CUTANEOUS FUNGAL INFECTION

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- The most important charac. of the ring worm fungi (dermatophyte , tinea) , is their ability to invade keratinized structures without being able to penetrate the deeper living cells . The disease which they cause are therefore limited to hair , nails , & horny layer of the epidermis .
- The fungi are classified in to three main genera namely microsporum , epidermophyton , & trichophyton . There are different species within these genera .
- Among these 3 genera , there are 3 types of dermatophytes according to the source of origin these are :-

CUTANEOUS FUNGAL INFECTION

1. Zoophilic .
2. Anthropophilic :- are responsible for epidemic .
3. Geophilic .

Dermatophytosis on certain parts of the body produces certain distinctive features charac. of that particular site . For this reason dermatophytoses are divided in to the following :

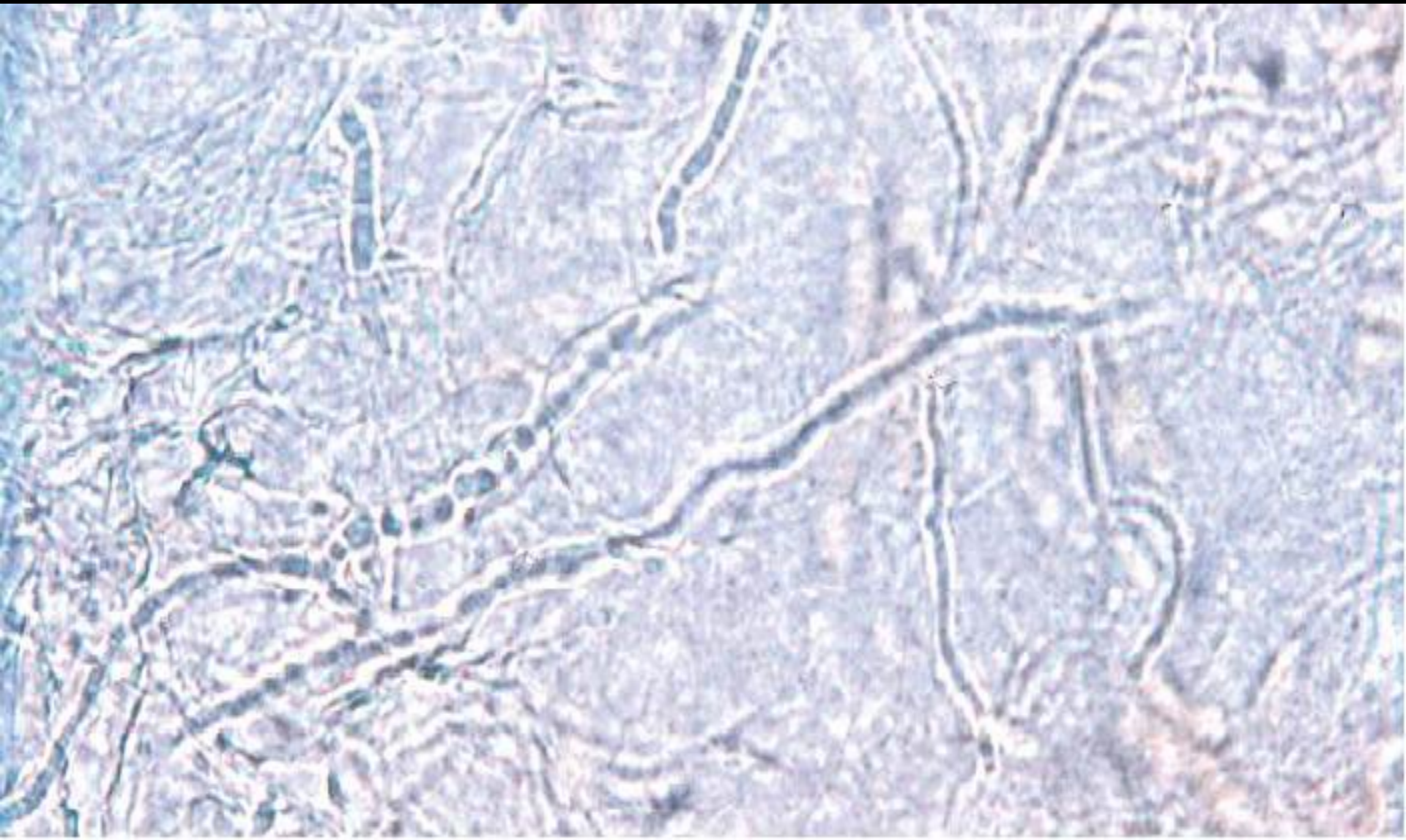
1. Tinea capitis .
2. Tinea barbae .
3. Tinea faciei .
4. Tinea corporis (circinata) .
5. Tinea manum .
6. Tinea cruris .
7. Tinea pedis .
8. Tinea unguim .

CUTANEOUS FUNGAL INFECTION

Diagnosis :-

1. Wood light examination :- hair , but not the skin of the scalp fluoresces with brilliant-green color if infected with microsporum species . Fungal infection of the skin do not fluorescence , except for tinea versicolor , which produces yellow fluorescence .
2. Potassium hydroxide wet mount preparation(scraping test) for absolute diagnosis is direct visualization of the branching hyphae in the keratinized material under the microscope . To do this some scale should be scraped off from the periphery of the lesion .
3. Culture :- to know species of dermatophyte .

   a-Sabouraund`s agar . b- Mycosel agar .



TINEA CAPITIS

Is an infectious disease occurring chiefly in school children , more in boys than girls .

When the fungi invade the hair the mycelium is always found inside the hair . While the spores either present inside the hair (endothrix) or outside the hair (ectothrix).

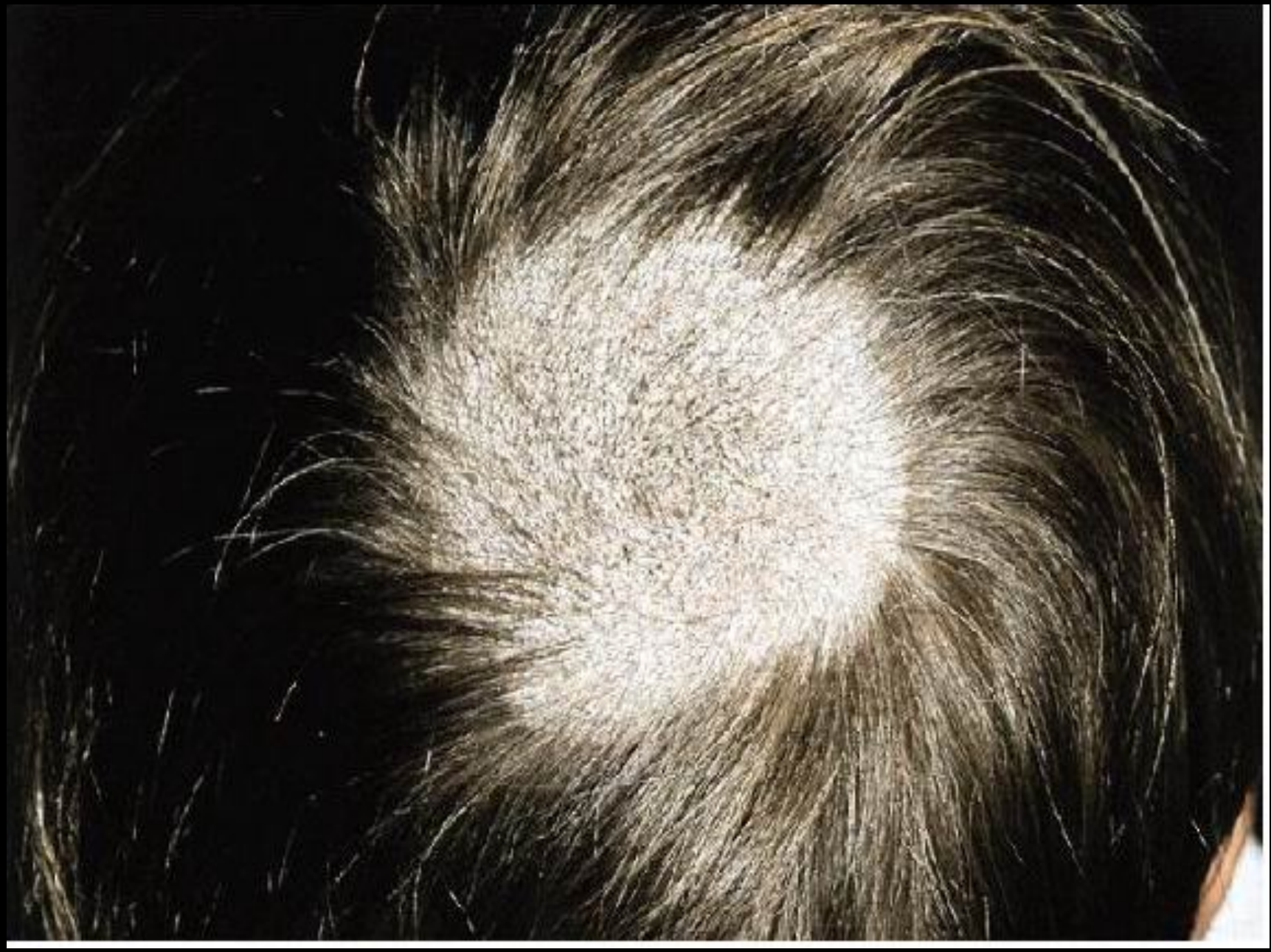
Some fungi causes the infected hairs to fluoresce under wood light with brilliant green while others are not .

