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DERMATOLOGY REVISION - 1

----- Active space -----

Structure of Skin

00:00:25

Layers of skin : Epidermis, dermis and hypodermis.

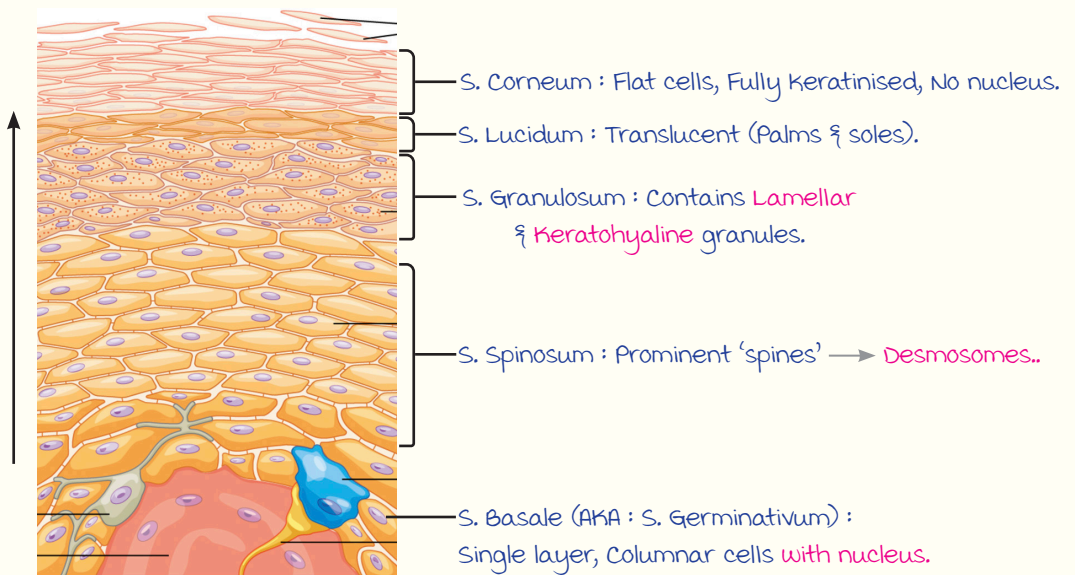
EPIDERMIS

Layers of Epidermis :

Epidermal transit time :

(Basale → Corneum)

- Normal : 28 days.
- Psoriasis : 3-5 days



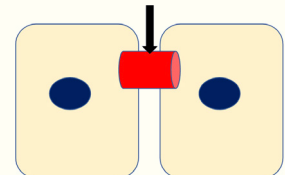
Granules in S. granulosum :

1. Lamellar (AKA Odland bodies) $\xrightarrow{\text{Produce}}$ Lipid \rightarrow Barrier function.
2. Keratohyaline : Contain filaggrin $\xrightarrow{\text{Involved in}}$ Ichthyosis vulgaris and atopic dermatitis.

(Filament aggregating protein.)

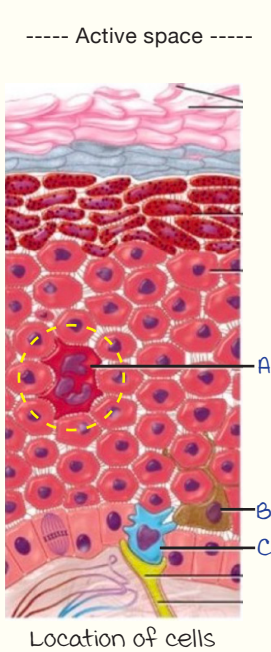
Desmosomes :

- Intraepidermal, intercellular connections between keratinocytes.
- Involved in pemphigus group of disorders.

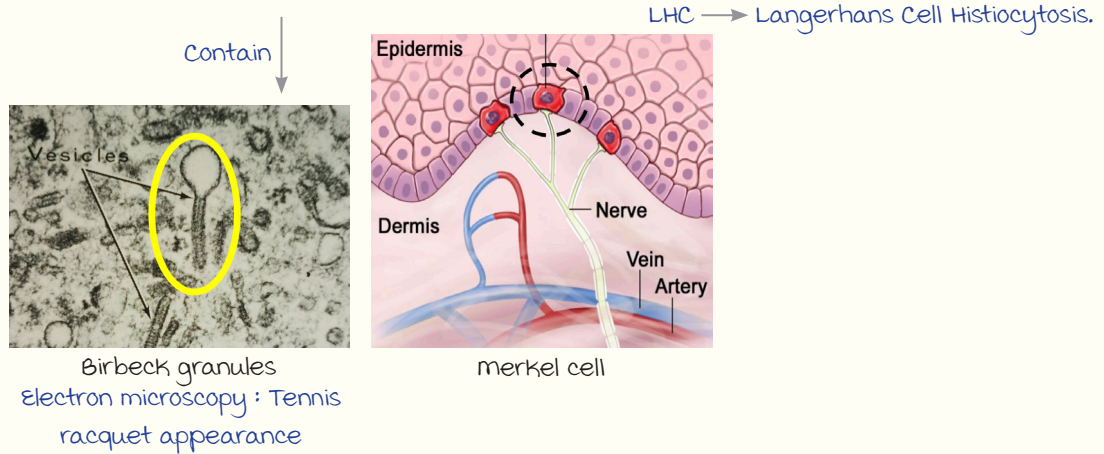


Cells of Epidermis :

1. Keratinocytes (90%) : Ectodermal cells with Keratin intermediate filaments.
(Hallmark)
2. Non-Keratinocytes : Langerhan's cells, melanocytes and merkel's cells.



	Langerhan's cells (A)	melanocytes (B)	merkel's Cells (C)
Location	S. spinosum	S. basale	S. basale
Embryology	Bone marrow (mesoderm)	Neural crest	Ectoderm
Content	Birbeck granules	melanosomes	Neurosecretory granules
Function	Antigen presenting cells.	melanin	Slow adapting, Low threshold mechanoreceptors (Touch)
markers	In LHC : S100, CD1a & CD207/Langerin (most specific)	S100, HMB-45 and melan-A	In merkel Cell Ca : Cytokeratin -20

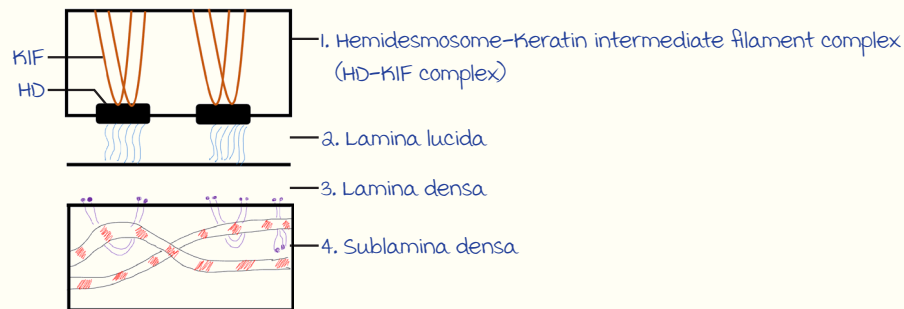


DERMOEPIDERMAL JUNCTION :

AKA Basement membrane Zone.

Function : Connects S. basale to underlying dermis.

Zones :



DERMIS(70% COLLAGEN)

Arrangement of Collagen :

	Papillary dermis	Reticular dermis
Fibres	Finer	Thicker
Arrangement	Loose & regular	Dense & irregular
Function	Supports capillary network in dermal papilla.	Structural support to dermis.

HYPODERMIS/SUBCUTANEOUS TISSUE

----- Active space -----

Compartments :

- 1. Septal compartment : Connective tissue
 - 2. Lobular compartment : Adipocytes
- } Inflammation : **Panniculitis**

Dermatopathological Terms

00:12:47


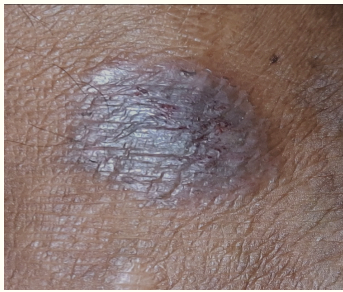
Layer involved	Term	Pathological change
Stratum corneum(SC)	Hyperkeratosis	Thick SC
	Parakeratosis	Nucleated SC
Stratum spinosum	Acanthosis	Thick S. spinosum
	Spongiosis (Eg : Acute eczema)	Intraepidermal, intercellular edema
	Acantholysis; Causes :	Loss of attachment b/w keratinocytes.
	<ul style="list-style-type: none"> • Autoimmune : pemphigus group • Infection : Bullous impetigo, Staph. Scalded Skin Syndrome(SSSS), HSV. • Genetic : Hailey-Hailey disease, Darier's disease. 	Polyhedral <u>Desmosome</u> → Acantholytic cells/ Tzanck cells Keratinocytes targeted ↓ Circular, Prominent nucleus, Perinuclear halo

Scales in Dermatology :

Visible exfoliation of the stratum corneum.

Scales	Pathology
Branny	Pityriasis versicolor
micaceous	Pityriasis Lichenoides chronica
Silvery-white	Psoriasis
Collarette	Pityriasis Rosea

Annular vs. Nummular Lesions :

	Annular lesion	Nummular lesion
Shape	 Ring	 Disc/Coin
Active region	Periphery	Centre + Periphery
Causes	<ul style="list-style-type: none"> • Pityriasis rosea • Tinea corporis • mid-borderline Hansen's (BB-HD) 	<ul style="list-style-type: none"> • Discoid eczema • Discoid lupus erythematosus

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Lines in Dermatology

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1. Langer's lines :

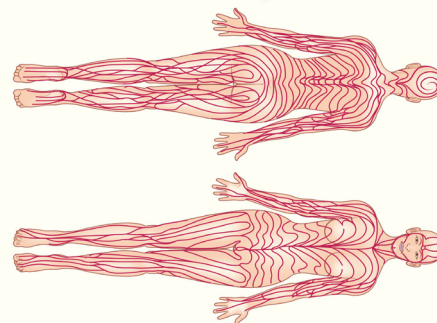
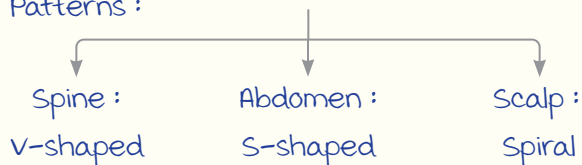
- Lines of skin tension.
- Represents orientation of collagen fibres in dermis.

Applied aspect : Surgical incisions are made along them.
(Good scar healing).



2. Blaschko's lines :

- Represent epidermal cell migration.
- Patterns :



Applied aspect : Incontinentia pigmenti (X-linked dominant) → Lesions along Blaschko's lines.

Dermatological Investigations

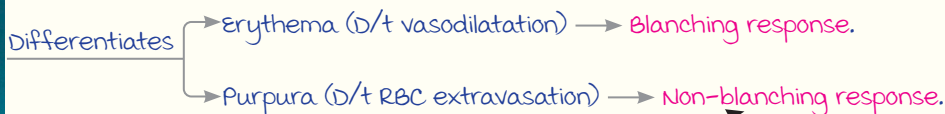
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Diascopy :

a. Erythema vs. Purpura :



Glass slide pressed over lesion



b. Apple jelly nodules :



Pressure →



Yellow-brown color → Apple Jelly nodules d/t dermal granulomas.

Seen in :

- Lupus vulgaris.
- Sarcoidosis.
- Cutaneous leishmaniasis.

Wood's Lamp (Diagnostic):

- Skin examination under UV light. (365nm)
- Filters : Barium silicate + 9% Nickel oxide.

Disease	Color on wood's lamp
Erythrasma	Coral red
Pityriasis versicolor	Yellow fluorescence
Microsporum species	Blue green
Trichophyton schoenleinii	Dull blue
Vitiligo	Milky white colour

Dermatological Therapies

00:24:30

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Phototherapy :

- Agent ultraviolet radiation
- Types
 - NB-UVB : $311 \pm 2\text{nm}$.
 - PUVA : Psoralen (Photo sensitiser) $\xrightarrow{F/b}$ UVA.
- Indications :
 - Psoriasis.
 - Vitiligo.
 - Atopic dermatitis.

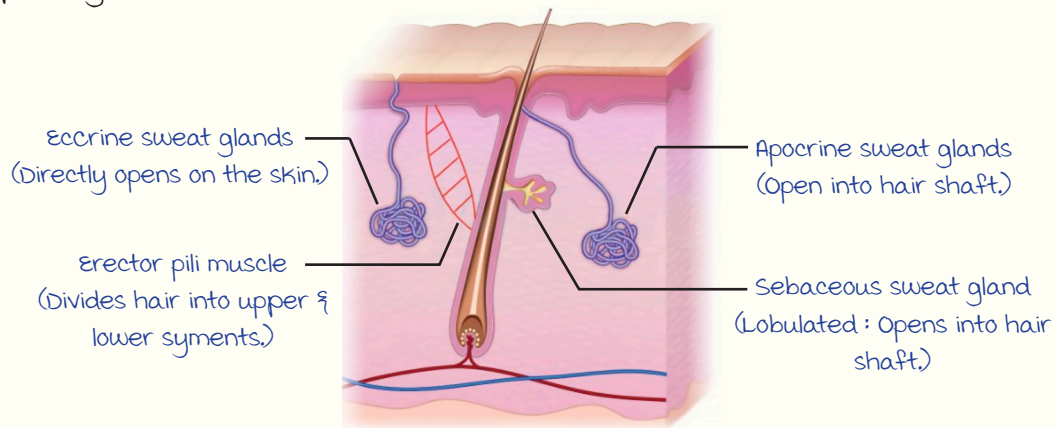
Cryotherapy :

- Agent : Liquid nitrogen
- Temp : -196°C
(Freezes the tissue).
- Indication : Warts Rx.

Appendages and Disorders

00:25:58

Appendages :



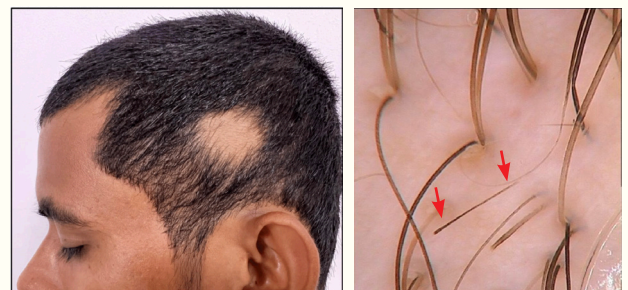
ALOPECIA : NON CICATRICAL/NON SCARRING

1. Patchy : Alopecia areata, Trichotillomania, Tinea capitis (Non-inflammatory), 2° syphilis.
2. Diffuse :
 - Anagen effluvium : 2° to chemo/radiotherapy.
 - Telogen effluvium : 2° to severe systemic stress (3-4 months after stressor).
3. Patterned : Androgenetic alopecia.
4. Systemic : SLE and thyroid dysfunction.

