

CONTENTS

Introduction to Dermatology	1- 28
Cells of Epidermis	1- 6
Layers of Epidermis.....	7- 9
Histo-pathological findings	10- 13
Basement Membrane Zone	14
Dermis	15
Structure of hair and hair Disorders	16- 20
Structure of nails and nail Disorders.....	21- 22
Structure of sweat glands and related Disorders	23
Sebaceous Glands	24
Acne vulgaris	25- 27
Chemical Peeling	28
Blistering Disorders	29- 38
Pigmentary Disorders.....	39- 44
Bacterial Infections	45- 48
Fungal Infections	49- 55
Mycobacterial Infections	56- 63
Viral Infections.....	64- 66
Sexually Transmitted Infections	67- 74
Papulosquamous Disorders.....	75- 82
Miscellaneous Disorders	83- 92

CELLS OF EPIDERMIS

Introduction to skin & its appendages

Skin → Epidermis

- Dermoepidermal junction / Basement membrane zone
- Dermis
- Subcutis

Reactive Unit

Pathophysiological units

1. Superficial reactive unit

- a. Epidermis
- b. [Redacted]
- c. [Redacted]
- d. Superficial vascular plexus

2. Deep reactive unit

- a. Reticular dermis
- b. Deep vascular plexus

3. Subcutaneous reactive unit

- a. Subcutaneous layer
- b. Appendages
 - (i) Hair
 - (ii) Nails
 - (iii) Glands
 - Sweat
 - Sebaceous

EPIDERMIS

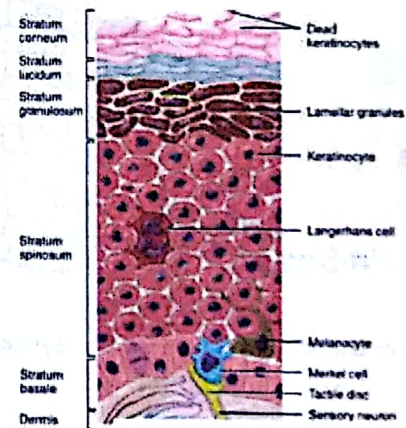
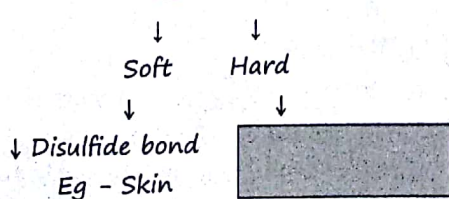
- Cells of epidermis
- Keratinocytes (85%)
- Melanocytes



1. Keratinocytes

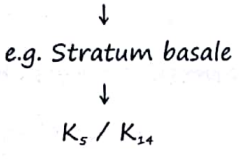
- Hallmark - presence of keratin filaments
- Or
- Tonofilaments
- Or
- Intermediate filaments

KERATIN



Cell of Epidermis

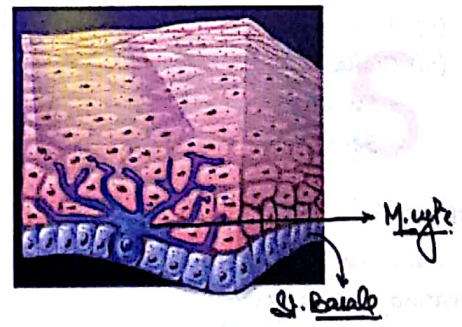
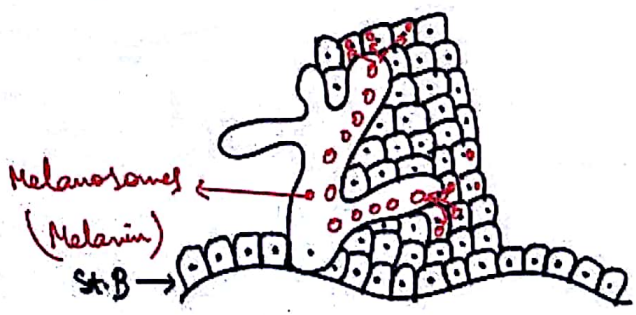
* Keratin heterodimers



- Layers of epidermis**
- Stratum corneum
 - Stratum lucidum
 - Stratum granulosum
 - Stratum spinosum
 - Stratum basale
- Le G S**

K_{HVD}	Sites
1. $K_5 / 14$	Stratum basale - epidermolysis bullosa simplex
2. $K_1 / 10$	
3. $K_2 / 11$	
4. $K_3 / 12$	
5. $K_4 / 13$	B. mucosa
6. $K_6 / 16$	Nails
7. $K_8 / 18$	Liver - liver cirrhosis

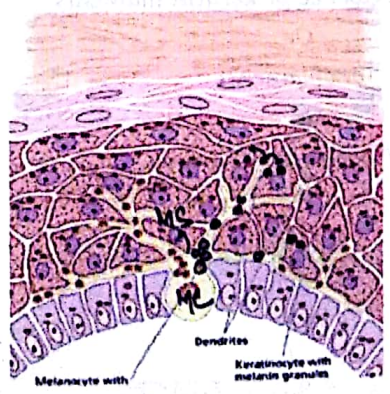
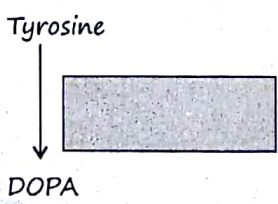
2. Melanocytes

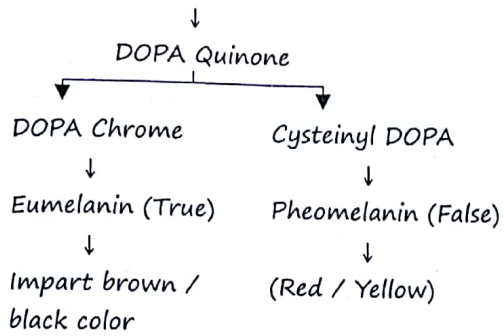


36 Keratinocyte / Melanocyte - Epidermal melanin unit (EMU) - imparts uniform skin color

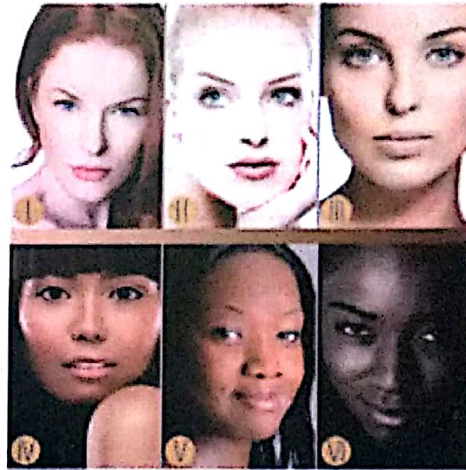
- Different shades of skin color can be due to
 - i. Diff. in no., size & distribution of melanosomes
 - ii Diff. in proportion of eumelanin & pheomelanin
- No. of melanocytes / cm^2 = equal

MELANOGENESIS


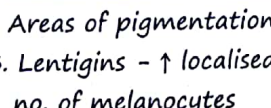





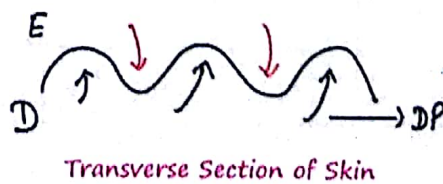
Father of Modern Dermatology → Thomas B. Fitzpatrick



Based on property of skin to tan / burn
 Type (1) Never tans, always burns
 Type (6) Always tans, never burns

PIGMENTARY DISORDERS		
Melanocytes	Melanosomes	Melanogenesis
1. Vitiligo - Depigmented - Melanocytes - Autoimmune 2. Piebaldism - - (-) Melanocytes - Depigmented *  *  * Areas of pigmentation in b/w 3. Lentigins - ↑ localised no. of melanocytes * Hyperpigmented macules ↓ NRND (< 0.5 cm (1 cm))	1. Nevus achromicus / Nevus depigmentosus - Defected transfer of M. somes	1. Melasma - ↑ melanogenesis 2. Freckles - ↑ localised M.genesis - Hyperpigmented macules 3.  Oculocutaneous-depigmented skin & hair - Ocular changes - photophobia

3. Merkel Cells
- Touch cells
 - Type I, slow adapting touch receptors
 - Present in Stratum basale
 - Merkel cells are present in Rete Ridges



Touch Receptors

- ↓
- Type I / slow adapting**
 - Eg 1. Merkel cells
 - 2. Ruffines N endings
 - 3. Free N endings
- Type II / Rapid adapting**
 - 1. Hair end organs
 - 2. []
 - 3. []
 - carry vibration

M R F slow- Rapidly End Misery & Pain

4. Langerhans Cells

- * APC - phagocytosis
- * Dendritic cells - + st in St. spinosum
- * Characteristic - Rod / Racquet granules / BIRBECK granules

↓
Help in receptor mediated endocytosis

Immunohistology -

Cell markers [(+)ve CD_{3a}, CD₂₀₇, S₁₀₀ (CD₂₀₇ - Langerin)
(-)ve CD₃₄, CD₆₈, Cd₁₆₃

↓ Langerhans Cells seen in

- 1. []
- 2. []

3. Contact dermatitis

↑ Langerhans Cells seen in Histiocytosis

(- Histiocytosis-X)

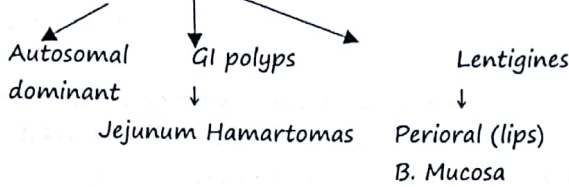
Subtypes	Age of Onset	C/F
1. Eosinophilic granuloma	< 8 yrs	- Localised to bones ↓ MC ↓ Skull → temporo parietal ↓ Lesion ↓ Lytic
2. Hand Schuller Christian Disease	< 5 yrs	Triad → [] → [] → []
3. Letterer Siwe Disease	< 2 yr ↓ dec	↓ Inc - Gen Acute fulminant Condition 80% - Bone involvement 50% - Skin involvement 30% - Hepatosplenomegaly - Lymphadenopathy Skin - Seborrheic dermatitis

Important fact

4 Hashimoto Pritzker disease

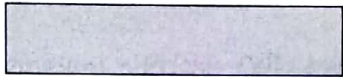
- (+) since birth
- Rare
- Self limiting

*** Peutz Jeghers Syndrome**



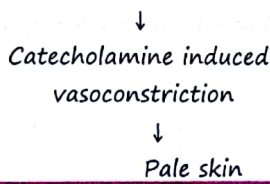
*** Freckles / Ephelides**

- ↓
- Normally seen - Skin type I,II
- Disorder - Xeroderma pigmentosa



- Child - SCC

*** Nevus Anemicus - Defect**



N. Achromicus	N. Anemicus
1. Diascopy - can differentiate from surrounding - Differentiate - vascular condition - Hemangioma / purpura	1. Cannot differentiate
2. Heat - Erythema develops	2. No erythema develops

Cells of Epidermis	Derived from
1. Keratinocytes 2. Melanocytes 3. Merkel cells 4. Langerhans cells	

- Lesions follow Seborrheic distribution



1. Scalp
2. Retroauricular area
3. T zone of face
4. Nasolabial fold
5. Pre sternal
6. Inter scapular

Conditions following Seborrheic Distribution :

1. LCH (Langerhan cell histiocytosis)
2. Pemphigus foliaceus
3. Seborrheic dermatitis
4. Darier's disease

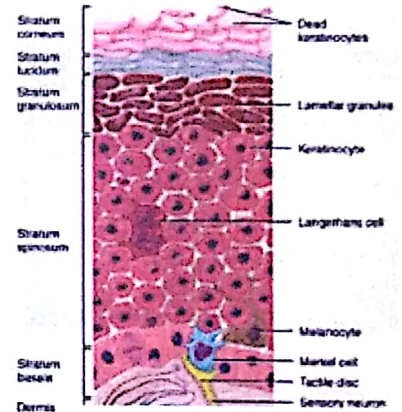
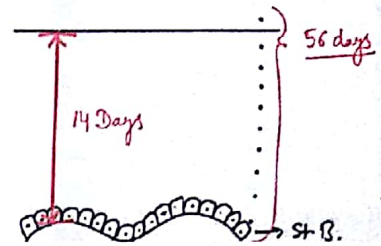
LAYERS OF EPIDERMIS

- Stratum basale is formed 1st
- In preterm / low birth weight baby - stratum corneum is deficient

1. Stratum Basale

- Highly mitotically active Keratinocytes having housekeeping organelles : single cell layer

- Epidermal turnover time - skin doubling time
- Time taken by keratinocytes to move from St. Basale to environment
- Around 14 days are required to move from Stratum basale & to reach lowermost layer of stratum corneum
- Sloughing off requires 28 days
- So total ETT = 56 days
- Rook's = 52-75 days



Cells of Epidermis

2. Stratum Spinosum - Prickle Cell Layer

- Spines (Desmosomes) prominent here

Desmosomal protein / Ca²⁺ dependent Adhesion molecules

Gene family

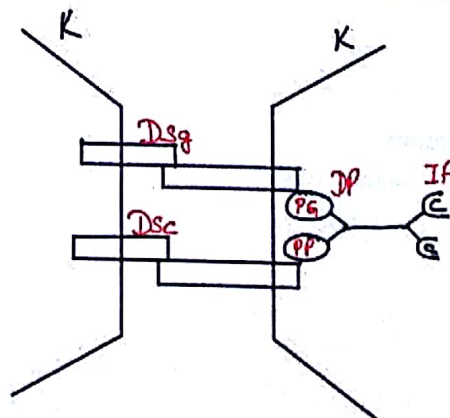
1. []
2. []
3. []

Eg -

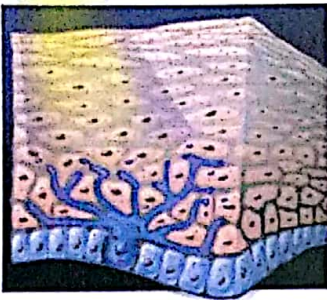
1. Desmoglein (Dsg)
2. Desmocollin (Dsc)
3. Desmoplakin (Dp)
4. Plakoglobin (Pg)
5. Plakophilin (pp)

- Desmoglein - in pemphigus (intraepidermal blistering disorder)
- Any of these protein defected

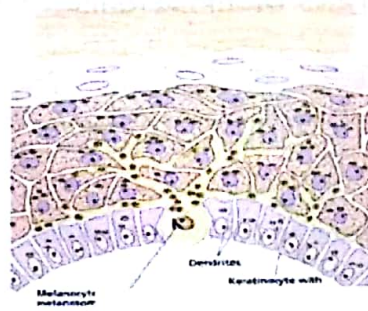
Intra epidermal separation



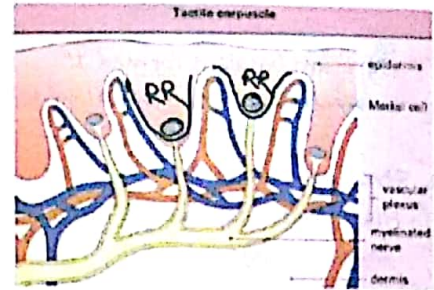
Arrangement of Desmosomal Proteins within a desmosome



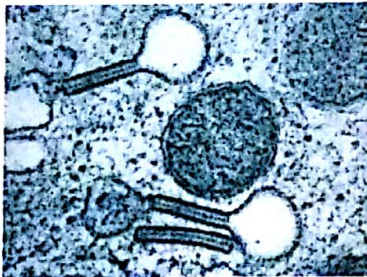
Melanocyte



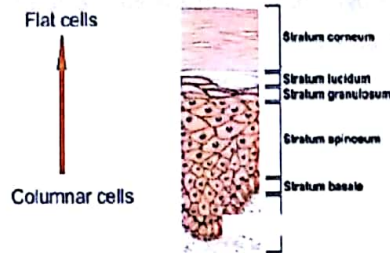
Melanocyte



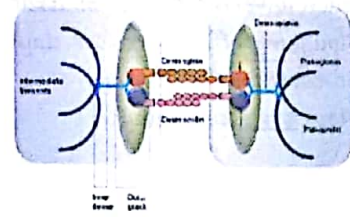
Merkel cell



Birbeck granules
(seen in langerhans cells)



Layers of Epidermis



Desmosome

3. Stratum Granulosum

Granular cell layer

1 Keratohyaline granule

↓
Precursor molecule
- helps in filament aggregation

2. Membrane coating granule

Aka - Lamellar granule / Odland bodies

↓
Lipid
↓

Important facts

1. Odland Bodies- (+) in

- a Upper part of stratum spinosum
- b Type II alveolar cells in lungs (surfactant)

II. Ichthyosis vulgaris

Ichthyo →

Vulgaris → most common

- AD
- Deficiency of filaggrin

III. Netherton Syndrome

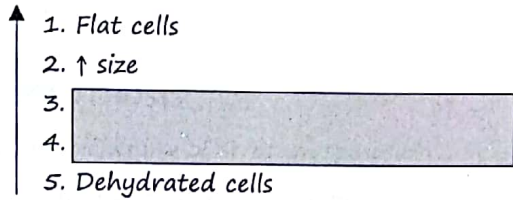
- Atopic dermatitis
- Ichthyosis Linearis circumflexa
- Bamboo hair [redacted]

4. Stratum Lucidum

- Aka clear cell layer
- Translucent
 - d/t +ce of refractile granules of Eleidin
- (+) in palm & soles

5. Stratum Corneum

- Dead keratinocytes (+)
- Stratum Corneum



Stratum Basale

HISTOPATHOLOGICAL FINDINGS

1. PARAKERATOSIS

Def. → Retention of nucleus in stratum corneum

Eg. → PEA'S₂

- Psoriasis
- Eczema
- Actinic Keratosis (A.K)
- Seborrheic Dermatitis
- Squamous Cell Carcinoma

* Important Facts

- Actinic Keratosis → Premalignant condition
 - Seen in sun exposed areas
 - Scaly lesions / keratotic lesions

Rx →

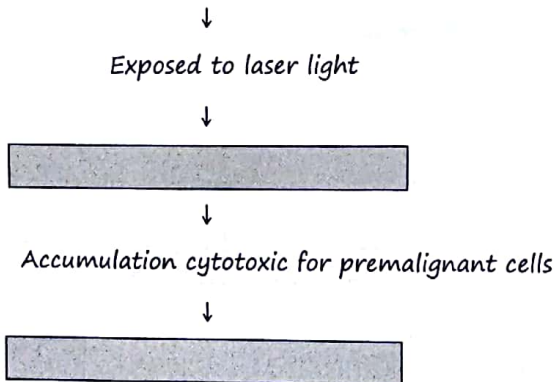
(i) Topical 5 Fluorouracil & Imiquimod

↓ MOA
[Toll LR - 7, 8 agonist]

(ii) Photodynamic therapy

AIIMS Ques → What is the color change seen in lesion after photodynamic therapy ?

Explanation : Aminolevulinic acid is applied over lesions



2. DYSKERATOSIS

Def. → Premature or abnormal keratinization

Eg. → 1. Malignant Condition → Squamous Cell Carcinoma

2. Premalignant →

3. Benign → Hailey-Hailey disease

→ Darier's disease → (Most important e.g.)

Important Fact

In Darier's disease - corps grains

&

corps ronds

↓
Seen in [REDACTED]↓
Seen in [REDACTED]**3. SPONGIOSIS**

Def → Extracellular accumulation of fluid in stratum spinosum

Eg → Acute eczema i.e. (oozing out / boiling out)

4. BALLOONING

Def → Intracellular accumulation of fluid in stratum spinosum

Eg → Acute eczema

5. ACANTHOSIS

Def → Thickening of stratum spinosum

Eg → Chronic eczema (Lichenified lesions)

NEET 18 Ques - Itchy lichenified lesions present over flexors of elbows & knees - is seen in?

Ans → Tropic dermatitis i.e. chronic eczema

Lichenified lesions characteristic features

1. Skin thickening
2. ↑ Surface markings
3. Pigmentary changes

Important Fact**Poikiloderma**

1. Skin atrophy

2. [REDACTED]

3. Pigmentary changes

This condition is seen in Mycosis fungoides

↓

(CTCL) Cutaneous T-cell Lymphoma

Acanthosis types

1. Regular → eg → Chronic eczema, psoriasis
2. Irregular → eg → Lichen planus

6. HYPERGRANULOSIS

Def → Thickening of stratum granulosum

Eg → Lichen planus (wedge shaped)

7. ANGRANULOSIS / HYPOGRANULOSIS

Def → Absence / Thinning of stratum granulosum

Eg → Psoriasis

- Ichthyosis vulgaris

Q → Absence of stratum granulosum is seen in?

