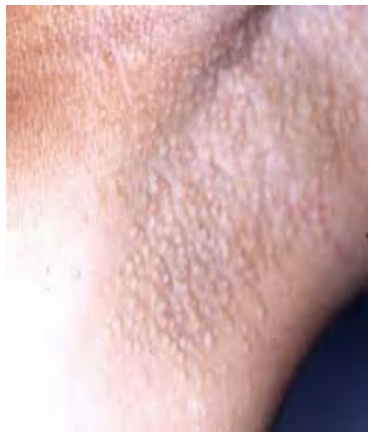
DERMATOLOGY

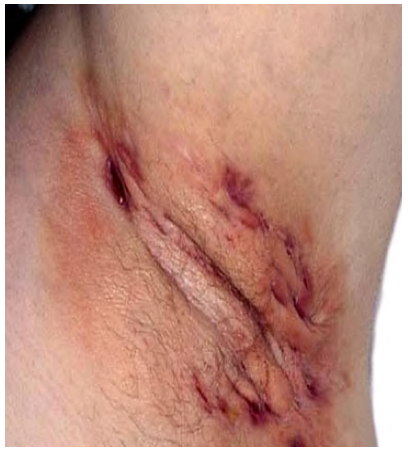
BASICS OF SKIN

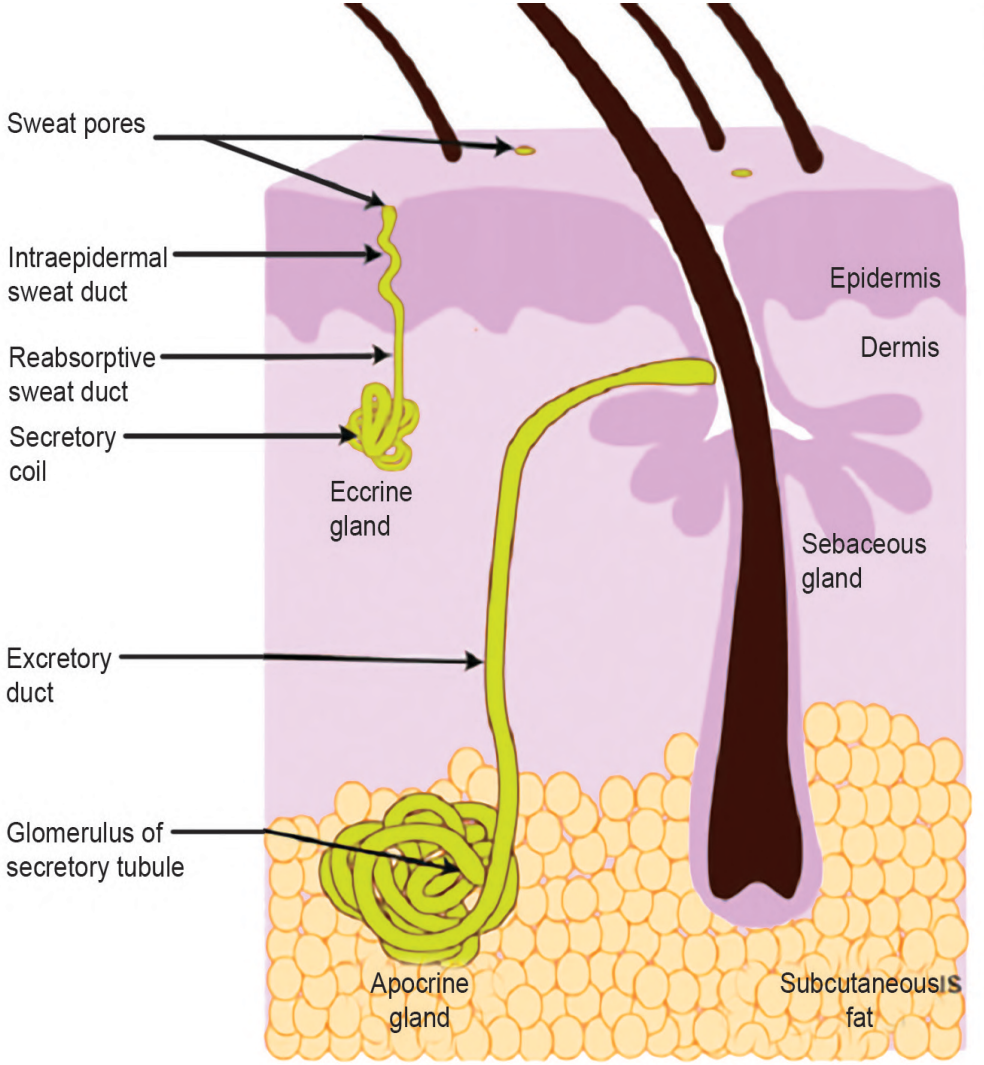
Layers
- Epidermis (ectoderm)

Melanocyte:
Langerhans:
- Dermis (mesoderm)

Dense irregular collagen
- Hypodermis (mesoderm)



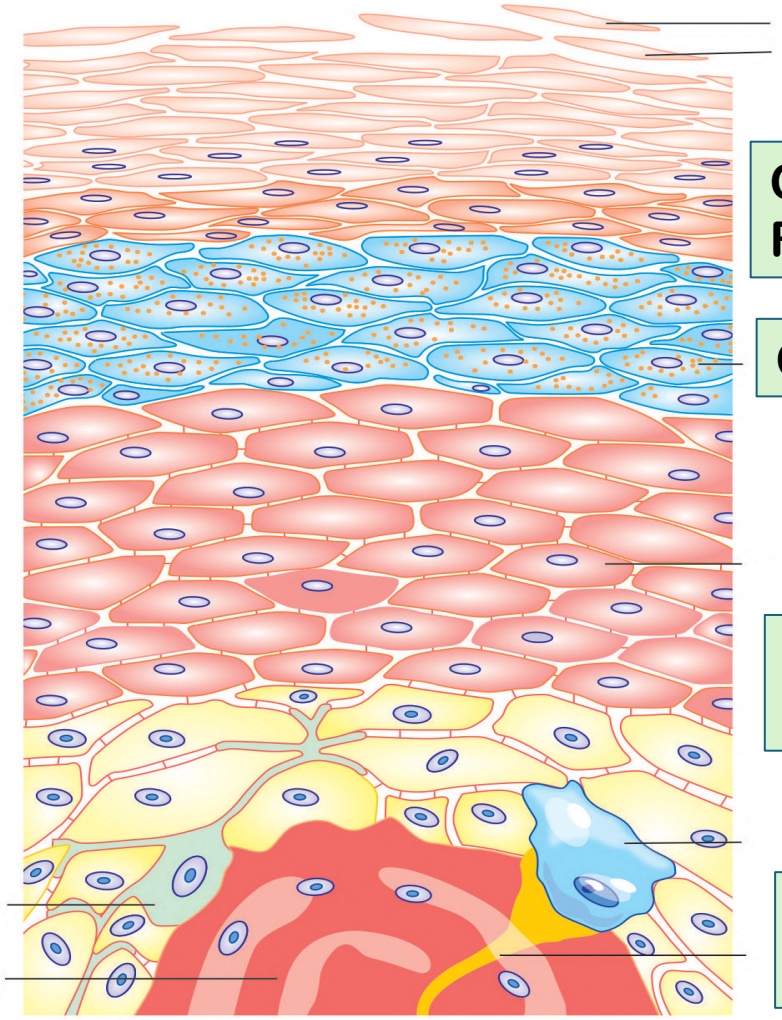




Ectopic sebaceous gland:
Fordyce spots
Montgomery tubercles
Mebomian
Zeiss
Tyson's glands prepuce

Modified apocrine glands:

BASICS OF SKIN

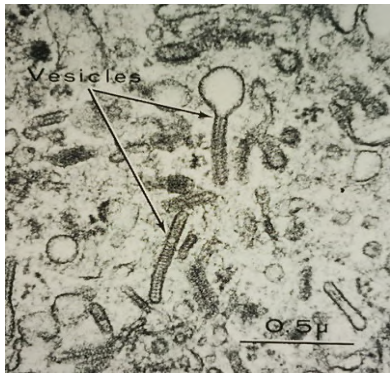


Only in palms and soles
Refractile granules of Eleidin

Odland/lamellar bodies/ Keratohyaline granules

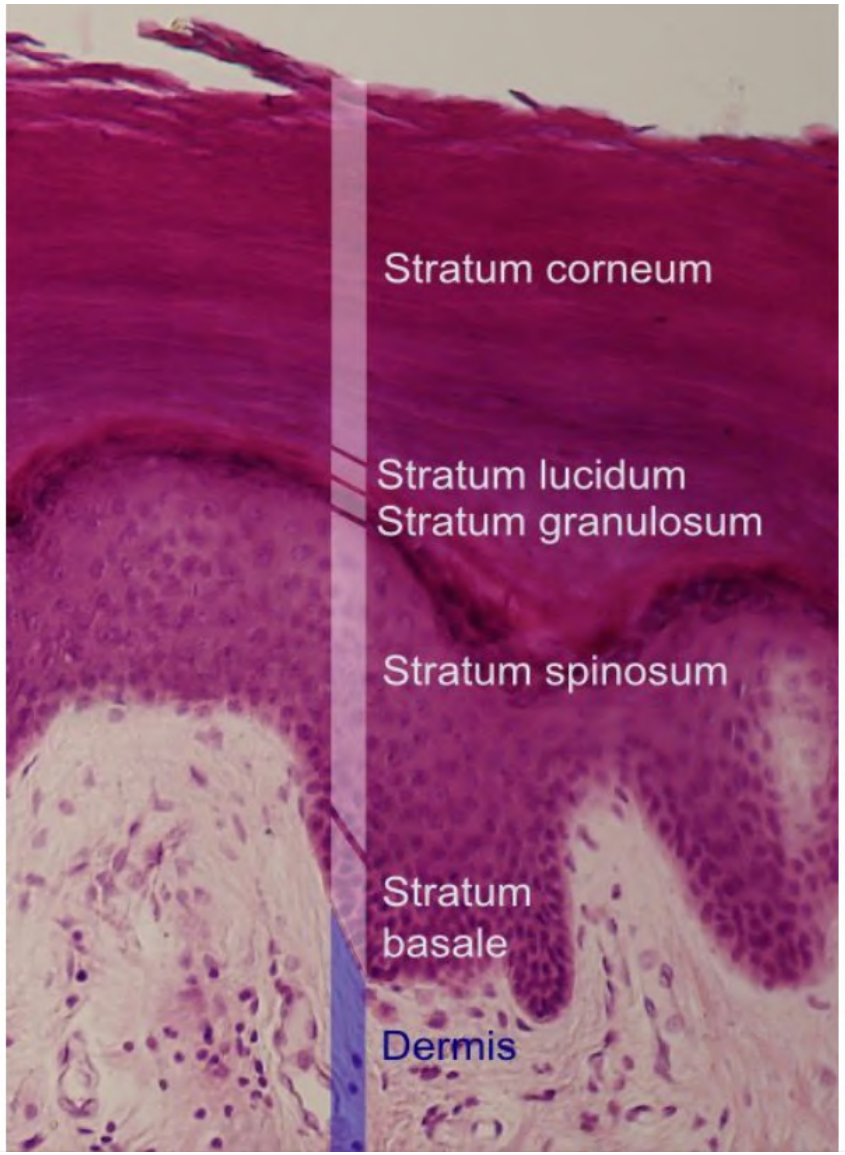
Acanthocytes: DSG
Langerhans cells

Melanocyte
Merkel cell



Epidermal melanin unit:
Epidermal turnover time:
Psoriasis:

DERMATO-PATHOLOGY



Hyperkeratosis:

Parakeratosis:

Orthokeratosis:

Dyskeratosis:

Hypergranulosis:

Spongiosis:

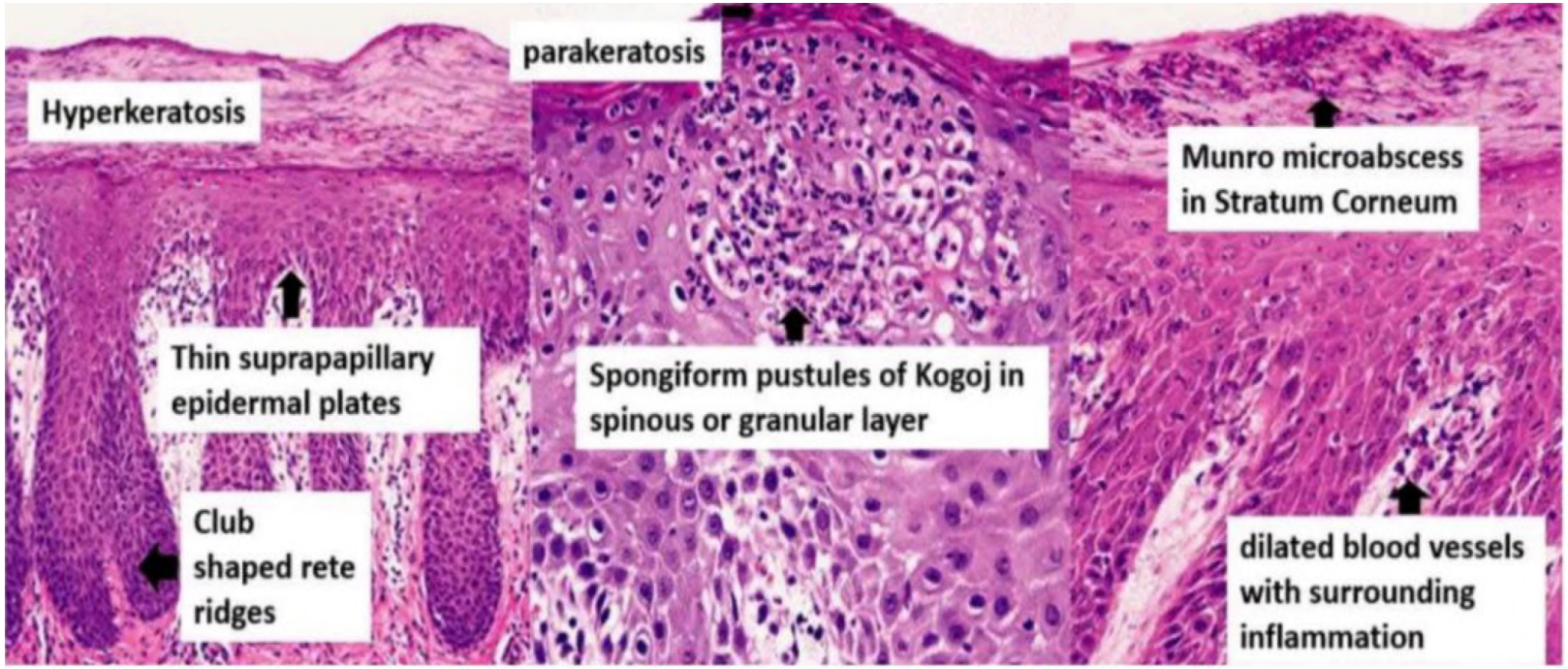
Acanthosis:

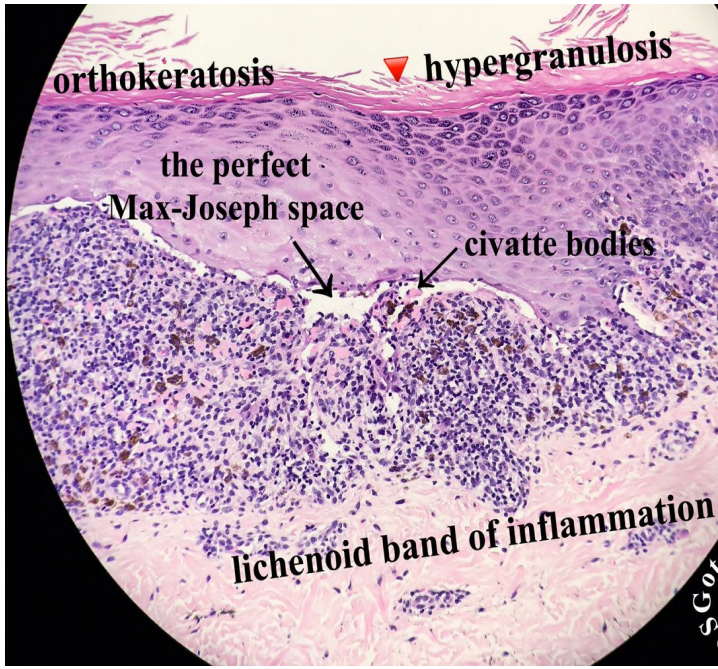
Acantholysis:

Munro's microabscess:

Pautrier's microabscess:

Civatte bodies:



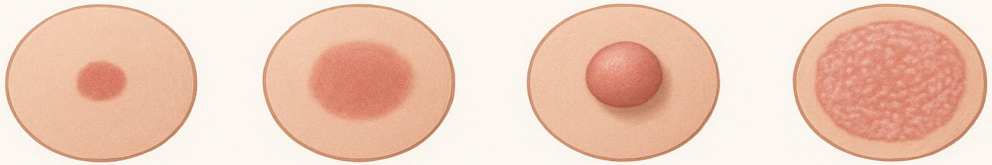


TNF-α, IL-6, CRP, HLA B27

T-cell mediated (CD8+): interface dermatitis

SKIN LESIONS

PRIMARY LESIONS



Macule
Flat discoloration
≤ 1 cm in diameter

Patch
Flat discoloration
> 1 cm in diameter

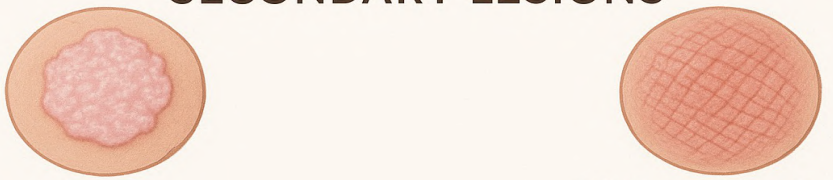
Papule
Elevated, solid
skin lesion ≤1 cm

Plaque
Elevated, flat-topped lesion
> 1 cm in diameter

Nodule	Firm, deep lesion, > 1 cm
Tumor	Large solld mass, deeper in dermis
Vesicle	Small fluid-filled blister, ≤ 1 cm
Bulla	Large fluid-filled blister, ≥ 1 cm
Pustule	Pus-filled vesicle
Wheal	

Abscess, Petechiae, Purpura, Ecchymosis

SECONDARY LESIONS

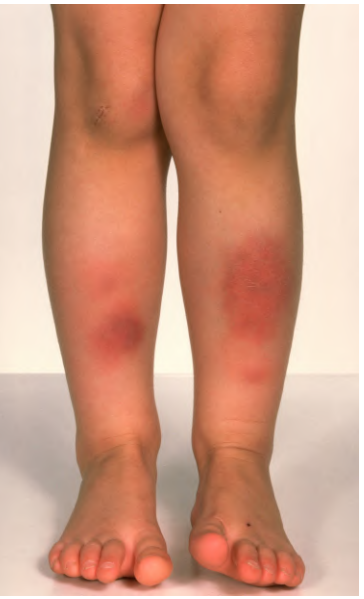
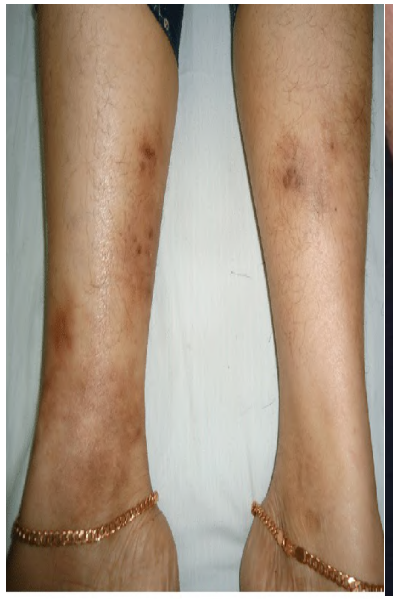
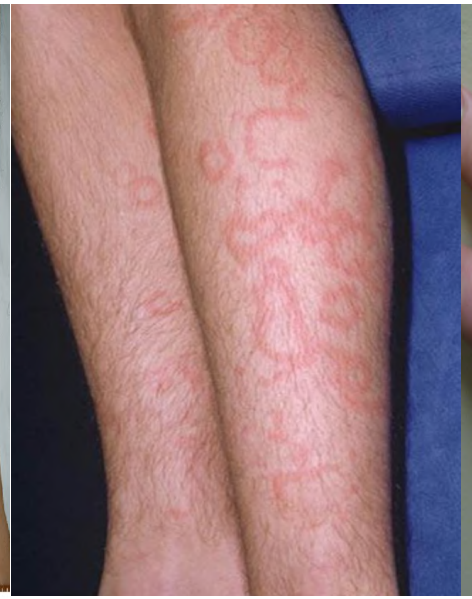
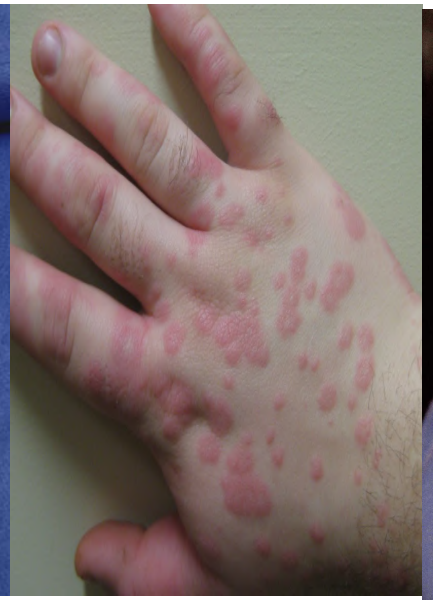
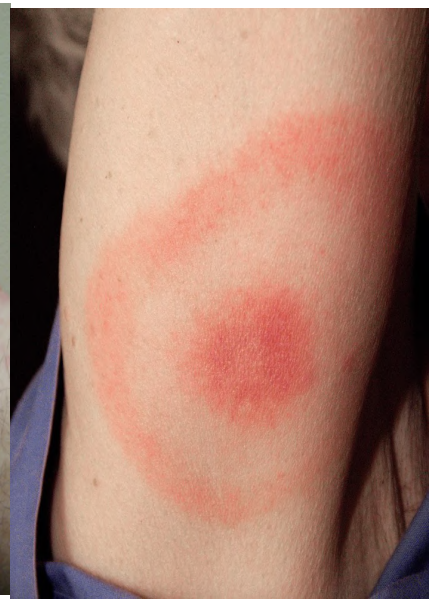
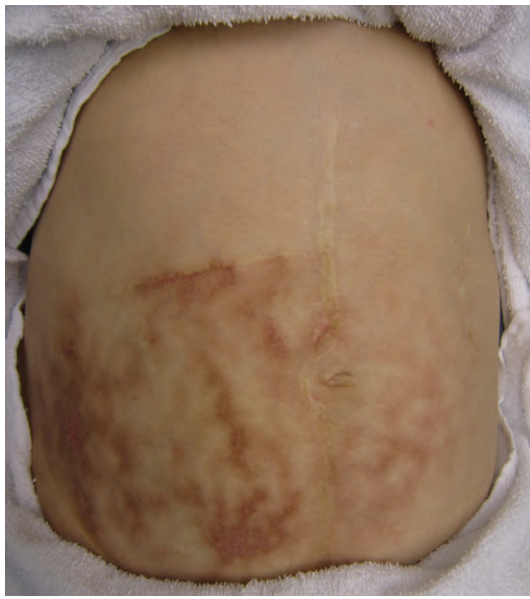


Scale
Thickened stratum corneum

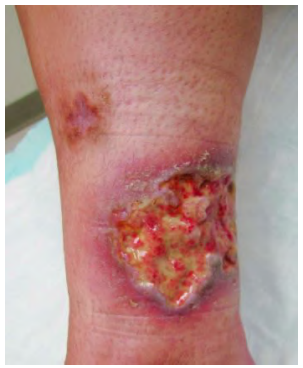
Lichenification
Thickened, rough skin with accentuated skin markings

Crust	Dried serum, bloob, or pus
Erosion	Loss of part of the epidermis, heals without scar
Ulcer	Full-thickness loss of epidermis and dermis, heals with scar
Excoriation	Linear erosion caused by scratching

