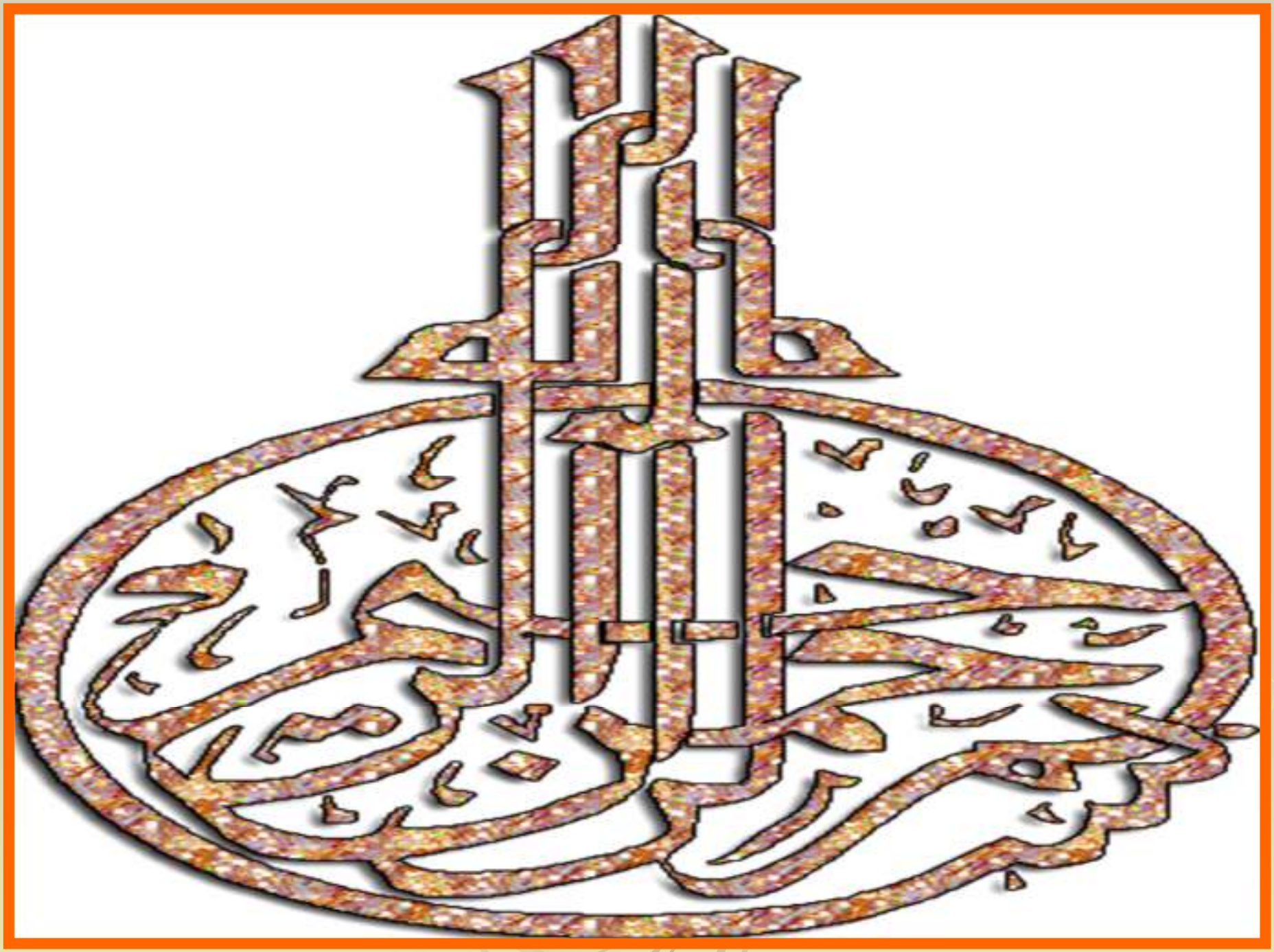



FUNGAL INFECTIONS


INTRODUCTION

- Skin is main site of recognizable fungal infections in humans
- These infections can be divided into superficial or deep(systemic) infections
- Superficial infections are restricted to skin and its appendages, while deep infections (e.g. blastomycosis or mycetoma) are usually of systemic nature with occasional involvement of skin

- **Fungal infections may be caused by :**

1) Dermatophytes : causes superficial infections, and are classified into : microsporum, trichophyton & epidermophyton

2) Yeasts; e.g. malassezia fufur (causes pityriasis versicolor) & candida albicans

Source of infection :

1- From human *(anthropophilic species)*

2- From animals *(zoophilic species)*

3- Rarely, from soil *(geophilic species)*

Yeast-Mycelial (Y-M) shift

The fungus changes from budding yeast (Y) phase "commensal state" to mycelial (M) phase "pathogenic state"


DERMATOPHYTOSIS

Clinical types of dermatophyte infections :

*according to **site** they are classified into:*

1- Tinea capitis (Ringworm of the scalp)

2- Tinea corporis (Tinea circinata)

3- Tinea barbae (Ringworm of the beard)

4- Tinea cruris (Ringworm of the groin)

5- Tinea pedis (Ringworm of the feet)

6- Onychomycosis (Fungal infection of the nails)

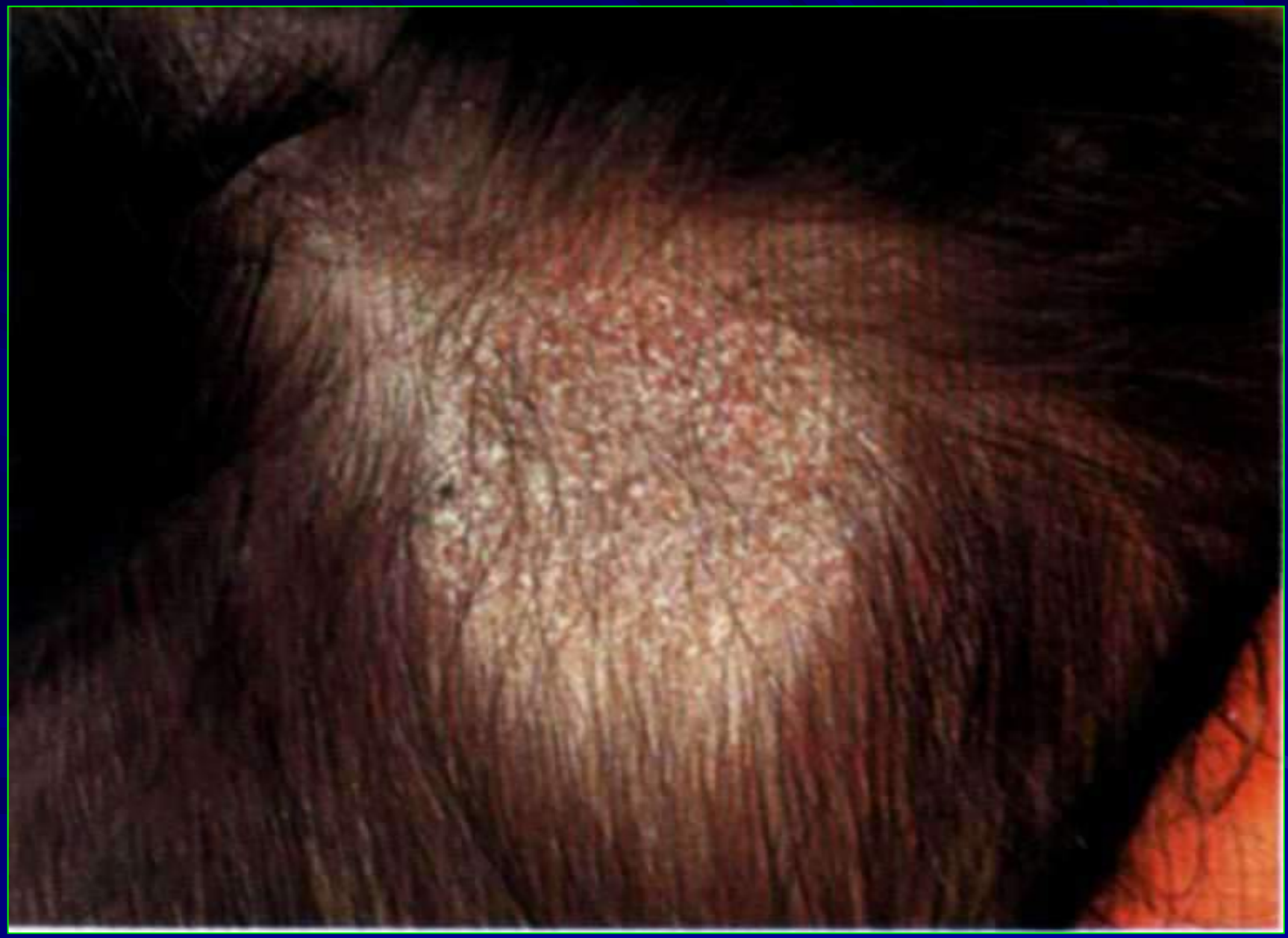
(1) Tinea capitis (Ringworm of the scalp)

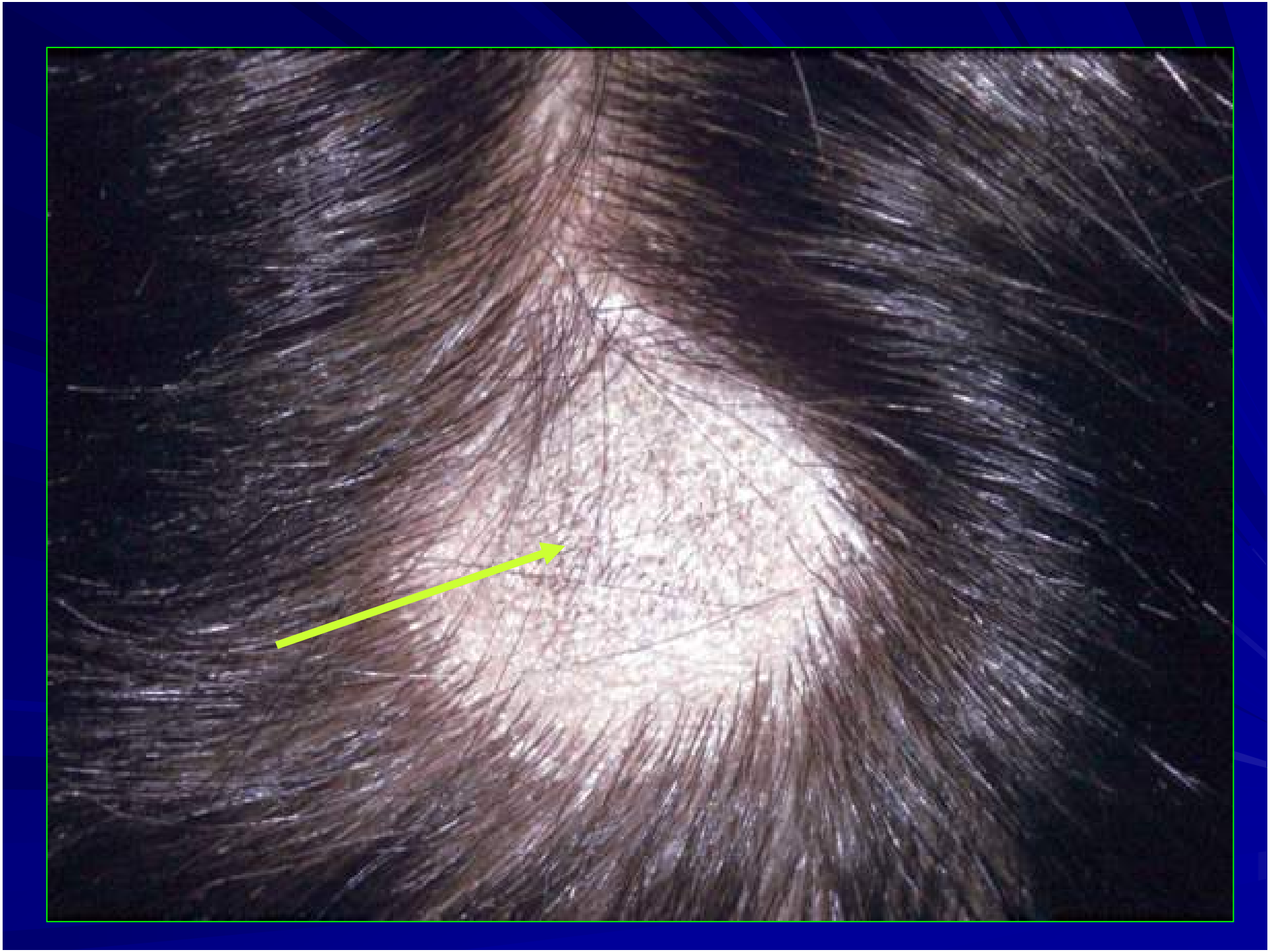
- *Mainly in school children, more in boys than girls*
- *Main causative fungi in Egypt are Trichophyton violaceoum and Microsporum canis*

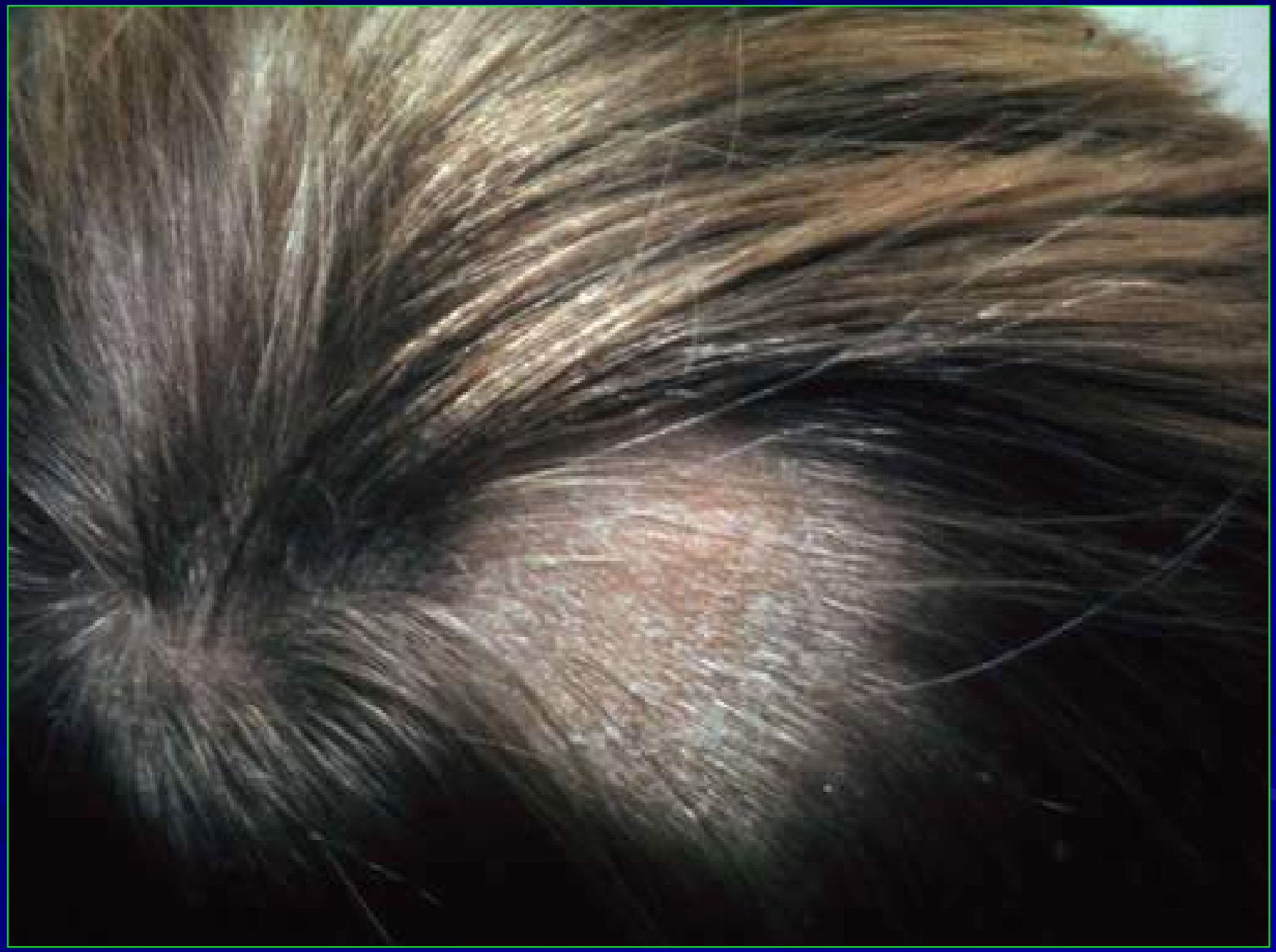
Clinical picture :