A → Psoriasis, Ichthyosis vulgaris

8. MICRO-ABSCCESS (M/A)

Def → Small collection of cells (any type of cell)

1. Neutrophilic M/A

Eg → Papillary tip M/A →

- Munro's M/A → Psoriasis (Stratum corneum)

- → Psoriasis (Stratum spinosum)

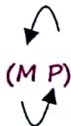
2. Lymphocytic M/A

Eg Pautrier's M/A → Mycosis fungoides

3. Eosinophilic M/A

Intraepidermal Eosinophilic M/A → Pemphigus vegetans.

Most Important Microabscess



Munro's M/A → Psoriasis

Pautrier's M/A → Mycosis fungoides

Botryomycosis (misnomer because it is not a fungal infection)

→ Caused by

→ Small collection of neutrophils is seen → granuloma



Thus can be known as M/A

9. ACANTHOLYSIS

Def → Separation of keratinocytes due to defect in desmosomes

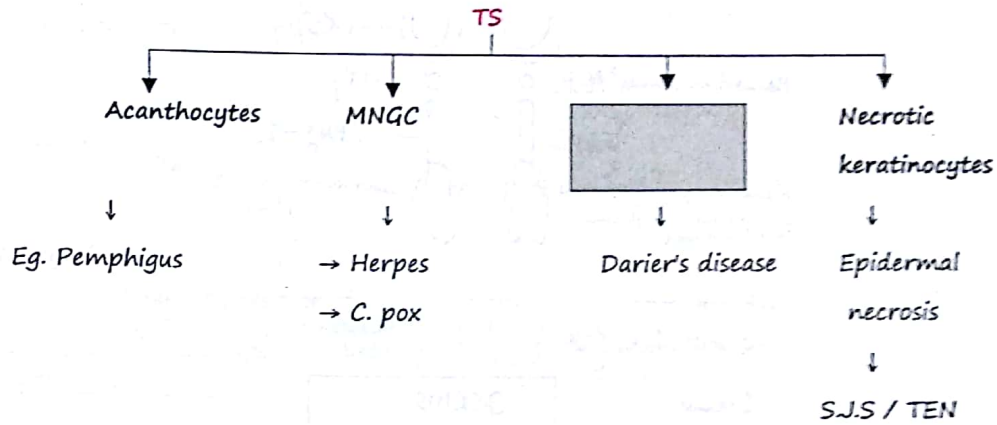
→ Cells formed after separation are called acanthocytes / acantholytic cells

Acanthocytes → Oval shaped

C/F → Nuclues occupies 7/8th portion of cell

→ Perinuclear halo

Tzanck Smear → (cytology test)



Eg. of A. lysis

1. Pemphigus vulgaris → because of defective []

2. Pemphigus foliaceus → because of defective Dsg 1

3. Paraneoplastic pemphigus → because of defective plakin family []

4. Darier's disease → because of []

5. Hailey Hailey disease → because of defective Ca²⁺ ATPase

6. Subcorneal pustular dermatosis → because of defective desmocollin

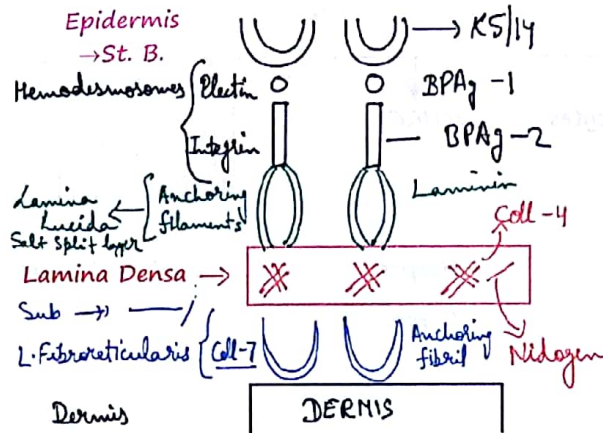
Or

Sneddon-Wilkinson's disease → because of defective []

Above mentioned disorders lead to **Intraepidermal Separation**

BASEMENT MEMBRANE ZONE / DERMO-EPIDERMAL JUNCTION (DEJ)

- It is present between epidermis & dermis layer

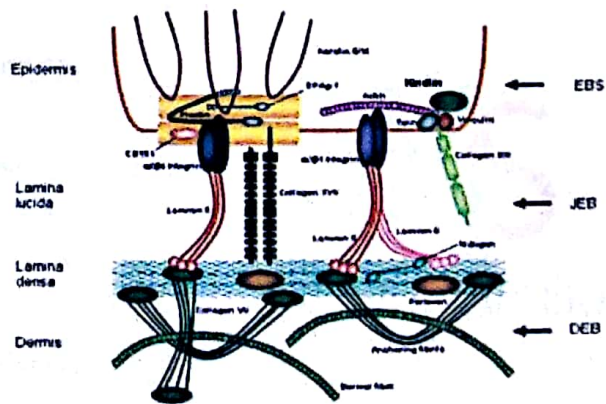
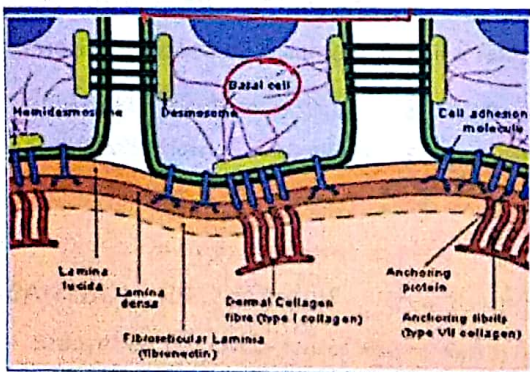


- * Weakest layer is Lamina lucida / salt split layer.
- * Defect in these proteins leads to subepidermal disorders.

Subepidermal Disorders:-

Proteins	Defect
1) BP Ag - 1 or BP 230 M.wt 230 kilodalton	- Bullous Pemphigoid - Dermatitis herpetiformis
2) BP Ag - 2 or [Redacted] M.wt - 180 kilodalton	- [Redacted] - Linear IgA disease - Lichen planus pemphigoides - Herpes gestationalis
3) Coll-7	- [Redacted]

* For Bullous pemphigoid protein defective is BP Ag 2 > BP Ag 1

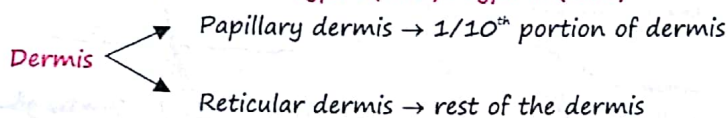


DERMIS

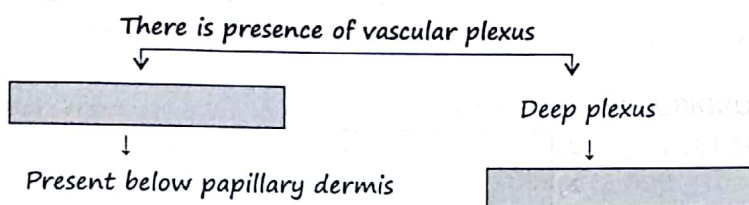
Made up of collagen, elastin & reticular fibres in matrix of hyaluronic acid, dermatan & chondroitin sulphate.

* Most abundant fibres in dermis are collagen.

Type I (70%) > Type III (30%)



Vascularity of Dermis



→ Capillary loops in dermal papilla

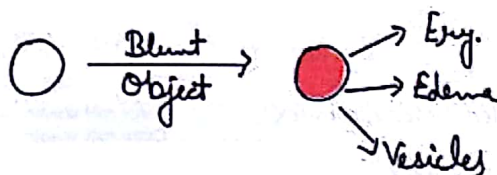
Cells of dermis

* Most abundant cells present are "Fibroblasts"

Other -



Important points → Urticaria pigmentosa (cutaneous mastocytosis) → common in children

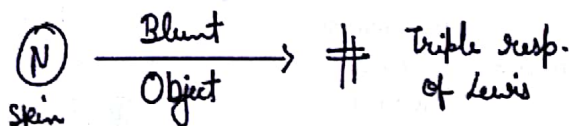


(NEET 16/JIP 17/18)

Darier sign → seen in urticaria pigmentosa

Pseudo Darier sign →

→ Dermographism is seen in urticaria



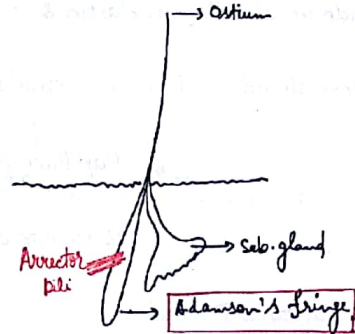
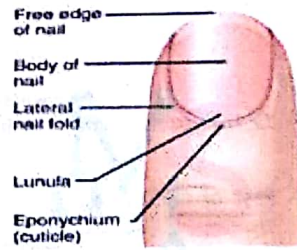
→ White dermographism (V / cons.) → Atopic dermatitis

(whenever skin is rubbed white line is seen)

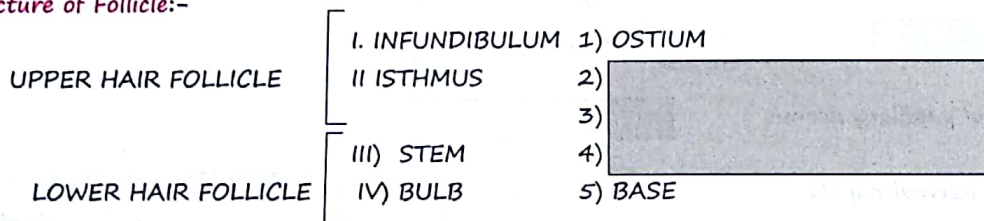
STRUCTURE OF HAIR & HAIR DISORDERS

APPENDAGES OF SKIN:-

- Hair
 - Nails
 - Sweat glands
 - Sebaceous glands
- Hair :->



Structure of Follicle:-



DNB 17

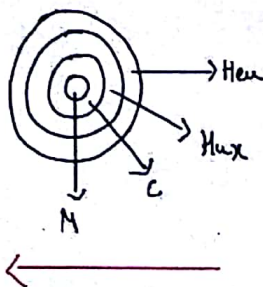
Ques:- Medullary index in human hair?

- 1:1
- 1:2
- 1:3
- 1:4

Ans:- 1:3 (Human)
1:2 (Animal)

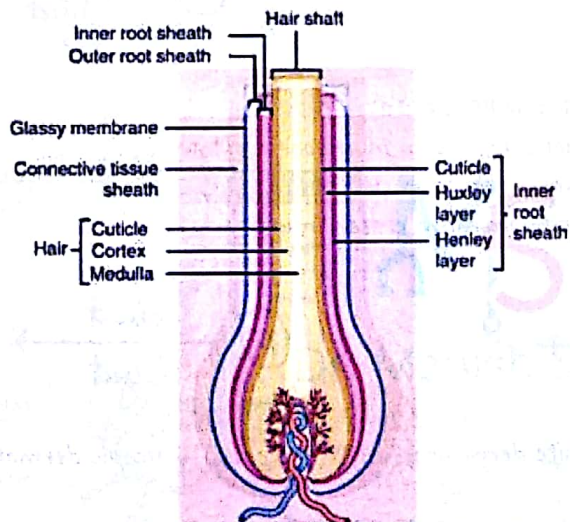
-> Ratio of Medulla : Cortex is called " Medulla index"

-> Henley, huxley layer are layer of hair follicle



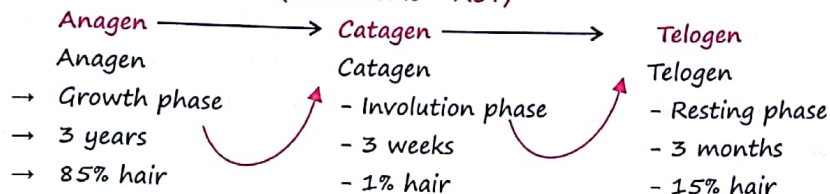
Types of hair follicle:-

- 1 Lanugo -> seen in fetus
- 2 Vellus
- 3 Terminal



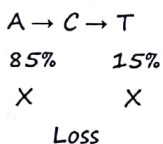
Vellus	Terminal
i. Medulla (-)	Medulla (+) (thick)
ii. Melanin (-)	Melanin (+) (dark)
iii. Depth - Dermis	Depth - Subcutis (strong)
iv. Seen in - Prepubertal age group	Seen in - Adults

Hair Cycle → 3 Phases → (Mnemonic - ACT)

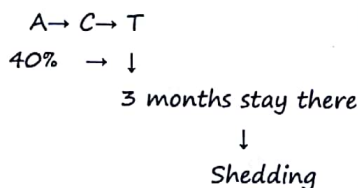


Hair disorders

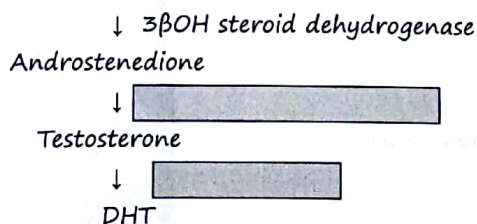
1 Anagen effluvium :-> Diffuse shedding of anagen hair seen after chemotherapy



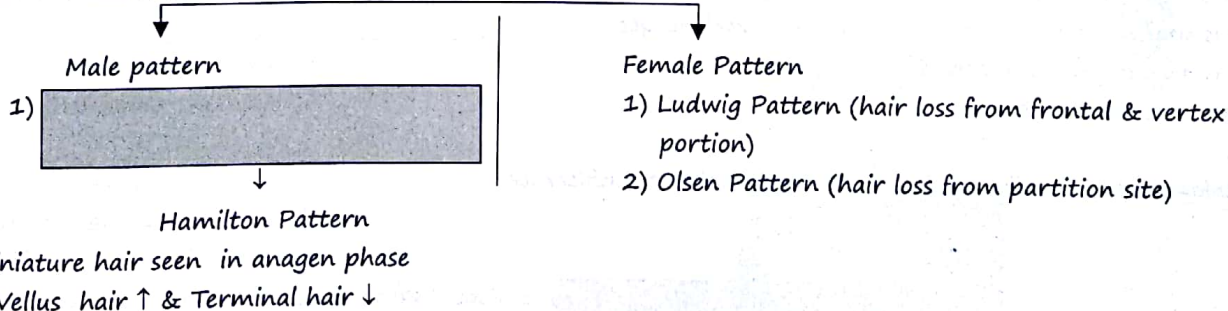
2 Telogen effluvium:-> Increased telogen hair loss seen in 3 months after pregnancy, typhoid fever or chronic illness.



3 Androgenetic alopecia :-> DHEA



C/F:-> "Patterned Hair Loss"



Dr. Manish Soni

Treatment: -

1 Topical : - Minoxidil

- MOA 1) ↑ vascularity
2) ↑ Anagen phase

(USFDA approved) used in - Male 5%
- Female 2%

2 Systemic:-

i. 5α Reductase inhibitors

E.g: - Finasteride 1mg OD
USFDA (used in males, not in females)
It inhibits type II 5α- Reductase



Dutasteride [Redacted]

ii. Androgen receptor blockers:

e.g Flutamide



- Side effects - Hepatotoxicity
- Can be used in males and females
- 2nd and 3rd line drug

iii. Anti- Androgen

Used in ♀ (i) Cyproterone acetate
(ii) Spironolactone

Surgical treatment: Hair transplants

FUE

[Redacted]
(Commonly used)

FUT

[Redacted]

4. Alopecia areata

- It is autoimmune condition

C|F: - Patchy hair loss

Exclamation mark sign → These are broken hair follicle with broad distal & thin proximal shaft.

- It is pathognomonic but not always found.



Alopecia Areata

Turning grey phenomenon:

- It is sparing of grey hair & destruction of melanocytes
- It is an auto immune condition
- Seen in children also

Histologically: Perifollicular (peri- bulbar) lympholytic infiltrate gives



[Redacted]

Treatment:

A) Topical: 1 Steroids

2 Calcineurin inhibitors like:- Tacrolimus.

3 Contact irritants/sensitizers:

- a.
- b.

B) Systemic

i. Steroids: - Oral mini pulse given 2 days| week (Betamethasone)

ii. Azathioprine: - Steroid sparing agent

iii. Levamisol: - Immunomodulator.

C) Intralesional:→ Preferred for single lesion.

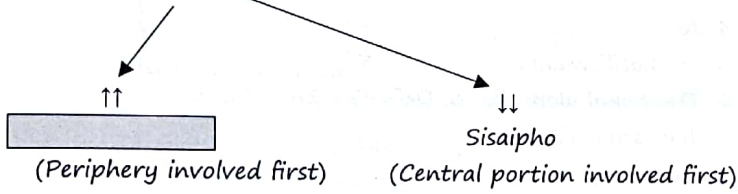
↓

Triamcinolone → 10mg/ml

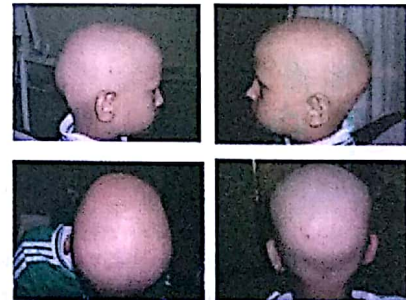
D) Phototherapy: Used for generalized cases

Body involved: A. universalis

Scalp: A. totalis



Alopecia totalis



Important facts:

1 *Trichotillomania* : Seen in girls

Patch with variable length of broken hair follicles.