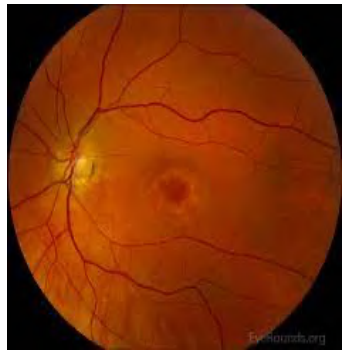
ANNULAR LESIONS-PATTERN

Histoplasma, TB
Sarcoidosis
Syndrome:
Behcets
IBD

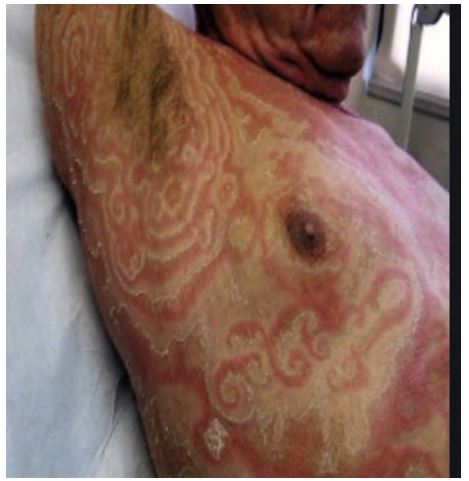


Acute rheumatic fever

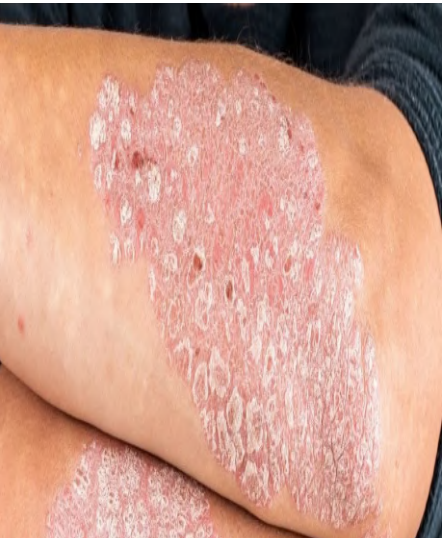


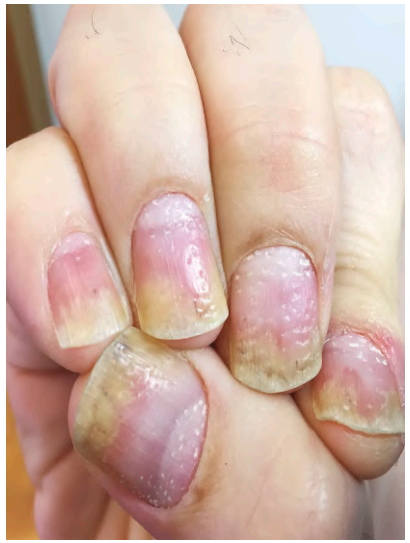
HSV, mycoplasma
Sulfa drugs, B lactams, Chloroquine

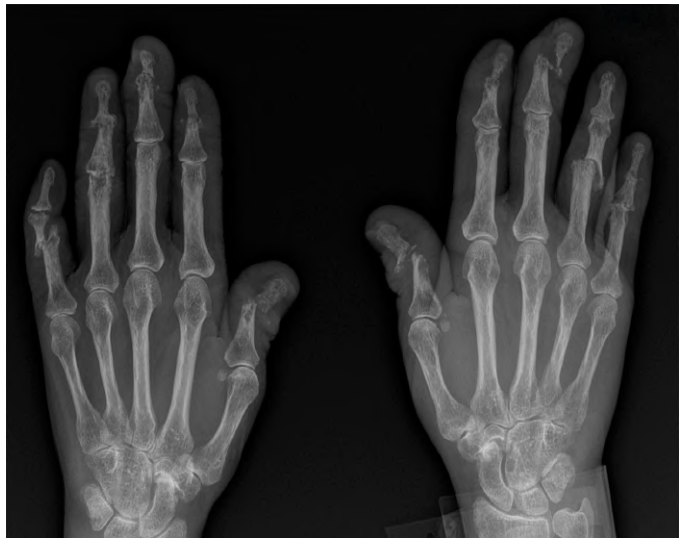
Lyme disease

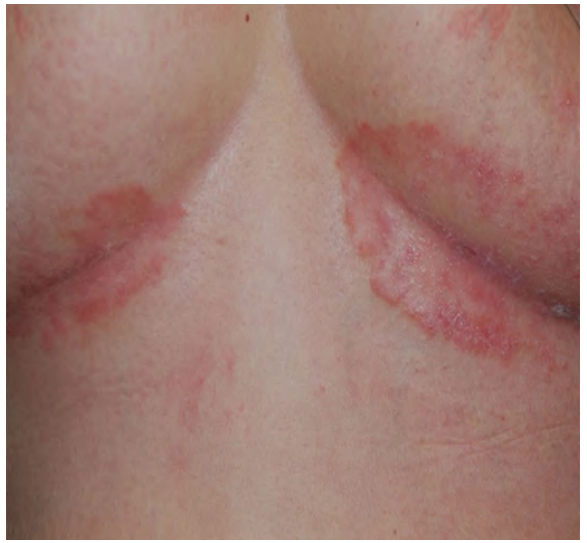


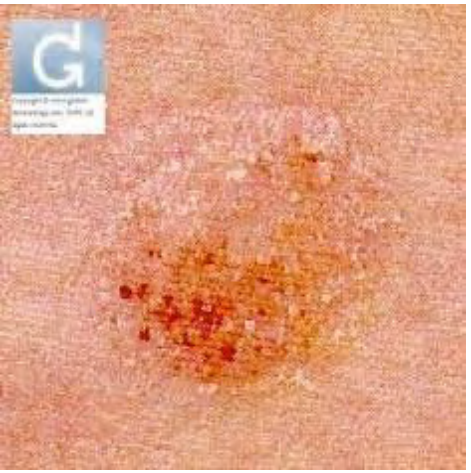
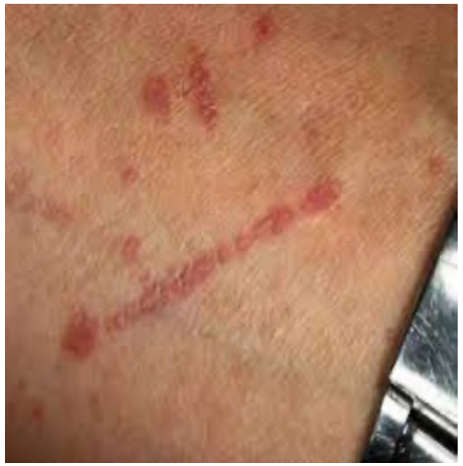
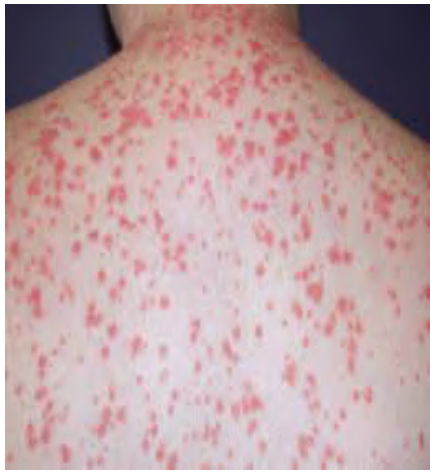
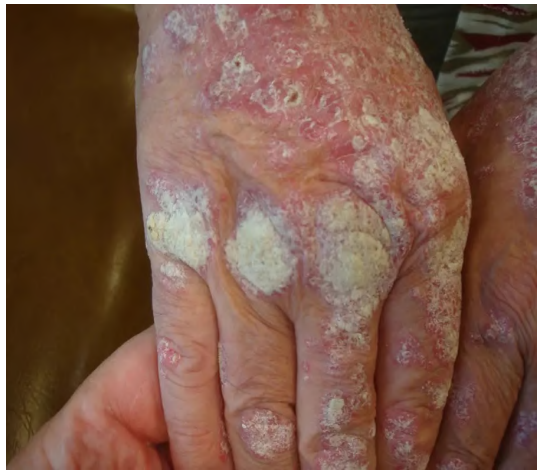
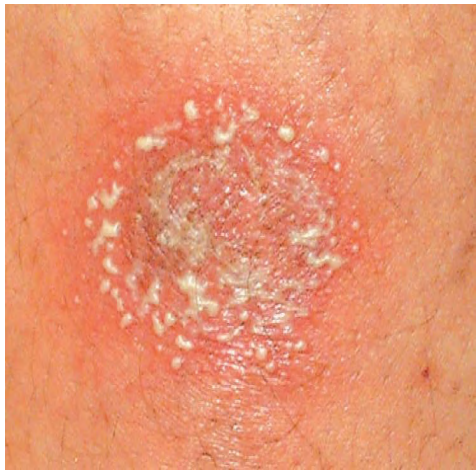
PAPULO-SQUAMOUS DISORDERS









HLA-CW6, HLA-B27

TNF-a, IL-17, IL-23

Conditions worsening psoriasis: Lithium, Chloroquine, B blockers, NSAIDs, Steroids, Alcohol, smoking

Rx: Psoriasis <10% :

Psoriasis >10%:

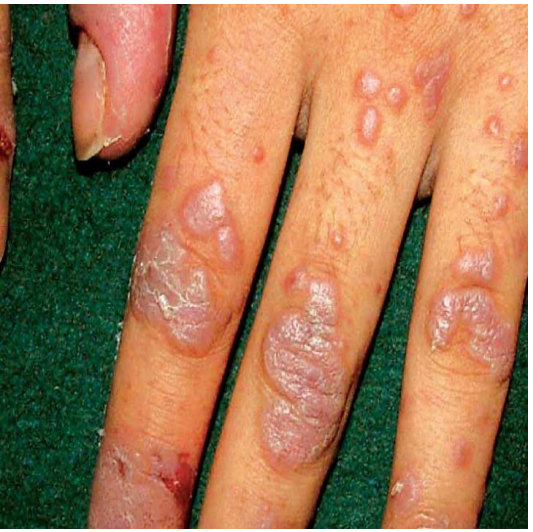
Psoriatic arthritis, Erythrodermic psoriasis:

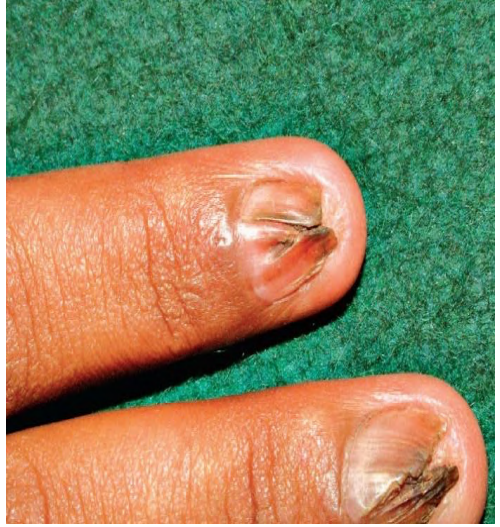
Pustular psoriasis:

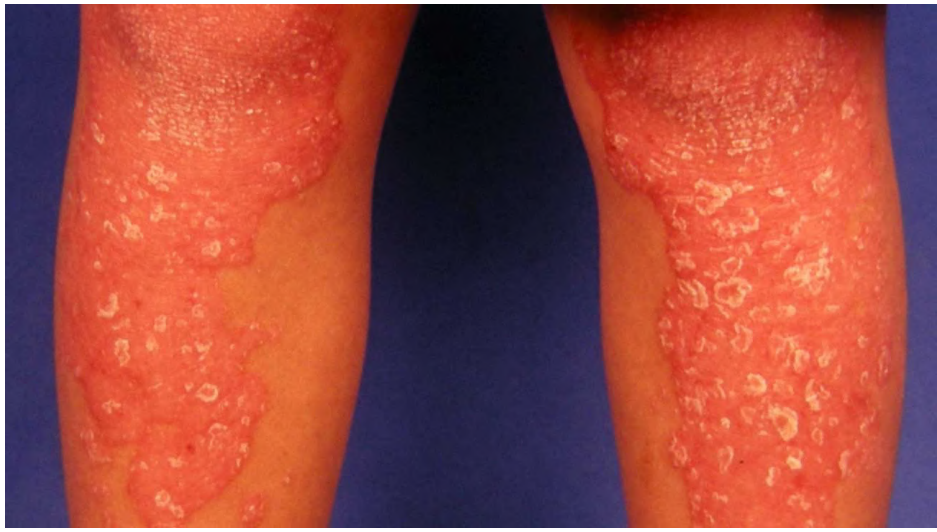
Impetigo herpetiformis/Pregnancy:

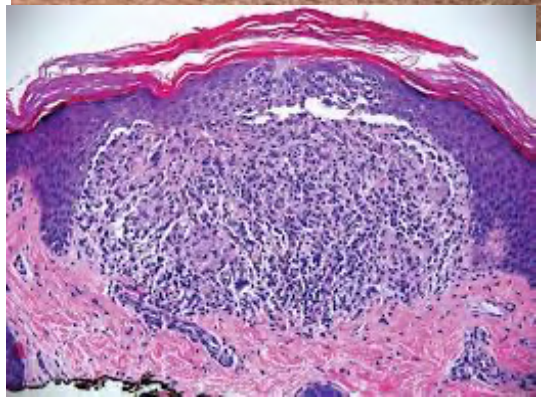
Von Zumbusch disease:

Ixekizumab, Secukikumab
Risankizumab, Guselkumab, Tildrakizumab
Ustekinumab
Apremilast
Tofacitinib

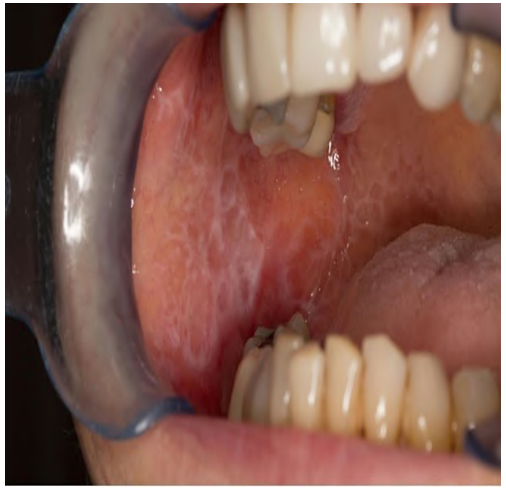






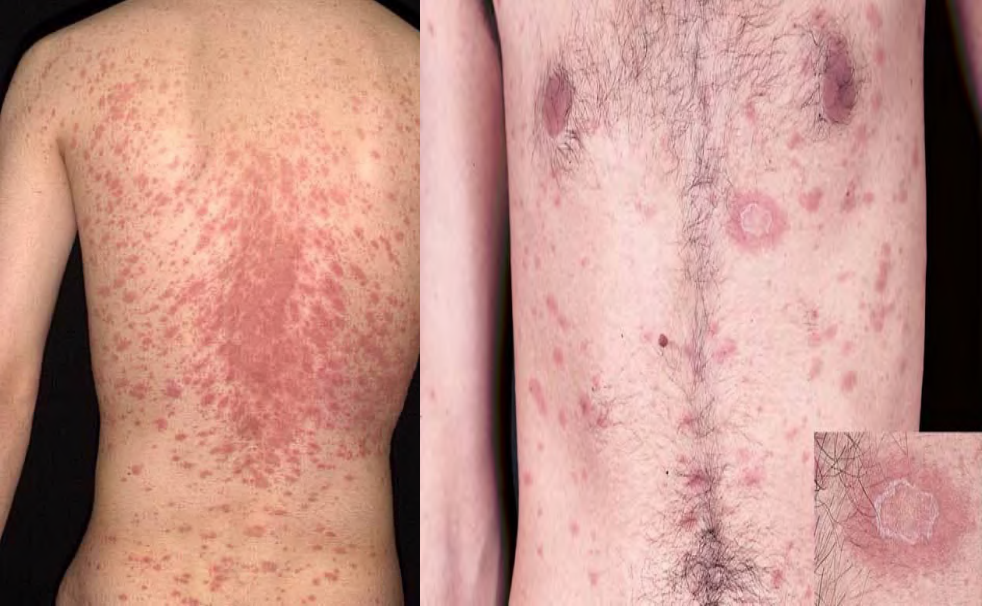


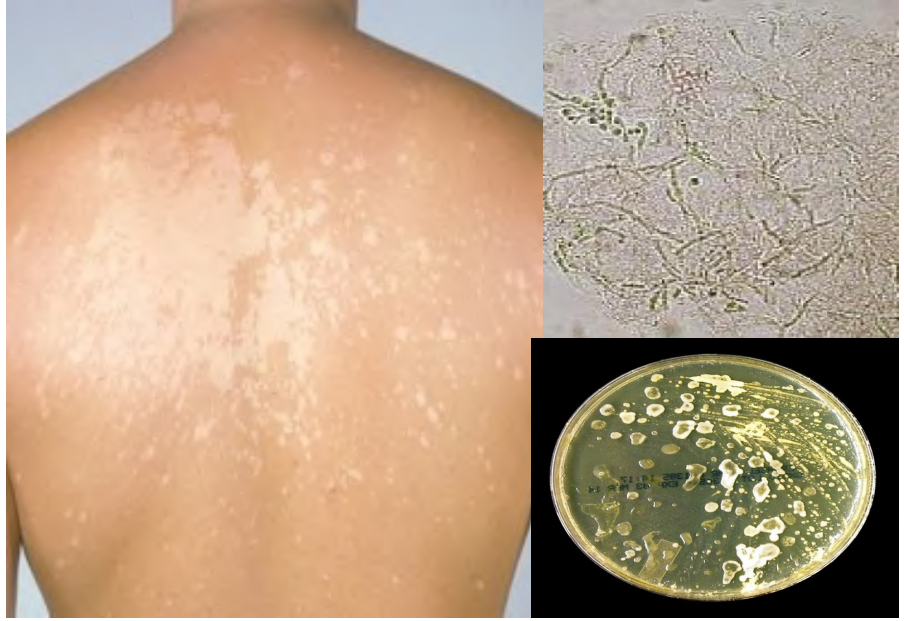
Pruritic, Purple, Planar, Polygonal, Papules, Plaques

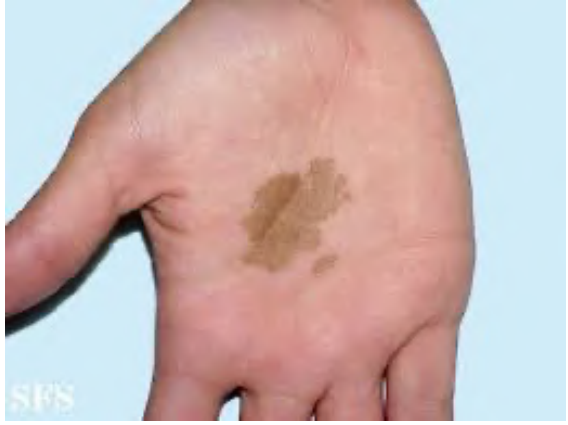


Checkerboard pattern: alternating orthokeratosis and parakeratosis

Trigger: ACE-, B blockers, Chloroquine, Dental Hg amalgam
Rx:





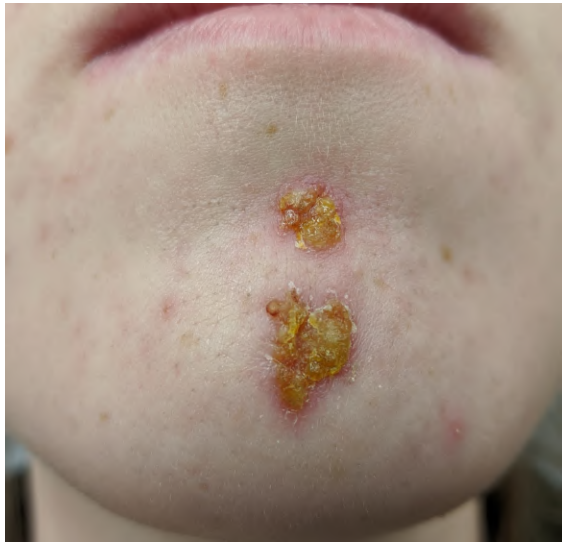


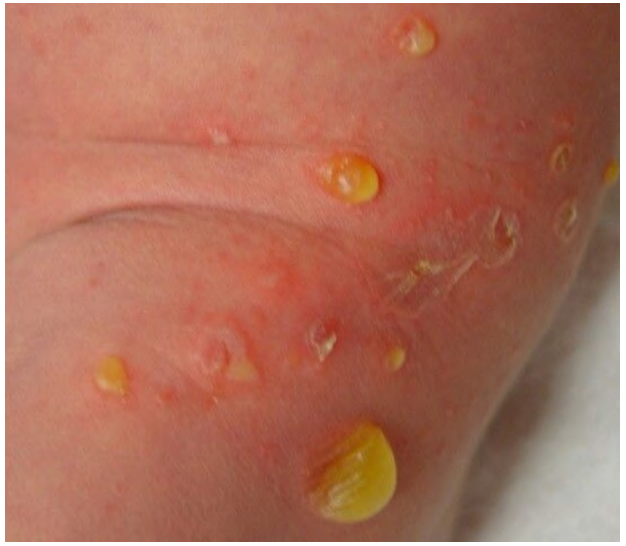
Hortaea werneckii

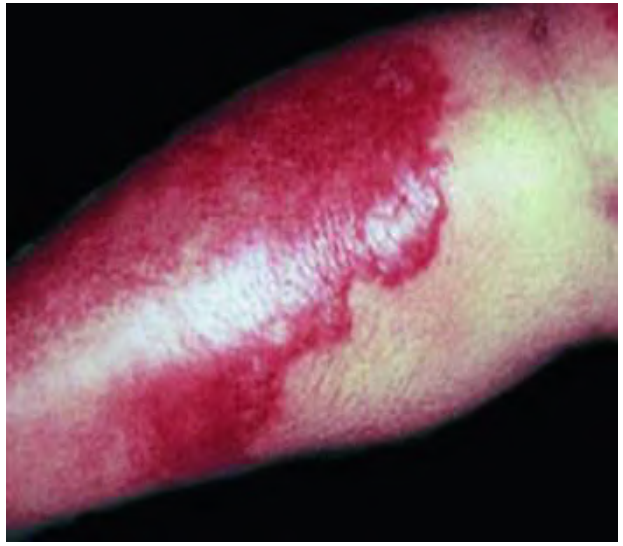
Golden yellow-Wood's lamp
Branny scales

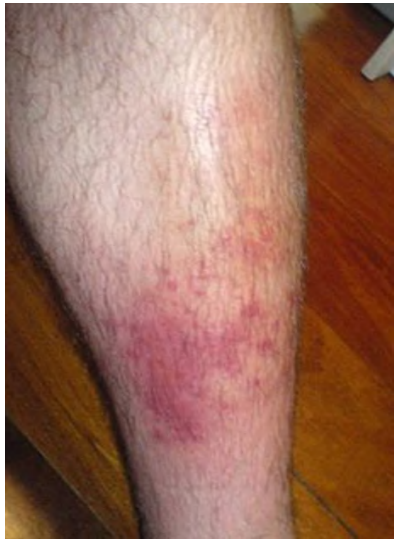
Wood's lamp: UV-A 365nm
Barium silicate + 9% NiO filter