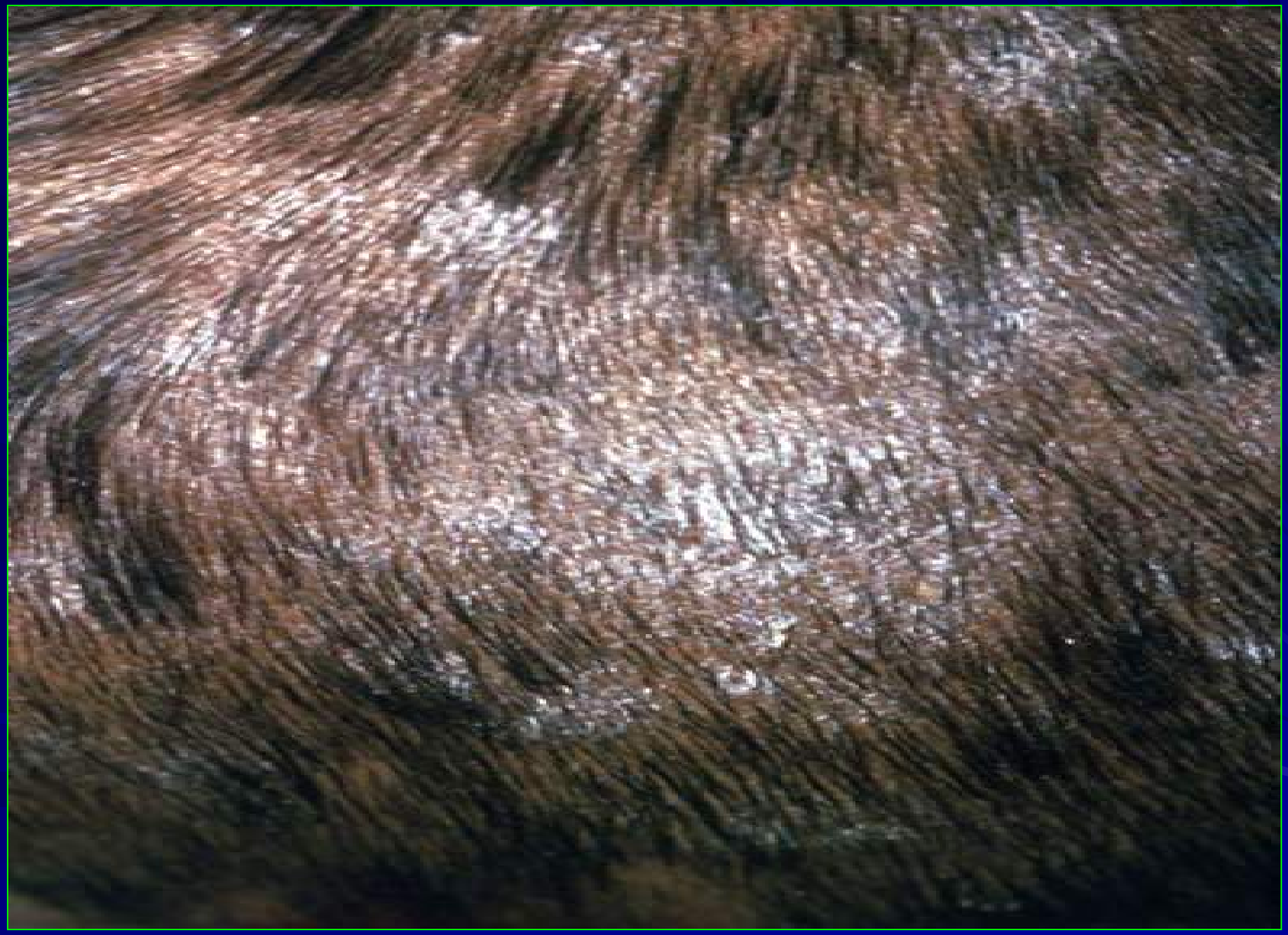
1- Scaly type : single or multiple scaly patches, often circular in shape, with numerous brocken off (2-3 mm long) dull-grey (lusterless) hairs

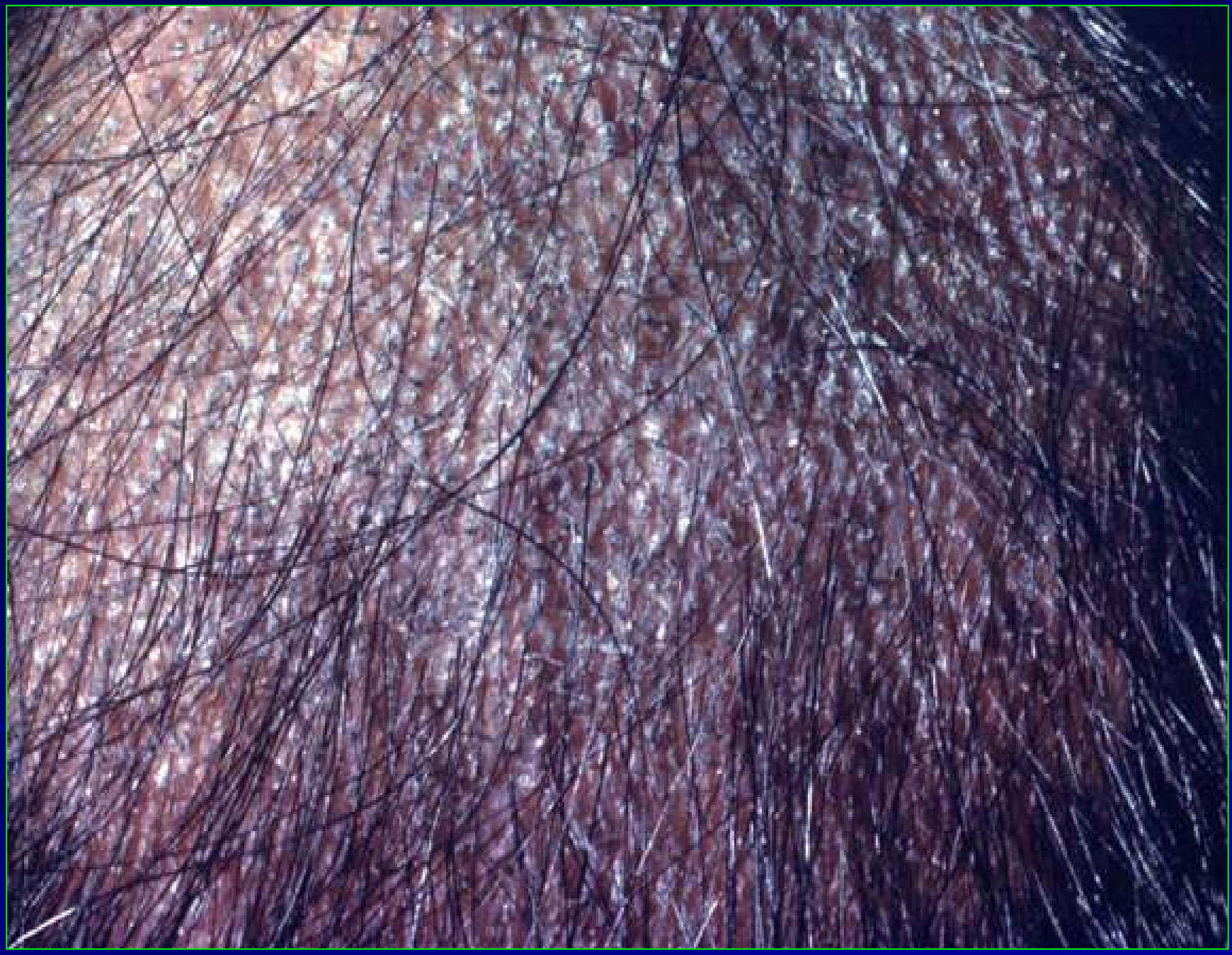
D.D. : psoriasis, seborrheic dermatitis, P.R.P