Diagnosis - Skin window

- Histology

- 1)
- 2)
- 3) Trichomalacia

TOC: - Behaviour therapy

2 Loose Anagen syndrome:

- Autosomal dominant condition
- Self limiting condition
- Presence of anagen hair devoid of its sheath & with floppy sock appearance is characteristic feature.
- The % of LAH is more than 50%



Trichotillomania



Loose Anagen Syndrome

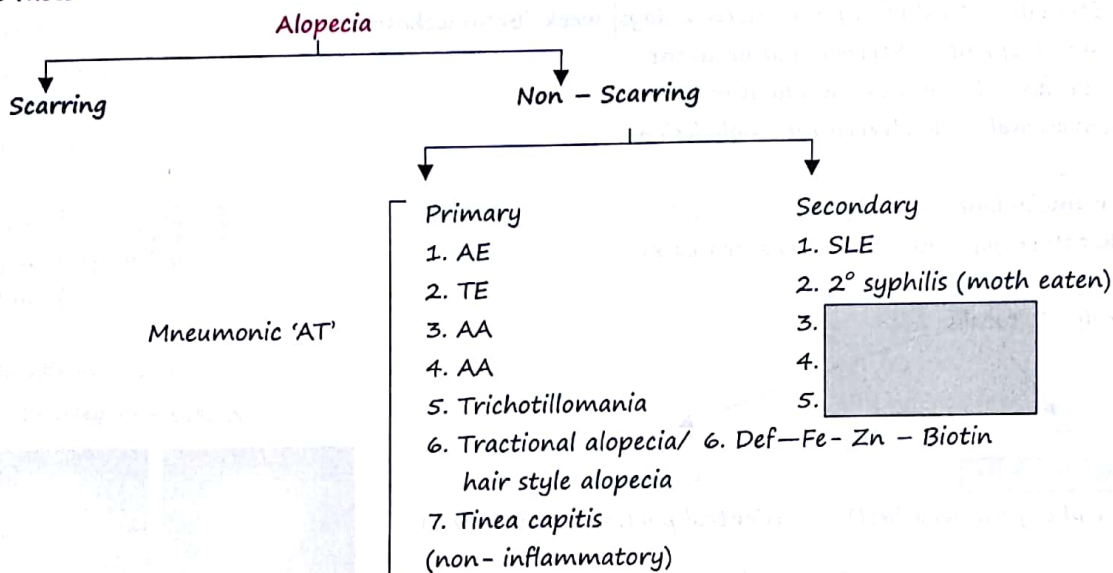
3 Pseudopelade of Brocq

- It is scarring alopecia
- Foot prints in the snow appearance



Pseudopelade of Brocq

Important facts:



Acrodermatitis enteropathica → condition arises due to [Redacted]

- Diarrhea
- Hand, feet, perioral, diaper area, are involved.
- Zn supplements are given for treatment

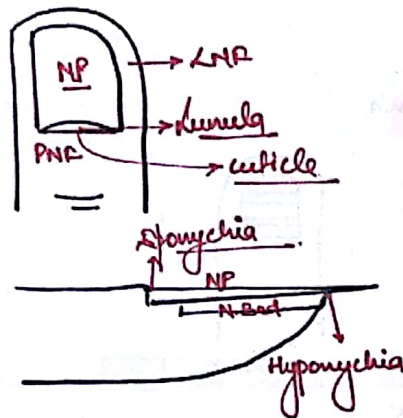
Lupus Erythematosus { Systemic (SLE) → It is non-scarring (late in disease scarring can occur)
 Discoid (DLE) → Scarring

- Discoid (DLE) → Scarring
1. [Redacted]
 2. Scaly lesions with hypopigmented center & hyperpigmented margin
 3. Aggravates on sun exposure
 4. Treatment by Hydroxychloroquine

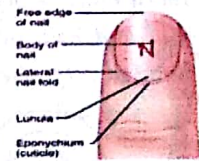
STRUCTURE OF NAILS AND NAIL DISORDERS

NAILS

Structure:-



- Hair
- Nails
- Sweat glands
- Sebaceous glands



Appendages of Skin

- * NP → N. matrix
- * Lunula → Visible N.matrix
- * Hyponychia → (M/C) site for onychomycosis
- * Pitting → Focal parakeratosis of P_x N. Matrix
→ Seen in → (i) Psoriasis → Thimble pitting (irrig. deep pits)
(ii) Alopecia areata → [] (Regular superficial pits)
(iii) Eczema

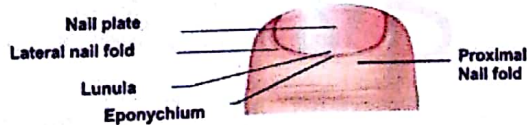


* Infection of Nail Fold → Paronychia

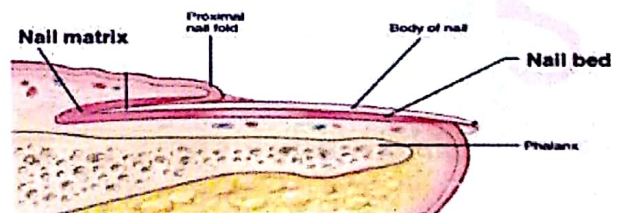
- | | |
|------------|---------|
| ↓ | ↓ |
| Acute | Chronic |
| ↓ | ↓ |
| St. aureus | Candida |

- Nail matrix- produces nail plate
- Nail bed- skin without appendages and hypodermis
- Hyponychium- skin below free edge of nail plate

Lunula- proximal nail plate with visible matrix
Eponychium- stratum corneum over nail plate



Structure of Nails



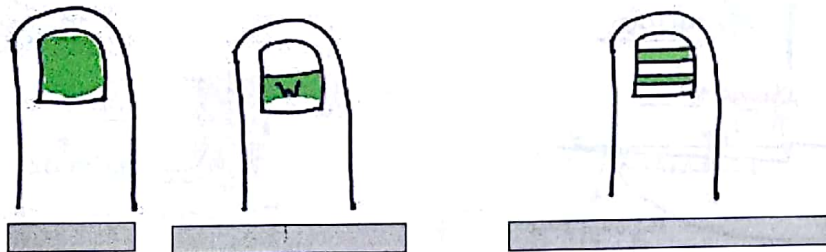
Structure of Nails

Nail changes in psoriasis

- i) M/C → Pitting
 - ii) M/Ch. → Oil drop sign/Salmon patch → (due to defect in nail bed)
 - iii) []
 - iv) []
 - v) Sub unguial hyperkeratosis (thickening of nail bed)
 - vi) Nail tunnel → (M/C in Onychomycosis > psoriasis)
- Also seen in onychomycosis

Apparent leukonychia

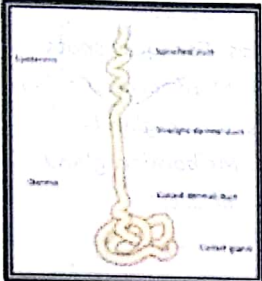
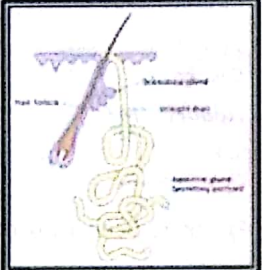
- i. Terry nails → Seen in hepatic failure, CHF
- ii. Half and half nails → Seen in CRF
- iii. Banded / Muehrcke nails → Chemo, Hypoalbuminemia



Mees lines → In arsenic poisoning (transverse white lines)



STRUCTURE OF SWEAT GLANDS & RELATED DISORDERS

Eccrine Glands	Apocrine Glands
	
<ul style="list-style-type: none"> i) Duct opens directly ii) Site - Every where iii) Nerve-Cholinergic Control iv) Disorders <ul style="list-style-type: none"> a) Anhidrosis b) Hyperhidrosis c) Miliaria 	<div style="border: 1px solid black; width: 100px; height: 40px; margin-bottom: 10px;"></div> <ul style="list-style-type: none"> a) Bromhidrosis (more in apocrine, but also in eccrine) b) Chromhidrosis c) Fox Fordyces disease
<p style="color: red; font-weight: bold;">Blockage ←</p>	

Depending on blockage

Types	Level
1) 	Stratum corneum
2) 	Malpighian layer (Stratum spinosum+Stratum basale)
3) Miliaria profunda	Dermoepidermal Junction

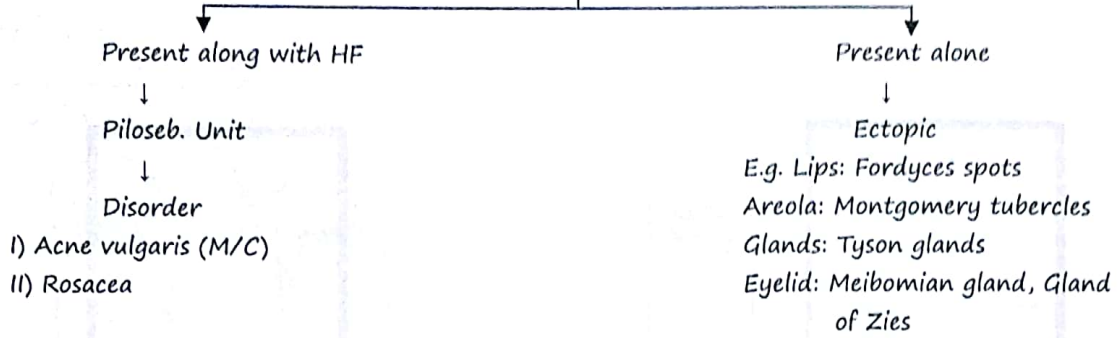
Fox Fordyce disease

- Females, 2nd Decade
- Itchy papules over axilla

Important Facts

Disorders of Eccrine Sweat Gland	Disorders of Apocrine Sweat Gland
<ul style="list-style-type: none"> 1. Hyperhidrosis 2. 3. 4. Hidrocystoma- Malformations leading to retention of sweat. 5. Neutrophilic eccrine hidradenitis- Neutrophilic infiltration & degeneration of the eccrine sweat glands. Seen in AML, NHLundergoing chemotherapy 	<ul style="list-style-type: none"> 1. Bromhidrosis 2. Chromhidrosis 3. Fox-Fordyces Disease 4. Hidradenitis Suppurativa <li style="text-align: center;">↓ <li style="text-align: center;">Adalimumab (drug) (TNF - α inhibitor) <li style="text-align: center;">↓ <li style="text-align: center;">also used in psoriasis

SEBACEOUS GLAND


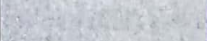
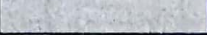


Gland of moll (Apocrine Sebaceous Gland) → Present in eyelid

Rosacea

i) Site- convex (of face)

ii) Type→ a) Erythemo telengectic (M/C)

- b) 
- c) 
- d) 

iii) Flushing



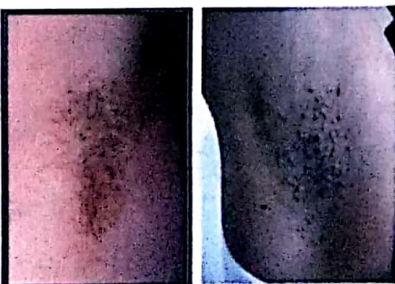
Hyperhydrosis



Miliaria Crystallina



Miliaria Rubra



Fox Fordyce Disease



Common site is axilla



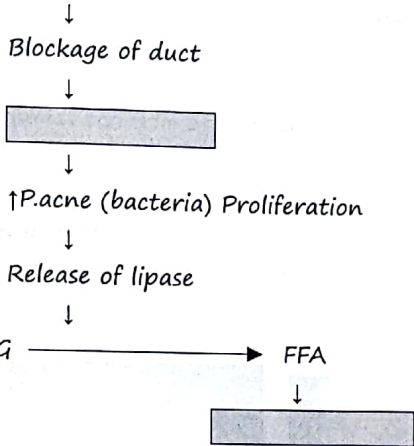
Fordyce Spots

Etiopathogenesis

- ↑Androgens
- ↑IL-1α activity
- ↓Linoleic acid

↓ results in

Hyper proliferation of keratinocytes in duct of sebaceous glands.



C/F : - "Polymorphic lesion"

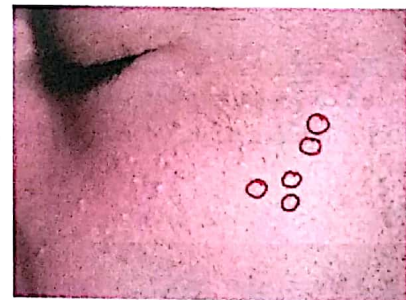
- i. Papules, nodules, cyst, pustules, abscess.
- ii. Most characteristic → comedones

2 types

- Open/black
- Closed/ White



CLOSED COMEDONE



OPEN COMEDONE



Classification

- Grade I → Mainly comedones
- Grade II → Mainly papules
- Grade III → []
- Grade IV → []
(Most severe also called nodulo-cystic acne)



Grade Two



Grade Four

Scarring following acne can be following types: -

- 1
- 2
- 3 Boxcar scars
- 4 Hypertrophic scars

Acne variants

- 1 Neonatal acne (↑Increased Maternal androgens)
- 2 Infantile acne (↑DHEA)
- 3 Senile acne (Old age)
- 4
- 5
- 6
- 7 Acne conglobata (Most severe)
- 8 Drug induced acne/ Monomorphic acne



Neonatal Acne



Infantile Acne



Senile Acne



Acne Fulminans



Acne Conglobata



Acne Excoriee



Drug Induced Acne

Drugs causing drug induced acne/ Acneform eruptions

MC- World-Steroids

MC-West-OCP

MC-India-INH

Others – Lithium, Iodine, ph

Rx.

1 Topical

- I.
- II.
- III. Retinoids (adaplene, tretinoin)

2 Systemic

I. Antibiotics

- a. Doxycycline S/E Photo onycholysis
- b. Minocycline S/E Hyper pigmentation of skin & nails
Melanonychia (dark nails)
- c. Azithromycin

II Retinoids

- a. Isotretinoin (13 cis- retinoic acid) Isotretinoin

↓
(Drug of choice)
↓

- Severe/ Gr. IV/Nodulo- cystic acne
- Acne conglobata

Dose: 0.5- 1mg/kg/ B.wt

Duration-till cumulative dose of 120-150mg/kg/B.wt.

S/E

- 1 Dryness of lips (MC)
- 2
- 3
- 4 Teratogenic (avoided in pregnancy)
* It is teratogenic for 1 month after stoppage of drug.
- 5 Pseudo tumor cerebri (Benign raised ICT)

Note

"Acitretin"

- Drug of choice for pustular psoriasis
- * Teratogenic effect lasts for 3 years after stopping the therapy

- 6 Avoid: Tetracycline Vit A
- 7 Avoid: Depression (↑ Suicidal tendency)
- 8

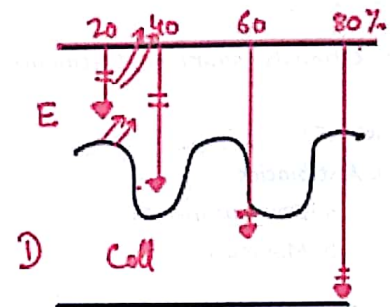
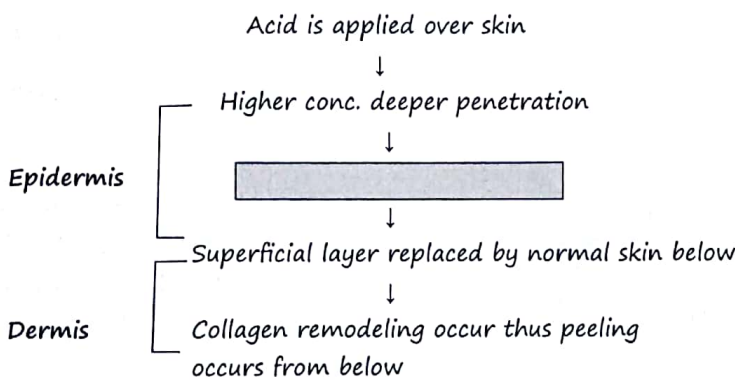
CHEMICAL PEELING

Indications

- Melasma
- Acne
- Acne scar
- Photo ageing

Mechanism of Action

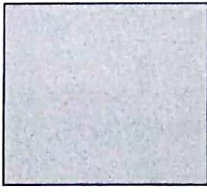
- Skin resurfacing
- Collagen remodelling



Agents used

- Pyruvic acid/ α keto acid

Fruit Acids/ α OH acid

- Glycolic acid
 - Malic acid
 - Citric acid
 - Lactic acid
 - Tartaric acid
- 

- Salicylic acid \rightarrow β OH acid
- Trichloro acetic acid (TCA)
- Mandelic acid
- Jessener's solution

Salicylic acid Lactic acid Resorcinol



Dr. Manish Soni

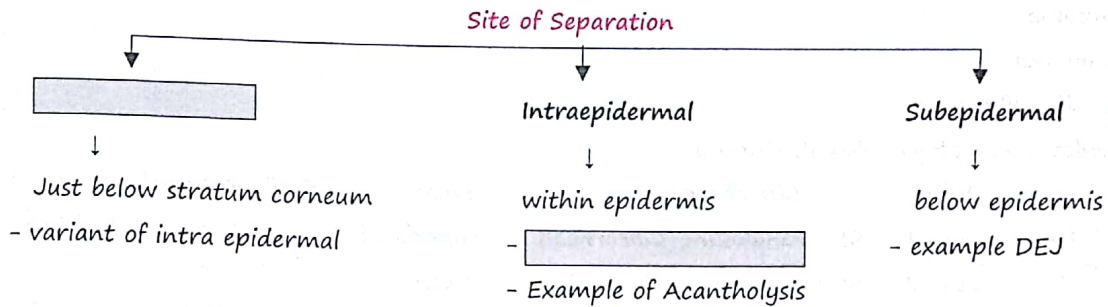
BLISTERING DISORDERS

29

Blisters → fluid filled lesions

< 0.5 cm Vesicles

> 0.5 cm Bullae



Pemphigus

- Immune-bullous disorder

Antibodies are formed against desmoglein

↓
Intra epidermal bullae

Types

1. Pemphigus Vulgaris – MC

2. []

3. Pemphigus vegetans

- Rarest

- Variant of P. vulgaris

- MC site- Axilla

- Vegetative lesion

4 Pemphigus erythematous – variant of P. foliaceus

MC Site – []

Lesions – Erythematous

Pemphigus foliaceus + Lupus erythematous

↓
Pemphigus erythematous

Others

5. Fogo Selvagem: Brazil

Variant: P. Foliaceous

6 Drug induced Pemphigus

MC: Penicillamine

2nd Captopril

Other: Piroxicam, Rifampicin, Phenylbutazone

Variant: P.foliaceous > P. Vulgaris

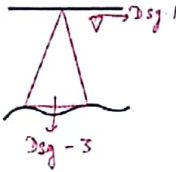
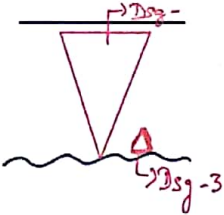
7 Paraneoplastic Pemphigus

- Non Hodgkin Lymphoma
- CLL
- Castleman disease
- Others - Sarcoma
- Thymoma
- Spindle cell tumor

Anhalt Criteria

Dx of Paraneoplastic pemphigus Anhalt Criteria

	Defect	Site of separation	Bullae	Easily Rature
P.F	Dsg- 1	St. Granulosum (subcorneal)	Superficial	✓
P.V	Dsg -3	St. Spinosum (suprabasal)	Deep	X

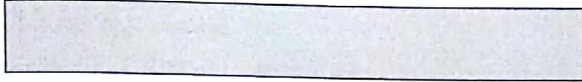
Pemphigus vulgaris	Pemphigus foliaceus
<p>1) Association, HLA-DRO4</p> <p>2) C/F</p> <ul style="list-style-type: none"> - Early- Dsg-3 (B. mucosa) - Late- Dsg- 3 Dsg -1 (skin)  <p>B. mucosa = +nt</p> <p>Skin = Bullae, flaccid + suprabasal → Painful erosion</p> <p>Site- B. mucosa > Scalp, ext, trunk > Periungual</p> <p>3) Clinical Signs: -</p> <p>I. [Redacted]</p> <p>II. [Redacted]</p> <p>4) Investigation</p> <p>a) Histology</p> <p>I. Acanthocytes + Row of Tombstones app. (+)</p> <p>II. DIF - fish net like pattern of [Redacted]</p>	<ul style="list-style-type: none"> - My. Gravis, Thymoma - Dsg-1  <ul style="list-style-type: none"> - B.mucosa = -nt -flacid sub corneal MC- shallow erosion with crusting + scaling - Seborrhoeic distribution <p>Positive PV > PF (MC)</p> <p>Positive</p> <p>I) Positive Positive</p> <p>II) (+) against Dsg -1</p>

T/t

A. Immunosuppressants

- 1 Steroids - Dexamethasone
- 2 Azathioprine
- 3 Cyclophosphamide

DCP - Dexamethasone Cyclophosphamide Pulse



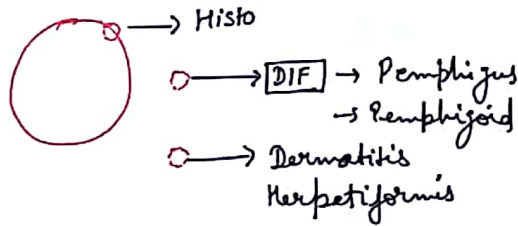
Repeated again for 9 pulses.

B. Biological - Rituximab (anti CD 20)

- NHL - 375mg / m² BSA
 - RA - 1gm
- Slow IV infusion
- IVIg
 - Plasmapheresis

Important Fact

- Site of biopsy

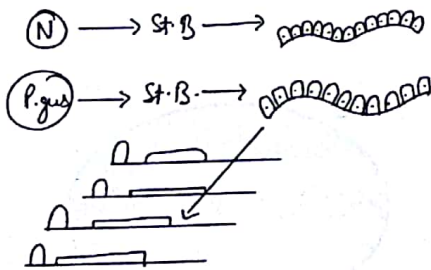


- Pemphigus
- Pemphigoid

DIF in dermatitis herpetiformis is done from normal skin near to lesion.