Alopecia Areata :

- Autoimmune condition.
- Well defined, circular, smooth patch of complete hair loss.

margin of lesions : exclamation mark (!) hair
(Broad distal & tapering proximal ends).



Exclamation mark hair

----- Active space -----

Nails : **Fine, regular and superficial pitting**
(Geometric pattern).

R_x → Localised : Intralesional triamcinolone.
→ Extensive : Systemic steroids.



Trichotillomania :

- Pathological hair plucking (OCD).
- Incomplete hair loss **within a patch**
(A/w perifollicular hemorrhage).
- A/w trichophagia → **Trichobezoar**

↓
Intermittent gastric obstruction.



Trichotillomania

Androgenetic Alopecia :

male Androgenetic Alopecia	Female Androgenetic Alopecia
<ul style="list-style-type: none"> • Fronto temporal recession. • Balding of vertex. 	<ul style="list-style-type: none"> • Frontal hairline maintained. • Diffuse thinning along central scalp.

Rx :

- **minoxidil** : 2% for women; 5% for men.
- Finasteride : 5α reductase inhibitor (↓es levels of dihydrotestosterone).

ALOPECIA : CICATRICAL/SCARRING

1. Papulosquamous : Lichen planus.
2. Granulomatous : Sarcoidosis.
3. Connective tissue disease : DLE; Discoid lesions of SLE.
4. Infection : Tinea capitis (Inflammatory type).

Frontal fibrosing alopecia :

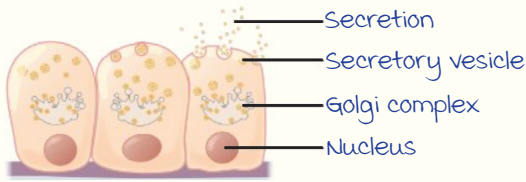
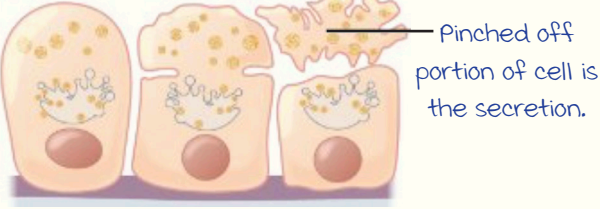
- Variant of **lichen plano-pilaris**.
- Band-like frontotemporal distribution.
- A/w **madarosis**.



DISORDERS OF SWEAT GLANDS

----- Active space -----

Eccrine & Apocrine Sweat Glands :

	Eccrine glands	Apocrine glands
mechanism	 <p>Labels: Secretion, Secretory vesicle, Golgi complex, Nucleus</p>	 <p>Label: Pinched off portion of cell is the secretion.</p>
Function	Produce sweat	Produce body odour
Secretion	merocrine (Intact cell border)	Apocrine (Cell apex pinched off)
Blockage leads to	miliaria	Apocrine miliaria

Fox-Fordyce disease :

- AKA Apocrine miliaria.
- Sites → Axilla, areola of nipple.
- Pruritic skin colored papules



Ectopic sebaceous glands :

- Sebaceous glands not a/w hair follicles
- Example → Fordyce spots (yellow micropapules ; Buccal mucosa/upper lips).



Acne Vulgaris :

Chronic inflammatory disease of the pilosebaceous unit. (Propionibacterium/ Cutibacterium acnes).

Types of skin lesions :



Open comedone Closed comedone
Grade 1

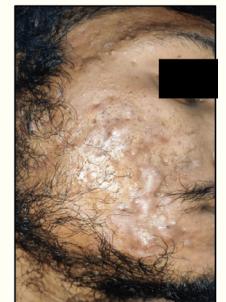
Rx : Retinoids
(Tretinoin, Adapalene).



Papules
Grade 2



Pustules
Grade 3



Nodulo-cystic
Grade 4

Rx : Oral retinoids
(Isotretinoin).

----- Active space ----- Isotretinoin :

- AKA 13-cis retinoic acid.
- monitoring : Fasting lipids, LFT.
- m/c side effect : Cheilitis.
- c/i in pregnancy (Category X) → **Teratogenic.**

Note : **Topical steroids are not used** in acne management (They induce acne).

SAHA syndrome :

Obese patient with acne, non-responsive to oral retinoids.

SAHA : **S**eborrhea, **A**cne, **H**irsutism, **A**ndrogenetic alopecia (Early onset)

Cutaneous changes of hyperandrogenism.

Rosacea :

Chronic inflammatory facial dermatoses.

Sites : Central convexities (Face).

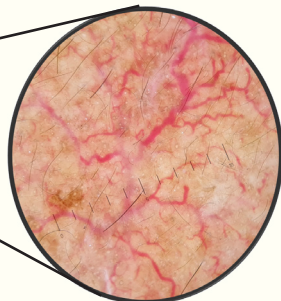
Triggers : Sunlight, spicy food, alcohol, hot beverages.

morphologies :

1. Erythemo-telangiectatic type : **Flushing + Telangiectasia.**
2. Papulopustular type : multiple papules & pustules.
3. Phymatous type/Rhinophyma/Potato nose :
 - **Thickened** skin over nose with **irregular** surface nodularities.
 - **Sebaceous gland hypertrophy + fibrosis.**



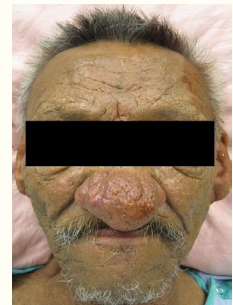
erythemo-telangiectatic type



multiple, dilated blood vessels



Papulopustular type



Phymatous type

Acne vs. Rosacea :

----- Active space -----

	Acne	Rosacea
morphology	<ul style="list-style-type: none"> • Comedones ⊕ • Papules, Nodules, Pustules & Scars ⊕ 	<ul style="list-style-type: none"> • Comedones ⊖ • Papules & Pustules ⊕
Associations (Background)	Greasy skin.	Erythema & telangectasia prominent.
Distribution	<ul style="list-style-type: none"> • Face • upper trunk • Chest & Shoulders 	Convexities of face. (Cheek, nose & forehead)

Treatment of Rosacea :

1. Antimicrobials :

- Topical : metronidazole.
- Systemic : Doxycycline.

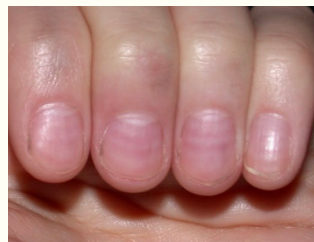
2. Rhinophyma → CO₂ laser.

NAIL DISORDERS

Leukonychia :



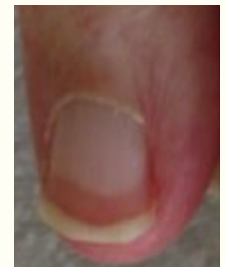
- a. mees lines :
- Transverse, white bands.
 - A/w chronic arsenic poisoning.



- b. muehrckes bands :
- Transverse, paired bands.
 - A/w hypoalbuminemia.



- c. Lindsey's/Half-and-half nails :
- Proximal 50% : white.
 - Distal 50% : Brown.
 - A/w chronic renal failure.

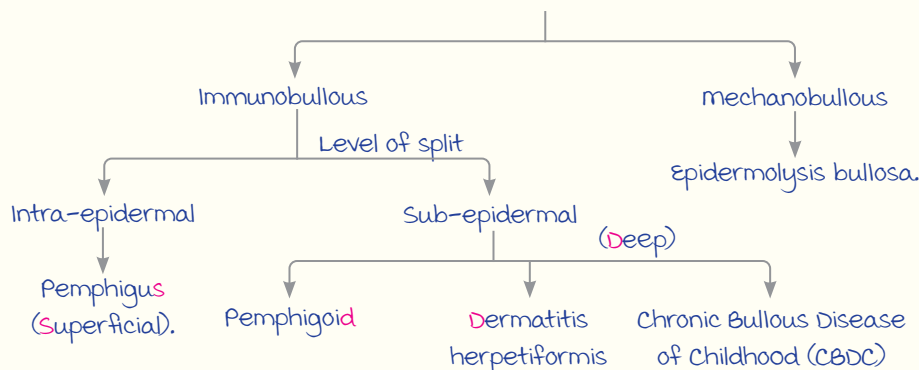


- d. Terry's Nail :
- Proximal 90% : white.
 - Distal 10% : Brown.
 - A/w chronic liver disease

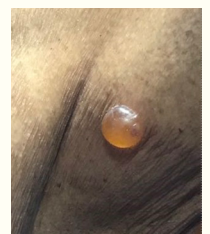
Vesiculobullous Diseases

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Classification :



vesicles (<1 cm)



Bullae (>1 cm)

----- Active space -----

PEMPHIGUS GROUP

- Intraepidermal bullae.
- Target protein → Desmosomes (Acantholysis).
- P. foliaceus and P. vulgaris (Common types).

a. P. foliaceus :

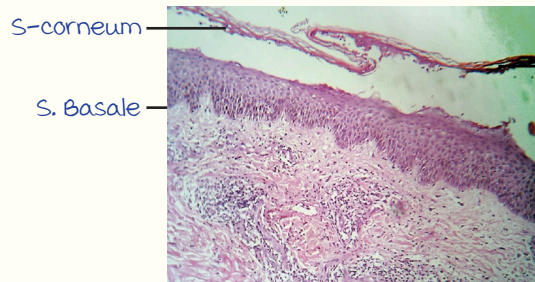
- Target antigen : **Desmoglein-1** (Upper epidermis, below S. corneum).
- IgG Ab formed against Dsg-1 → **Acantholysis** → **Subcorneal bullae** with very thin roof (Tense).

c/f :

- Transient, Superficial bullae $\xrightarrow[\text{rupture}]{\text{Immediate}}$ **Scales + crusts.**
- Distribution → Seborrhic areas.
- Mucosa → **No involvement** (Low Dsg-1 levels).

HPE : **Subcorneal split.**

Scales & crusts



P. foliaceus

b. P. vulgaris : (m/c)

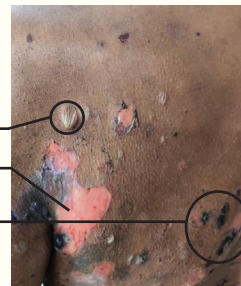
- IgG anti Dsg-3 Ab formed → Acantholysis → **Suprabasal** bullae with thin roof (Flaccid).
- **Oral lesions ⊕** (D/t Dsg-3 involvement).

Types and targets :

1. mucosal dominant : **Dsg-3** (Lower epidermis, above S. basale).
2. muco-cutaneous : **Dsg-3, 1.**

c/f :

- Flaccid bullae.
- Non-healing erosions (Expanding)
- Crusting over erosions
- Age 40 - 60 years.



Oral mucosa lesions (90-95%)

----- Active space -----

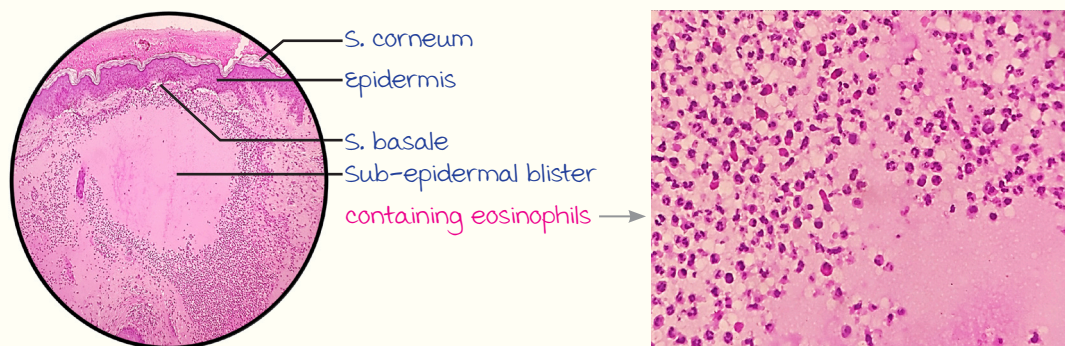
C/F :

- 60-80 yrs.
- Tense bullae on erythematous/Red base.
 - ↓ Rupture
 - Erosions.
- (Tend to heal ; No tendency to extend).
- Sites : Lower extremities, trunk and abdomen.
- Nikolsky \ominus ; Bulla spread sign \rightarrow Round, regular margins.
- Oral cavity involvement : 10-30%.



Investigations :

1. Tzanck Smear \rightarrow Eosinophils \oplus .
2. HPE :



3. DIF :

- Linear deposition at BMZ.
- IgG + C3.



Rx :

Low dose corticosteroids.

Dermatitis Herpetiformis :

Pathophysiology :

- IgA autoantibody to epidermal transglutaminase-3 (Sub-epidermal).
- A/W HLA DQ2, DQ8 & B8 ; Systemic \rightarrow Coeliac Sprue/Gluten sensitive enteropathy.

Note : Best test for coeliac disease \rightarrow tTG - IgA (Tissue transglutaminase IgA).

c/f:

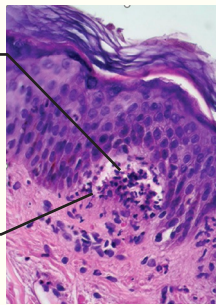
- Intensely pruritic papulo vesicles $\xrightarrow{\text{Scratched}}$ Grouped excoriations.
- Extensor distribution: Elbows, knees & Back.

Investigations:

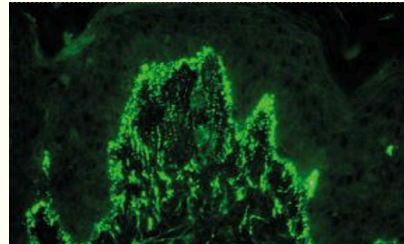
- Tzanck smear \rightarrow Neutrophils.
- HPE:

Papillary tip microabscess
(Collection of neutrophils at tip of dermal papilla)

Sub-epidermal bulla/split



- DIF: Granular/Interrupted IgA deposits at BMZ + dermal papilla.



