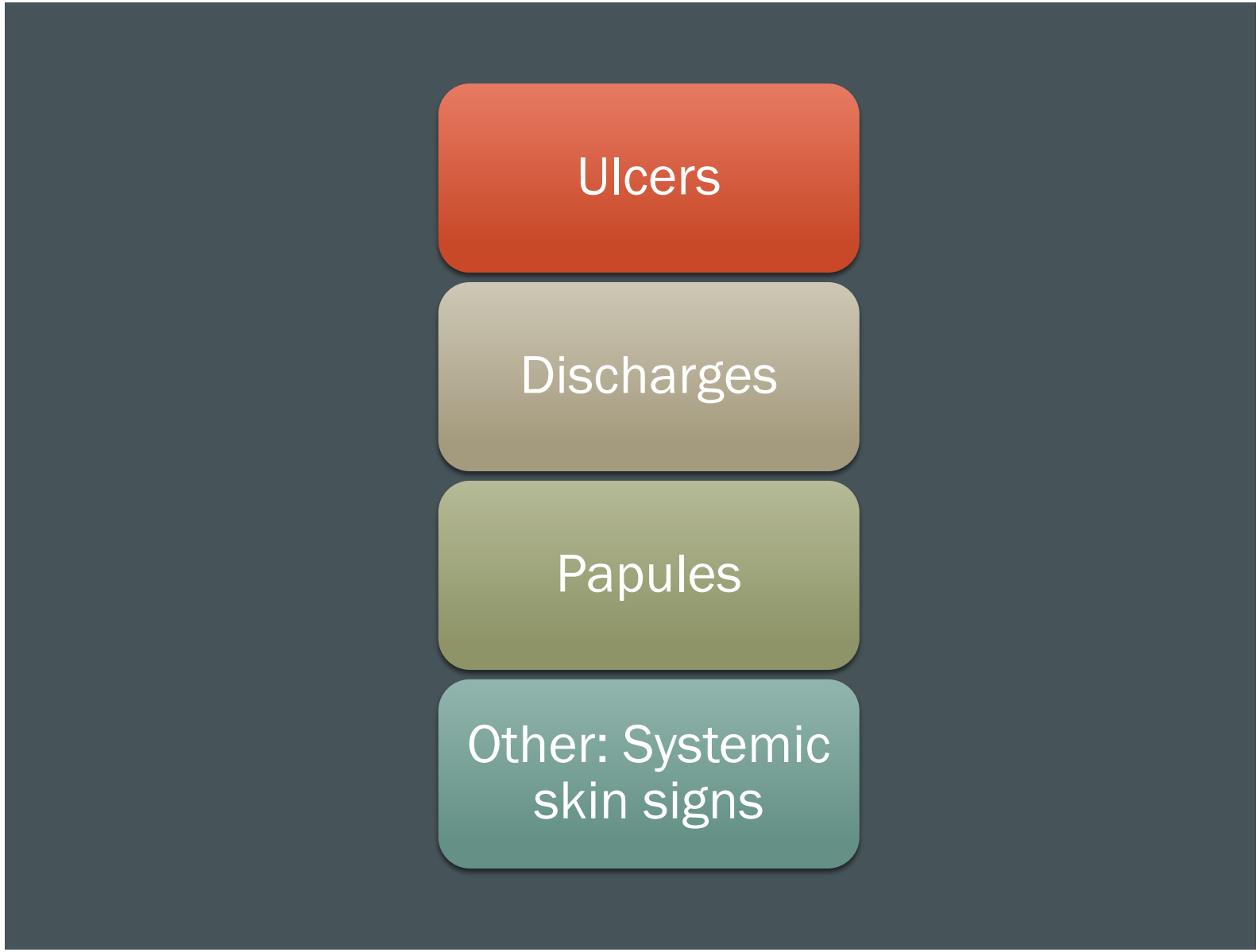
BUSKE-LOWENSTEIN TUMOR







CLASSIFICATION OF SEXUALLY TRANSMITTED DISEASES

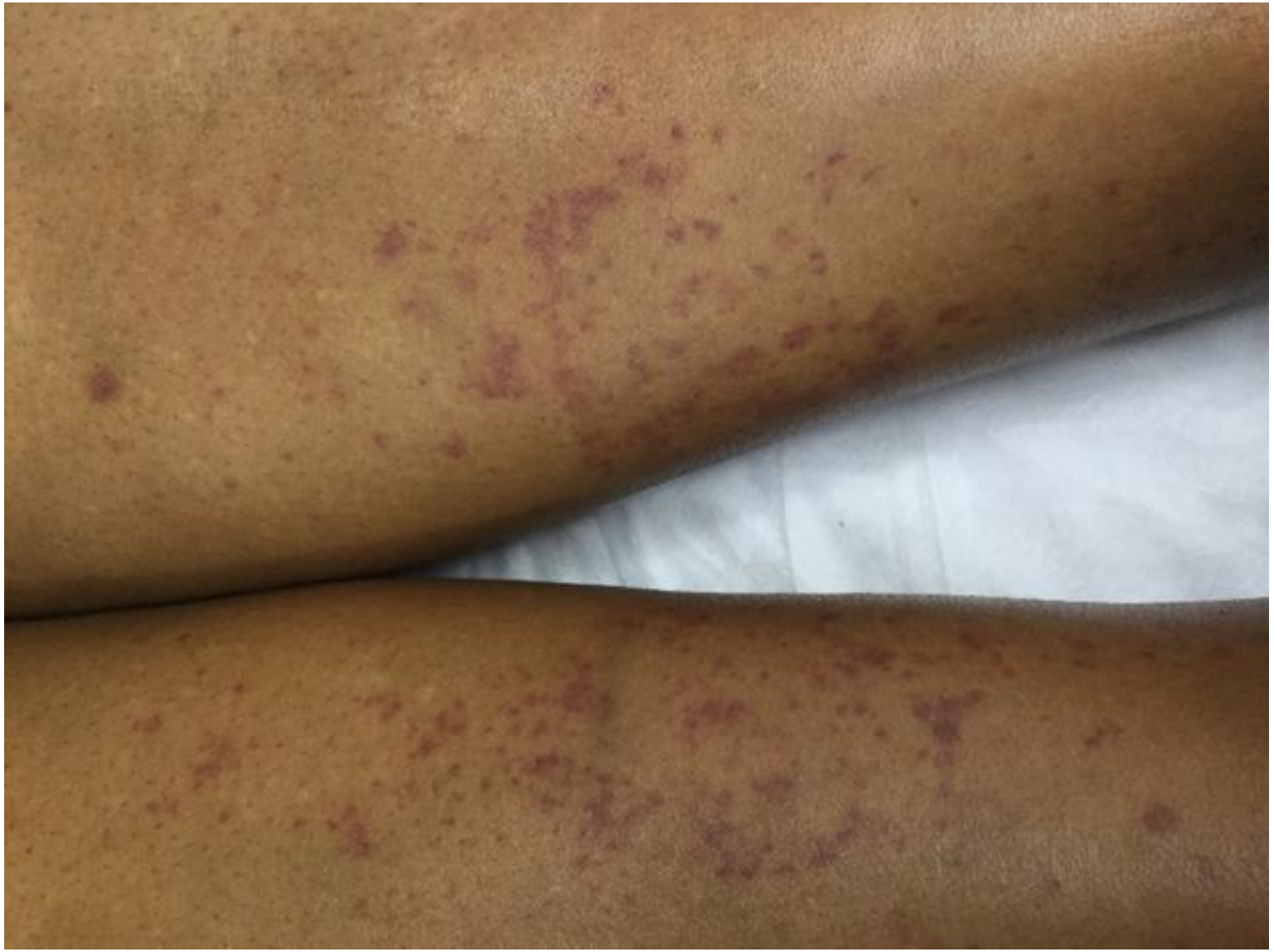


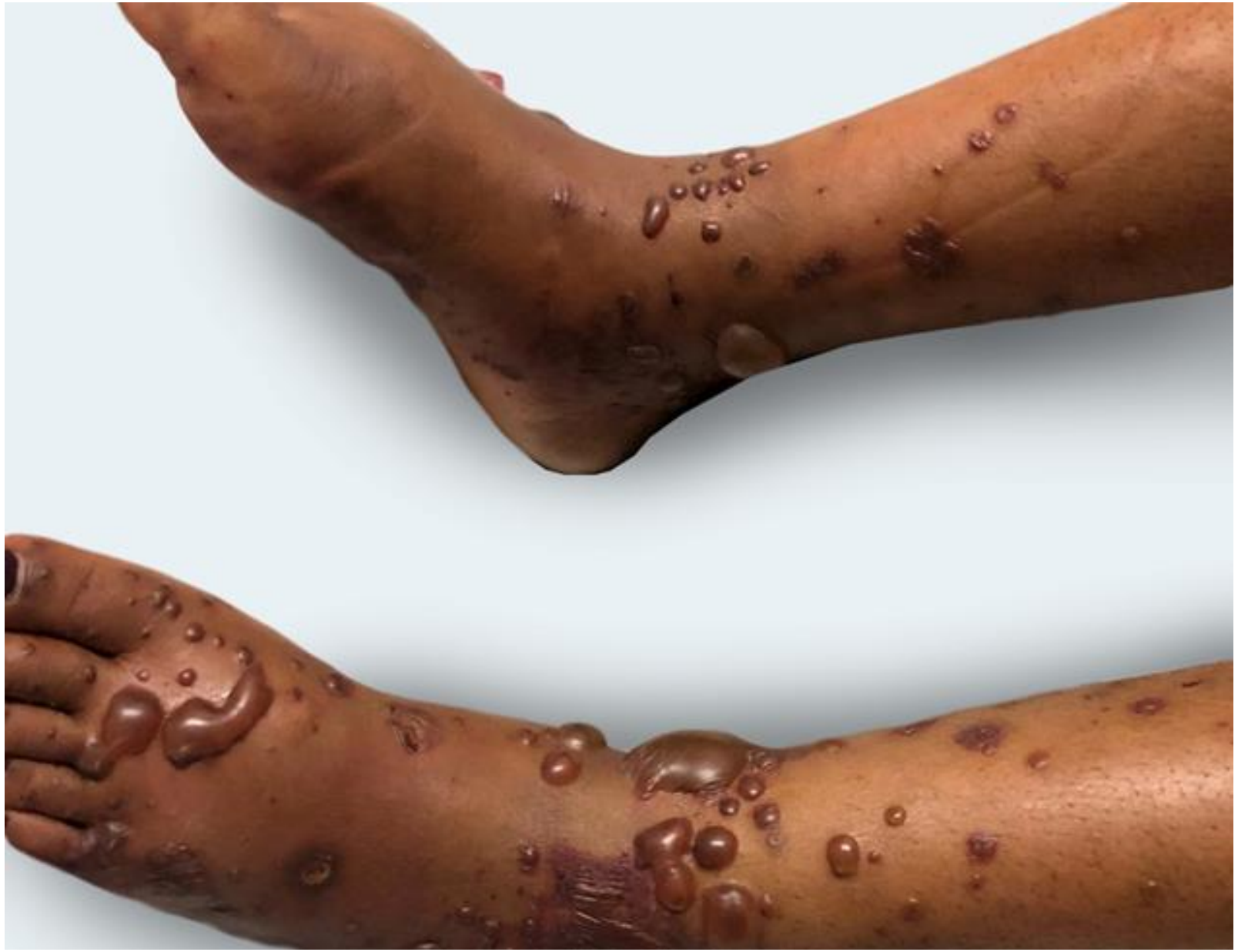
OTHER SEXUALLY TRANSMITTED DISEASES

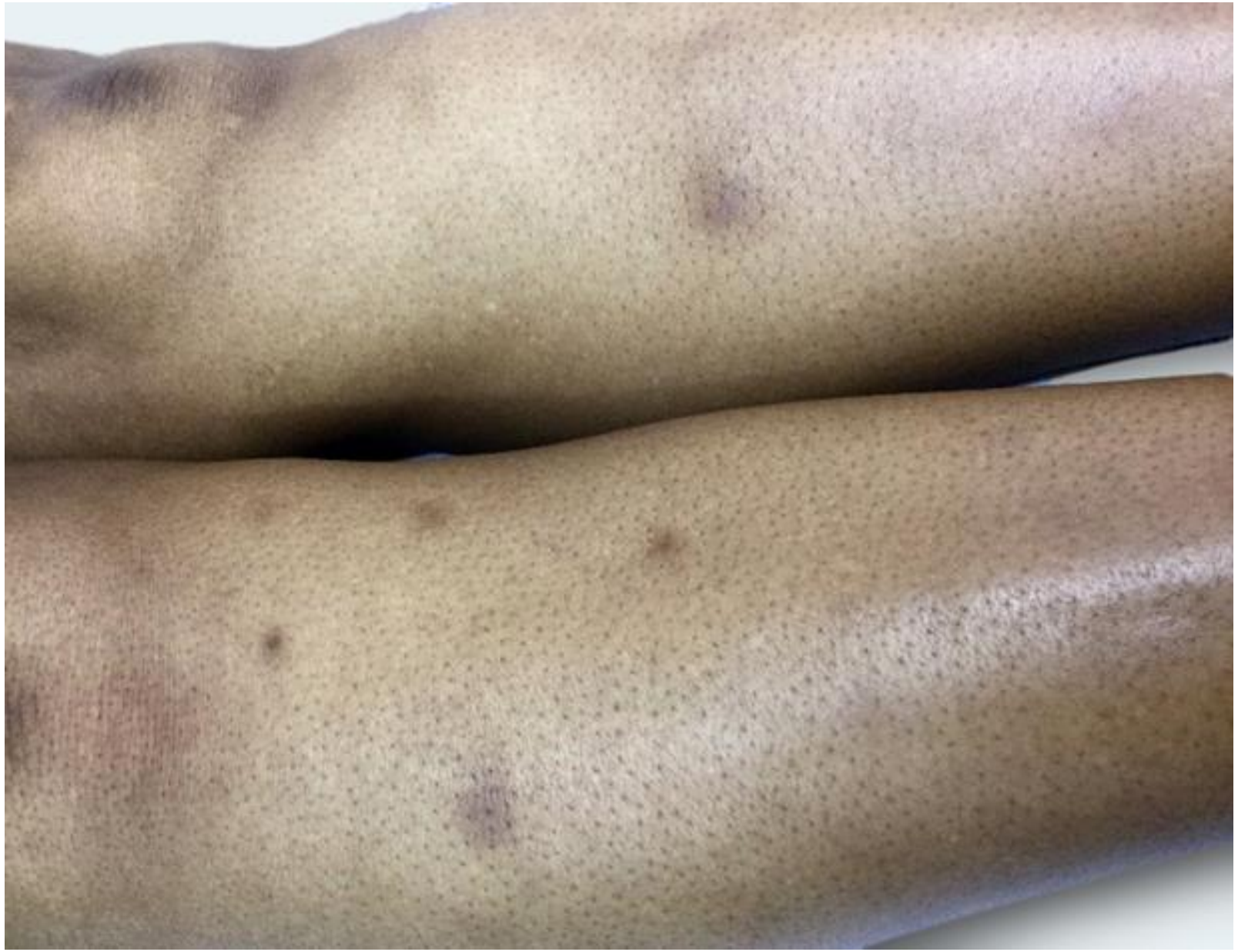
- Hepatitis A, B and C
- HIV

Cutaneous manifestations of hepatitis B and hepatitis C infections:	