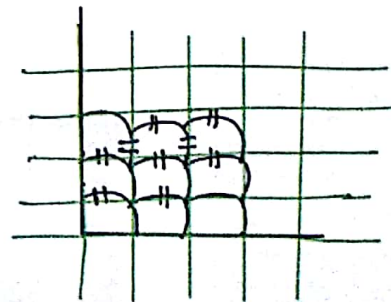
Row of Tombstones

Normal Stratum basale



Fish net Appearance - Pemphigus

↓
Ab → Dsg



2) BULLOUS PEMPHIGOID

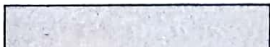
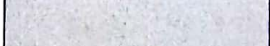

Immunobullous

↓
antibody → BP Ag 2 > 1 → Supepidermal Bullae

Associated with

- Pruritis
- Perilesional erythema
- Milia formation (at site of healing)

↓
Keratin Cyst/Denovo formed over face

Pemphigus	Pemphigoid
1 Age of onset : 40-60	60-80
2 Lesions: Flaccid Bullae (Painful erosion)	Tense Bullae
3 Mucosal involvement	(-)
4 	(-)
5 	(-)
6 	(-)
7 Row of tombstones	(-)
8 Bullae Spread Sign (+)	(+)

Investigation

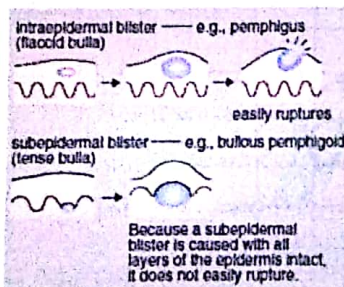
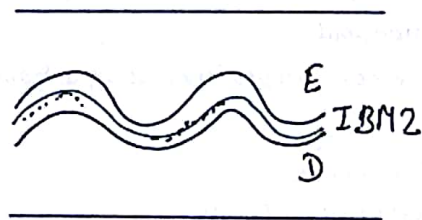
1 Histology

- Sub epidermal split, eosinophilic collection.

2 DIF- Linear IgG & C3 deposits along BM zone

T/t

- Tetracyclines
- Steroids
- Dapsone



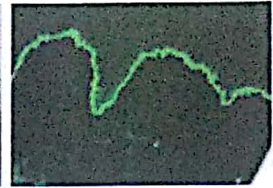
Tense Bullae



"Row of Tombstones"



Pemphigus



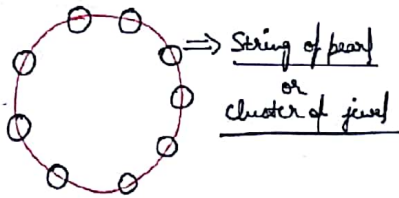
Bullous Pemphigoid

3 Linear IgA disease

Antibody → BPAg 2 > BPAg -1

C/F - Bimodal

- Child - <5years - face (perioral), Groin (Perianal)
- Adults - [redacted]



String of pearl appearance
Or
Cluster of jewel

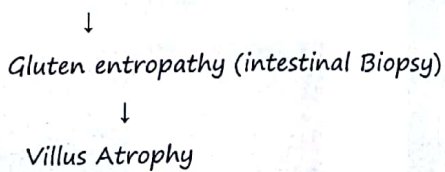
Urticated plaques and papules, large tense bullae and annular polycyclic lesion often with blistering around the edge, the 'string of pearls' sign

Investigation

- DIF - Linear IgA
- Deposits along BMZ
- DOC - dapsone
- 1-2mg/kg/B. wt.

4 Dermatitis herpetiformis | Duhring's Disease

- d/t Gluten Hypersensitivity
- A/w- I) Celiac Disease



- II) [redacted]
- III) [redacted]
- IV) Anti transglutaminase Ab

Pathophysiology

- Celiac Ds - Pt Symptomatic \ Asymptomatic

C/F

- Extremely pruritic
- Vesico papules (Extensors involved)
(Knee, elbow, back, buttocks)

* MC presentation -

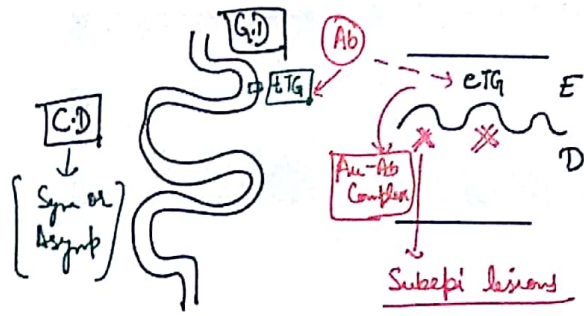
Investigation

1) Histo



Papillary tip micro Abscess

2) DIF - Granular IgA deposits in dermal papilla



T/T

TOC - Gluten Free Diet



Avoid **BROW** (oat-Least & amount of Gluten)

- Barley
- Rye
- Oat
- Wheat

Give - Rice
- Maize

DOC - Dapsone

*
*

5 Herpes Gestationalis | pemphigoid

Etio - Ab - BPAg₂ > 1

C|F - 2nd | 3rd trimester of Pregnancy

- Periumbilical
- Vesicular eruptions - Abdomen
- Spontaneous regression
- Fetal mortality 30%

Investigation

DIF - Linear C₃ > IgG

- Deposits along BMZ

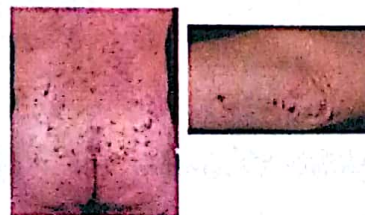
DOC - Systemic corticosteroid (Prednisolone)

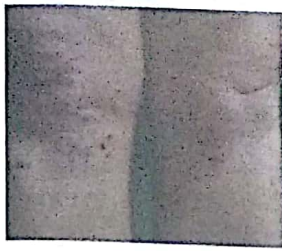


Linear IgA Disease



DH





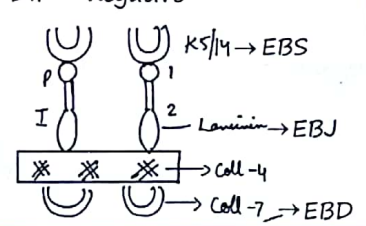
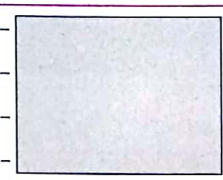
Dermatitis Herpetiformis



Pemphigoid Gestationalis

6. Epidermolysis Bullosa

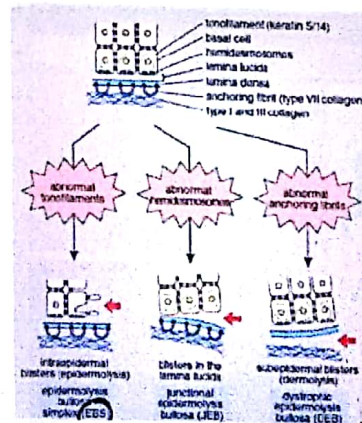
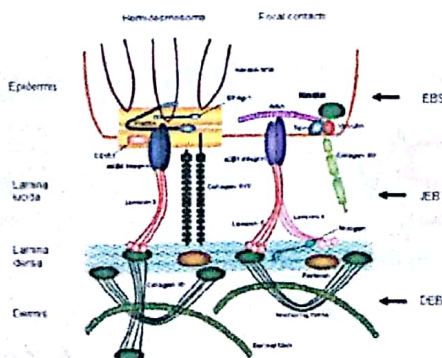
Mechano-bullous Disorder

Congenita	Acquisita
<ul style="list-style-type: none"> - Congenital - Early onset - Common - Genetic <p>1) E.B Simplex - K5/14 # 2) E.B. Junctional - Laminin # 3) E.B Dystrophicans - Coll-7 #</p> <p>DIF - negative</p> 	 <p>↓</p> <p>Ab- Non Collagenous domain of collagen-7</p> <p>DIF Positive</p>

Simplex - K5/14 - in St. basale (epi) - intraepidermal

Junctional } Sub epidermal


Dystrophicans }

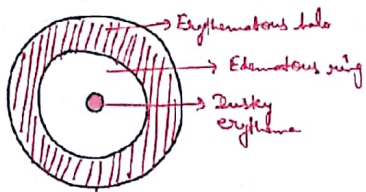


EB Type	EB subtype	Protein /gene	Inheritance
EBS	Weber-Cockayne EBS	K5, K14	AD

EB Type	EB subtype	Protein /gene	Inheritance
JEB	Herlitz	Laminin-5	AR
	Non-Herlitz	Laminin-5 Type XVII collagen	AR

EB Type	EB subtype	Protein /gene	Inheritance
DEB	Dominant DEB	Type VII collagen	AD
	Hallopeau-Siemens RDEB	Type VII collagen	AR
	Non-Hallopeau-Siemens RDEB	Type VII collagen	AR

7. Darier's Disease	8) Hailey Hailey Disease
Inherited Acantholytic disorders	
i) Inheritance: AD ii) iii) Gene: ATP 2A2	AD (+) ATP2C1
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: right;">→</div> <div style="border: 1px solid black; padding: 2px 5px;">SERCA</div> <div style="text-align: left;">←</div> </div>	
C f 1) Lesions: Verrucous (warty) - Greasy, Sand paper 2) Site - Seborrhic areas 3) Nail - V-shaped splitting over distal nail plate Investigations Histology - - Corps grain Corps ronds	1) Recurrent, flaccid, vesicular eruptions 2) Intertriginous areas (Skin folds) 3) (+) (+) - Dilapidated Brick wall appearance 

<p>9) Erythema Multiforme</p> <p>1) Etiology- (i) Viral infection (Herpes Simplex > Mycoplasma)</p> <p>ii) Drugs</p> <p>2) C\F - Target lesions / Bull's eye/Iris</p>  <p>- Distal extremities</p> <p>3) Mucosal Involvement (-)nt If present → EM major</p> <p>4) [] (-)ve</p>	<p>10) Epidermal Necrosis</p> <p>1) Drugs</p> <p>2) [] - epidermal separation</p> <p>↓</p> <p>BSA</p> <p><10% Overlap 10-30% >30% TEN</p> <p>↓</p> <p>SJS</p> <p>3) +nt (Hemorrhagic Crust, epidermal necrosis)</p> <p>4) +ve (Pseudo Nikolsky Sign)</p>
<p>5) T/t -</p> <p>I) Avoid offending agents</p> <p>II) conservative T/t fluid & electrolyte.</p> <p>III) Progressive/severe</p> <p>- Corticosteroids</p> <p>- Cyclosporine</p>	



Q. 35 year old male developed flaccid vesicopustules with crusted erosions and expanding circinate plaques over axillae associated with malodorous discharge and fissures (rhagades). [PICTURE-1] Asymptomatic longitudinal white bands were present in the nails. [PICTURE-2]

A. Candida intertrigo with onychomycosis.
B. Tinea corporis with tinea unguium
C. Darier's disease and its nail changes
D Hailey - Hailey disease and its nail changes

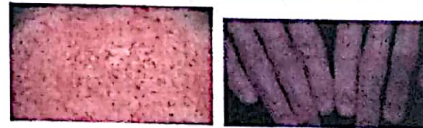
O ANS. D

Q The patient came with h/o lesions (PICTURE) distributed preferentially on the distal extremities.. What is the probable triggering factor ?

- A) Drugs
 - B) Bacterial infection
 - C) Viral infection
 - D) Fungal infection
- Ans. C) Viral Infection



- Loss-of-function mutations in the *ATP2A2* gene encoding sarco/endoplasmic reticulum calcium adenosine triphosphatase isoform 2 (SERCA 2), which impair intracellular Ca²⁺ signaling.
- Multiple discrete scaling of crusted, pruritic papules. Confluence to large plaques covered by hypertrophic warty masses.
- **Distribution Corresponding to the "seborrhoeic areas"**: chest, back, ears, nasolabial folds, forehead, scalp.
- Nails thin, splitting distally and showing characteristic V-shaped scalloping



SCORTEN prognosis score.



- A specific severity-of illness score to determine prognosis for cases of TEN (SCORTEN) based on seven independent risk factors for death as assessed on the first day of hospitalization.
- 1 point awarded for each parameter; SCORTEN derived by totalling scores

SCORTEN	Probability of death (%)
0-1	3
2	12
3	35
4	58
≥5	90

Parameter

- Age > 40 years
- Presence of a malignancy
- Epidermal detachment > 30%
- Heart rate > 120/min
- Bicarbonate < 20 mmol/L
- Urea > 10 mmol/L
- Glycaemia > 14 mmol/L

Important Facts

* Carbamazapine – HLA B*1502



SJS/TEN

* SCORTEN – Used for TEN Patients

* SCORAD – used for Atopic Dermatitis

* PASI –

* VASI –

* MASI –

* CASPAR – Psoriatic Arthritis

PIGMENTARY DISORDERS

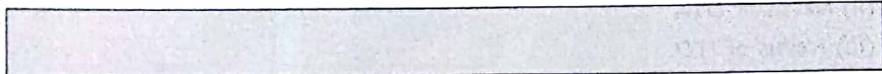
A. HYPERPIGMENTARY DISORDERS

Excessive melanin is present mostly in epidermis, sometimes dermis as well.

2 ways to differentiate epidermal melanin from dermal melanin:

1. Colour of lesions → Epidermal is Brown / Black in colour
→ Dermal melanin is Blue

2. Wood's lamp examination -



- Blue colour of dermal melanin is due to Tyndall / Optical effect

1. Melasma


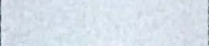
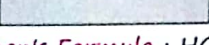
Etiology → Hormonal → Occurs after pregnancy, OCP intake and HRT
→ Also associated with Hypothyroidism
→ Sun exposure → Excessive UVB exposure

C/F: Brownish discolouration

- This brownish discolouration can be present at various sites
- Depending upon sites, types of melasma are :
 - I. Centrofacial (MC)
 - II. Mandibular
 - III. Maxillary

T/t: Tyrosinase inhibitors (depigmenting agent)

E.g Topical

- I. Hydroquinone
- ii. 
- iii. 
- iv. 

Kligman's Formula : HQ + Tretinoin + Steroids

- Sun protection → Physical → cover the face
→ Chemical → apply sunscreens

Imp. facts :

1. Exogenous Ochronosis - is the bluish -grey discolouration of the skin due to excessive topical application of Hydroquinone
2. Contact Leukoderma - Skin becomes white due to contact to chemicals

e.g. (a)



(b) Para 3° butyl phenol → present in adhesive behind Bindi

(c) Para 3° butyl catechol → present in hair dye

3. UV Spectrum - The range of UV radiation is 200-400 nm

UVC → 200-290 nm - 290 nm wavelength is cut by ozone layer- 0%

(Also known as Germicidal)

UVB → 290 - 320 nm - 5%

(Also known as Sunburn spectrum)

UVA → 320 - 400 nm → 95%

- UVA II → 320 - 340 nm
- UVA I → 340 - 400 nm

2. Ceruloderma - Blue skin

- (i) Mongolian Spot
- (ii) Nevus of OTA
- (iii) Nevus of ITO

Both → Unilateral

- Bluish - Grey discoloration
- T/t : Ruby (Q-switched) Laser or Nd : YAG

Nevus of OTA

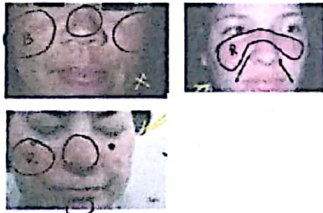
Nevus of ITO

Site - Trigeminal Nerve

Acromioclavical Nerve

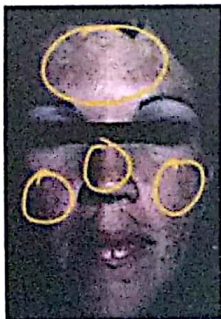
(Mainly ophthalmic and Maxillary division)

(post supra. Clavicular Nerve and lateral Br. cutaneous Nerve)



1.
2.
3. Rosacea

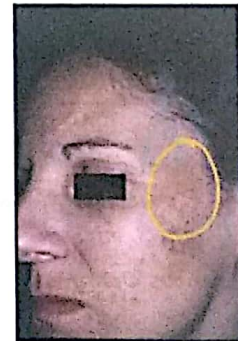
- Melasma is not a differential diagnosis for Rosacea as Rosacea lesions are red while melasma lesions are brown



Centrifacial Melasma



Mandibular Melasma



Maxillary Melasma

Q A lady came with complaints of a bluish lesion over left side of forehead and left eye. [PICTURE] Shows Irregular bluish lesion in Left superior conjunctive and forehead. Diagnosis ?

- A) Nevus of Ota
- B) Nevus of Ito
- C) Becker's nevus
- D) Mongolian spot



Mongolian spot



Nevus of ota



Nevus of ito

Ans. A)

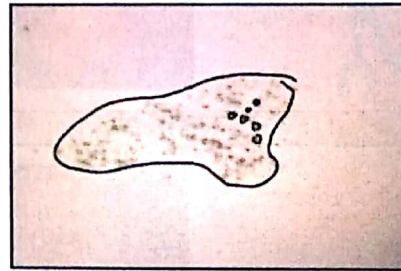
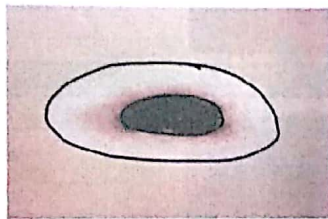
Becker's Nevus



Imp facts

1. **Becker's Nevus** - Hyperpigmented patch over upper trunk associated with hypertrichosis
 - Develops during Adolescence
2. - Benign melanocytic nevus surrounded by depigmented Halo
3. **Nevus Spilus** - Also known as Speckled Lentiginous Nevus
 - Presents as a circumscribed, usually more darkly pigmented "spot"

HALO NEVUS/SUTTON'S NEVUS



4. Incontinentia Pigmenti

- X-linked dominant
- Developmental defects of eye, teeth, CNS with cutaneous lesions
- 4 clinical stages :
 - i.
 - ii.
 - iii. Grey - brown pigmentation
 - iv. Atrophic, hypopigmented and depigmented



- Lesions follow imaginary lines of development known as lines of Blaschko

5. Mongolian Spot -



Hyperpigmentation

1. Nevus of OTA - bluish discolouration over maxillary area and eye



2. Nevus of ITO - In this condition the increased pigmentation affects the area supplied by the posterior supraclavicular and lateral brachial cutaneous nerves



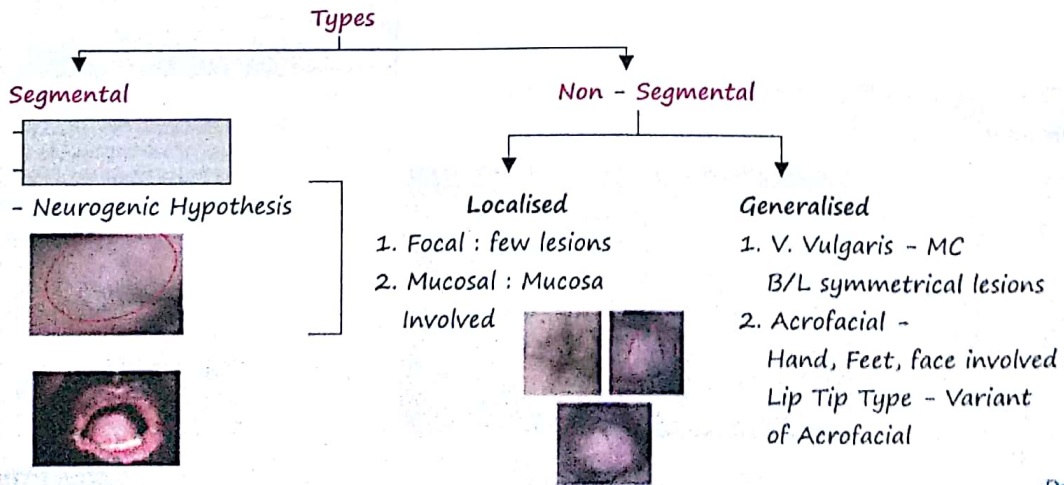
3. Peutz -



B. HYPOPIGMENTARY DISORDERS

1. Vitiligo - Autoimmune condition (MC)

- In few cases, family history is positive (15%)



demarcation of the edges.

hyperpigmentation.



- In this involvements of lips along with tip of penis or Nipples
 3. V. universalis - associated With autoimmune disorders Like Hashimoto Thyroiditis, DM, Pernicious anemia, Alopecia areata.