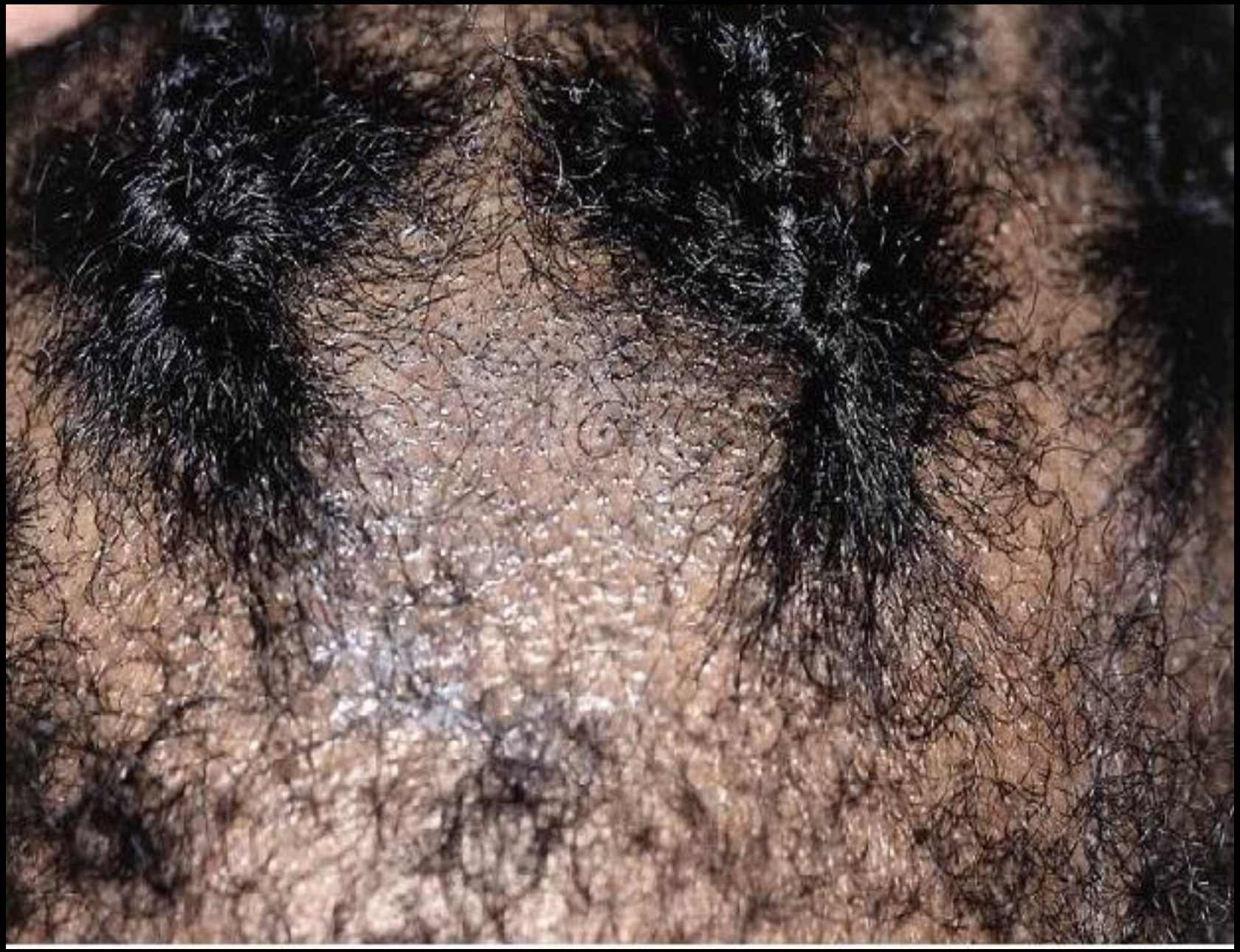
Clinical types of tinea capitis :-

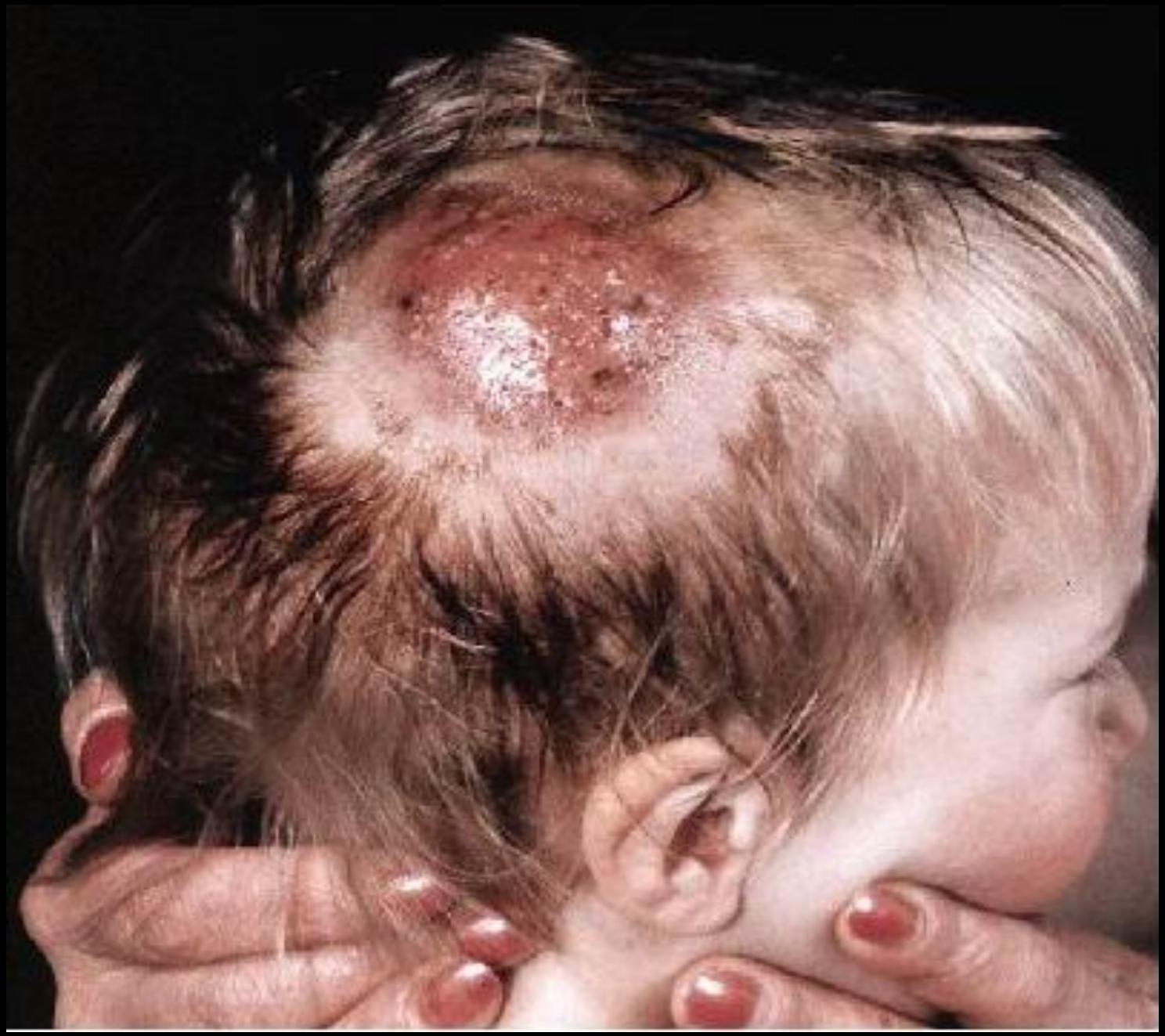
1. Non inflammatory type :- including

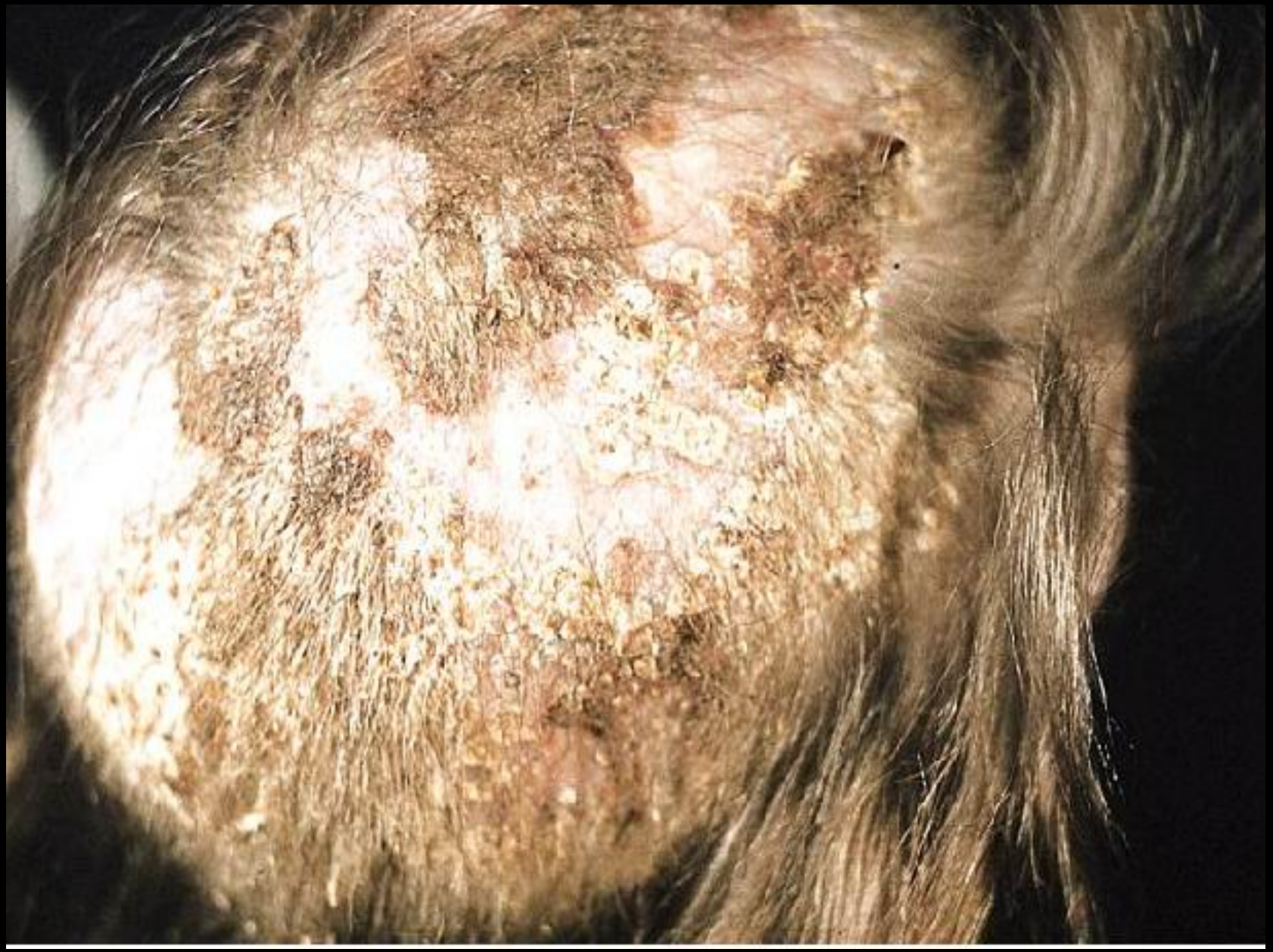
a- dry scaly type . b- black dot type .

2. Inflammatory type :- including a- kerion . B- favus .







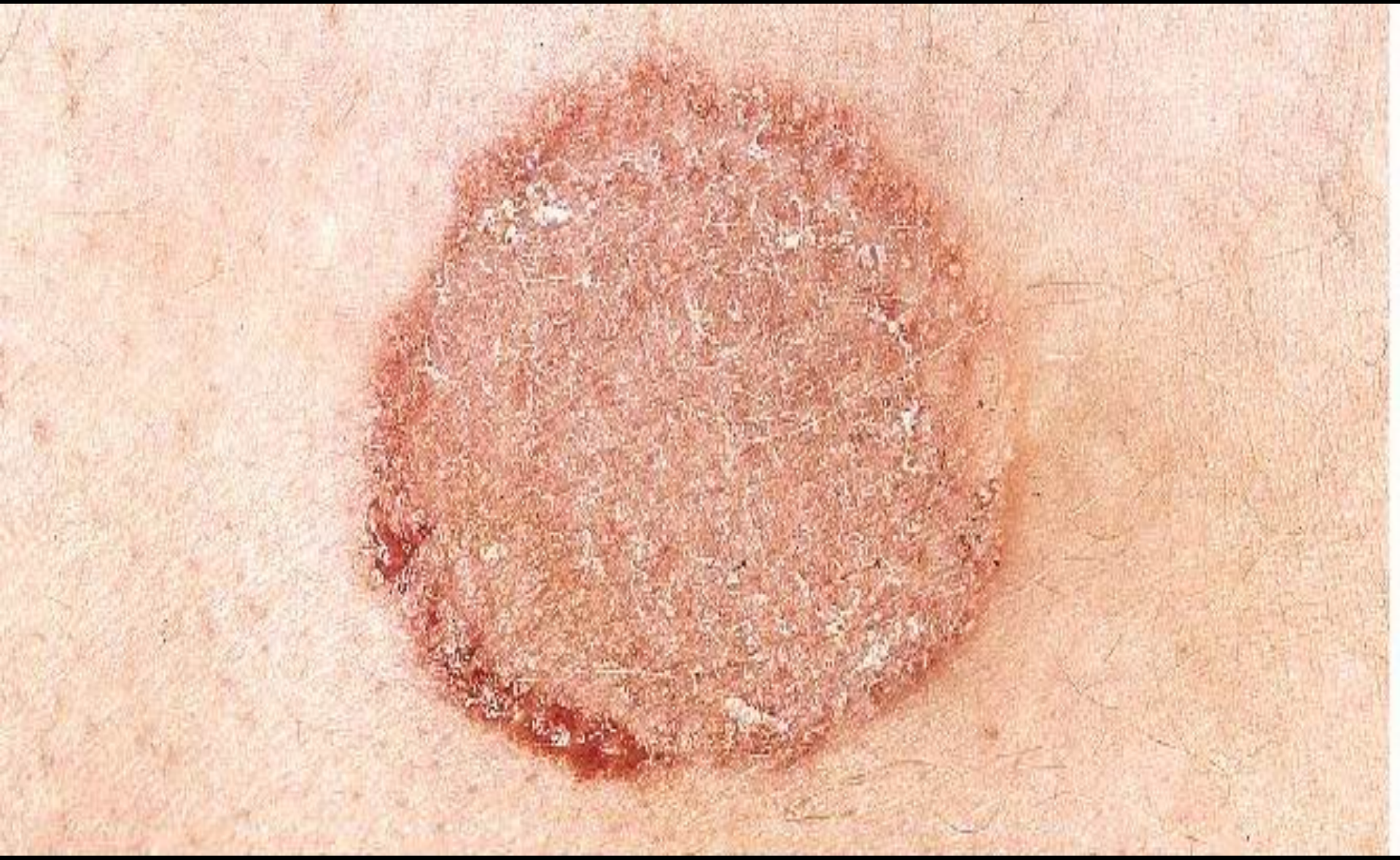


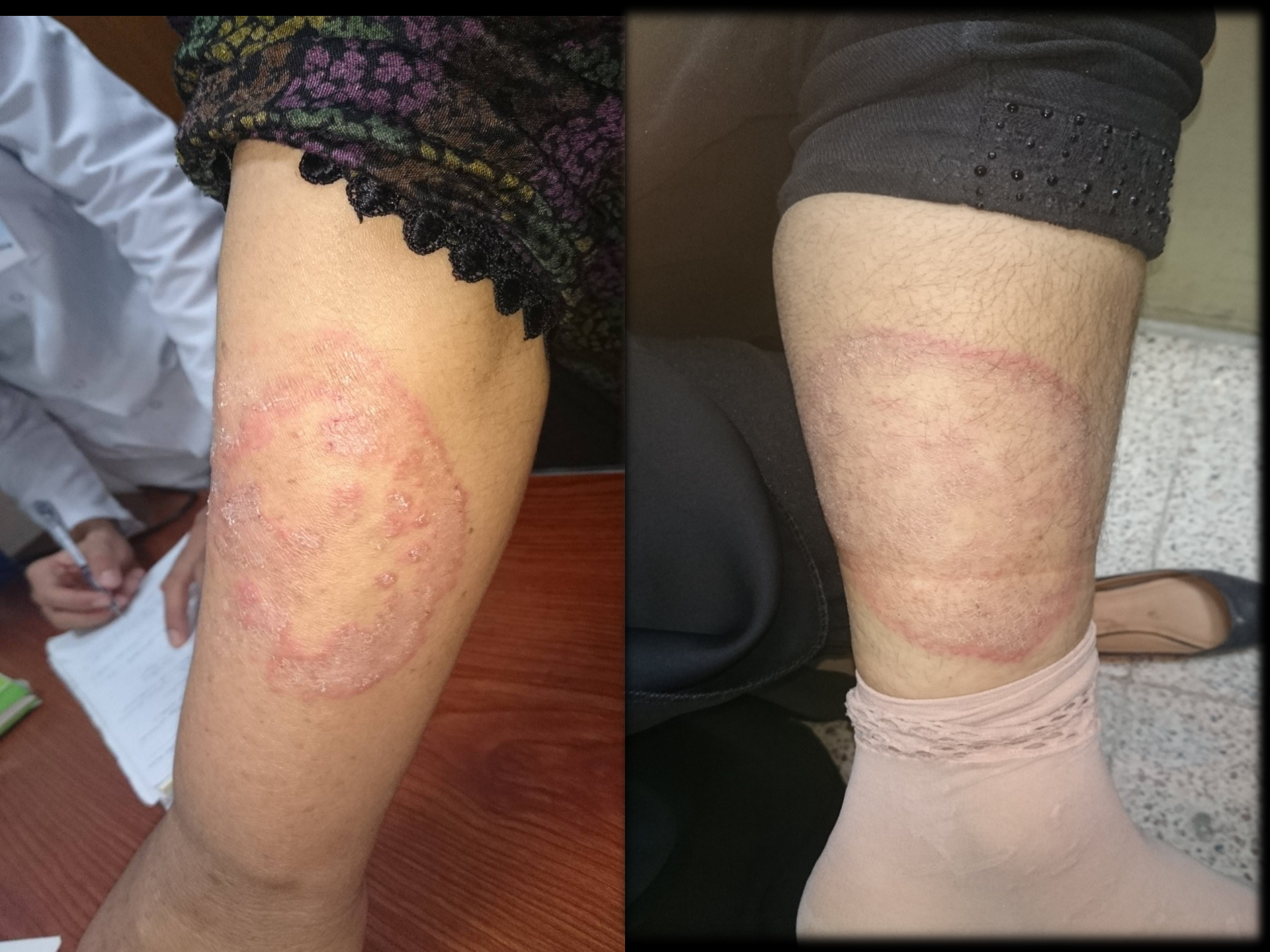
Tinea Circinata (Corporis)

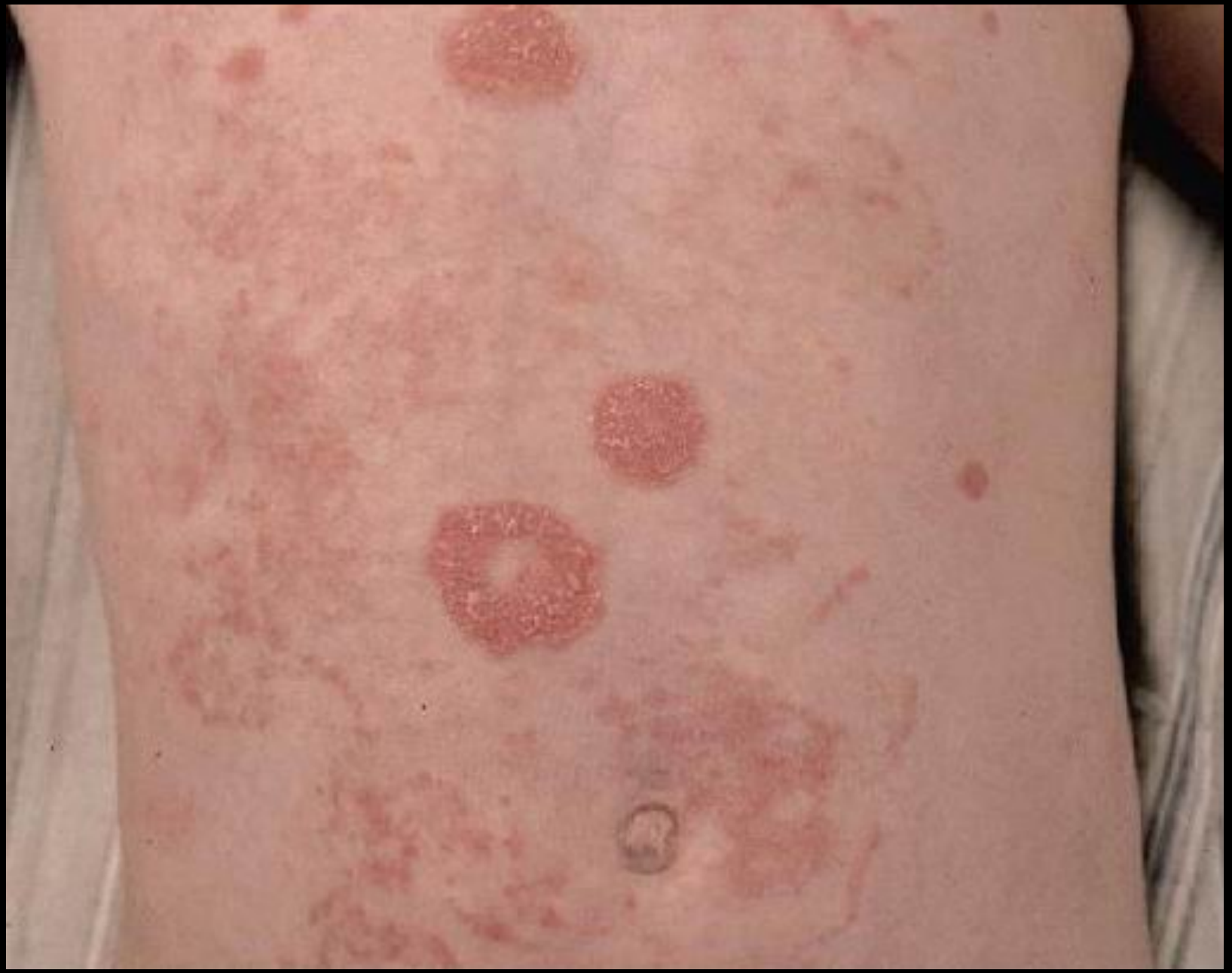
- Charac. Clinically by circular patches which spread out peripherally , healing in the center & so forming the ring from which the disease gets its name . They are red , scaly & especially in the case of animal origin , may be vesicular or pustular & very inflammatory . The lesion are usually single or few in number , but may be multiple .
- Incubation period 3-7 days .