Rx:

- Gluten free diet: Avoid BROW (Barley, Rye, Oats & Wheat).
- Dapsone: \ominus Neutrophil chemotaxis.

Chronic Bullous Disease of Childhood (CBDC):

- Auto Ab: IgA.
- Level: Sub-epidermal.
- Lesions: Cluster of jewels/string of pearls (Annular arrangement).
- Rx: Dapsone (\ominus Neutrophil chemotaxis).



MECHANO BULLOUS DISORDER

AKA: Epidermolysis bullosa (EB).

Types	Defects
EB Simplex (Superficial)	K5/K14 (Keratin intermediary filament)
Junctional EB	Laminin
Dystrophic EB (Deep)	Collagen-7 (Anchoring fibril)

Clinical history:

- mother notices blisters on handling the baby.
- Blisters form at sites of mechanical trauma.

DERMATOLOGY REVISION - 2

----- Active space -----

Pigmentary Disorders

00:00:22

melanin is formed from tyrosine.

DISORDERS OF HYPERPIGMENTATION

1. melasma (Acquired) :

Triggers :

Sunlight, thyroid dysfunction, pregnancy (Chloasma).

c/f :

- Symmetrical hyperpigmented macules.
- malar area, nose, mandibular area.



Differential diagnosis

Chik sign in chikungunya.

2. Freckles & Lentigines :

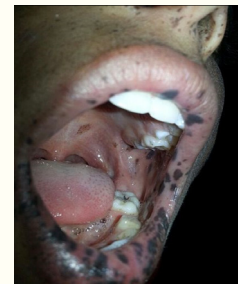
	Freckles	Lentigines
melanocyte number	Normal	↑
melanocyte activity	↑	Normal
Associated with	xeroderma pigmentosa	Peutz-Jegher's syndrome (AD + mucosal lentigines + hamartomatous GI polyps)



Freckles



Lentigines



mucosal lentigines in PJ syndrome

3. Congenital melanocytic Nevus (CMN) :

- Congenital (Benign melanocytic proliferation).
- well defined borders + hypertrichotic + hyperpigmented.

Giant CMN :

Size > 20 cm → 2-5% risk of transformation into melanoma.



4. Becker's Nevus :

- Acquired.
- unilateral hyperpigmented, hypertrichotic lesion.
- Chest, upper shoulder.



----- Active space -----

5. Dermal melanocytosis :

Proliferation of melanocytes in dermis → Blue/slate-gray lesions (AKA ceruloderma).

mongolian spot	Nevus of Ota	Nevus of Ito
<ul style="list-style-type: none"> • Infants. • Lower back. • Resolves spontaneously. 	<ul style="list-style-type: none"> • unilateral. • Distributed along CN V₁ & V₂. • Face + sclera (in 2/3rd pts). 	<ul style="list-style-type: none"> • Unilateral. • Distribution : Posterior supraclavicular and lateral brachial cutaneous N. • Shoulder and scapular region.

DISORDERS OF HYPO/DEPIGMENTATION

1. Albinism :

Defect : Tyrosinase.

Types : Ocular and oculo-cutaneous (Eyes + skin + hair).

Association : Chediak-Higashi syndrome (Autosomal recessive).

- Oculo-cutaneous albinism + recurrent infections + neutrophils with giant granules.
- LYST gene mutation → Defective phagolysosome fusion.



2. Piebaldism :

- Autosomal dominant.
- Neural crest defect.
- Triangular depigmented area + white hair } white forelock.



3. Nevus Depigmentosus

- Congenital, non-progressive.
- Hypopigmented lesion with serrated/feathery margins.

Pathophysiology :



----- Active space -----

4. Nevus Anemicus :

Congenital white patch of vasoconstriction.
 ↓
 (D/t pallor)

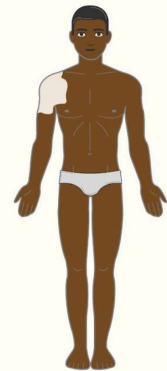


5. Vitiligo :

- Acquired, chronic depigmentary disorder (Autoimmune).
- melanocytes absent from lesion.

Segmental vitiligo :

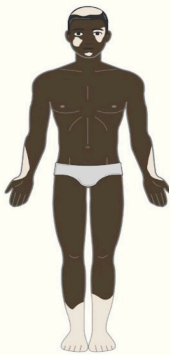
- Onset : Early childhood
- Progression : Rapid increase ^{Later} → Stabilizes.
- Distribution : Unilateral, segmental, does not cross the midline
- ± Leukotrichia.



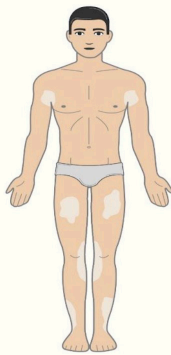
Segmental

Non-segmental vitiligo types :

- Acrofacial (Face, head & distal extremities).
- mucosal (mucosa > 1 site)
- vulgaris (m/c type) : B/L symmetrical.
- universal (> 80-90% of the body involved).



Acrofacial



vulgaris



universalis



Acral vitiligo

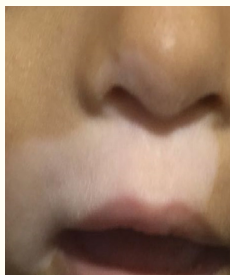


v. vulgaris

Unclassified/undetermined type :

Small, isolated, depigmented lesions → Focal vitiligo.

c/f :



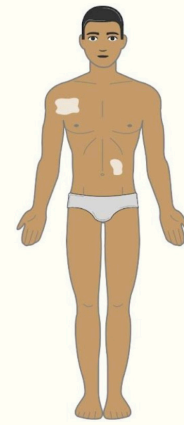
Chalky white depigmented macules



True Koebner's (+)



Leukotrichia : Bad prognosis



Focal

----- Active space -----

- Rx :
- Topical : Corticosteroids, Tacrolimus (Calcineurin ⊖).
 - Phototherapy : Narrow band UV-B (311 ± 2 nm wavelength).
 - Systemic : Steroids, Azathioprine.

6. Chemical Leukoderma :

Chemical induced melanocyte destruction.

Triggers :

- Bindi → Para Tertiary Butyl Phenol (PTPB).
- Rubber footwear → mono-Benzyl Ether of Hydroquinone (mBEH).



Papulo-Squamous Disorders

00:17:36

PSORIASIS

Pathophysiology :

- Chronic, T-cell mediated inflammatory disease.
- Skin + systemic involvement (Systemic inflammation → metabolic syndrome).
- Early onset psoriasis a/w HLA-Cw6 and psoriatic spondylitis a/w HLA-B27.

Pathogenesis :

- Epidermis → Hyperproliferation → Epidermal transit time : 3-5 days (↓)
 - Dermis → Inflammation → ↑ TNF α/IL-17/IL-23.
- ↓
Scaling.

Types :

I. Chronic plaque psoriasis/Psoriasis vulgaris :

- Lesion : Red, scaly papules + plaques.
- Scales : Silvery-white.
- Distribution : Extensors.
- Signs :
 - Auspitz sign ⊕.
 - Koebner's phenomenon ⊕.

Auspitz sign	
Glass slide	Grattage test → Scrape lesion.
Findings (In order of occurrence) :	
1. Silvery white scales.	
2. Bulkeley's membrane.	
3. Pinpoint bleeding spots.	



Chronic plaque psoriasis

----- Active space -----


Koebner phenomenon/Isomorphic response :

- Development of new lesions along the lines of trauma.
- Rare causes : Kaposi's sarcoma, Darier's disease.

	True Koebner's	Pseudo Koebner's
mechanism	Immunological	Auto-inoculation
Causes	<ul style="list-style-type: none"> • Psoriasis • Lichen planus • Vitiligo 	Viral etiology : <ul style="list-style-type: none"> • molluscum contagiosum • viral warts


Nail changes in psoriasis :

a.




Coarse, irregular, deep pitting
(m/c nail change)

b.




Subungual hyperkeratosis
(↑keratin accumulation below nail plate).

c.



Distal onycholysis
(Separation from nail bed).

d.



Oil drop sign/Salmon patch
(Pathognomonic)

Leads to →

2. Guttate psoriasis :

Presentation → Child
 +
 H/o pharyngitis (Group A β-hemolytic streptococcus)
 +
 Rain drop lesions (Trunk).



3. Pustular psoriasis :

- Presentation : Psoriasis pt. with sudden onset pustules + fever.
- Trigger : Sudden stoppage of systemic steroids.
- Progression : Pustules $\xrightarrow{\text{Coalesce}}$ Lakes/sheets of pus.
- Types :
 - Acute generalised form : von Zumbusch type.
 - Pregnancy form : Impetigo herpetiformis.



Pustular psoriasis

4. Erythroderma/exfoliative dermatitis :

Presentation : Pt. of psoriasis + erythema ± scaling of ≥90% BSA.



5. Psoriatic arthritis :

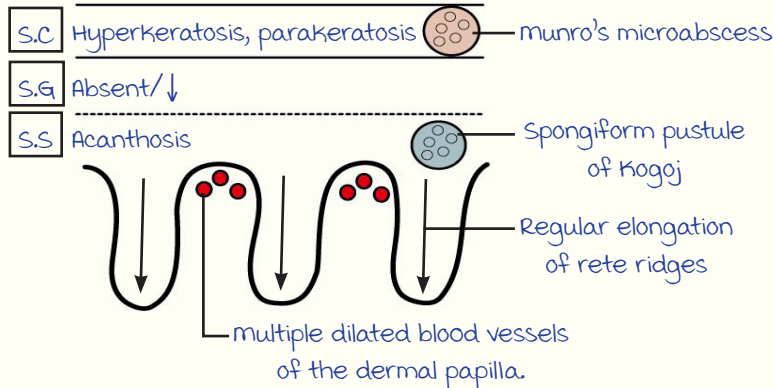
- Type : Seronegative arthritis (RA factor -ve).
- Classical joint : DIP joint.



----- Active space -----

Histopathology of Psoriasis :

- Hyperkeratosis : Thickening of SC.
- Parakeratosis : Persistence of nuclei in SC.
- Spongiform pustule of Kogoj : Neutrophilic collection in SS.



Treatment :

< 10% BSA involved : Topicals.

> 10% BSA involved : Phototherapy → Systemic therapy (methotrexate & cyclosporine).

	methotrexate (MTX)	Cyclosporine
MOA	DHFR ⊖	Calcineurin ⊖ (Rapid action)
A/E	<ul style="list-style-type: none"> • Bm suppression • Teratogenicity • Hepatotoxicity 	<ul style="list-style-type: none"> • Nephrotoxicity • HTN
Indications	<ul style="list-style-type: none"> • Plaque psoriasis • Erythrodermic psoriasis • Psoriatic arthritis 	Severe erythrodermic psoriasis.

Pustular psoriasis :

TOC : Acitretin (Oral retinoid) > DOC : methotrexate.

Pustular psoriasis of pregnancy/Impetigo herpetiformis :

- DOC : Systemic steroids (Acitretin & MTX are teratogenic).
- 2nd DOC : Cyclosporine.

Biologics :

Targeted therapy (Biologics)	
IL-12/23	ustekinumab
IL-23	Guselkumab
Anti TNF α	Infliximab, Etanercept, Adalimumab
IL-17 A	Ixekizumab, Secukinumab

Small molecules :

Small molecules
<ul style="list-style-type: none"> • PDE-4 inhibitor : Apremilast. • JAK inhibitors : Tofacitinib (JAK 1/3 ⊖) (Psoriatic arthritis)

----- Active space -----

LICHEN PLANUS

Chronic, immune mediated inflammatory disease of the skin, hair, mucosa & nails.

Clinical Features : 6Ps

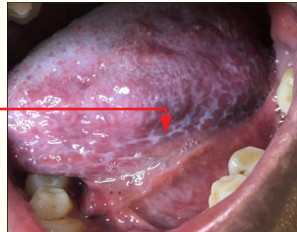
- Purple.
- Polygonal.
- Papules.
- Plain-topped.
- Plaques.
- Pruritic.
- Wickham's striae : Net like/reticulate pattern on the surface of lesion (under magnification).



Distribution : Flexor surface
(True Koebner's (+))

Oral lesions : 40-60% cases.

↓
Reticulate, lacy white pattern.



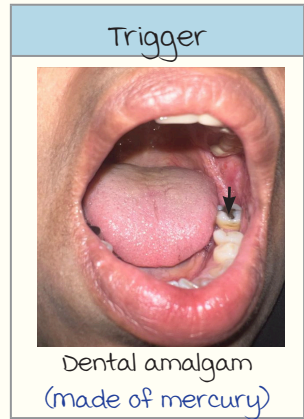
Nail changes :



Thinning of nail plate (m/c)



Pterygium of nail (Characteristic)

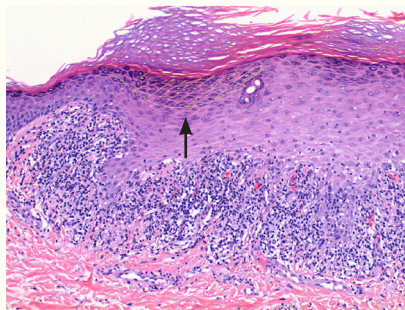


Dental amalgam (made of mercury)

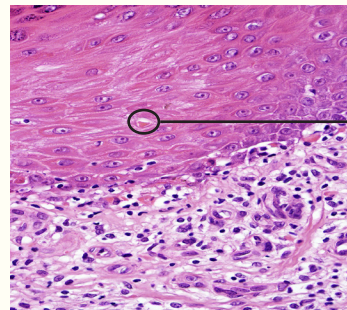
Note :

Lichen planus involving the hair : Lichen planopilaris → Causes scarring alopecia.

Histopathology :

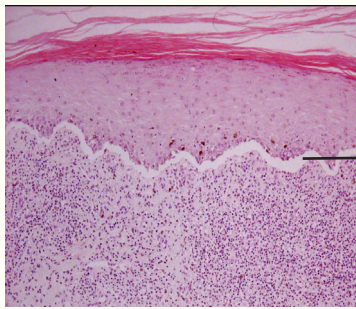


wedge shaped hypergranulosis



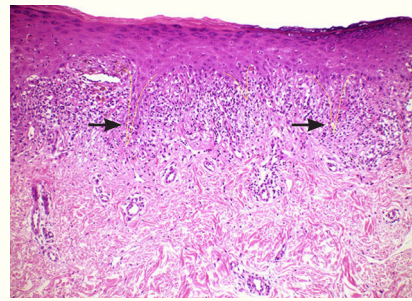
colloid/Civatte bodies

Eosinophilic body
(Necrotic keratinocyte)



Band like lymphocytic infiltrate at DEJ

max-Joseph space
(Cleft at DEJ)



Saw toothed rete ridges (Elongation)

----- Active space -----

Rx :

Limited disease : Topical steroids.

extensive disease : Systemic steroids.