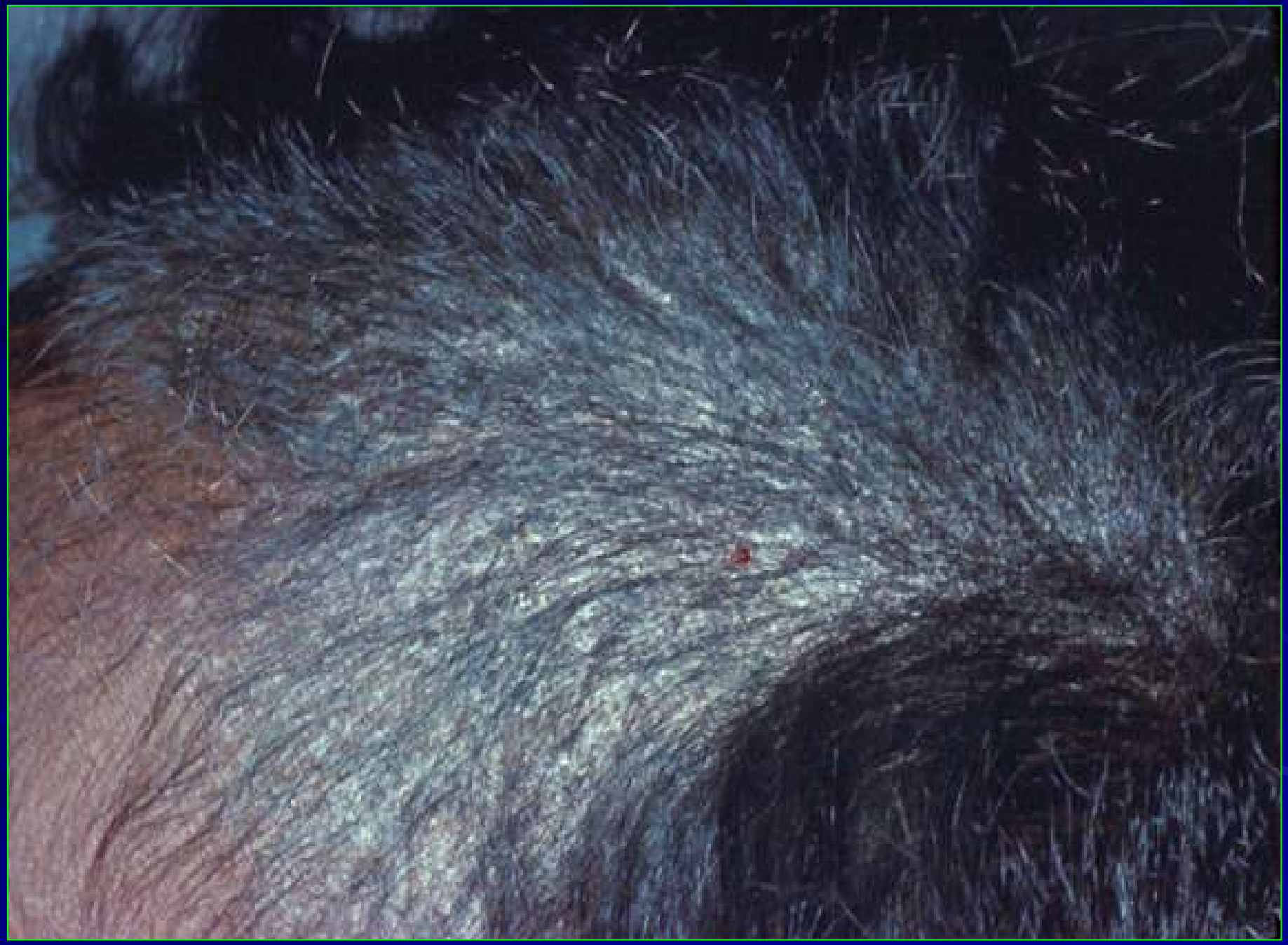






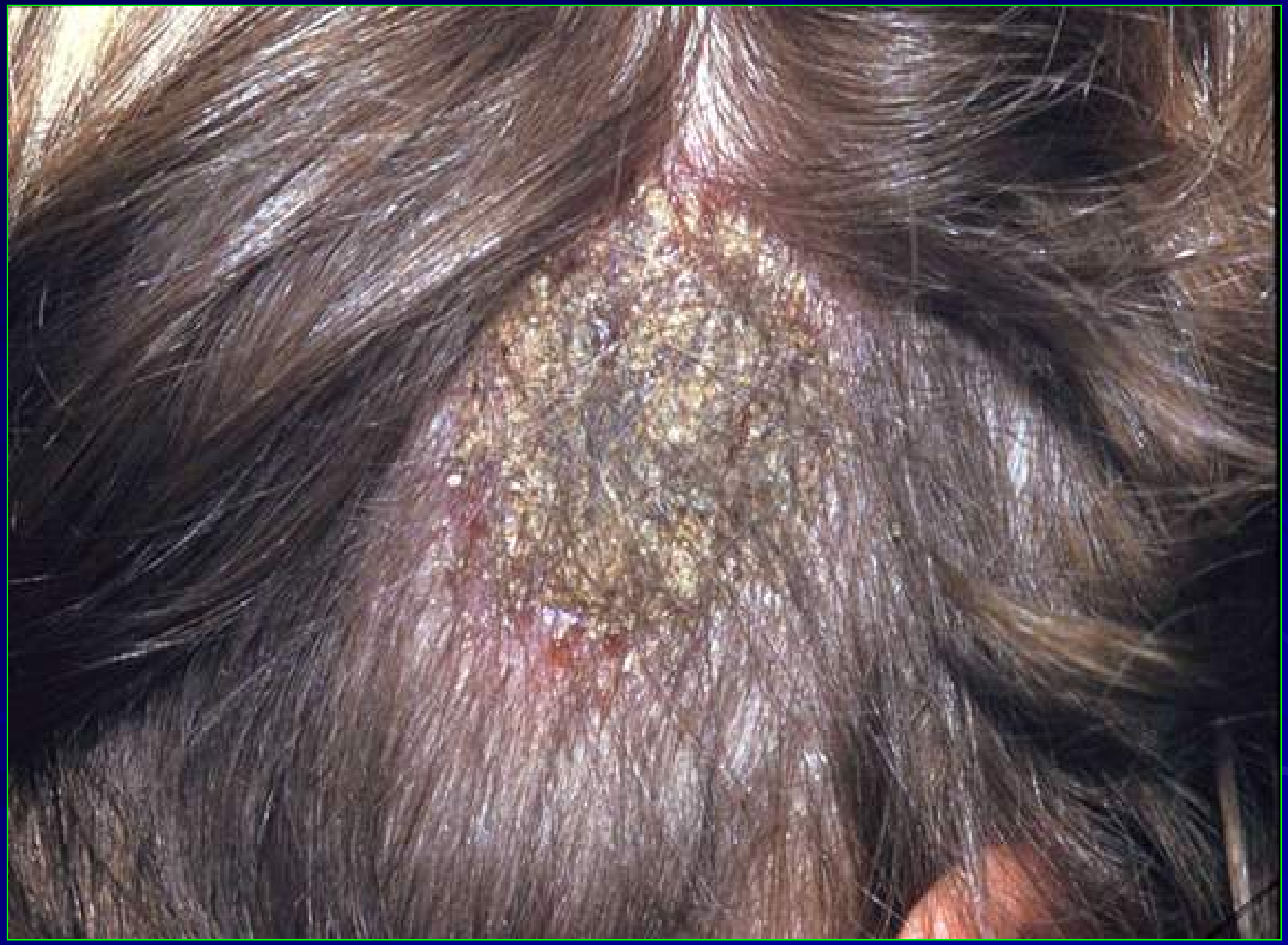


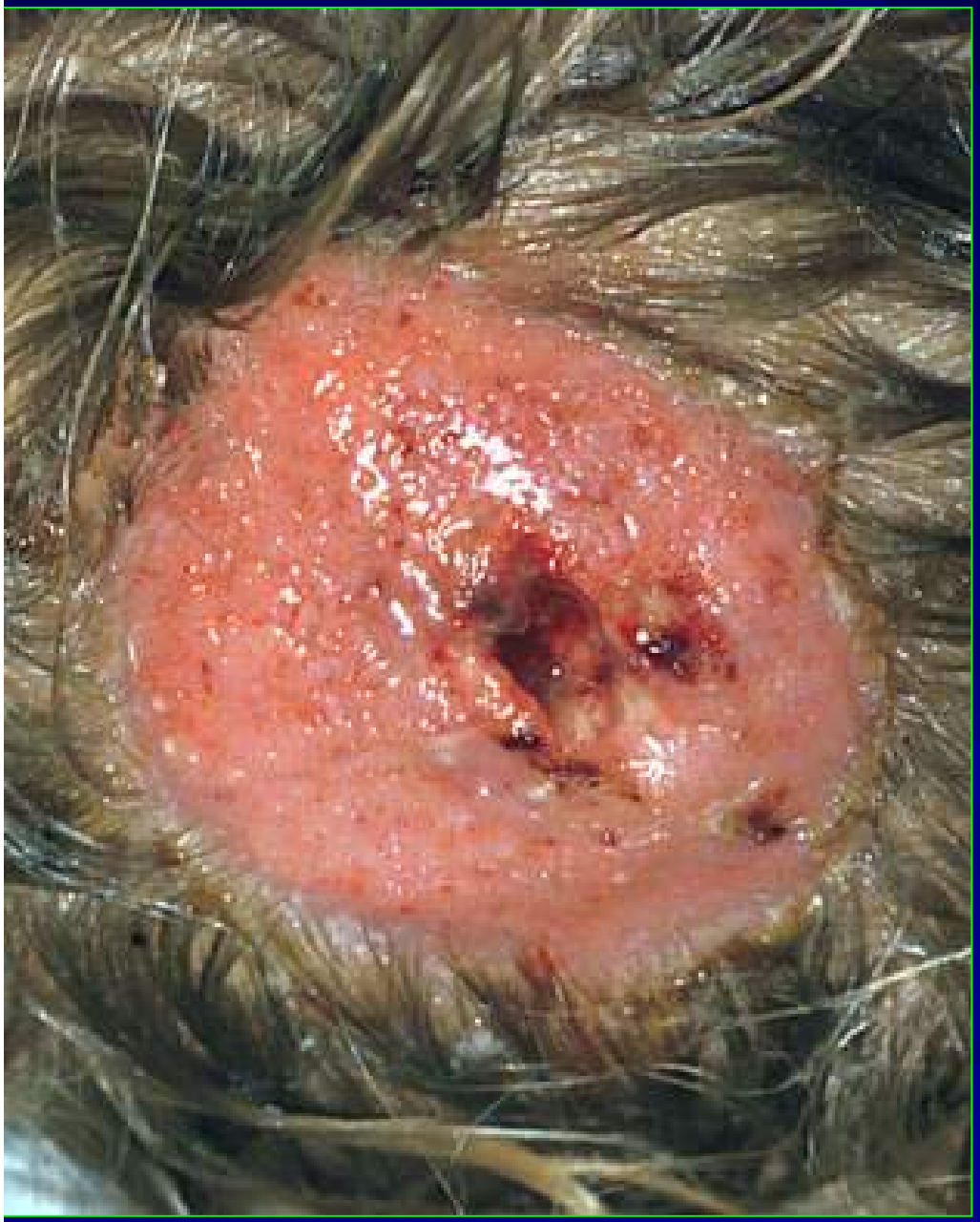


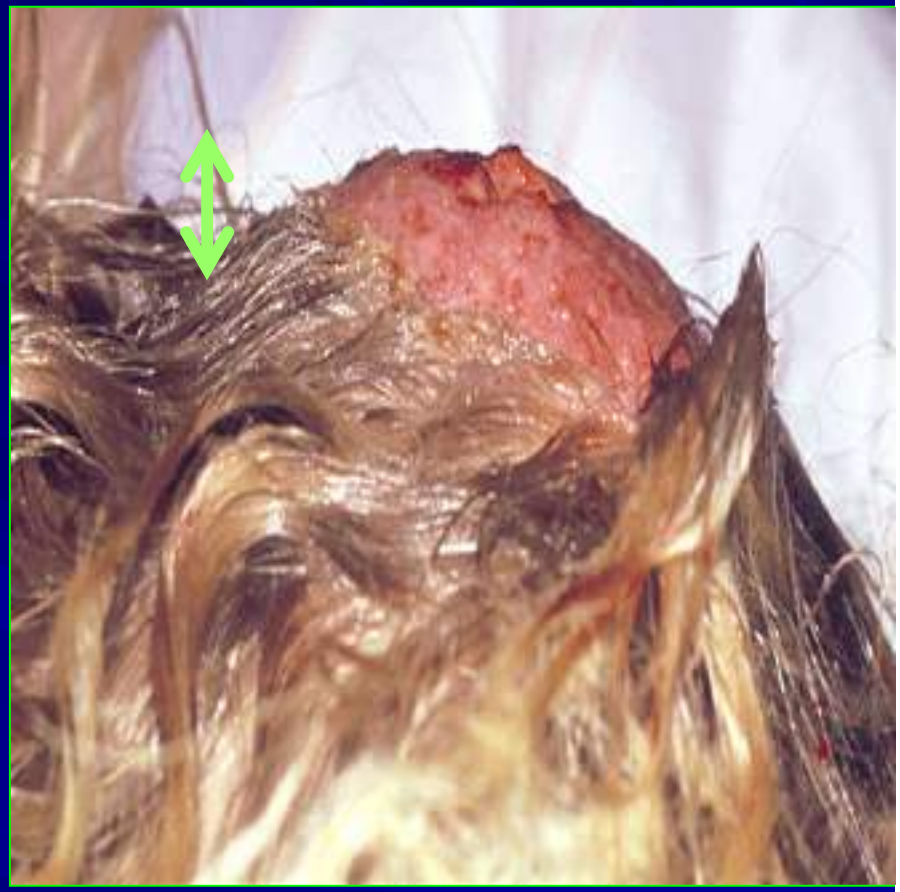


2- Kerion (inflammatory type) : caused by animal fungi, presented as boggy indurated swellings with crusting and loose hairs; follicles may discharge pus; in extensive lesions, fever, pain and regional lymphadenopathy may occur; may be followed by scarring & permenant alopecia

