

# Skin Disorders

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## **Dermatologic history:**

- details of onset
- evolution of symptoms
- previous diagnosis and treatment
- PMH of skin disease
- PMH of allergies
- PMH of chronic disease
- environmental/occupational history
- family history of skin disease (distinguish between inherited and acquired disease in the family)
- medications
- other medical problems
- sexual history

# Manifestation of skin disorders

- Skin lesion
- Location of lesions
- Configurations
- Distribution of lesions

# Topics

Normal Skin Structure

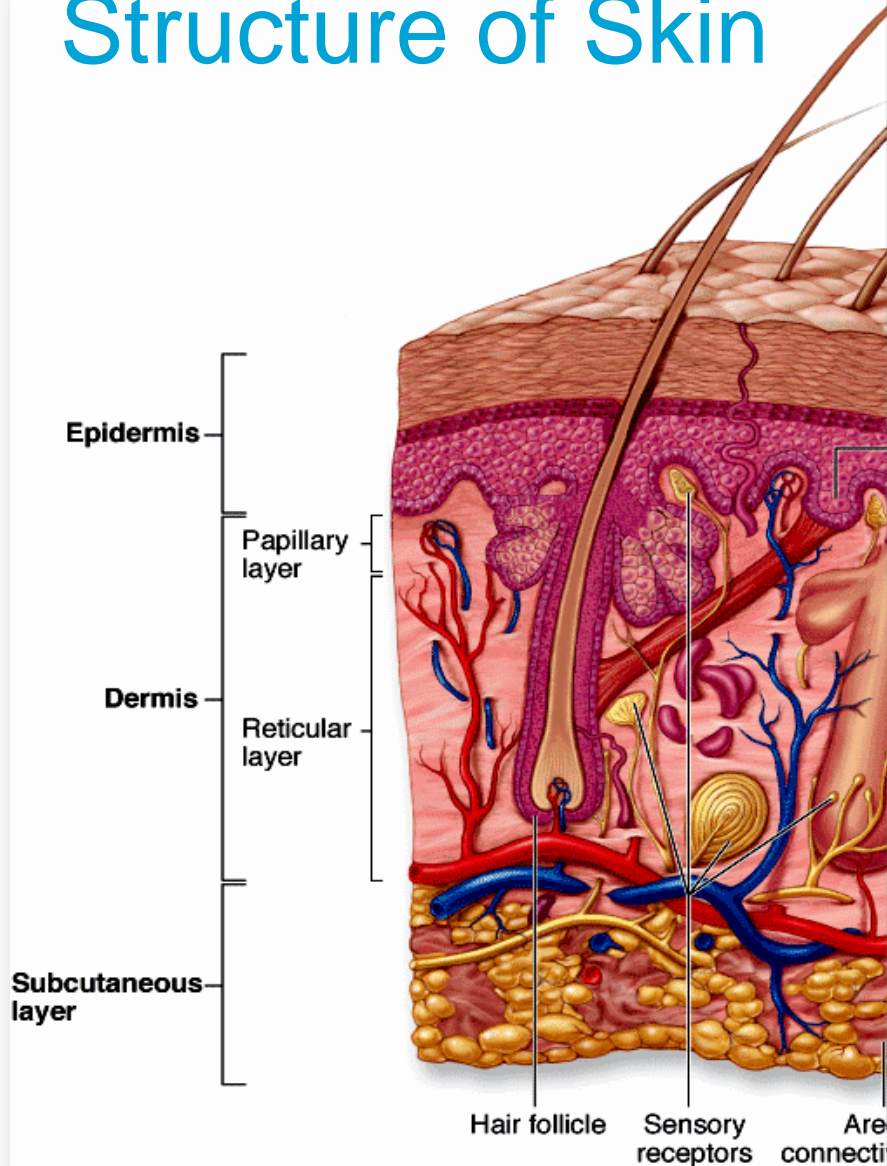
Pathological Skin Lesion

- Macroscopic
- Microscopic

Common Skin Disease

- Infection
- inflammation
- Neoplasm of the skin
- Pigmentary Disorders
- Disorders of Epidermal Maturation
- Disorders of Epidermal Appendages