BACTERIAL SKIN INFECTIONS

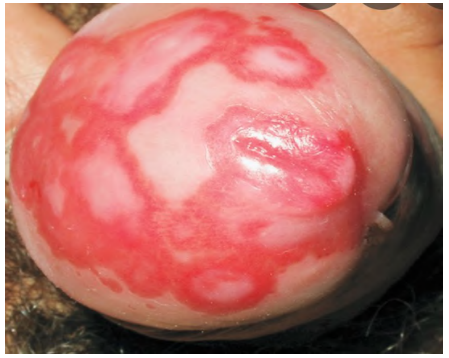


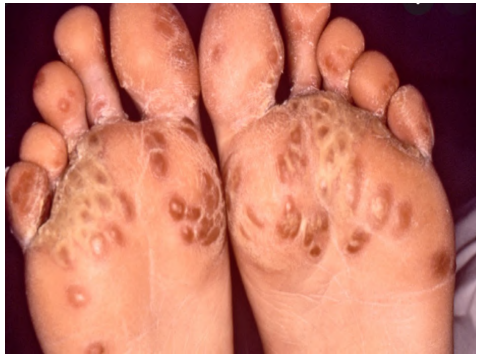


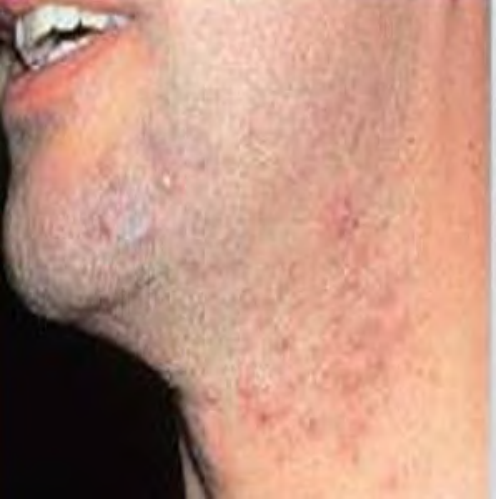
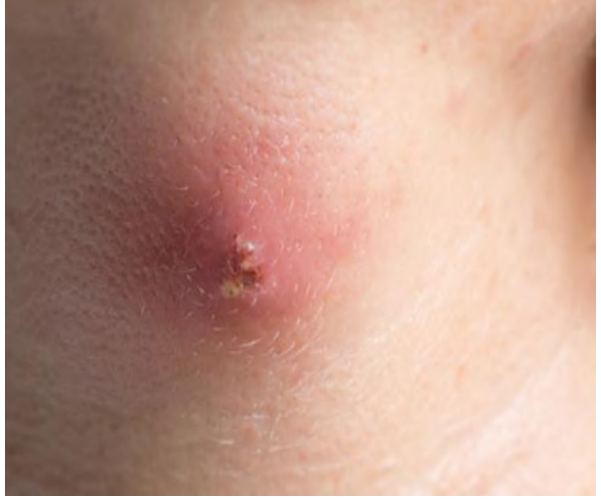
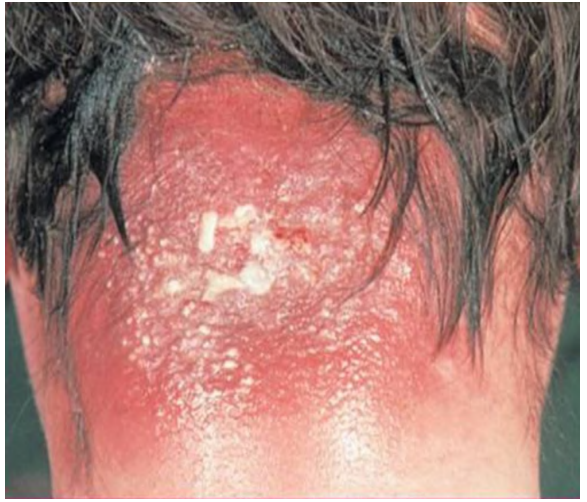
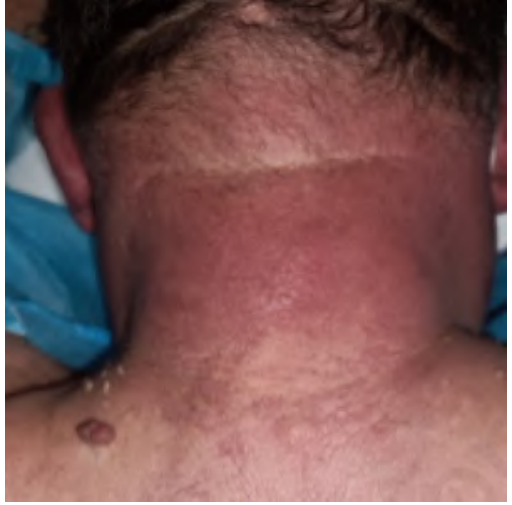
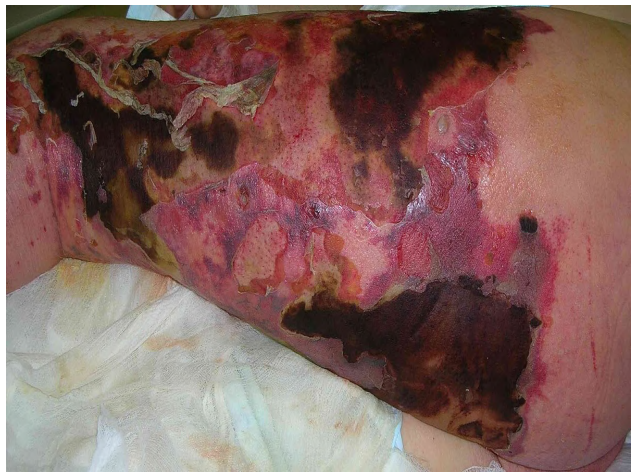
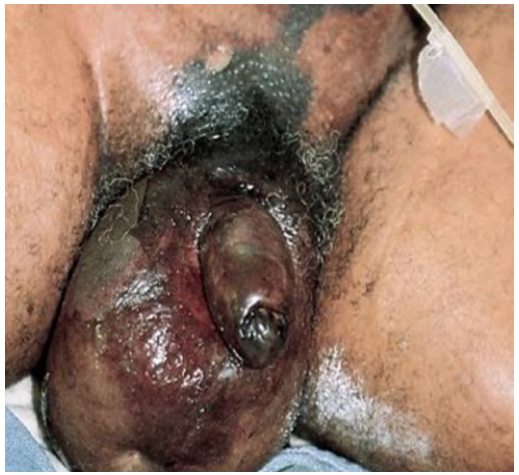
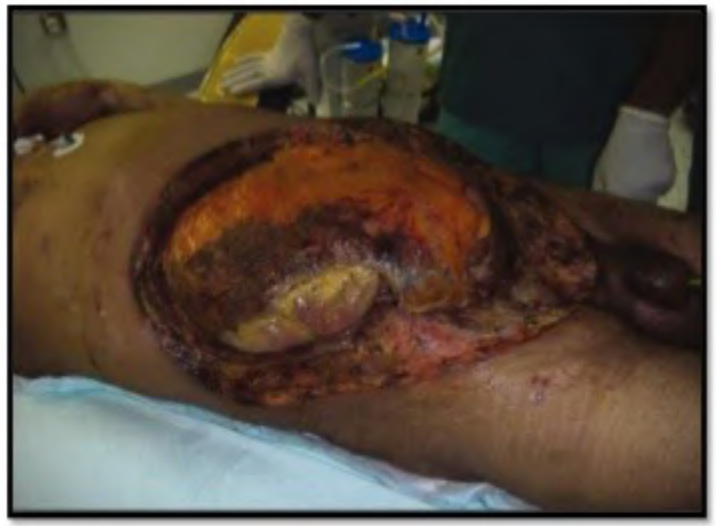




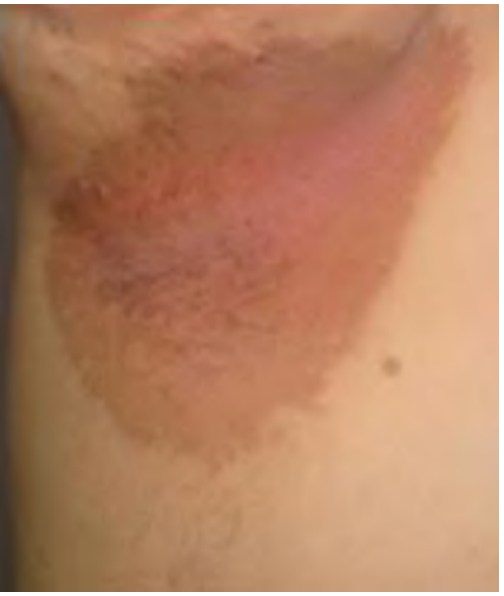
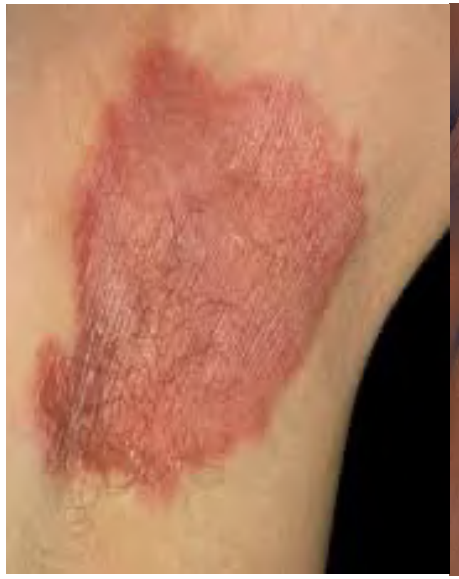
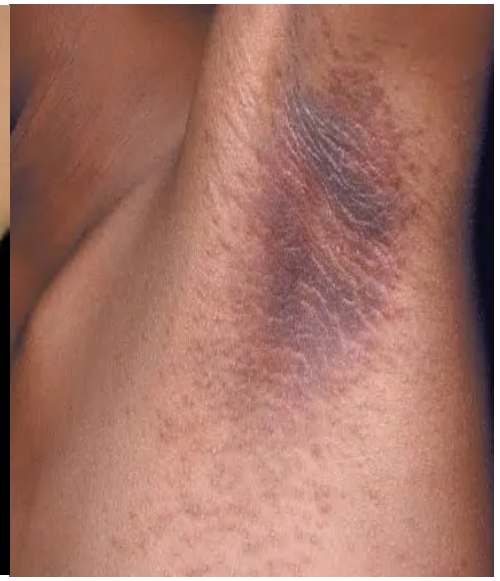
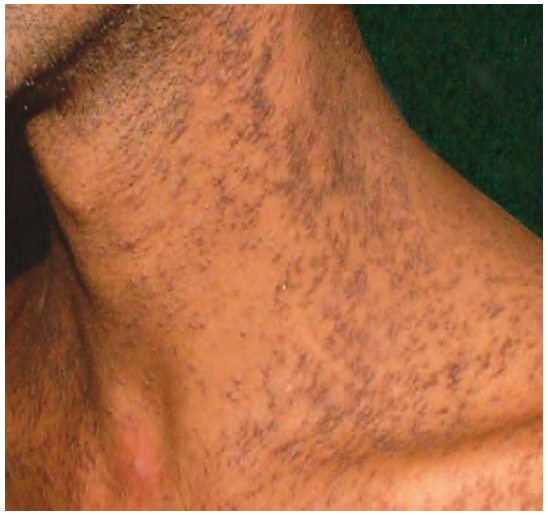
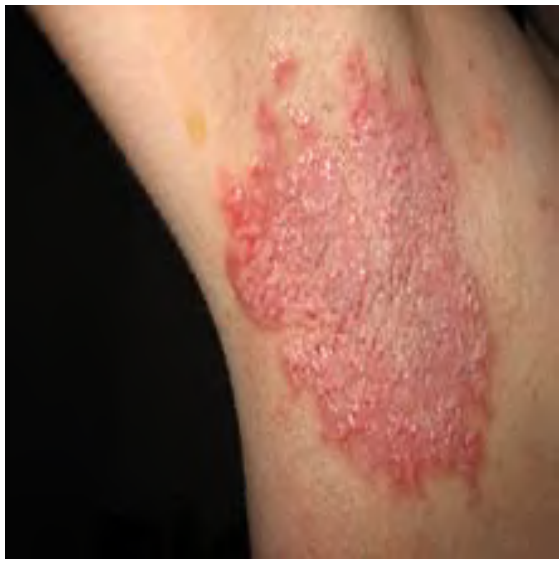
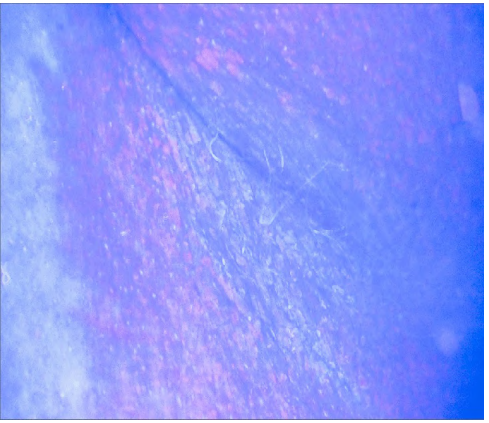
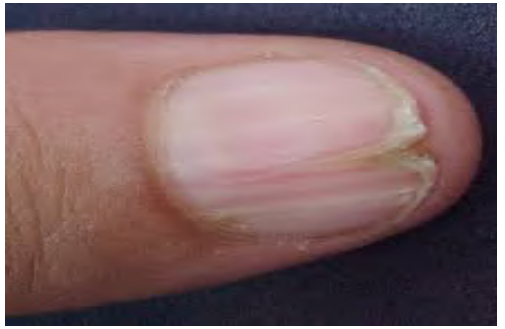
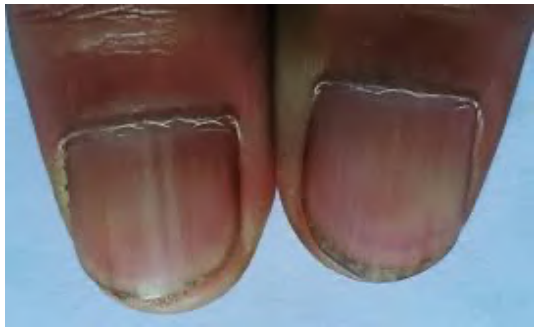
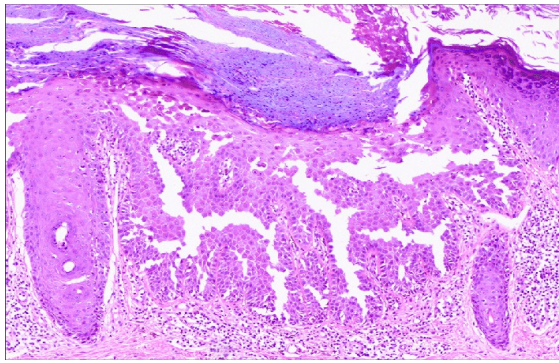
SSSS/ Ritter disease :
Oral mucosa?
VS Reiter disease:





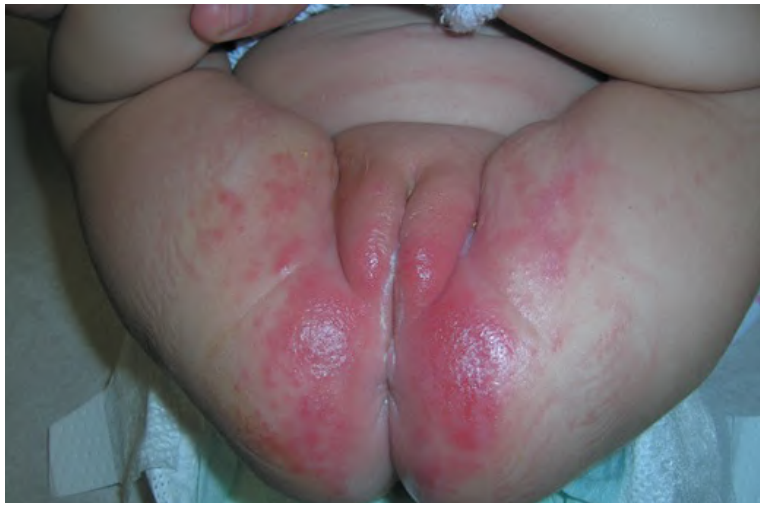








Polymicrobial
Testes involved?
Drug causing?

seborrhea, acne, hirsutism, alopecia

PERIANAL DERMATOSIS

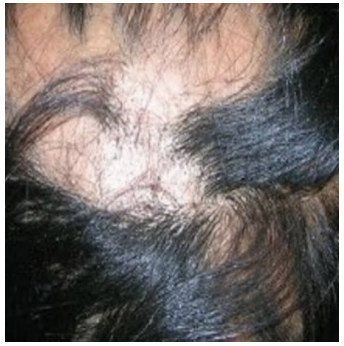


	Contact Dermatitis	Candida Dermatitis	Perianal Streptococcus
Age group	Infants (most common)	Infants (2nd most common)	School-aged children
Rash location	Spares skinfolds	Involves skinfolds	Perianal/perineal area
Rash appearance	Red, irritated skin	Beefy-red, satellite lesions	Bright, sharply demarcated erythema
Treatment	Barrier ointment/paste	Topical antifungals	Oral antibiotics

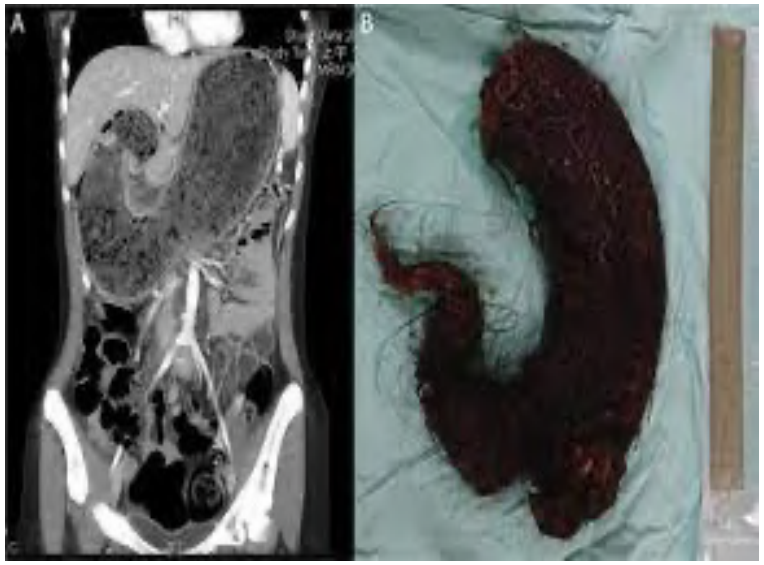
ALOPECIA

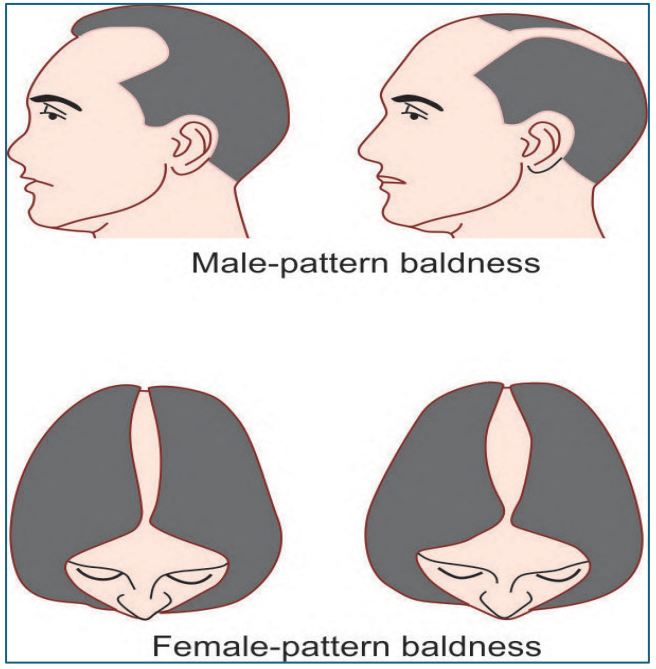
Scarring Alopecia:

Non-scarring Alopecia:
Stress / pregnancy (3mon)-
Chemotherapy-
Accessible areas-



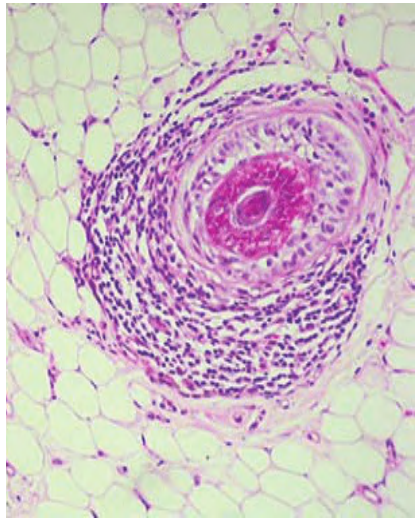
Footprints in snow:
Pseudopalade of Brocq

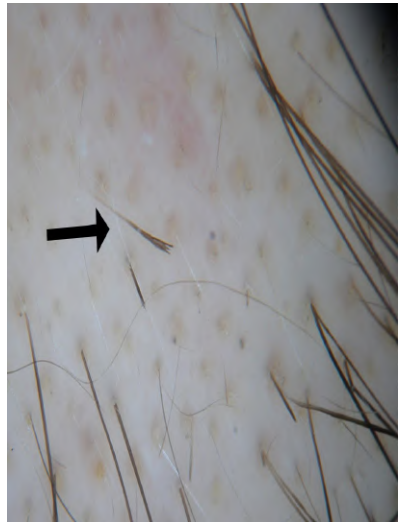




Broken hair follicles, hemorrhage, various length

ALOPECIA AREATA

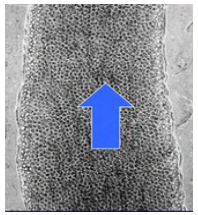
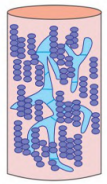
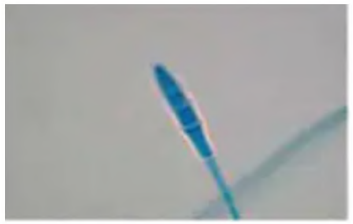


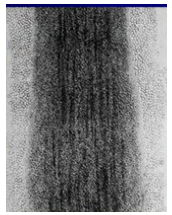
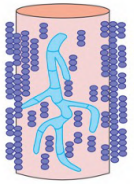
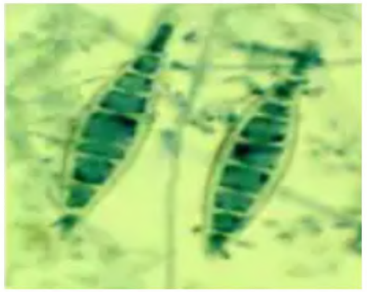


Nail:
Going white overnight
Rx:

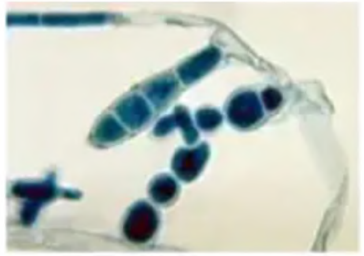
Term	Description
Alopecia totalis	Total or almost total loss of scalp hair
Alopecia universalis	Loss of all body hair
Ophiasis	Alopecia along the scalp margin (serpentine band-like pattern)
Sisaipho pattern	Reverse ophiasis: hair loss spares the sides & back of the head

DERMATOPHYTES

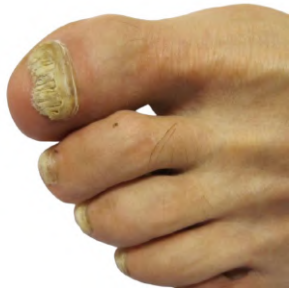




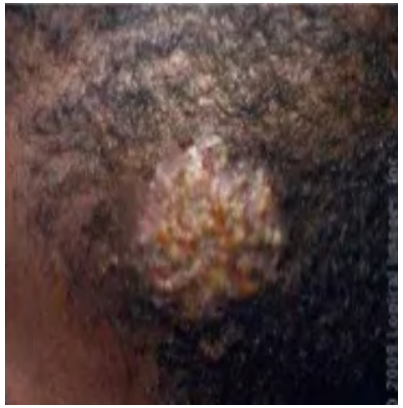




Blue-green

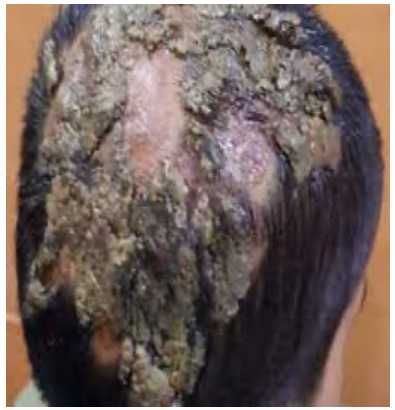


Amorolfine 5%, Ciclopiroxolamine 8%
Tavaborole, Efficonazole



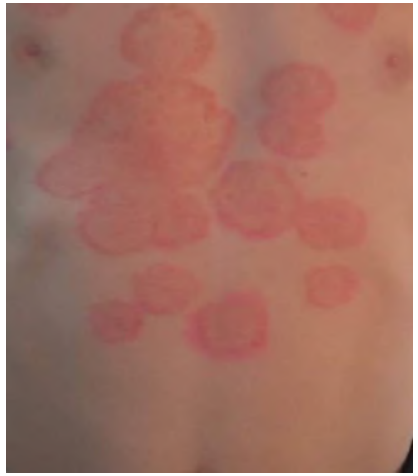


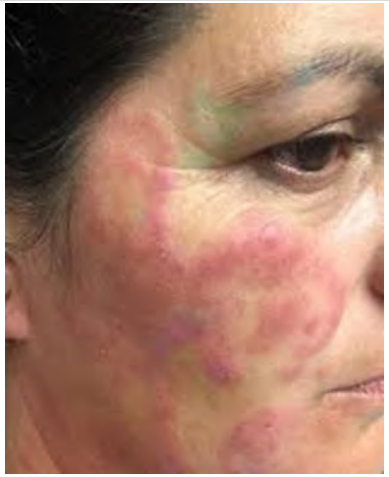
KOH, wood's lamp:



Dull-green

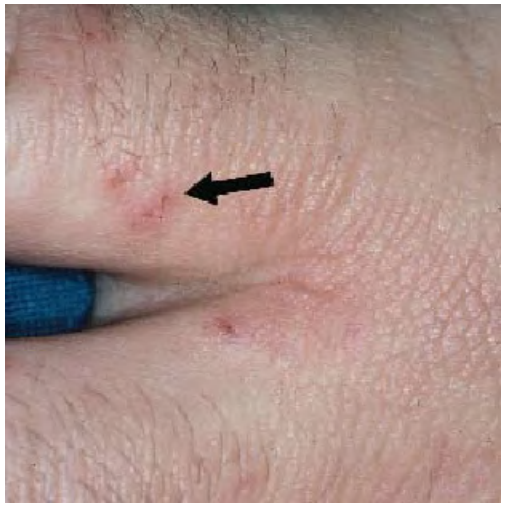
Hair Perforation Test:

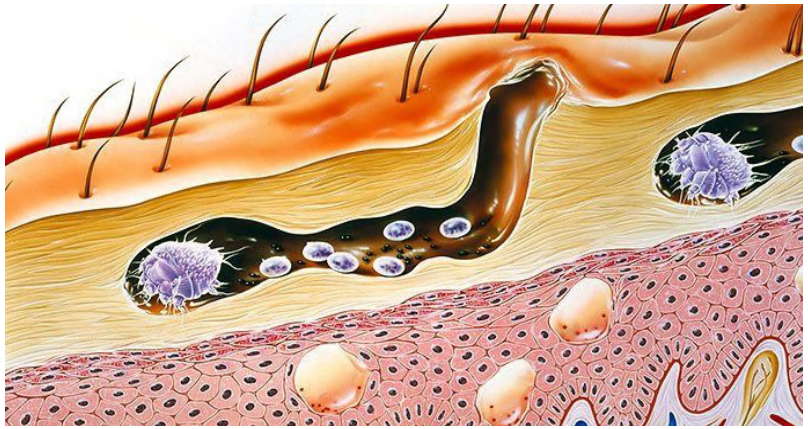


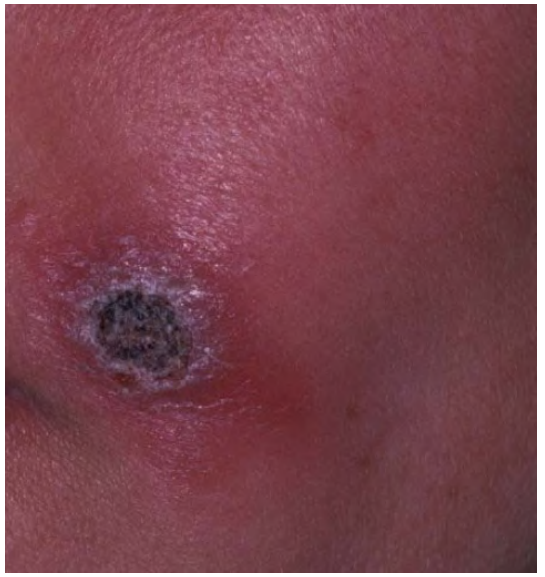


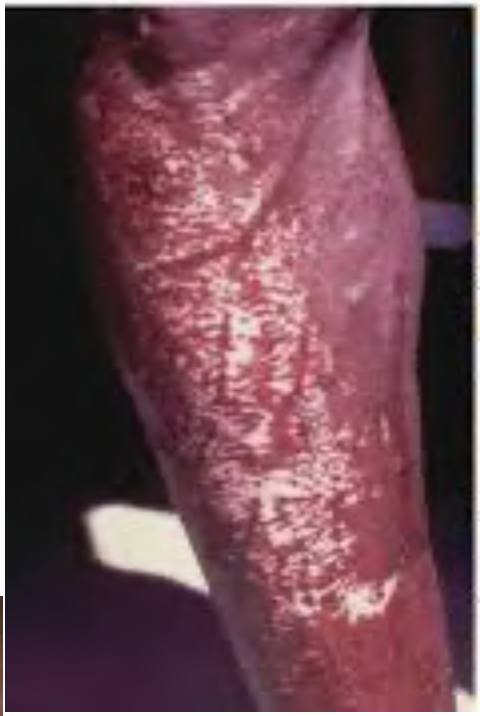
PARASITIC INFECTIONS OF SKIN

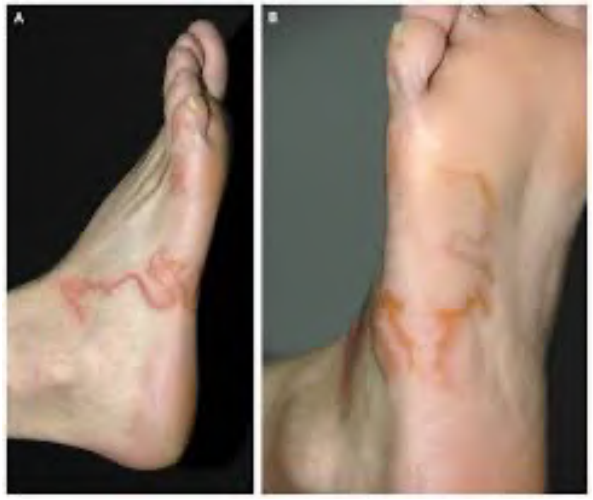
Parasite	Clinical Features	Key Points
Sarcoptes scabiei 	Intense pruritus, burrows, papules, interdigital spaces, wrists, waist Face spared in adults	Rx: Infants/pregnant safe:
Leishmania/ Oriental sore	Non-healing ulcer with raised edges	Transmitted by sandfly (Phlebotomus) bite
CLM	Serpiginous, creeping eruption (1-2cm/day)	Ancylostoma braziliense Larva currens: Strongyloides (5-15cm/d)
Onchocerca volvulus	River blindness Nodules, pruritus, "leopard skin," vision loss	Blackfly transmission
Loa loa	Calabar swelling (transient angioedema)	Transmitted by deer fly
Demodex spp.	Rosacea-like facial papules	Commensal mite overgrowth
Pediculosis	P. Corporis P. Pubis P.Capitis	Macula cerulea in P.pubis

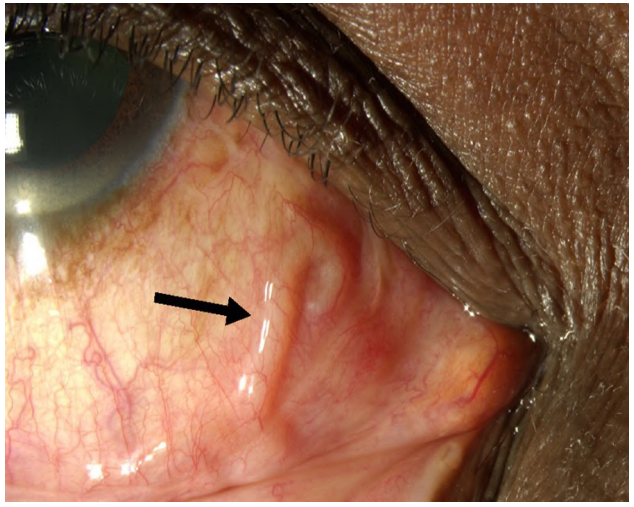


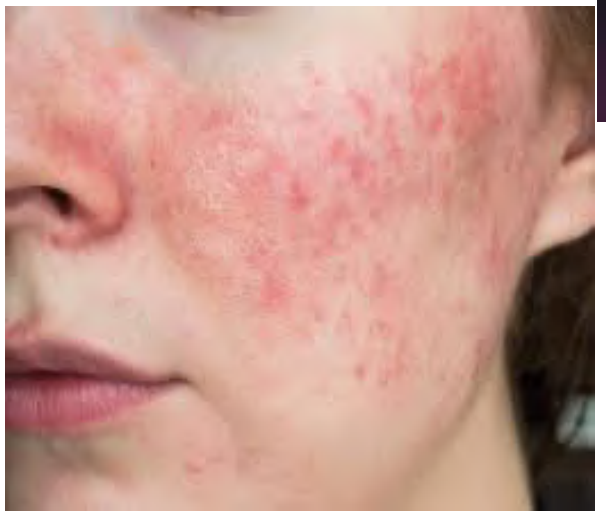




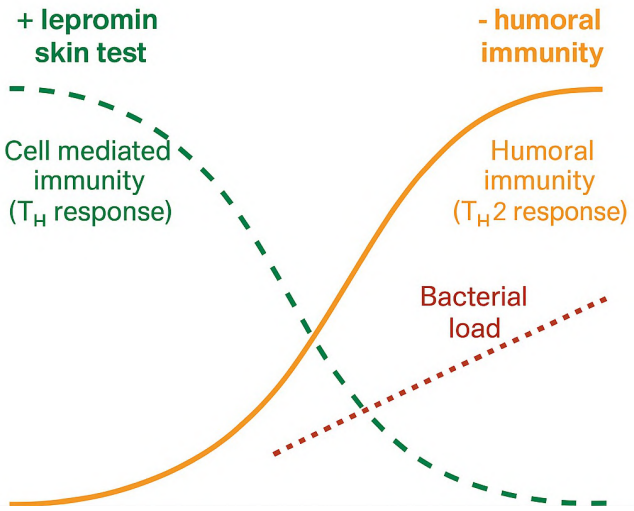


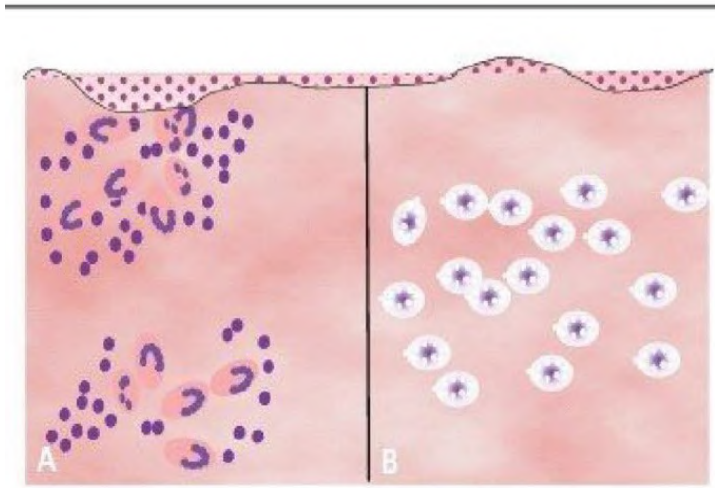


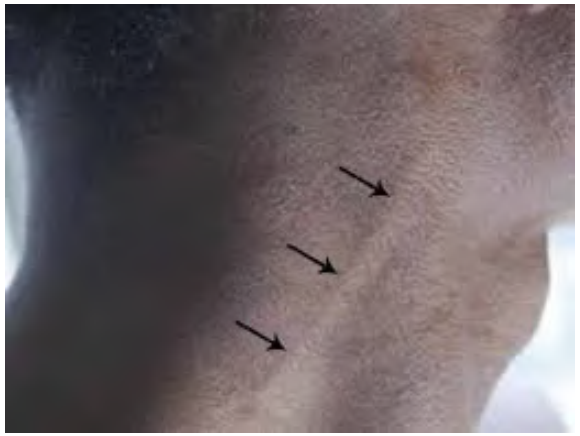




LEPROSY





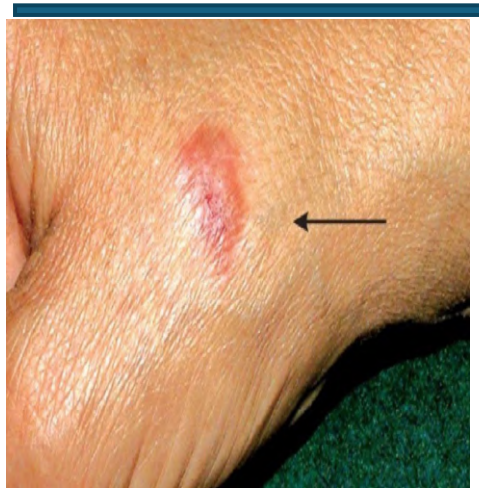
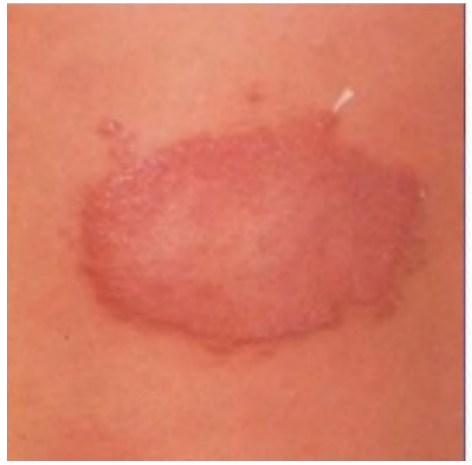
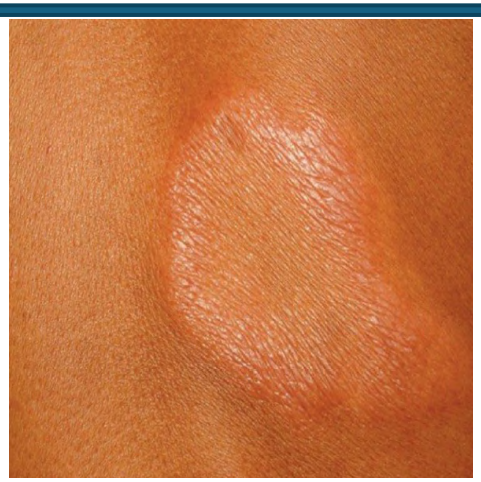
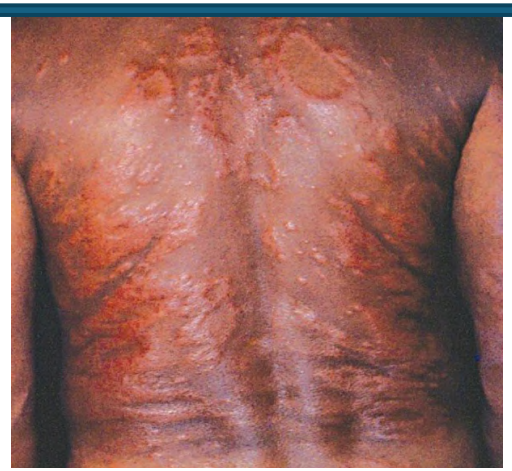
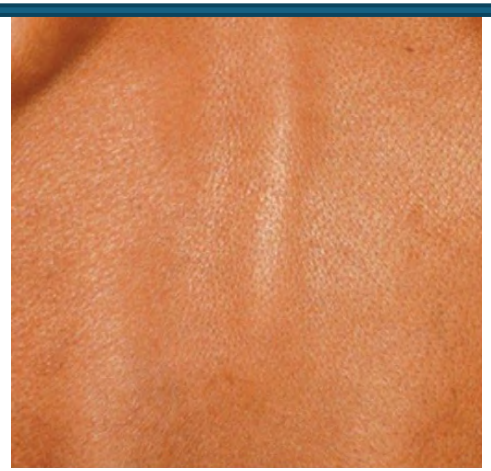


TT	BT	BB	BL	LL

1. Number of lesions _____increase
2. Well-defined, elevated margins_____ill-defined
3. Single thickened nerve_____ more nerves bilaterally
4. Sit Skin Smear (SSS) negative_____positive
5. Anesthetic lesions _____ sensations present
6. Tuberculoid granuloma _____foam macrophages and Grenz zone

Fernandez: **Mitsuda:**
Histoid:
Lucio:
Lazarine:

LEPROSY

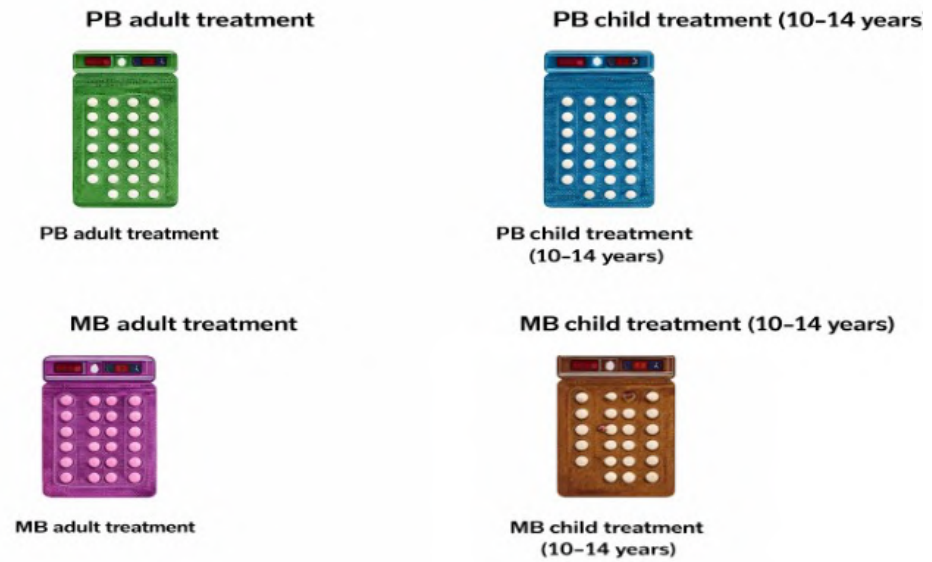
Route of infection -
MC cranial nerve-
Mc Nerve for biopsy-
Earliest sensation lost-
Fite Foraco stain

Prophylaxis in contacts:

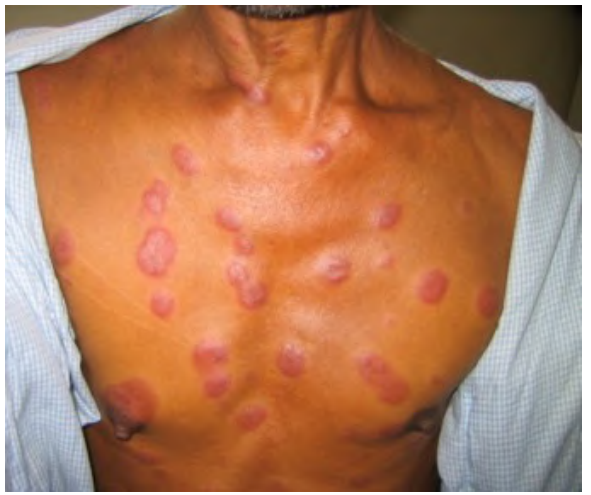
- >2yrs
- >20hrs per week >3mon
- Impact indicators: Prevalence <1/10k
- Newly diagnosed cases with grade 2disability

	PBL	MBL
Skin lesions		
Nerves		
SSS AFB		
MDT duration		

	Type 1	Type 2
Hysn reaction:		
Seen in:		
Relation to treatment:		
C/F:		
Systemic involvement:		
Treatment:		



Rifampicin	Dapsone	Clofazimine
600mg OAMS	100mg OD	300mg OAMS+ 50mg OD



NATIONAL LEPROSY ERADICATION PROGRAM

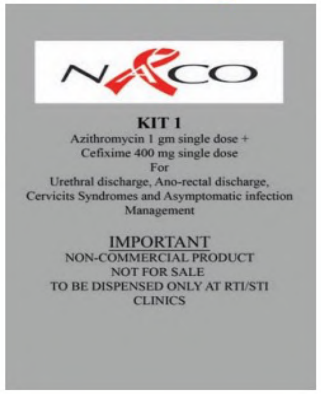
STI

Urethral Discharge

- Urethral Discharge (Pus or muco-purulent)
- Pain or burning while passing urine
- Increased frequency of urination
- Systemic symptoms like malaise, fever

Tab. Azithromycin 1 gm
OD Stat +
Tab. Cefixime 400 mg
OD Stat

KIT 1/Grey



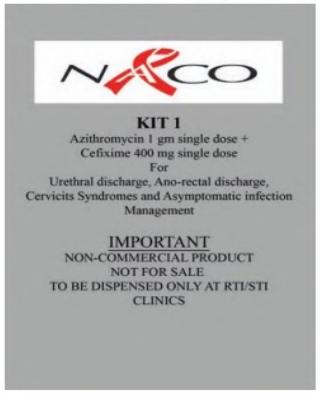
Treat all recent partners

Cervical Discharge

- Nature and type of discharge (quantity, color and odor)
- Burning while passing urine, increased frequency
- Genital complaints by sexual partners
- Low backache
  (Take menstrual history to rule out pregnancy)

Tab. Azithromycin 1 gm
OD Stat +
Tab. Cefixime 400 mg
OD Stat

KIT 1/Grey



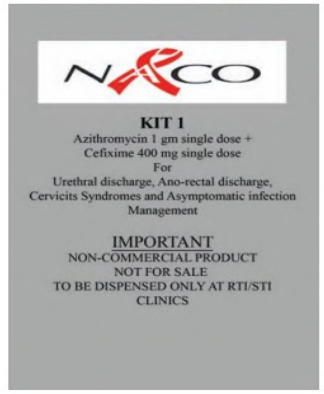
Treat partners when symptomatic

Painful Scrotal Swelling

- Swelling and pain in the scrotal region
- Pain or burning while passing urine
- Systemic symptoms like malaise, fever
- History of urethral discharge

Tab. Azithromycin 1 gm
OD Stat +
Tab. Cefixime 400 mg
OD Stat

KIT 1/Grey



Treat all recent partners

Vaginal Discharge

- Nature and type of discharge (quantity, color and odor)
- Burning while passing urine, increased frequency
- Genital complaints by sexual partners
- Low backache
  (Take menstrual history to rule out pregnancy)

Tab. Secnidazole 2 g
OD Stat +
Cap. Fluconazole 150 mg
OD Stat

KIT 2/Green

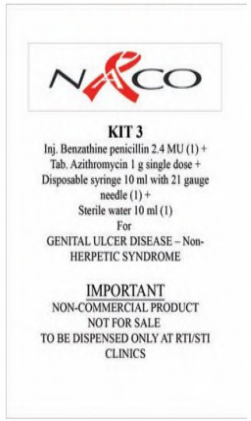
Treat partners when symptomatic

Genital Ulcer-Non Herpetic

- Genital ulcer, single or multiple, painful or painless
- Burning sensation in the genital area
- Enlarged lymph nodes

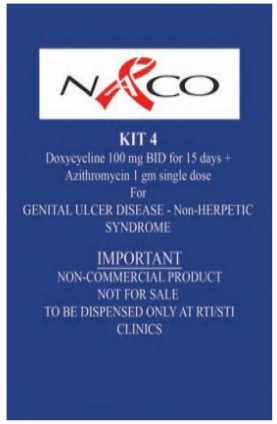
Inj. Benzathine penicillin (2.4 MU) - 1 vial
Tab. Azithromycin (1 gm) - Single dose

KIT 3/White



If allergic to Inj. Penicillin:
Doxycycline 100 MG
(Bid for 15 days)
Azithromycin 1GM (Single dose)

KIT 4/Blue



Treat all sexual partners for past 3 months

Genital Ulcer - Herpetic

- Genital ulcer or vesicles, single or multiple, painful, recurrent
- Burning sensation in the genital area

Tab. Acyclovir 400 mg

TDS for 7 days

KIT 5/Red

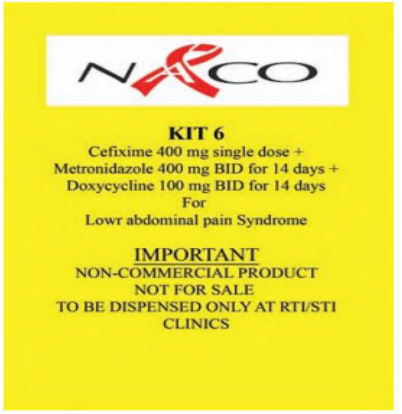
No partner treatment

Lower Abdominal Pain (LAP)

- Lower Abdominal Pain
- Fever
- Vaginal Discharge
- Menstrual irregularities like heavy, irregular vaginal bleeding
- Dysmenorrhoea, dysparenunia, dysuria, tenesmus
- Lower backache
- Cervical motion tenderness