PITYRIASIS ROSEA

Acute, self-limiting papulo-squamous eruption.

Etiology : HHV 7.

Clinical features :

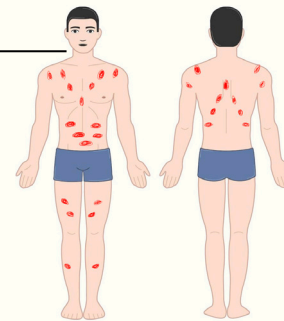
- First lesion : Herald patch/mother patch.
- Scales → Collarette.



Collarette of scales

Distribution :

Along the lines of Langer → Christmas tree pattern



PITYRIASIS RUBRA PILARIS

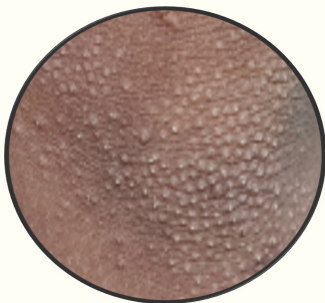
Chronic, inflammatory papulo-squamous disease.

Clinical features :

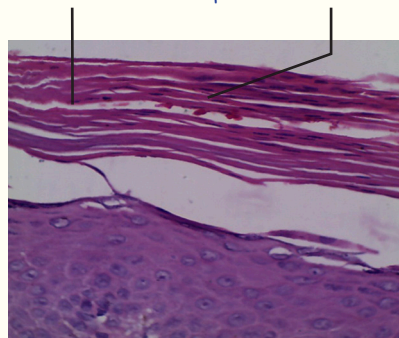
- Follicular papules : Nutmeg grater papules.
- erythroderma ⊕ (>90% of BSA involved).
- Islands of sparing ⊕.

HPE :

Checkerboard pattern : Alternating horizontal and vertical orthokeratosis and parakeratosis.



Nutmeg grater papules



Erythroderma + Islands of sparing

Histamine Mediated Disorders

00:47:05

1. Urticaria :

Pathology : Dermal edema.

Clinical features :

- Lesion : wheal.
 - Itchy transient plaque.
 - Central pallor and peripheral erythema.
- Dermographism : exaggerated wheal-flare response on stroking a blunt object on skin.



Wheal



Dermographism

Treatment :

Chronic spontaneous urticaria (> 6 wks + no trigger).

1. 2nd gen antihistamines : Loratadine, Cetirizine, Fexofenadine.
2. Anti IgE monoclonal Ab : **Omalizumab**.
3. Calcineurin ⊖ : Cyclosporine.

2. Angioedema :

- Subcutaneous/submucosal edema d/t ↑vascular permeability.
- m/c site : Lips and eyelid.

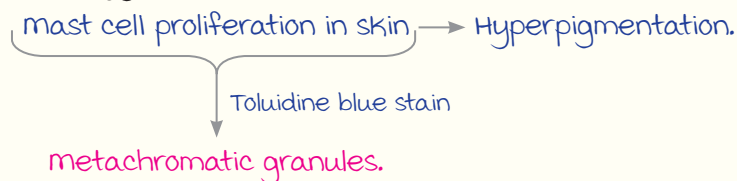


Angioedema

3. Cutaneous mastocytosis :

AKA urticaria pigmentosa.

Pathology :



c/f :

- multiple hyperpigmented lesions.
- **Darier sign** : erythema + urticarial halo on scratching **lesional skin**

↓
Scratching → mast cell degranulation → Histamine release.

(Dermographism → ⊕ skin).



Darier sign

4. Hereditary Angioedema :

Inheritance : Autosomal dominant.

c/f :

- Recurrent episodes of non-pitting edema.
- No wheals.

Defect : **C₁ esterase inhibitor.**

Eczema



00:52:52

----- Active space -----

Reaction pattern of the skin.

Types :

Acute, subacute & chronic

Acute eczema		Chronic eczema	
<ul style="list-style-type: none"> Erythema Edema Vesicles 	<ul style="list-style-type: none"> Oozing Crusting Papulo-vesicles (+) 	<ul style="list-style-type: none"> Hyperpigmentation Thick skin Exaggerated skin marking 	<p>} Lichenification</p>
			

Etiological classification : Exogenous and endogenous.

Exogenous Eczema :

I. Contact dermatitis (CD) :

Two types (Irritant & allergic)

	Irritant CD	Allergic CD
Occurrence	All exposed people	Genetically predisposed
Pathophysiology	Direct damage (Non-immune)	Type IV hypersensitivity
Extent	Restricted to site of contact	Tends to disseminate



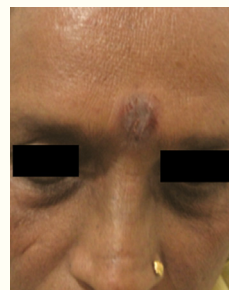
Irritant contact dermatitis



Diaper dermatitis (Type of irritant CD)

Allergic CD : Causative compounds.

- metal → Nickel.
- Cement → Potassium dichromate.
- Bindi → Para tertiary butyl phenol (PTBP).
- Hair dye → Para phenylene diamine (PPD).



Bindi dermatitis (PTBP)



Hair dye dermatitis (PPD)

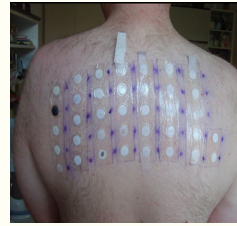
----- Active space -----

Patch test :

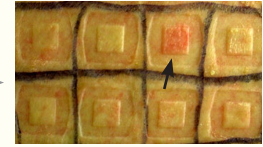
- Test for **allergic CD**.
- **Type 4** hypersensitivity.

method : Allergens applied over the back

Reading taken after **48 hours**
(Best at : **96 hrs/4 days**).



Patch test



Positive test.

Airborne CD :

- Plant : *Parthenium hysterophorus*.
- Allergen : Sesquiterpene Lactone (SQL).
- Identification : **white flower-heads**.



Parthenium hysterophorus

Endogenous eczema :

1. Seborrheic dermatitis :

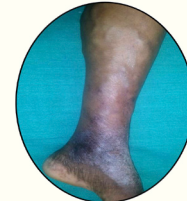
- Inflammatory response to **malassezia furfur** (Lipophilic fungus).
- Lesions :
 - Greasy, yellow scales over nasolabial folds.
 - **Cradle cap** in infantile seborrheic dermatitis (Greasy, yellow scales over scalp).



Cradle cap

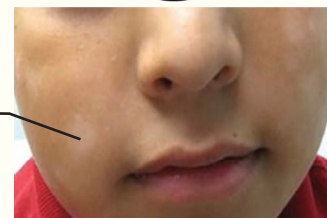
2. Stasis eczema/Gravitational eczema :

- A/w chronic venous insufficiency.
- CEAP classification : **C4a** (Pigmentation/eczema).



3. Pityriasis alba :

- Presentation → Child; H/o atopy.
- Hypopigmented, **scaly** macules on the **face**.
- DD : Indeterminate HD/leprosy (Scaling ⊖).



4. Nummular/Discoïd eczema :

- Disc/coin shaped lesion.
- Active centre + periphery.



5. Pompholyx :

- Deep seated vesicles (+ Background eczema).
- Palms + soles.




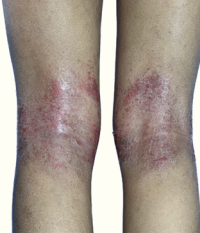
ATOPIC DERMATITIS

----- Active space -----

Localized **Type I** hypersensitivity reaction.

Triad of atopy : Atopic asthma + atopic dermatitis + allergic rhinitis.

Clinical phases :

	Infantile	Childhood	Adult
Timeline	upto 2 yrs	2 yrs - Puberty	> Puberty
Distribution	Face, scalp, extensors	Flexures (Cubital, popliteal fossa)	Lichenification of flexures
Image			

Key Diagnostic Criteria :

Hanifin & Rajka criteria :

- Pruritis : Intermittent & intense (Hallmark feature).
- Typical morphology and distribution (Acc. to age).
- Chronic/chronically relapsing dermatitis.
- **Personal/Family h/o atopy.**

IOC : Clinical examination.

Other features :

1. White dermographism : Abnormal vasoconstriction on stroking skin.
2. **Headlight sign** : Facial erythema with perinasal and perioral sparing.
3. **Dennie-morgan fold** : Infraorbital skin creases.
4. Eye changes : Keratoconus, cataract (ASC), Hertoghe's sign (Lateral madarosis).



white dermographism



Headlight sign



Dennie-morgan fold

Treatment of AD :

- Topical : Steroids, emollients.
- Systemic : Steroids/cyclosporine.

DERMATOLOGY REVISION - 3

----- Active space -----

Bacterial Skin Infections

00:00:23




PYODERMA

Types → Follicular and Non-follicular.

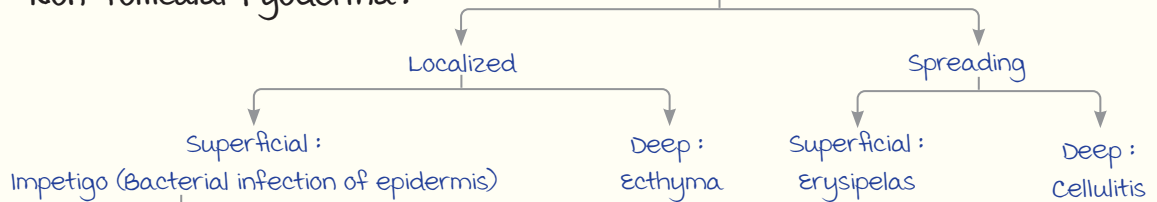
Follicular Pyodermas :



Etiology : *Staph. aureus*

Types :

	Folliculitis	Furuncle/Boil	Carbuncle (A/w DM)
Infection of	Hair follicle	Hair follicle + Perifollicular area	multiple hair follicles + contiguous areas.
Clinical Features	Follicle oriented pustule	Red, indurated tender nodule	<ul style="list-style-type: none"> • Red, indurated, tender nodule • Surface : Pustules • Site : Nape of neck (m/c)
Images			

Non-follicular Pyoderma :



	Non - Bullous Impetigo/Impetigo Contagiosa	Bullous Impetigo
Etiology	<i>Staph. aureus</i> , <i>Sp. A Streptococcus</i>	<i>Staph. aureus</i>
c/f	<ul style="list-style-type: none"> • Child • Golden brown honey colored crusting 	<ul style="list-style-type: none"> • Bullae ⊕ • Varnish crust
Site	Face (Perinasal, perioral)	Trunk
Image		

Topical antibacterials in pyoderma :

- Fusidic acid.
 - Mupirocin
 - Ozonoxacin
- } Defeats MRSA.

----- Active space -----

Erysipelas (Sp. A Streptococcus)	Cellulitis (Sp. A Strep/S aureus)
upper 1/2 dermis + lymphatics	Lower 1/2 dermis + Subcutaneous tissue
Well demarcated & raised	Ill demarcated & diffuse



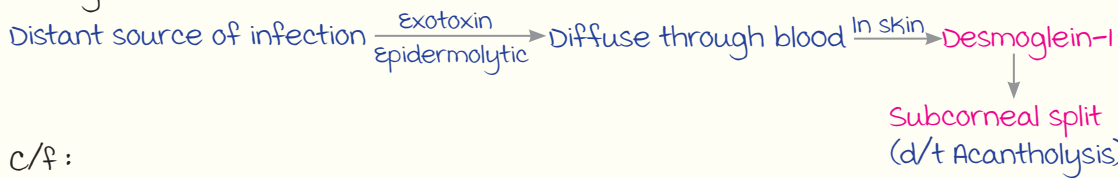
Erysipelas



Cellulitis

Staphylococcal Scalded Skin Syndrome :

Pathogenesis :



c/f :

- Fever (And other constitutional symptoms).
- Severe skin tenderness.
- **Sheet like epidermal peeling.**
- **No oral lesions** (Dsg-3 not affected).

Note : mucosa is strongly involved in **TEN (Toxic epidermal necrolysis)**.



True Nikolsky sign ⊕ (d/t acantholysis)

Acute Paronychia :

- Nail fold infection \rightarrow **S. aureus.**
- Erythema + Collection of pus.
- Rx : Anti-staphylococcal antibiotics + Incision & drainage (If frank pus ⊕).

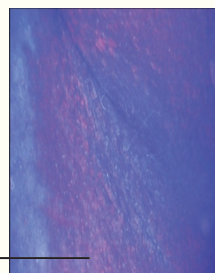


1. Tuberculosis verrucosa cutis / Anatomist's wart :
 Seen in people who handle dead bodies (Anatomists/forensics).

Cutaneous Corynebacterial Infections :

Erythrasma :

- C. minutissimum.
- Asymptomatic reddish-brown hyperpigmentation.
- Sites : Axilla, groin.
- Woods lamp : **Coral red fluorescence**



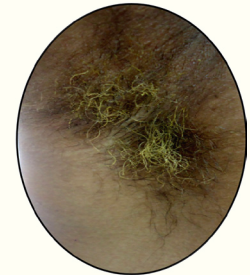
----- Active space -----

Trichomycosis axillaris :

- misnomer (not a fungal infection) → *C. tenuis*.
- **Yellow concretions** on axillary hair shafts.



Pitted keratolysis



Trichomycosis axillaris

Pitted keratolysis :

- micrococcus/kytrococcus sedentarius.
- multiple punctate depressions on palms & soles (D/t keratolysis).

Pseudomonal Skin Infections
1. Ecthyma gangrenosum (A/w septicemia).
2. Hot tub folliculitis (H/o use of ill-maintained spa).
3. Green nail syndrome (Colour d/t <i>P. aeruginosa</i> pigment).



Green nail syndrome

meningococemia :

Etiology : *N. meningitidis*.

Clinical features :

- Fever + signs of meningitis (Eg : Neck rigidity).
- **Petechial rash**.