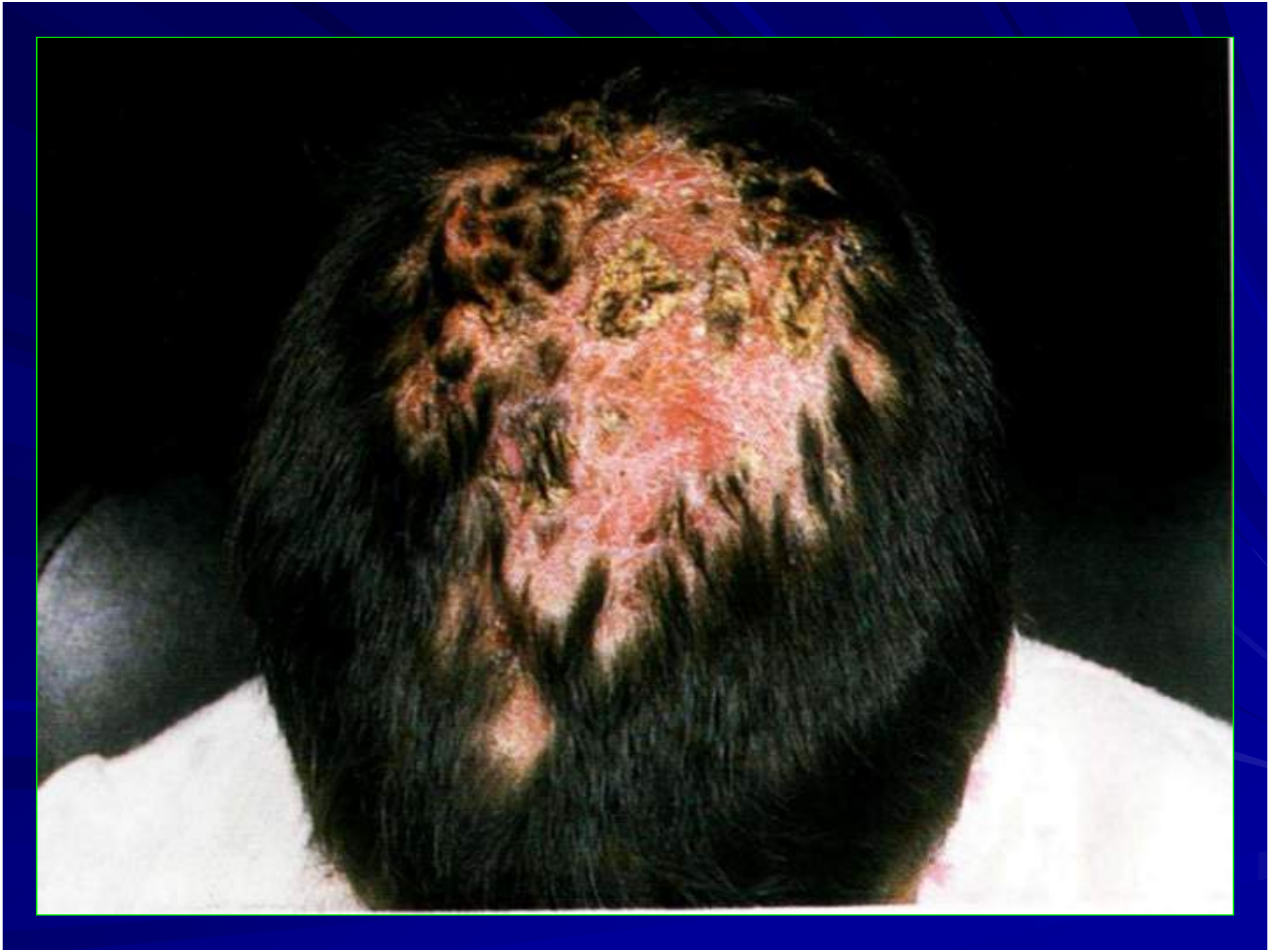
D.D. : pyogenic abscess, impetigo

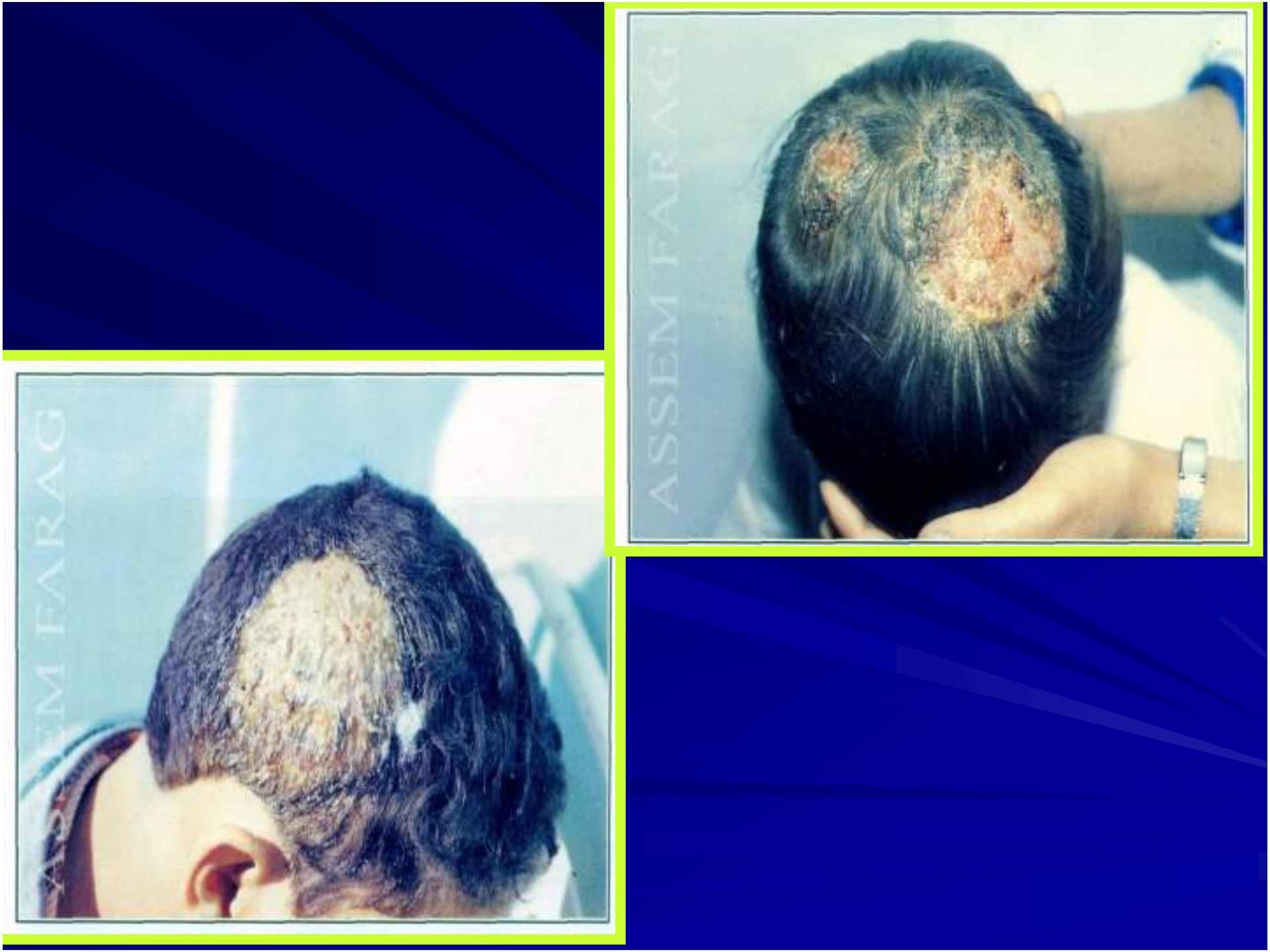







Kerion

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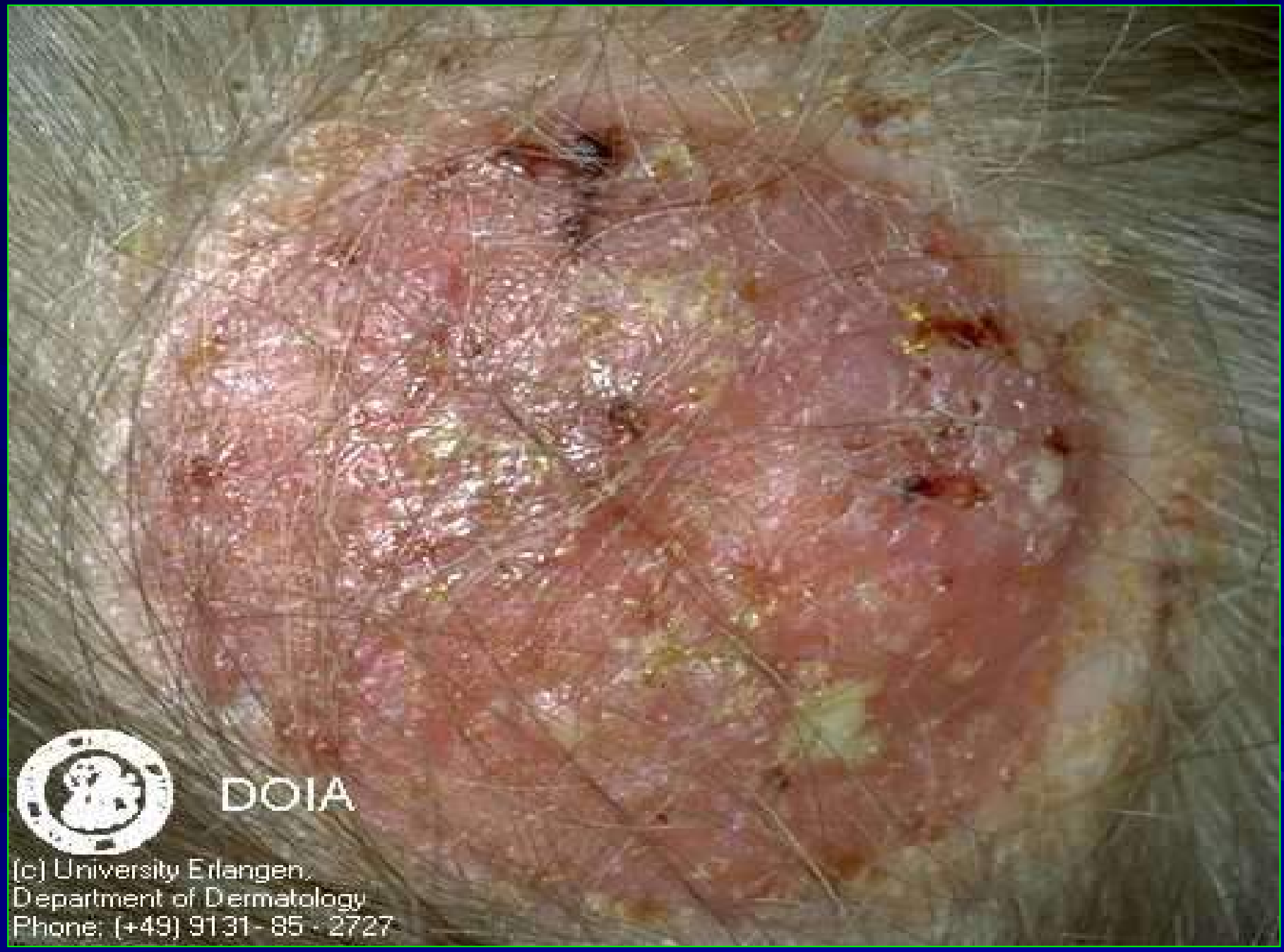
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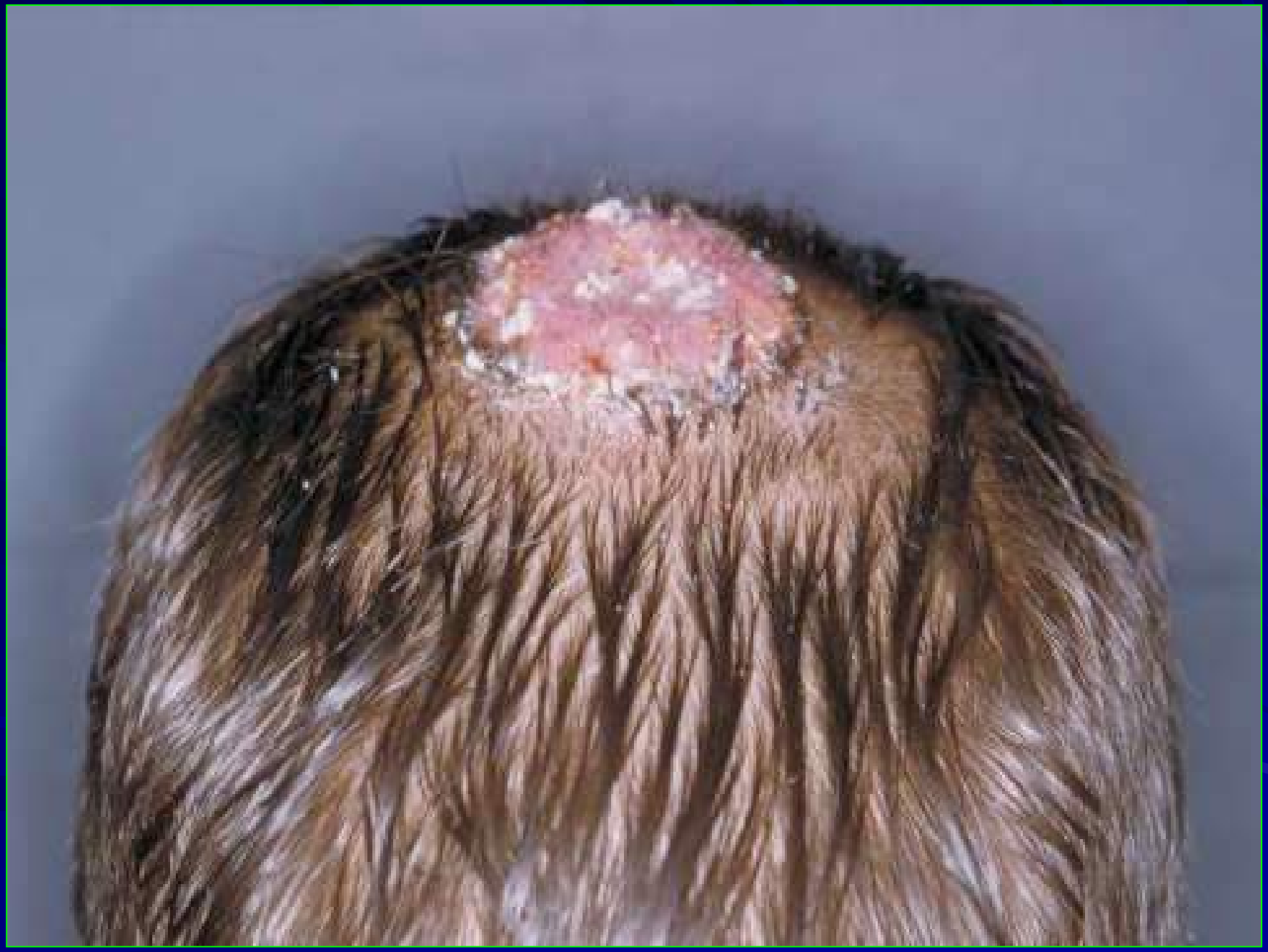
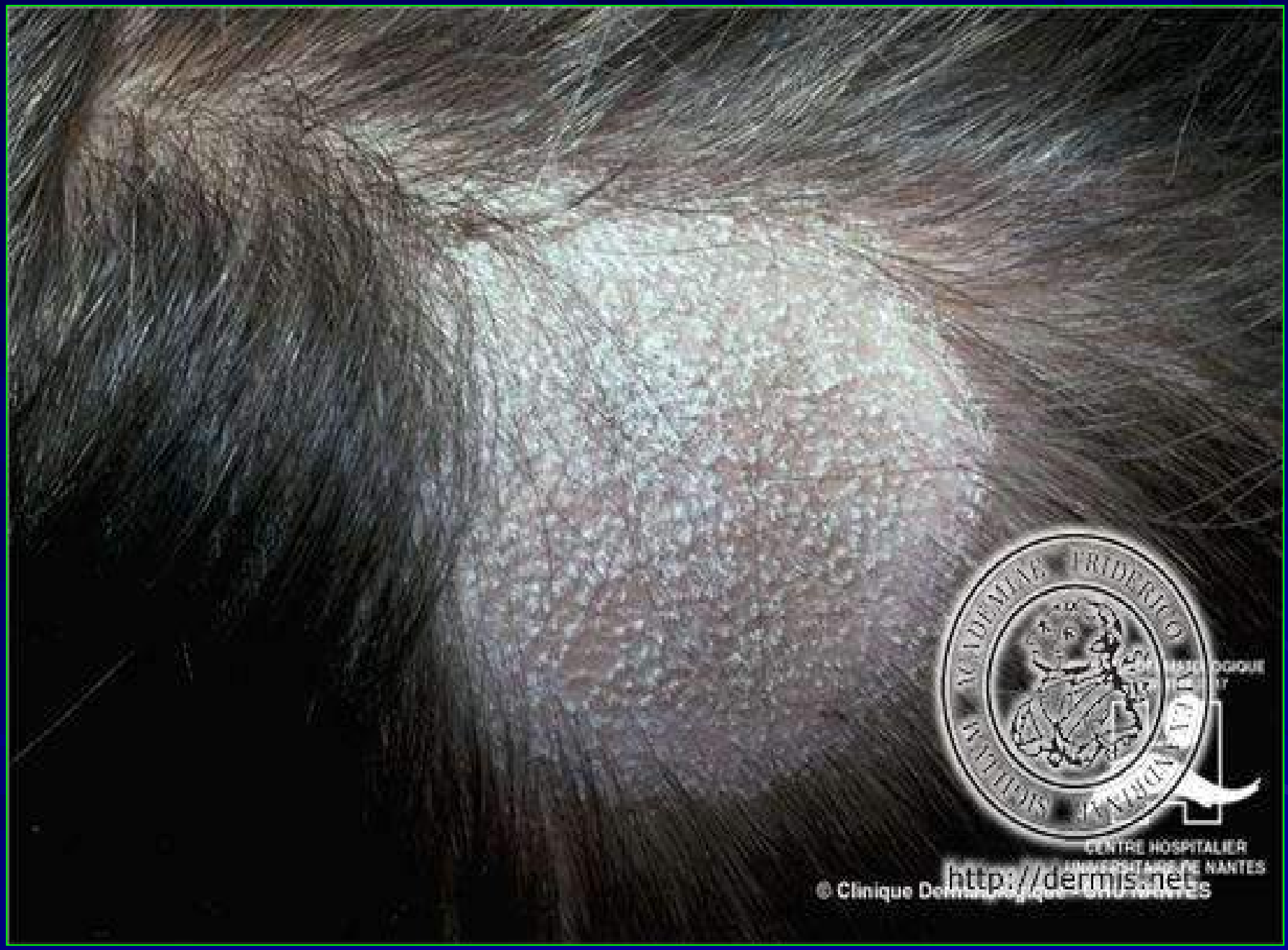


3- Black-dot type : bald patches with formation of black dots as the affected hair breaks at the surface of the scalp

D.D. : alopecia areata, seborrheic dermatitis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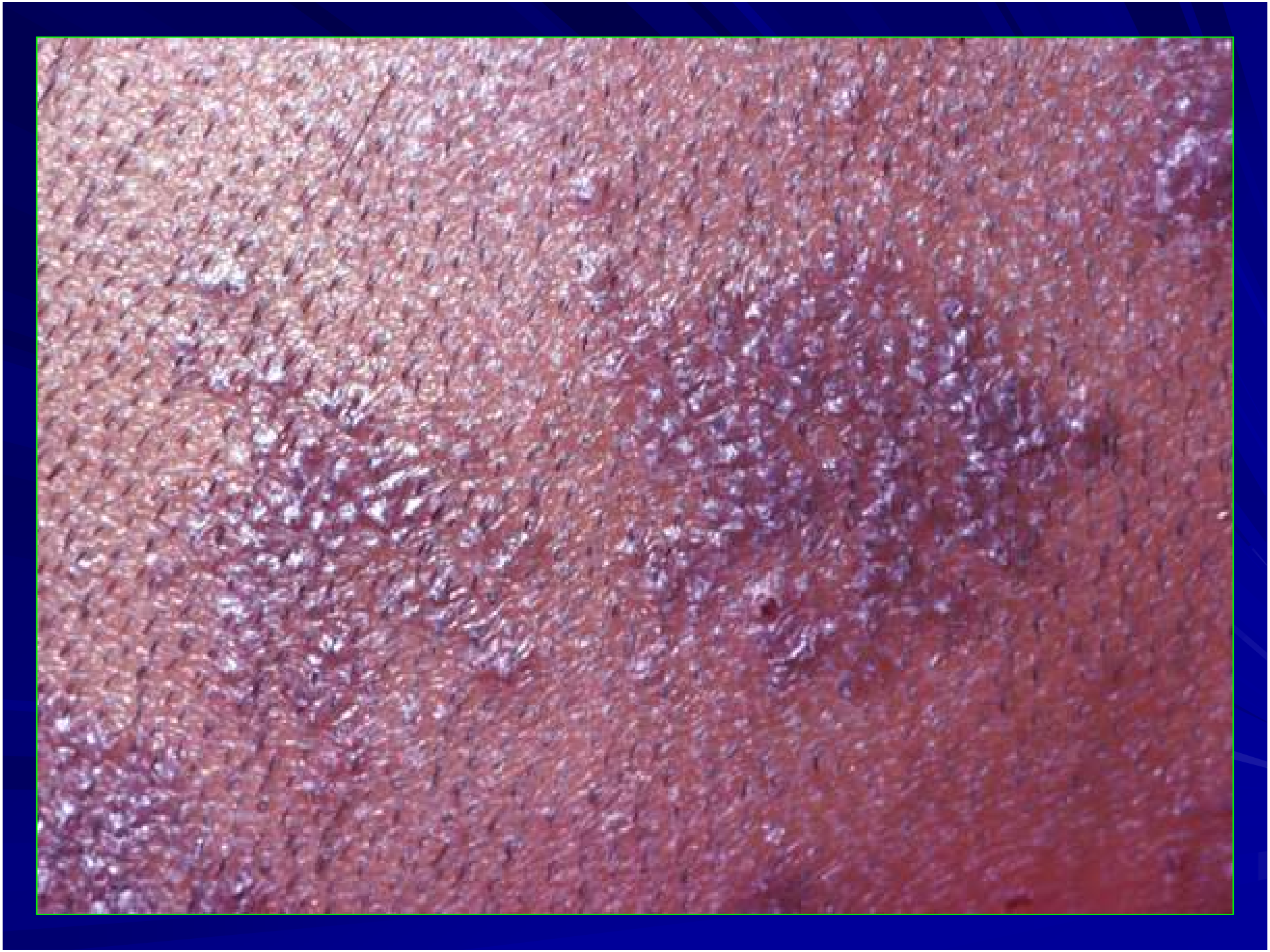
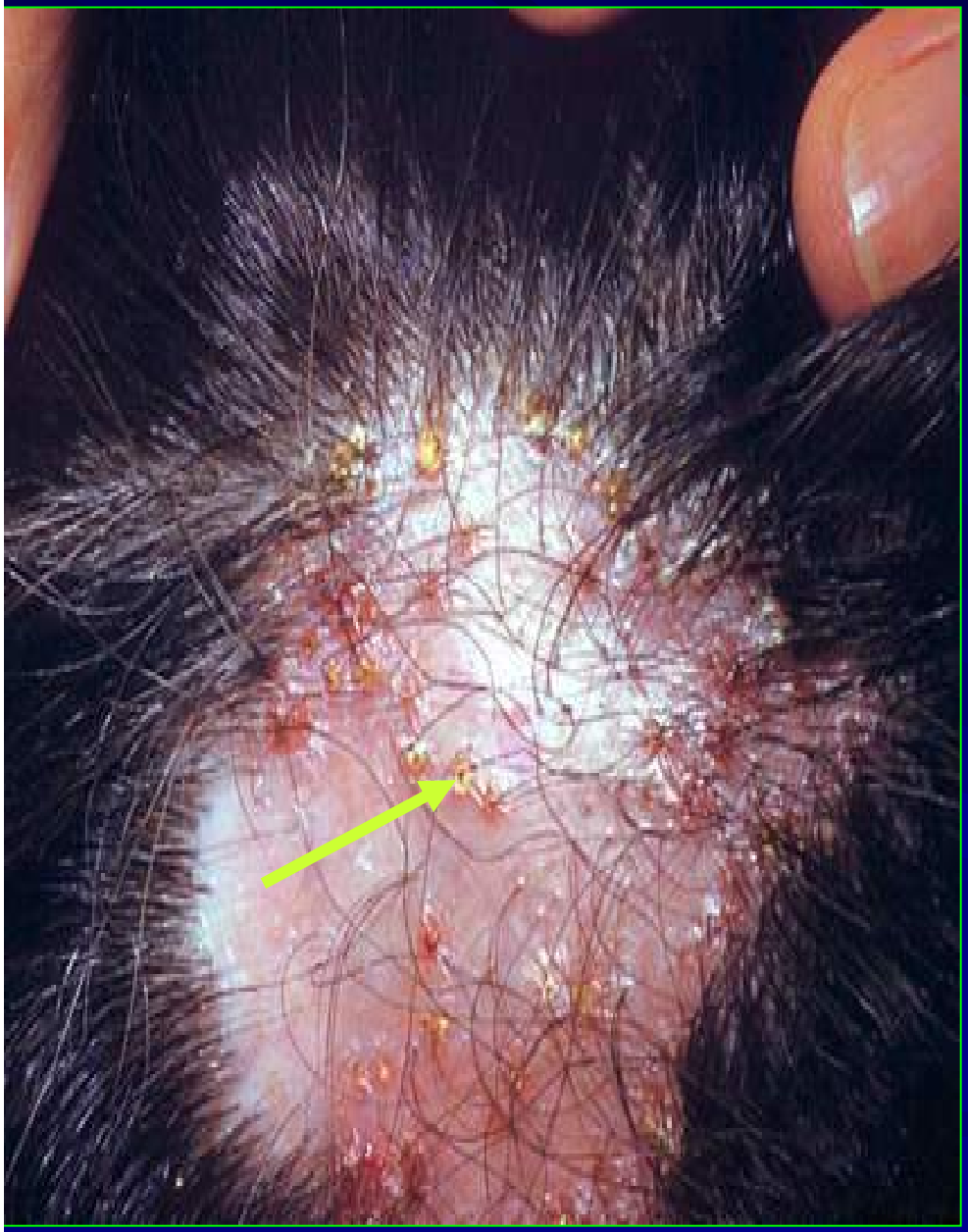
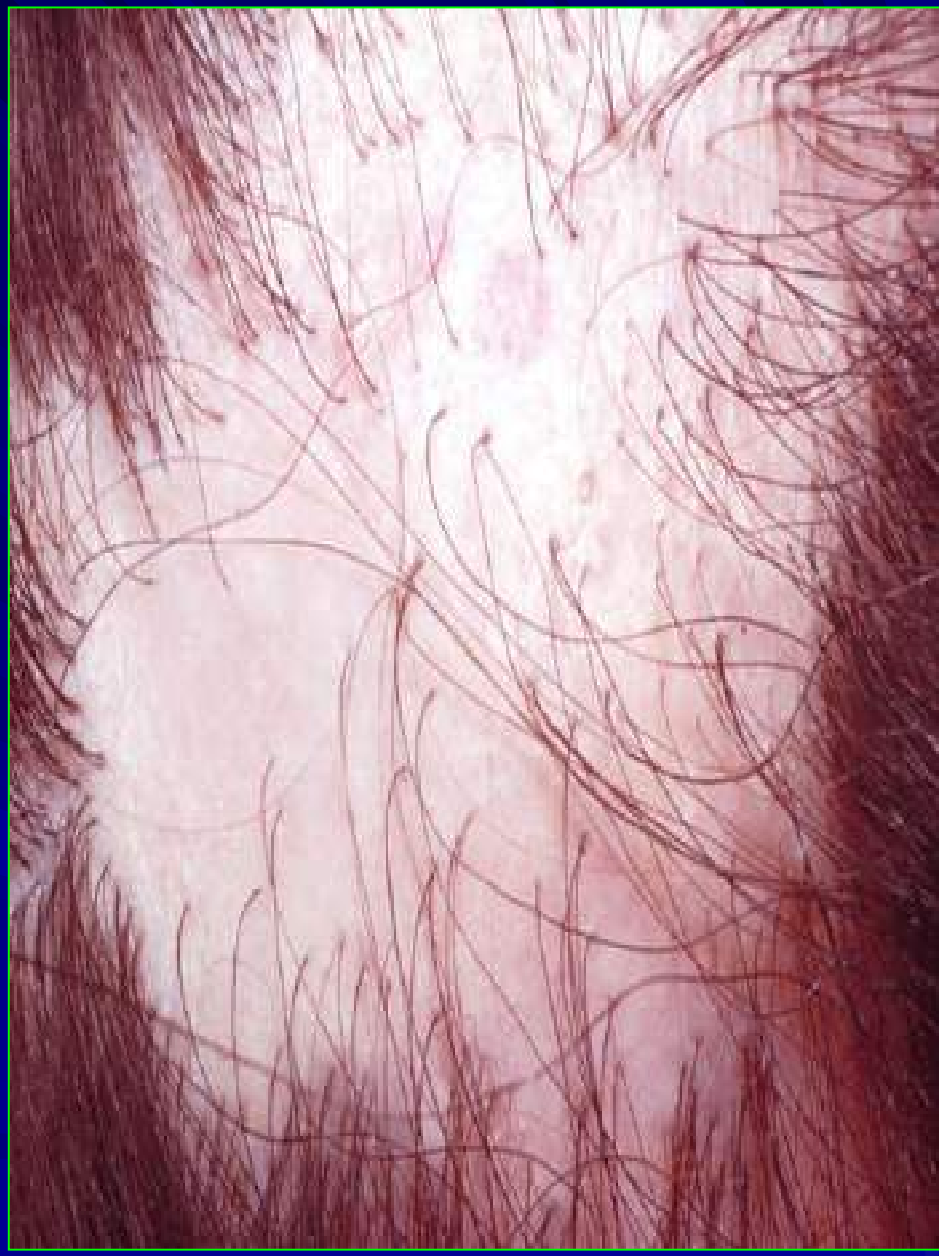