Prognosis

I. Leukotrichia

II. [Redacted]

III. [Redacted]

IV. Acrofacial

Poor prognosis

T/t -

1. Topical

- I. Steroids
- II. Calcineurin inhibitors like Tacrolimus, pimecrolimus
- III. Vitamin D analogs

2. Systemic

- I. [Redacted]
- II. [Redacted]
- III. Levamisole

3. Phototherapy

- I. PUVA → [Redacted]
- II. PUVAsoL → [Redacted]
- III. NBUBV (narrow Band UVB) → Expose lesions to 311 nm wavelength
- IV. Targeted Phototherapy - Exiemer laser used which emits light of 308 nm wavelength

Psoralens →

MOA - Bind to DNA

Types → Natural - Eg. 8 Methoxy Psoralen

Derived from seeds of Ammi Majus

→ Synthetic - eg. Trimethoxy Psoralen

Route of Administration



Surgical T/t - Indicated → If medical treatment fails and disease is stable for > 2 yrs

Modalities →

- 1. Skin grafting → Ultra thin PTSG
→ Punch graft
- 2. Non cultured autologous melanocytic transfer
- 3. Cultured autologous melanocytic transfer

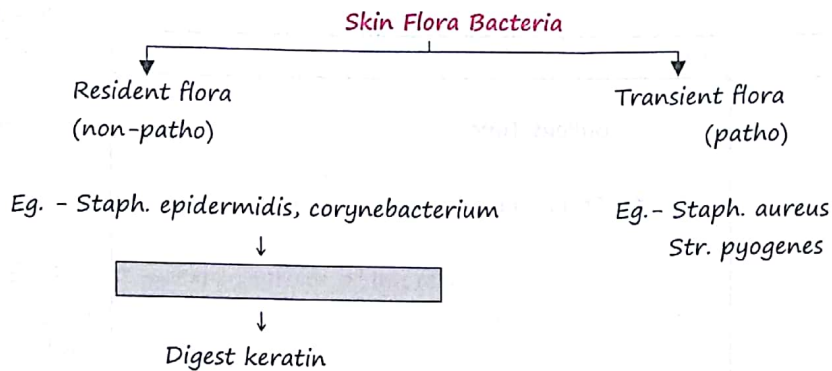
Other Hypopigmentary Disorders

Pityriasis alba	Indeterminate Leprosy
1. Lesions are single. Generally present over face and common in children	1. Lesions are single. Generally present over face and common in children
2. Scaling present	2. Scaling not present
3. H/O Atopy present	3. [Redacted]
4. [Redacted]	4. Atrophy is present
5. [Redacted]	5. Sensations can be impaired

Post - Kala Azar Dermal Leishmaniasis	Leprosy (Lepromatous)
1. [Redacted]	1. Hypopigmented lesions seen on trunk
2. [Redacted]	2. Nodular lesions seen on face
3. Endemic in Bihar	3. [Redacted]
4. Past H/O fever is present	4. [Redacted]
5. Nerve thickening is absent	5. Nerve thickening is present
6. Sensations are intact	6. Sensations are impaired

Important Fact	DOC
* Visceral Leishmaniasis (Kala azar)	→ Liposomal Amphotericin B
DOC	
* PKDL	→ Miltefosine
* P.alba is self limiting condition	

BACTERIAL INFECTIONS



Disorders caused by Resident flora

1. Pitted Keratolysis

- Multiple pits are seen on palm & sole
- Patient shows hyperhidrosis

2. Trichomycosis Axillaris

Here mycosis is a misnomer as it is a bacterial disorder
Caused by *Corynebacterium tenuis*

C/F - Yellowish discoloration is seen over axillary hairs

3. Erythrasma

- Caused by *Corynebacterium minutissimum*

C/F → non itchy rash over → axilla (MC site)

→ Groin

- When examined under []

↓

Shows coral Red color

* which is because of coproporphyrin III

Rx - For all above disorders

1. Topical → fusidic acid (2%) (sodium fusidate)
2. Systemic → Clarithromycin 1 gm stat.

Or

Erythromycin []

Important fact

Rx for hyperhidrosis

- Topical → 20% aluminium chlorhydrate
- 1% formaline
- Inj. → BOTOX
- Others → Iontophoresis
- Surg. → sympathectomy

Disorders caused by Transient Flora

1 Impetigo

Classified

Non - bullous (MC)
(I. contagiosa)

1. C - Ag →

Strept. > Staph. aureus



MC in
Developing
nations



MC in
developed
nations

2. C/F

- common in child
- common site face

Erosions → Golden yellow /



3. Complications

PSGN
(Post Streptococcal
glomerulonephritis)

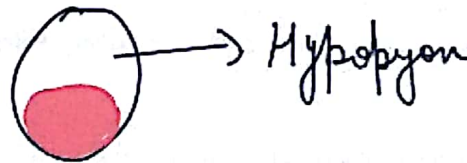
4. Rx



Bullous Type

1. Staph. aureus

- 2. → common in child
- common site face
- Exfoliative toxins



→ Hypopyon sign i.e.
Pus is collected in lower
Half

3. S.S.S.S

(Staphylococcal scalded skin syndrome)

Features

- Mucosal involvement is absent
- Superficial (subcorneal epi. separation)
- Nikolsky sign +ve

4. Rx

(Question DNB 17)

* Nikolsky's sign is seen in → Pemphigus

→ S.S.S.S.



Rx: Treatment common for both above subtypes are
 - Cephalosporins

Topical - fusidic acid
 - Mupirocin
 → Retapamulin

Important

Condy's Compression → $KMnO_4$ solution 1:10,000 H_2O
 → It is antibacterial & help in removing crust


2. Ecthyma - deeper variant of Impetigo

C/F - Indurated lesions with necrotic crust, which on removal leads to ulcer formation

Caused by


i. Ecthyma pyogenicum → str. , staph. aureus

ii.  → pseudomonas aeruginosa

iii.  /orf disease/contagious pustular disease → parapoxvirus/ORF virus





↓
 (viral condition)

→ It is a Zoonosis disease i.e. spread through animals
 → Sheep, goat

3. Erysipelas	4. Cellulitis
(i) Caused by :- Group A → β Haemolytic strep.	Both strep. & staph.
(ii) Borders :- Sharp	
(iii) Associated With Lymphangitis ↑↑	More ↑ toxic
(iv) Toxic :- ↓ Less	

Imp. Fact

1. Milian Ear sign → Ear involvement is absent in cellulitis because it involve deeper tissues
2. Erysipeloid → caused by Erysipelothrix rhusiopathia
3. Wood's lamp → 365 nm (320 - 400 nm)
 → filter - Barium silicate + 9% Nickel oxide

Disorder	Colour
1. Tinea capitis	→ Green
2. Pseudo.	→ Green
3. Pityriasis versicolor	→ Yellow/apple green
4. 	→ Yellow/orange
5. 	→ Pink
6. 	→ Coral red
7. 	→ Red
8. Vitiligo	→ White
9. Ash. leaf macules (seen in Tuberosus sclerosis)	→ Bluish white

10. Chromhidrosis → Variable
 ↓
 This is because of
 - Lipofuscin
 - Drugs :- Mepacrine
 - Dyes



MCQ:

28 year old female presented with shallow discrete and coalescent pits, hyperhidrosis, and malodour over her palms & sole. Diagnosis ?

- A. Tinea pedis
- B. Palmoplantar keratoderma
- C. Pitted keratolysis
- D. Inverse tinea versicolor

Ans →



Bullous Impetigo



Impetigo Contagiosa



Axilla



Corneal Red



Impetigo

Important Note

Ritter's Disease / SSSS / Pemphigus neonatorum
 Reiter's disease → reactive arthritis

C/F

C -
 U -
 B -
 I -

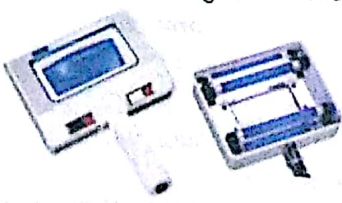
- K - Keratoderma blennorrhagica
- A - Arthritis

Ques

Following instruments is commonly used to diagnose all the following conditions except ?

- A. Staining of teeth or sebum from tetracycline
- B. In investigation of dermatitis artefacta
- C. Squamous cell carcinoma
- D. Bromhidrosis

Ans → D.



Types

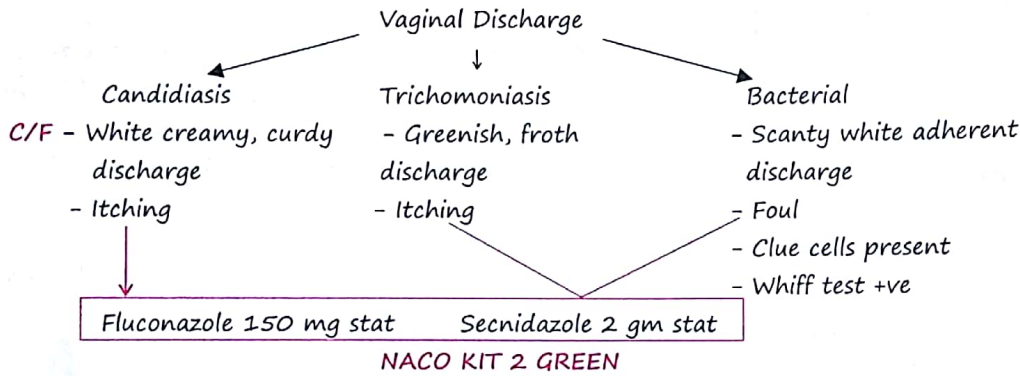
1. Oral candidiasis

i. Acute pseudomembranous C. → M/C, also called as thrush

- ii. [Redacted]
- iii. [Redacted]
- iv. [Redacted]

v. Perleach → Angle of mouth

2 Vaginal C.



3 C. balanoposthitis

- * Recurrent → D.M
- * Fissures

4 C. paronychia → Nail folds

5 C. intertrigo → Intertriginous area

Satellite lesions seen in

- i. BT (Hansen's disease)
- ii. Sporotrichosis
- iii. Candidiasis

Investigations

* 10% KOH → Pseudohyphae

Doc

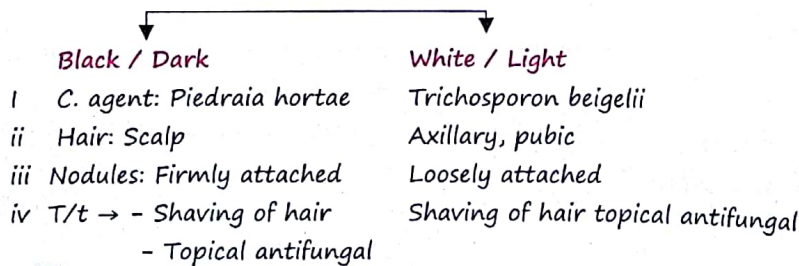
Fluconazole

Griseofulvin not used.

* Pseudo diaper rashes → Infants

* Erythema of Jacquet → [Redacted]

4. TRICHOMYCOSIS NODULARIS / PIEDRA



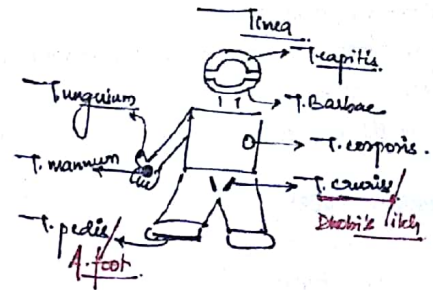
Dermatophytosis - caused by dermatophytes.

DERMATOPHYTES

3 Genera

- i Trichophyton
- ii Epidermophyton
- iii Microsporum

	Skin	Hair	Nail
1 Trichophyton	✓	✓	✓
ii Epidermophyton	✓	✗	✓
iii Microsporum	✓	✓	✗



1 T. corporis

Causative Agent → T. glabrosa/ T. circinata

- Annular lesions, active margins (ring) → central clearing
- Central crusting → []
- Central scarring → []

2 T. imbricata

C. Agent → Trichophyton concentricum

3 T. incognito

- Unable to recognize this
- Under the effect of steroids → Inflammation] Subside
- Symptoms]
- Infection - Persist

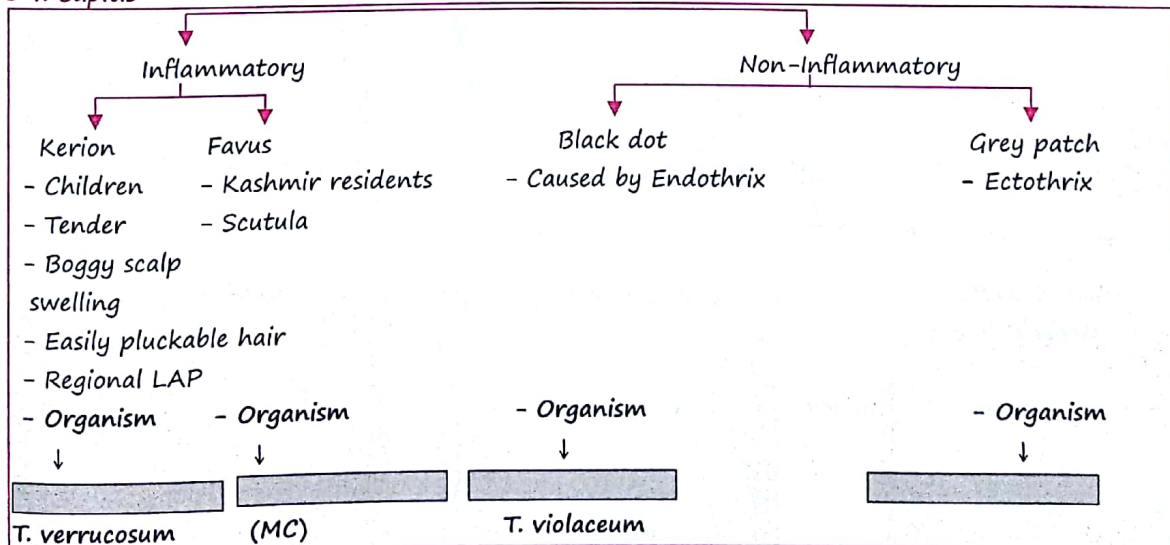
4 Tinea manuum

- Unilateral
- Hyperlinear lesions
- Hyperkeratotic lesions

5 T. pedis

- i Interdigital → MC (MC site - 4th web space)
- ii Squamous
- iii Bullous
- iv Ulcerative (Rarest)

6 T. Capitis



Wood's Lamp Examination (WLE)

Green fluorescence

(Microsporium species and Trichophyton schoenleinii are fluorescent)

Drug of choice

- Griseofulvin → 10-15 mg/ kg/ bwt

Important Facts

C. Agent	DOC
i Trichophyton	Terbinafine
ii Microsporium	Griseofulvin > Itraconazole
* MC ectothrix sp. causing T. capitis: M. canis	
* MC endothrix sp. causing T. Capitis: [redacted]	
* 2 nd MC endothrix sp. causing T. capitis: T. violaceum	
* MC sp causing T. capitis India: T. violaceum	
* MC sp. causing T. capitis west: [redacted]	
* MC sp. causing T. capitis world : [redacted]	
* MC sp. causing T. cruris	T. rubrum (DOC: Terbinafine)
T. corporis	
T. manuum	
T. pedis	
T unguium	

7 T. unguium (Onychomycosis)

3 types

i Distal lateral subungual onychomycosis

(DLSO) → MC

ii Proximal subungual onychomycosis (PSO) → Rarest

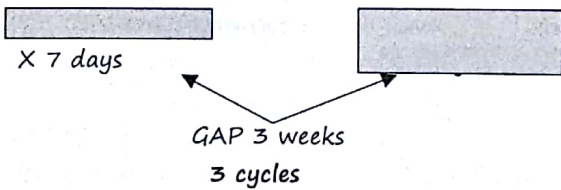
→ HIV +ve

iii Superficial White onychomycosis (SWO)

DOC

Terbinafine > Itraconazole

Pulse therapy



Topical agents

i Amorolfine

ii Ciclopirox olamine

available in the form of nail lacquer



DEEP FUNGAL INFECTIONS

1. Sporotrichosis

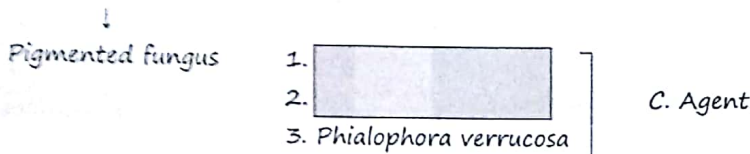
- Common in rose gardeners.
- Site of inoculation is thorn prick
- AKA rose gardeners disease Or rose thorn disease

Causative Agent → *Sporothrix schenckii*

Variants	C/F	DOC
i Cutaneous	Nodule with ulcerations	
ii Lymphatic (MC)	Linear nodules with satellite lesion	
iii Systemic	Lung involvement	

Histo → Asteroid bodies

2. Chromoblastomycosis / Fonsecaea disease



C/F

- Verrucous plaque (wart)
- ↓
- Giant Cauliflower

Histo →

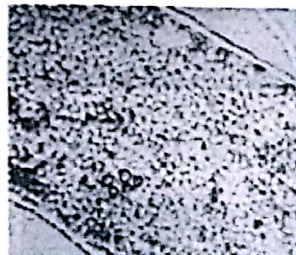
- Medlar body / Sclerotic/ Copper penny bodies

DOC

Itraconazole



KOH Mount



Endothrix



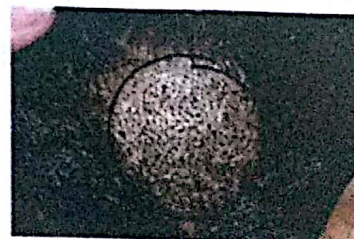
Ectothrix



Oral candidiasis



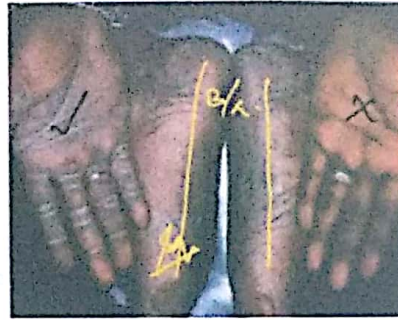
Candidiasis



Black Dot



T. pedis



One hand and two feet syndrome



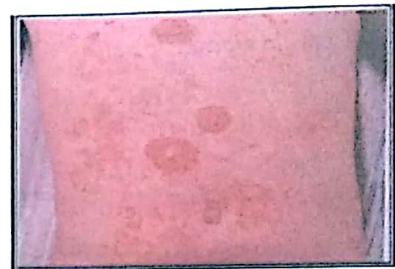
Pityriasis versicolor



T. capitis



T. facialis



T. corporis



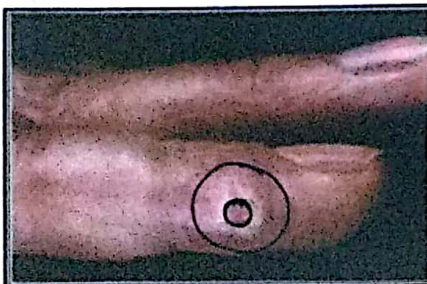
T. cruris



T. pedis



- DLSO
- PSO
- SWO



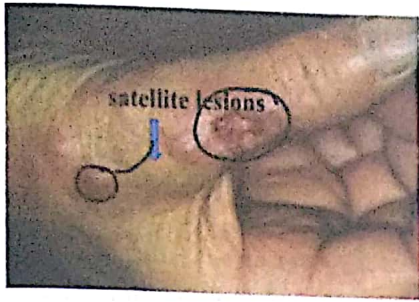
Sporotrichosis



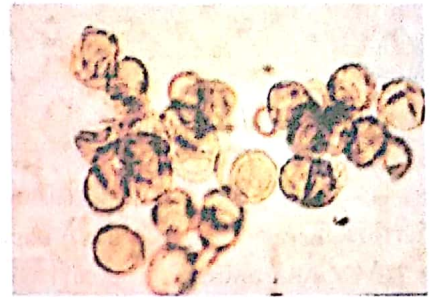
Sporotrichosis



Chromomycosis



Ulcerated nodule reveals the satellite lesions characteristic of lymphangitic (sporotrichoid) spread

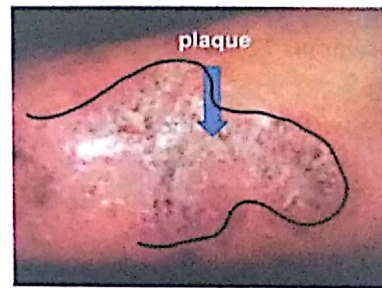


Sclerotic cells/Medlar bodies globe-shaped, cigar-colored, thick-walled structures 4-12 μm in diameter



Cauliflower

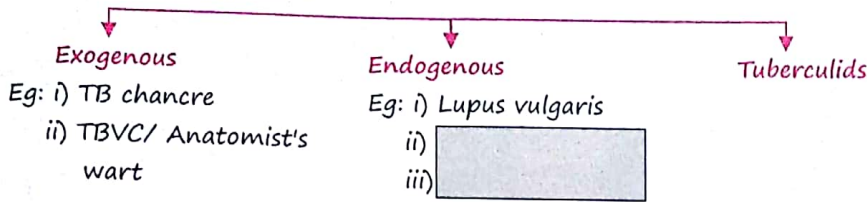
Chromoblastomycosis



Chromoblastomycosis

MYCOBACTERIAL INFECTIONS

Cutaneous Tuberculosis :-



- * Most common type of cutaneous TB → *Lupus vulgaris*
- * M/C type in children → []
- * Orificial TB occurs due to *Auto - inoculation*
- * Most cases of lupus vulgaris are due to *hematogenous spread*.
- * Tuberculids due to **MBHS**

TB Chancre: - Inoculation TB
 - Rare
 - Ulcer with undermined edges

Other conditions where it can be seen



TBVC → Post 1° with in CMI (good resistance)

- * Lesions are verrucous (warty)
- * Single, over exposed (feet, hand)

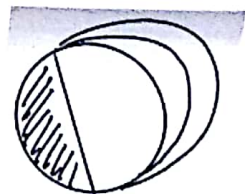
Viral warts	Anatomists wart
1. Number: Multiple	Single
2. Induration: absent	Present
3. Scarring: absent	Present (central)
4. Discharge: absent	Present (serous)
ISD Number	

Lupus vulgaris

- Ery/ violaceous plaque with central scarring
- On diascopy



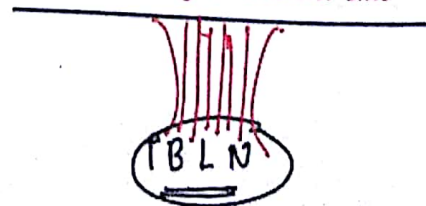
Apple jelly nodules are seen at the periphery of lesion



Lesion extend from one side and leave scarring on another side

Scrofuloderma:

- * MC in Children
- * Cut inv. 2° to TB focus (LN, Bone, joint)
- * Presence with multiple sinus with discharge.
- * Violaceous Perilesional skin.