Cutaneous Anthrax



meningococemia

Cutaneous Anthrax :

- *Bacillus anthracis* (Gram +ve).
- H/o contact with animal products.
- Central ulcer + black scab surrounded by profound edema → **malignant pustule**



Eschar

Scrub Typhus :

Orientia tsutsugamushi (vector : Trombiculid mite).

C/f : Fever + CNS symptoms + **eschar** ⊕ (Black scab surrounded by erythema).

Rx : Doxycycline.

Cutaneous TB :

1. Tuberculosis verrucosa cutis/Anatomist's wart :
Seen in people who handle dead bodies (Anatomists/forensics).



Indurated, verrucous (Rough) plaque at extremities

2. Lupus vulgaris :

- m/c cutaneous TB in **adults**.
- Plaque → Centre : Atrophy, scarring
- Site : Face, buttocks, extremities. → Periphery : Extension



Diascopy : **Apple jelly nodules** (Yellow-brown) → Presence of dermal granulomas.

3. Scrofuloderma :

- m/c cutaneous TB in **children**.
- m.Tb in lymph node, bone, fascia $\xrightarrow{\text{Direct invasion}}$ Skin.
- m/c focus : **Cervical LN**.

c/f :

- Painless subcutaneous nodules.
- Discharging sinuses + Ulcers with undermined edges + Fibrotic scars.



----- Active space -----

Fungal Infections of Skin

00:18:44

Pityriasis Versicolor :

- **malassezia globosa** > furfur.
- m/c site : Trunk.

Investigations : 10% KOH mount.

Spaghetti and meatball appearance.



Short hyphae (Spaghetti)

Round spores (meatballs)



Hyperpigmented macules (Rare)



Hypopigmented macules (m/c), fine, branny, furfuraceous scales

Rx :

First line : Topical azoles, selenium sulphide.

Systemic : Fluconazole.

Candidiasis :

Oral Candidiasis/Oral thrush :

- White pseudomembranous plaques.
- Can be **rubbed off**.



Note :
Candidiasis with **red plaques**
↓
Atrophic candidiasis.

Candidial Intertrigo : Involves the intertriginous areas/skin folds.

- Red, macerated plaque (Soft, wet to palpate)
- Satellite pustules ⊕ (Periphery of the lesion)



Candidial Balanoposthitis :

- A/w diabetes mellitus.
- Radial cuts/fissuring ⊕



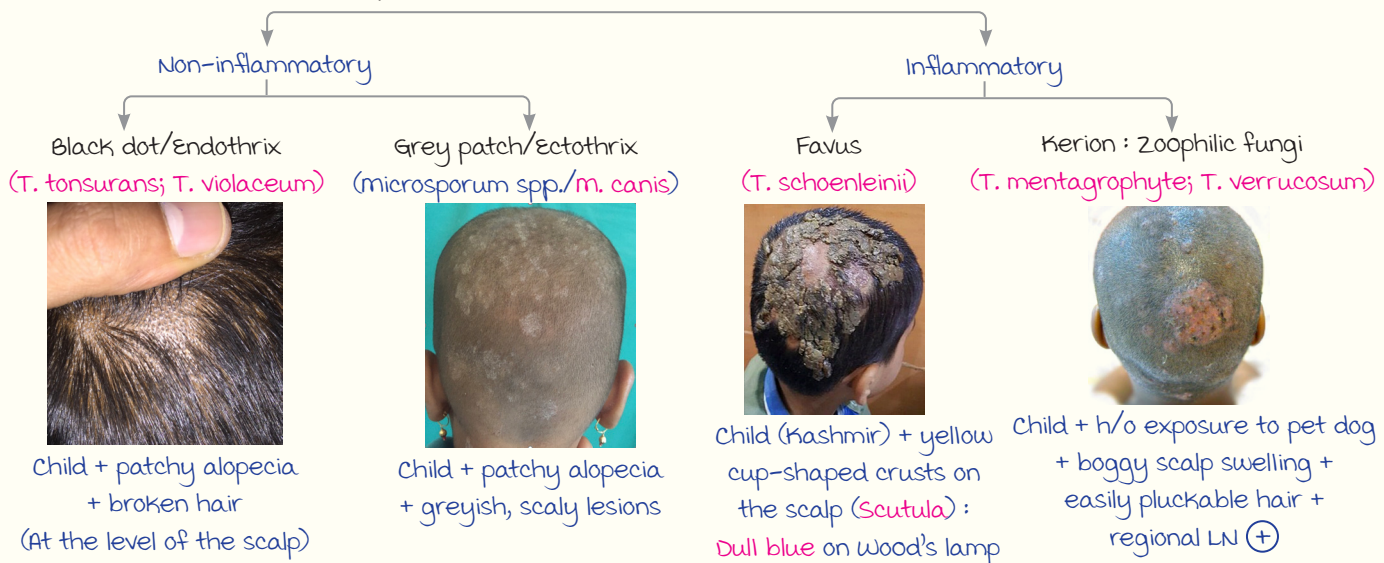
Treatment of Candidiasis : **Fluconazole**.

----- Active space -----

DERMATOPHYTOSIS/TINEA

Types (Region wise) :

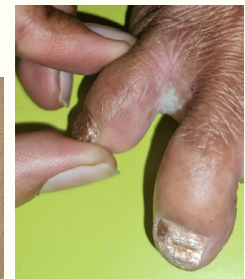
- Scalp → T. capitis.
- Trunk → T. corporis.
- Groin → T. cruris.
- Foot → T. pedis.
- Nail plate → Onychomycosis.

Tinea Capitis :**Tinea Cruris/Jock Itch/Dhobi Itch :**

- Plaque with prominent border.
- Erythematous and scaly periphery.
- Central clearing.



Tinea cruris



Tinea pedis

Tinea Pedis :

- AKA Athlete's foot.
- m/c site : 4th toe webspace.



Distal lateral subungual onychomycoses/DLSO (m/c type)

Onychomycosis :

- Nail plate → Yellowish discoloration.
- Subungual hyperkeratosis (with tunnels).
- Pits ⊖.

Nail lacquers used : Amorolfine 5%,
Ciclopiroxolamine 8%, and Terbinafine.

Tinea Corporis :

T. mentagrophytes and T. rubrum.

Clinical features :

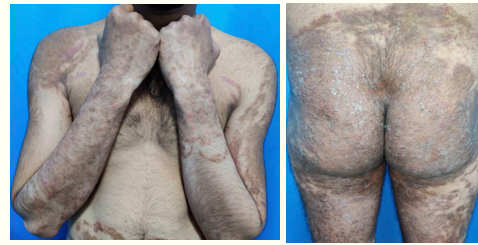
- Annular plaque.
- Raised, scaly margin.
- Central clearing.
- A/w itching.



Tinea Corporis

Tinea Incognito :

- Steroid modified tinea.
- Diffuse scaling.
- No central clearing/Annular plaque.



----- Active space -----

Treatment of Dermatophytoses :

1. Azoles :
 - Imidazoles → Ketoconazole, Luliconazole, Clotrimazole.
 - Triazoles → Fluconazole, Itraconazole.
2. Allylamines : Terbinafine (Resistance among dermatophytes d/t Squalene epoxidase).

Note :

Epidemic of severe, recalcitrant dermatophytosis across Indian subcontinent : *Trichophyton Indotineae* (Formerly *T. mentagrophyte* genotype VIII).

SUBCUTANEOUS MYCOSES

AKA : Implantation mycoses (d/t traumatic inoculation of fungus).

Sporotrichosis :

- *Sporothrix schenckii* (Dimorphic fungus).
- AKA : Rose gardener's disease (Gardener + h/o thorn prick).



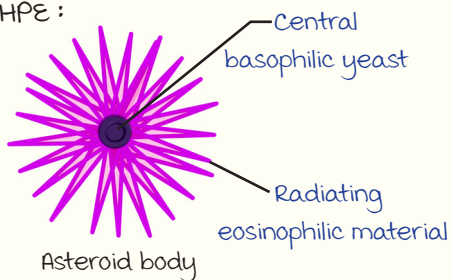
Sporotrichosis

Lesions :

Nodulo-ulcerative *Progresses to* → Linear pattern along lymphatics of extremities.

Rx : Itraconazole.

HPE :



Differentials of Sporotrichosis
1. Nocardiosis.
2. Atypical mycobacterial infection (Swimming pool/Fish tank granuloma : <i>M. marinum</i>).
3. Cutaneous leishmaniasis.
4. Tularemia.

Chromoblastomycosis/Verrucous Dermatitis :

Pigmented fungi (Dematiaceous fungi : melanin in cell wall).

- *Fonsecaea pedrosoi*.
- *Phialophora verrucosum*. } Soil, decaying matter

Farmer + h/o vegetable trauma.

Lesions :

- verrucous plaque + Black dots on the surface.
- Cauliflower-like lesions.



Verrucous plaque



Cauliflower like lesions

----- Active space -----

Investigations : 10% KOH mount (From scales).

Brown, round, thick-walled bodies

medlar/sclerotic/copper penny bodies.

Rx : Itraconazole.

mycetoma :

Type & Etiology :

Fungal (Eumycetoma)	Bacterial (Actinomycetoma)
<ul style="list-style-type: none"> madurella mycetomatis madurella grisea 	Aerobic, filamentous bacteria : <ul style="list-style-type: none"> Actinadura madurae Nocardia spp Streptomyces spp

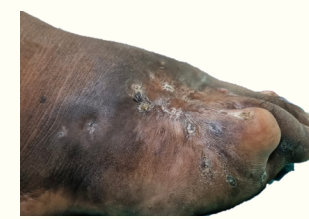
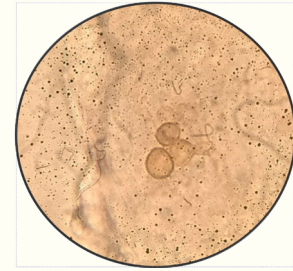
Clinical features :

1. Tumefaction : Tumor-like swelling.
 2. Discharging sinuses.
 3. Granules : Colonies of microbes.
 4. Nodular lesions.
- } Triad of mycetoma

Note : Black granules → Eumycetoma.

Treatment :

1. Actinomycetoma : Welsh Regimen → Amikacin + Cotrimoxazole.
2. Eumycetoma : Antifungals.



Healed sinuses



Nodular lesions

Viral Infections

00:37:24

Orolabial Herpes :

- HSV-1.
- AKA : Fever blister/Cold sore.
- Grouped vesicles on lip margin.

Rx : T. Acyclovir 400mg TID x 5 days.



varicella (Chicken-pox) :

VZV → Period of infectivity : Till all lesions crust.

- Lesion : vesicles on a red base
→ First on trunk.
(Dewdrop on rose petal app.)



Dewdrop on petal appearance



Pleomorphic rash

Herpes Zoster :

D/t reactivation of VZV (Dorsal root ganglion).

Lesion :

- Painful grouped vesicles over red base.
- unilateral & dermatomal distribution (m/c dermatome → Thoracic).

Complication : Post herpetic neuralgia.

C/f : Allodynia (Non-painful stimulus perceived as pain).

Rx (For varicella & zoster) :

1. Acyclovir 800mg I-I-I-I x 7 days OR
2. Valacyclovir 1g TID x 7 days (↑ Bioavailability).



----- Active space -----

Note : Bortezomib (Proteasome inhibitor).

- Used in multiple myeloma.
- Can lead to reactivation of VZV.

Oral Hairy Leukoplakia :

- Etiology : EBV.
- A/w HIV infected patients.
- White corrugated (Folds/ridges) plaque (Cannot be rubbed off).



Lateral border of tongue

Kaposi Sarcoma :

- HHV-8.
- Purplish plaques/nodules.
- AIDS defining illness.
- Low-grade vascular tumor.



Purplish plaques/nodules

molluscum Contagiosum :

Etiology : mCV-1 (children) & mCV-2 (adults) → Pox virus family (DNA viruses).

In children :

- Pearly white papules.
- Dome-shaped.
- Centrally umbilicated.
- Pseudo-Koebners ⊕ (Auto-inoculation).
- Facial involvement ⊕.



Pseudo-Koebners

In adults :

- Anogenital involvement (m/c).
- In sexually active adults.

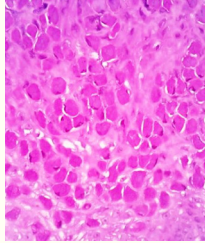


Anogenital involvement

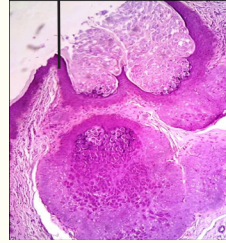
----- Active space -----

HPE :

1. Cup-shaped invagination of epidermis into dermis.
2. **Henderson-Patterson bodies** :
Eosinophilic, intracytoplasmic inclusions.



Henderson-Patterson bodies



Rx :

Self-limiting

Physical method → Curettage.

Topical → Imiquimod (Immunomodulator :
TLR-7 agonist).

molluscum Like lesions in a HIV patient	
Only skin	Disseminated molluscum
Skin + lungs	Disseminated histoplasmosis
Skin + CNS	Disseminated cryptococcosis

Verruca vulgaris :

- AKA Common warts.
- HPV **2, 4, 27**.
- Asymptomatic, well-circumscribed verrucous papules/plaques.

Rx :

- Topicals : Salicylic acid (keratolytic).
- Electrocautery/Cryotherapy.



Verruca vulgaris

Hand-Foot-mouth Disease (HFMD) :

- Coxsackievirus **A16**; Enterovirus **71**.
- **Vesicular** lesions.
- Palms + soles.

Note : Vesicular rashes → HSV-1, HSV-2, VZV, and HFMD.



HFMD

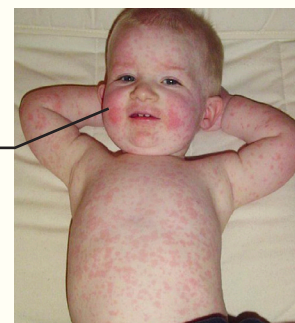
Parvovirus B19 Disease :

1. 5th disease/erythema infectiosum :

- Face → malar erythema (**Slapped cheek appearance**).
- Trunk → Reticulate/Net-like rash.

2. Papular purpuric glove and socks syndrome (PPGS) :

Symmetrical, painful erythema + Petechiae/Purpura (Palms & soles).



Ectoparasitic Infections

00:49:02

----- Active space -----

SCABIES & PEDICULOSIS

Scabies :

Etiology : *Sarcoptes scabiei* var *hominis*
(No. of mites/patient : 10-12)



Excoriated Papules

Clinical features :

History :

- Nocturnal pruritus (mites active at night).
- Similar complaints in family members.