4- Favus : caused by Trichophyton schoenleinii and characterized by yellowish, cup-shaped crusts (scutula); each scutulum develops round a hair, which pierces it centerally; and have distinctive mousy odour; cicatrcial alopecia is usually found in long-standing cases

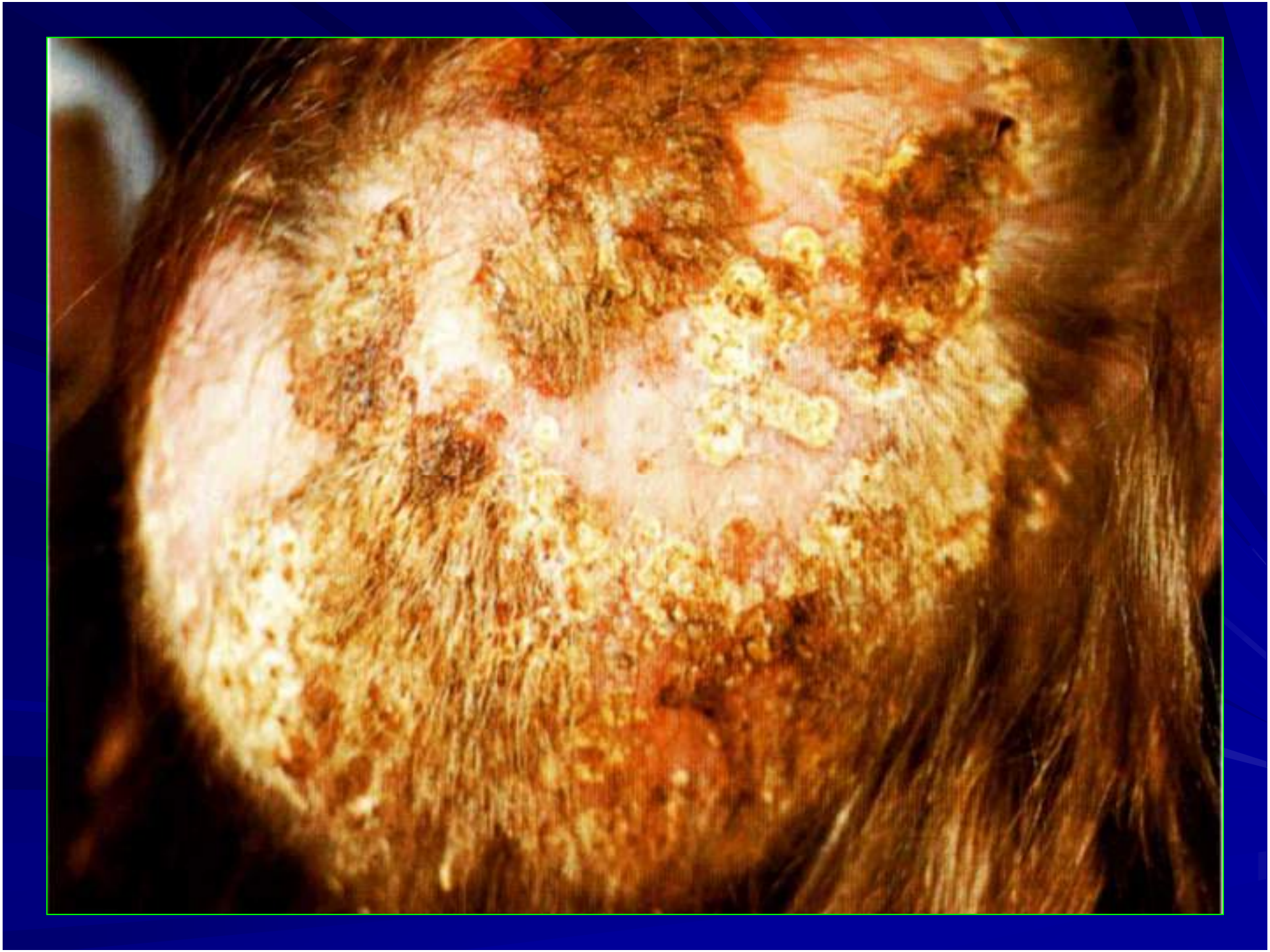
D.D. : psoriasis, seborrheic dermatitis (early stage), DLE, lichen planus (atrophic stage)

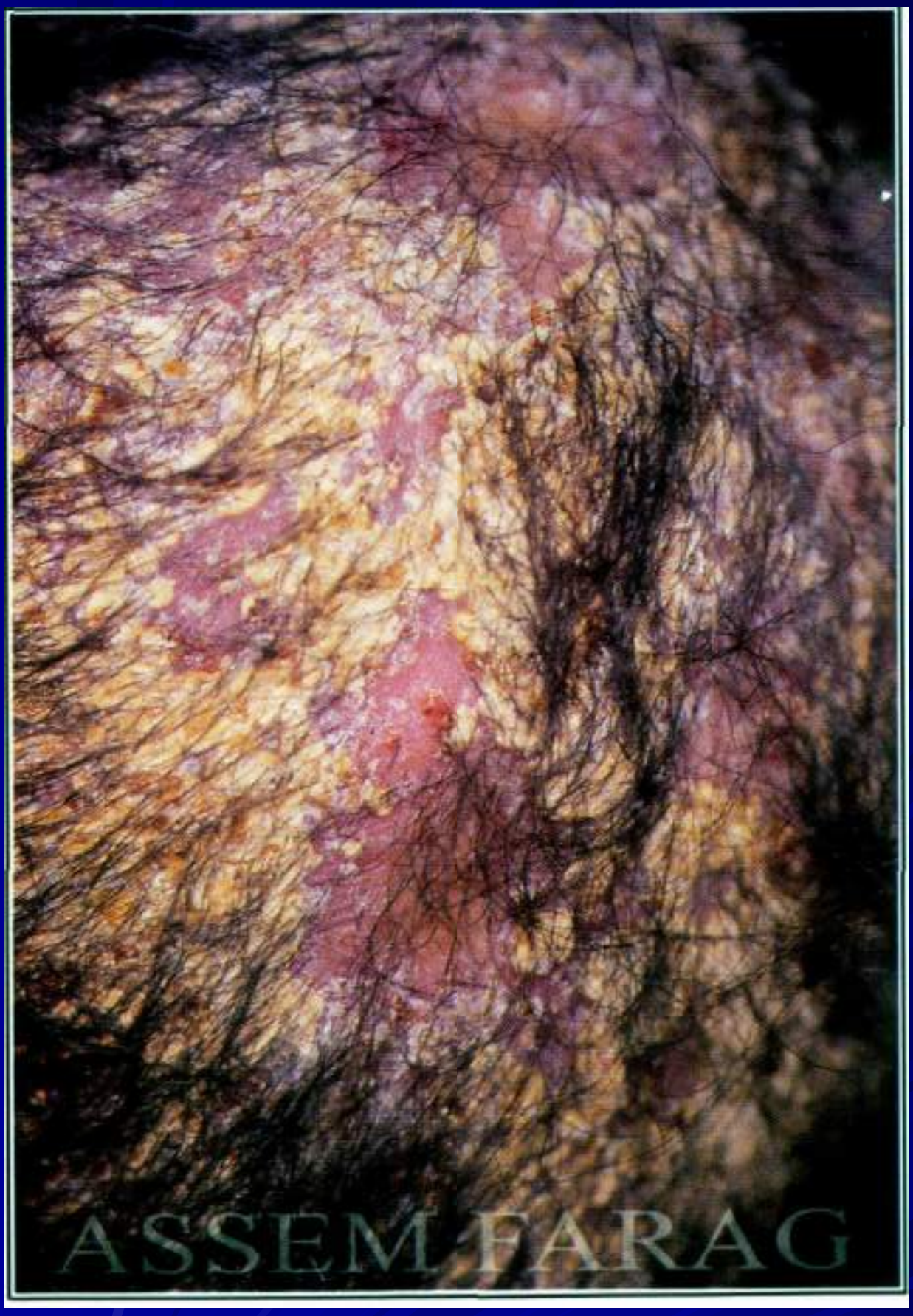




Favus

After treatment

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Modes of infection :

1- Direct contact with infected child

2- Indirect : use of patient`s fomities as brushes & caps

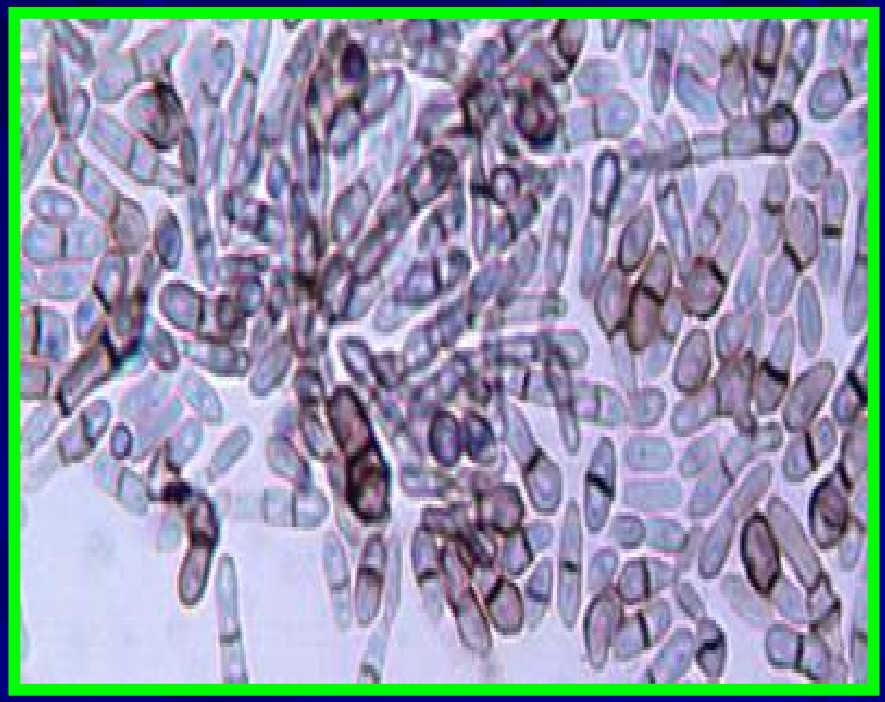
- **Diagnosis :**

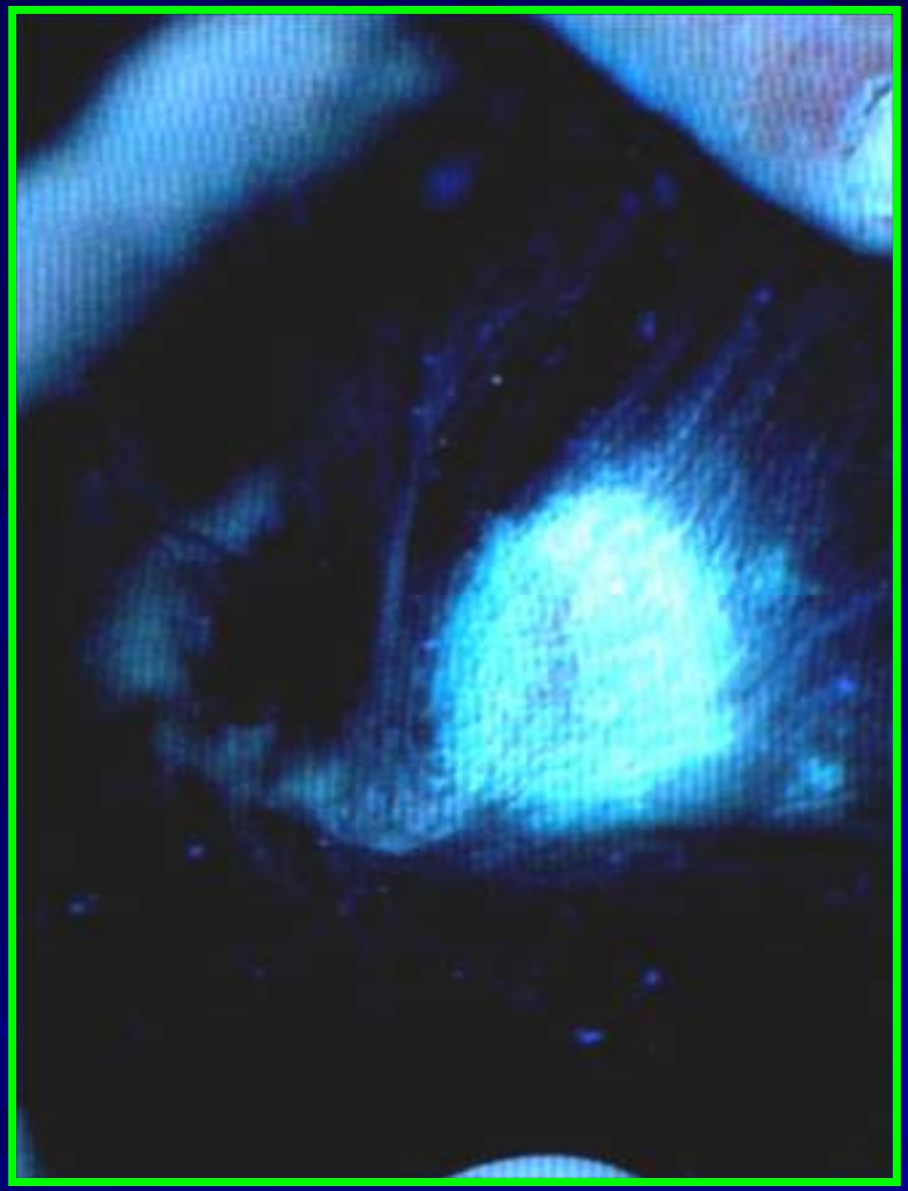
  1- Clinical

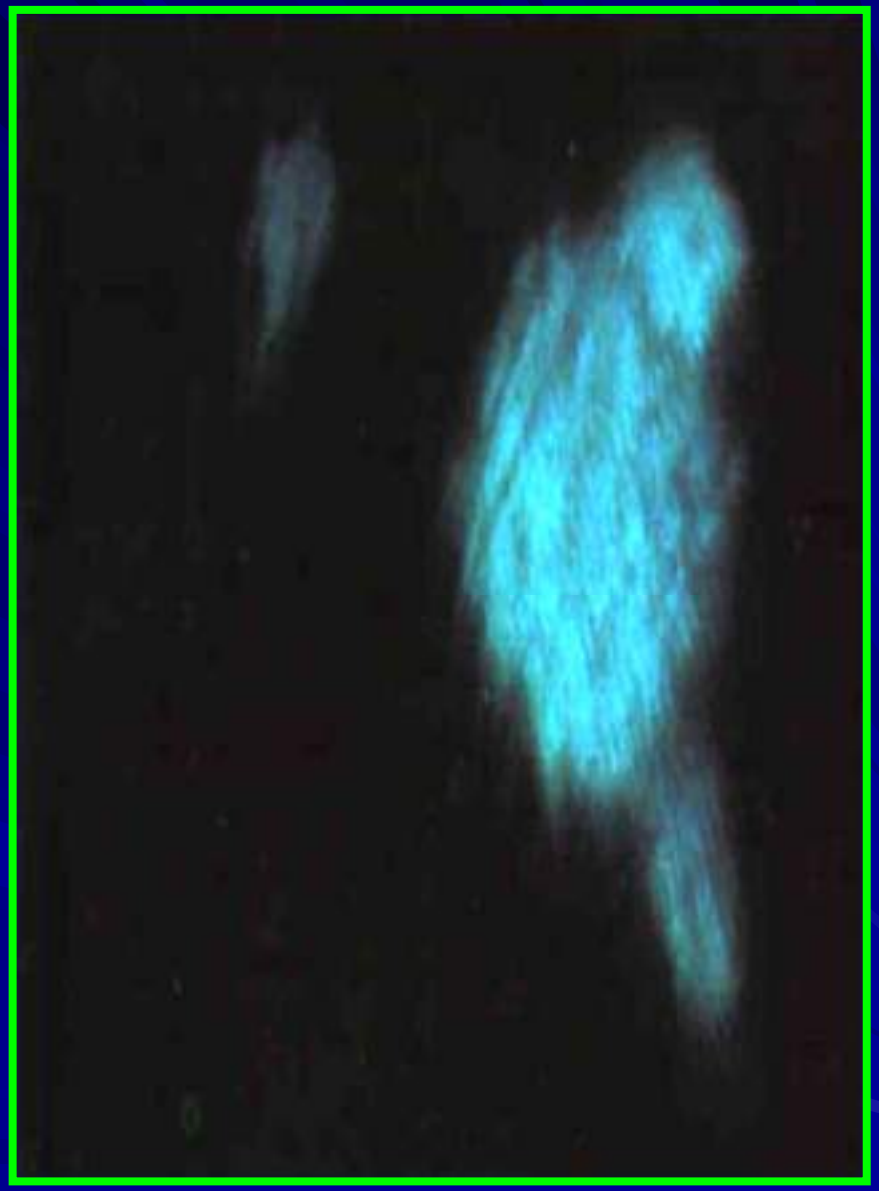
  2- Wood`s light (long-wave UVR passing through a glass containing nickel oxide) : Some fungi → *green fluorescence*