* MC LN involved cervicle

Orificial TB:

- * Auto inoculation
- * PO, PA

Tuberculids : - occur due to mycobacterial hypersensitivity.

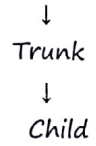
Three characteristic findings:

- i) TT positive → HS
- ii) AFB negative → myco X
- iii) ATT → Mycobacteria

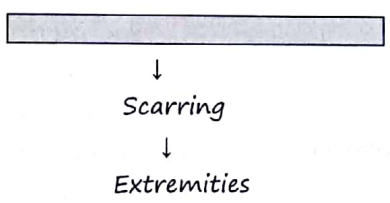
Type of tuberculids:

1 Micronodular / lichen scrofulosorum

* Tiny, Lichenoid Papules

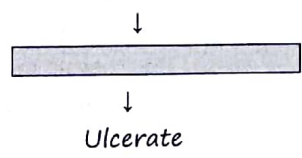


2 Papulonecrotic

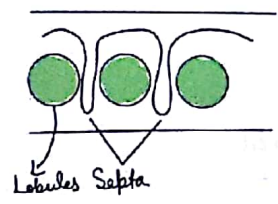


3 Erythema Induratum of Bazin: -

Ery. Nodules



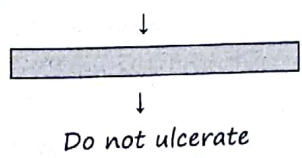
- * It's a type of lobular panniculitis
- * These three are true tuberculids



*** Important fact**

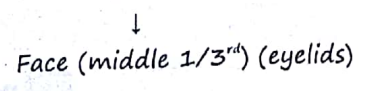
i) Facultative T/ Erythema nodosum

Ery. Nodules

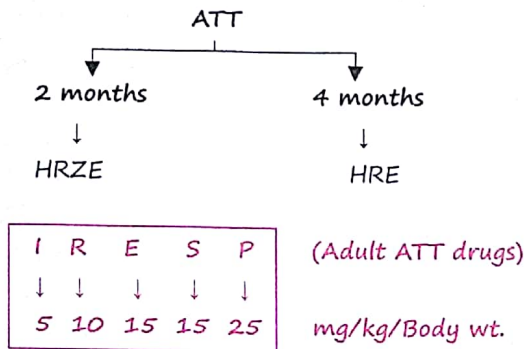


ii) False tuberculid | LMDF (lupus miliaris diss.faciei)

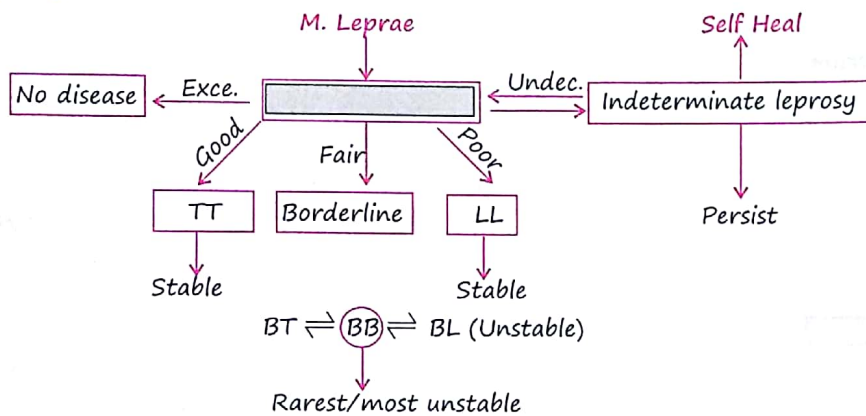
Papules



Treatment:



Leprosy:-

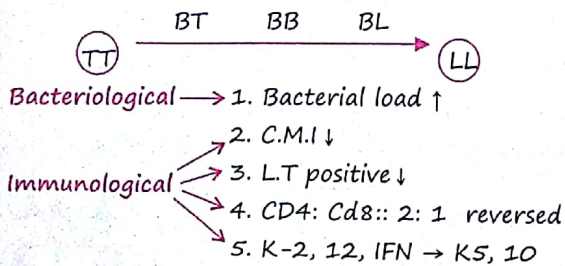


* All these types are known as "determinate leprosy" (Ridley Jopling Classification)

1 Indeterminate leprosy:

	P. alba	I.L
1. Single	+	+
2. Face	+	+
3. Child	+	+
4. H/O atopy	+	-
5. []	+	-
6. []	Intact	Impaired
7. []	Absent	Present
8. Histology	Spongiosis	Peri appendageal peri neural lymphocytic infiltrate
9. Treatment	Self limiting	[PB] MDT

2. Determinate leprosy (Ridley Jopling)



- Clinical**
- 6. Single → Multiple
 - 7. Asymmetric → Symmetric
 - 8. Definite Sensory loss → Diffuse (glove and stocking pattern)

Histological → (9)

TT

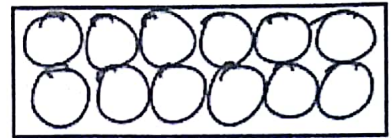
- Epitheloid granuloma with giant cells & occupied (-nt) grenz zone.

LL

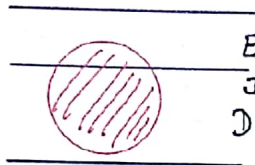
Foam cells within globi

* Free (positive) grenz zone

* Cigar or cigarette arrangement of foam cells is known as globi.



Grenz Zone: clear, uninfiltreated zone in upper dermis.



TT → CMI → good

LL

* Important facts:

1. MC type → BT
2. Rarest type → BB
3. Satellite lesions → BT
4. Punched out/inverted saucer shaped/ swiss cheese appearance → BB
5. MC cranial nerve →
- 6 MC peripheral nerve → ulnar > Post. Tibial
7. 1st sensation lost in leprosy →
8. Virulence of M. leprae → PGL - 1
9. Doubling time of M. leprae → 11-14 days
10. Blindness in leprosy →



Other types: -

1 Pure neuritic type: -

*

* Diagnosis is confirmed by taking

Nerve Bx from sensory nerves.

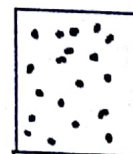
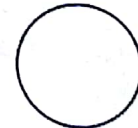
- i) Sural nerve
- ii) Cutaneous branch of radial nerve

2 Histoid leprosy:

* Multiple nodules start appearing after dapsone mono therapy

5

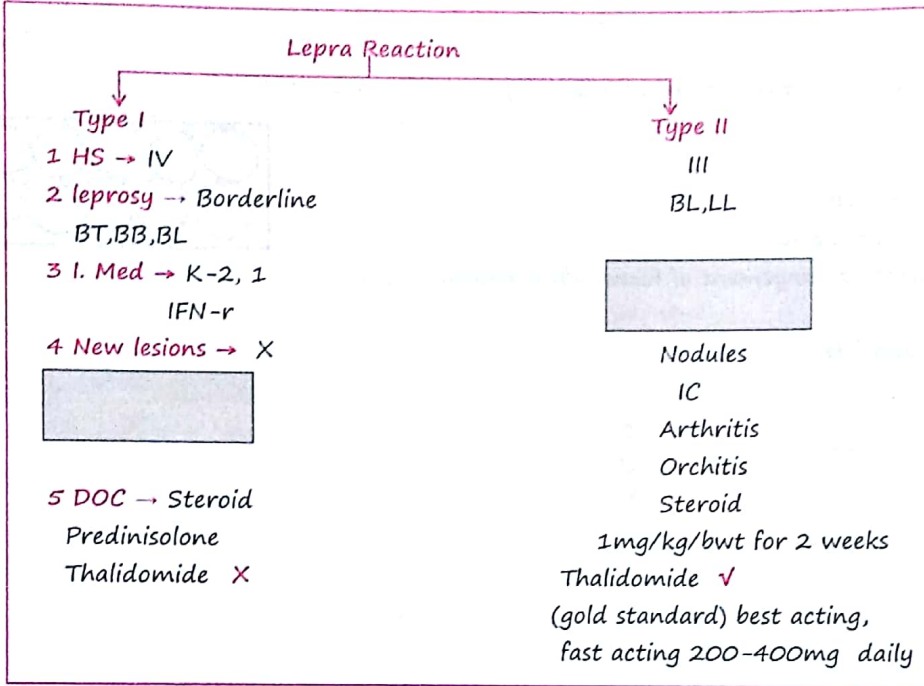
* Skin is erythematous, pink, smooth and shiny.



4 Lazine leprosy → LL

+
Malnutrition

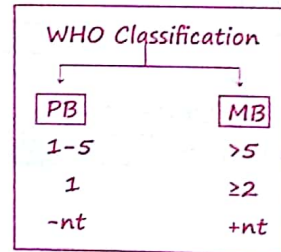
* Ulcerative type



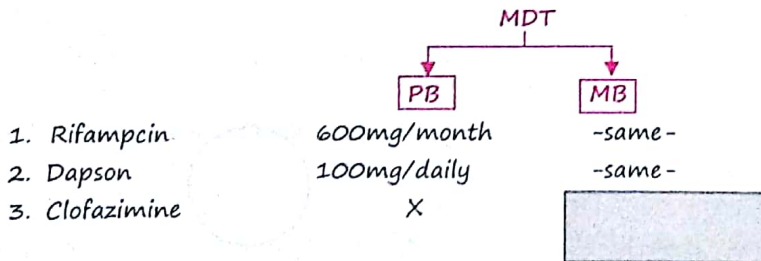
Luciophenomenon: Ulcerative lesions are seen over lower extremities which do not respond to thalidomide, so in severe cases exchange transfusion is done.

Cardinal features

- 1) HP, HA patch
- 2) Nerve thickening
- 3) Skin slit smear (AFB)



Treatment:

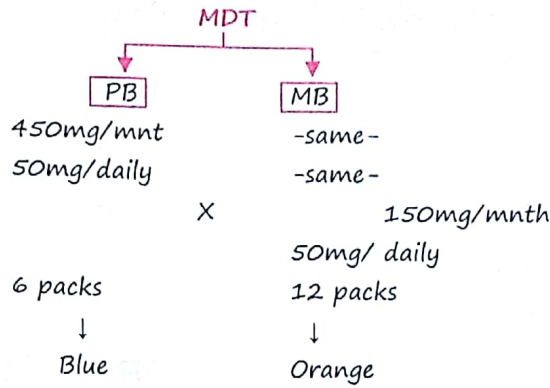


Blister packs (4 weeks = 28 days)

PB	MB
6 packs	12 packs
Adults MDT (green)	(red)

Child (10-14 years)

- 1 Rifampcin
- 2 Dapson
- 3 Clofazimine



WHO definition of RFT:

PB → 6 months in 9 month duration

MB →

Images Mycobacterial infections



Tuberculous chancre



Lupus vulgaris



Scrofuloderma



Tuberculosis verrucosa Cutis:-

	warts	Anatomist wart
number	multiple	single
Induration	absent	present
scarring	absent	Present(in centre)
discharge	absent	Present(serous)

Mnemonic: ISD Number



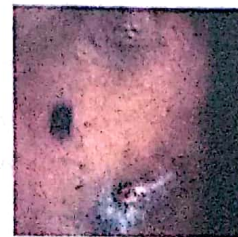
Erythema Nodosum

* Seen also in sarcoidosis, bechets disease, drugs, streptococcal throat infection

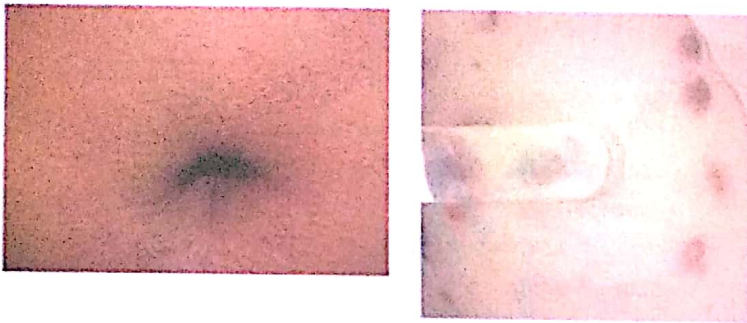
Q: - Two ulcers on the chest wall and axilla, associated with underlying sinus tracts and discharge, diagnosis?

- A) Lupus vulgaris
- B) Scrofuloderma
- C) Lichen scrofulosorum
- D) TBVC

Ans:- B) Scrofuloderma



Dr. Manish Soni



Lichen Scrofulosorum

Leprosy

Indeterminate leprosy

* One or more slightly hypopigmented or erythematous macules, with poorly defined borders.

* [Redacted]



Tuberculoid



Tuberculoid



Satellite lesion



BB Lesions



Geographical Lesion



LL



Nerves commonly affected

Nerve affected	Problem
Ulnar	Claw fingers & sensory loss
Radial	[Redacted]
Median	[Redacted]
Lateral popliteal	[Redacted]
Posterior Tibial	Plantar anesthesia & claw toes
Trigeminal	Corneal & conjunctival sensory loss
Facial	Lagophthalmos



Leonine Facies



Radial Nerve - Wrist Drop



Posterior Tibial Nerve - Claw toes



Facial Nerve - Lagophthalmos & facial palsy



Ichthyosis like changes, fish like scales



Palmar sore

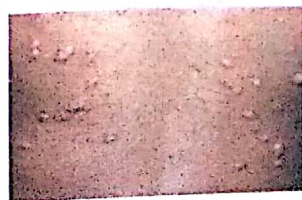
- Thickened greater auricular nerve in leprosy (NEET 2018 Q)



Reaction I



Reaction II/ENL



Histoid leprosy



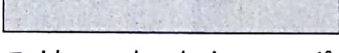


Dr. Manish Soni

VIRAL INFECTIONS

1. WARTS

- Caused by HPV

Types	HPV Subtypes
1. Deep plantar wart (myrmecia)	1 (MC)
2. 	2 (MC)
3. 	3, 10
4. 	4 < 2
5. Epidermodysplasia verruciformis	5, 8
6. Laryngeal Wart / Anogenital Wart	6 > 11
7. Butcher W	7 (MC)
'DSP - CELB'	

Investigations

Histological

KOILOCYTES

- Keratinocyte with hyperchromatic nucleus

Treatment

- Cryotherapy (- 196° C liquid nitrogen)
- Electrocautery
- TCA (Trichloroacetic acid) application (70 - 80 %)

Important Facts About STI (Anogenital warts) / Condyloma acuminata

- Causative organism HPV → 6 > 11

C/F

- Pointed
- Asymptomatic
- Pink verrucous lesions

Site → ♂ - Coronal sulcus, frenulum

→ ♀ - Posterior fourchette

Treatment



MOA Toll like receptor Metaphase arrest

7, 8

agonist

- Both agents are topical agents and teratogenic

Treatment of Anogenital wart in pregnancy

Cryotherapy > TCA application

Treatment of Giant AGW

↓ (JIPMER 15, 16)

Surgery

2. MOLLUSCUM CONTAGIOSUM

- MCV (Type I-IV) - Pox virus
- MC → Type I
- MC (HIV +ve) → Type II

Clinical features

- Asymptomatic
- Pink
- Papules with central umbilication

Site → Children - Face

→ Adult - Genital (STI)

Investigation

Histology →

(Intracytoplasmic eosinophilic inclusion bodies)

Treatment

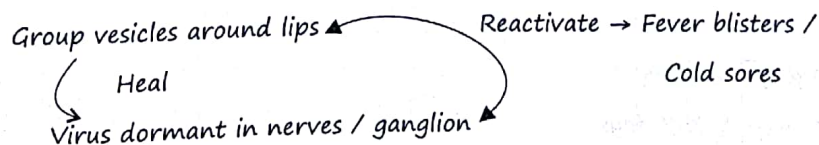
- Cryotherapy
- Electrocautery
- TCA application
- Needle extraction

3. HERPES

I. Herpes labialis

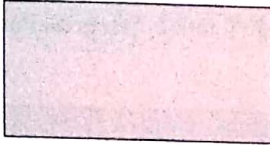
- Caused by

C/F



SEXUALLY TRANSMITTED INFECTIONS

<p>i. Causative organism</p>	<p>Syphilis T. Pallidum</p>	<p>LGV Q DNB'18 C. Trachomatis L1, ②, 3 MC</p>	<p>Chancroid H. Ducreyi</p>	<p>Donovanosis K. granulomatis</p>
<p>ii. Incubation period</p>	<p>9-90 days</p>	<p>Q AIIMS'18 3-30 days</p>	<p>2-5 days</p>	<p>8-80 days</p>
<p>iii. Genital ulcers</p> <p>a) Number</p> <p>b) Base</p> <p>c) Induration</p> <p>d) Margins/edges</p> <p>e) Pain</p>	<p>1° syphilis Single Non-vas. clean Very firm Elevated Painless</p>	<p>Single Non-vas Painless</p>	<p>Multiple Granulo. & Bleed Soft Undermined ragged Painful</p>	<p>Single Beefy red, Bleed Very easily Firm</p>
<p>iv. Lymphadenopathy</p>	<p>→ [] → shotty (rubbery)</p>	<p>→ U/L (2/3rd cases) → tender → Bubo's (without genital ulcers)</p>	<p>→ U/L → Tender → Bubo's (with Genital ulcers)</p>	<p>Pseudo bubos (subcutaneous nodules) ↓ Inguinal area</p>
<p>v. Investigations</p>	<p>Dark ground microscopy (D/G, M/S)</p>	<p>Nucleic Acid Amplification Test (NAAT)</p>	<p>1. Gram Staining - G - ve Coccobacilli ↓ School of fish Or [] 2. Culture Mueller Hinton media Or 5% chocolized horse blood agar</p>	<p>Smear ↓ Donovan bodies ↓ Closed safety pin appearance</p>

vi. DOC	Benzathine Penicillin Except for 	Doxycycline	Azithromycin	Azithromycin
2nd	Doxycycline	Azithromycin	Ceftriaxone	Doxy