Signs & symptoms :

- Excoriated papules in web spaces.
- Special lesion : Burrows ⊕ (Absent in animal scabies).

Burrows
(At the level of
S. Corneum)



Distribution pattern :

- Circle of Hebra :
 - Webspaces.
 - medial wrist, forearm & arm.
 - Axilla.
 - Nipple.
 - Umbilicus.
 - Genitals.
 - Groin.
- In adults → Face is spared. (D/t ↑ sebum activity).

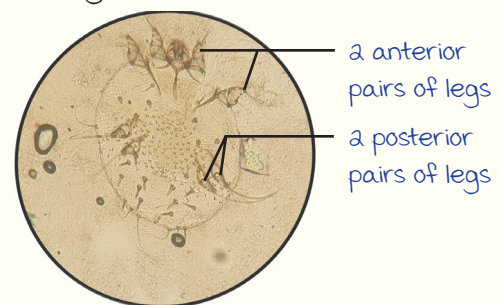
Treatment :

- Permethrin 5% cream :
 - MOA : Targets Na^+ channel of mite.
 - Application : whole body (Below neck)

↓
Leave for 12 hrs.

 - Re-application : After 1 week.
- Systemic : Ivermectin 200 mcg/kg
(Glutamate gated Cl^- channel).

Investigation :



KOH mount of scabies mite

----- Active space -----

Special forms of scabies :

Infantile scabies :

- Face involved (D/t underdeveloped sebaceous glands).
- Vesicles over palms/soles.



Norwegian/crusted scabies :

- most severe variant.
- Predisposition :
Immunosuppressed (HIV/Hansen's).
- Pruritus : minimal (Due to low immunity).
- mites : millions (Patient does not scratch).
- Treatment of Norwegian scabies :

a. Ivermectin.

b. Permethrin 5%.

c. Keratolytics : Salicylic acid (Allow for better penetration of ivermectin)

**Pediculosis :**

1. P. corporis/vagabond's disease (m/c ↓ personal hygiene) :

- Body/clothing louse.

- Louse found in seams of clothing → Feeds on host → Excoriations :

Returns

morbus errorum.

2. Phthiriasis pubis :

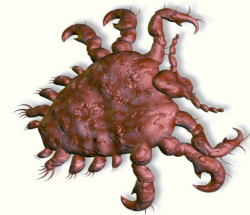
- Skin lesion : macula cerulea (Blue d/t anticoagulant nature of louse saliva).

- Pubic louse.

- Pruritus (+).

- Site : Lower abdomen.

3. P. capitis : Head louse.



Pubic louse

MIGRATORY SKIN LESIONS**Cutaneous Larva Migrans :**

Etiology : Animal hookworm larvae.

→ Ancylostoma braziliense.

→ Ancylostoma caninum.

History : walking barefoot at the beach.

Clinical features :

- migratory serpiginous tract.
- Speed of tract → 1-2 cm/day.

Rx : Albendazole/Ivermectin.

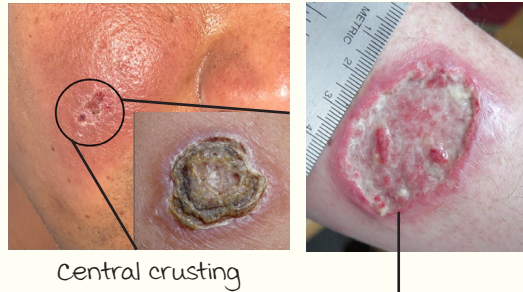
Differential : Larva currens (Strongyloides stercoralis) → 5-15cm/hr (Racing larvae)



Cutaneous Leishmaniasis :

Old world cutaneous leishmaniasis :

- AKA Delhi boil/Oriental sore.
- Etiology : *L. major*, *L. tropica*.
- Vector : *Phlebotomus sandfly*.
- Clinical features :
 - Nodulo ulcerative lesion.
 - **Volcano sign** : ulcer with elevated rim.
 - Central crust.



----- Active space -----

Note : New world cutaneous leishmaniasis vector → *Lutzomyia sandfly*.

Post Kala Azar Dermal Leishmaniasis (PKDL) :

Cutaneous sequelae 2° to Kala Azar (visceral leishmaniasis).

History : Resident of Bihar + Past h/o prolonged fever/hepatosplenomegaly.

Skin lesions :

- Trunk : **Hypopigmented macules**.
- Face : **Infiltrated nodules**.

Differential
Lepromatous leprosy : <ul style="list-style-type: none"> • Will have peripheral nerve thickening. • Slit skin smear ⊕ for <i>m. leprae</i>.



Ix : Giemsa stain → **LD Bodies** (Amastigote forms).

Treatment :

DOCs :

- Kala Azar : Liposomal Amphotericin B.
- PKDL : miltefosine.

DERMATOLOGY REVISION - 4

Hansen's Disease (HD)

00:00:26

Chronic, infectious granulomatous disease caused by *m. leprae* and *m. lepromatosis*.

Indeterminate Leprosy :

- Early form of HD (Cell-mediated immunity not yet determined).
- Child from endemic areas : Bihar, UP, Tamil Nadu.
- Ill-defined hypopigmented macule.
- Site : Face (m/c).



macule w/o scaling

D/Dx : Pityriasis alba (Scaling ⊕).




Biopsy : Perineural & periappendageal lymphocytosis.





	TT-HD	LL-HD
AFB	Few	Numerous
CMI	Good	Poor
Skin lesions	1 - 3	multiple
Nerve involvement	1	multiple
Sensation/sweating over lesions	Lost	Preserved

DETERMINATE LEPROSY

Clinical spectrum : Ridley-Jopling classification → TT, BT, BB, BL, LL.

Types of Determinate Leprosy :

Types of leprosy	Features
Tuberculoid (TT) 	<ul style="list-style-type: none"> • 1-3 skin lesions. • Annular plaque with central clearing & well-defined margin. • A/w : Granuloma, anaesthesia, alopecia, anhidrosis. • Side profile : Saucer right way up appearance. 
Borderline tuberculoid (BT) 	<ul style="list-style-type: none"> • 3-10 lesions. • Well + not so well-defined margins. • Satellite lesions present.

Types of leprosy	Features
mid-borderline (BB) 	<ul style="list-style-type: none"> • AKA Dimorphous leprosy (most unstable). • 10-30 lesions (Polymorphic). • Geographic map like appearance. • Inner punched out margin (Swiss cheese). • Sloping outer margin (Inverted saucer). 
Borderline lepromatous (BL) 	<ul style="list-style-type: none"> • Skin lesions & Nerve thickening almost symmetrical. • Inverted saucer appearance.
Lepromatous (LL) 	<ul style="list-style-type: none"> • Systemic disease (Skin/nerve/internal organs). • Symmetric (Skin lesions & peripheral N. thickening). • Early : Epistaxis + pedal edema (D/t ANS dysfunction). • Late : <ul style="list-style-type: none"> - Leonine facies : Thick skin, furrows, madarosis. - Glove & stocking peripheral neuropathy. - Diffuse infiltrative nodules ⊕.

----- Active space -----

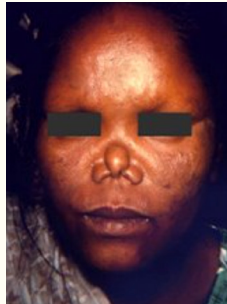


Diffuse infiltrative nodules in LL-HD

Nerve Involvement & Deformities in HD :



1. Lateral madarosis



2. Saddle nose

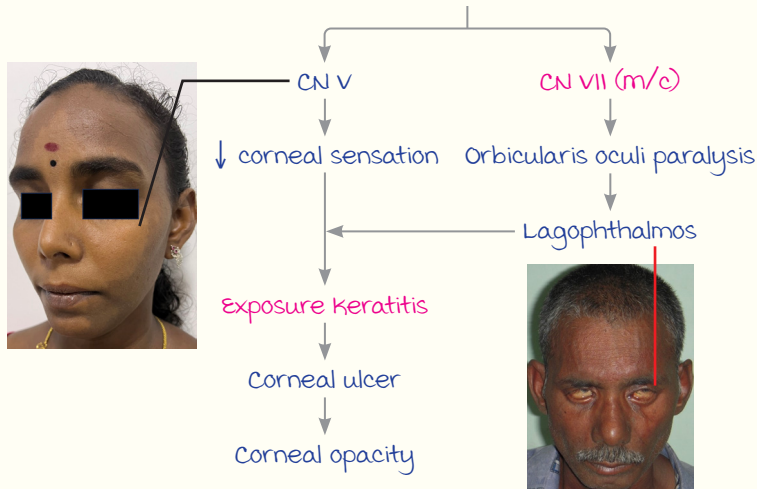


3. Claw hand (Ulnar N.)



4. Foot drop (Common peroneal N.)

5. Cranial N. involvement :



6. Peripheral N. thickening :



Thickened greater auricular N. (Crosses sternocleidomastoid)

----- Active space -----

7. Trophic ulcers :

Peripheral neuropathy → ↓↓ sensation → Repeated injury (undetected) → Chronic ulceration at pressure points.

mx :

- a. Rest + leg elevation (↓ swelling).
- b. Offloading devices (Non wt. bearing splints).
- c. microcellular rubber footwear (mcr).

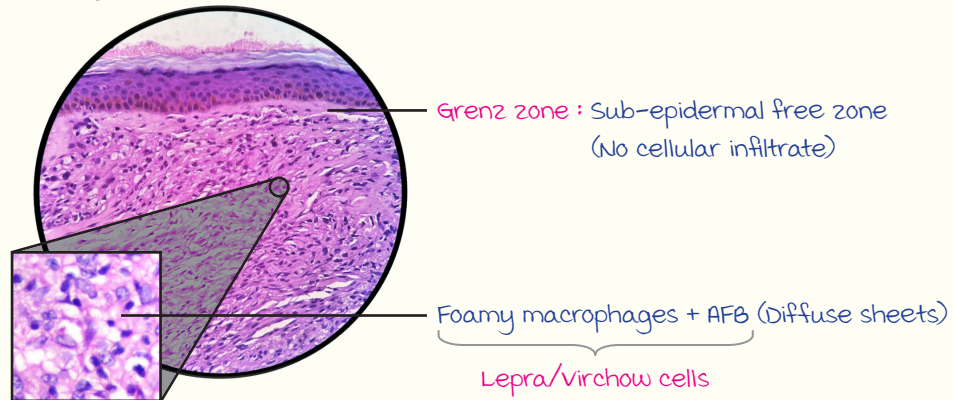


Diagnosis of HD :

1 of 3 cardinal features of Hansen's must be present.

Cardinal features of HD	
Skin	Hypopigmented/reddish lesion + Definitive sensory loss
Nerve	Enlarged peripheral N. + Sensory/motor deficit in supplied area
Slit-skin smear	m. leprae ⊕

Histopathology of HD :



Stain : Demonstration of m. leprae → Fite Faraco stain (Bacilli look red).

Investigations :

Pure neuritic type (Skin normal; only nerve involved) :

IOC → Nerve biopsy → Best nerve (Sensory) → U/L : Radial cutaneous N.
 → L/L : Sural N.

Treatment :

multidrug therapy.
 Adult : maroon kit
 (28 days).

	Paucibacillary	multibacillary
Skin lesions	1 - 5	≥ 6
Nerves	No nerves	≥ 1 nerve
SSS for AFB	⊖	⊕
Duration of Rx	6 months	12 months
No. of drugs	3	3
Treatment (Per 28d)	Rifampicin (D1 : 600 mg/month), Dapsone (D1-D28 : 100 mg/day) Clofazamine (D1 : 300 mg/month; D2-D28 : 50 mg/day)	

Side effect profile of anti-leprotics :

- Rifampicin : **Reddish discoloration** of secretions; hepatotoxic.
- Dapsone : **Hemolytic anemia, agranulocytosis, methemoglobinemia**, hepatitis, drug hypersensitivity syndrome.
- Clofazamine : **Hyperpigmentation**, ichthyosis, GI disturbance.

----- Active space -----



Chemoprophylaxis :

Single dose rifampicin :

- Indication : **Contacts of leprosy** →
- Age : Children ≥ 2 yrs & adults.
- Rule out existing leprosy/TB.

Close proximity to newly detected case for a prolonged duration
<ul style="list-style-type: none"> • Living/working/social activities. • 20 hrs/week for 3 months over past 1 year.

Lepra reactions : Type 1, Type 2 and Lucio phenomenon.

Type 1	Type 2 (Erythema nodosum leprosum)
Type 4 HS reaction	Type 3 HS reaction (Immune complex disease)
Existing lesion : Red & tender	New, red, tender nodules
Nerves +++ (Severe neuritis)	Fever +
	

Treatment :

- Always **continue MDT** for leprosy.
- DOC (Type 1 & Type 2) : **Systemic steroids** (Even in pregnancy).
- Type 2 :
 - Chloroquine.
 - Thalidomide : TNF α \ominus (A/E \rightarrow Teratogenicity).
 - Clofazamine : Higher dose; anti-inflammatory.

Treatment of nerve abscess in leprosy :

Incision + drainage + systemic steroids.

Sexually Transmitted Infections

00:30:48

----- Active space -----

Anogenital Warts :

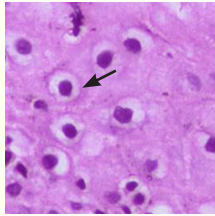
- HPV induced benign proliferations.
- AKA condyloma *acuminata* (Pointed lesions).

Etiology :

- HPV 6, 11 (Low risk) → 90%.
- HPV 16, 18 (High risk) → 10%.

HPE :

- Koilocytes (+).
- Squamous epithelial cells with hyperchromatic nuclei + perinuclear halo.



Clinical features :

Two morphologies :



1. Cauliflower-like lesions



2. Pink pointed papules & plaques (Asymptomatic, fleshy)

Treatment :

1. Podophyllin : Targets mitotic spindle → Wart necrosis
 2. Imiquimod : TLR-7 agonist
 3. Cryotherapy : Liquid N₂ at -196°C (1st line)
 4. Trichloroacetic acid (TCA) : 70-80%
- Non-pregnant. }
TOC : Pregnant patient. }

Urethritis :

Gonococcal urethritis	Non-gonococcal urethritis
Neisseria gonorrhoeae	Chlamydia trachomatis D-K (m/c), ureaplasma urealyticum, mycoplasma genitalium, Trichomonas vaginalis
Profuse purulent urethral discharge (Incubation period : 2-5 d)	Scanty mucoid discharge (Incubation period : 7-14 d)
Gram negative intracellular diplococci (GNICDC) : Intra > Extracellular	<ul style="list-style-type: none"> • Numerous PMNs • Absence of GNICDC
Inj. Ceftriaxone 500mg Im (+ Doxy 100 mg BD x one week if chlamydia is not excluded)	Azithromycin 1g stat (or) Doxy 100 mg BD x 1 wk

Note : Culture media for gonococci → modified Thayer-martin medium.