  3- Direct microscopic examination : of infected hair & scales using 10-20 % KOH to demonstrate fungal spores

  4- Culture : on Sabouraud`s medium







Wood's light examination

Microsporum canis

T.schonleinii

- *Treatment :*

A) Topical treatment : (little effect)

1- Whitfield`s ointment

2- Imidazoles :e.g. clotrimazole, econazole, ketoconazole

3- Allylamines :e.g. terbinafine

B) Systemic treatment :

1- Griseofulvin :10 mg/kg/day for at least 6 weeks and 8 weeks in favus

2- Itraconazole, fluconazole, terbinafine : only in selected cases

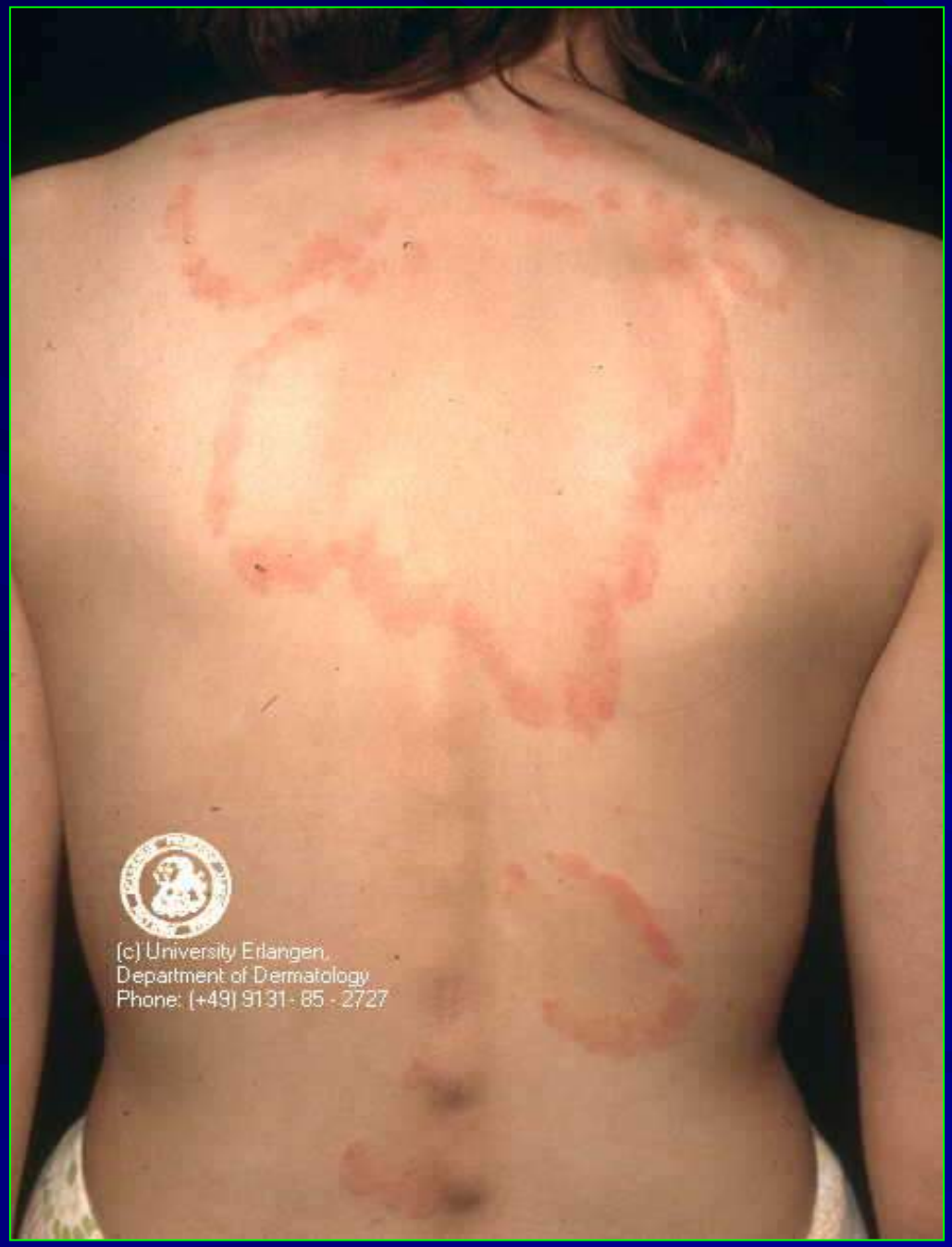
(2) Tinea corporis (Tinea circinata)

- *Commonly involves exposed skin*
- *More common in children*
- *Clinically : circular, sharply circumscribed, erythematous & scaly with acive edge (elevated & more inflammed than center). Progressive central clearing → annular lesions*

- *D.D. : PR, circinate impetigo, discoid eczema*
- *Treatment :*

1- Mild lesions: topical ttt for 2-4 weeks

2- Extensive lesions may require systemic antifungals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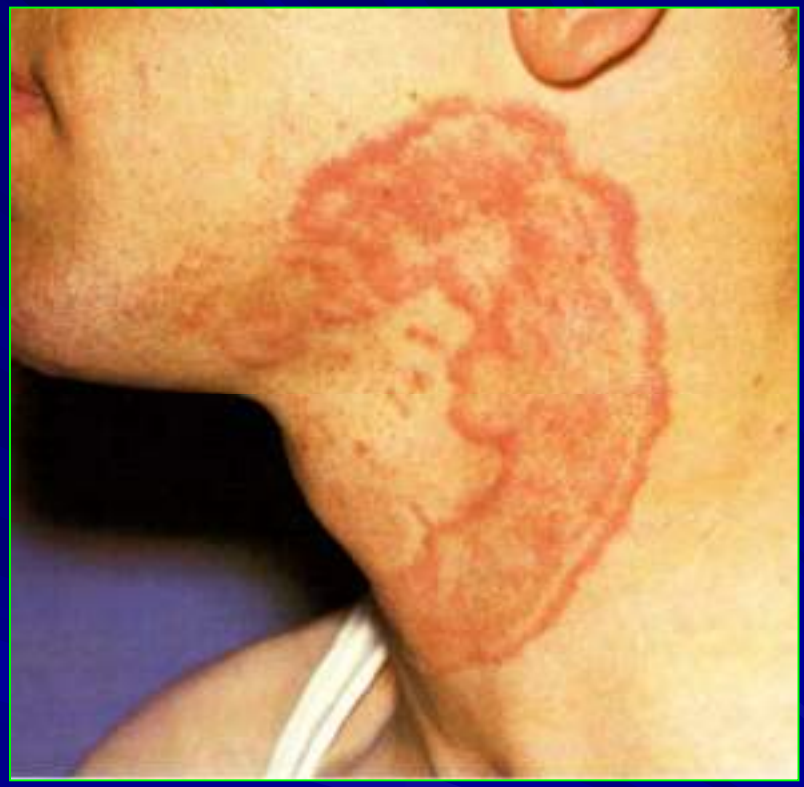