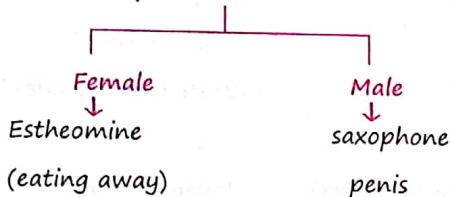
Important Facts

- * FRIE TEST → for LGV] Intradermal test
- ITO TEST → Chancroid] used in past
- * LGV → Genital ulcers are transient and painless
→ late complications

1. Groove sign of greenblatt i.e.

Lymph nodes enlarge on either side of inguinal ligament forming a groove

2. Genital elephantiasis



3. Ano rectal syndrome

4. Vagino rectal syndrome

Types of Donovanosis

1. MC → ulcerogranulomatous type (Beefy red)
2. Hypertrophic type → walnut growth
3. Necrotic
4. Sclerotic

Syphilis Type

1° syphilis → Painless, clean based single with firm indurated ulcer & shotty B/L non tender

Lymphadenopathy

Invg - 

DOC - Benzathine Penicillin

2° syphilis → Rashes, all kind of lesions can be seen here except vesicubullous lesions

→ pigmented lesions on palm and sole

Show deep dermal tenderness



- moth eaten alopecia
- highly infectious → condyloma lata

Invg - VDRL / RPR

DOC - Benzathine Penicillin

Latent syphilis → < 2 yrs (early)] C/F are absent, serological test are +ve
 → > 2 yrs (late)

Invg. - EIA (Enzyme Immunoassay)

DOC - Benzathine Penicillin

↓
Early

↓
Late

(1°, 2°, early L)



↓

↓

BP

BP

↓

↓

2.4 mv (1.2 MU)

2.4 MU (1.2 MU each

Each buttock IM deep)

buttock. Deep IM injection weekly X 3 weeks, thus total dose 7.2 MU)

3° syphilis - systemic involvement presents as

↓
Gumma

↓
CVS

↓
CNS (Neuro)

* Rubbery nodules

* Aneurysm

* Generalised paresis

With punched out

(Ascending aorta)

of the insane (GPI)

Ulcers

- Psychiatric problem [NEET 2018]

Base - washed

* Valvular heart disease

- Tabes Dorsalis

(Leathery)

(aortic regurgitation)

(Gait abnormality)

Investigation

CSF VDRL

↓

Look for CSF Pleocytosis

↓

Tell us about treatment

Congenital Syphilis → < 2 yrs (Early) → vesicobullous lesions

→ nasal snuffles (Rhinitis)

→ 2 yrs (late) → Hutchinson's triad

↓
Deafness
(VIII nerve
deafness)



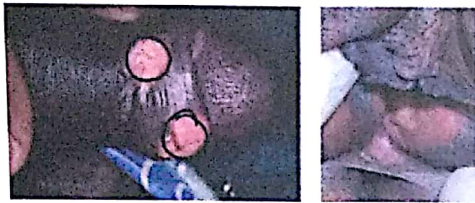
↓
Deformed teeth
Hutchinson teeth



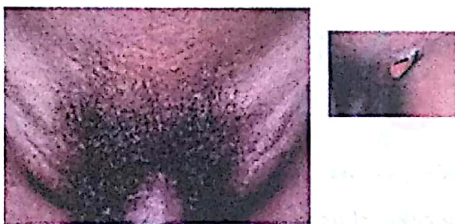
→ With notch, peg / barrel shaped

CHANCROID

- The ulcer, ragged, undermined edges, surrounded by a red, very vascular areola



Gram or giemsa staining shows bacilli in parallel chains of two or three organisms streaming along strands of mucus, known as school of fish or rail road track



Donovanosis (GI/GV) pseudo bubo

1. Ulcerogranulomatous

MC variant -

2. Hypertrophic or verrucous type

An ulcer or growth with walnut like appearance.

3. Necrotic

4. Sclerotic or cicatricial



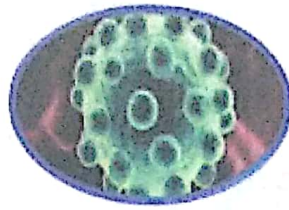
Demonstrating the Donovan bodies on smear or biopsy specimen



Shiraz Medical Journal, Vol. 8, No. 4, October 2007.



Lymphogranuloma Venereum



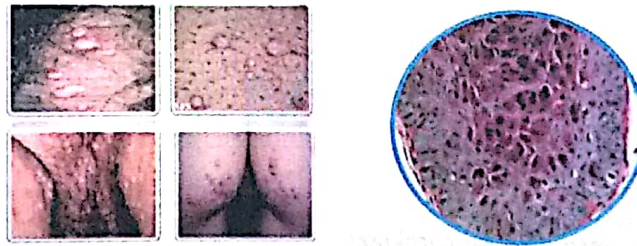
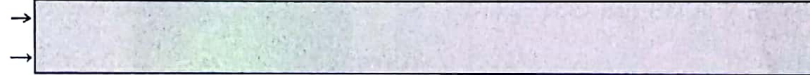
Herpes Genitalis



Anogenital warts :- Condylomata acuminata, which have a cauliflower like appearance

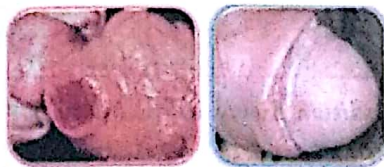


Molluscum Contagiosum :- MCV is a large, brick shaped pox virus that replicates within the cytoplasm of cells



Treponema Pallidum:

Showing spiral and angling on dark field microscopy



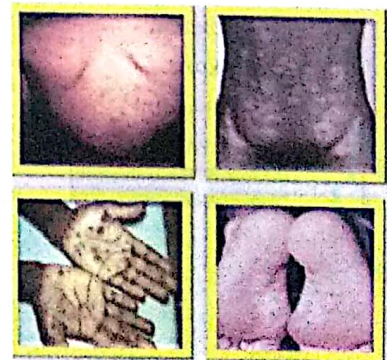
Kissing Ulcers



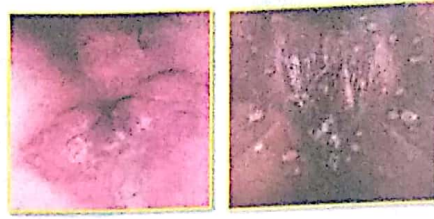
Typical papulosquamous syphilide



Annular Lesions



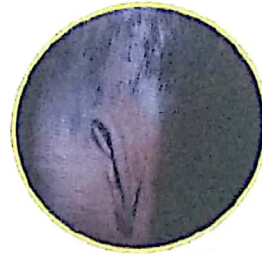
In warm & moist areas, papules may become confluent, hypertrophic & flattened c/d condyloma lata (highly infectious)



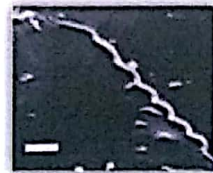
Patchy, hair loss leaving scattered, irregularly thinned, "moth eaten" patches of semi baldness



Hutchinson's teeth are commonly notched at the free margin



The upper central incision may be peg or barrel-shaped



Investigations

It is an acute febrile reaction, mediated by cytokines that occurs in many patients within 24 hr of commencing treatment



Ques. Treatment of choice for the condition shown in the image is ?

1. Ciprofloxacin
2. Ceftriaxone
3. Streptomycin
4. Erythromycin

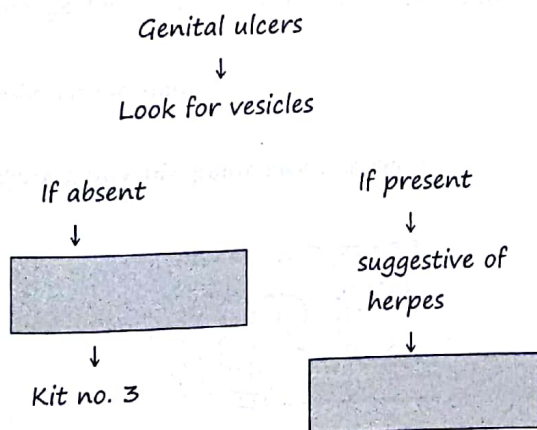
Ans

Urethral Discharge

Causes:-

Gonococcal	Non Gonococcal
C. Ag: N. Gonococcal	1. C. Trachomatis
IP: - 2-5	2. [Redacted]
C/F: - profuse, purulent discharge	3. [Redacted]
Inv. → G stain - G -ve diplococci → Culture - thayer martin	4. [Redacted]
Rx Dual therapy 1. Inj. ceftriaxone 250 mg 1 M stat 2. Azithromycin 1 gm stat. Or Tab Cefixine 4000 mg stat With Tab Azithromycin 1 gm stat	7-14 Scanty discharge NAAT Rx Azithromycin 1 gm stat or Doxy. 100 mg BD X 7 days

Syndromic Management



Urethral or Anorectal or Cervical discharge	KIT 1: Gray	Tab Azithromycin 1 g (1 tab) Tab cefixime 400 mg (1 tab)
Vaginal Discharge (Vaginitis)	KIT 2: Green	
Genital Ulcer Disease (Non Herpetic)	KIT 3: White	In. Benzathrine Penicillin 2.4 MU (1 vial) + Tab Azithromycin 1 g (Kit also contains 10 ml disposable syringe + 21 gauge needle + 1 vial of 10 ml sterile water)
Genital ulcer disease (non herpetic) in patient allergic to penicillin	KIT 4: Blue	Tab Doxycycline 100 mg (1 tab BD for 14 days)
Genital ulcer disease (Herpetic)	KIT 5: Red	Tab Acyclovir 400 mg X 1 tab TDS X 7 days
Lower Abdominal Pain (Pelvic inflammatory Disease)	KIT 6: Yellow	Tab Cefixime 400 mg X 1 tab Tab Metronidazole 400 mg X (1 BD 14 days) Tab Doxycycline 1 g (1 BD 14 days)
Inguinal Bubo	KIT 6: Black	Tab Azithromycin 1 g X 1 tab

PAPULOSQUAMOUS DISORDER

1 Psoriasis

- Chronic inflammatory condition with multiple immunological genetic and environmental Factors leading to erythematous plaque with silvery white (mica like) scaling.

Predisposing Factor:-

HLA:-

HLACW6 →
 HLA B27 →

C/F

Types:-

1 Psoriasis vulgaris:→ also called chronic stationary type

Erythematous plaque with silvery white scaling are seen mainly over extensors; Scalp and palm and soul.



(over Knee Elbow, Back)

2 Scalp Psoriasis → Scalp

3 Palmo- Plantar → P and S (Palm and sole)

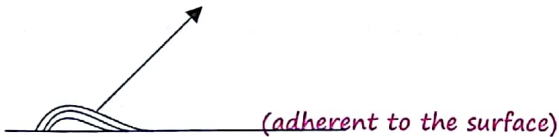
4 Inverse Psoriasis → flexors

5 Guttate Psoriasis → in child after URT infection



(Dew Drop) → small size lesions

6 Rupioid Psoriasis →



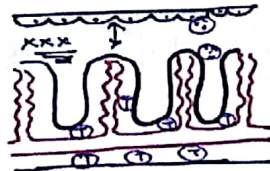
Clinical signs:→

1 Grattage Test → ↑ Accentuation of skin is Grattage test

2 Candle grease sign

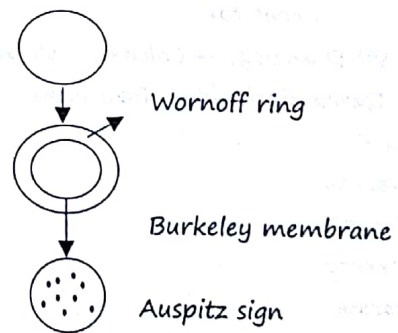
3 Auspitz sign→ pin point bleeding spots

Histo→



1. Parakeratosis (Retention of nucleus)
2. Acanthosis (↑ thickness of Stratum spinosum)

3.
4.



5. Dermal papillae is enlarged

6. 

7. 

8. 

9. Suprapapillary thinning

Severe types of psoriasis :-

1. **Pustular Psoriasis** – multiple Pustule develop on Palm and sole. These are "Sterile Pustule".

- Generalized condition → Von Zumbusch disease

- In pregnancy called → Impetigo Herpetiformis

Erythrodermis :-

- Inflamed / Red skin

Both condition develop on withdrawal of (systemic corticosteroid)

↓

(C/I in Psoriasis) contraindicated

Complication

Psoriatic arthritis

Types

1. Classic DIP

2. Asymmetrical Oligo arthritis type (MC)

3. 

4. 

5. 

→ MC. Joint involved → **DIP**

Treatment of Psoriasis →

A. Topical →

1. Corticosteroid

2. keratolytic agents

i salicylic acid

ii coal tar

3. Vit D analogs → Calcitriol calcipotriol

4. Topical Retinoid → Tazarotine

B. Systemic →

1. Methotrexate

S/E → Hepato

Terato

2. Cyclosporine

S/E → Nephro

3H → HTN (Hypertension)

HTG (Hypertriglyceridemia)

HT (Hypertrichosis)

3. Acitretin

S/E → Terato

Deranged Lipid Profile (Dyslipidemia)

MS

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C. Phototherapy →

- PUVA, PUVA Sol, NBUVB, Targeted PT.

Ingram regime → Dithranol → light

Gaekerman regime → coal tar → light

D. Biological :-

- Infliximab
- Adalimumab
- Etanercept

These are
→ TNF α inhibitor

Efalizumab → CD - 11
Itolizumab → CD - 6
Alefacept → CD - 2

These are
(T-cell → inhibitors)

Apremilast → PDE - 4 inhibitor

Secukinumab → anti IL - 17 A

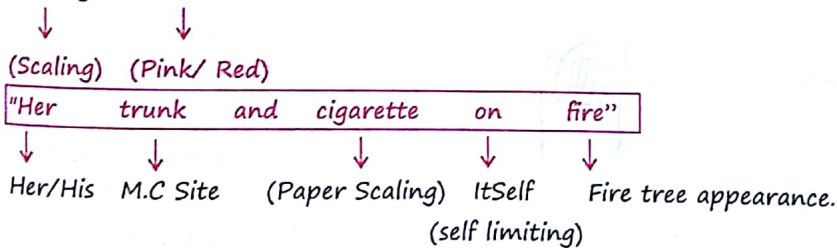
Ustekinumab → anti IL - 12/23

Important facts:-

DOC

1. Psoriatic arthritis → []
2. Erythematous Psoriasis → Methotrexate
3. Pustular Psoriasis → []
4. In pregnancy (I.H) → (systemic corticosteroid) > if SC not available then cyclosporin → preg - C

2. Pitryiasis Rosea →



- Herald Patch/ mother (Question in Jipmer 2018)
- Associated with Herpes (HHV 7,6)
- [] (Neet 2016 Question)

3. Linchen Planus: →

- Autoimmune conditions

C/F →

1. skin → 5 P's
 - Plain, purple, polygonal, Pruritic, Papule) called as Wickham's Striae
 - Commonly develop over flexes

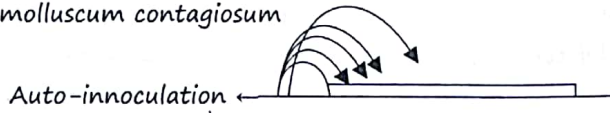
- Associated with liver disorder like Hepatitis B & C, PBC
- Isomorphic Phenomenon/ Koebner's phenomenon

Imp. Facts eg of I/K.P.

1. True → Psoriasis, lichen Planus, vitiligo,



2. false → warts, molluscum contagiosum



3. Occasional → (Kaposi's sarcoma)

- lichen nitidus
- Lichen Sclerosus

4. Reverse: → Psoriasis, Granuloma annulare

5. Remote Reverse kP → Vitiligo

2. Mucosa → oral > genital



Oral > genital

White lacy Pattern /annular lesion

White reticulate pattern

Erosive / ulcerative



(leads to, Sq. cell carcinoma)

3. Nails →

i Most common → Pterygium

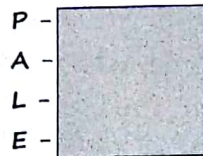


iii Onychorexia → Brittle nails



iv Trachyonychia → 20 nails dystrophy

Trachyonychia seen in → ('PALE')



4. Hair changes → this is called as

lichen plano pilaris (Means involving hair)

Follicular lichen Planus

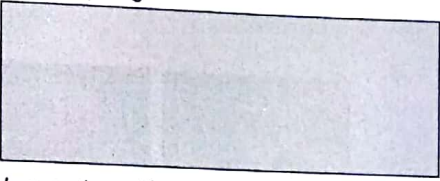
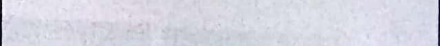
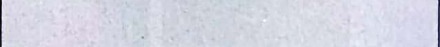
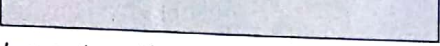
It has Follicular Hyperpigmented lesion over scalp

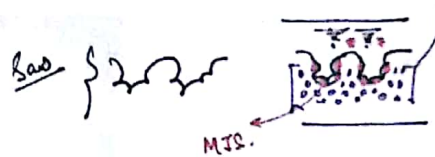
- Leads to scarring alopecia

Types of lichen planus →

- 1. Annular L.P
- 2. Linear L.P
- 3. Hyper trophic L.P
- 4. Actinic L.P
- 5. Lichen Planus Pigmentosus
- 6. Lichen Planus Pilaris
- 7. Lichen Planus Pemphigoid

Histology →

- 1. Basal cell degeneration
- 2. Civette/ Colloid Bodies → (These are Degenerated Basal → Keratinocytes)
- 3. Melanophages
- 4. 
- 5. 
- 6. 
- 7. 
- 8. Irreg. Acanthosis
- 9. Band like LI in U.D
- 10. Interface Dermatitis → (BCD + BLI)



Treatment → Steroid

- Topical
- Systemic
- la

Other drugs

- Azathioprine
- Dapsone

General - PT (photo therapy)

4. Lichen Nitidus →

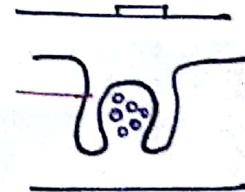
C/F → Tiny papules

Site (dorsum of hand, Forearm, elbow, shaft of penis)

Histology

- Claw clutching appearance.

Treatment → - Top → CS + S.a
 - Sys → Acitretin



5. Pityriasis Rubra Pilaris →

↓ ↓ ↓
 (Scaling Red Follicular)

C/F → 

- Normal skin in between called as "island of Normal Skin"

- Griffith's Classification

- 6 types → (6) HIV associated

Treatment → Topical → CS. With S. acid
Sys → Acitretin



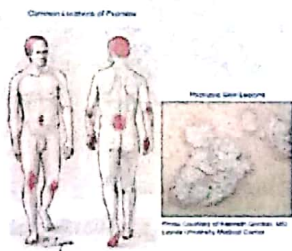
Auspitz's sign



Woronoff ring



Plaque psoriasis



Site of involvement



Nail psoriasis



Scalp psoriasis



Inverse psoriasis



Pustular psoriasis



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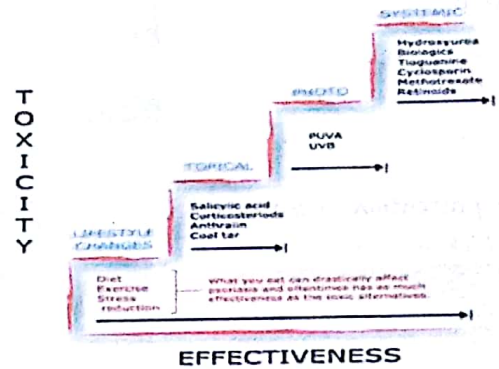
Erythrodermic Psoriasis/ Exfoliative Dermatitis

Causes (ID- SCALP) :-

1. Idiopathic
2. Drug
3. Seb. Derm (HIV), Sezary syndrome
4. C.D (Contact Dermatitis)
5.
6.
7.



Erythrodermic psoriasis



What do we Want?

We have to choose B/W the two



This is a gun-free zone.



Alefacept	• Bind CD2 on T cells & blocks LFA-3(lymphocyte function association antigen) (IM)
Efalizumab	• Bind CD 11a & blocks LFA-1(S/C)
Etanercept	• TNF alpha inhibitor (S/C)
Infliximab	• TNF alpha inhibitor (IV)
Adalimumab	• TNF alpha inhibitor (S/C)

7) A child came with similar lesions over elbows, shaft of penis and forearm. [PICTURE] Shows Pinhead discrete but grouped papules over right elbow. Diagnosis?