Tab. Cefixime 400 mg OD stat +
Tab. Metronidazole 400 mg
BD X 14 days +
Doxycycline 100 mg BD X 14 days

Kit 6/Yellow



Treat male partners with Kit 1

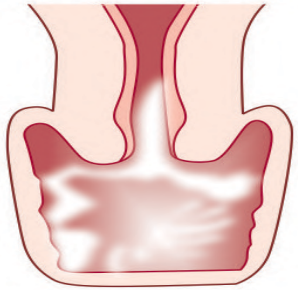
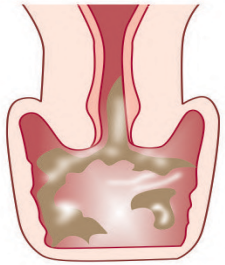
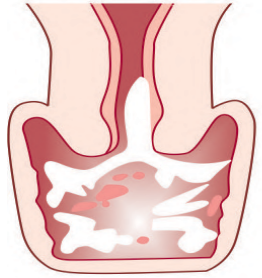
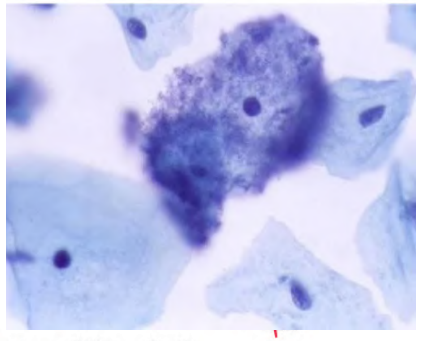
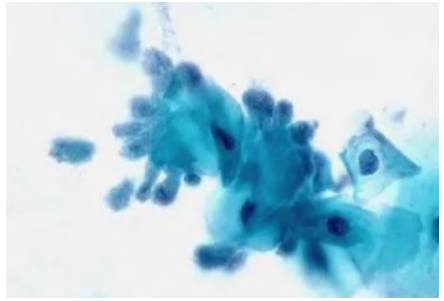
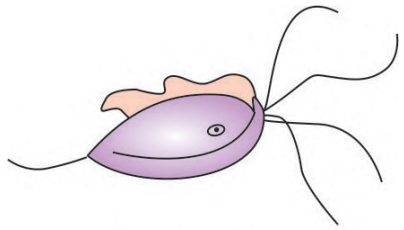
Inguinal Bubo (IB)

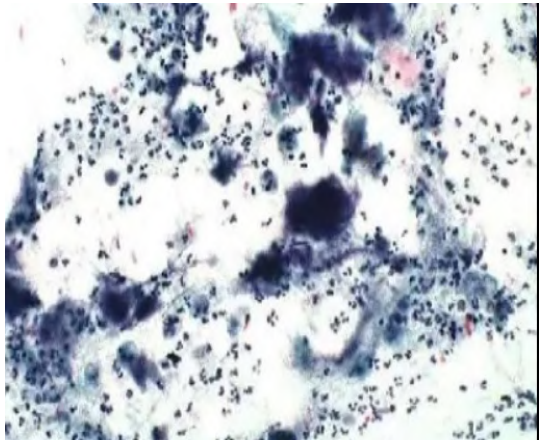
- Swelling in inguinal region which may be painful
- Preceding history of genital ulcer or discharge
- Systemic symptoms like malaise, fever etc

Tab. Azithromycin 1 gm
OD Stat +
Tab. Doxycycline 100 mg
BD for 21 days

Kit 7/Black

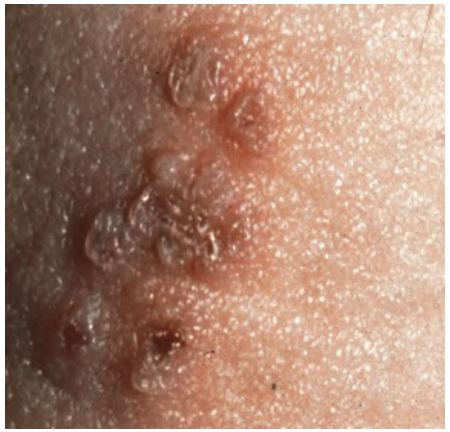
Treat all sexual partners for past 3 weeks

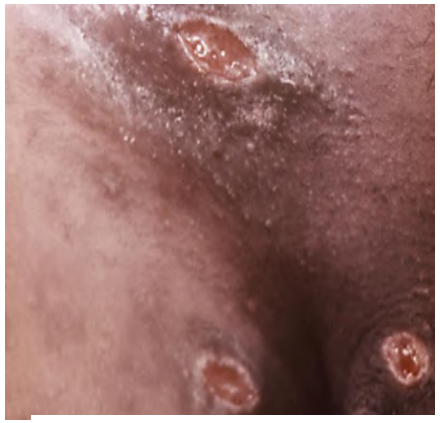
Diagnosis			
Examination	 • Thin, off-white discharge with fishy odor • No inflammation	 • Thin, yellow-green malodorous, frothy discharge • Vaginal inflammation	 • Thick, "cottage cheese" discharge • Vaginal inflammation
Laboratory findings	 • pH > 4.5 • Clue cells • Positive whiff test (amine odor with KOH)	  • pH > 4.5 • Motile trichomonads	 • Normal pH (3.8 - 4.5) • Pseudohyphae
Treatment	**Metronidazole or clindamycin**	**Metronidazole; treat sexual partner**	**Fluconazole**

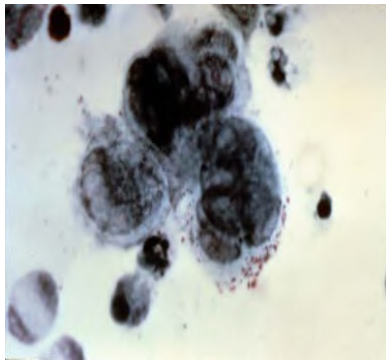


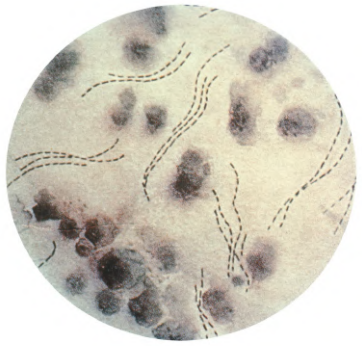
APPROACH TO GENITAL ULCERS

Painful

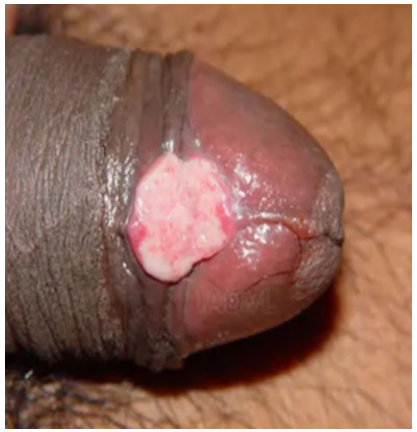


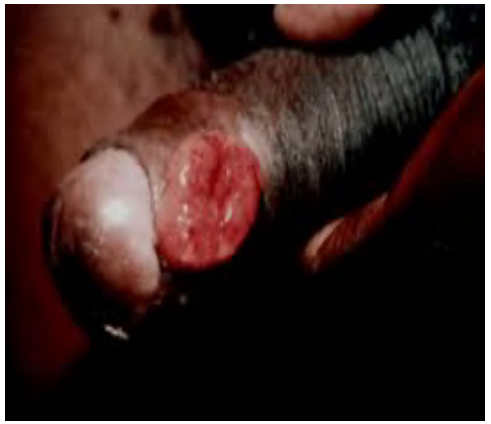


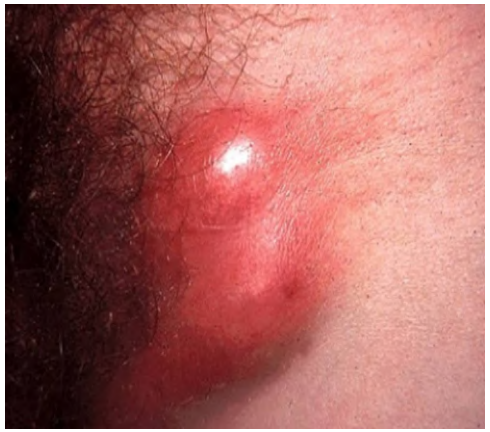


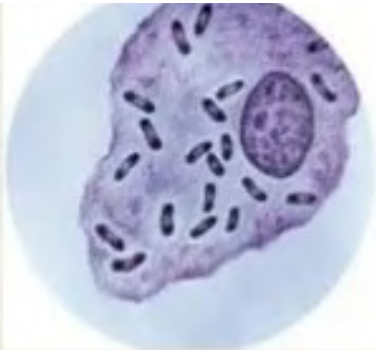


Painless









Frie test

VESICO-BULLOUS DISORDERS

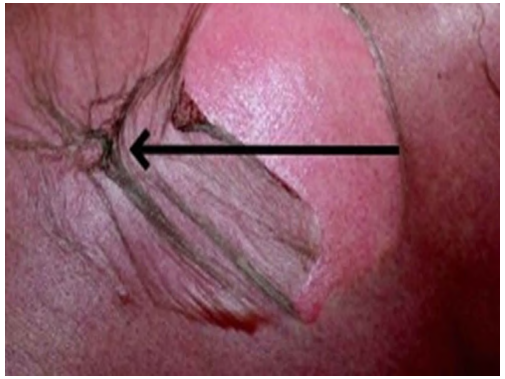
EPIDERMAL

DSG-1: SUBCORNEAL SPLIT

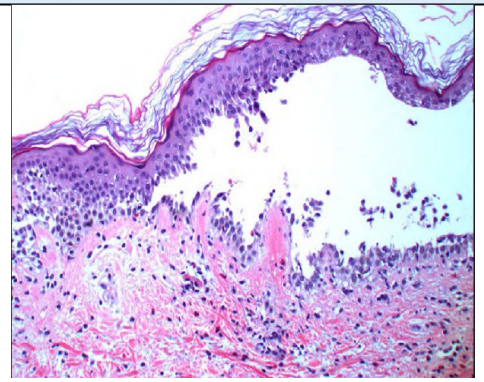
DSG-3: SUPRABASAL SPLIT; ORAL ULCERS

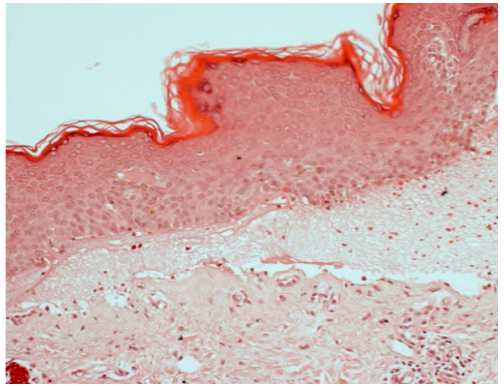
DERMAL

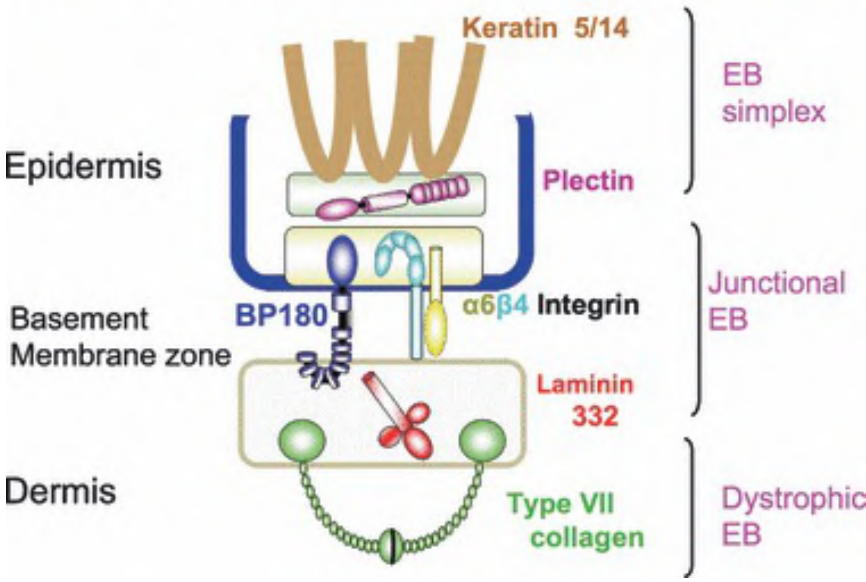
MECHANO-BULLOUS:



Tangential pressure

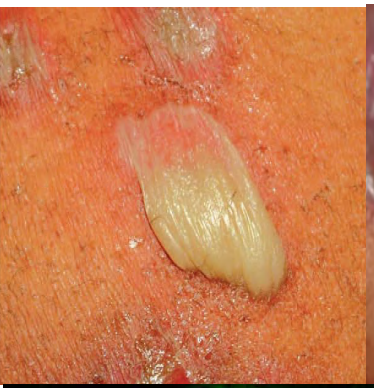
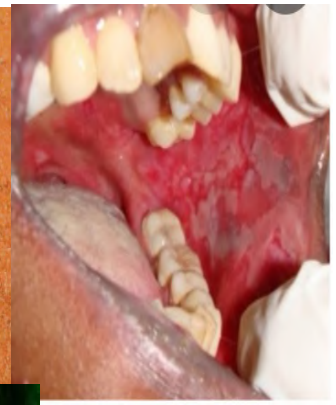
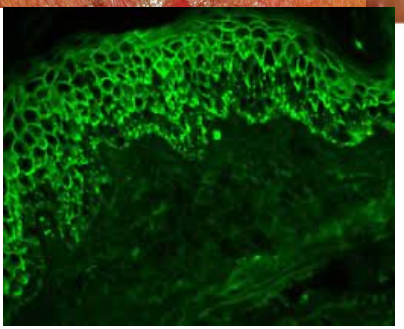
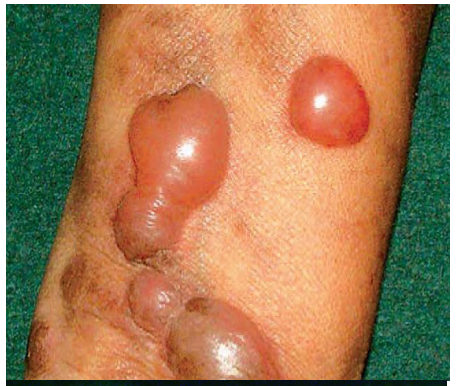
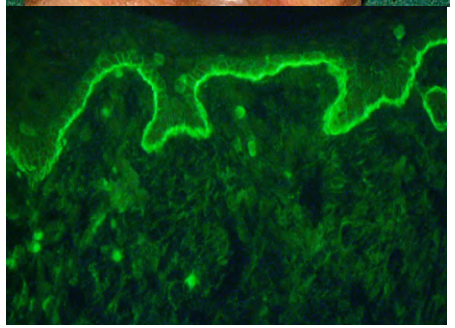
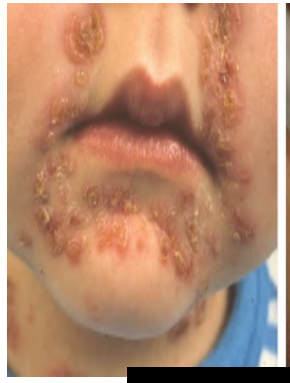
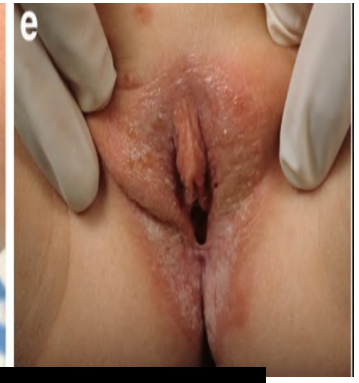
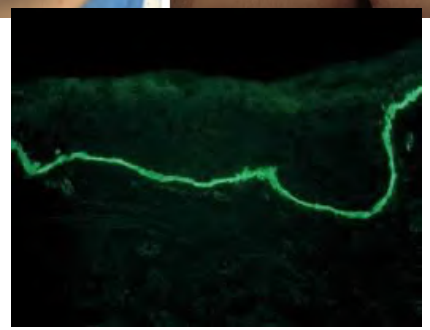
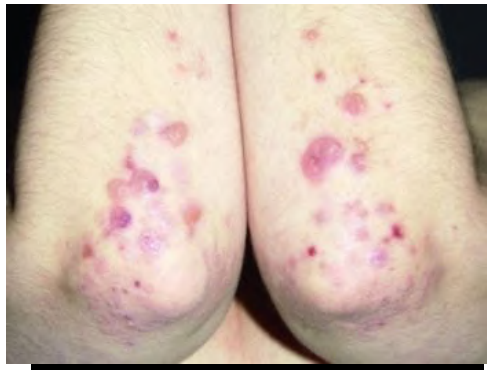
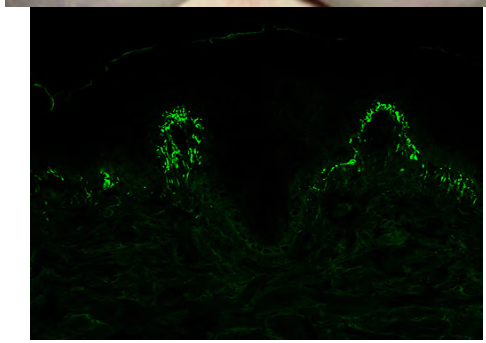






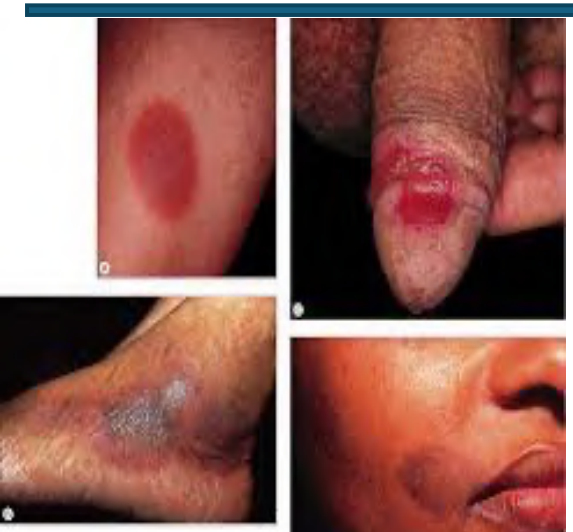
Salt split IF:
Roof-
Floor-

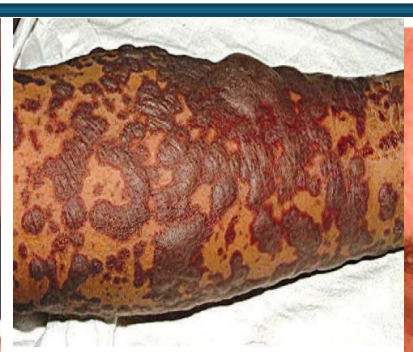
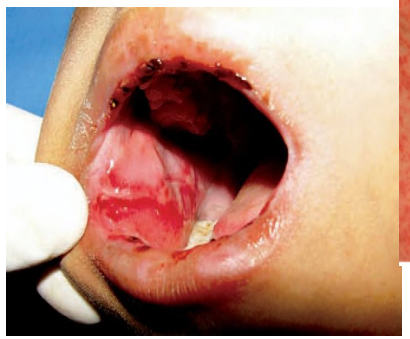
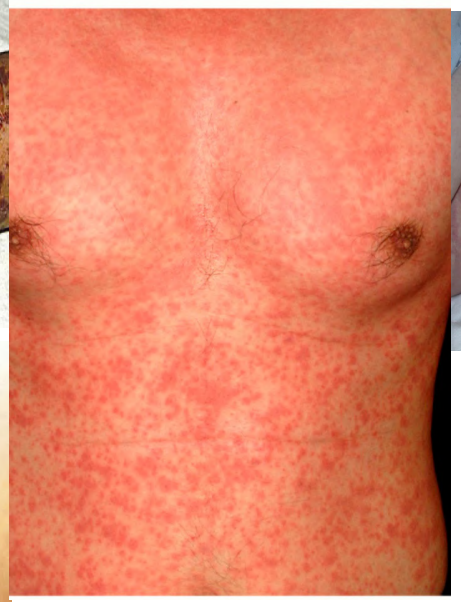
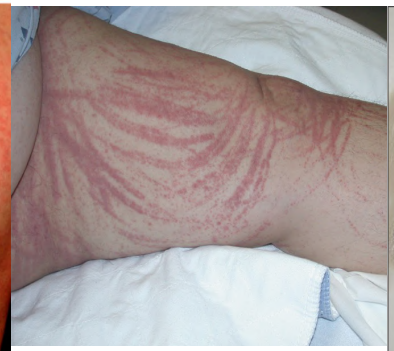
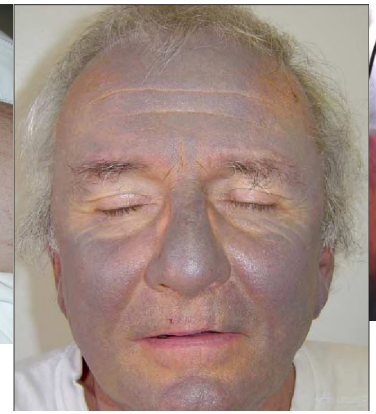
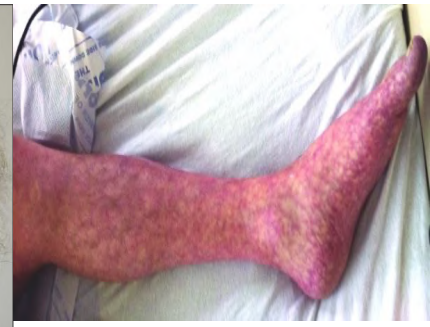
Drug-induced Pemphigus:
D-penicillamine, Captopril, Rifampicin
Paraneoplastic pemphigus:

Bullous pemphigoid
Herpes gestationis/ pemphigoid gestationis (PG)
Linear IgA
Cicatricial pemphigoid

DRUG-RELATED DISORDERS

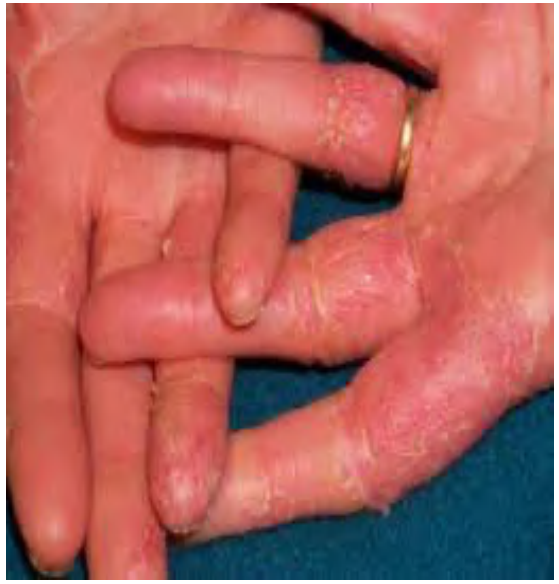


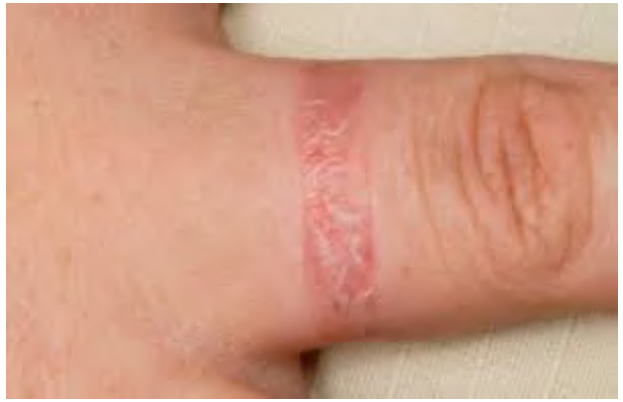







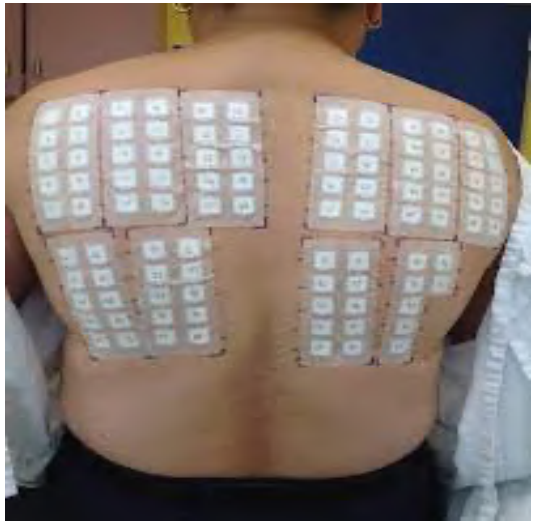
Score of Toxic Epidermal Necrolysis (SCORTEN)