Erythema multiforme	Urticarial vasculitis
Erythema nodosum	Pruritus
Lichen planus	Gianotti-Crosti syndrome
Polyarteritis nodosa	Porphyria cutanea tarda
Cutaneous vasculitis	Mixed essential cryoglobulinemia

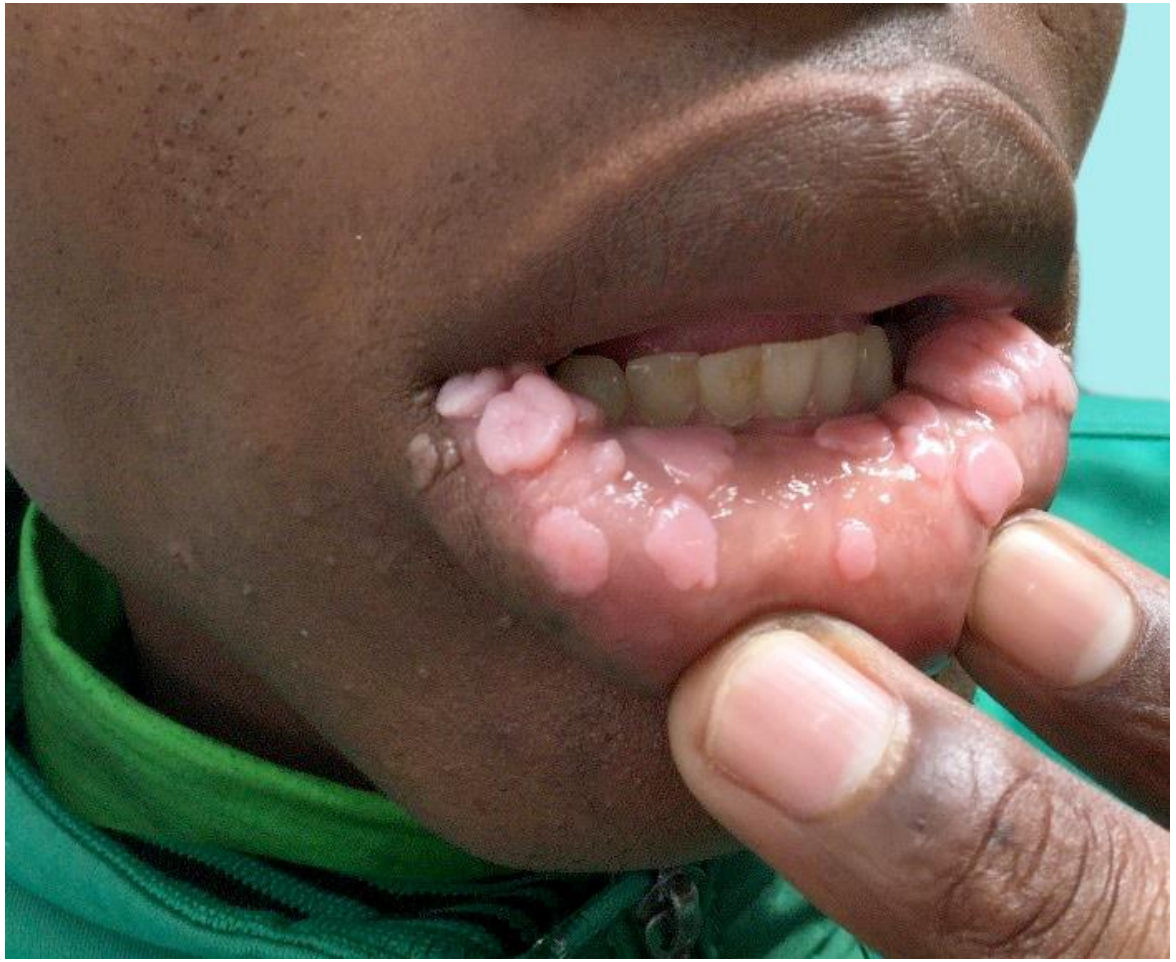
Table 17.6 ***Cutaneous manifestations of hepatitis B and hepatitis C infections.***