Differential diagnosis :-

1. Discoid eczema .
2. Psoriasis .
3. Pityriasis rosea .







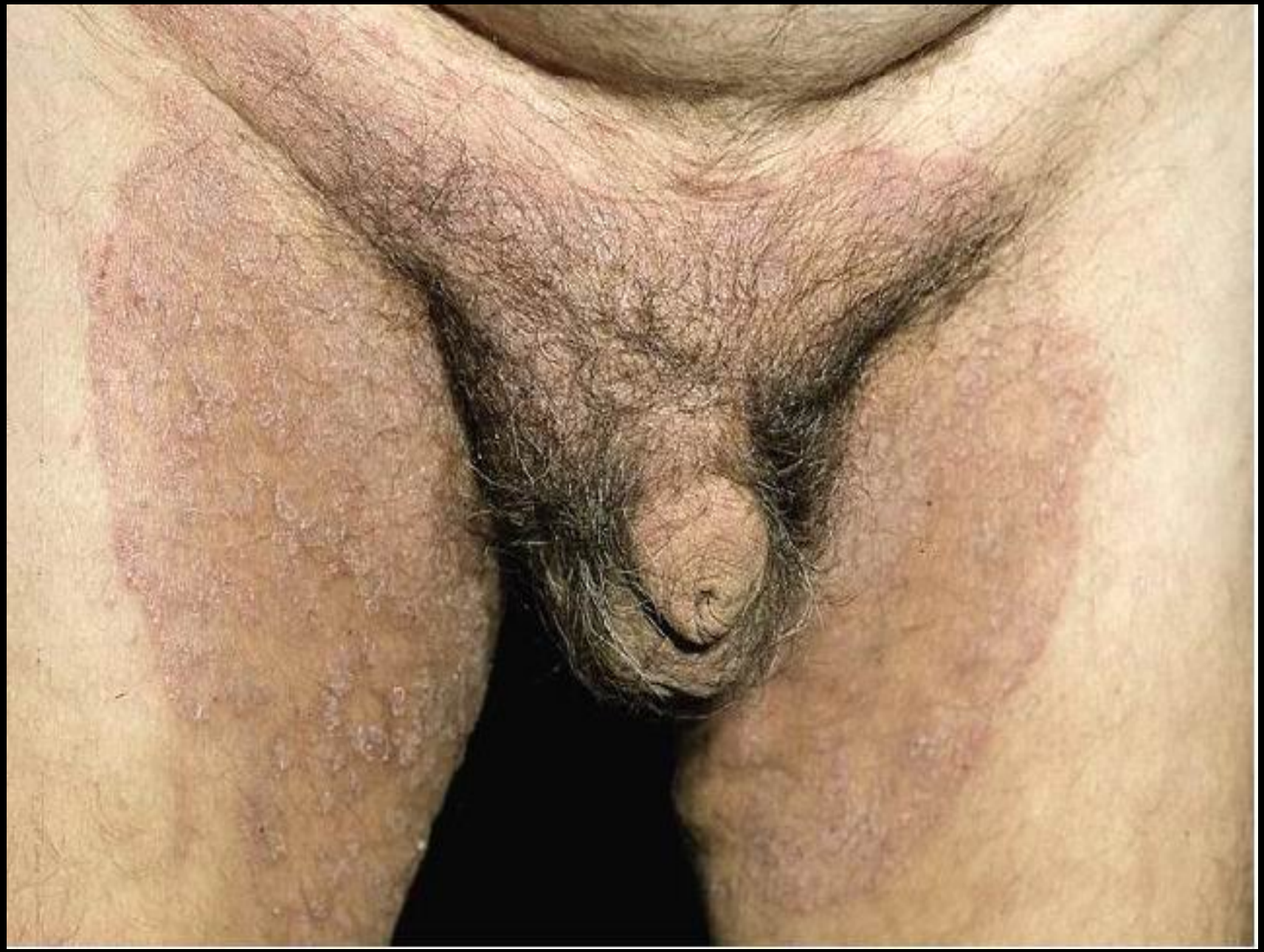
TINEA CRURIS

- The disease is more common in hot summer months , when there is high humidity .
- Men more than women .
- Affecting the upper inner thighs extending from the groin downwards .
- The disease begins as red maculo-papules which spread peripherally & finally form red patches several inches across . The edge is more inflamed than the older central portion , & may be vesicular or pustular .
- The irritation is intense .

Differential diagnosis :- 1- candida .

2-seborrheic dermatitis . 3- intertrigo .

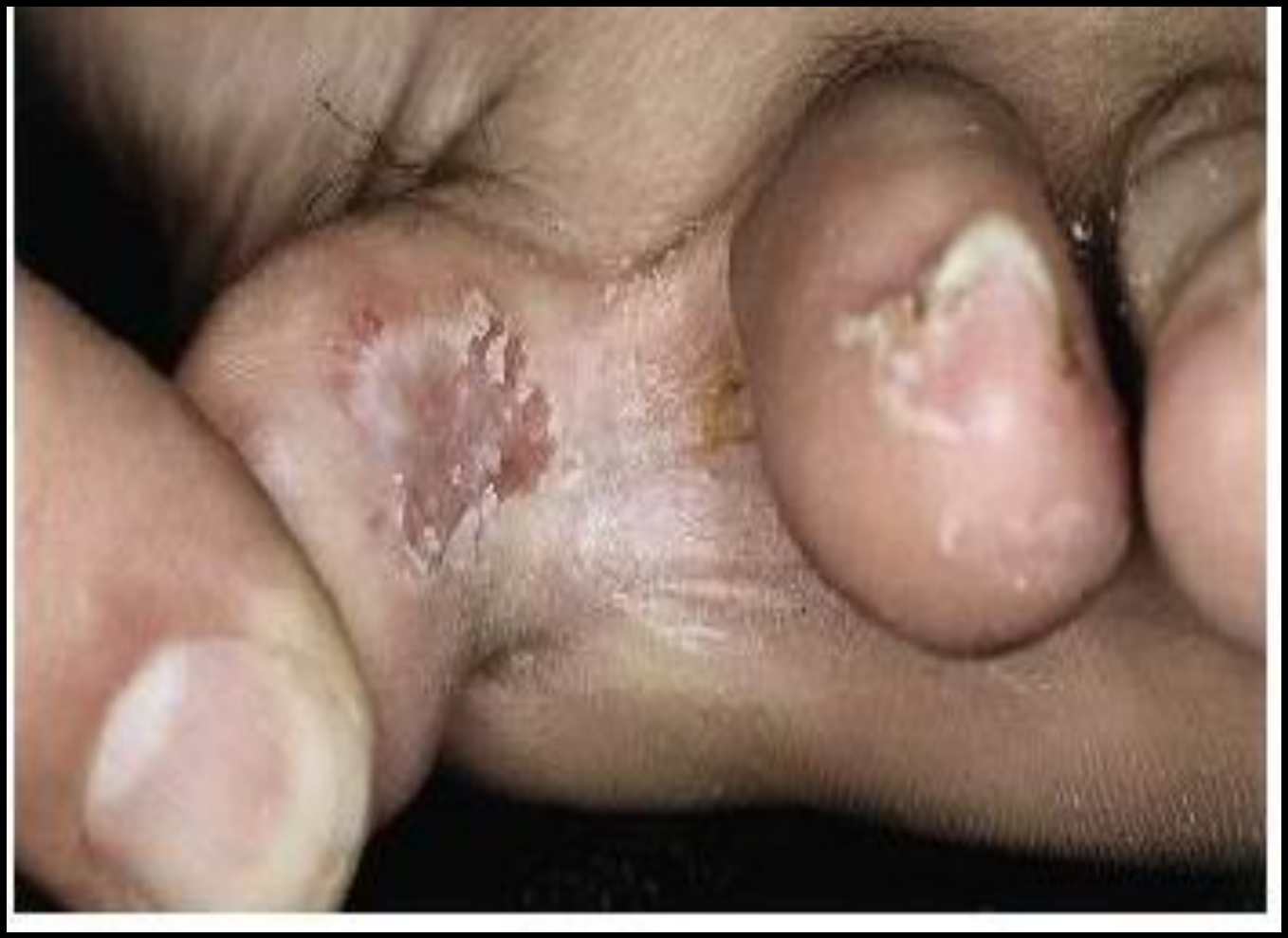
4- flexural psoriasis . 5- erythrasma .