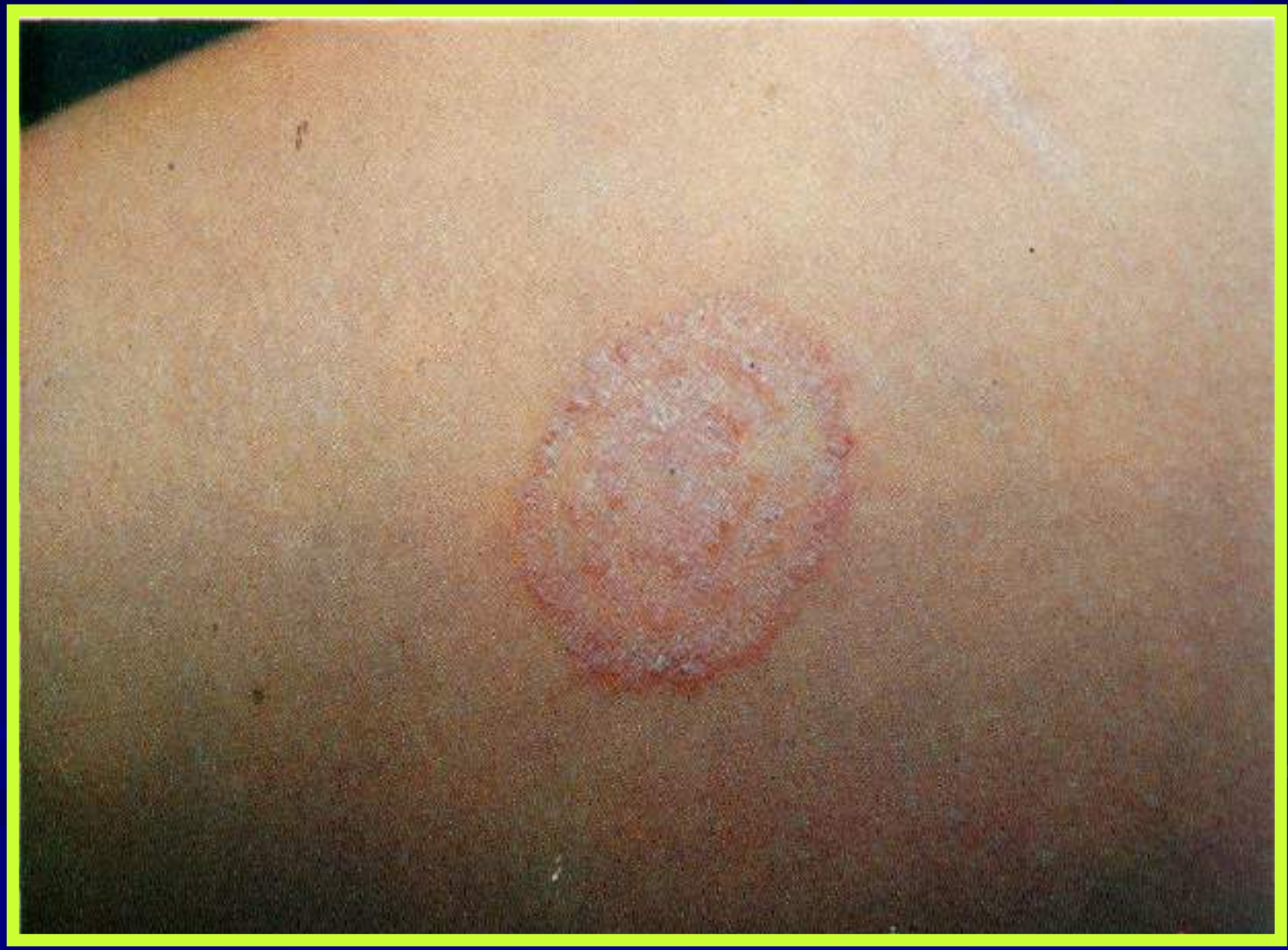

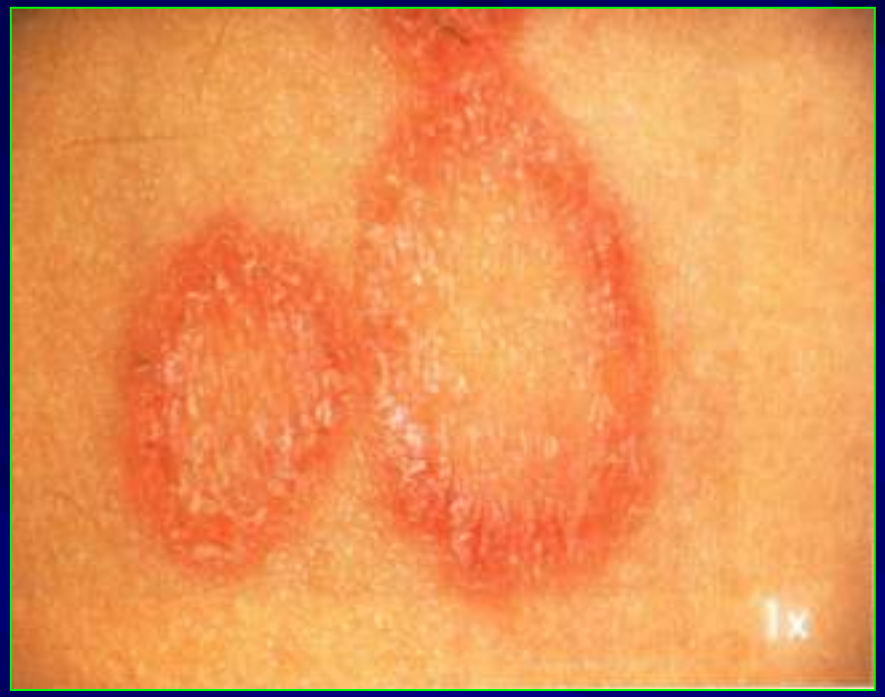
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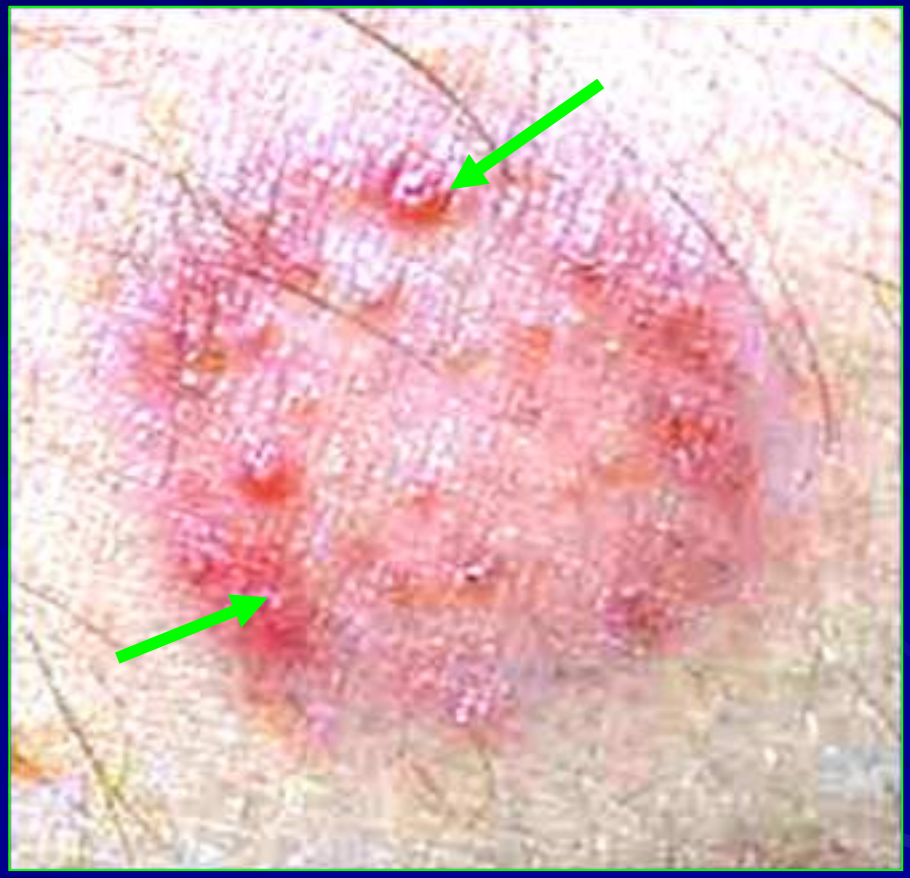
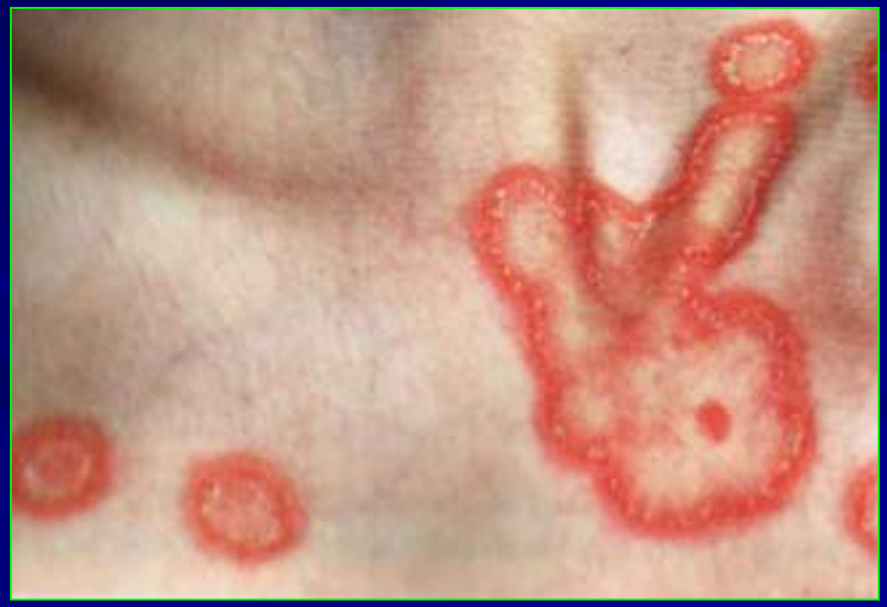
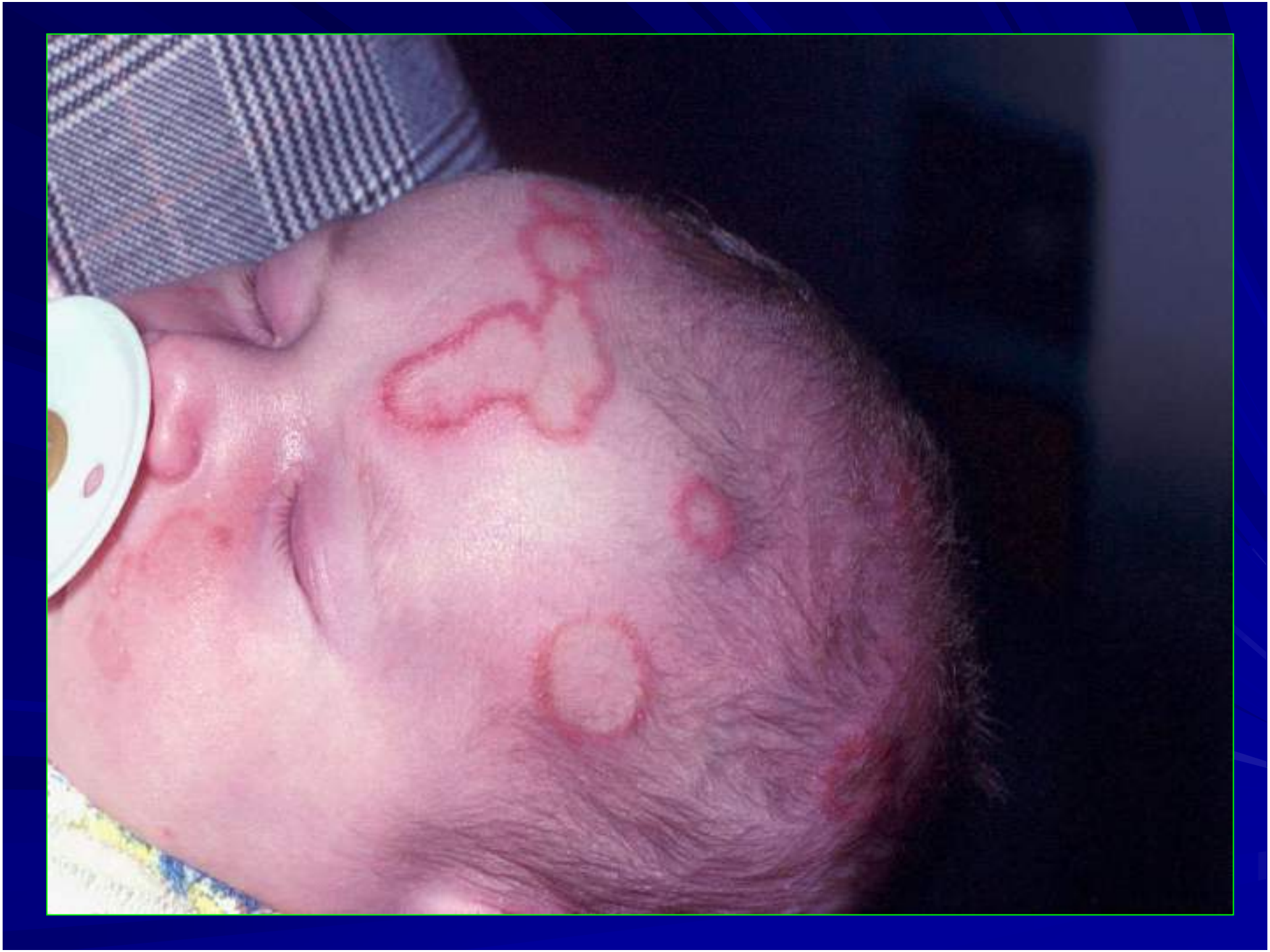
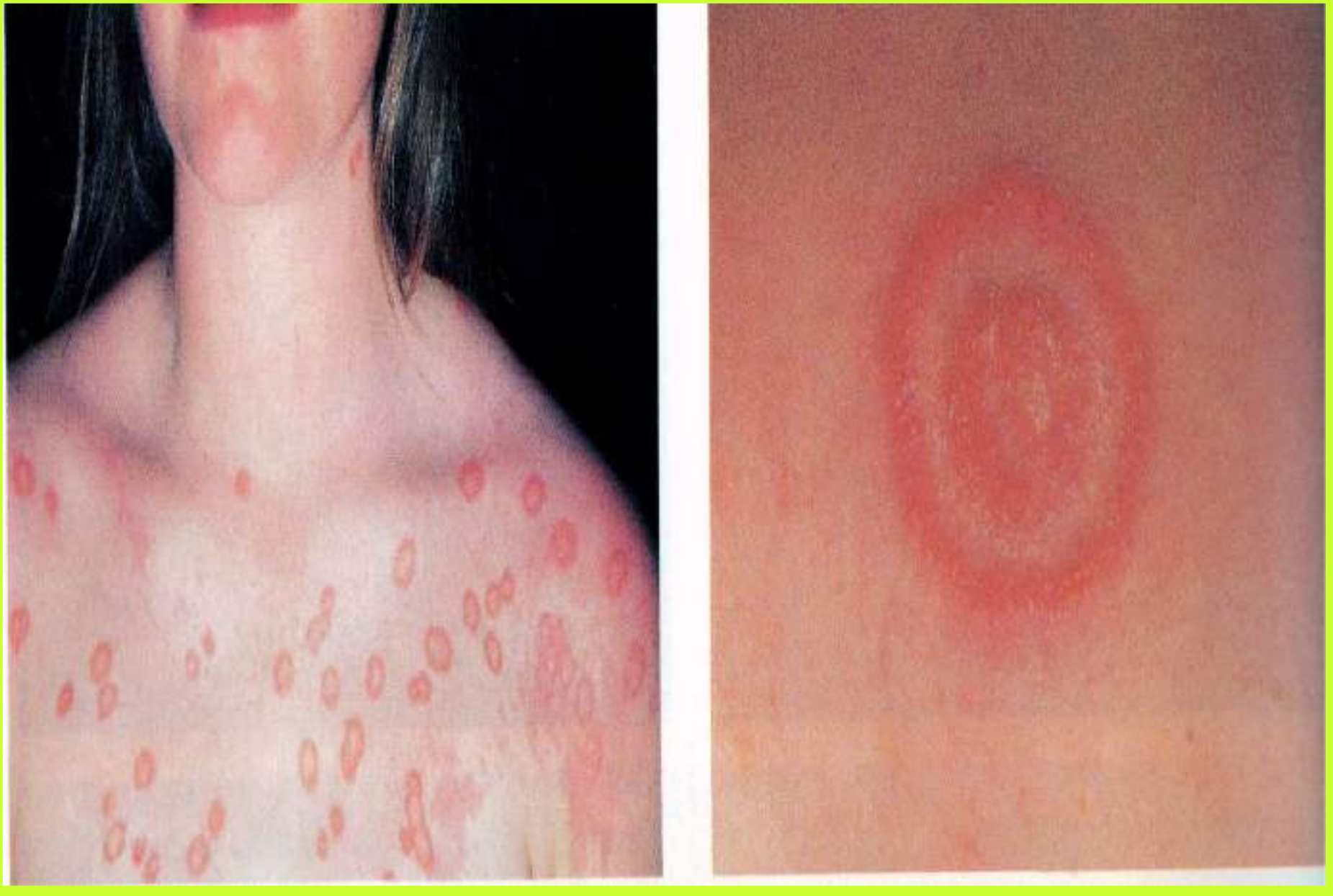
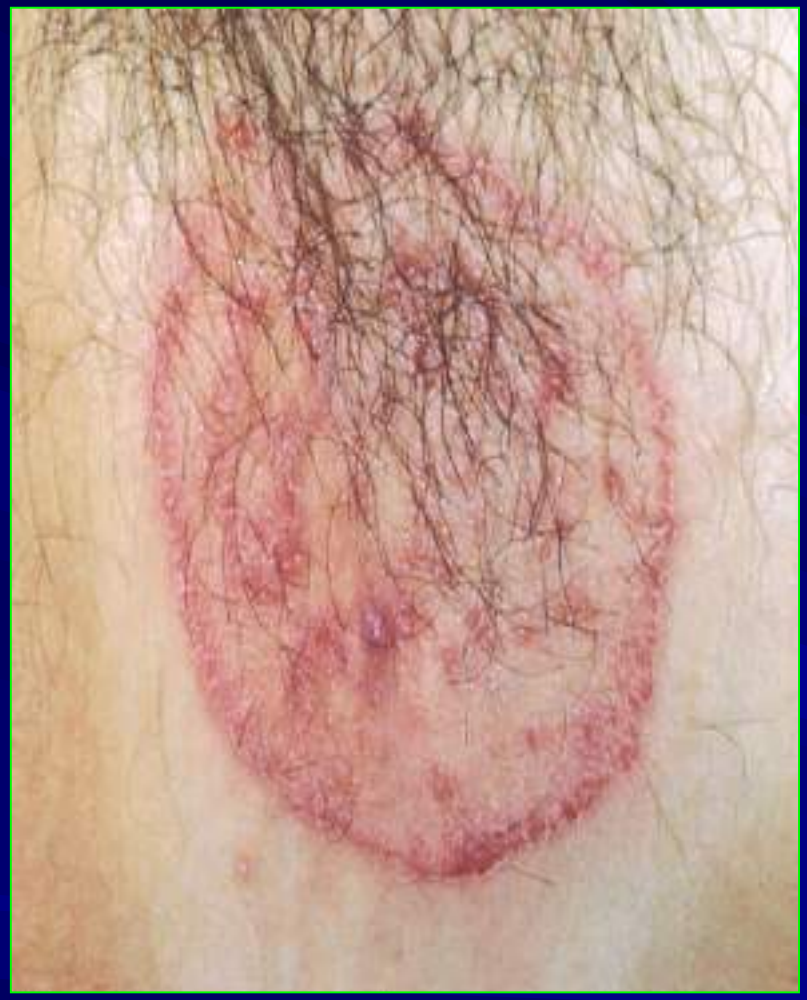
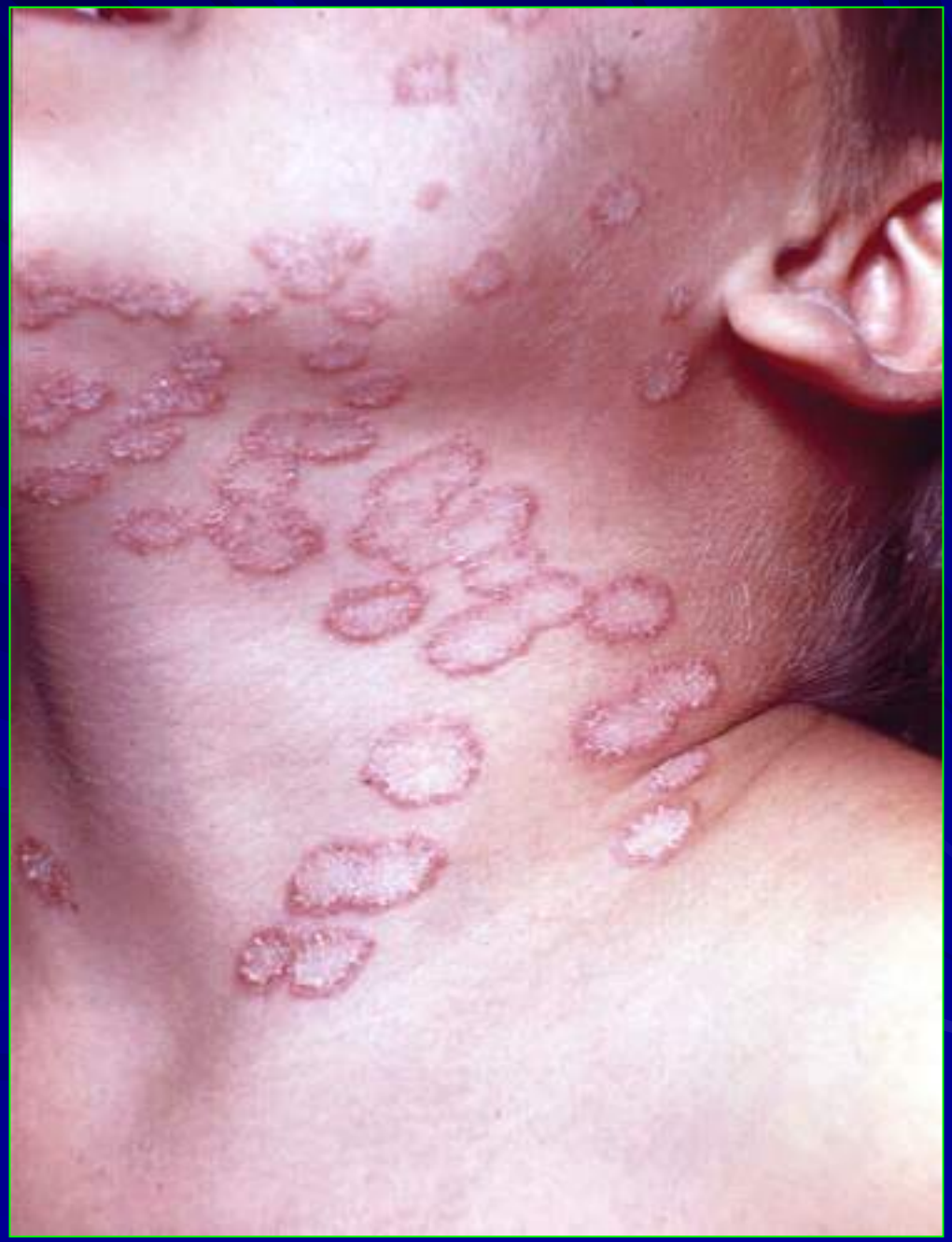