- A) LICHEN NITIDUS
- B) LICHEN PLANUS
- C) SCABIES
- D) PHRYNODERMA

Ans. A)



Lichen nitidus

Q. An eruption of follicular hyperkeratotic papules of reddish orange colour spreading in a cephalocaudal direction. Confluence to psoriasiform, scaling dermatitis with sharply demarcated islands of unaffected skin. With progression to erythroderma. Which of the following classification is used for above mentioned disease?

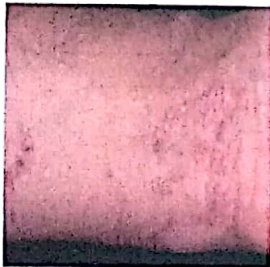
- A. Lopez classification.
- B. Mark rubin classification.
- C. Gonzales classification.
- D. Griffiths classification.

ANS. D



Q. Pay attention to the next 4 slides belonging to the same patient. What is your diagnosis?

Ans. Lichen Planus



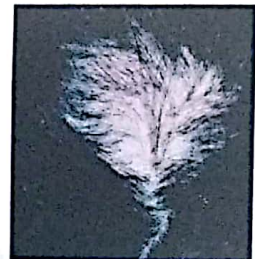
SP's of Lichen Planus



Eponychium



White lacy pattern over buccal mucosa



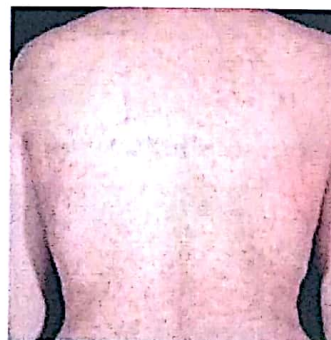
Scarring alopecia

Q. F/25 developed a patch over lower back. Few days she developed multiple lesions over the neck. What is your diagnosis?

Ans. Pityriasis rosea



Hanging Curtain Sign



Fur tree like appearance of lesions

MISCELLANEOUS DISORDERS

I. MYCOSIS FUNGOIDES / CUTANEOUS T-CELL LYMPHOMA

3 Clinical Stages

Stage Name	Treatment
1. Patch	- [Redacted] -
2. Plaque	Full skin electron beam therapy
3. Tumor	Chemotherapy

Histology

1. Sezary cells: malignant or atypical lymphocytes with cerebriform nucleus
2. Epidermotropism
3. Pautrier's microabscess

Lesions are "poikiloderma"



MF plaques with extensive involvement



Nodular MF showing nodules on the back of the neck

Mycosis Fungoides



Early MF showing Patch



More advanced MF plaques

II. SEZARY SYNDROME

Leukemic / Erythrodermic variant of mycosis fungoides

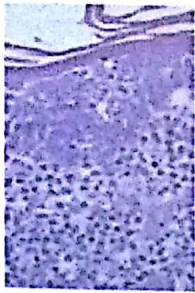
Characterised by 3 things -

1. S - [Redacted]
2. L - [Redacted]
3. E - Erythroderma with palmoplantar hyperkeratosis



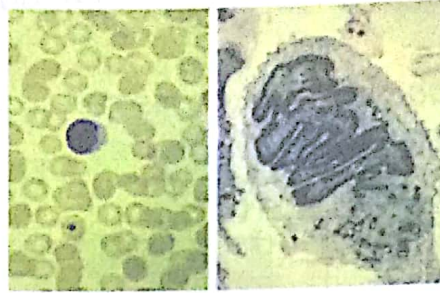
Sezary Syndrome
* Erythroderma with palmoplantar hyperkeratosis

Investigation



- Biopsy

Showing epidermotropism with presence of atypical small dark cells



Electron microscopy

Sezary cells in peripheral blood showing features of atypical cerebriform nucleus

III. NEUTROPHILIC DERMATOSIS

Sweet syndrome	Pyoderma Gangrenosum
(Acute Febrile Neutrophilic dermatosis)	
1. Tender, erythematous, nodules with fever, ↑ ESR, leukocytosis	1. Ulcers with undermined edges
2. Associated with	2. Associated with
(i) []	(i) Inflammatory bowel disease → (ulcerative colitis > Crohn's disease)
(ii) []	(ii) Rheumatoid Arthritis
	(iii) SLE
	(iv) CML
	(v) NHL
3. Drug of choice - systemic corticosteroids	3. Drug of choice - []

Biopsy

Deep dermal neutrophilic infiltrate seen

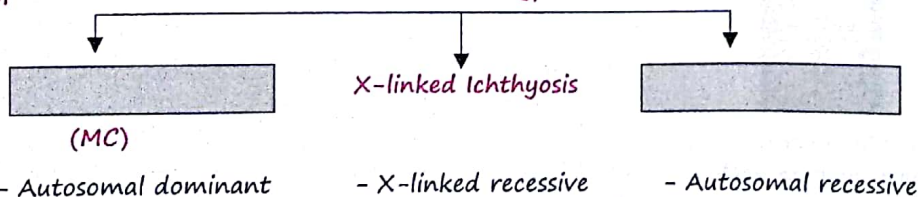
IV. ICHTHYOSIS

Characterised by :-

- Severe dryness
- Fish like scales

Types

3 common types



Dr. Manish Soni

- Def. of filaggrin

- Extensors mainly involved

- Def. of steroid sulphatase enzyme

- Extensors and flexors involved

- Def. of transglutaminase enzyme

- Whole body involved

↓

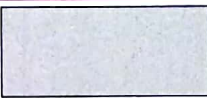
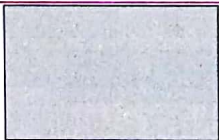
Colloidion membrane / Baby

Harlequin Ichthyosis

- Autosomal recessive
- Gene (A B C A - 12) defect
- Most severe

V. PARASITOLOGY AND INFESTATIONS

1 Migratory infections of skin

	Cutaneous Larva Migrans	Larva Currens	Calabar Swelling
Caused by	Filariform larva of animal (NOT HUMAN) Hookworm		Loa Loa
C/F	Serpiginous trunk	Urticarial Rash	- Painless - Non pitting - Nonerythematous swellings or edema
Rx	Ivermectin + Albendazole	Ivermectin	

2. Trypanosomiasis

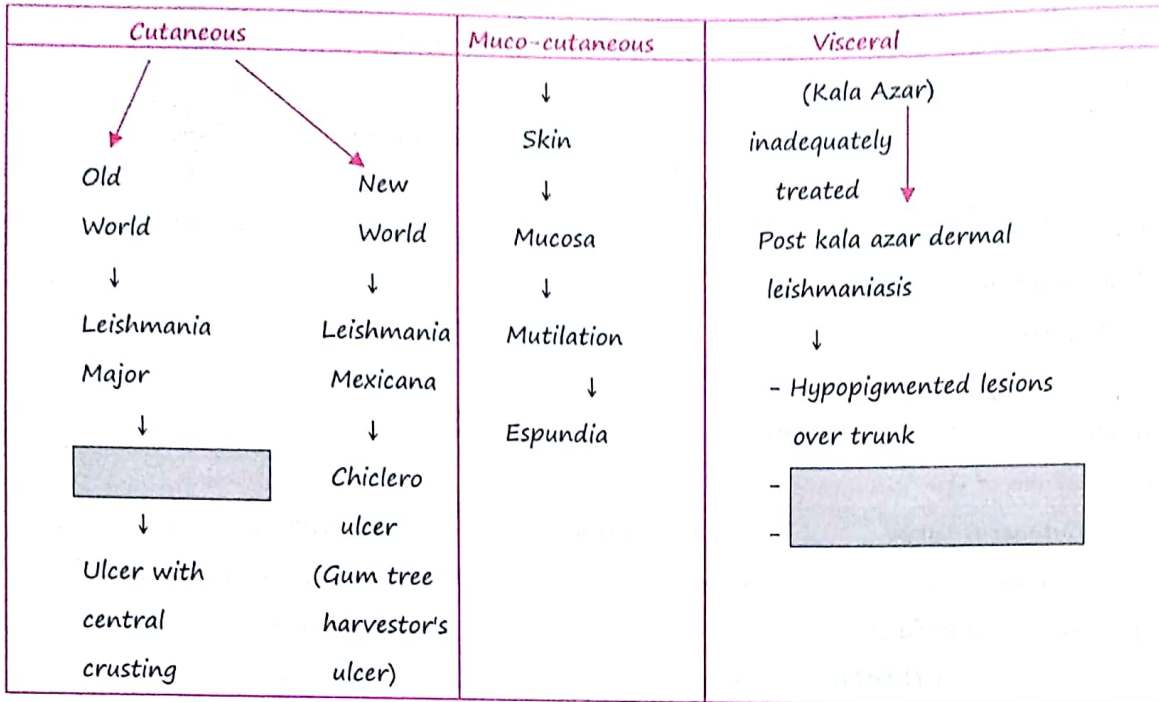
1. Winterbottom's sign

- Post cervical lymphadenopathy
- Seen in early phase of west African trypanosomiasis

2. 

- U/L periorbital palpebral painless edema
- Seen in acute phase of American trypanosomiasis

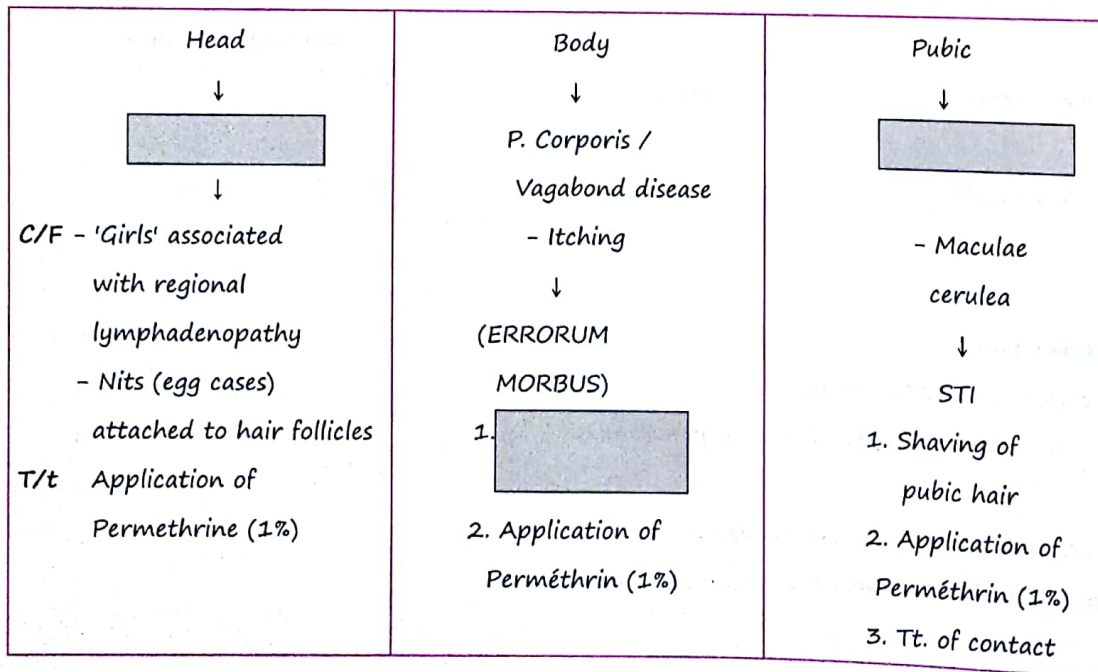
3. Leishmaniasis



Giemsa stain - L.D. Bodies → Leishman Donovan

Infestations

1 Pediculosis - Infestation with lice



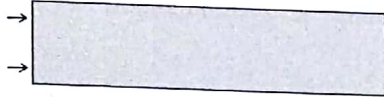
2. Scabies

- Caused by :
- *Sarcoptes scabiei* var *hominis*
 - Incubation is 4 weeks
 - If patient reinfested with mites → 2 days

C/F

I. Burrow's → most characteristic

→ Linear also known as 'Serpiginous, therefore, they appear S Shape



II. Papules, nodules, vesicles - hypersensitivity to mites

Nodular - seen in scrotum

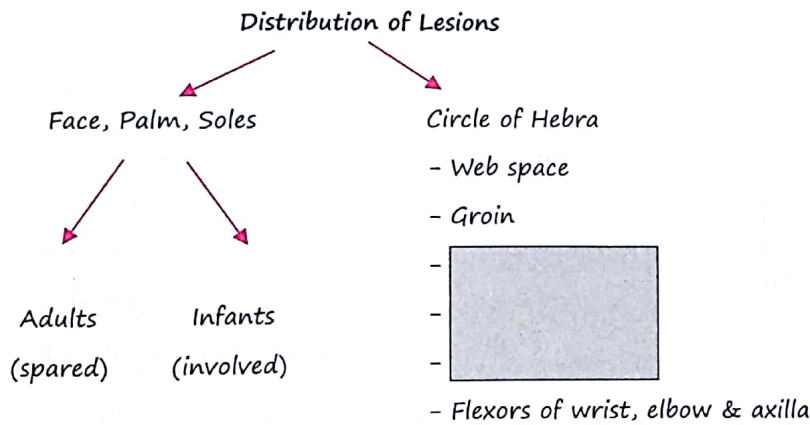


(Nodular / Genital Scabies)

Vesicular → Palm and sole in infants

Diagnosis

- Itchy (↑ night)
- Presence of burrow
- Family history positive
- Distribution of lesions



To confirm diagnosis

Prepare 10% KOH → mite

- Egg
- Fecal pellets (Scybala)

Treatment

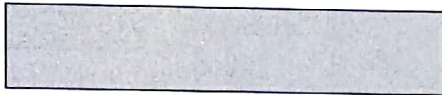
1. Permethrin - 5% → DOC

(Acts via Na⁺ channel) → single application

2. Gamma Benzene/Hexachloride - 1% → C/I → Pregnancy
(Neurotoxin) → Children < 2 yrs
→ History of epilepsy
3. Benzyl Benzoate - 25%
Disadvantage - Requires multiple applications
4. Crotamiton - 10%
Advantage - Antipruritic
5. Precipitated Sulphur

Systemic

Ivermectin - 0.2 mg / kg / Bwt



- Acts on glutamate Cl^- channels



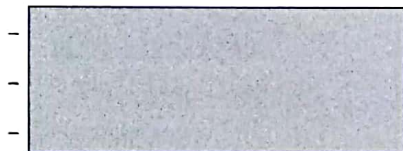
Hyperpolarization (Cl^- influx)



Paralysis of mite

Most severe type → Norwegian / Crusted Scabies

- Millions of mite
- Pruritus ↓
- Old patients



VI. Dermatitis / Eczema



Exogenous Eczema

1. Irritant contact dermatitis

- Due to detergents
- Seen in housewives, that's why called as housewives eczema

2. Allergic contact dermatitis

- Nickel (MC) → Ornaments
- Potassium -dichromate → cement

Diagnosis: Patch Test

- Lesions do not develop on 1st exposure
- Initially memory T cell forms

3) Air borne contact dermatitis - occurs by congress grass / parthenium hysterophorus

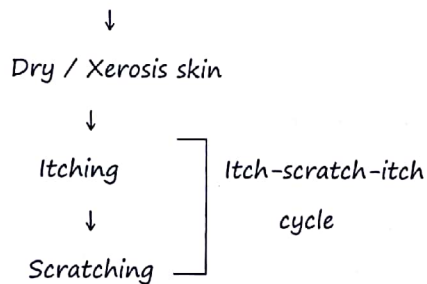
- Patch test → Patient positive for sequesterpine lactone

Endogenous Eczema

1. Nummular / Discoid - coin

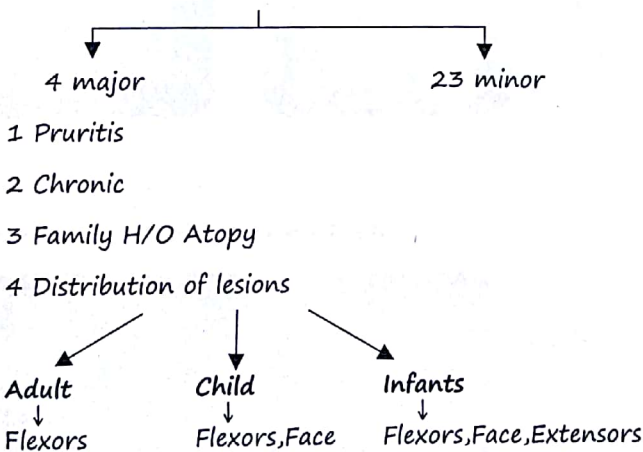
- 2. [Redacted]
- 3. [Redacted]

4. Atopic Dermatitis - ↑ transepidermal water loss



Diagnosis

"Hanifin and Rajka Criteria



Few Minor Criteria

- 1. Dennie morgan fold - extra skin fold in lower eyelid
- 2. [Redacted]
- 3. [Redacted]
- 4. Allergic conjunctivitis

5. Anterior Subcapsular cataract

6.
7.

8. Food intolerance

Histology

Acute

Spongiosis

(Oozing out)

Chronic

Acanthosis

(Lichenified)

Rx -

- Corticosteroids
(Topical + Systemic)

Rx -

- Corticosteroids

Topical -

Systemic -

- Salicylic acid is added in lichenified lesions
- 2° infection (Bacterial) in atopic dermatitis - Staph aureus
- Viral in atopic dermatitis - HSV

Infestations

Pubic Lice / Crabs

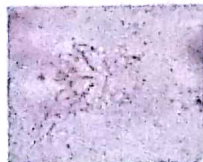


Lice in Pubic Area



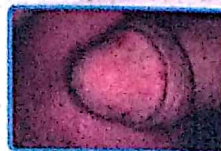
Scabies

Sarcoptes scabiei var hominis:
Eyeless mites with four pairs of legs
(two pairs in front and two pairs behind)



Common sites involved

Flexors



Groing



Web Space



Dr. Manish Soni

Ichthyosis Vulgaris



X-linked Ichthyosis



Lamellar Ichthyosis



Collodion Baby



Harlequin - type Ichthyosis

IMPORTANT FACTS

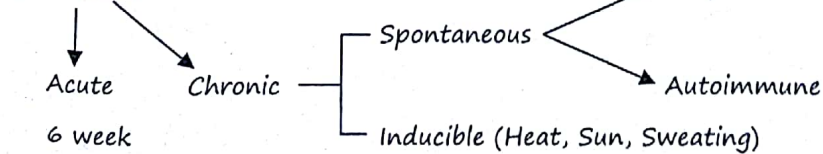
1) *Cutis Marmorata* (NEET 2018)

- Bluish reticulate pigmentation
- Seen in neonates as a physiological response to cold
- Disappears on warming

2) *Erythema ab igne*

- [Redacted]
- Due to constant exposure to heat

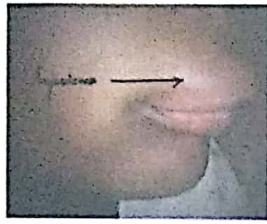
3) *Urticaria*



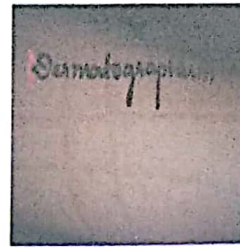
- [Redacted]



Wheals
(Lasts for > 24 hrs.)
Itchy



Angioedema
(Lasts for 72 hrs.)
Painful



Dermatographism



Cholinergic Urticaria

Dermatographism



DAY OF APPEARANCE OF RASH AFTER FEVER	
Varicella	Day 1
Scarlet fever	Day 2
Pox (small pox)	Day 3
Measles	Day 4
Typhus	Day 5
Dengue	Day 6
Typhoid	Day 7

Mnemonic: Very sick person must take double treatment

Measles	1 st disease
Scarlet fever	2 nd disease
Rubella (german measles)	3 rd disease
Duke's disease	4 th disease
Erythema Infectiosum	5 th disease
Exanthem subitum	6 th disease

Mnemonic: Many students read daylong for Entrance Exam

Erythema infectiosum - slapped cheek appearance



CENTRIPETAL RASHES (RSVP means RESPOND PLEASE)	CENTRIFUGAL RASHES (Severe CRF)
Rubella	Secondary syphilis
Scarlet fever	Coxsackie A virus (hand foot mouth disease)
varicella	Rocky mountain spotted fever
Parvo virus B19 (Erythema infectiosum)	
Measles	
Roseola	