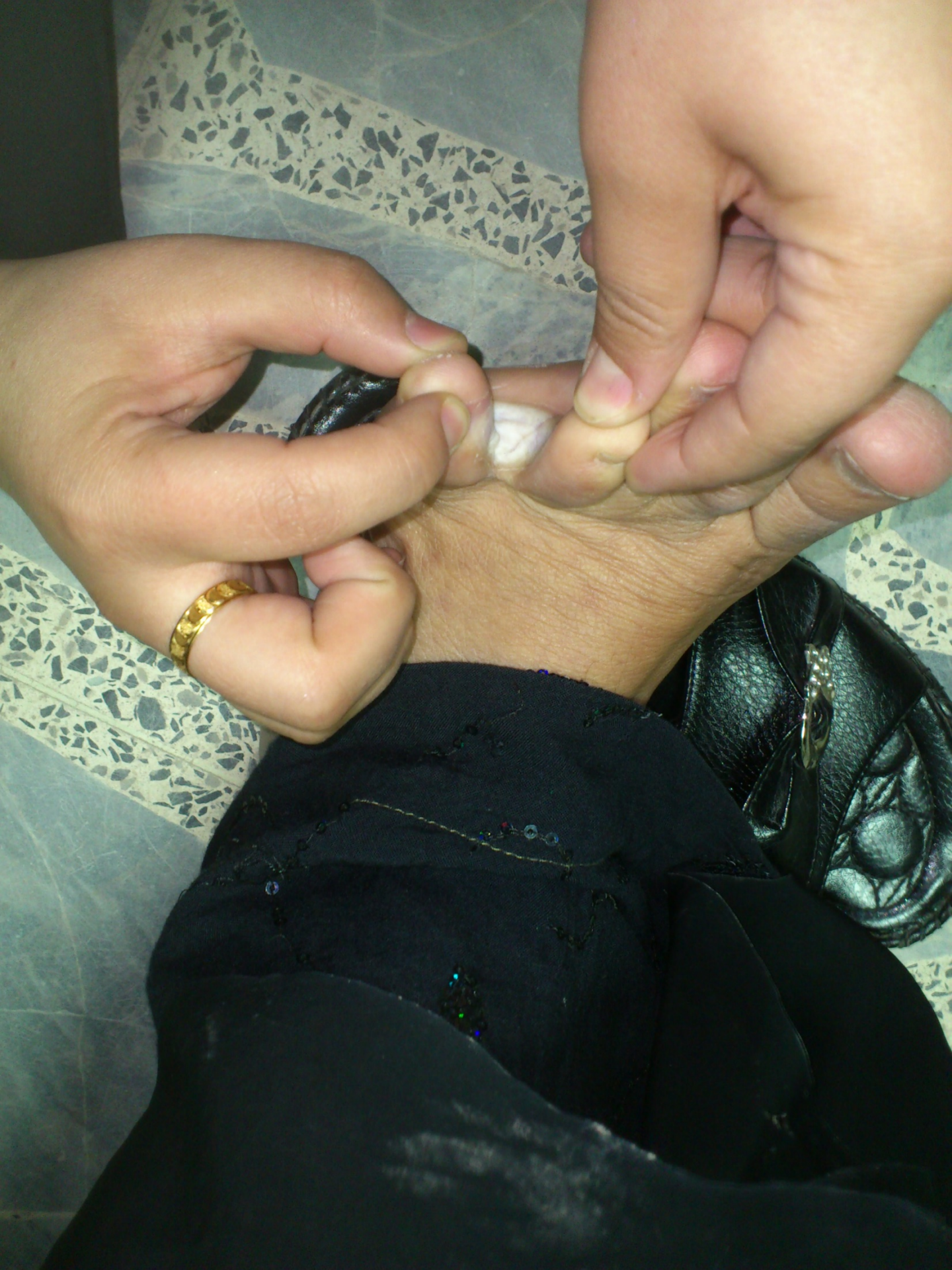


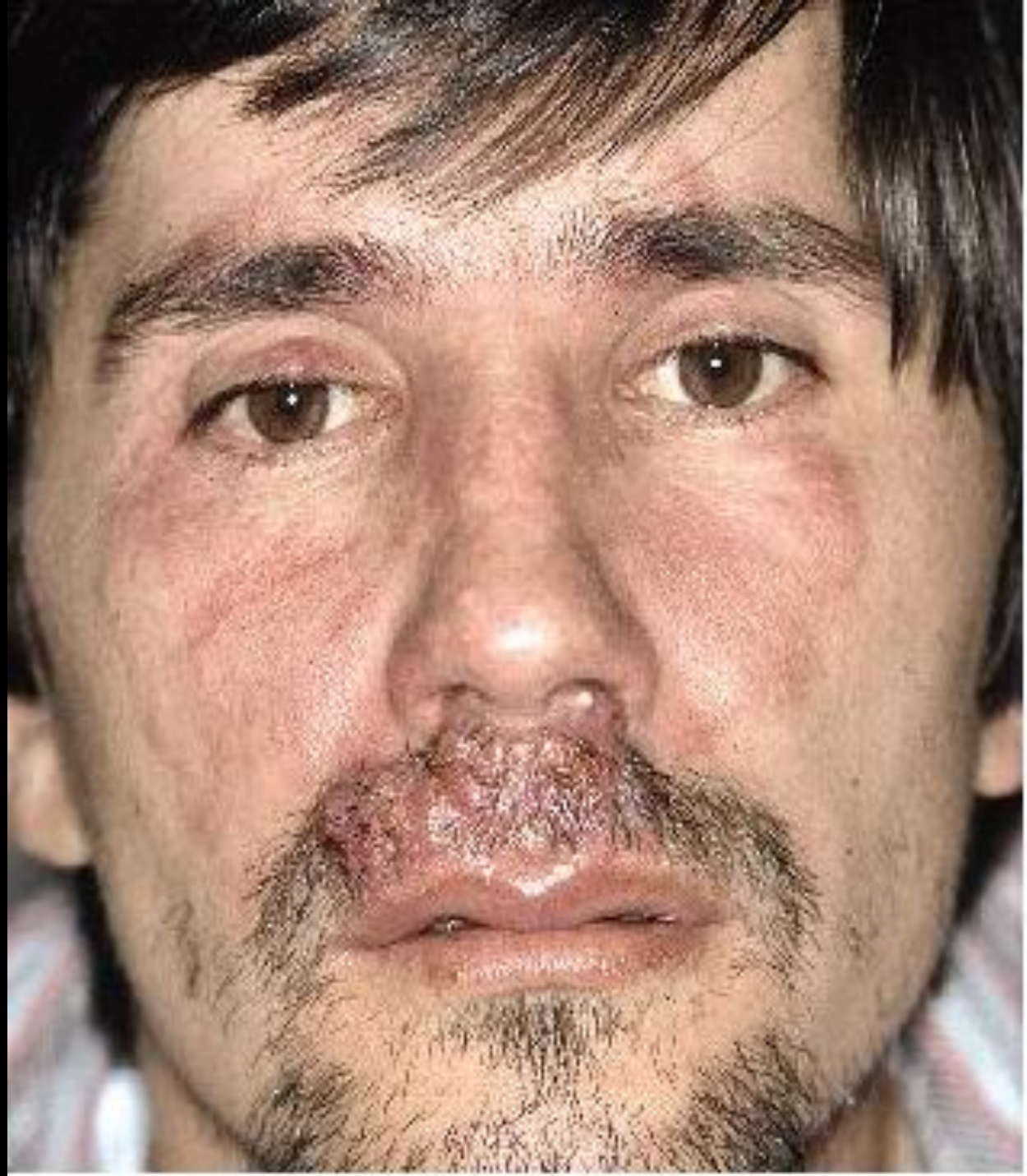
TINEA PEDIS

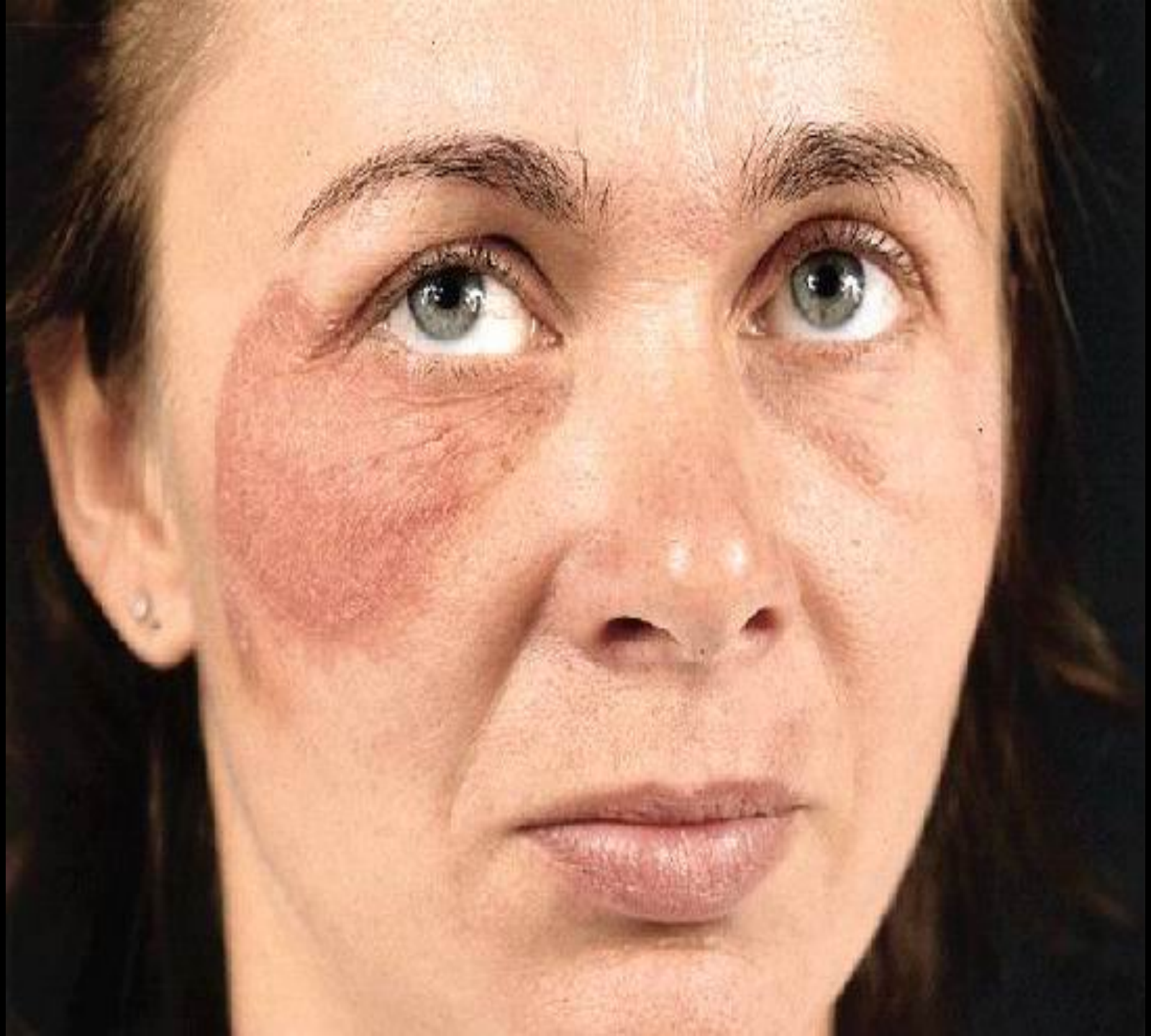
- It mainly affect adolescent & young adult males .
- Spread by the transfer of infected fragments in the bathroom changing rooms , & swimming baths .
- Once infection has occurred , the patient becomes a carrier , the fungus persist in clinically normal skin , thus ensuring further relapse .
- The condition consist of thick , white , peeling , macerated skin between the toes , together with redness , soreness , itching , & cracking .
- Usually affect tow or more toe cleft , although it may remain unilateral for months or even years . The condition also frequently affect the soles .