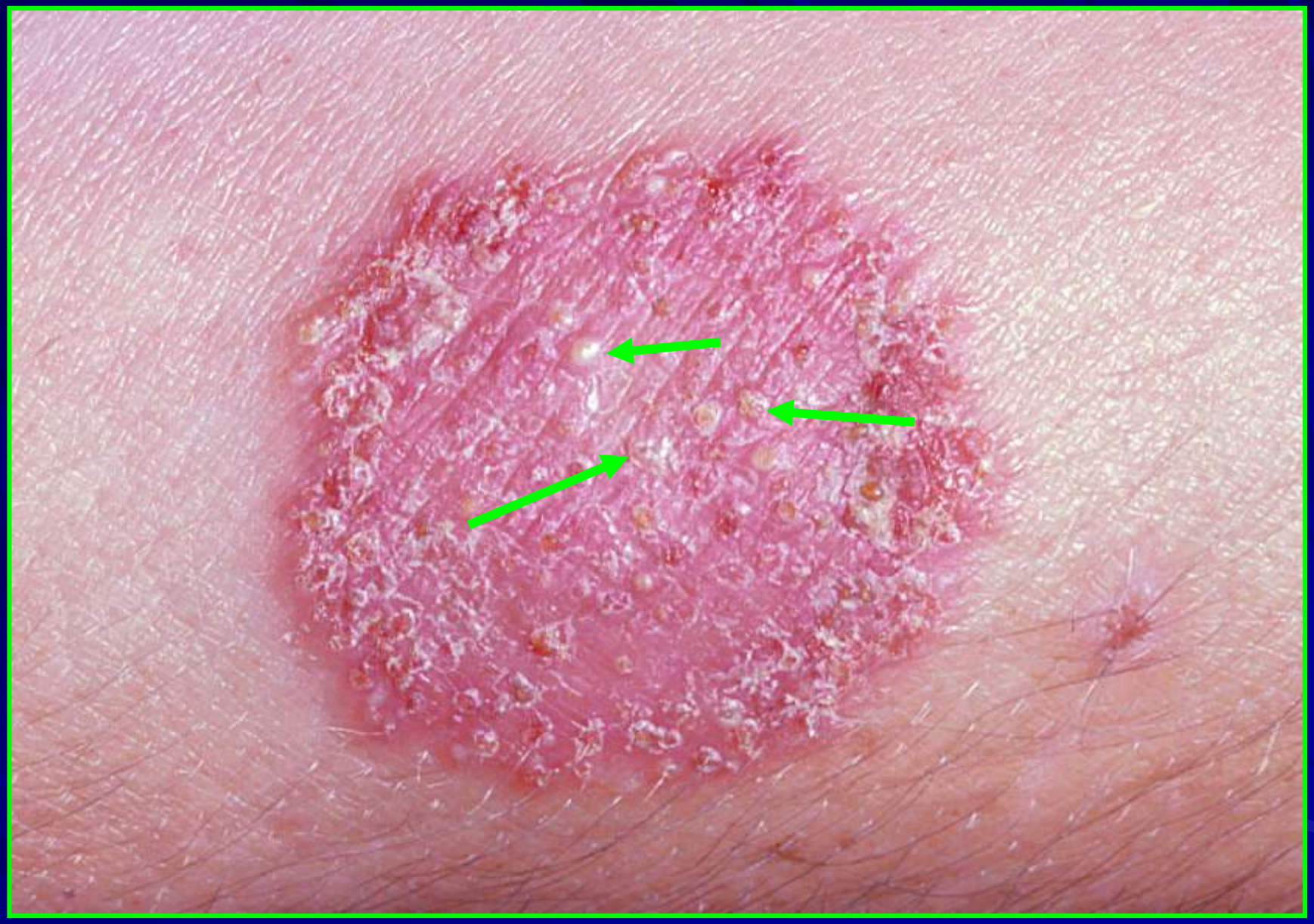




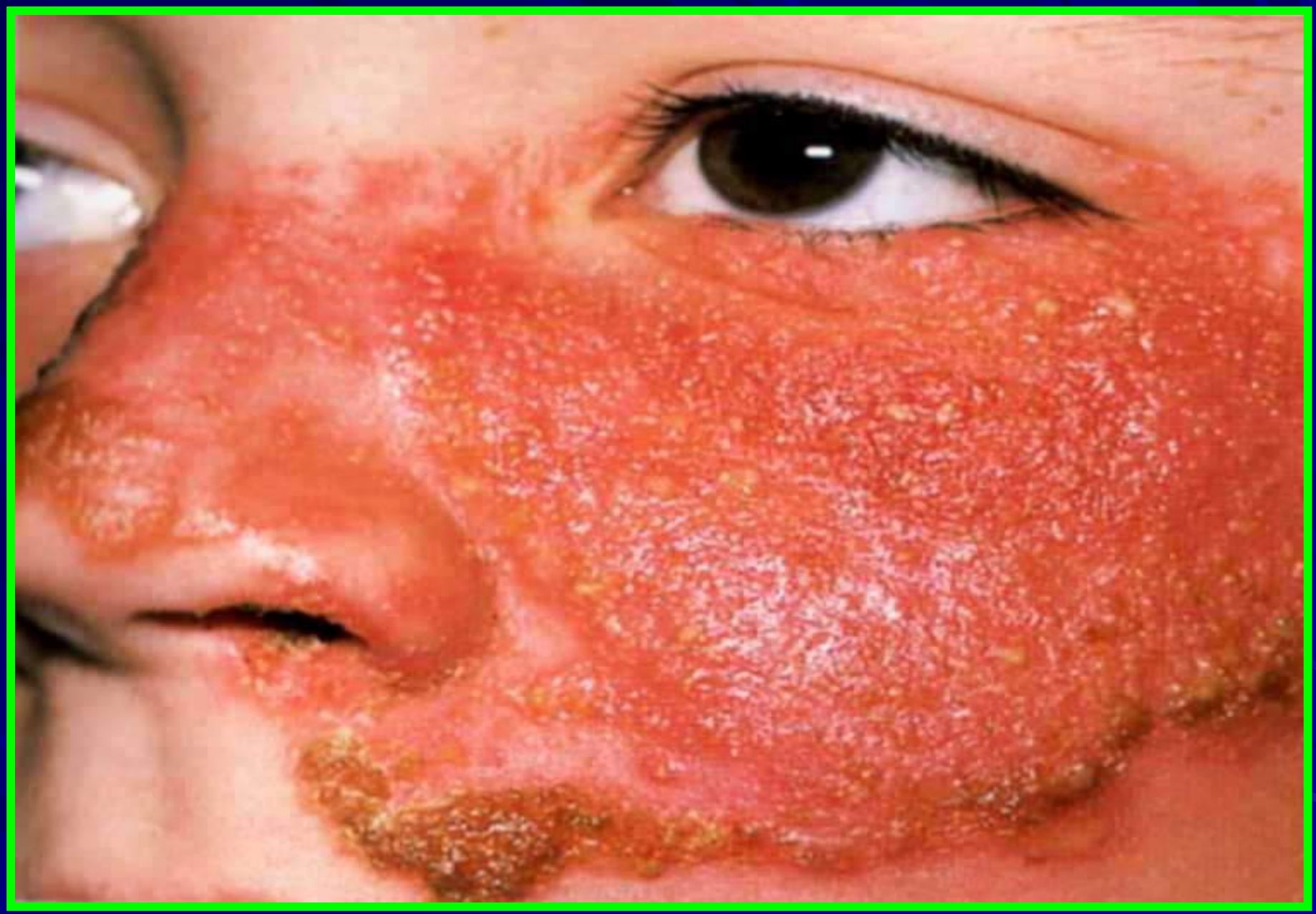








Tinea incognito

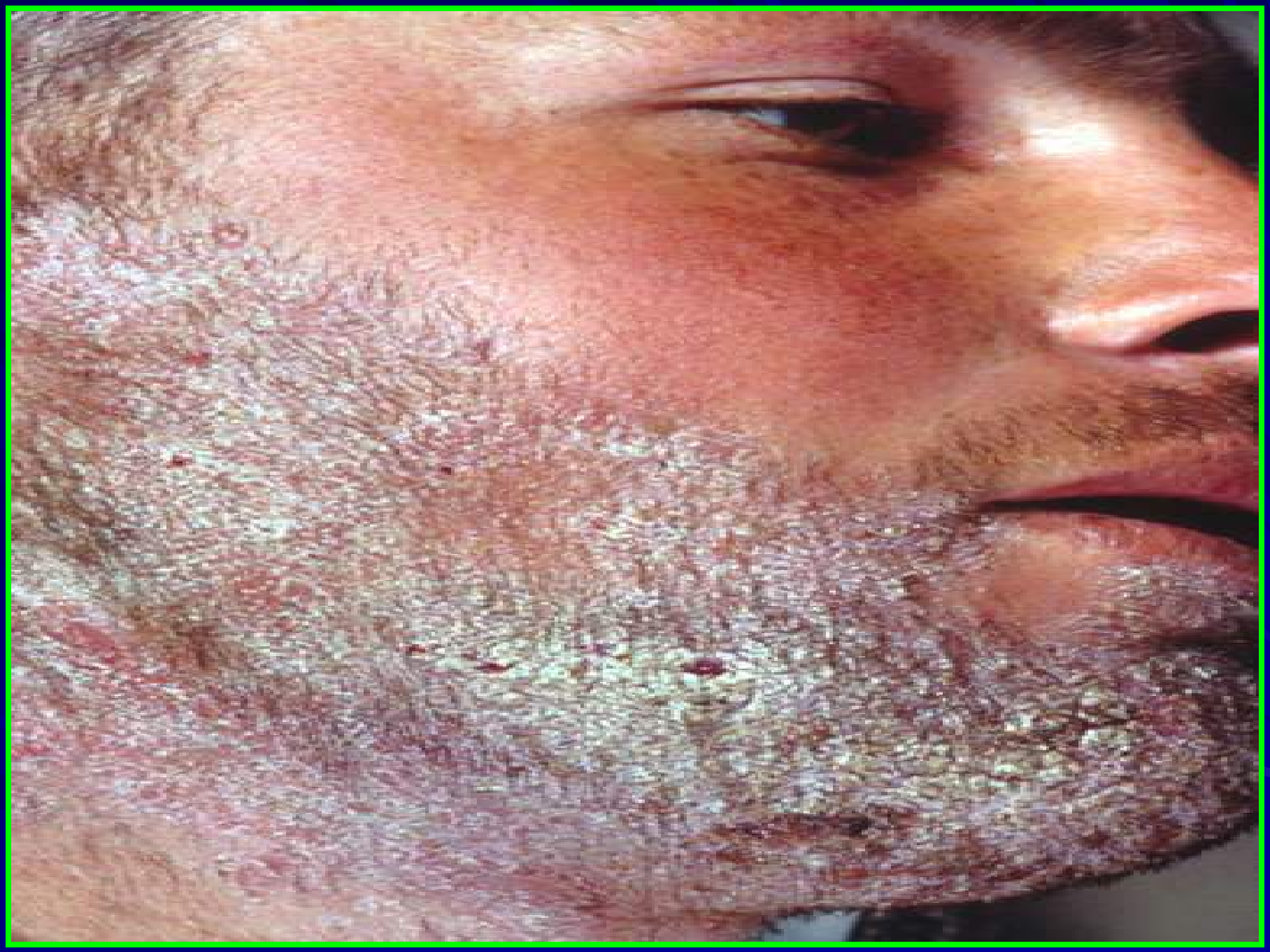


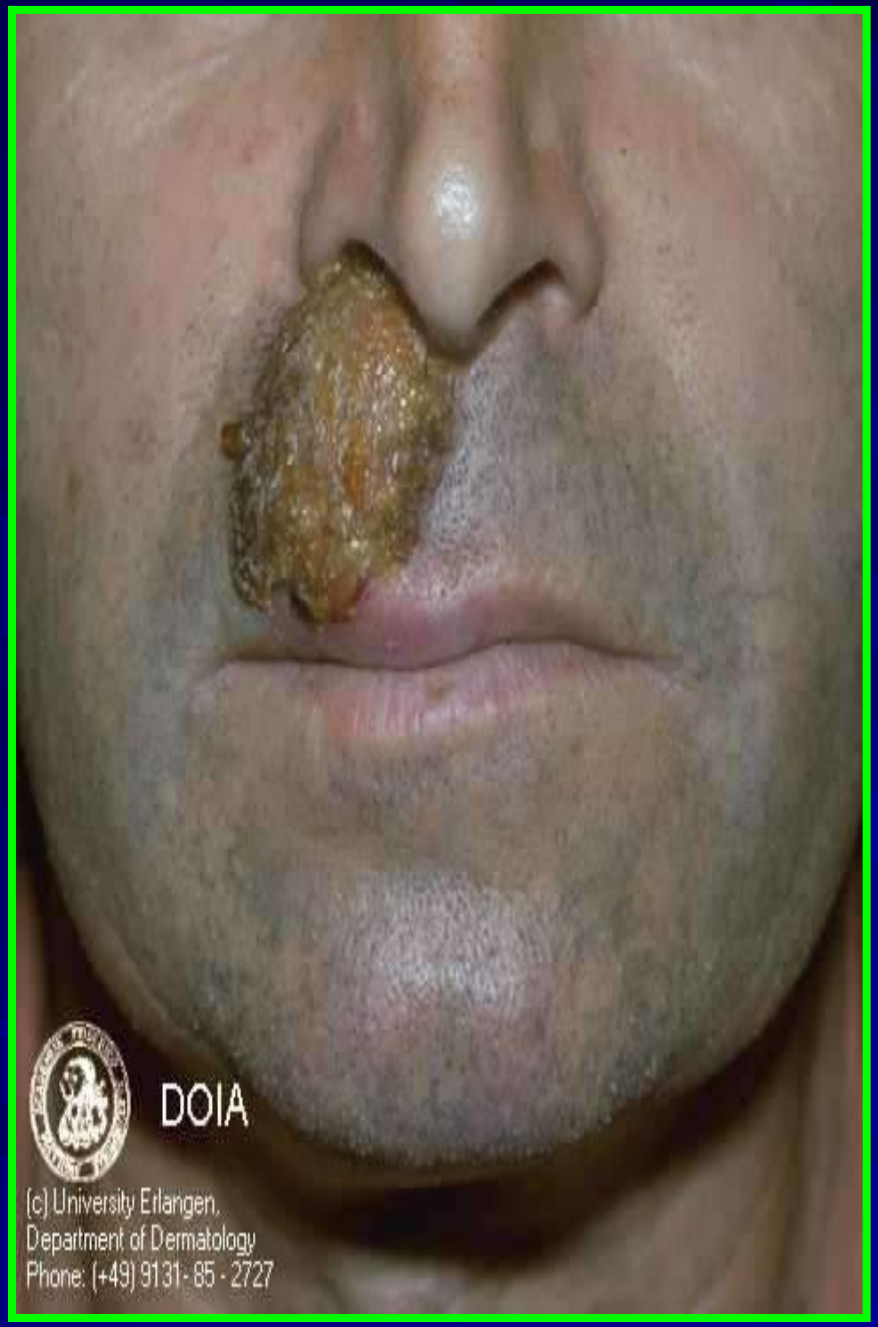
Tinea incognito

(3) Tinea barbae
(Ringworm of the beard)

- *Mainly in adults in contact with farm animals*
- *Lesion may be presented as kerion or tinea circinata and mostly unilateral*
- **Treatment :**

  Oral and topical antifungals

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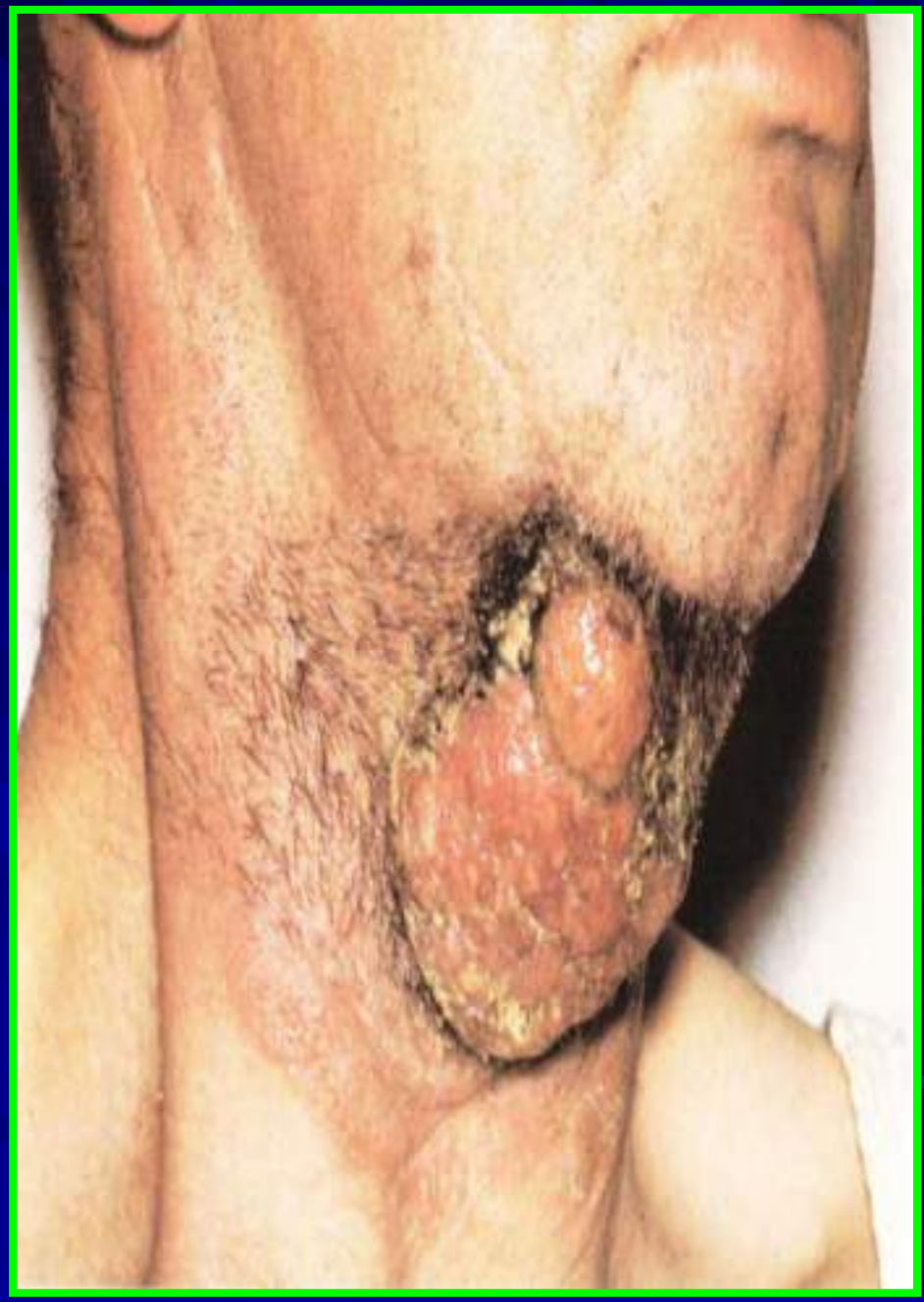

(4) Tinea cruris
(Ringworm of the groin)

- *Mostly in men on upper & inner surfaces of the thighs, esp. in hot summer months*
- **Clinical picture:**

  Small erythematous, scaly patch that spreads peripherally and partly clears in the center, edge is well defined with papules, vesicles or pustules. Itching is common

- **D.D.:** *erythrasma, seborrheic dermatitis, flexural psoriasis, simple intertrigo, candidal intertrigo & streptococcal intertrigo*
- **Treatment :**

  1- Drying the lesions

  2- Specific topical & oral antifungals