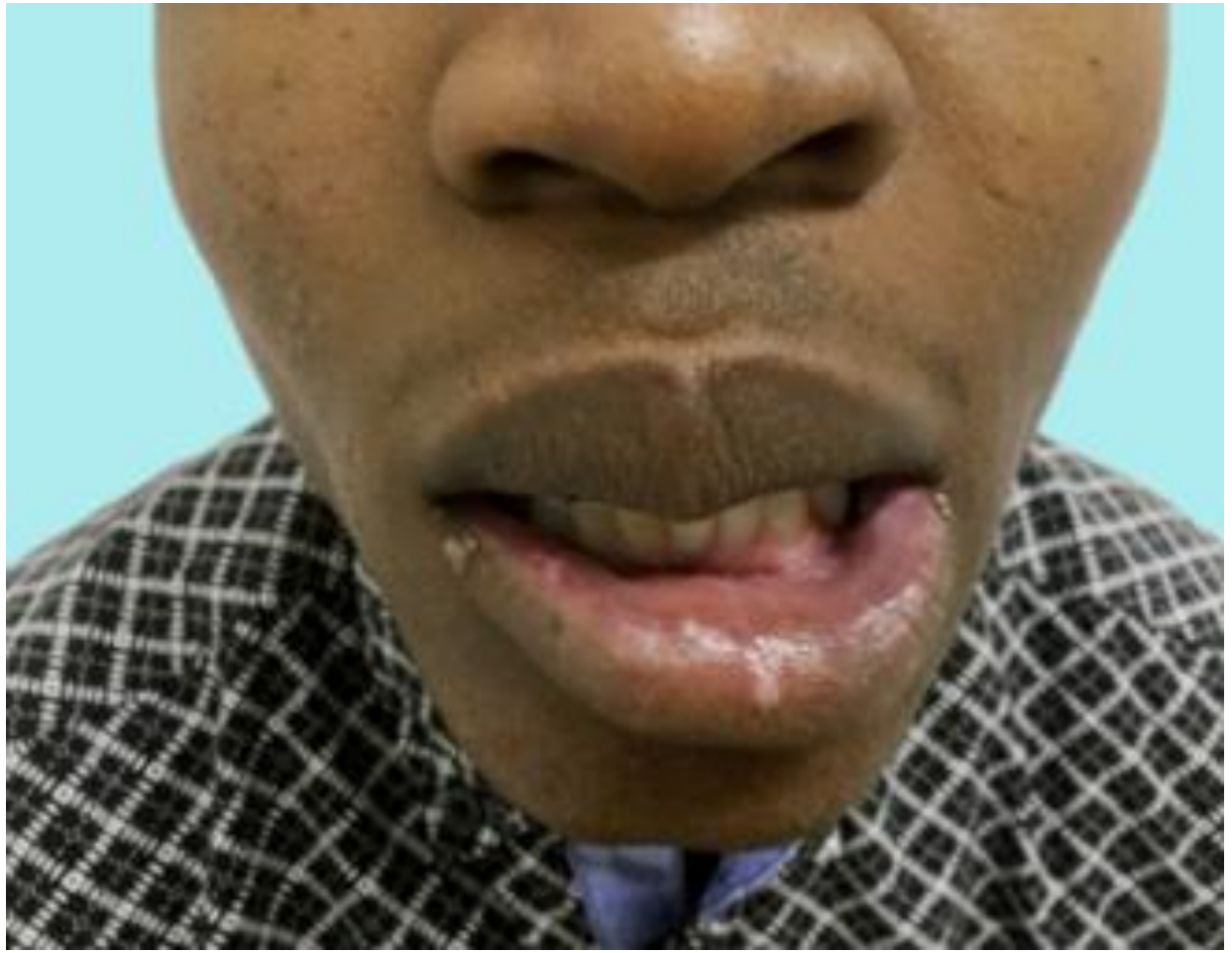


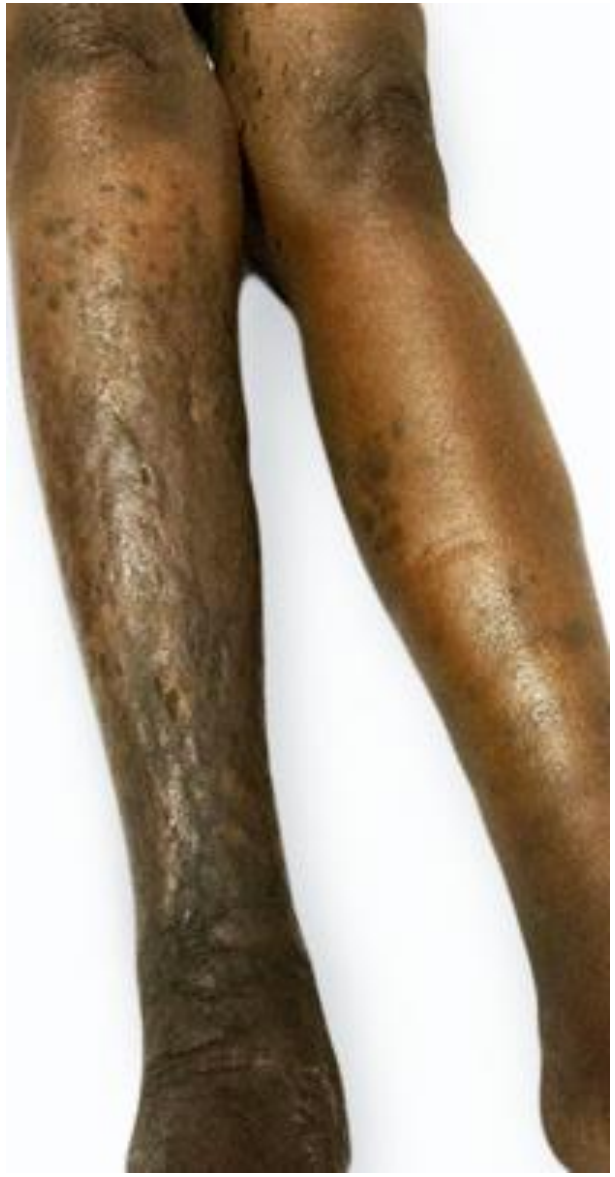


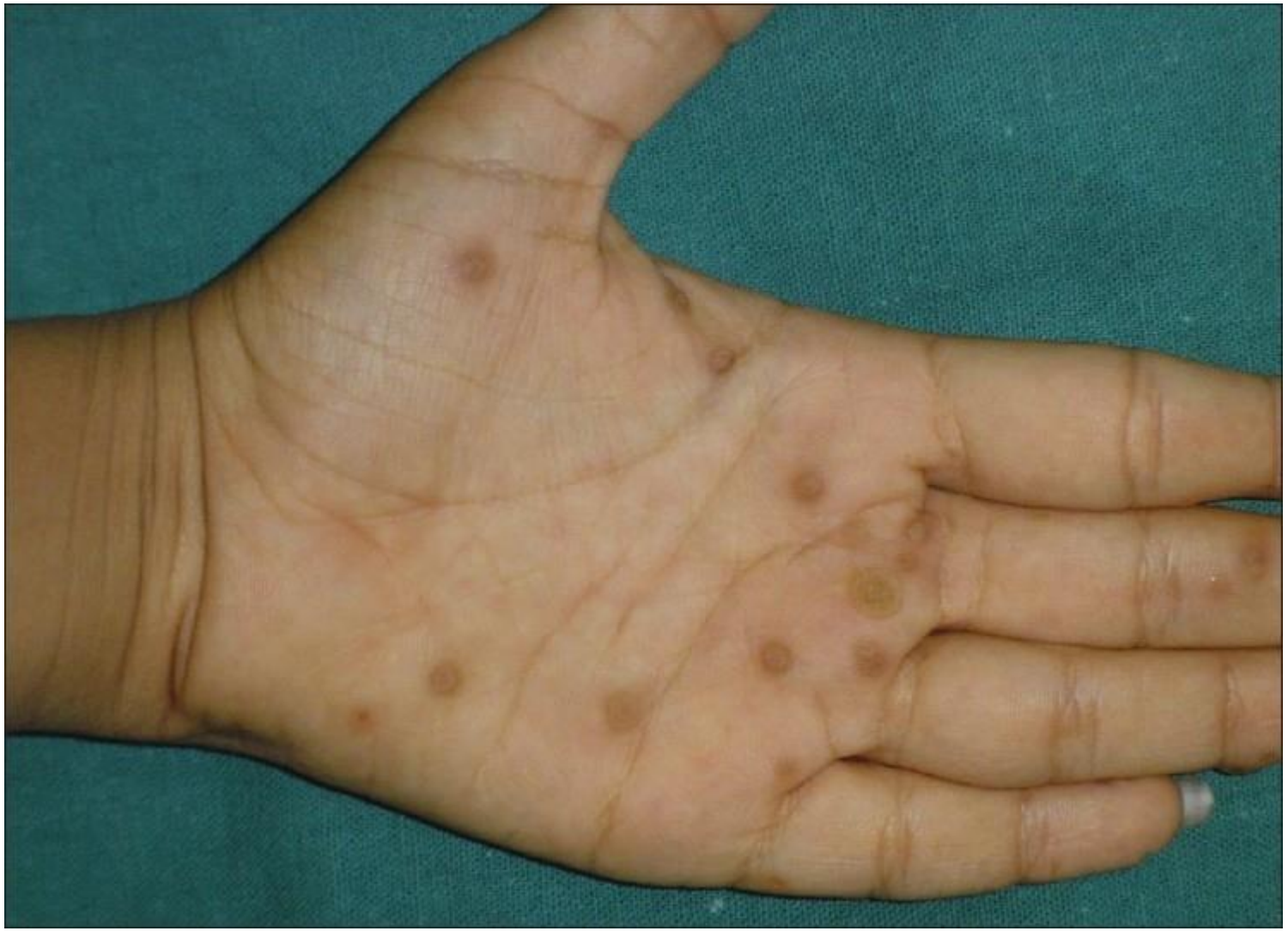


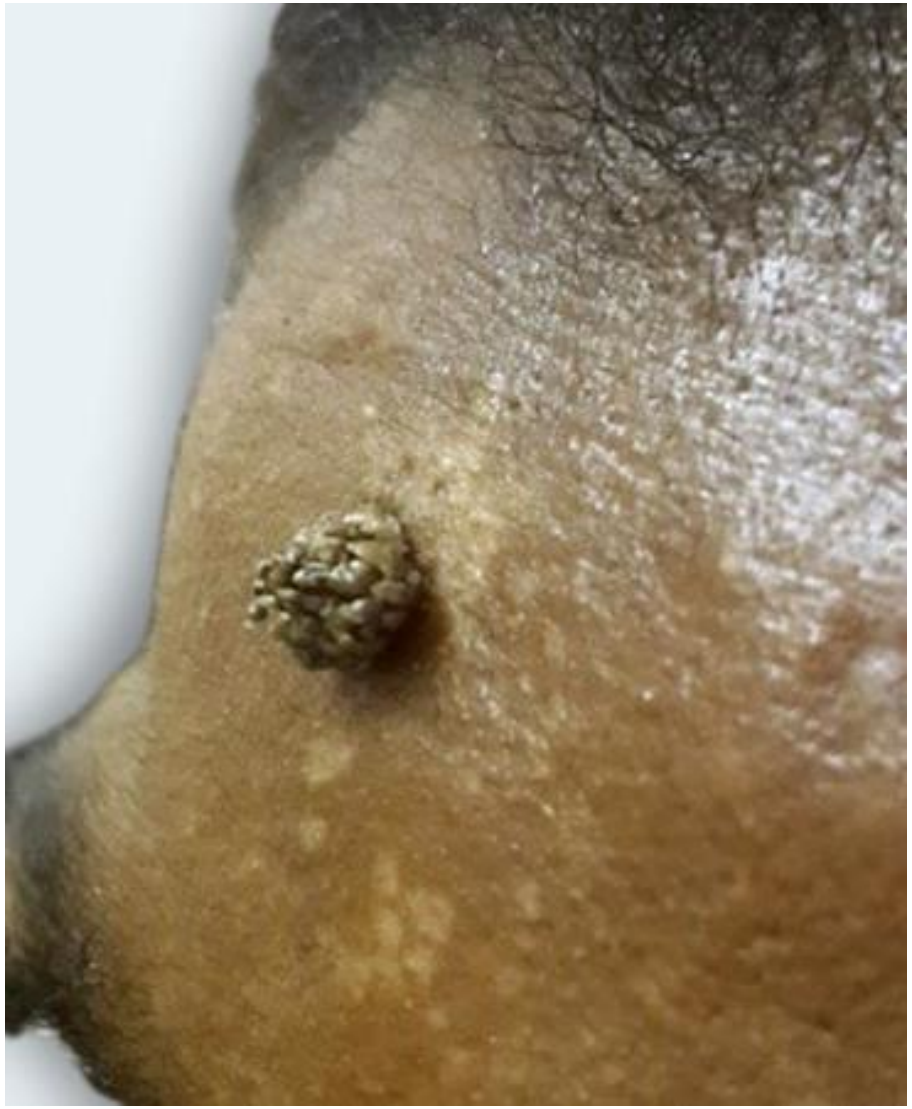

STI & HIV Facts,
Advice & Prevention

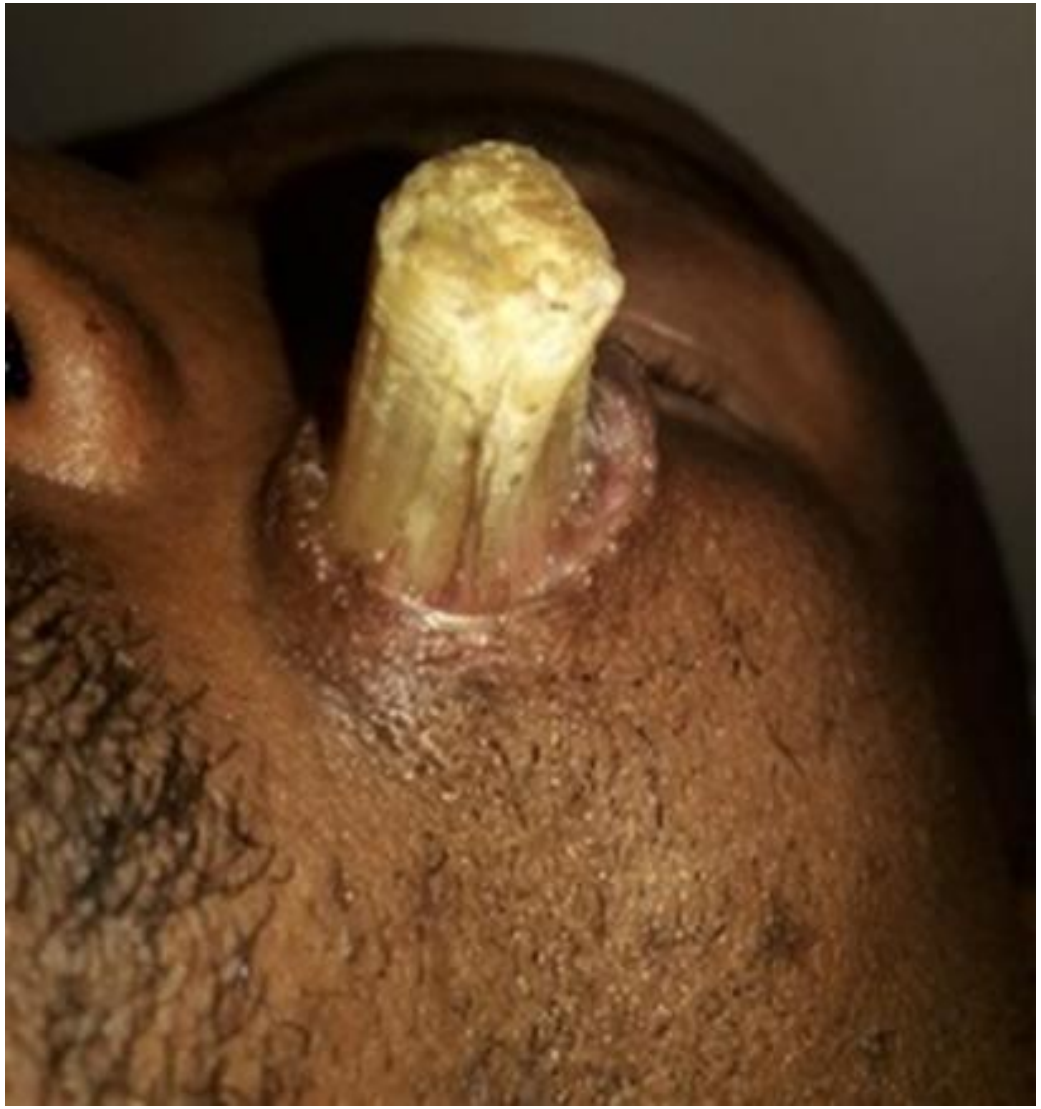


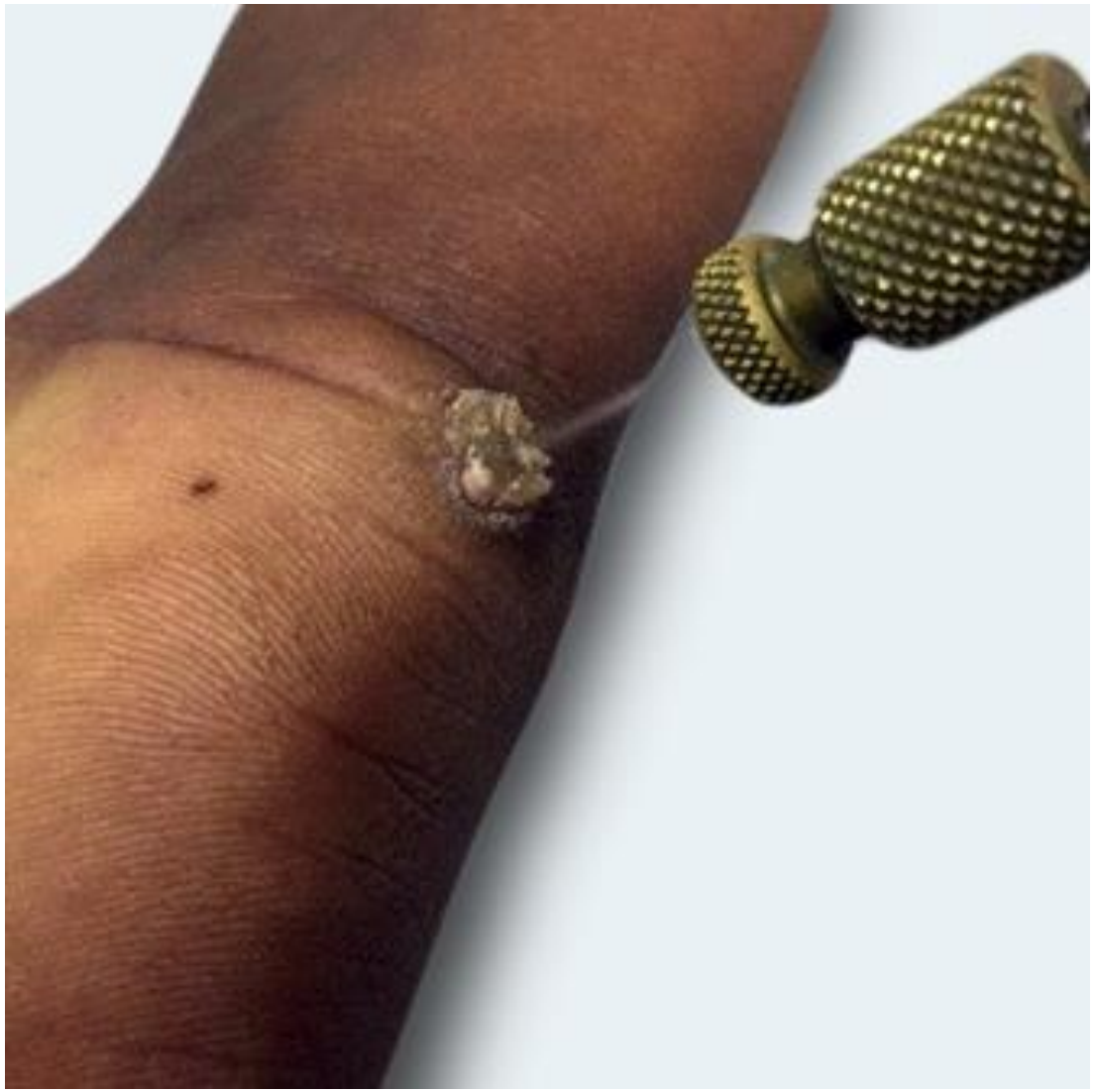


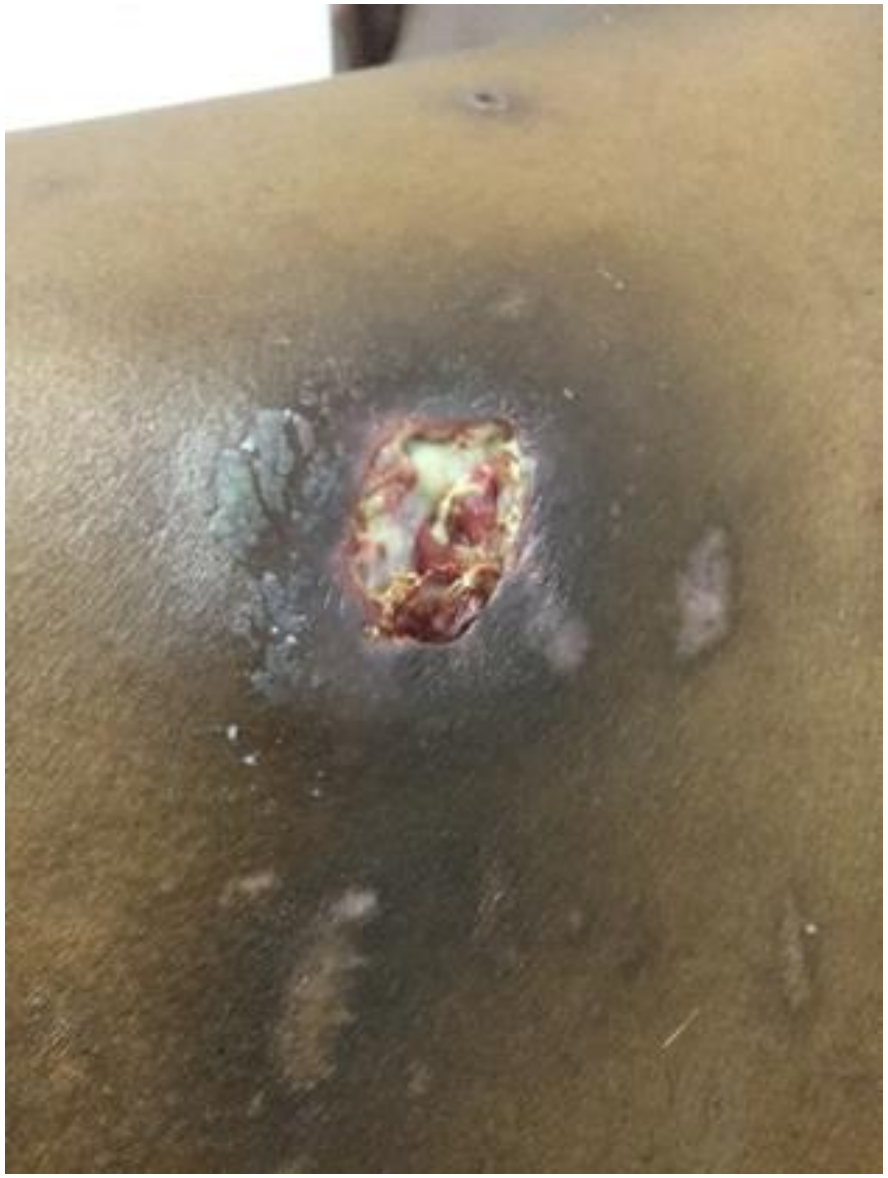


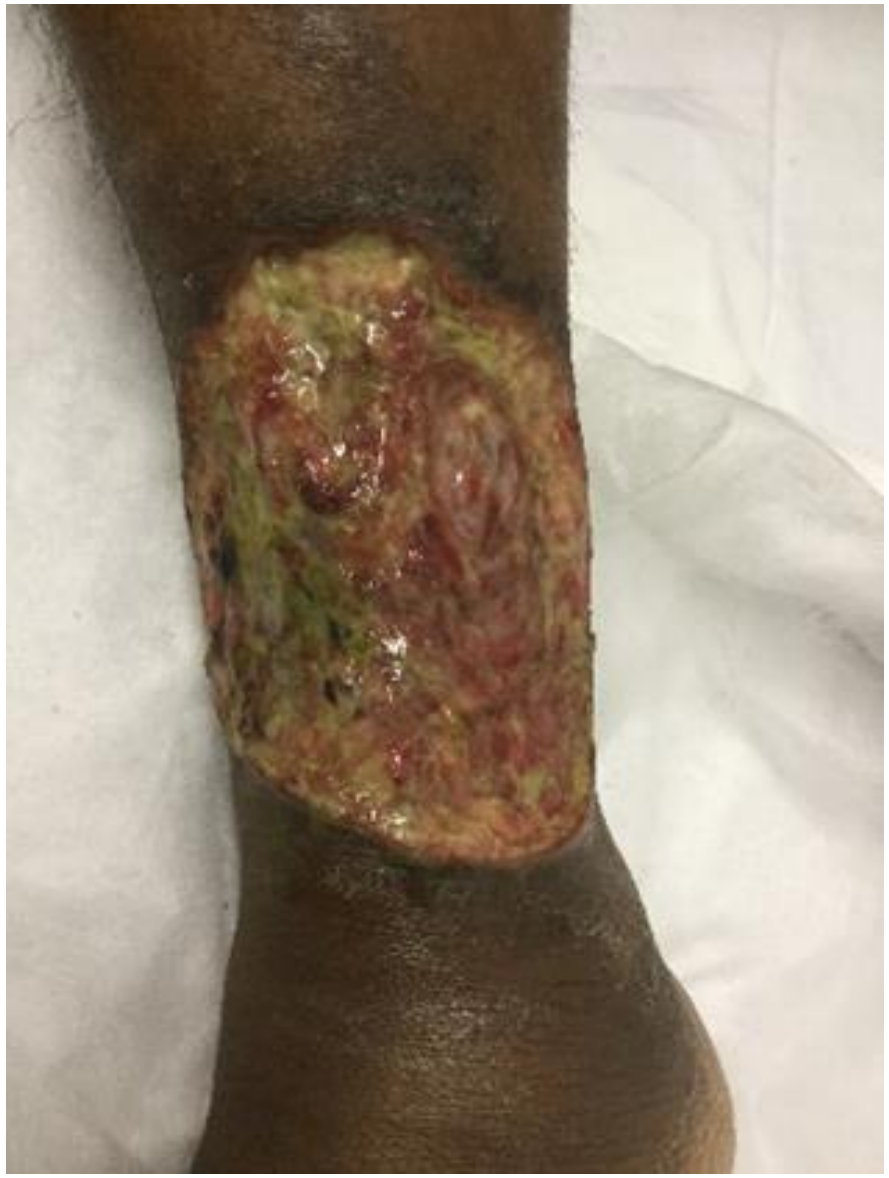


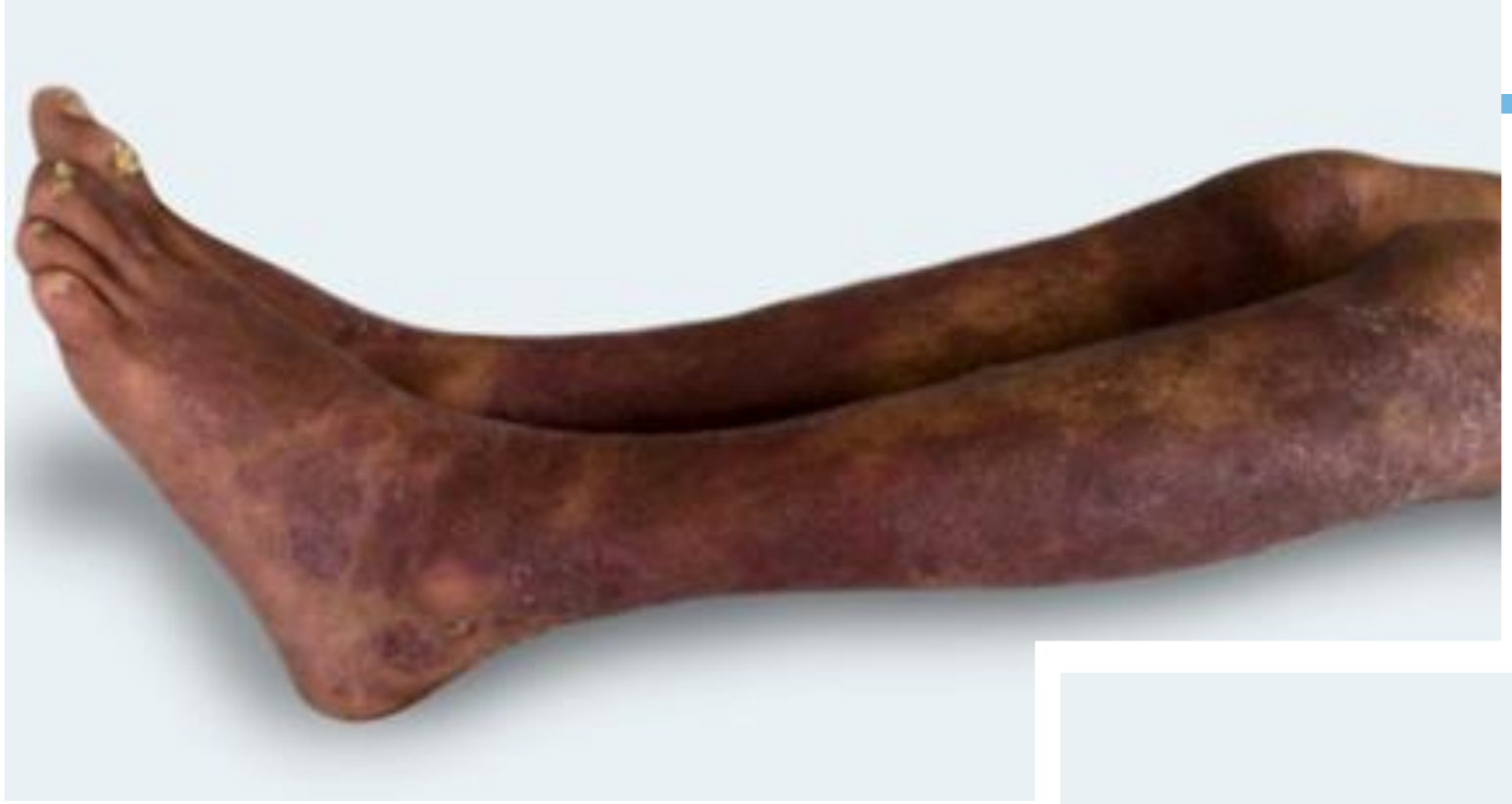


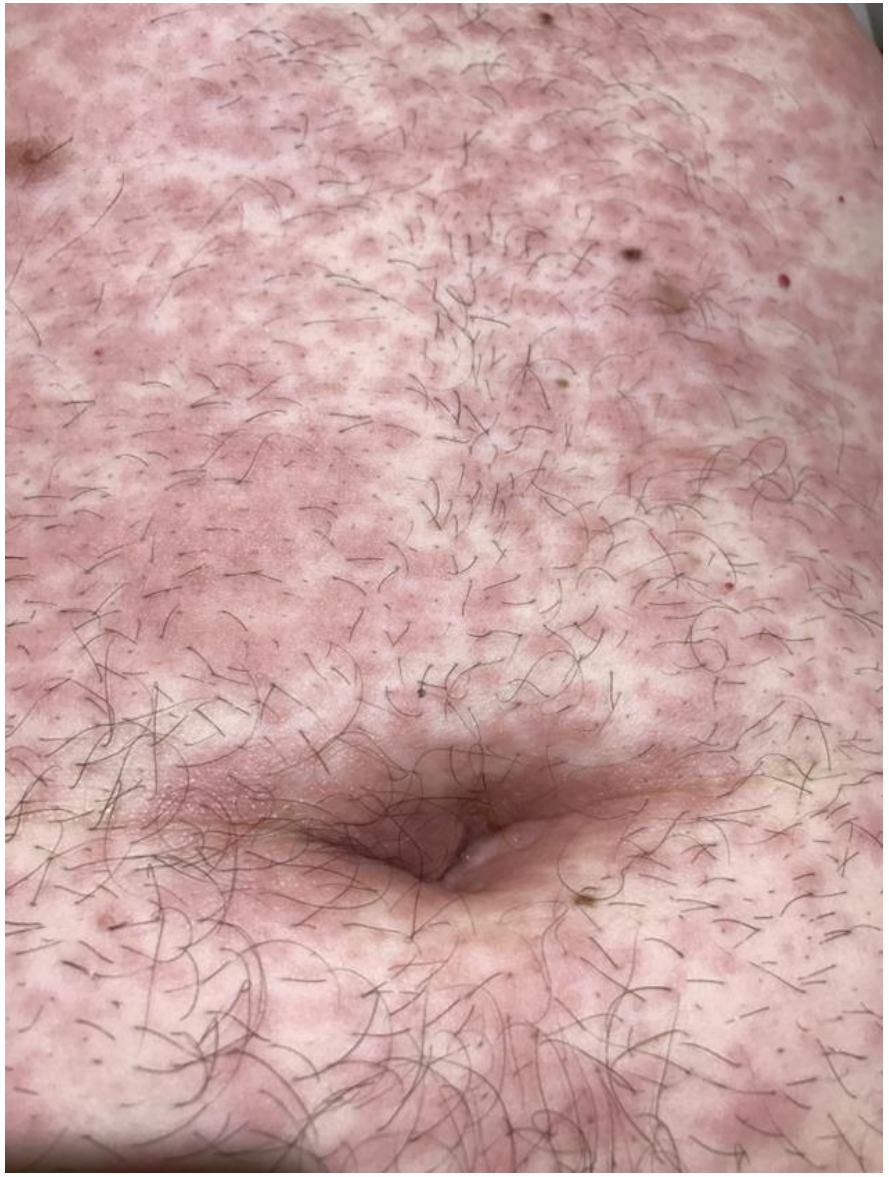