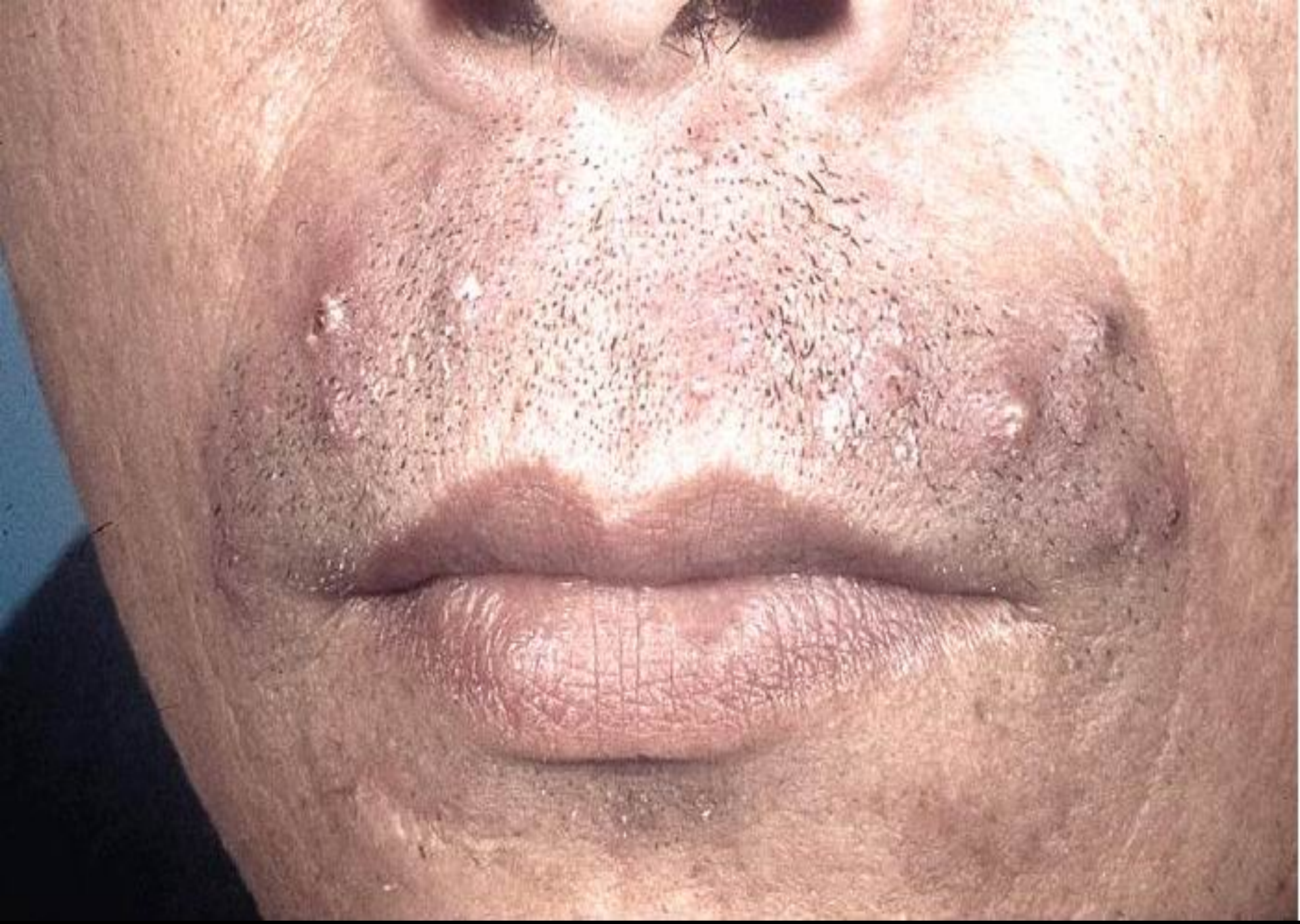
Differential diagnosis :- pomphplyx

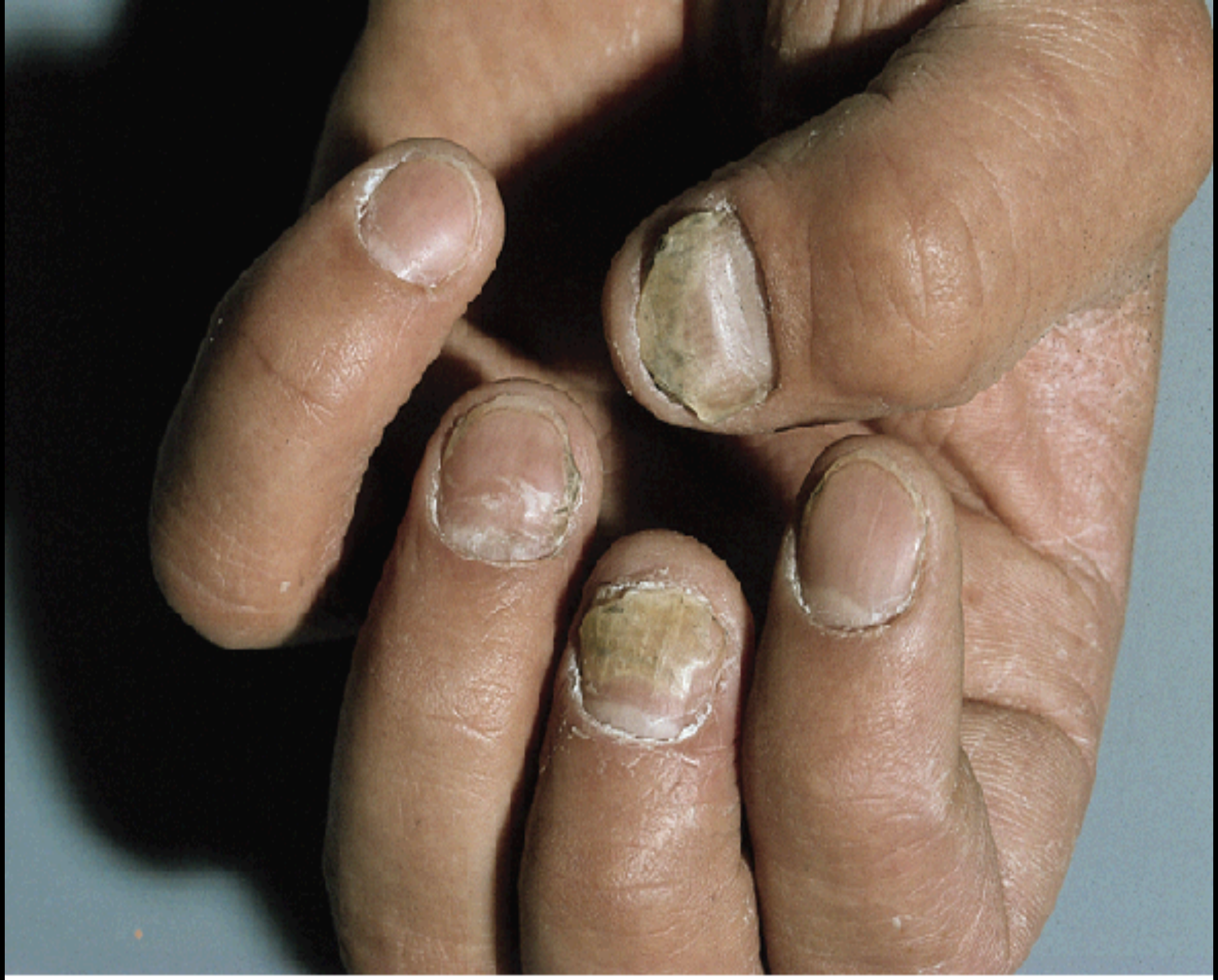


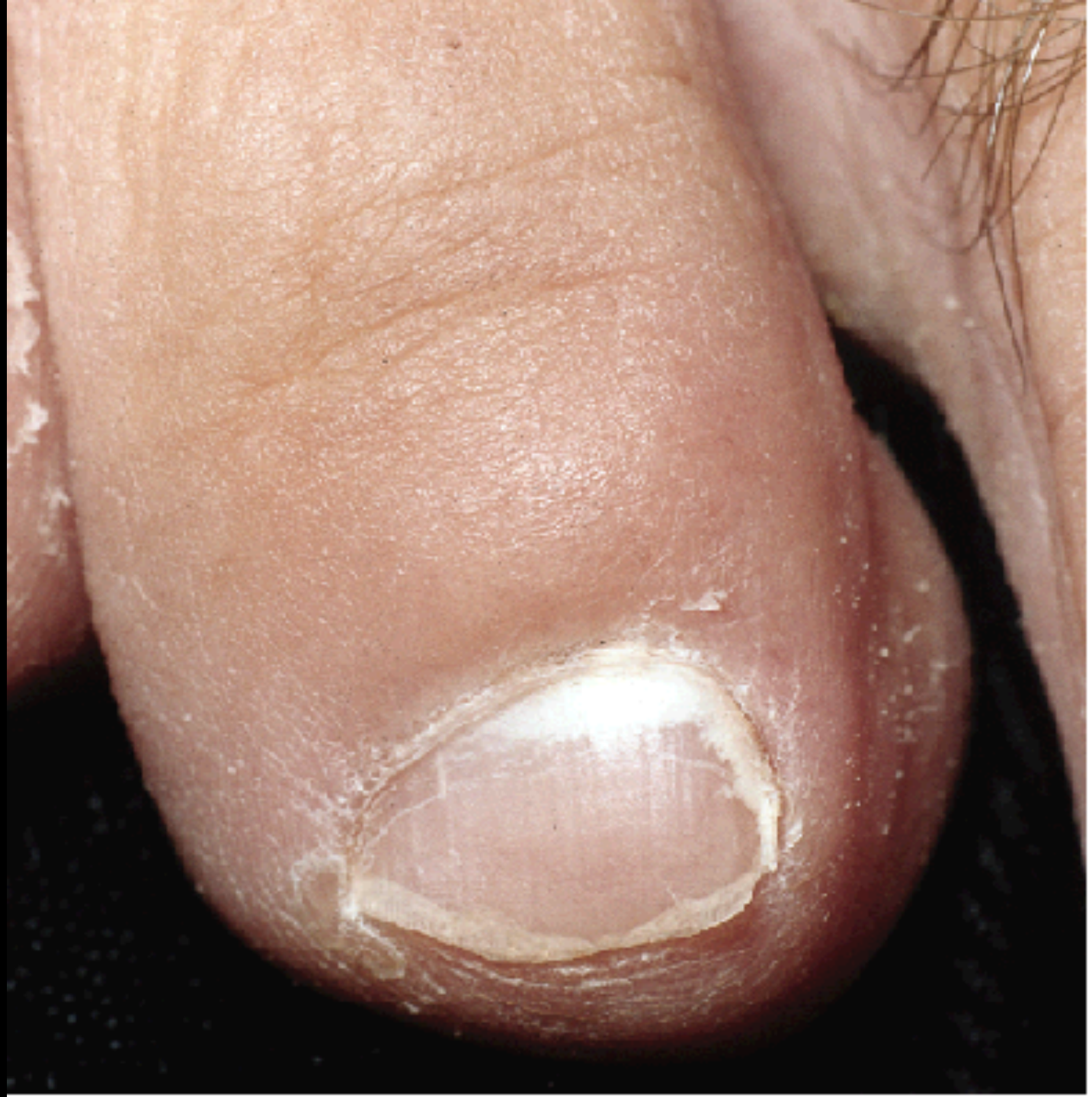


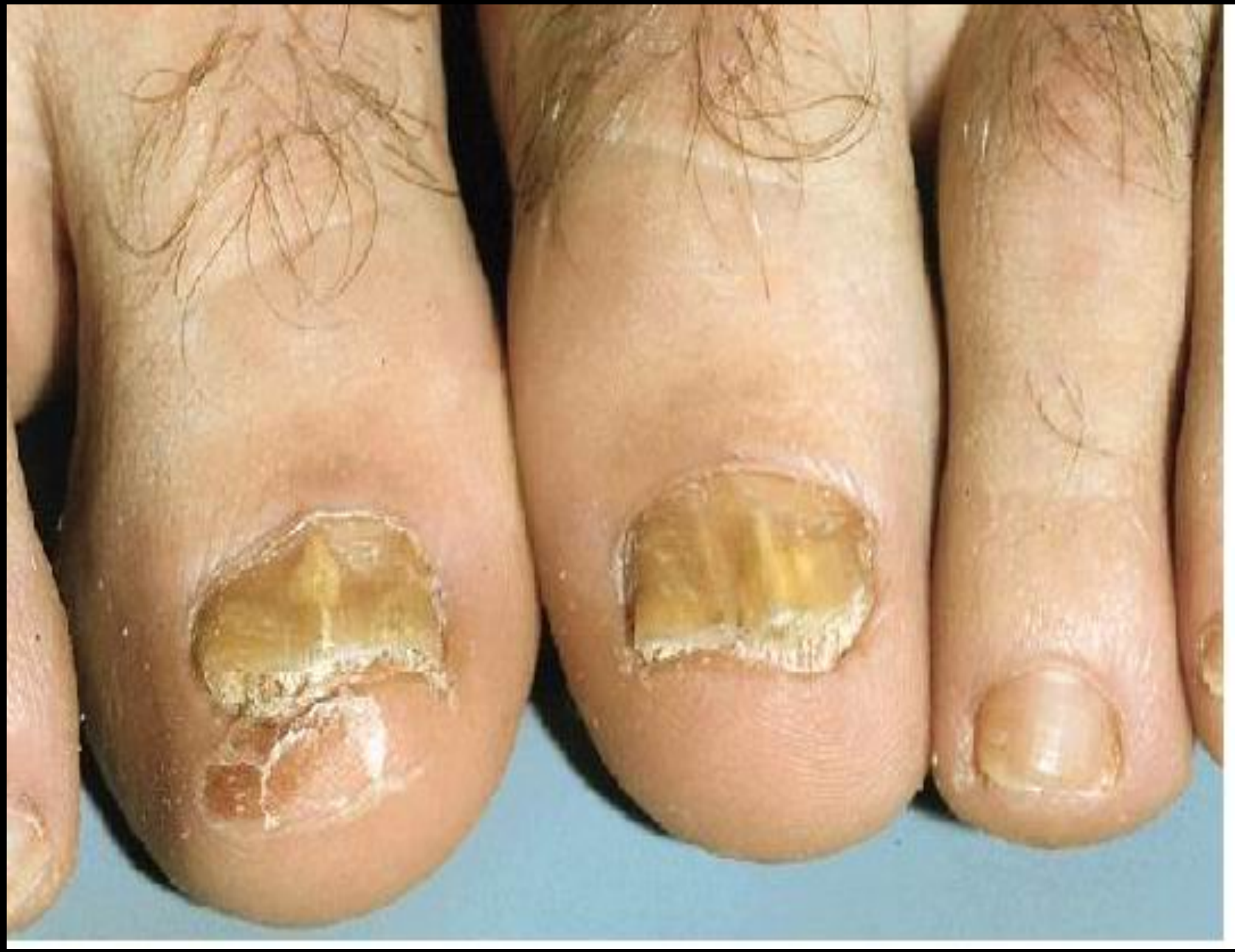


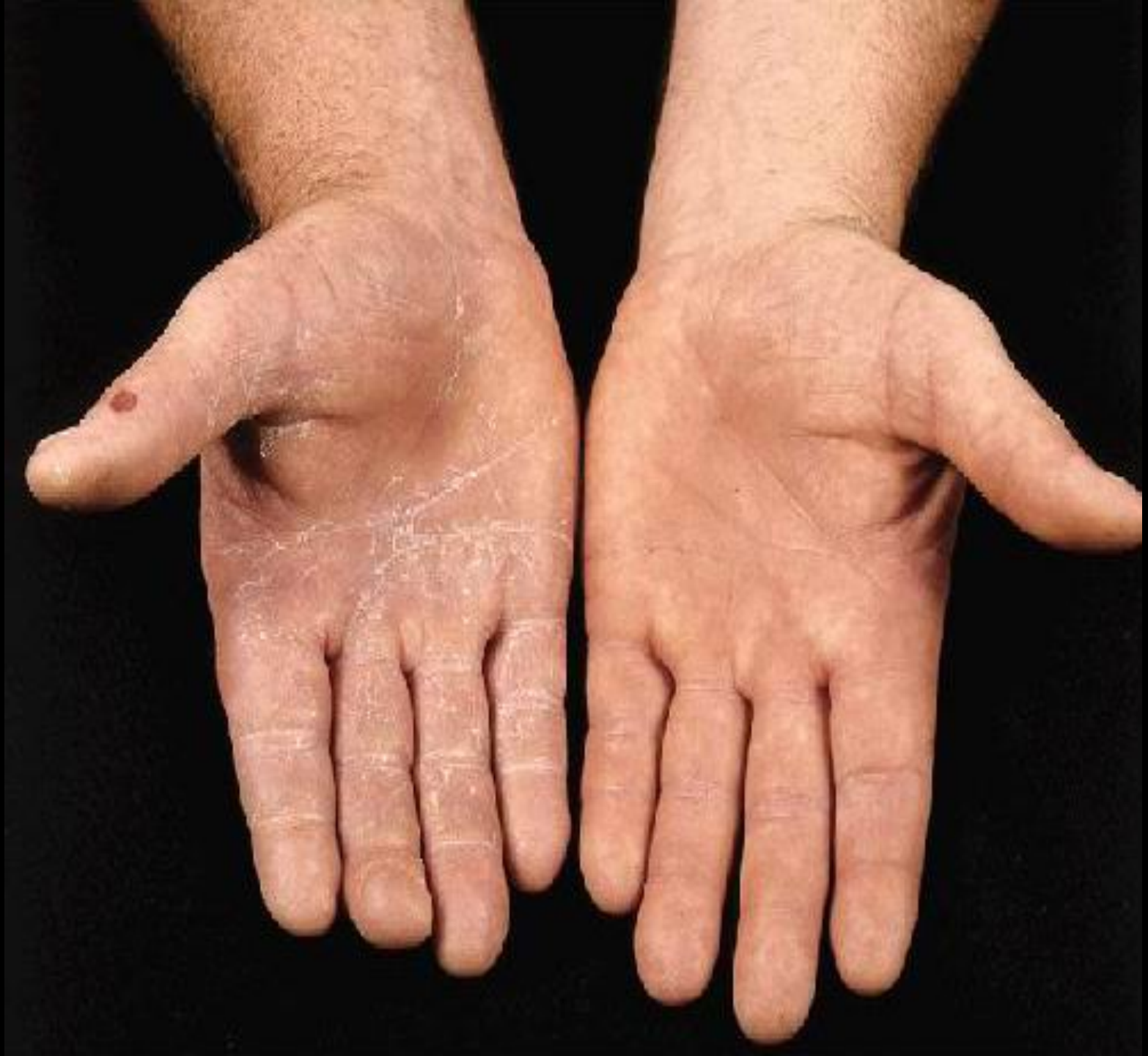






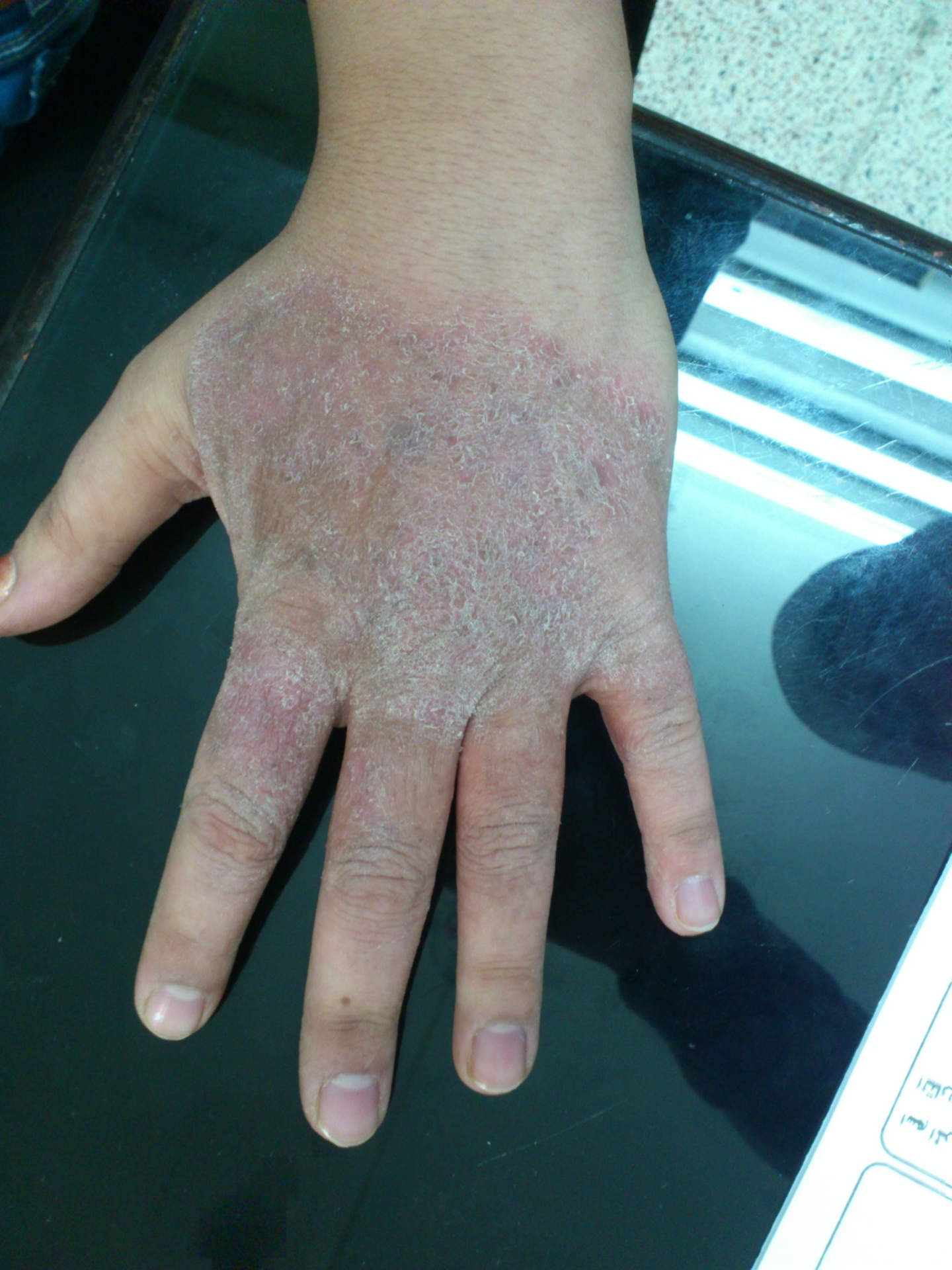






TINEA INCOGNITO

Is modified ring worm infection when treated with topical steroid which decreases inflammation & give the false impression that the rash is improving . Scaling may not be present , active border may not be present .



CANDIDIASIS (MONILIASIS)

- The yeast like fungus candida albican & few other candida species are capable of producing skin , mucus membrane , & internal infections .
- The organism lives with the normal flora of the mouth , vaginal tract , & gut . It reproduces through budding of the oval yeast forms .
- Pregnancy , oral contraceptive , antibiotic therapy , diabetes , skin maceration , topical steroid therapy , certain endocrinopathies , & factors related to depression of CMI ; allow the yeast to become pathogenic & produce budding spores & elongated cells (pseudohyphea) or true hyphea with septate walls

Candidiasis

- The pseudohyphea & hyphea are indistinguishable.Culture results must be interpreted carefully because the yeast is part of the normal flora in many parts .
- The yeast infects only the outer layers of the epithelium of the skin & mucus membrane (stratum corneum) .
- The primary lesion is pustule , the content of which dissect horizontally under the stratum cornium & peel it away . Clinically , this process results in a red-denuded , glistening surface with a long , cigarette paper-like scaling (collaret scale) in the advancing border .
- Infection of the m.m. of the mouth & vaginal tract accumulate scale & inflammatory cells that develop in to white or white-yellow , cruddy material .