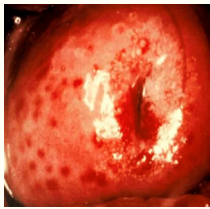
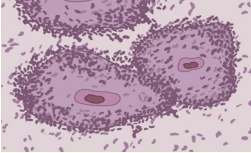
Drug resistance of *N. gonorrhoeae* (↑ incidence of drug resistance) :

----- Active space -----

Resistant to :

- Penicillin.
- Quinolones.
- macrolides (Including Azithromycin).
- Sulfonamides.
- Tetracyclines.
- Cephalosporins (Ceftriaxone).

Vaginal Discharge Syndrome :

	Candidiasis	Trichomoniasis	Bacterial vaginosis
Etiology	<i>C. albicans</i>	<i>T.vaginalis</i> (Flagellate)	Altered microflora : <i>Gardnerella</i> , <i>mobiluncus</i> , <i>lactobacillus</i>
Vaginal discharge	Curdy white	Greenish yellow, frothy	Homogenous, white, adherent
Special features	Culture media to differentiate various species of candida : CHROM agar. Pruritis ++	Multiple punctate hemorrhages (Strawberry cervix) 	<ul style="list-style-type: none"> • Whiff test/Amine test : Vaginal discharge + KOH → Fishy odour • Squamous epithelial cells + surface bacteria : k/a clue cells (> 20% for diagnosis) 
misc.	A/w SGLT-2 ⊖ (Dapagliflozin, canagliflozin)	-	Nugent score : Gram stain based scoring system for vaginal swabs. (Dx if score 7-10)

Note : Any case of cervical erosion/ulcer/mucopurulent discharge → Dx : Cervicitis

↓
Rx : **Grey Kit.**

SYPHILIS

Etiology → *Treponema pallidum*.

Congenital Syphilis :

a. Early (≤ 2 yrs age)
vesiculobullous lesions

↓
Syphilitic pemphigus.



b. Late (> 2 yrs age)

Hutchinson's triad :

1. Interstitial keratitis.
2. Hutchinson's teeth.
3. SNHL.



Notched upper central incisors

Diday-Kassowitz Law :

untreated syphilitic mother $\xrightarrow[\text{(\downarrow ing infectivity; \uparrow ing immunity)}]{\text{Series of pregnancies}}$ Likelihood of infection of fetus **decreases** in subsequent pregnancies (Improved outcome).

----- Active space -----

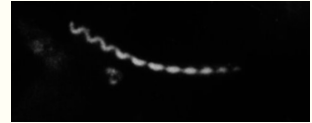
Acquired Syphilis :

Primary syphilis :

- IP = 9-90 days.
- Clinical features :
 - **Hard chancre** : Single, clean based, indurated, **non-tender** and does not bleed on touch
 - Inguinal LN : B/L enlarged, **non-tender** and rubbery.

IOC : Dark ground microscopy.

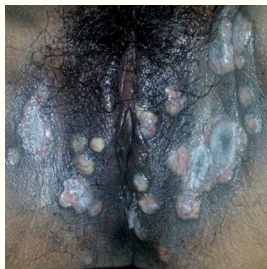
Slender organism → **Corkscrew motility**.



Corkscrew motility

Secondary syphilis : Hematogenous spread.

- Clinical features : Constitutional symptoms + generalized LN (+).



Condyloma lata

Flat topped, moist mucosal : anogenital region.



Moth-eaten pattern of alopecia (Non-scarring).



Symmetric, non-pruritic, polymorphic (No vesicles/bullae) : Palms & soles involved.

- **Buschke-Ollendorf sign** : Skin lesions pressed with a blunt object → Deep dermal tenderness (D/t endarteritis obliterans).

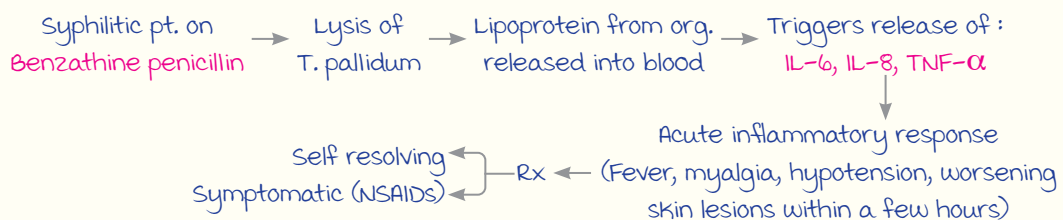
Investigations

- IOC : VDRL/RPR.
- IOC for neurosyphilis : **CSF-VDRL**.

Treatment :

Early syphilis (1°, 2° & early latent)	Late syphilis (Late latent; 3° except neurosyphilis)	Neurosyphilis
Inj. Benzathine penicillin (2.4 million units; Deep Im)	Inj. Benzathine penicillin (2.4 million units; Deep Im)	Aqueous crystalline penicillin (I/V)
Single dose	3 doses; weekly once	10-14 days

Jarisch-Herxheimer reaction :



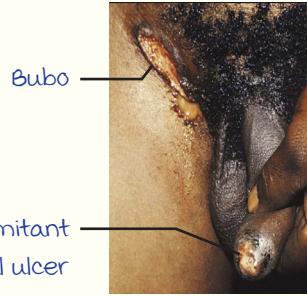
OTHER STDs

Chancroid :

Hemophilus ducreyi.



Soft chancre : multiple, necrotic, non-indurated, tender, bleeds on touch

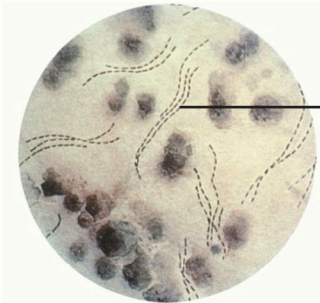


Bubo
Concomitant genital ulcer
u/L bubo ⊕
(enlarged, tender, pus-filled LN)

----- Active space -----

Investigation (Ulcer exudate) :

Rx : T. Azithromycin 1g stat.



School of fish/
railroad track app.

Gram-negative coccobacilli

Herpes Genitalis :

- HSV-2 (90%); HSV-1 (10%).
- B/L enlarged, tender inguinal LN.

c/f :



Vesicles
Rupture
multiple, grouped tender ulcers → margins fuse → Polycyclic margins

Tzanck smear : multinucleated giant cells (Also seen in HHV-3).

Rx : T. Acyclovir 400mg TID x 7d.

Lymphogranuloma Venereum (LGV) :

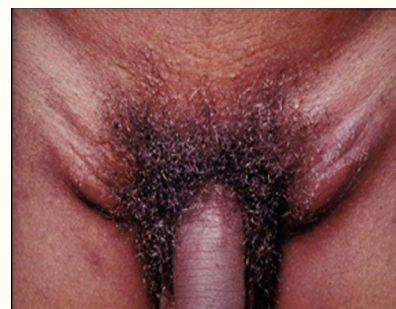
Chlamydia trachomatis (L1, L2, L3).

c/f :

1° stage : Single, painless, transient ulcer.

2° stage :

- Bubo (2/3^{rds} u/L).
- No concomitant genital ulcer.
- Groove sign of Greenblatt +/-.



Groove sign of Greenblatt
(LN enlargement above & below inguinal ligament)

----- Active space ----- 3° stage :

Genital elephantiasis (Lymphatics destroyed by chlamydia) → Deformities.

management :

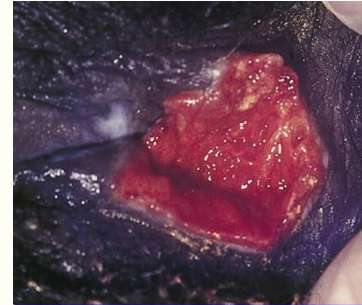
- Investigation → NAAT.
- Rx : **Doxycycline 100mg BD x 3 weeks.**

Donovanosis/Granuloma Inguinale :

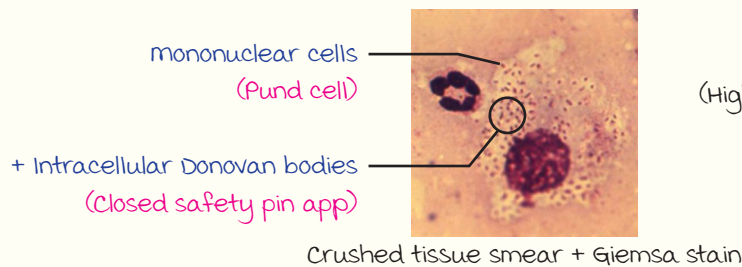
Klebsiella granulomatis.

Clinical features :

- Inguinal LN : Normal
(Subcutaneous nodule in inguinal region ⊕ : **Pseudobubo**).



Single painless ulcer :
Beefy red, bleeds on touch
(Highly vascular; granulation tissue ++)



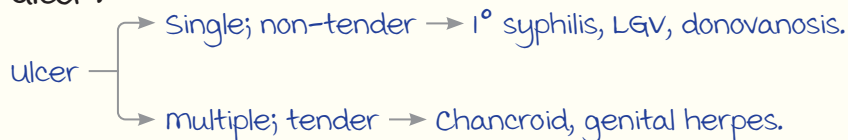
Rx :

1. T. Azithromycin 1g/week x 3 weeks
 2. T. Azithromycin 500mg/d x 3 weeks
- } Given till ulcer heals (minimum 3 weeks).

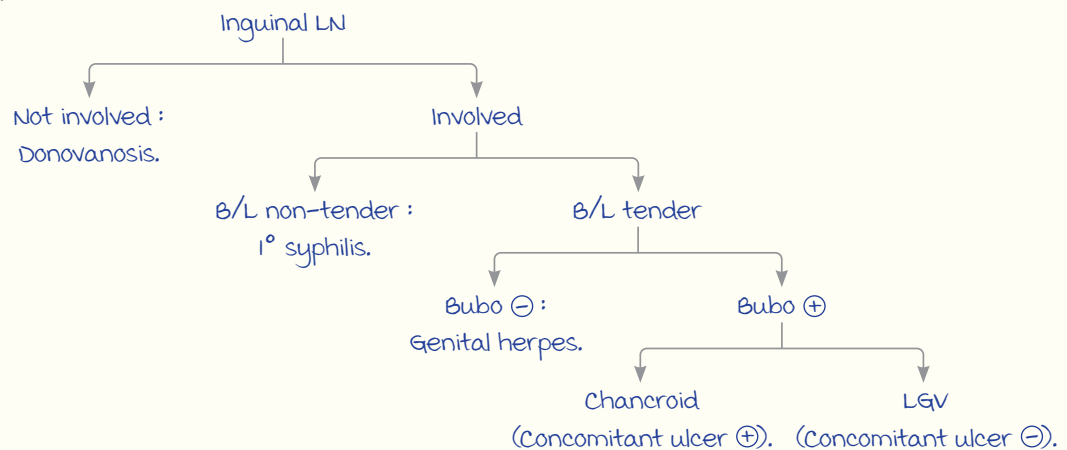
Approach to Genital Ulcers

00:56:44

ulcer :



Lymph Node :



Summary :

----- Active space -----

Disease	G. ulcer	Inguinal LN
Syphilis	Painless	Painless
Chancroid	Painful	Painful (Bubo ⊕)
Genital herpes	Painful	Painful (Bubo ⊖)
LGV	Painless	Painful (Bubo ⊕)
Donovanosis	No pain	No LN involved

Syndromic Management of STDs

01:00:15

used in resource poor settings with no lab facilities.

Principle → Treat the most important organism responsible.

NACO Kits :

Kit	Colour	Indication	Drugs	Target diseases
1	Grey	urethritis/cervicitis (Erosion/ulcer/MPD)	T. Cefixime 400 mg I STAT	Gonococci
			Azithromycin 1 g single dose	Chlamydia
2	Green	Vaginal discharge	T. Secnidazole 1 g BID	Bact. vaginosis, trichomoniasis
			T. Fluconazole 150 mg I dose	Candidiasis
3	White	GUD : Non-herpetic	Inj. Benzathine Penicillin 2.4 mu Im	Syphilis
			Azithromycin 1 g single dose	Chancroid
4	Blue	GUD : Non-herpetic (Allergic to penicillin)	Doxy 100mg BD x 15 days	Syphilis
			Azithromycin 1 g single dose	Chancroid
5	Red	GUD : Herpetic	Acyclovir 400mg TID x 7 days	Genital herpes
6	Yellow	Lower abdominal pain (PID : Polymicrobial)	T. Cefixime 400 mg I STAT	Gonococci
			T. Doxy 100 mg BD x 14 days	Chlamydia
			T. metronidazole 400 mg BD x 14 days	Anaerobes
7	Black	Inguinal Bubo	Azithromycin 1 g single dose	Chancroid
			Doxy 100mg BD x 3 weeks	LGV

Partner management Not Necessary In :

- Bacterial vaginosis
 - Genital candidiasis
- } Alteration in normal vaginal flora.
- Genital herpes : Asymptomatic shedding occurs
(Virus remains latent in the body).

DERMATOLOGY REVISION - 5

----- Active space -----

Genodermatoses

00:00:26

Genetic disorder with skin lesions.

I. Neurofibromatosis-1/Von Recklinghausen's Disease :

Autosomal dominant disorder.

Cutaneous features :

Types	Features	Images
Cutaneous neurofibromas (Benign connective tissue tumor of P. nerve sheath)	Skin colored papulo nodules.	
Plexiform neurofibromas	<ul style="list-style-type: none"> • Congenital. • Diffuse enlarging mass. • "Bag of worms" feel. 	
Café au lait macules (Hyper-pigmented)	<ul style="list-style-type: none"> • Number ≥ 6 for diagnosis of NF-1. • Size : <ul style="list-style-type: none"> - Pre-pubertal : > 5 mm. - Post-pubertal : > 15 mm. 	
Axillary freckling (Crowe's sign)	Pathognomonic of NF-1	
Lisch iris nodules	Pigmented iris hamartomas.	