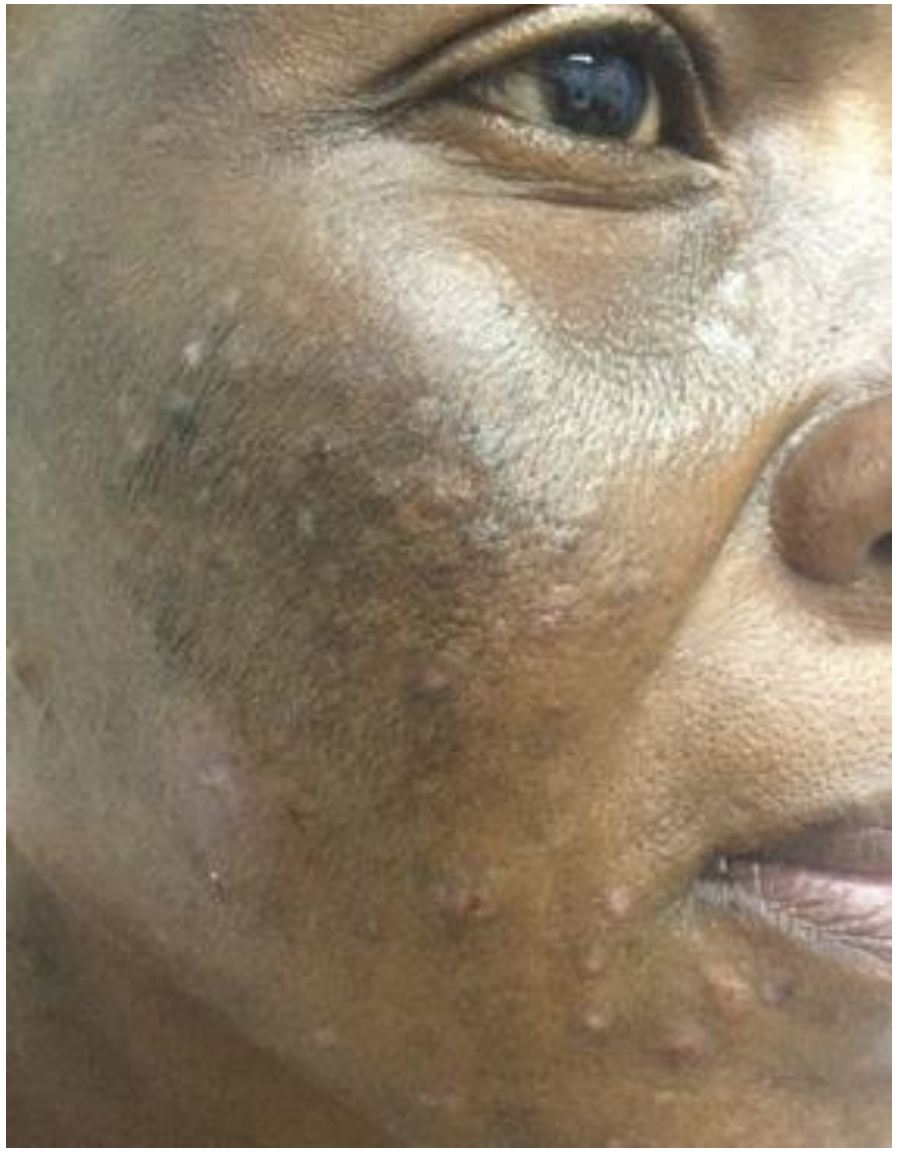


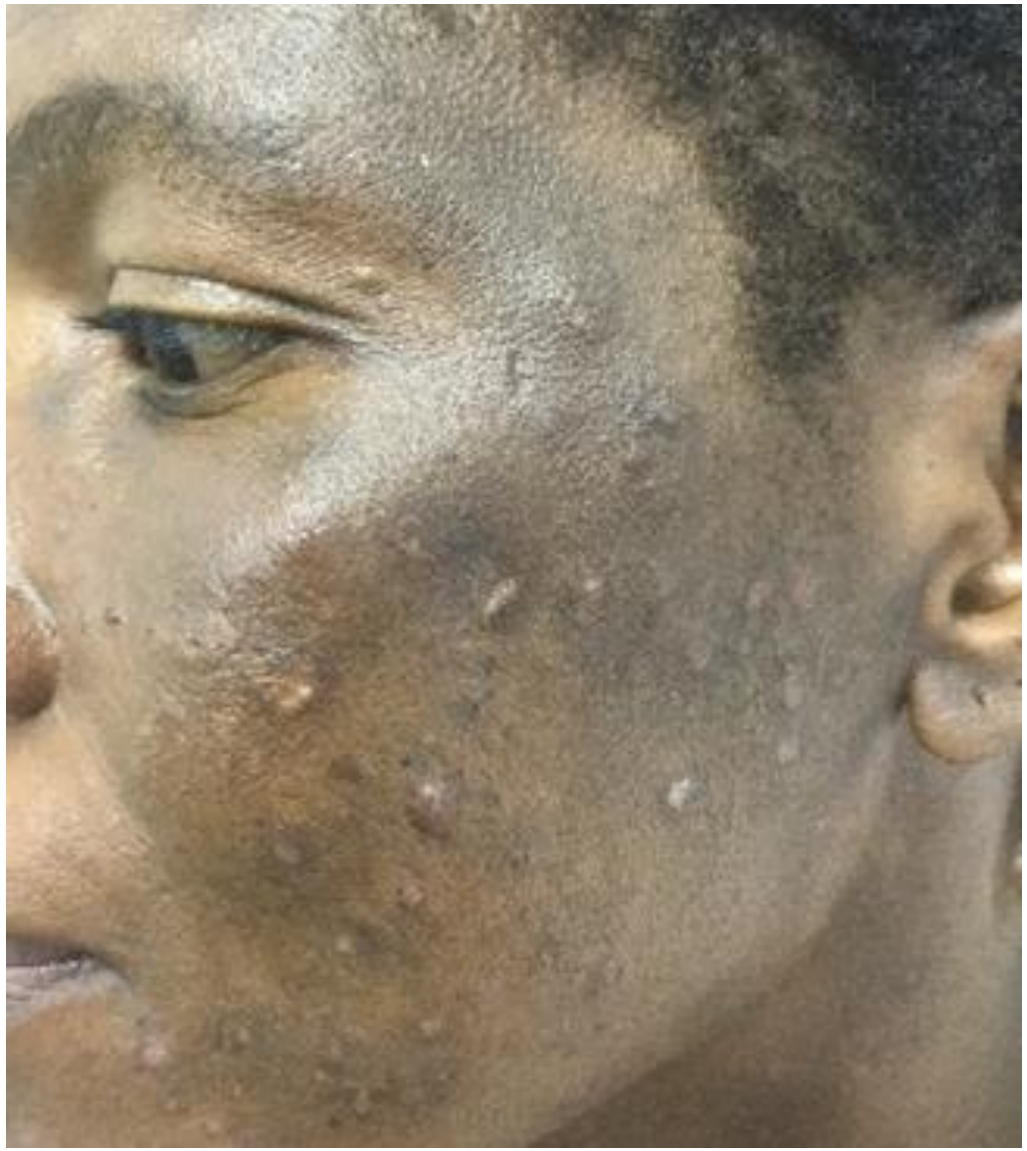


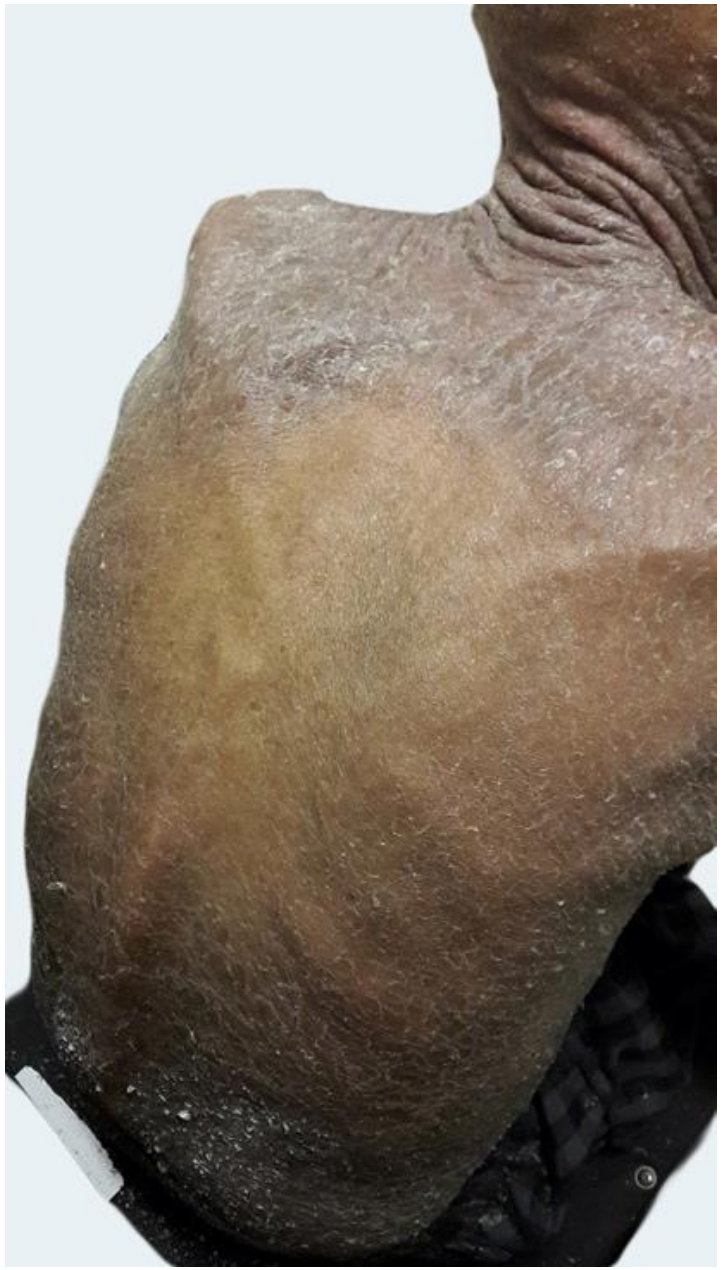


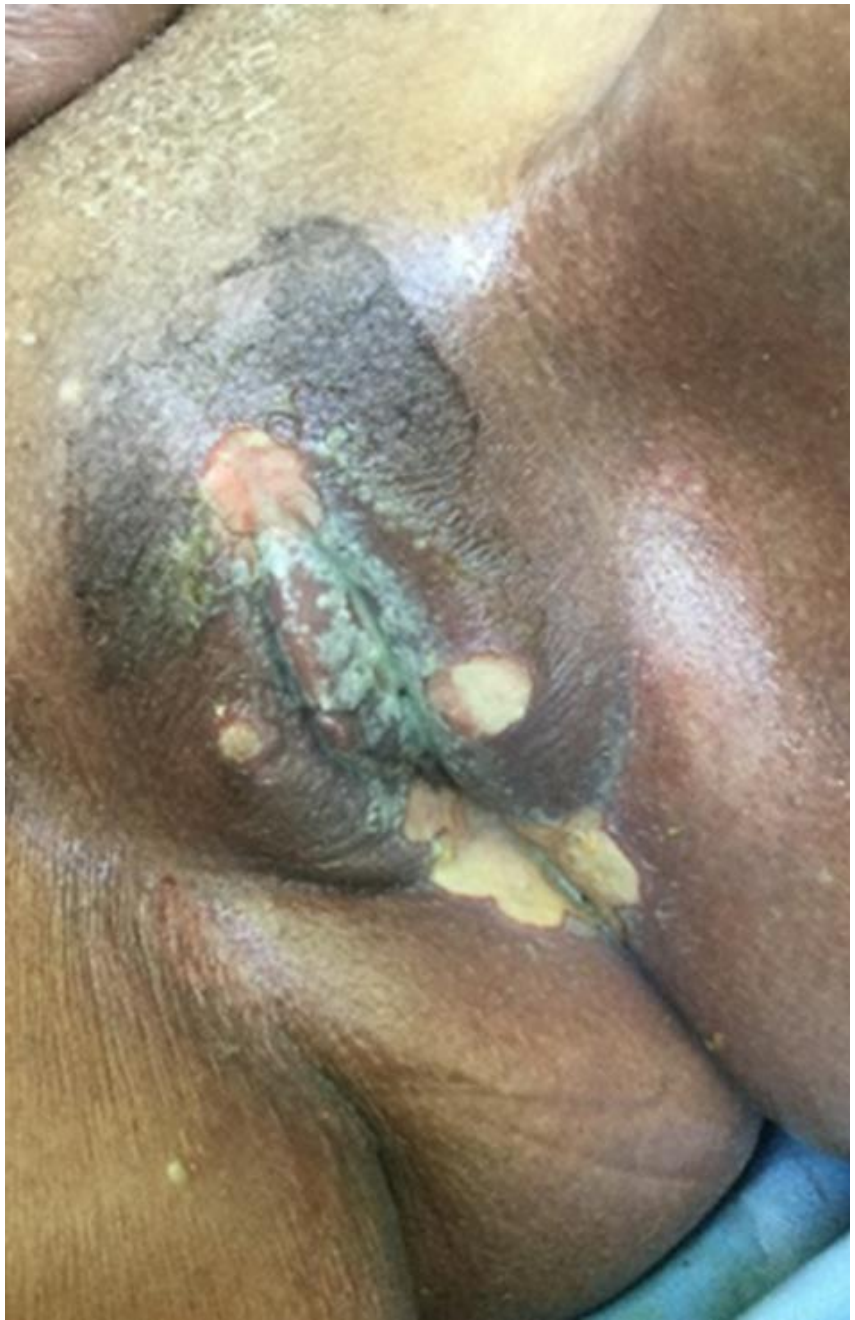




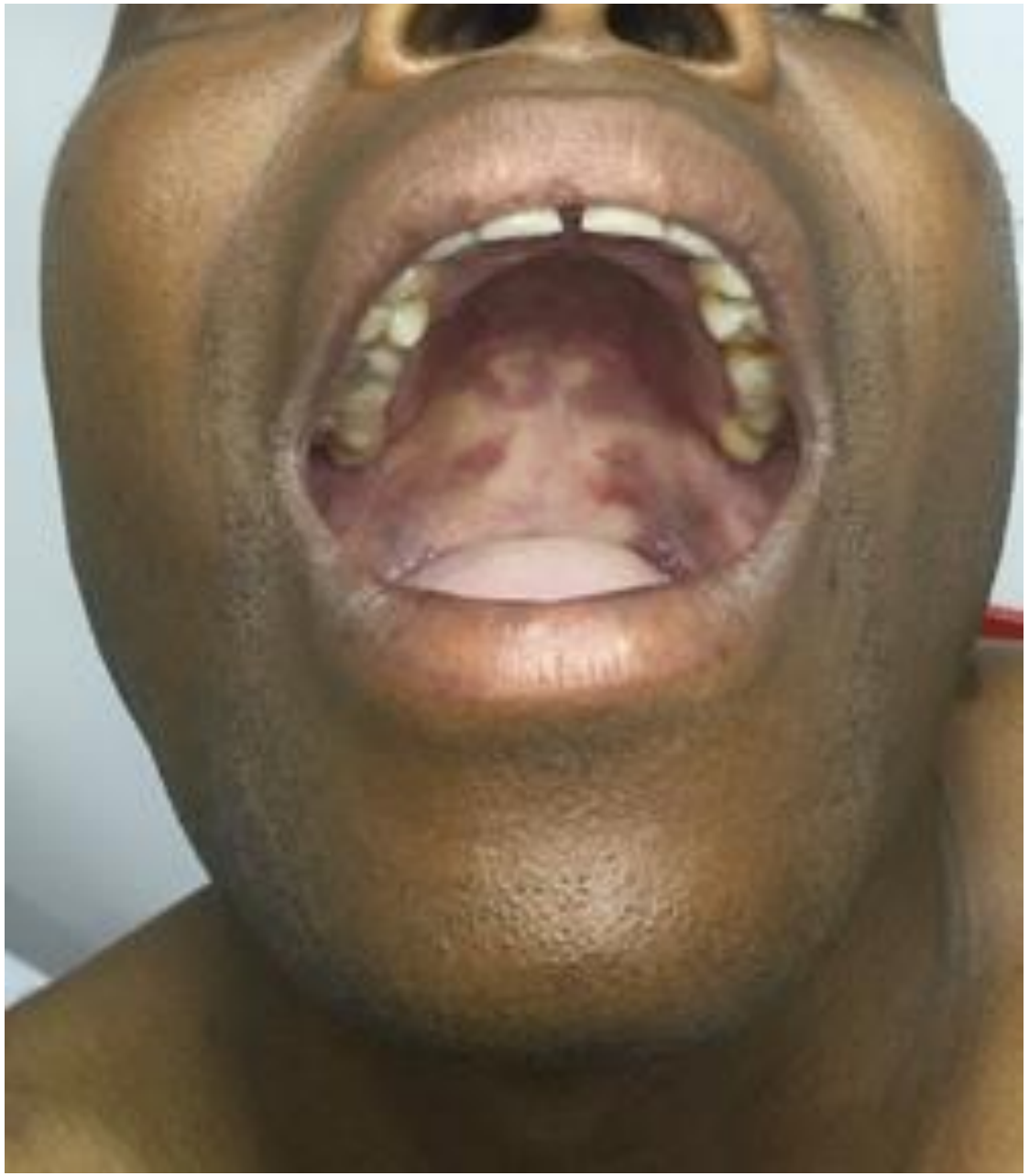


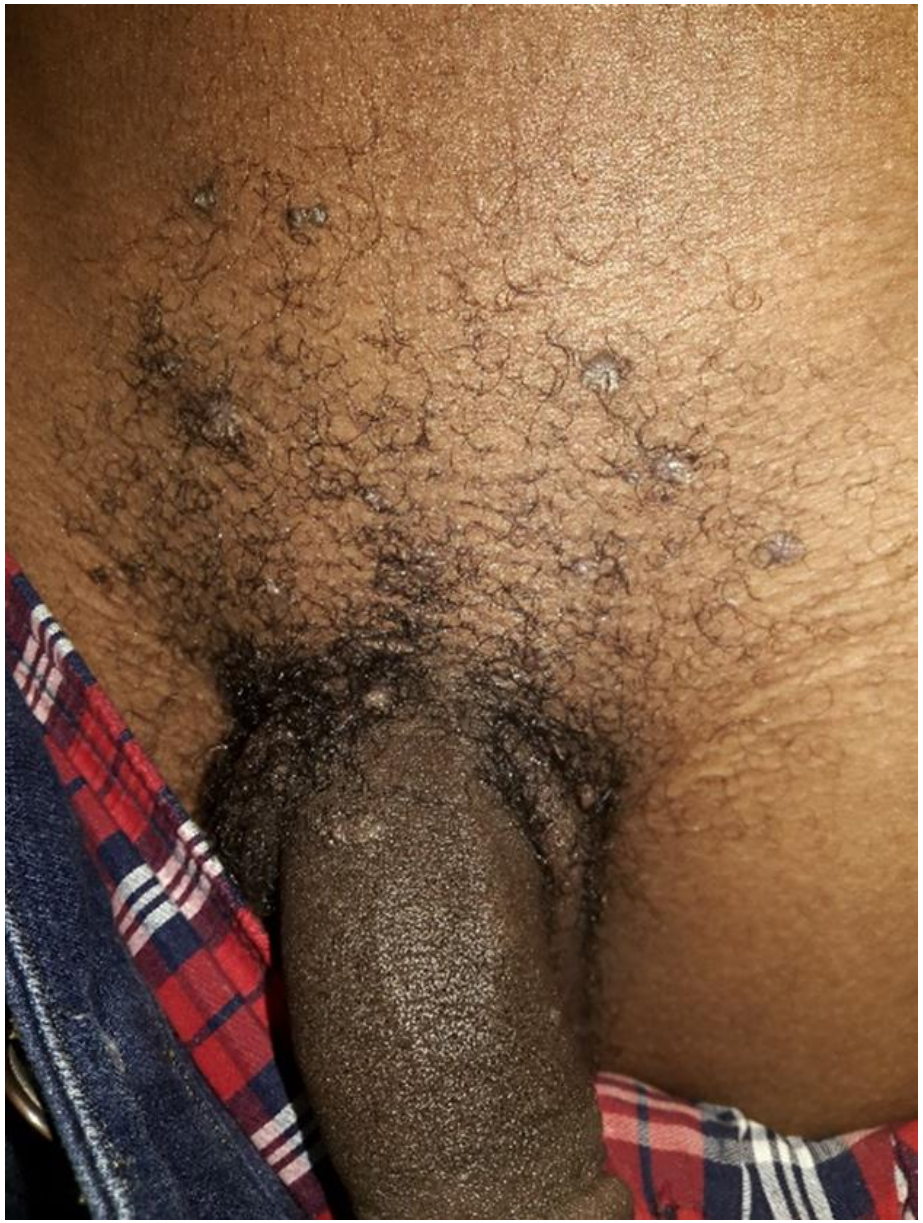






- The diagnosis of anogenital warts indicates unsafe sexual practise, warranting a clinician to also rule out other common and sometimes asymptomatic sexually transmitted infections such as syphilis and HIV through serological tests.





- Although highly effective, condoms do not offer full protection for STIs that cause extra-genital ulcers (i.e., syphilis or genital herpes) and other forms of STI’s

All patients should be asked about the following:
❖ Rectal symptoms ❖ Oral lesions ❖ Conjunctivitis ❖ Rashes ❖ Arthritis ❖ Systemic symptoms ❖ Sexual difficulties or dissatisfaction with sexual life

Table 32.1 ***Sexually transmitted infections***

CLINICAL APPROACH

Sexual history
The sexual history should elicit the following: ❖ Date of last sexual contact ❖ Sexual partner's gender ❖ Anatomical sites of exposure ❖ Condom use, including condom accidents ❖ Partner's suspected infections or symptoms, if any ❖ Sexual contacts within the preceding three months ❖ History of alcohol and recreational drug use (may be relevant in terms of risk-taking behaviour)