CANDIDIASIS

Yeast grows best in a warm , moist environment , therefore, infection is usually confined to the m.m. & intertriginous areas . The advancing infected border usually stops when it reaches dry skin .

Clinical types of candidiasis :-

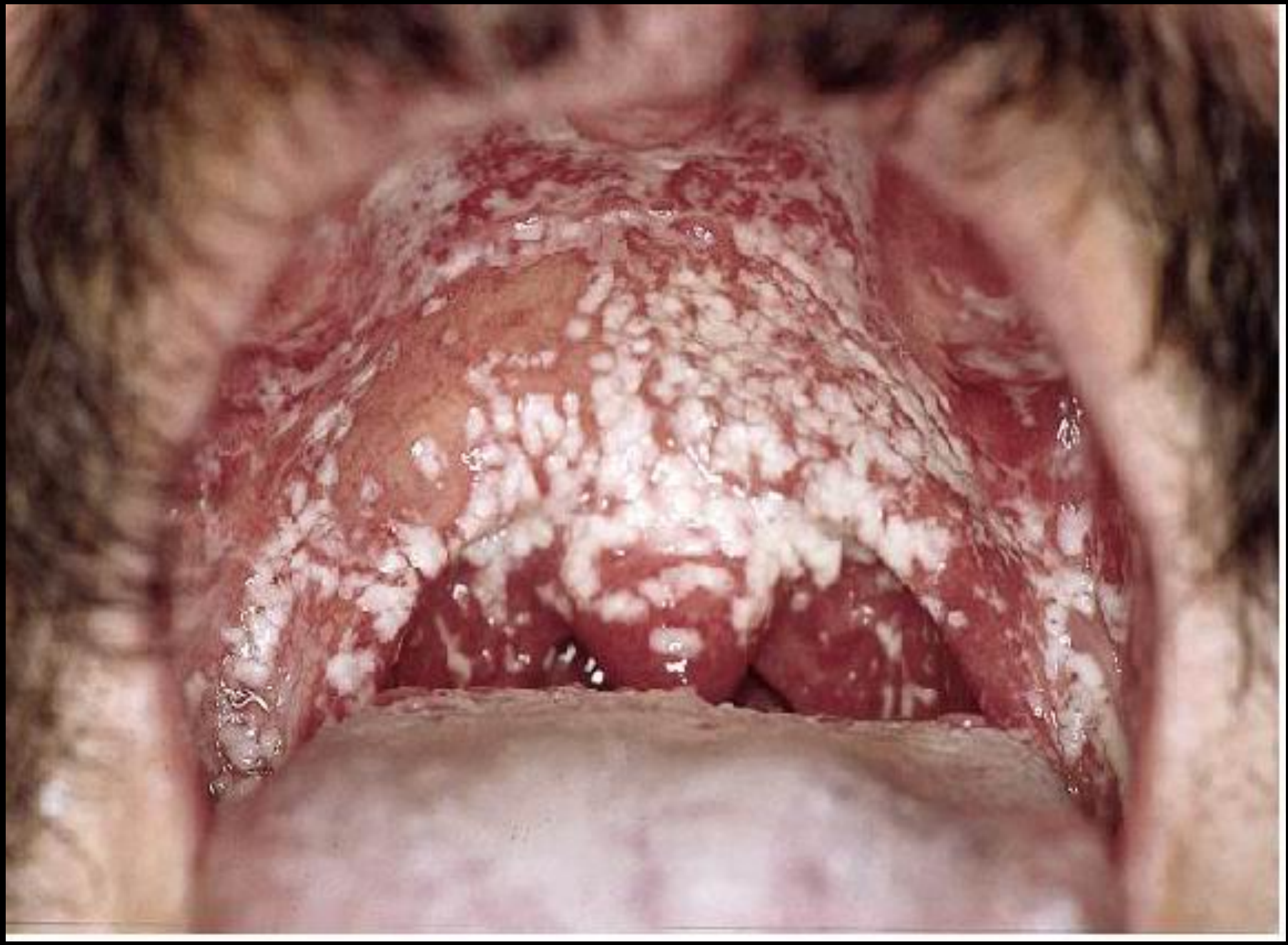
1.Oral candidiasis (thrush) :- creamy-white , easily removable , pseudomembranouse patches are found on the buccal mucosa & tongue .

Predisposing factors :- it is more common in

a-babies . B- patient treated with antibiotic .

c-immunosuppress patient .

Differential diagnosis :- milk patch



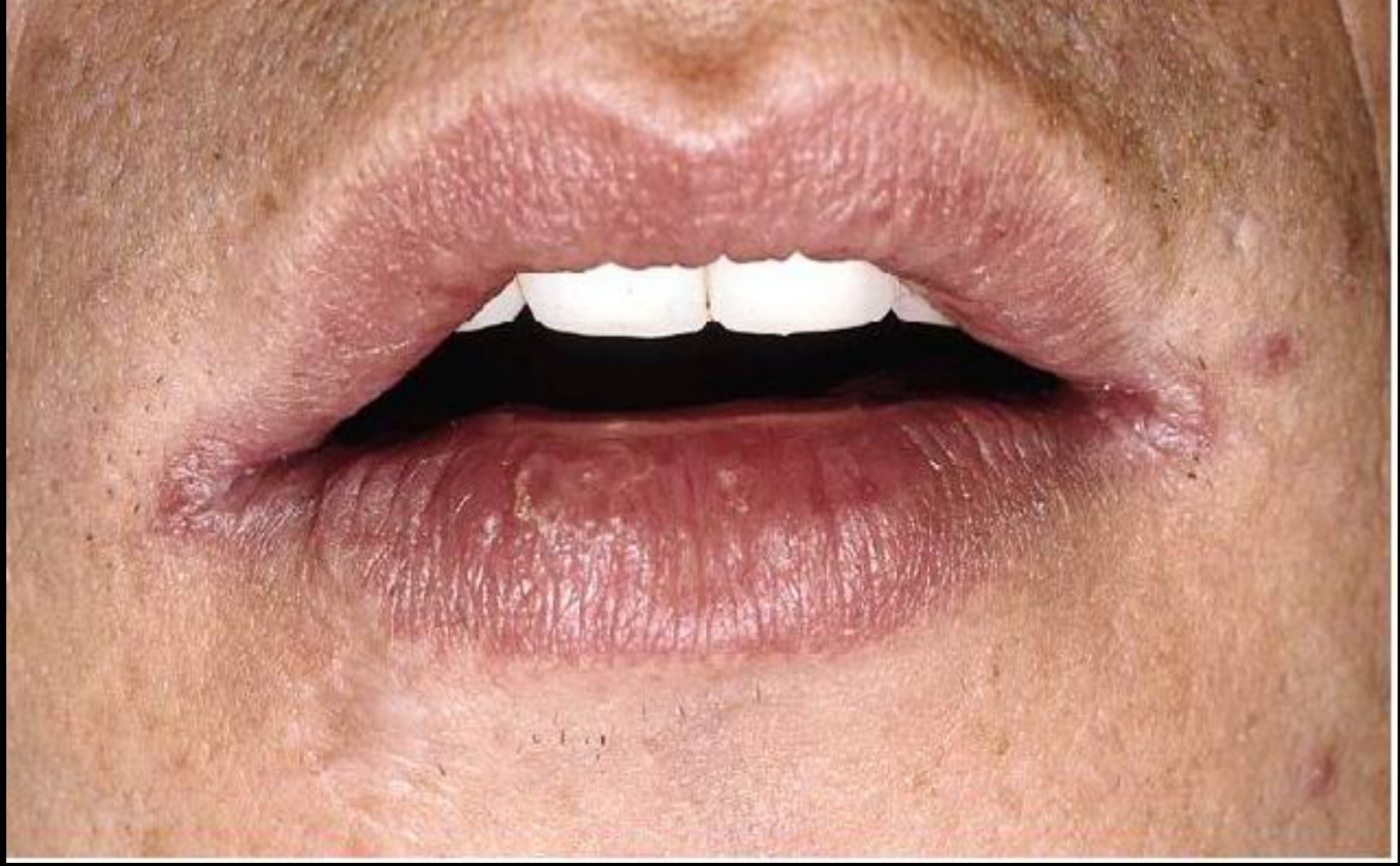
CANDIDIASIS

Clinical types of candidiasis :-

2-Angular stomatitis (perleche):- sore fissure in the depth of the skin fold .Erythema , scaling , & crust form at the sides of the fold . Patient lick & moisten the area in an attempt to prevent further cracking but this aggravate the problem .

Predisposing factors :- lip licking , biting , poorly fitting denture .

Differential diagnosis :- B12 deficiency , staph. infection .