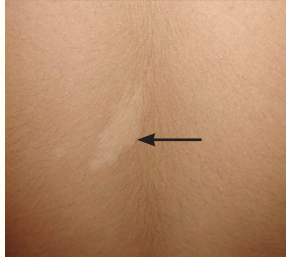
2. Tuberous Sclerosis Complex/Bourneville's Disease :

----- Active space -----

Autosomal dominant inheritance.

vogt's triad : **EpiLoA** → Epilepsy + Low Intelligence + Adenoma sebaceum.

Cutaneous features :



Ash leaf macules
(Hypopigmented ; Trunk)



Adenoma sebaceum
(AKA facial angiofibromas)

- Reddish brown papules
- Site : malar area, nose



Periungual Fibromas
(Koener's tumors)



Shagreen Patch

- Leathery plaque
- Collagenoma
- Lumbosacral region

3. Sturge Weber Syndrome/Encephalo Trigeminal Angiomatosis :

Sporadic inheritance.

c/f :

- CNS : Epilepsy.
- Eye : Glaucoma.
- Skin : Port wine stain.

Congenital capillary vascular malformation → Rx : Pulse dye laser (Targets Hb).



Port wine stain

Ichthyosis

00:05:19

Disorder of keratinization (Fish like scales; No inflammation).



Ectropion

	Congenital Ichthyosis
Ichthyosis vulgaris (AD)	<ul style="list-style-type: none"> • Filaggrin defect • Fine, white scales
X Linked Ichthyosis/ Ichthyosis Nigra (XLR)	<ul style="list-style-type: none"> • Steroid sulfatase defect → ↑ Cholesterol sulfate • Brown-Black scales • Associations : Corneal opacities & cryptorchidism.
Lamellar Ichthyosis (AR)	<ul style="list-style-type: none"> • Epidermal transglutaminase-1 defect • Translucent, parchment like membrane (Neonate) : Collodion membrane • Dark, plate like, adherent scales with no areas of sparing • Associations : Ectropion & Eclabium.

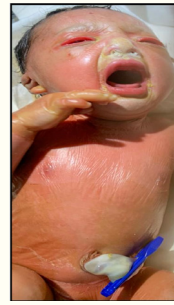
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Ichthyosis vulgaris



X-linked Ichthyosis (Ichthyosis nigra)



Collodion membrane (Covers entire body)

membrane gives away →



Plate-like scales

Xeroderma Pigmentosum :

Nucleotide excision repair defect (AR).

Clinical features :

- Photophobia.
- Xeroderma.
- Freckles.
- ↑ Risk of skin cancers (E.g : BCC).



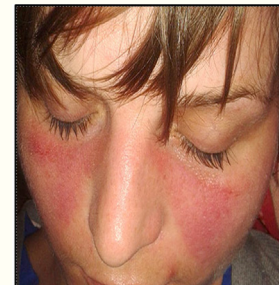
Skin in Connective Tissue Diseases

00:08:22

Lupus Erythematosus :

1. Acute cutaneous lupus erythematosus :

- malar/Butterfly rash (Erythema over malar area + bridge of nose).
- Photosensitivity (+).
- Nasolabial fold spared.



2. Chronic cutaneous lupus erythematosus :

Discoid LE (m/c lesion).

- Discoid plaque.
- Centre : Atrophy & scarring.
- Periphery : Hyperpigmentation.
- Adherent scales.
- Scarring alopecia (+).



Dermatomyositis :

Proximal myopathy + skin changes.



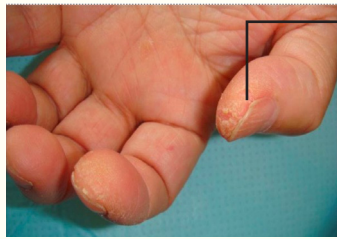
Gottron's papules

Violaceous flat topped papules over MCP/IP joints.



Rash more over upper eyelid.

Heliotrope rash (Violaceous macular periorbital erythema)



Hyperkeratotic fissures over fingertips and sides.

mechanic's hand



Violaceous macular erythema over shoulder/upper back

Shawl sign

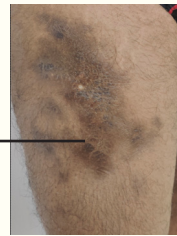
----- Active space -----

Scleroderma :

1. morphea (Localized scleroderma) :

- Skin changes only.
- Violaceous indurated plaque.
- HPE of morphea :

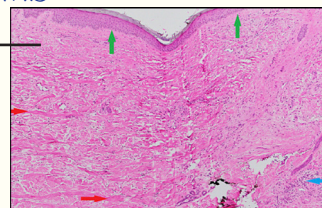
Box like appearance of dermis on biopsy (D/t ↑ collagen).



variant →



En coup de sabre (Linear scarring alopecia)



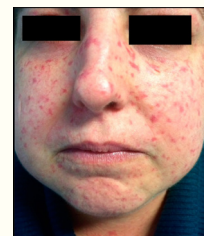
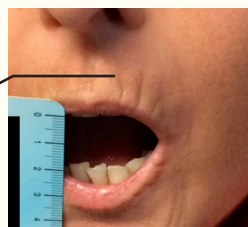
2. Systemic sclerosis (Skin + Systemic) :

Types :

- Limited cutaneous SS : Distal to elbow, knee + face.
- Diffuse cutaneous SS : Distal + Proximal to elbow, knee + trunk involvement.

Limited SS/CREST syndrome :

- CREST :
 - Calcinosis cutis.
 - Raynaud phenomenon.
 - Esophageal dysmotility.
 - Sclerodactyly.
 - Telangiectasia.
- Facial features :
 - mask-like facies.
 - Pinched nose.
 - Perioral furrows.
 - Restricted mouth opening (microstomia).
 - mat-like telangiectasia.
- Pigmentation → Salt & Pepper.



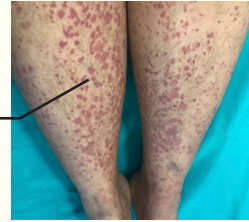
mat-like telangiectasia



----- Active space -----

Henoch-Schönlein Purpura (IgA vasculitis) :

- Small vessel vasculitis.
- Symmetrical, palpable purpura over LL.
- Platelet count → (N).

**Reactive Arthritis:**

- Inflammatory arthritis 2° to distant focus of infection.
- Lesions :



Circular, painless erosions on the glans

Circinate balanitis



Hyperkeratotic papules + plaques (Palms + Foot).

Keratoderma blennorrhagicum

Skin and Systems

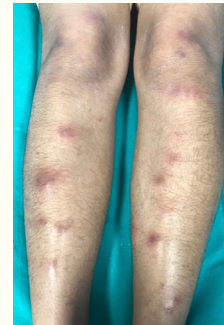
00:14:35

Erythema Nodosum :

Septal panniculitis.

c/f :

- Red, tender nodules on anterior leg.
- Heals w/o scarring.
- m/c cause → Idiopathic.
- m/c infectious trigger → *Sp. A streptococci*.



Löfgren's Syndrome : Fever + B/L hilar lymphadenopathy + Arthritis + Erythema nodosum.
(Acute form of Sarcoidosis)

Acanthosis Nigricans :*Obesity* (m/c cause).

Hyperpigmented, velvety plaques at axilla, neck folds

Granuloma Annulare :

Necrobiotic disorder (Collagen degeneration) : A/w DM.



Annular arrangement of papules at dorsum of extremities

----- Active space -----

Necrobiosis Lipoidica

Diabeticorum :

A/w DM.



Waxy yellow plaque with surface telangiectasia :
Anterior aspect of leg

Pretibial myxedema/

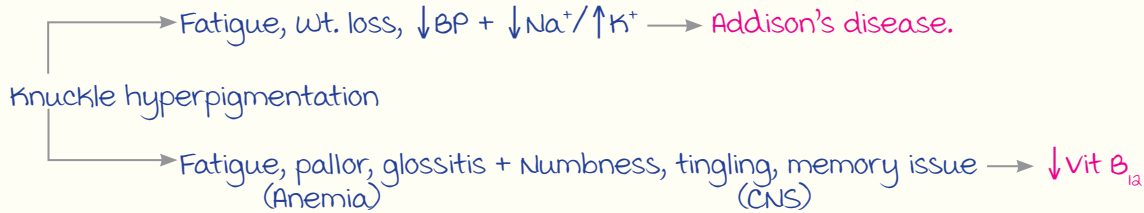
Thyroid dermopathy :

A/w Graves' disease.



Diffuse, non-pitting edema :
Anterior aspect of leg

Note : Approach to Knuckle hyperpigmentation



Phrynoderma :

A/w essential fatty acid/vit. A deficiency.



multiple hyperkeratotic follicular papules : elbows and knees

Xanthelasma Palpebrarum :

A/w hyperlipidemia (50%).



Symmetric, firm yellow papules :
Eyelid margin

Pellagra :

- Deficiency of vit B3.
- A/w :
 - maize & Jowar rich diets.
 - Chronic alcoholism.



Cassal's necklace
(Photo dermatitis)

Triad
• Dementia
• Dermatitis
• Diarrhea

----- Active space -----

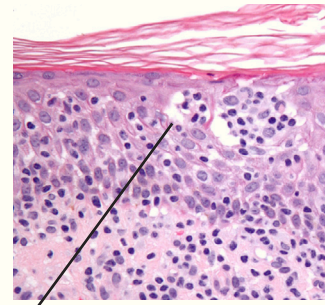
SKIN TUMORS

Mycosis Fungoides :

- Cutaneous T-Cell Lymphoma (CTCL).
- Type of Non-Hodgkin's Lymphoma.

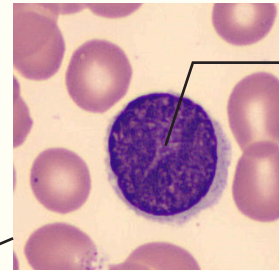
HPE :

Collection of atypical T-cells in S. spinosum → **Pautrier's microabscess**



Sezary syndrome :

- Erythroderma + Leukemic variant of CTCL.
- Triad :
 - Erythroderma.
 - Generalised lymphadenopathy.
 - Circulating **Sezary cells**.



Cerebriform nucleus

Basal Cell Carcinoma :

- **Locally invasive** → AKA Rodent ulcer.
- metastasis is rare.

morphology :



Translucent **pearly nodule** with surface telangiectasia $\xrightarrow{\text{Central necrosis}}$ **Rolled out ulcer with beaded margins**.

Cutaneous Adverse Drug Reactions

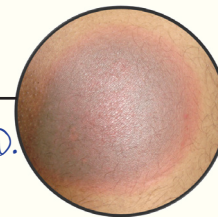
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Fixed Drug Eruption :

Drug : NSAIDs, Cotrimoxazole, Tetracyclines.

Lesion :

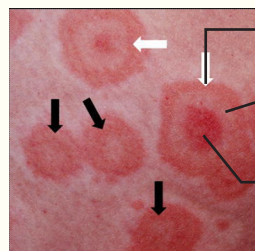
- Circular, dusky red plaque
- Reintake of drug : Recurs at same site (Fixed).
- Heals with hyperpigmentation.



Healed FDE

Erythema multiforme :

- Cytotoxic dermatitis.
- m/c infectious trigger → **HSV-1**.
- multiple, symmetrical lesions over distal extremities.



1. Periphery : Erythema
2. Intermediate : Pale edema
3. Dusky centre

Target lesion & zones

Stevens Johnson Syndrome - Toxic Epidermal Necrolysis (SJS-TEN) :

Acute, life threatening, severe muco-cutaneous reactions.

----- Active space -----

Etiology :

Drug induced (> 90%) :

- NSAIDs (Oxicams).
- Anti-epileptics.
- Sulfonamides.
- Antiretrovirals (nevirapine).
- Allopurinol.

Classification : (Based on BSA).

BSA involved	Disease
< 10%	SJS
10 - 30%	SJS-TEN overlap
> 30%	TEN

Clinical features :

- Systemic features (+).
- Flat atypical target lesions (Only 2 zones) : Proximal extremities & trunk.
- Sheet like epidermal peeling.
- Pseudo-Nikolsky sign (+) (D/t keratinocyte necrosis).
- mucosa : Painful erosions + hemorrhagic crusts.



mucosal erosions + crusting
(Characteristic)



Sheet like epidermal peeling

Rx :

1. Stop offending drug.
2. Cyclosporine/IV Immunoglobulin.

Miscellaneous Topics

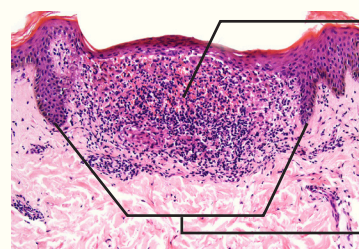
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Lichen Nitidus :

Chronic inflammatory disease of unknown etiology in children.



Asymptomatic shiny papules :
Forehead, forearm, penile shaft.



Chronic inflammatory cell infiltrate (Ball)

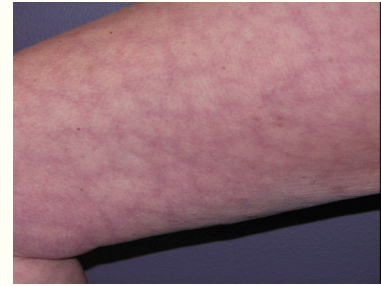
Rete ridges (Claw)

Claw clutching the ball appearance

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Cutis Marmorata :

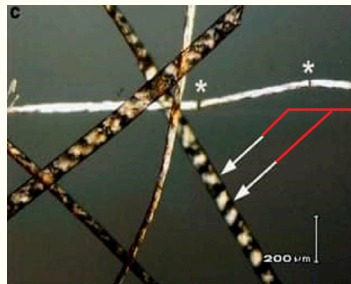
- marbled appearance of skin due to physiological response to cold.
- Infants.
- Trunk + extremities.
- Reverses on warming.



Reticular marbling

Trichothiodystrophy :

- Autosomal recessive.
 - Abnormal sulfur-containing keratins → Defective disulfide linkage
- sparse & brittle hair.



Alternating light/dark bands along hair shaft.



Polarising microscopy : Tiger tail appearance

Dermatitis Artefacta :

- Psychocutaneous disorder (Self-induced).
- Accessible sites of the body.

Note : **methylisothiazolinone (MIT)** is a preservative used in cosmetics to **inhibit bacterial growth**.



Superficial bizarre erosions (Different sizes & shapes)