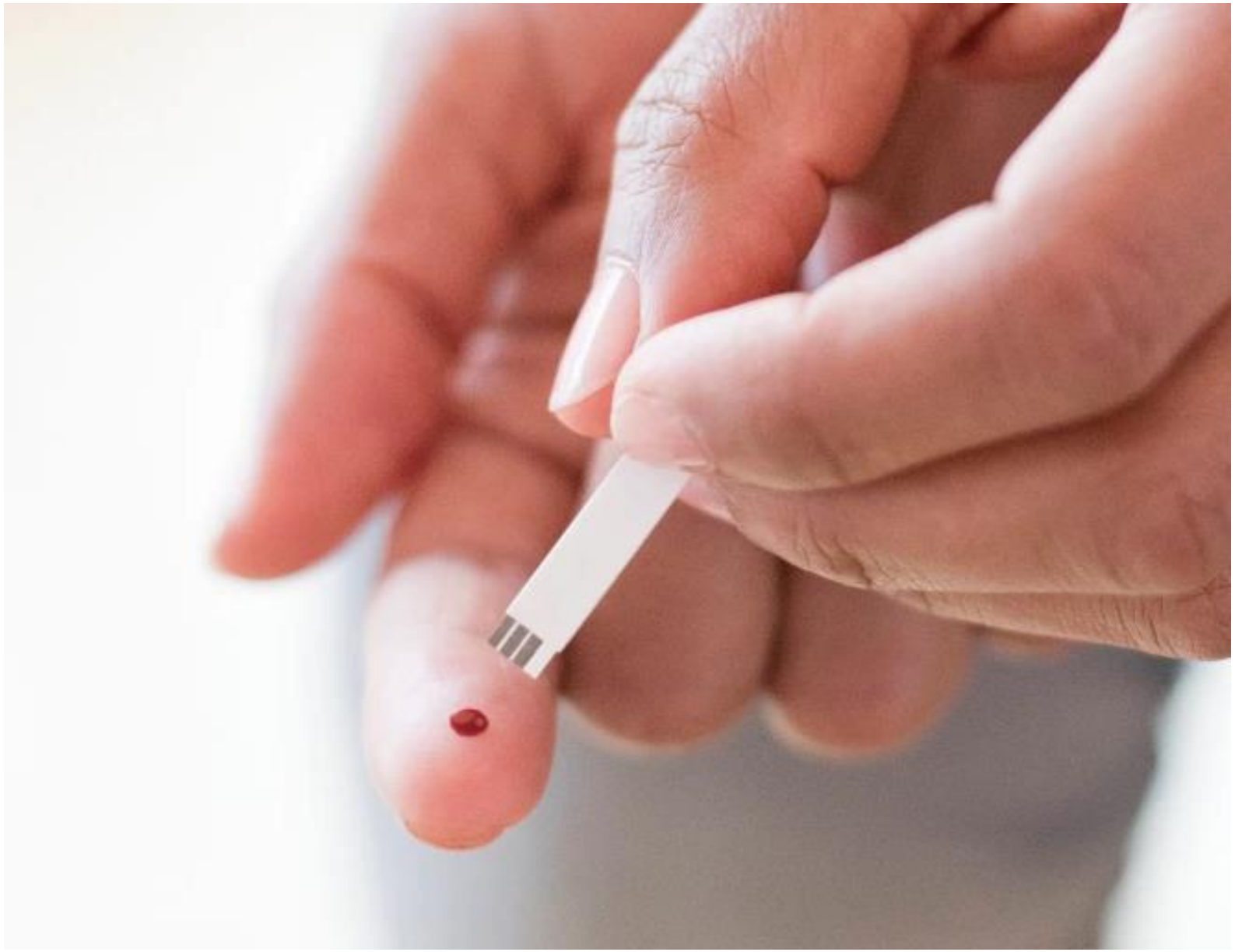
Table 32.2 ***Further sexual history***

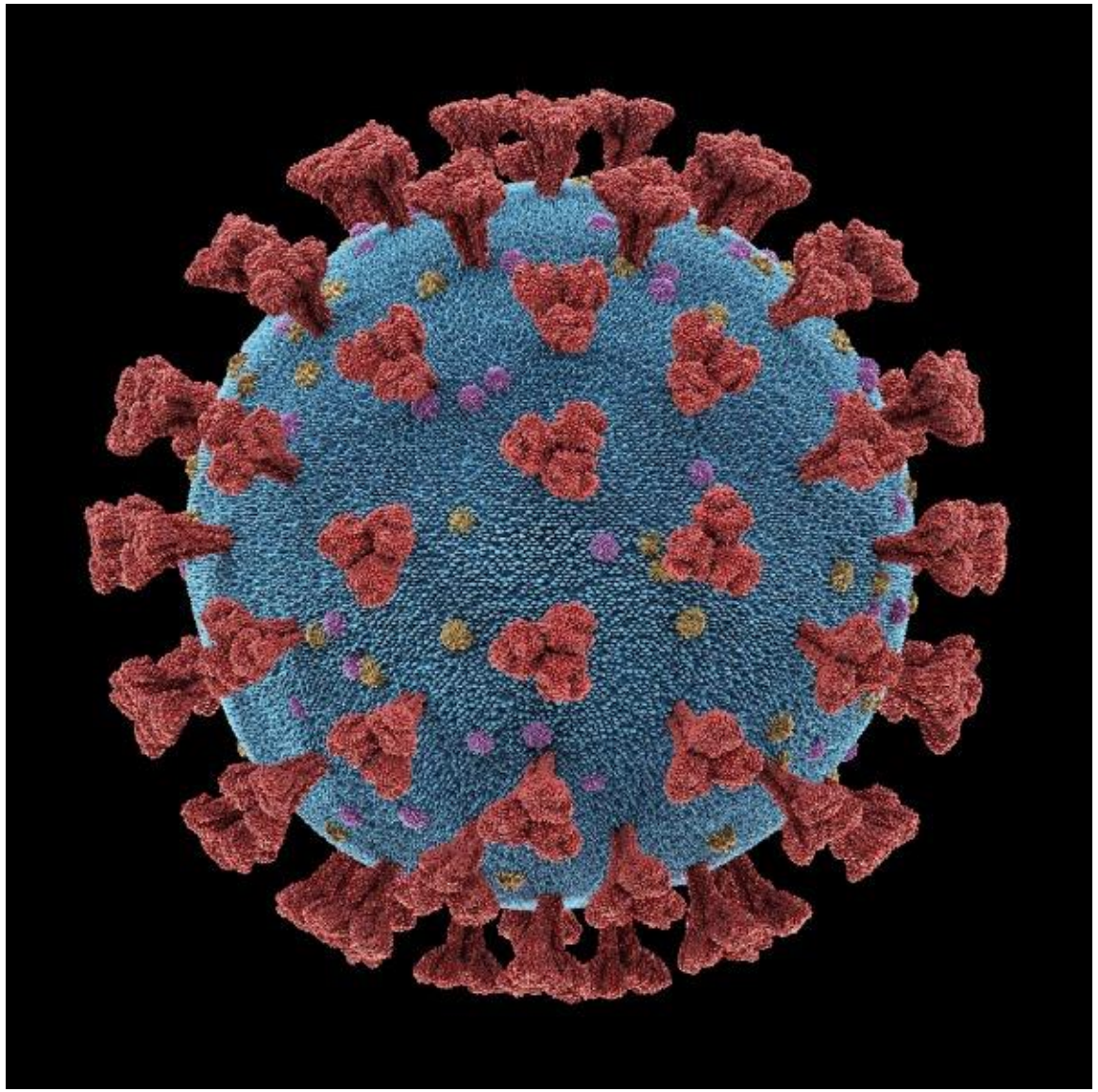
CLINICAL APPROACH (2)

PREVENTATIVE MEASURES

- Condoms
- Vaccines are available for 2 viral STIs: hepatitis B and HPV.
- HPV vaccine in at least 140 countries by end of 2023, primarily high- and middle-income countries.
- HPV vaccination
- Research to develop vaccines against genital herpes is advanced. There is mounting evidence suggesting that the vaccine to prevent meningitis (MenB) provides some cross-protection against gonorrhoea.
- More research into vaccines for chlamydia, gonorrhoea, syphilis and trichomoniasis are needed.
- Adult voluntary medical male circumcision,
- Microbicides
- Partner treatment.
- There are ongoing trials to evaluate the benefit of pre- and post-exposure prophylaxis of STIs and their potential safety weighed with antimicrobial resistance (AMR).

- On the other hand, inexpensive, rapid tests are available for syphilis, hepatitis B and HIV. The rapid syphilis test and rapid dual HIV/syphilis tests are used in several resource-limited settings.

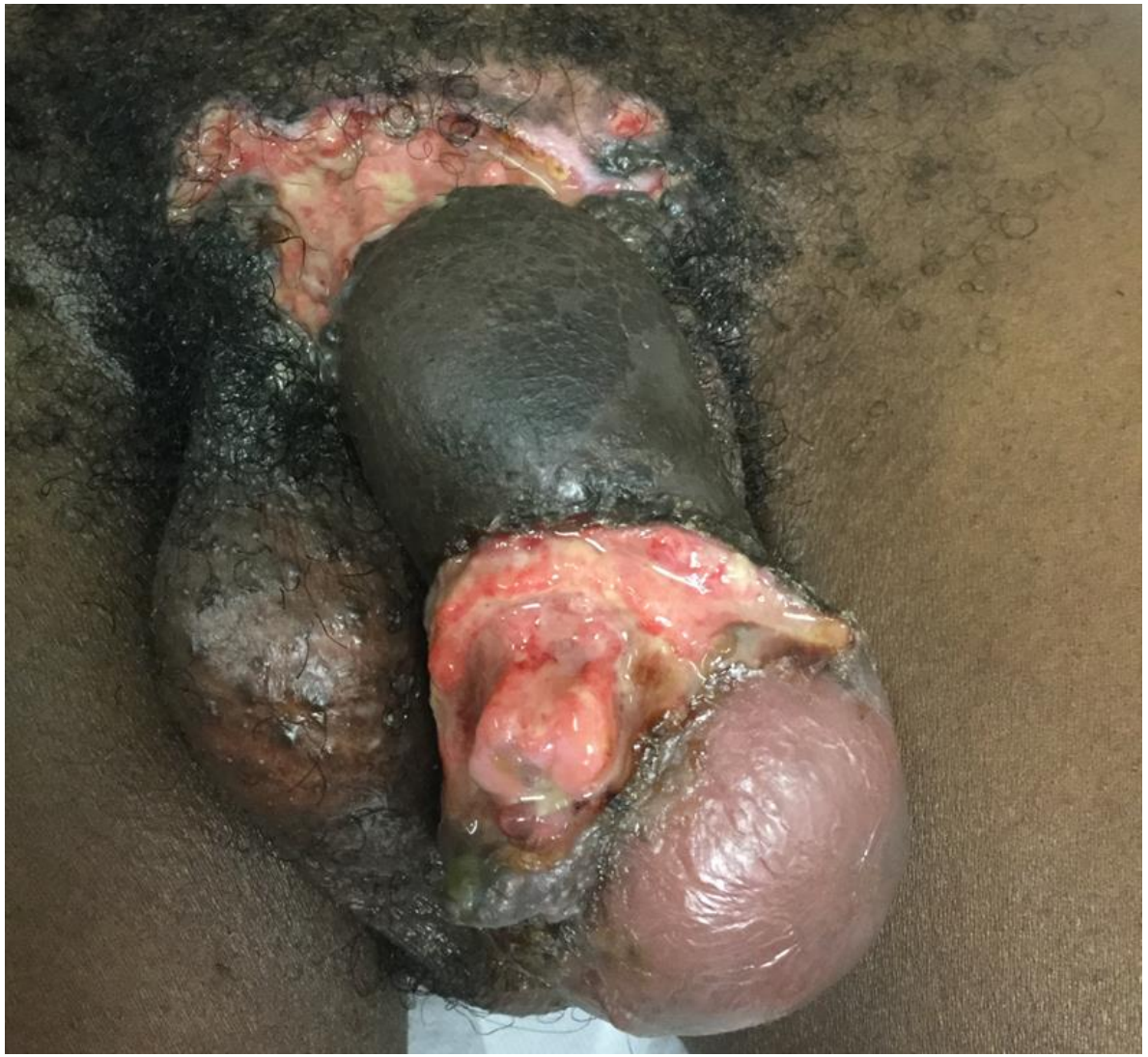


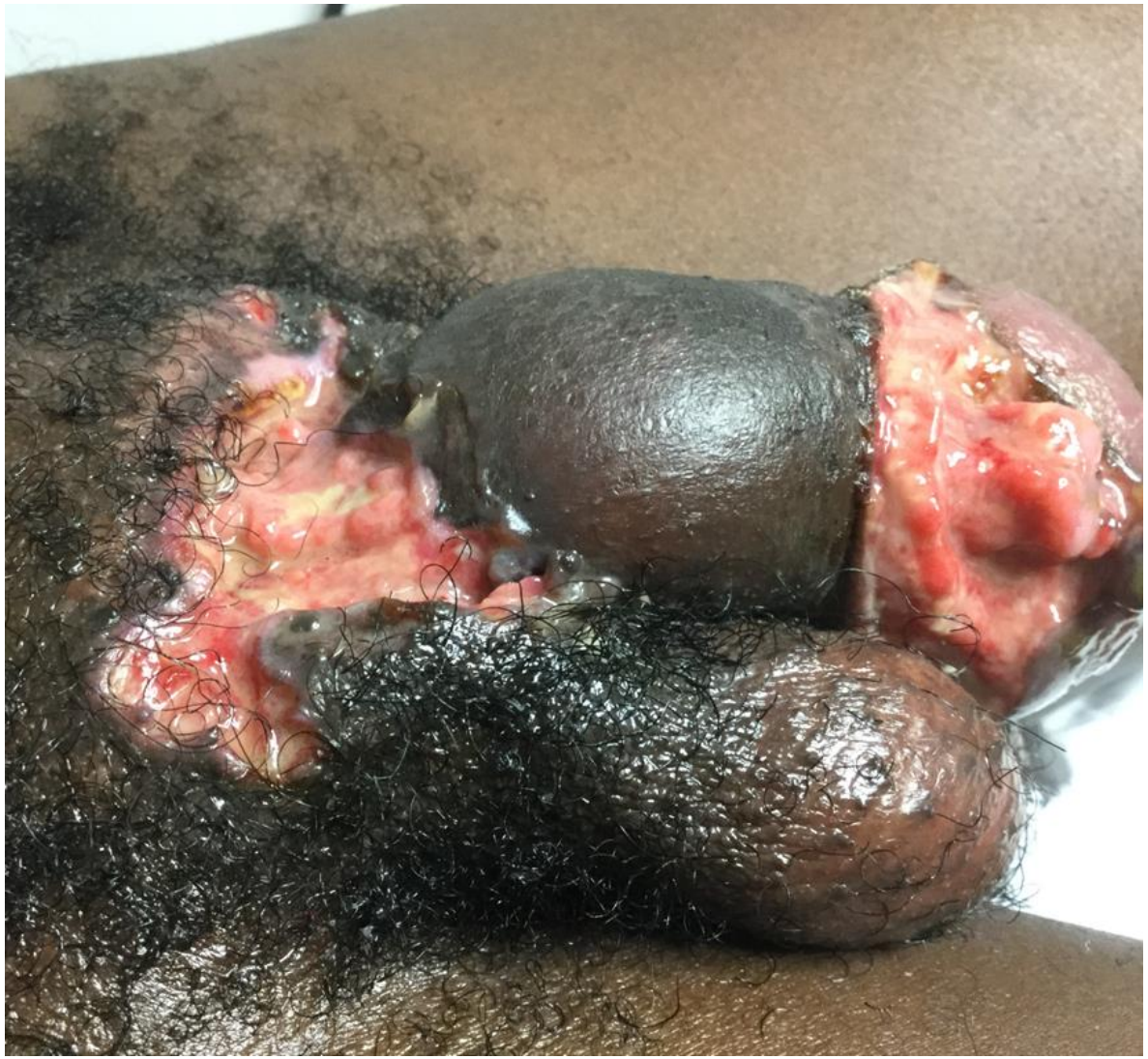


Three bacterial (chlamydia, gonorrhoea and syphilis) and one parasitic STIs (trichomoniasis) are generally curable with existing single-dose regimens of antibiotics.