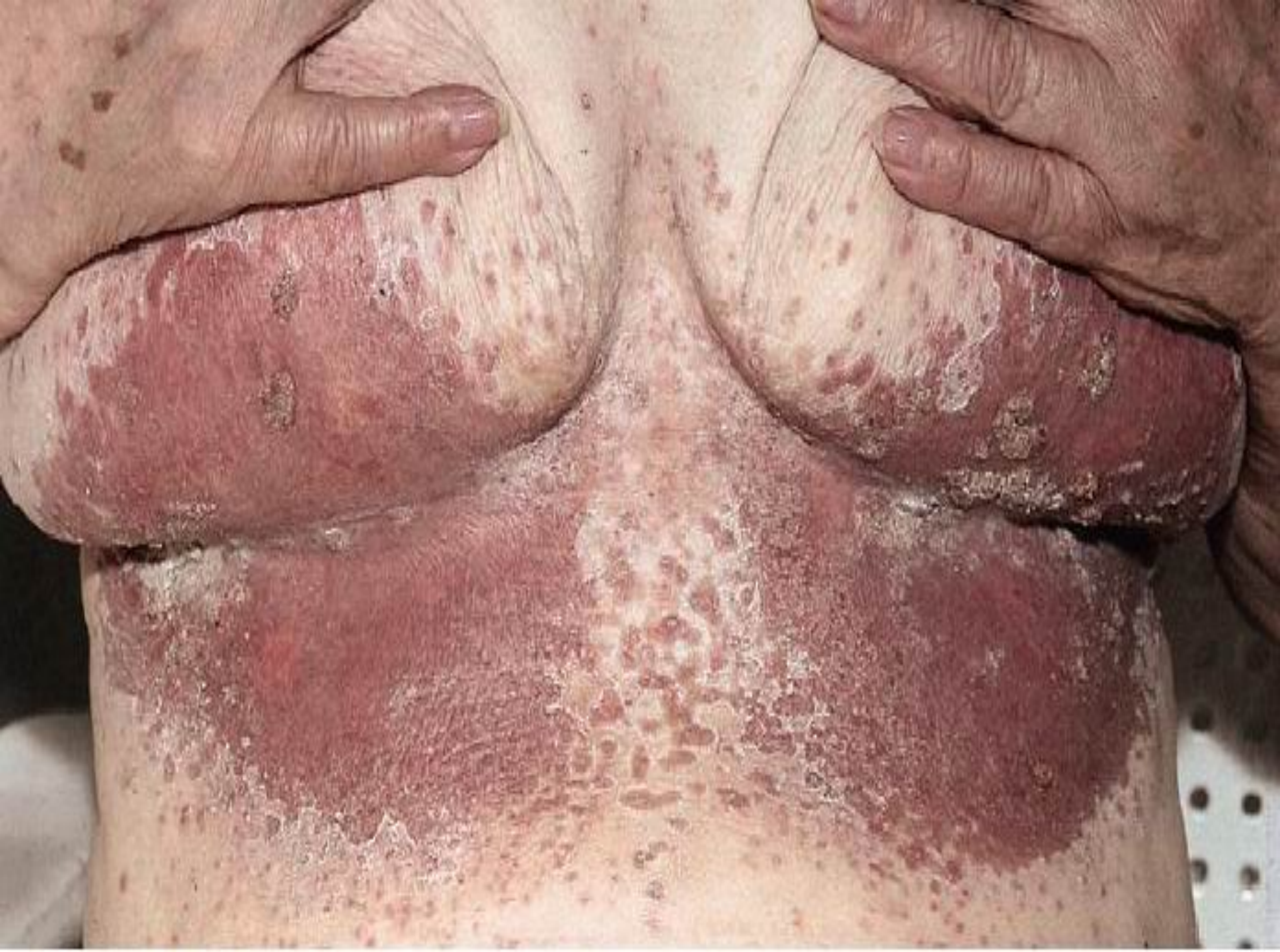
CANDIDIASIS

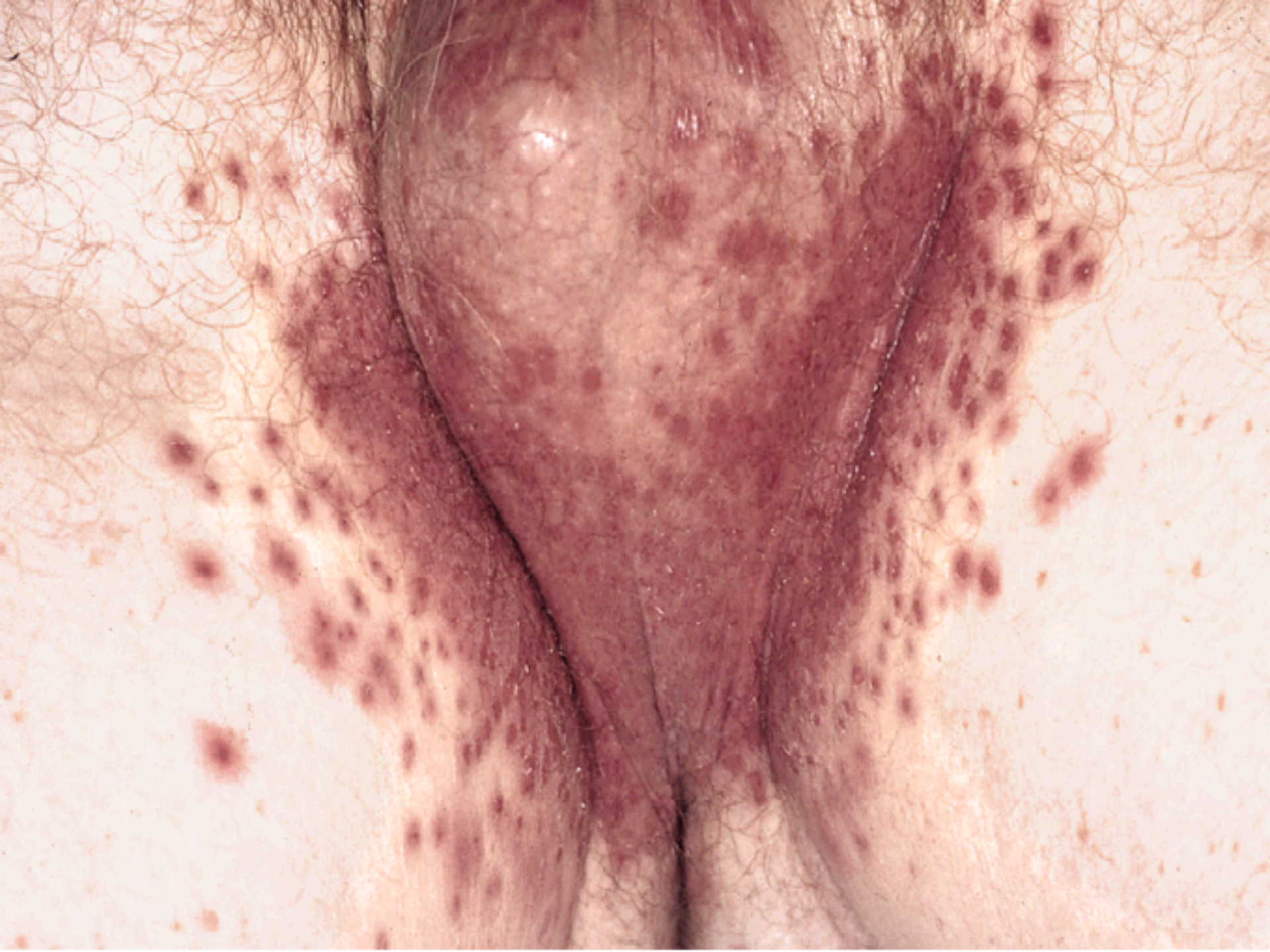
Clinical types of candidiasis :-

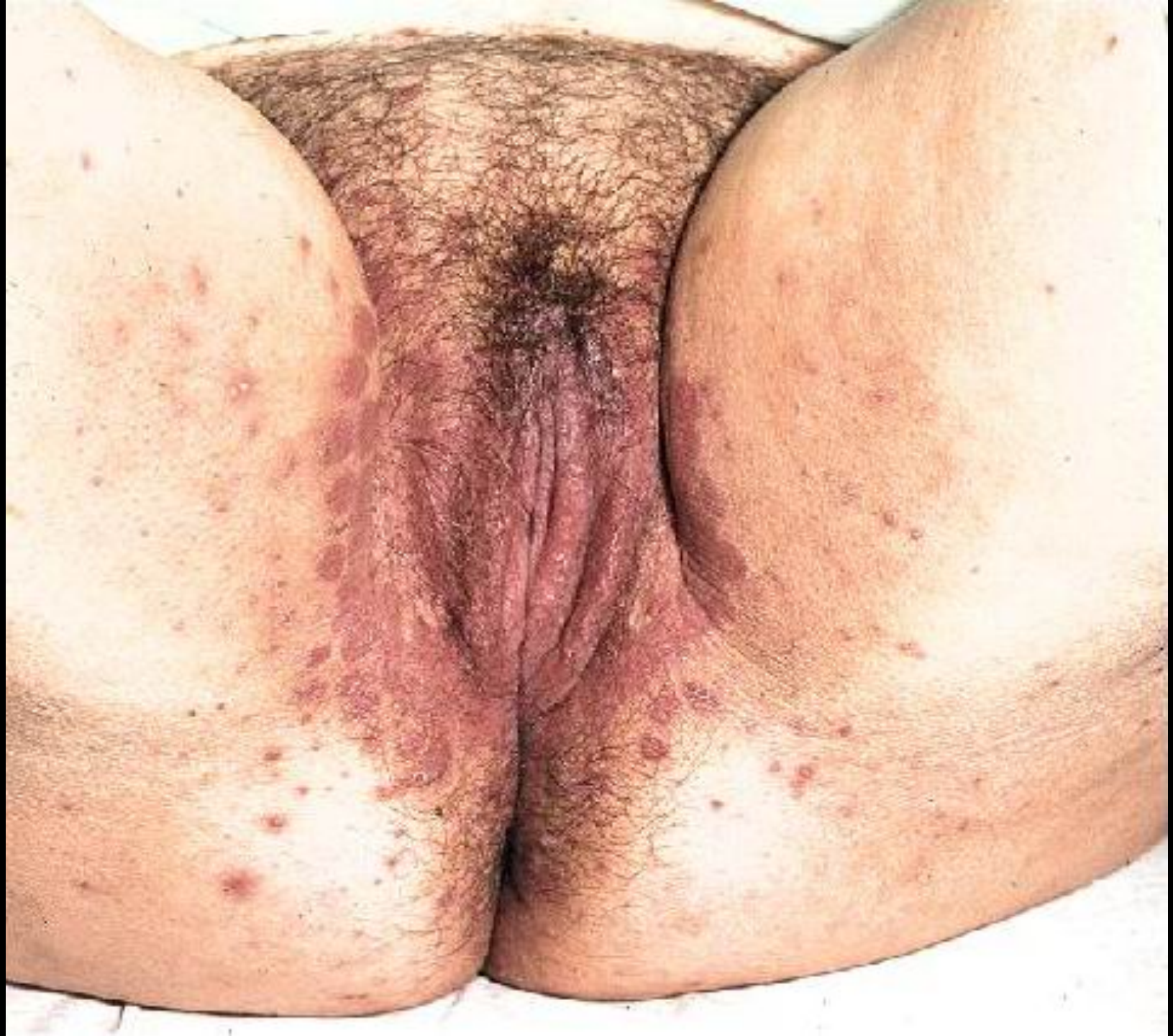
3- Candidal intertrigo :- affecting folds of the genitals ,groin, armpit , between buttocks , under large pendulous breasts , under overhanging abdominal folds , or in the umbilicus .

Clinically present as pinkish moist patches surrounded by thin , overhanging fringe of some what macerated epidermis (collaret scale) , commonly there is tiny superficial , white pustule are observed closely adjacent to the patch .

Differential diagnosis:- a- tinea cruris . b- erythrasma c- flexural psoriasis . d- intertrigo . e-seborrhiec der.







CANDIDIASIS

Clinical types of candidiasis :-

4-candidal vulvovaginitis :- the patient present with sever pruritus , irritation , & extreme burning . The labia may be hyperemic , swollen , & eroded . Vaginal discharge is not profuse but is thick , & tenacious .

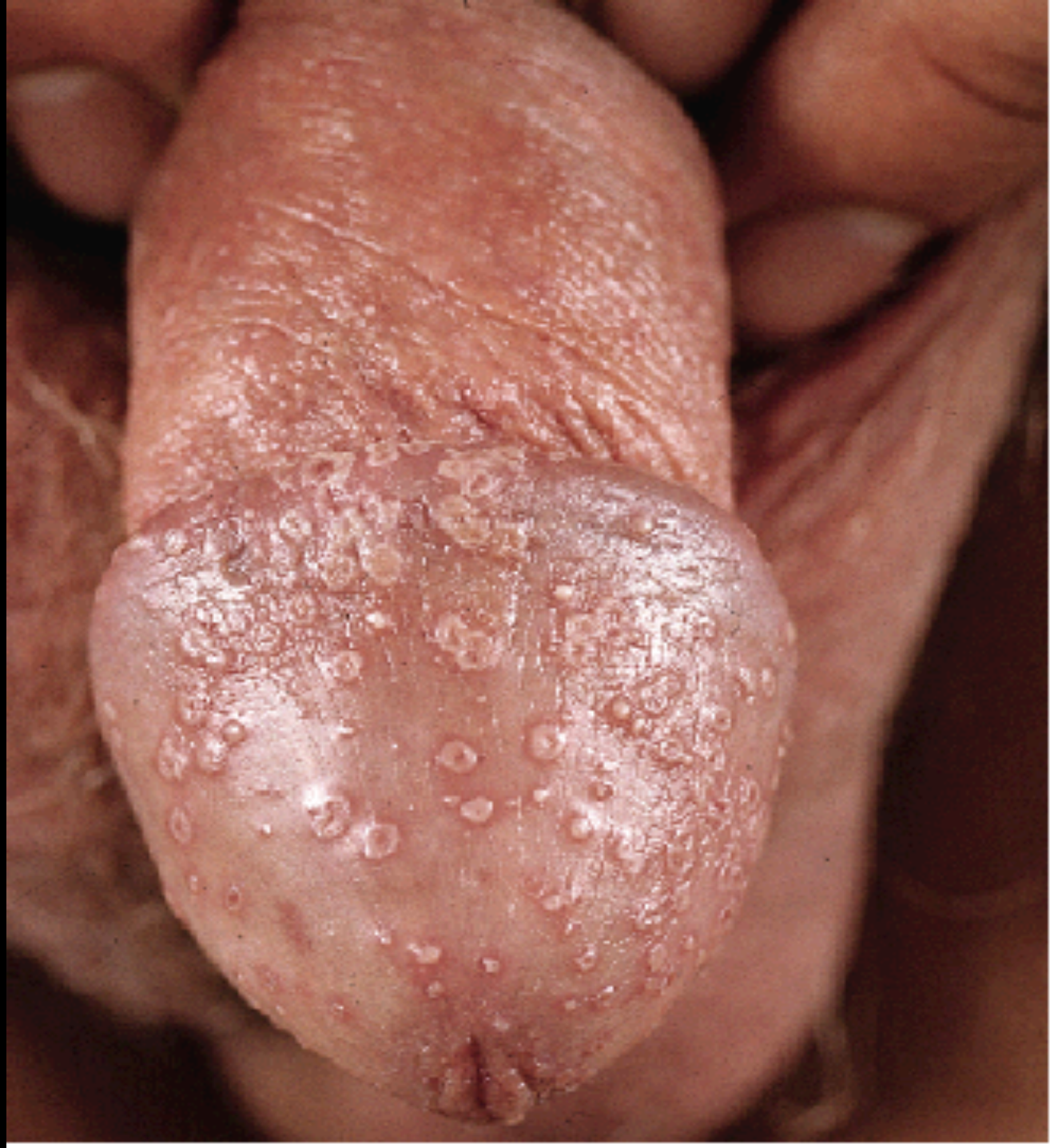
this type of infection may develop during pregnancy , DM. , prolong therapy with broad spectrum antibiotic , or tamoxifen treatment . If the partner has candidal balanitis & is not recognized , repeated infection of the partner may result .

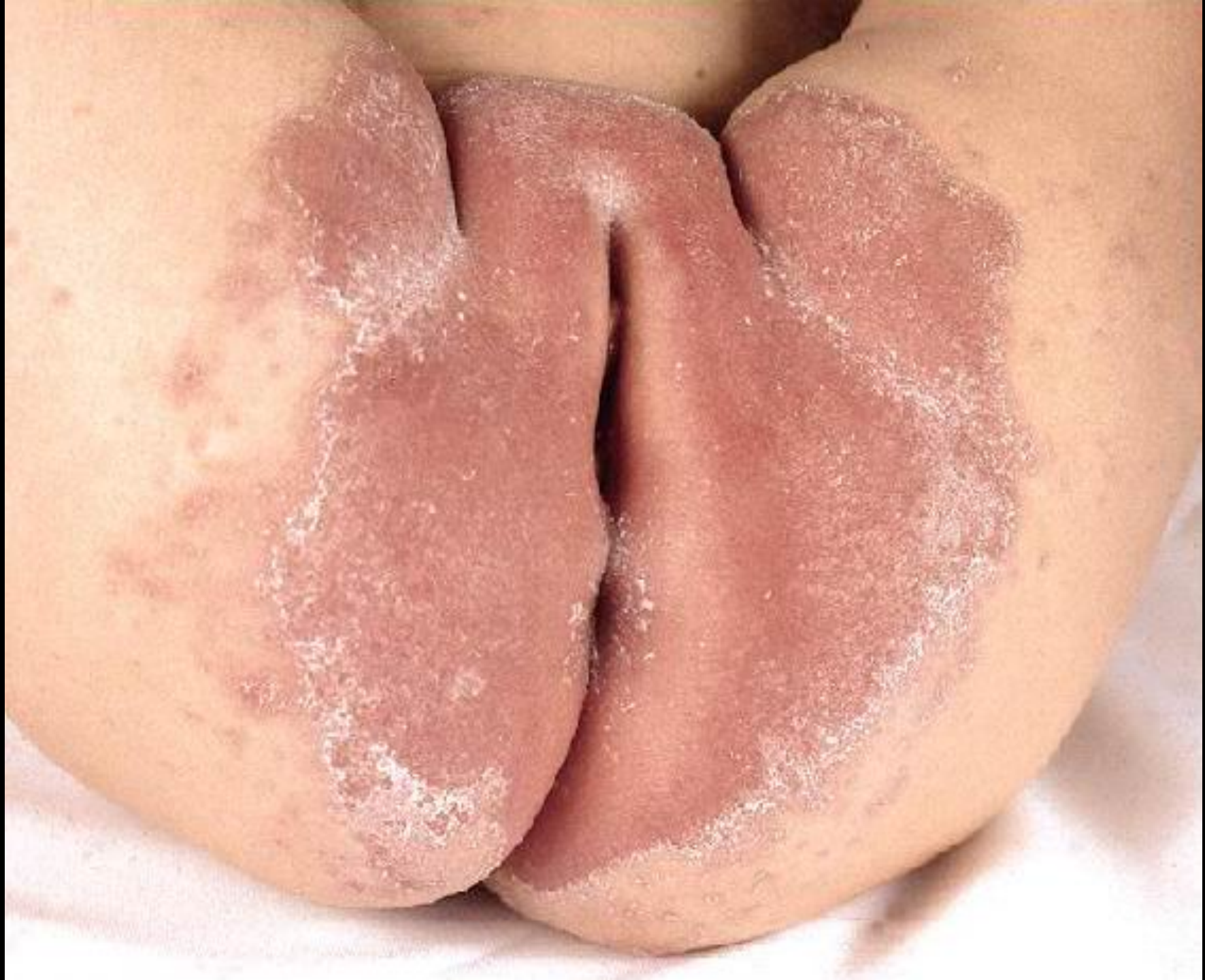
5-candidal balanitis .

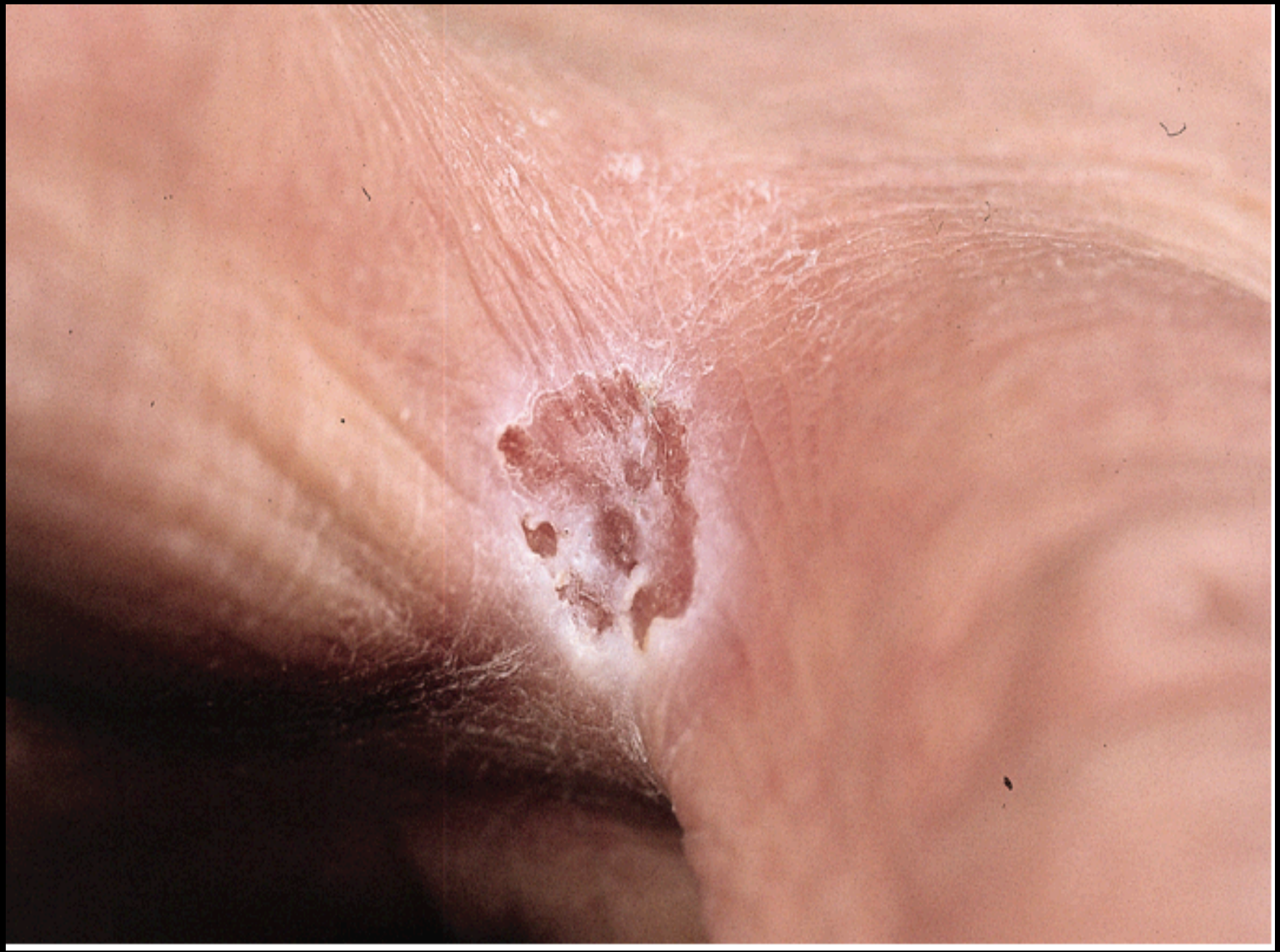
6- dipper candid.