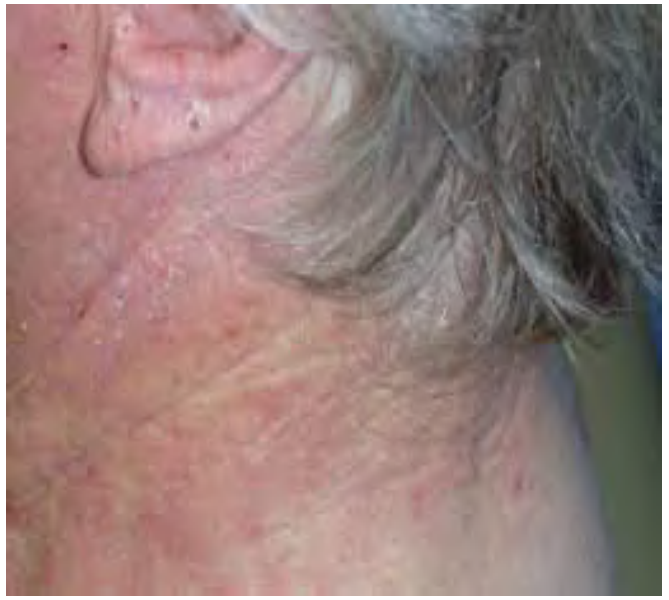
Red man :
Grey baby:
Pseudo-jaundice:
Skin / nail pigmentation (ART):
Palm/soles pigmentation:
Hand foot syndrome:
Purple toe syndrome:
Pseudolymphoma / Purple glove syndrome
Vesicular eruptions:
Icthyosis, copper discolouration:

CONTACT DERMATITIS



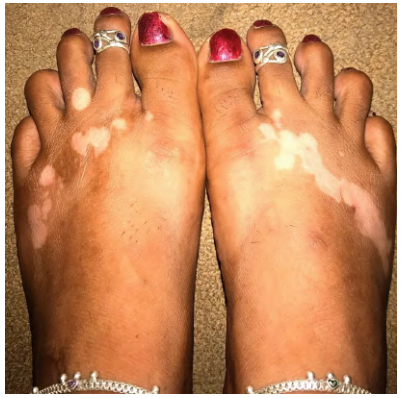




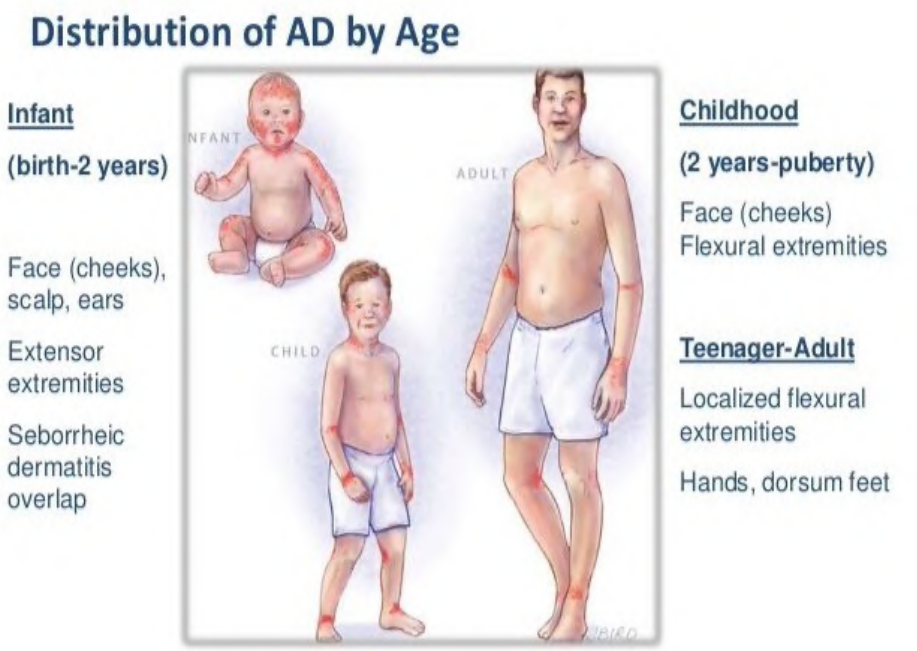


Parthenium=congress grass
Sesquiterpene lactone

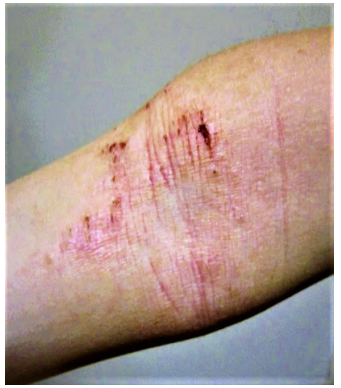
Type IV hypersensitivity
Nickel (mc)
Chromium
PTBP
PPD
Neomycin
Mono-benzyl ether of Hydroquinone (MBEH)



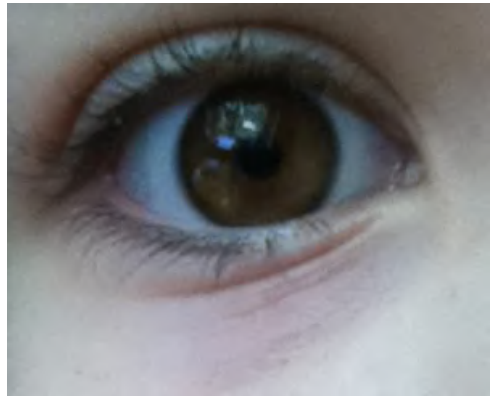
ATOPIC DERMATITIS



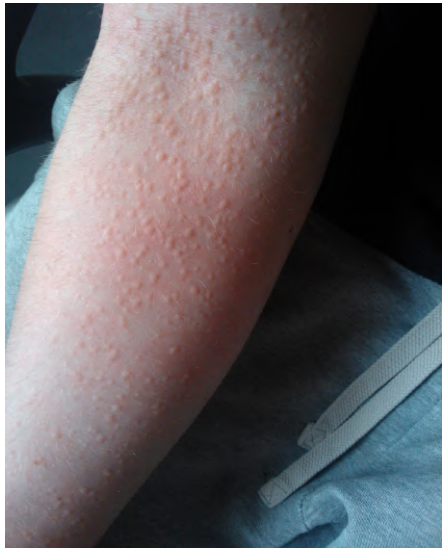
Acute: Erythema, intercellular edema (spongiosis), vesicles, crusting
Subacute: Erythema, scaling
Chronic: Lichenification

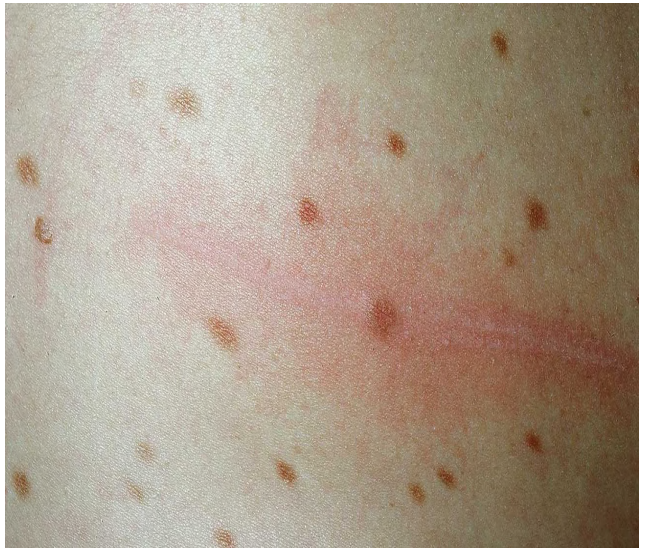


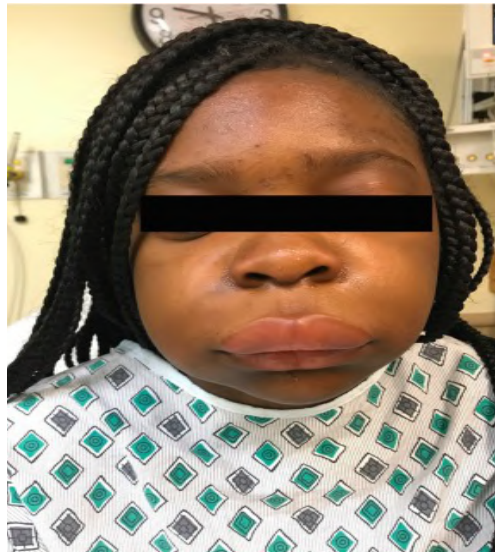
Hanifin and rajka criteria
Major: Chronic + atopy + pruritus + location TH2 response-IL-4, IL-5
Dennie morgan fold, Shield cataract, keratoconus, Headlight sign
Rx-Steroids, Calcineurin inhibitors
Crisaborole: PDE4 –
Dupilimab IL4-



HISTAMINE RELATED DISEASES



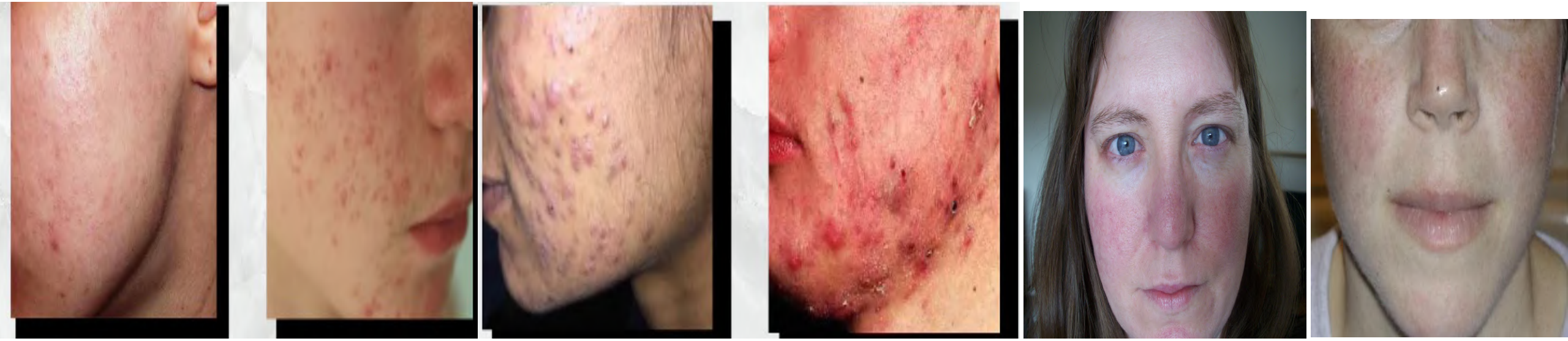




Pruritic transient wheal
Dermal edema
Dermographism
Type 1 hypersensitivity

No wheals
Not histamine mediated
Bradykinin:
C4:
DOC:
Plasma kallikrein inhibitors: Ecallantide, Lanadelumab, Berotralstat
Bradykinin B2 receptor antagonist: Icatibant

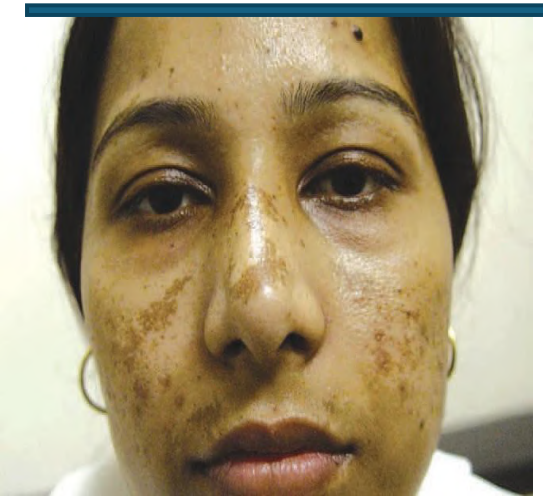
ACNE

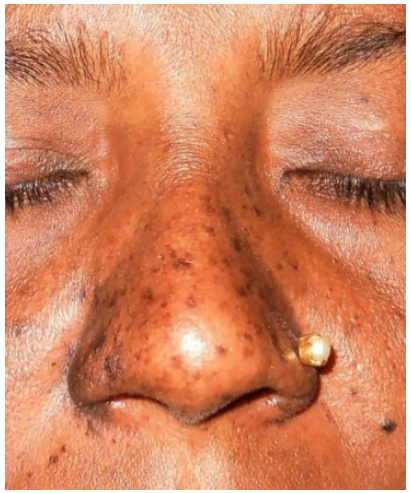


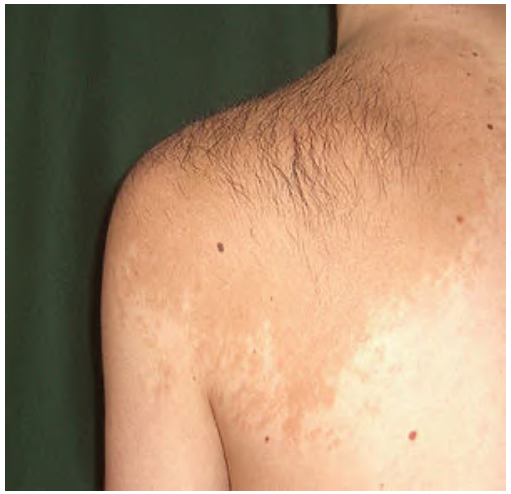
Rule out hyperandrogenism in resistant acne

- Erythematous telangiectasia
- NO comedones
- Flushing in response to triggers

PIGMENTATION DISORDERS

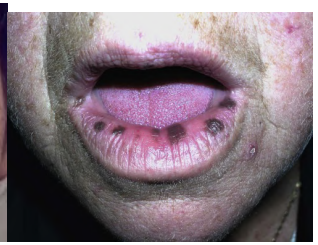


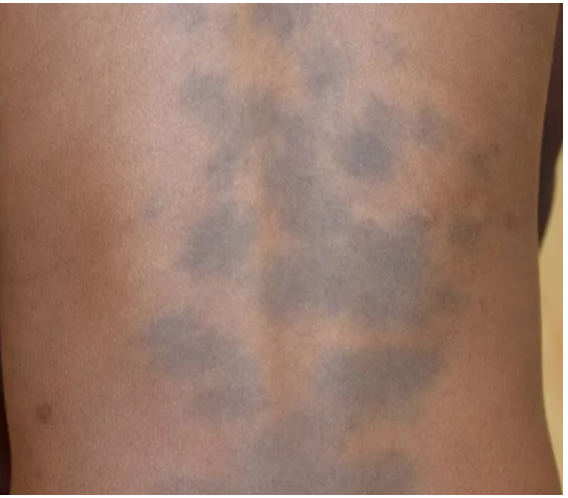


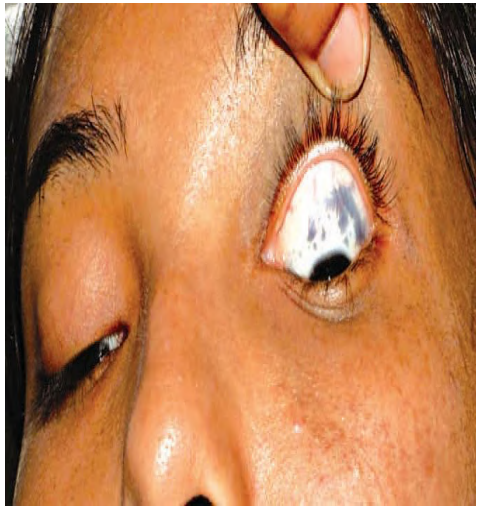


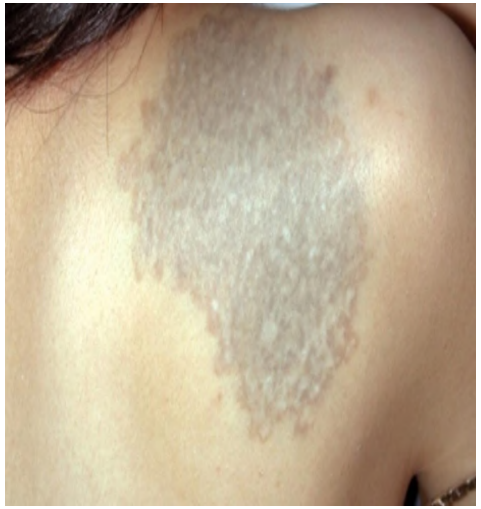
Freckles (Ephelides):

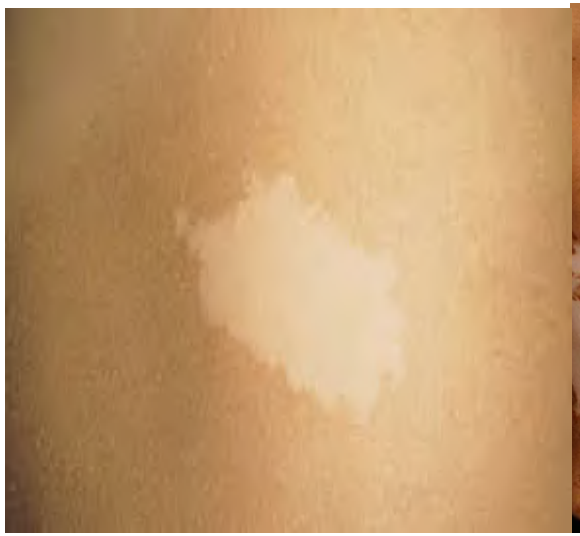
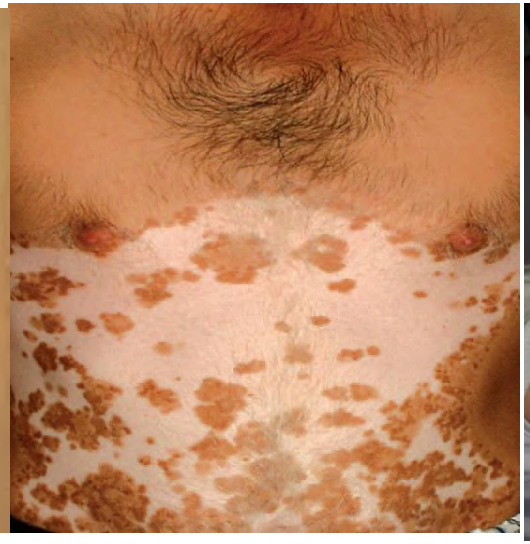
Lentigines:

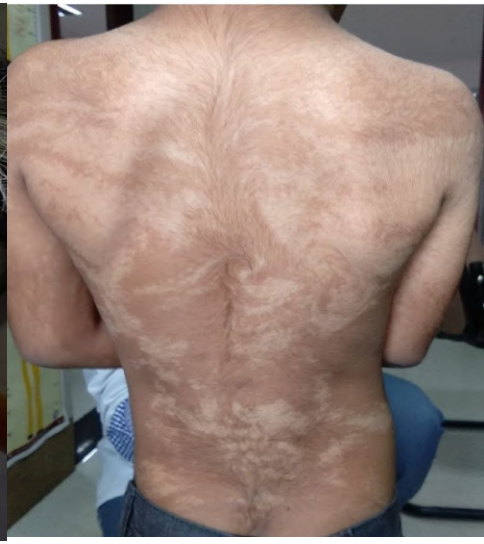




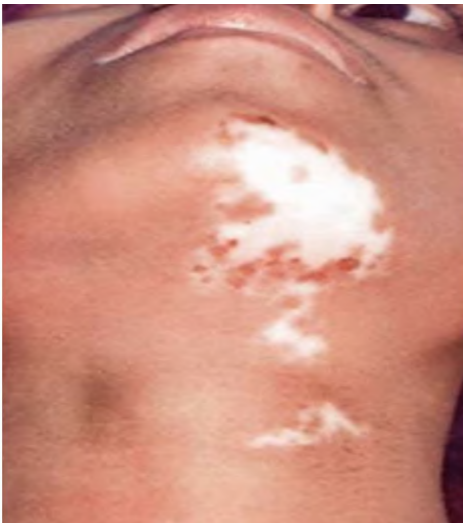


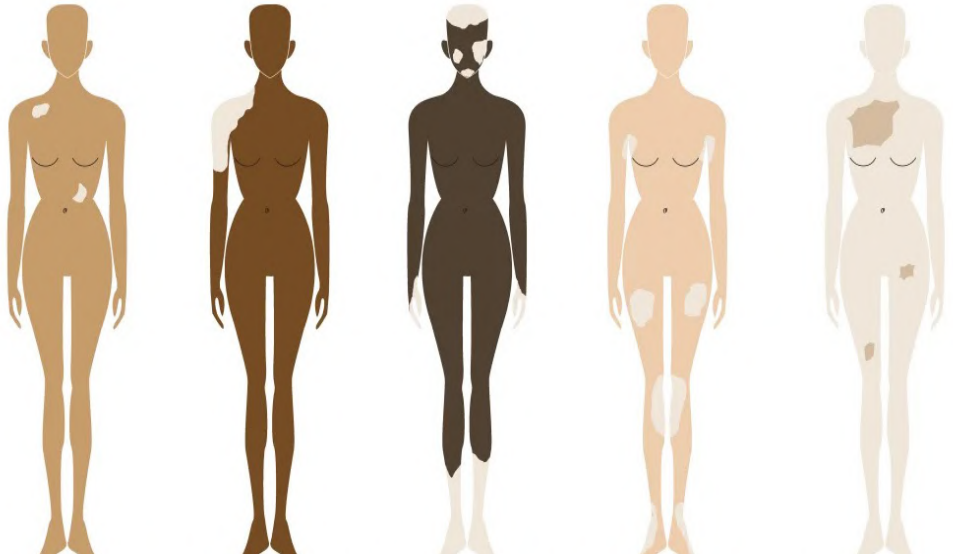


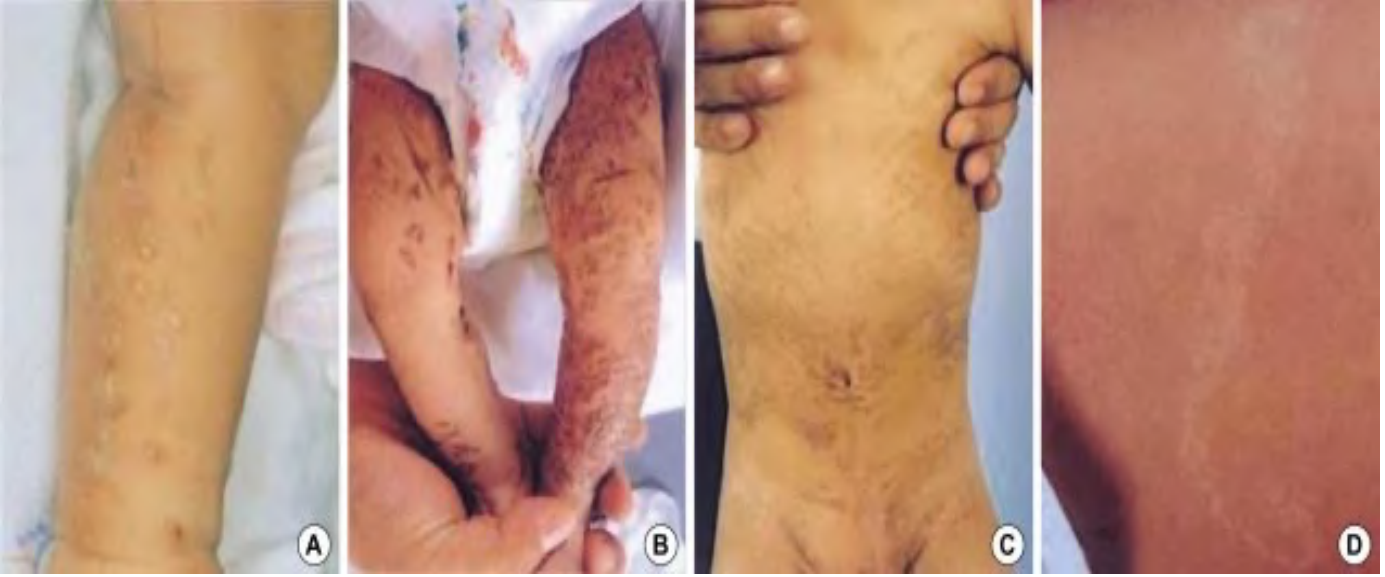


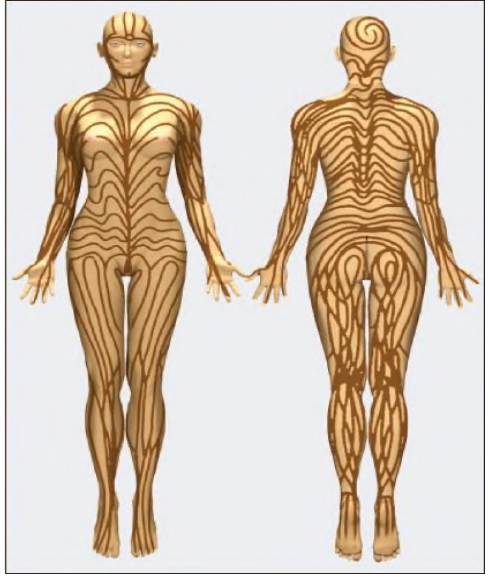
NEVUS ANEMICUS:

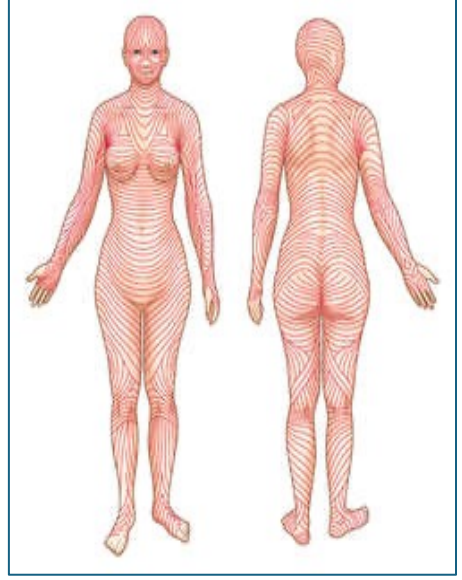


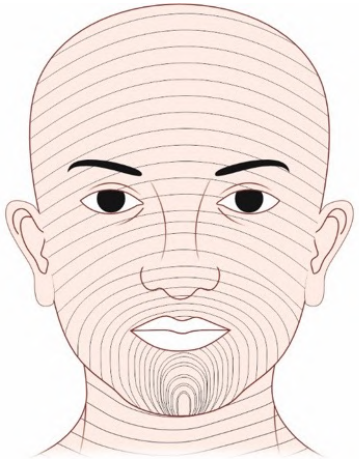


Poor prognosis:
Long standing
Bony prominences
Leukotrichia
Lip-tip


A
B
C
D

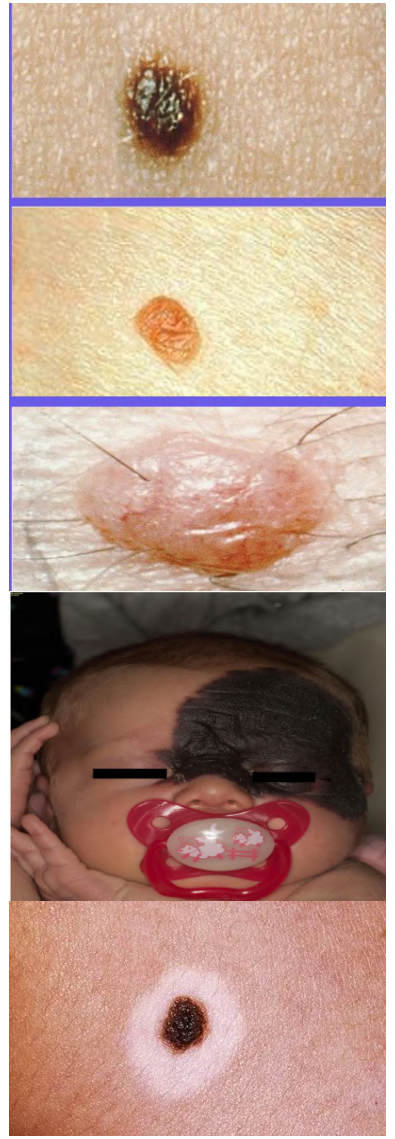




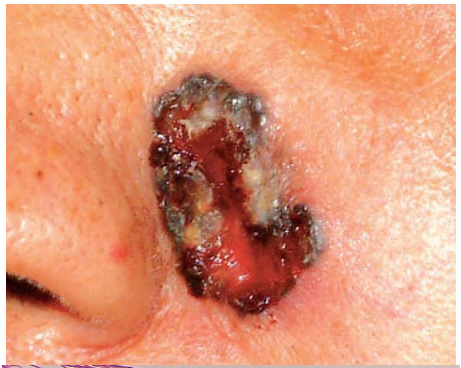


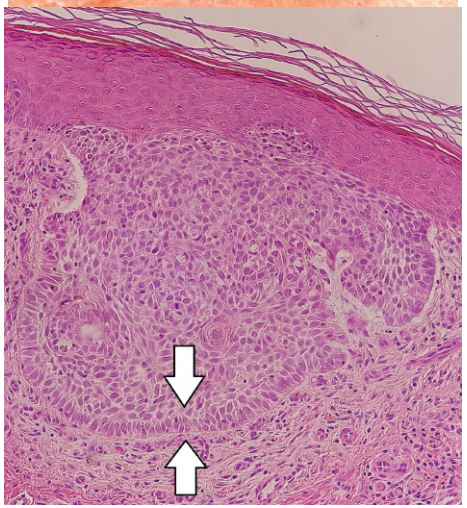
TYPES OF NEVI

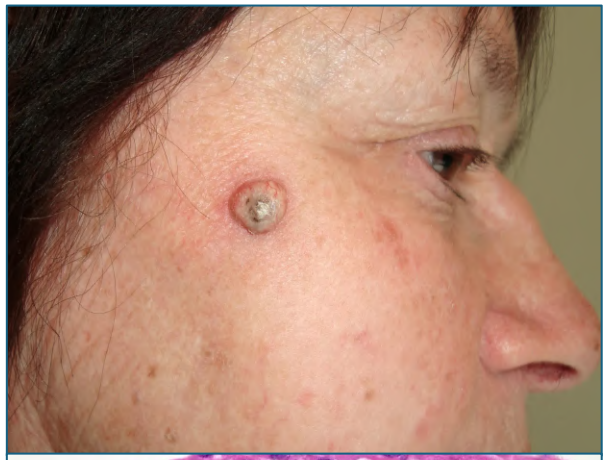
Type	Clinical Features	Histopathology
Junctional Nevus	Flat, uniformly pigmented macule	Nests of melanocytes at the dermoepidermal junction
Compound Nevus	Slightly elevated papule, uniformly pigmented	Nests of melanocytes at both dermoepidermal junction and dermis
Intradermal Nevus	Dome-shaped papule, flesh-colored or lightly pigmented	Melanocytes entirely within the dermis
Congenital Melanocytic Nevus (CMN)	Present at birth, may have hair, large variants have malignancy risk	Melanocytes in dermis, sometimes deep into subcutaneous fat or around adnexa
Halo Nevus	Central pigmented nevus with surrounding depigmented halo	Lymphocytic infiltration around nevus cells
Dysplastic (Atypical) Nevus	Irregular border, color variation, may resemble melanoma	Architectural disorder, cytologic atypia of melanocytes, bridging of rete ridges

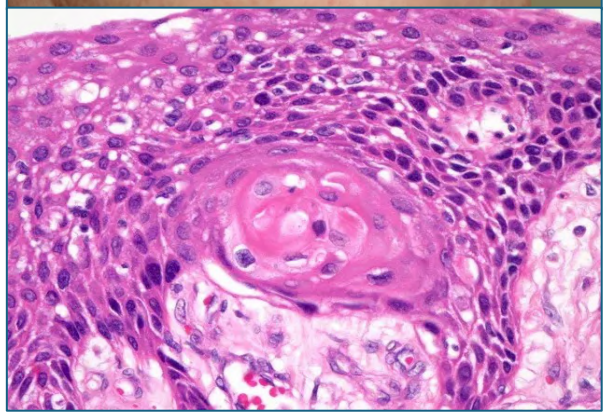


SKIN MALIGNANCIES

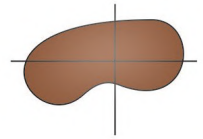




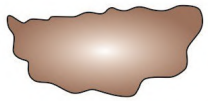




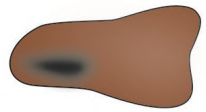
ABCDE
Rule for the early
detection of melanoma



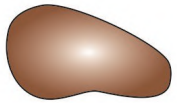
A Asymmetry



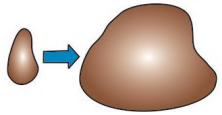
B Borders
(the outer edges
are uneven)



C Color
(dark black or have
multiple colors)



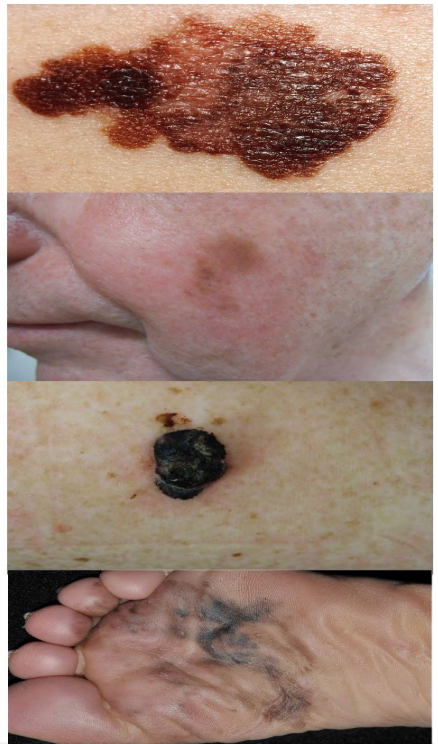
D Diameter
(greater than 6 mm)



E Envolving
(change in size
shape and color)

TYPES

- **Superficial Spreading**
- **Lentigo Maligna**
- **Nodular**
- **Acral Lentiginous**

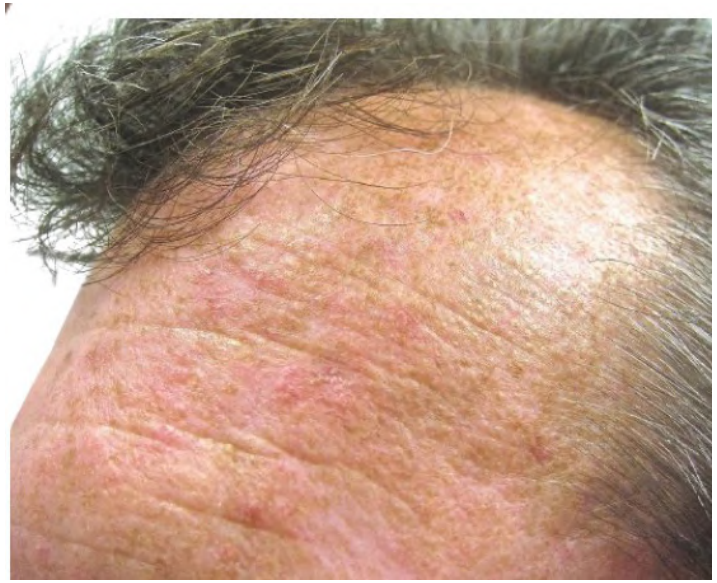


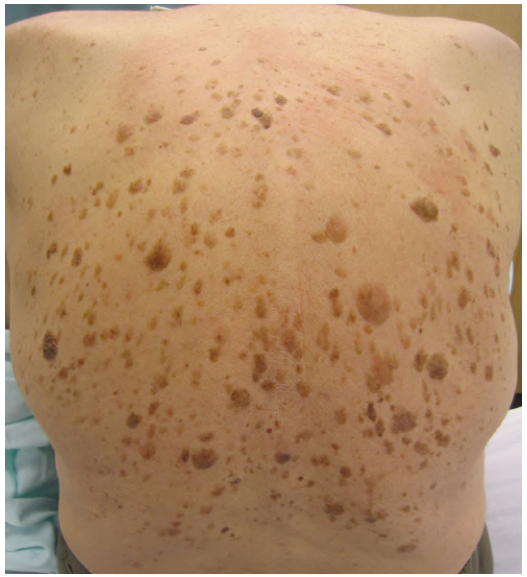
MC Skin cancer
Vismodegib
Moh's micrographic surgery

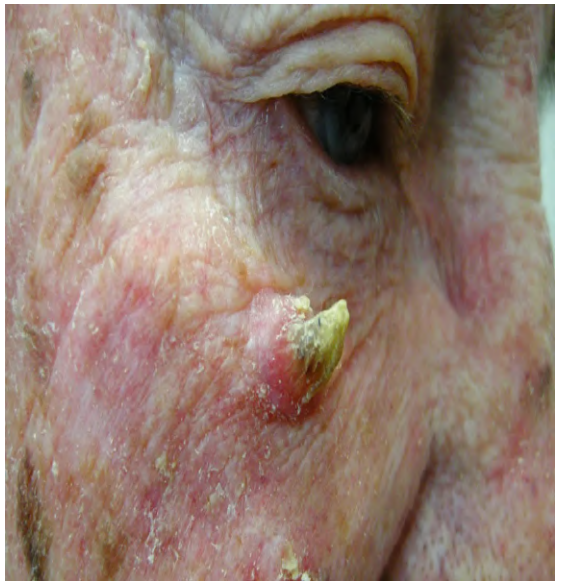
Sun exposure, age, immunosuppression, chronic wounds, burns, arsenic

MC site in India:
BRAF (V600E), CDKN2A
Vemurafenib

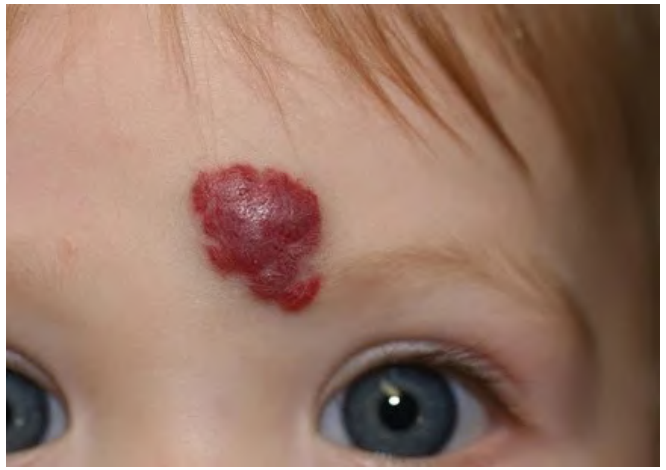
PRE-MALIGNANT?

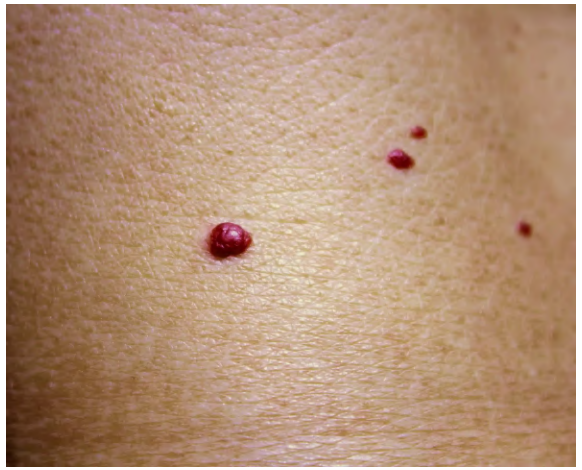


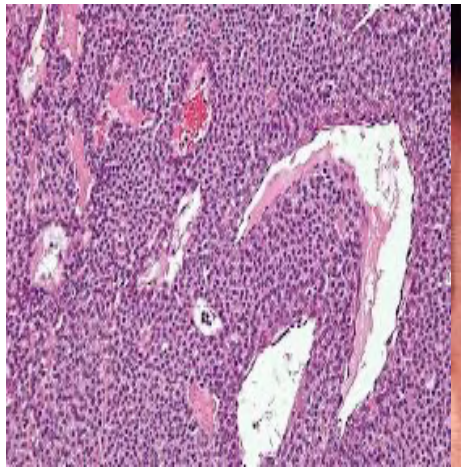


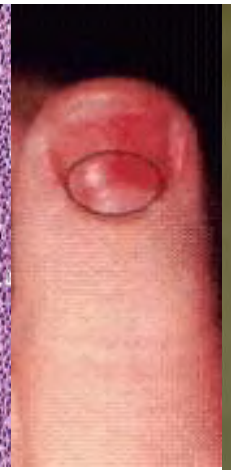


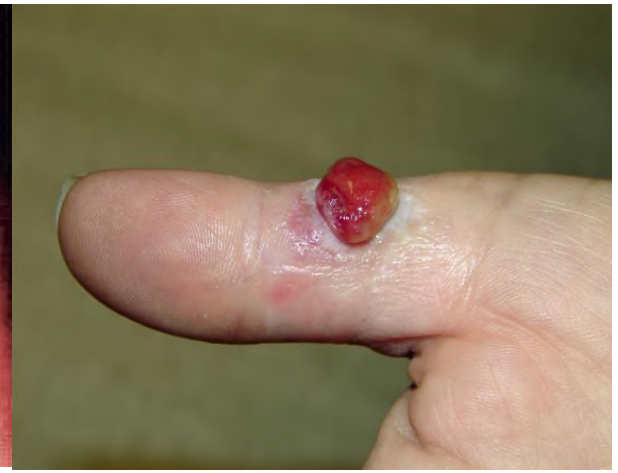
VASCULAR TUMORS

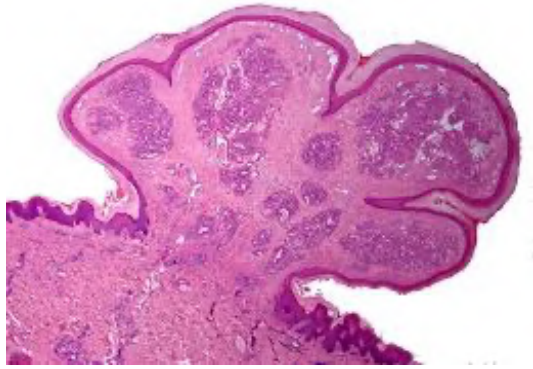


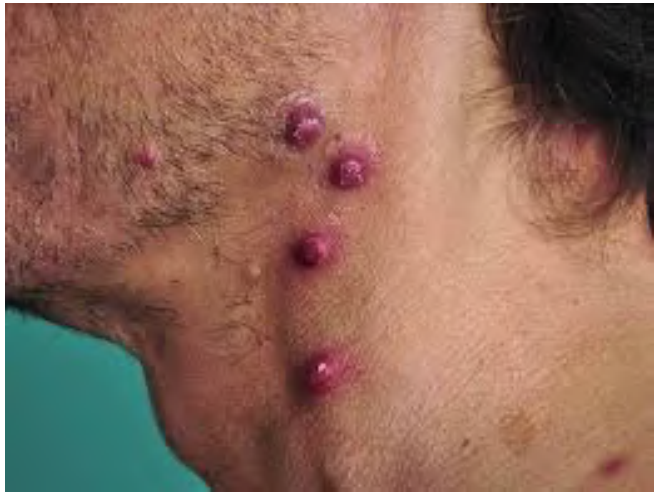


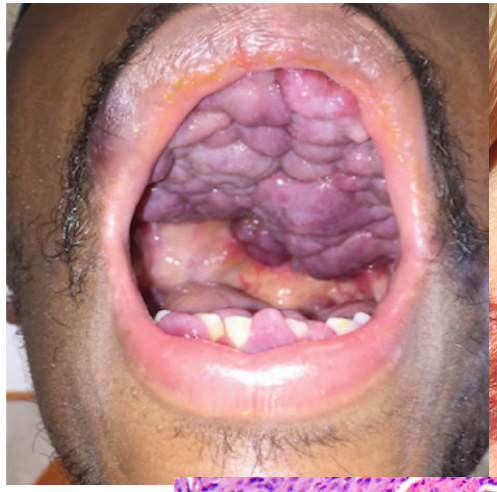


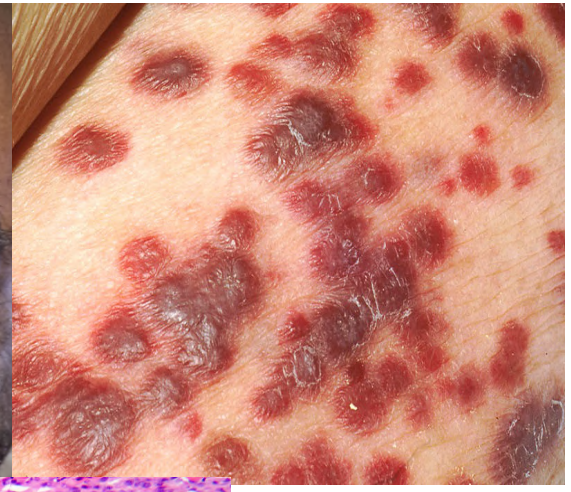


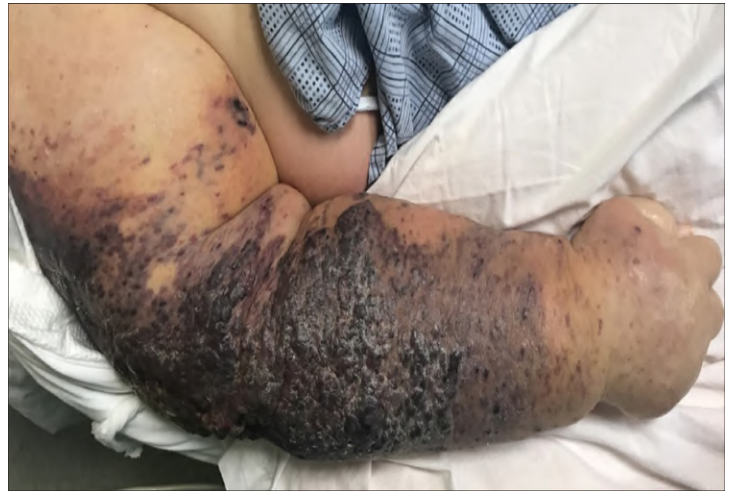


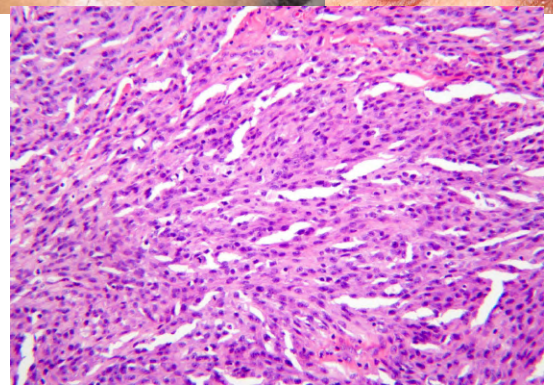


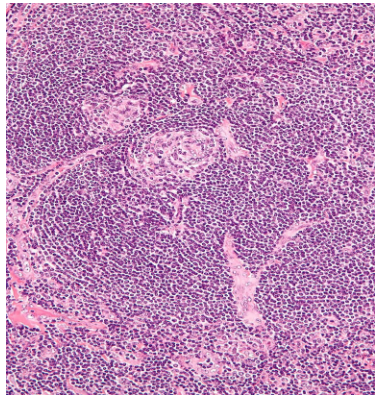




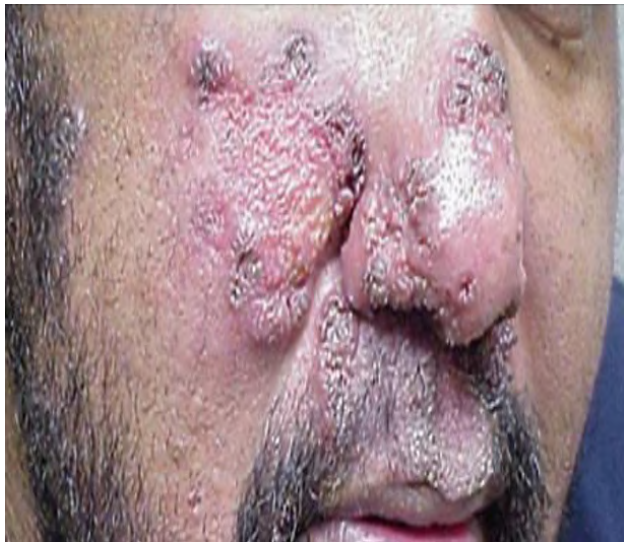
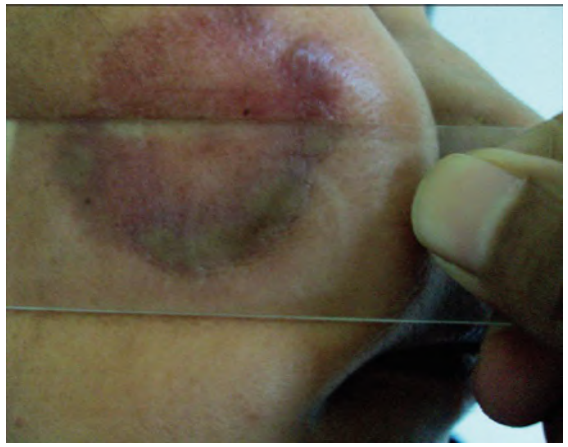
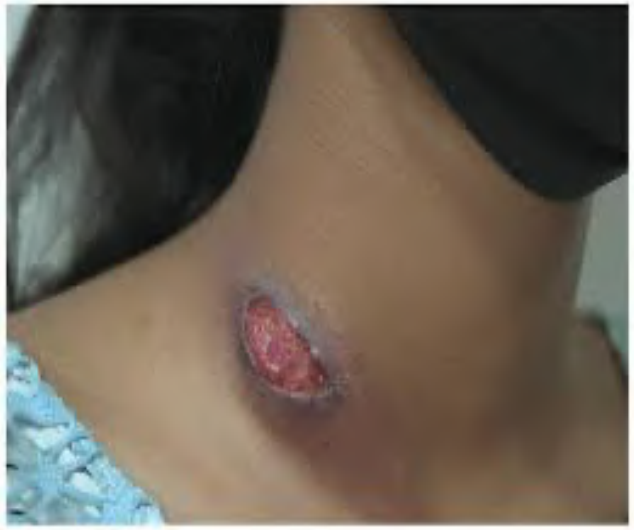
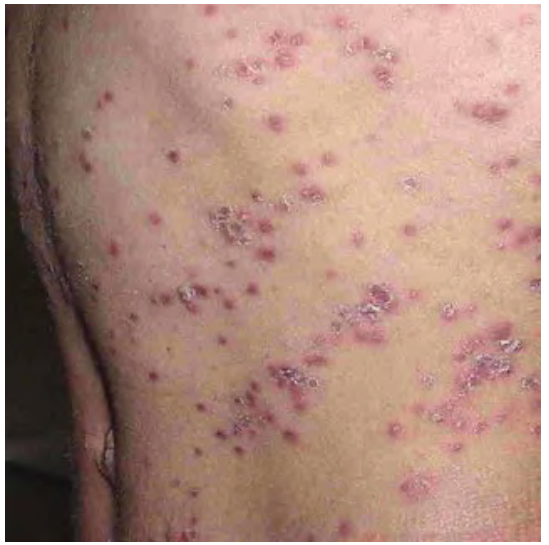