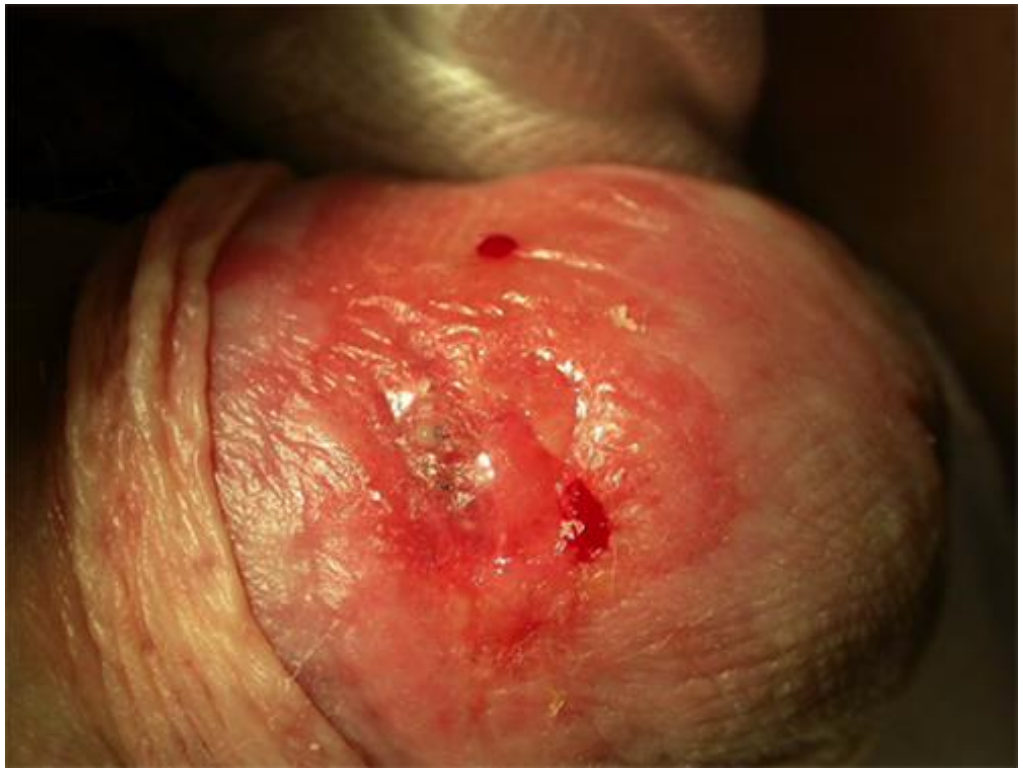
For herpes and HIV, the most effective medications available are antivirals that can modulate the course of the disease, though they cannot cure the disease.

For hepatitis B, antivirals can help fighting the virus and slowing damage to the liver.





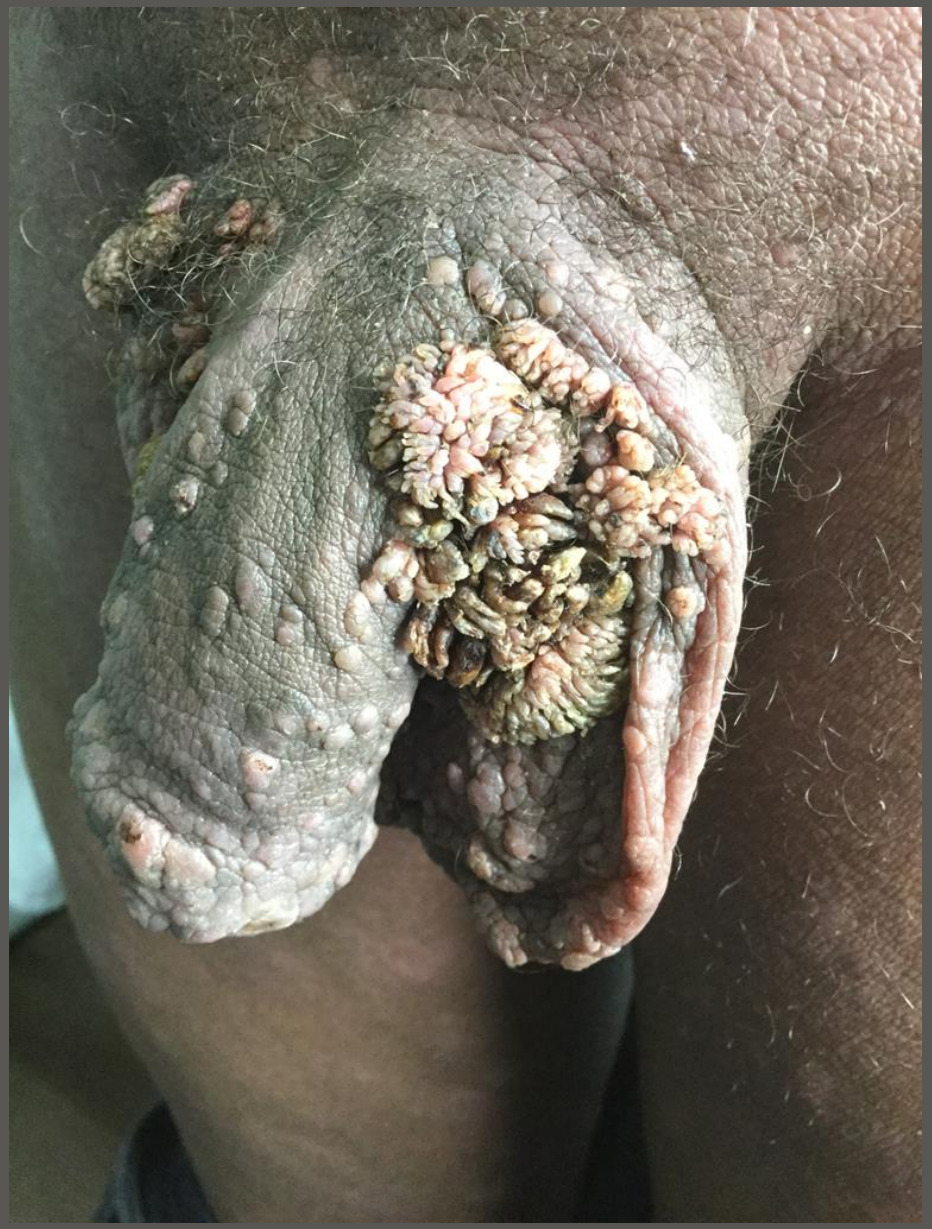
ERYTHROPLASIA OF QUEYRAT



- Almost exclusively in uncircumcised men.
- HPV 8/16
- Progression to invasive carcinoma may occur, and spontaneous regression is unlikely.

IN SUMMARY

- Ask about lower genital tract symptoms, including details about vaginal discharge and vulvar symptoms.
- Upper genital tract symptoms, including pelvic pain, deep dyspareunia, and menstrual cycle abnormalities.
- Male patients should be asked about genital lumps, genital ulceration, urethral discharge, testicular symptoms, lower urinary tract symptoms, and genital itching, soreness, or rash.
- Following symptomatic history, patients should be asked about general health, sexual history, and social history.



IN SUMMARY

- All patients should be offered testing for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, syphilis, and HIV. Testing for other infections should be based on history findings, examination findings, and local availability of tests.
- A pregnancy test should be administered to at-risk patients
- Additional tests among men who have sex with men (MSM) may include rectal and pharyngeal testing, and a proctoscopy.

IN SUMMARY

- Patients should be told when and how they will receive their results, if applicable.
- Diagnoses should be adequately explained and an opportunity offered for questions by the patient.
- Prompt availability of relevant treatment should be ensured.
- When possible, single-dose treatment administered in the clinic is preferred for compliance.
- Women who are pregnant or breastfeeding or in whom pregnancy cannot be excluded should receive appropriate treatment.
- Patients should be provided with information about preventing onward transmission or reinfection.

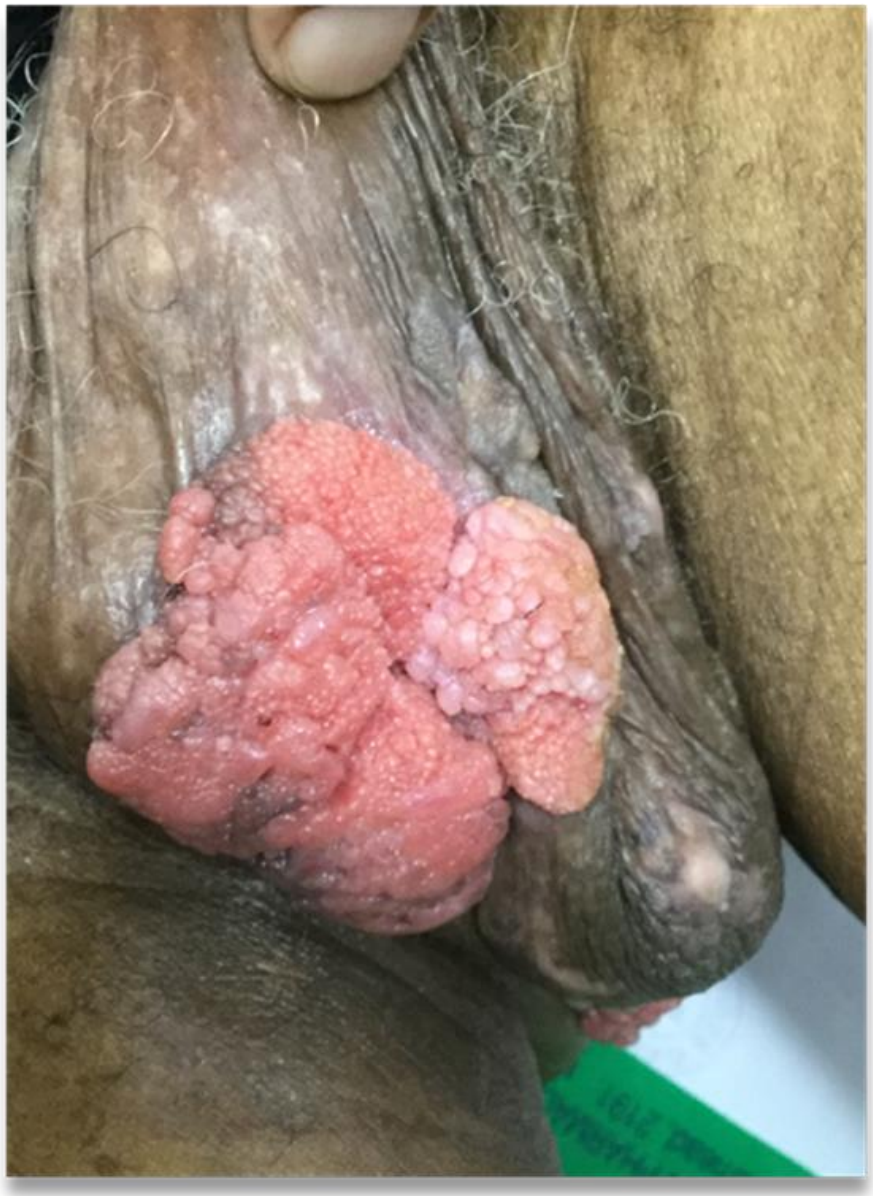
Partner notification/contact tracing

Partner notification should be done by an appropriately trained healthcare professional and be based on relevant guidelines for specific infections.

Follow-up

Follow-ups are mandatory for all sexually transmitted infections, to assess for clinical response and sometimes for follow up tests.

- When used correctly and consistently, condoms offer one of the most effective methods of protection against STIs, including HIV.



REMEMBER

- Sensitivity
- Patient dignity
- Holistic clinical approach
- Follow-up

REFERENCE

- MakhakheL@ufs.ac.za
- WhatsApp 072 675 3020