7-candidiasis of small skin fold .

8- candidal paronychia .







Treatment of fungal infection

- Indication of using systemic antifungal agent are :-

1.Tinea capitis . 2. Onychomycosis . 3. Tinea incognito .

4.Wide spread infection & not responding to topical agents .

N.B.:- the only indication of using systemic steroid is **kerion**

Treatment :- include topical & systemic treatment .

1. Topical treatment :- include

A- immidazole group :- including clotrimazole , econazole , miconazole , & sulconazole .

B- Allylamine group :- including naftifine , terbinafine .

C- compound of benzoic acid & salicylic acid .

Treatment of fungal infection

Topical antifungal agent :-

D- polyenes :- including nystatin (only used for candidiasis) .

E-miscellaneous :- ciclopirox olamine , tolnaftat .

Systemic antifungal agent :-

A- Griseofulvin :-((is not effective in candidiasis) .

B-Immidazole group :- including ketoconazole & miconazole .

C-Ttrizole group :- including itraconazole & fluconazole .

D-Terbinafine .

TINEA VERSICOLOR

- Is a mild superficial chronic disease charac. by fine scaling & disturbance of skin pigmentation . Caused by malassezia furfur which is the filamentous form of the lipophilic yeast pityrosporum orbiculare
- Pityrosporum orbiculare is a common member of the normal cutaneous flora & is present in nearly all population in patchy distribution all over the body surface including scalp & appears in highest numbers in areas with increase sebaceous activity .
- **Predisposing factors :-** host susceptibility(genetic &constitutional) , excess heat & humidity , cushing disease , pregnancy , malnutrition , burn , corticosteroid therapy , immunsuppres. , oral contraceptive.

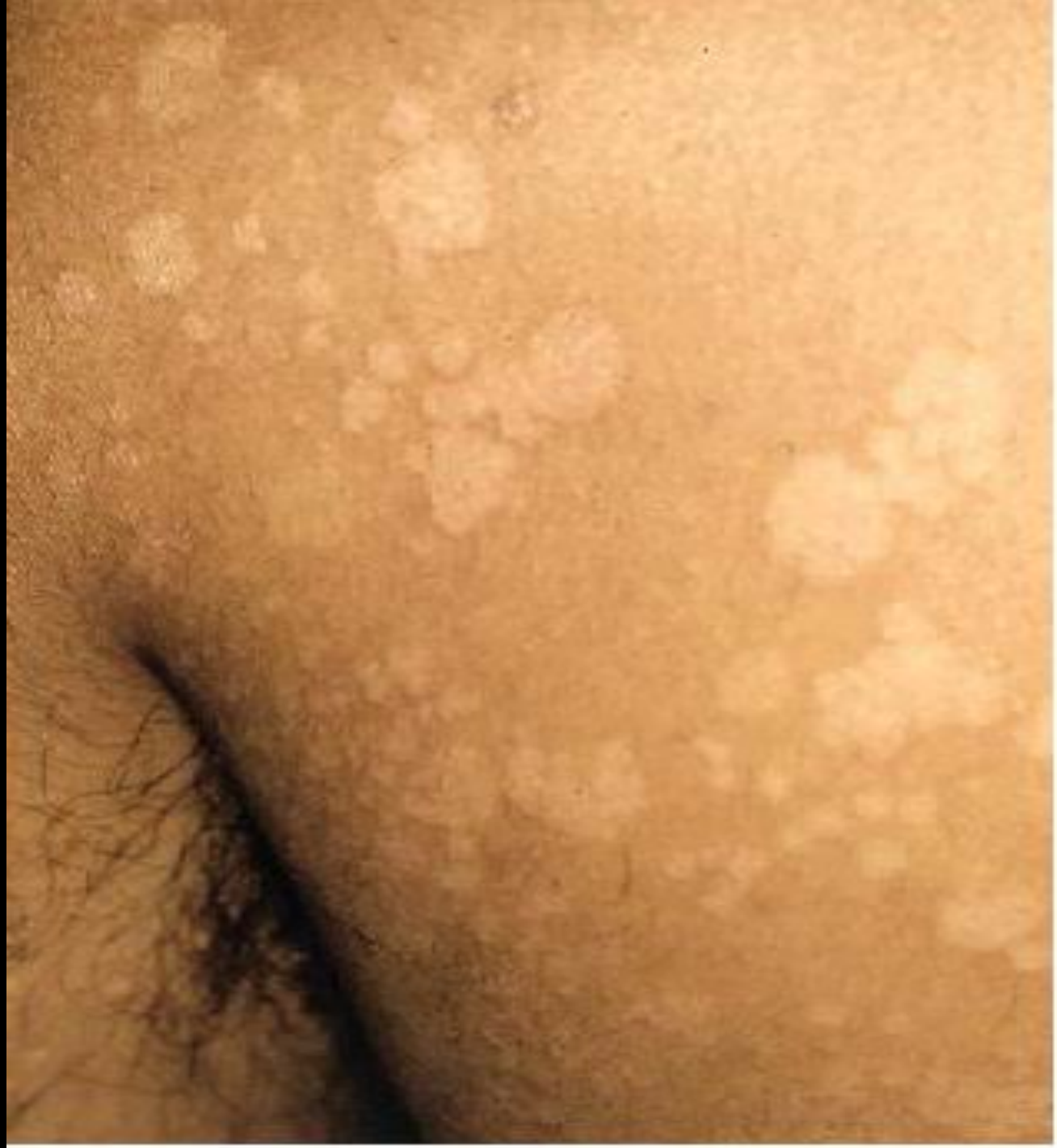
Tinea Versicolor

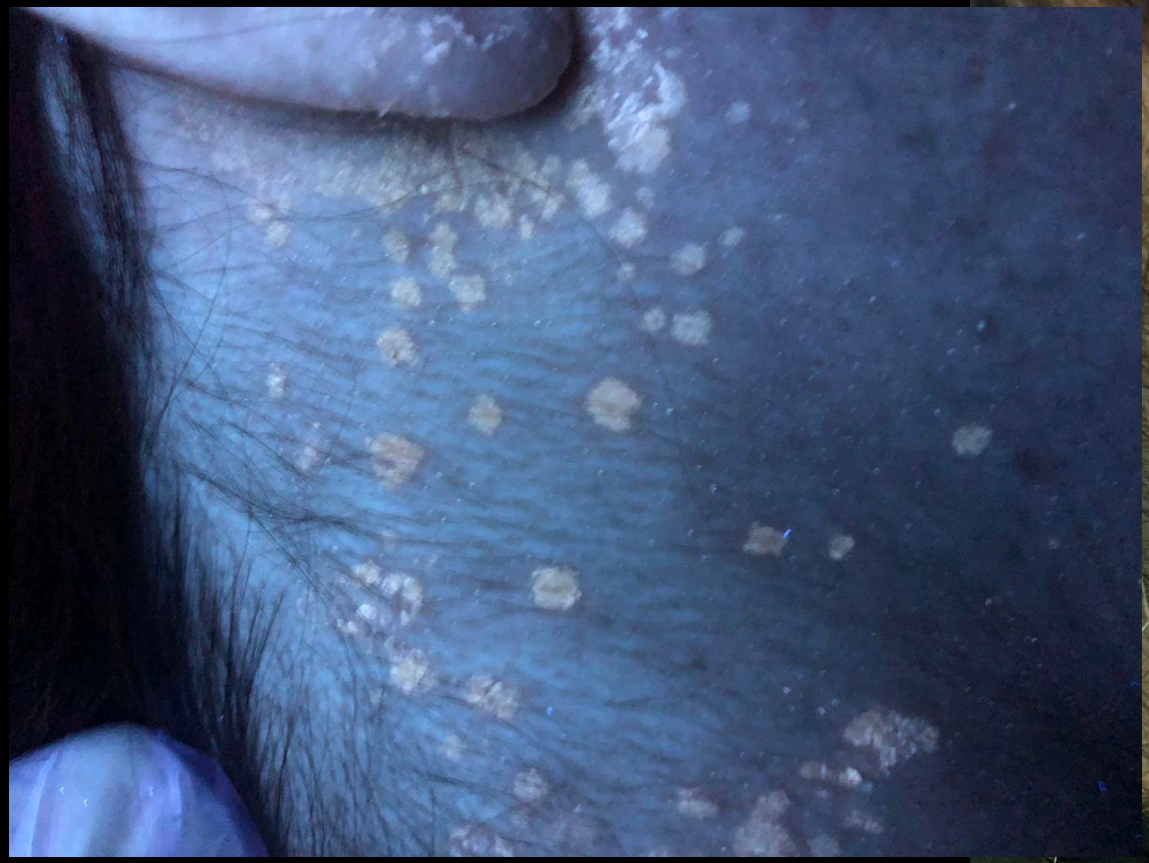
- Clinically present as multiple small , circular macules of various colors(white , pink , or brown) that enlarge radially . The color is uniform in each individual .
- Upper trunk is the most common site .
- Usually is asymptomatic , but may be itchy if it is inflammed .
- On healing it leaves post inflammatory hypo-or hyper pigmentation which take few months to disappear .

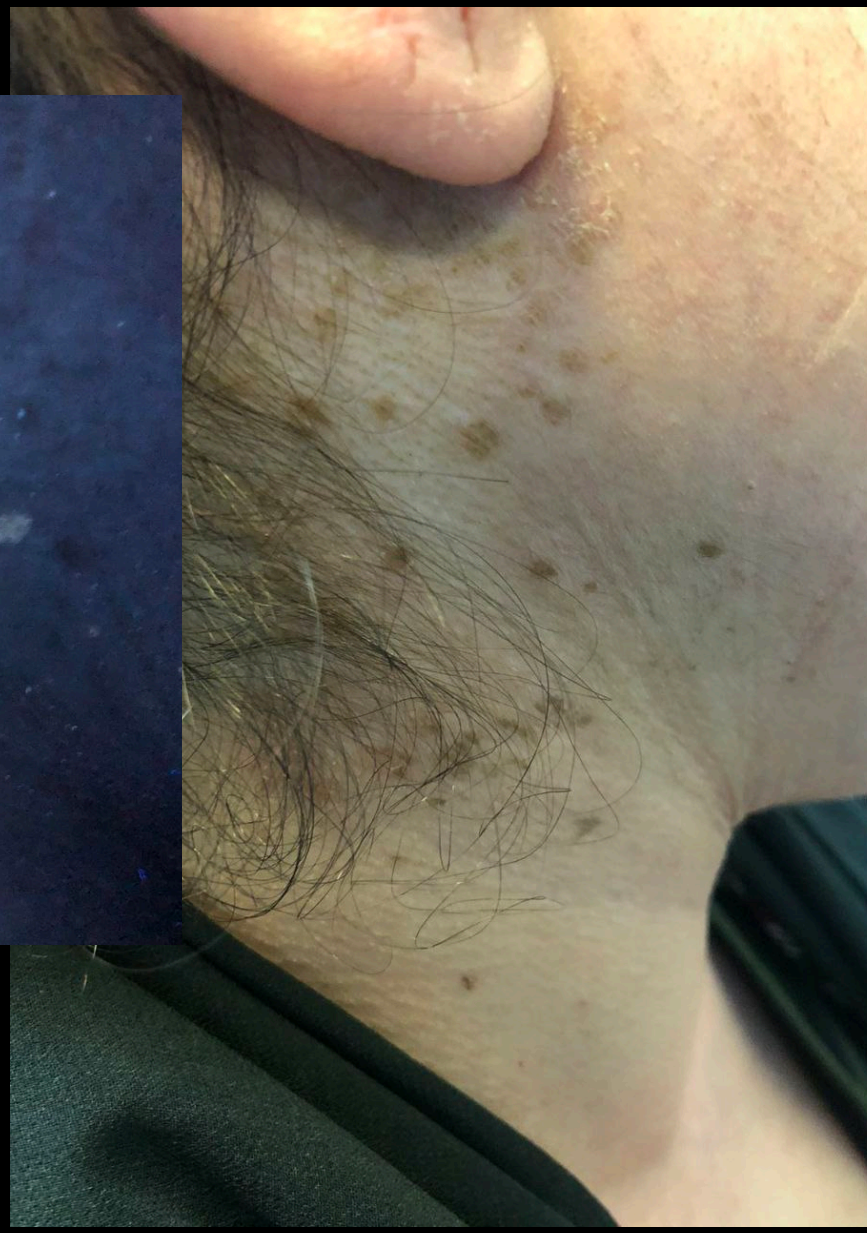
Differential diagnosis :- vitiligo , pityriasis alba , seborrheic dermatitis , secondary syphilis , pityriasis rosea .

Diagnosis :- 1- wood light examination

2- scraping test . 3- culture but rarely necessary .







TINEA VERSICOLOR

Treatment :- a variety of medicines eliminate the fungus , but relief is usually temporary & recurrence are common , about 40%-60% within 2-12 months .

Topical treatment :-

1. Selenium sulfide suspension 2.5% either applied daily for 10 minute for 7 days , or applied for 24 hr.once weekly for 4 weeks .
2. Sodium thiosulfate 25% applied twice daily for 2-4 weeks
3. Immidazole group :- including miconazole , clotrimazole , econazole , ketoconazole ; once or twice daily for 2 weeks
4. Sulfur-salicylic shampoo :- applied as a ;lotion at bedtime & washed off in the morning for one week .

Tinea Versicolor

5. Zinc pyrithione shampoo 1% :- applied for 5 minute before showering daily for 2 weeks .

Oral treatment :- used in patients with

A-extensive disease .

B- patients not responding to conventional treatment . C- or those with frequent recurrences .

1. Ketoconazole :- either 400 mg in a single dose or 200 mg daily for 5 days .
2. Itraconazole .
3. Fluconazole .