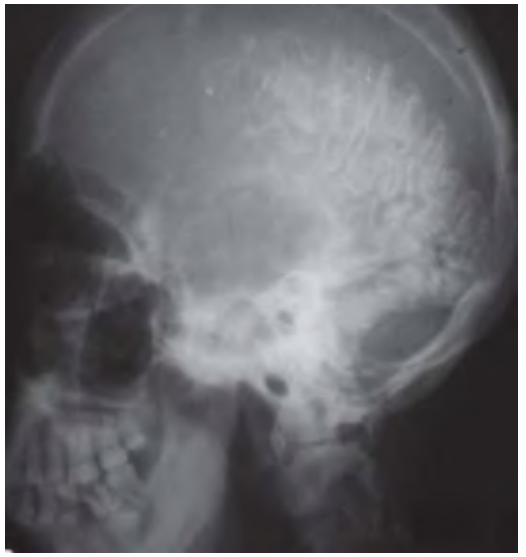
SYSTEMIC DISORDERS

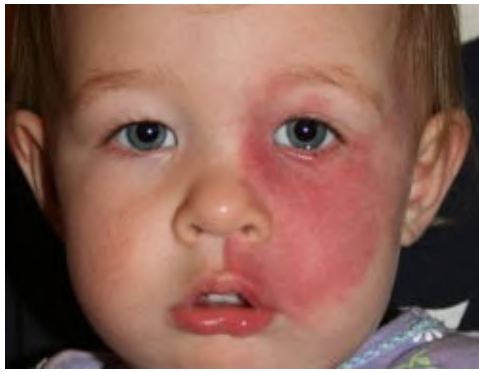





Central Scarring:
Central Clearing:
Central Crusting (Volcano sign):

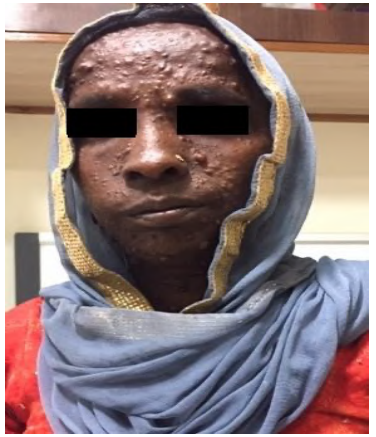
Neurocutaneous syndromes

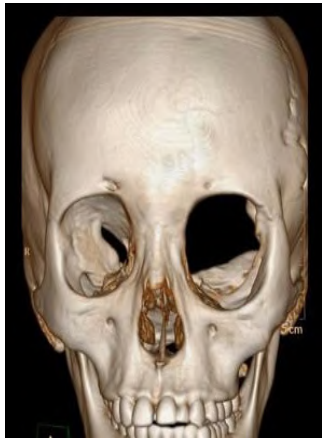
	INH	CHR GENE	IMP POINTS
NF1			
NF2			
TSC			
VHL			
SWS			
ATM			



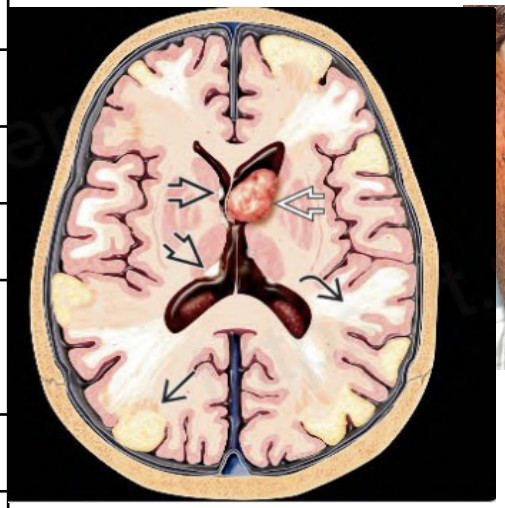


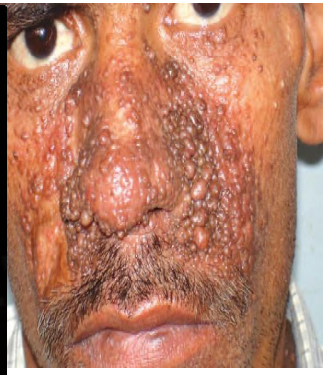
NF1 Diagnostic Criteria
≥6 café-au-lait macules (>5 mm in prepubertal children, >15 mm in postpubertal persons)
Axillary or inguinal freckling
≥2 neurofibromas (any type) **or** 1 plexiform neurofibroma
Optic pathway glioma
≥2 Lisch nodules (iris hamartomas)
Sphenoid dysplasia **or** tibial pseudoarthrosis / cortical bone lesion
First-degree relative with NF1

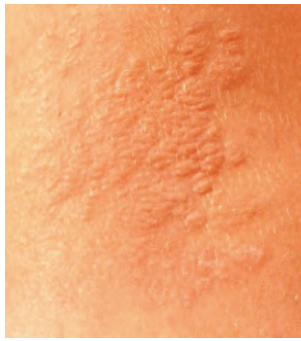




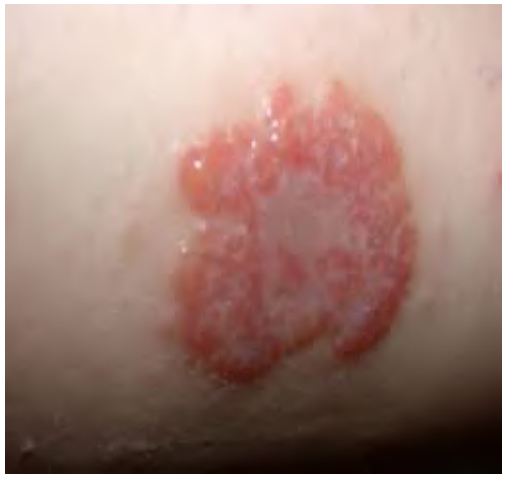
Major Features (TSC)	Minor Features (TSC)
Facial angiofibromas	“Confetti” skin lesions
Hypomelanotic macules	Gingival fibromas
Shagreen patches	Pits in dental enamel
Cortical tubers	Cerebral white matter radial migration lines
Subependymal nodules	Retinal achromatic patches
Subependymal giant cell tumors	Bone cysts
Retinal hamartomas	Hamartomatous rectal polyps
Cardiac rhabdomyomas	
Renal angiomyolipomas (AML)	
Pulmonary LAM	

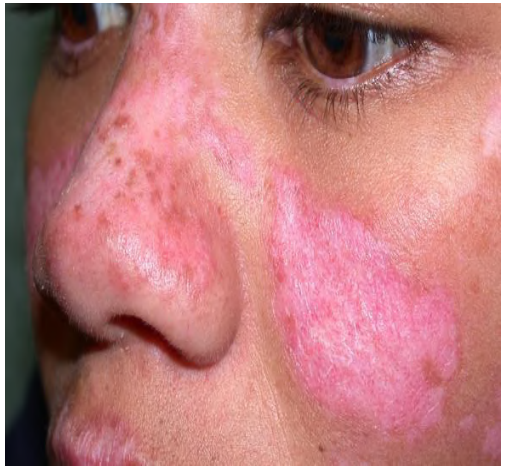


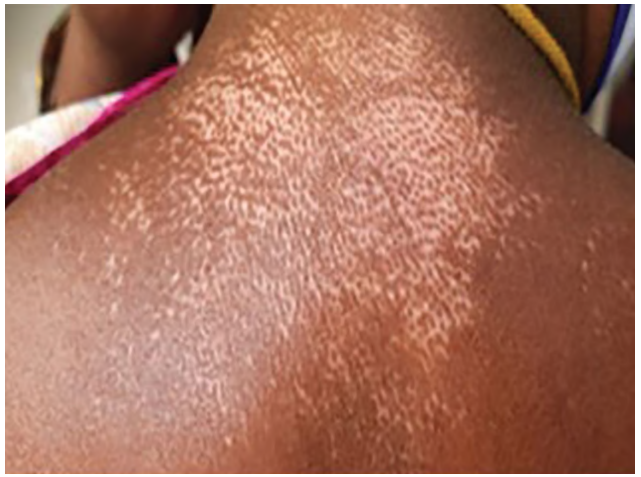


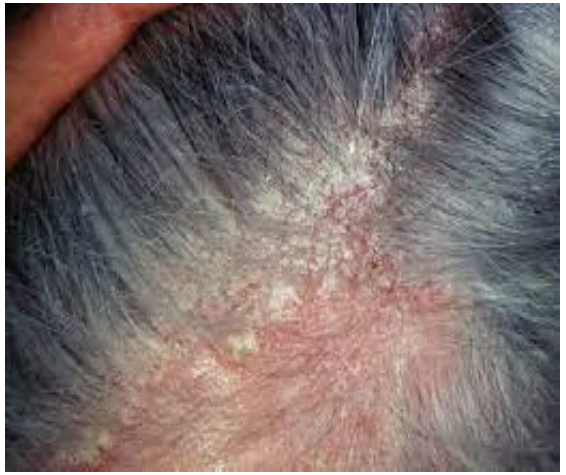


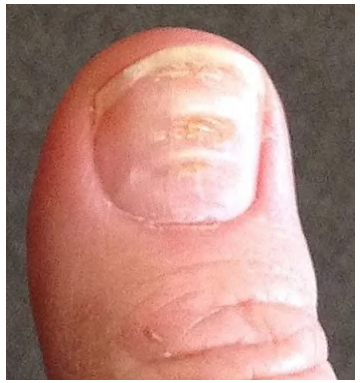
MISCELLANEOUS



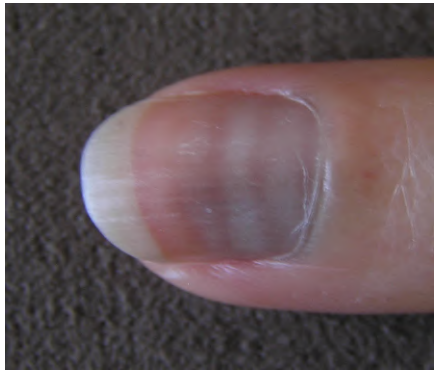




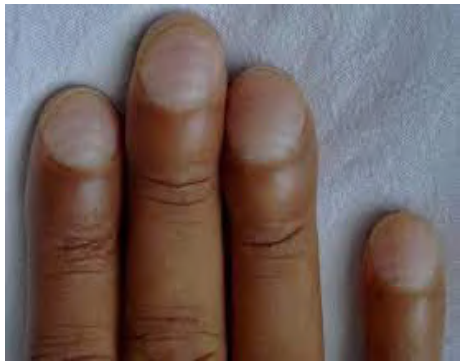




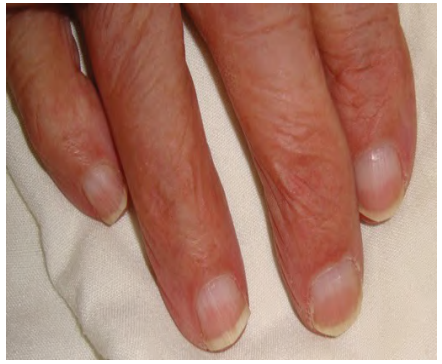
Beaus lines



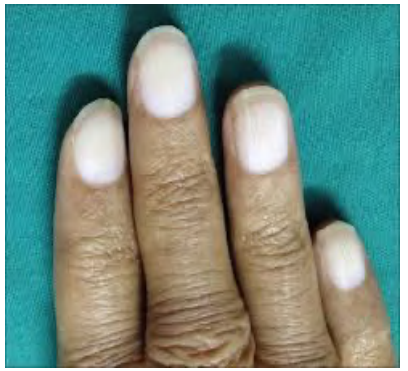
Mees lines



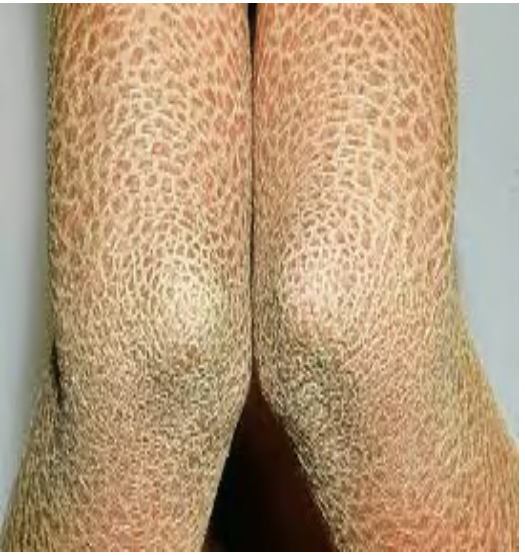
Muehrcke's bands

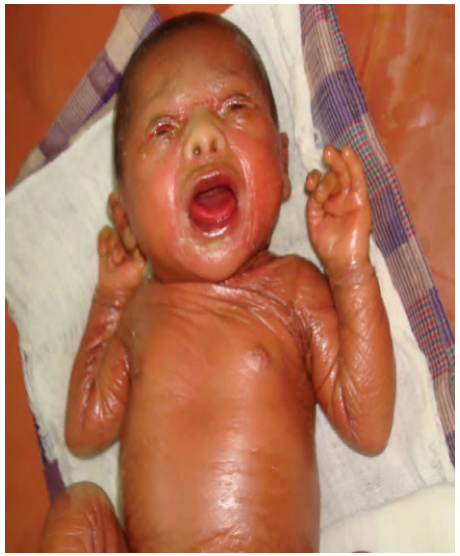


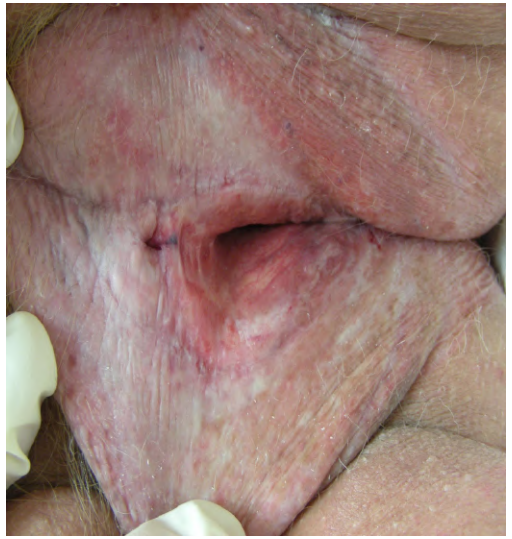
Lindsay nails

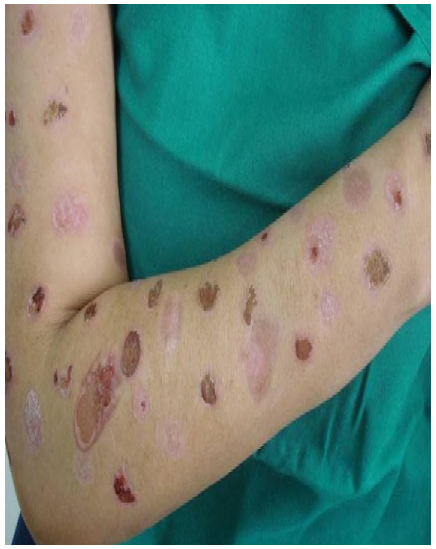


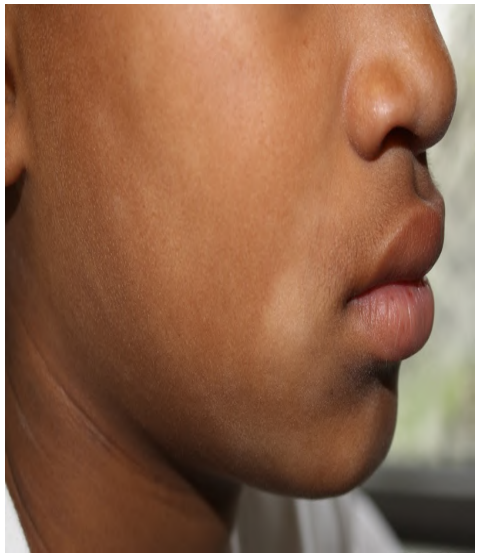
Terry nails





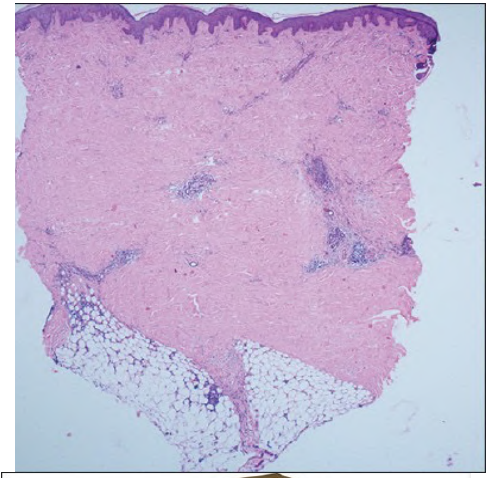


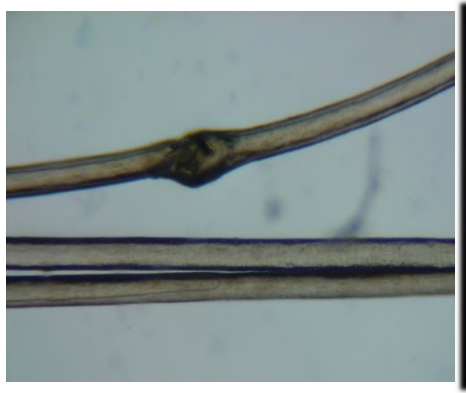


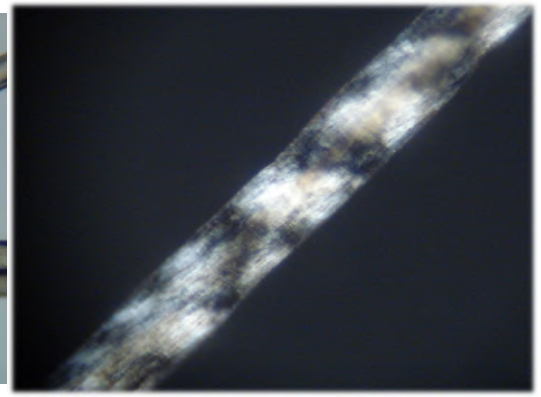


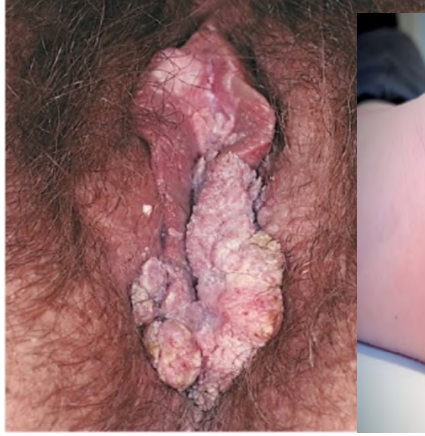
Lamellar ichthyosis:
Membrane + scales on trunk
Epidermal transglutaminase-1
Ectropion

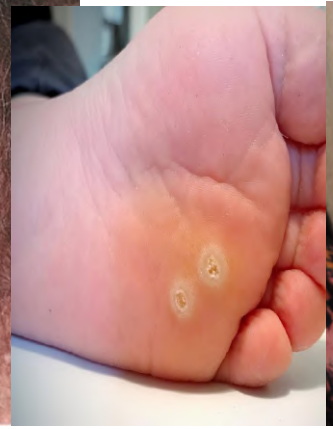
XLR ichthyosis
Steroid sulfatase x

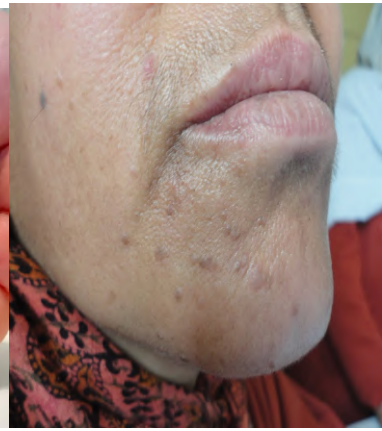






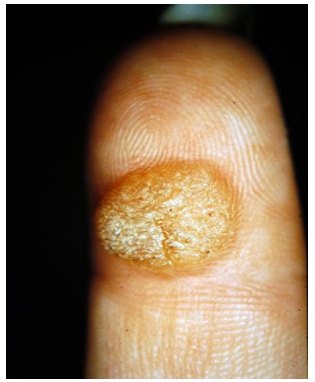


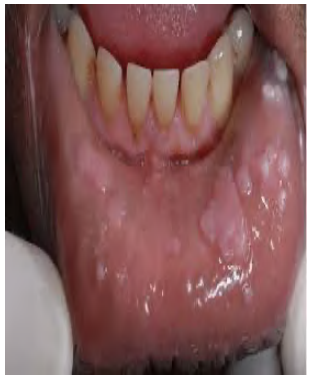




Bamboo hair
Atopic dermatitis
Icthyosis
SPINK5 gene

Tiger tail hair
PIBIDS
(photosensitivity, ichthyosis, brittle hair, intellectual impairment, decreased fertility and short stature)





Plantar warts:
Verruuca vulgaris:
Verruca plana:
Focal epithelial hyperplasia
Condyloma acuminata
High risk

Rx: Podophyllin / Imiquimod /
Trichloracetic acid
Cryotherapy

Methylisothiazolinone