# Structure of Skin



## 1. Epidermis

- stratified squamous epithelium
- epidermal ridges

## 2. Dermis

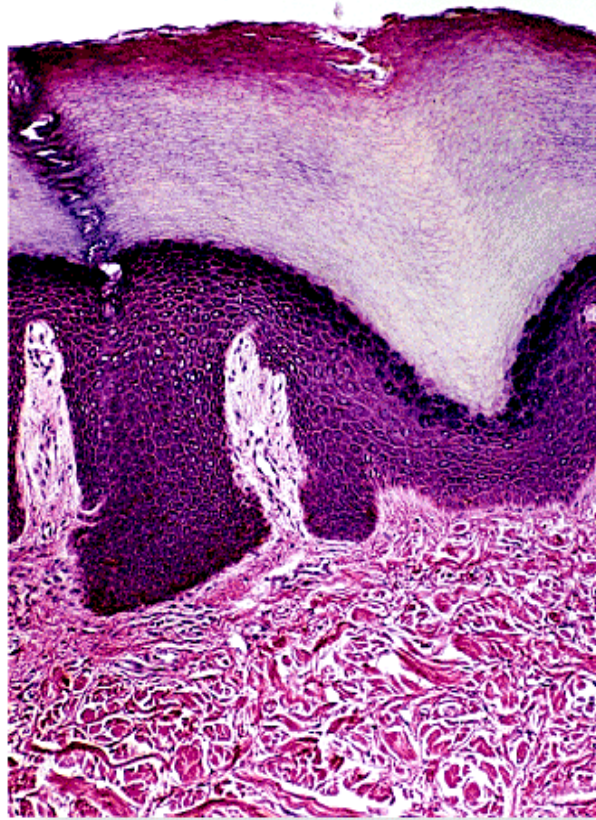
### a. Papillary layer

- small blood vessels, lymph & nerves
- fine collagen & elastic fibers

### b. Reticular layer

- vascular plexus, lymph, nerves & appendages
- compact collagen fibers & thick elastic fibers

## 3. Hypodermis : Subcutaneous



Stratum corneum

Stratum lucidum

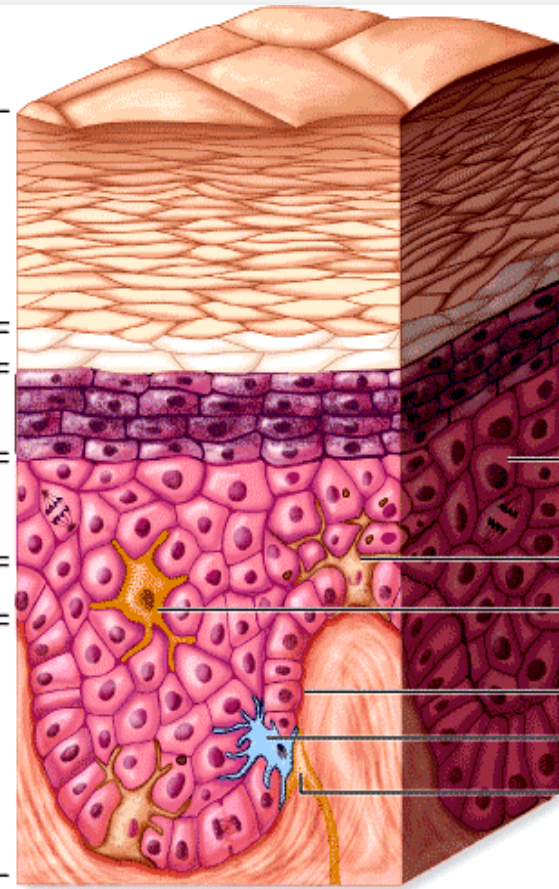
Stratum granulosum

Stratum spinosum

Stratum basale

Dermis

**a**



Dead keratinocytes

Living keratinocyte

Melanocyte

Epidermal dendritic cell

Basement membrane

Tactile cell

Sensory nerve ending

**b**

Source: Mescher AL: *Junqueira's Basic Histology: Text and Atlas, 12th Edition*: <http://www.accessmedicine.com>

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# Pathological Finding

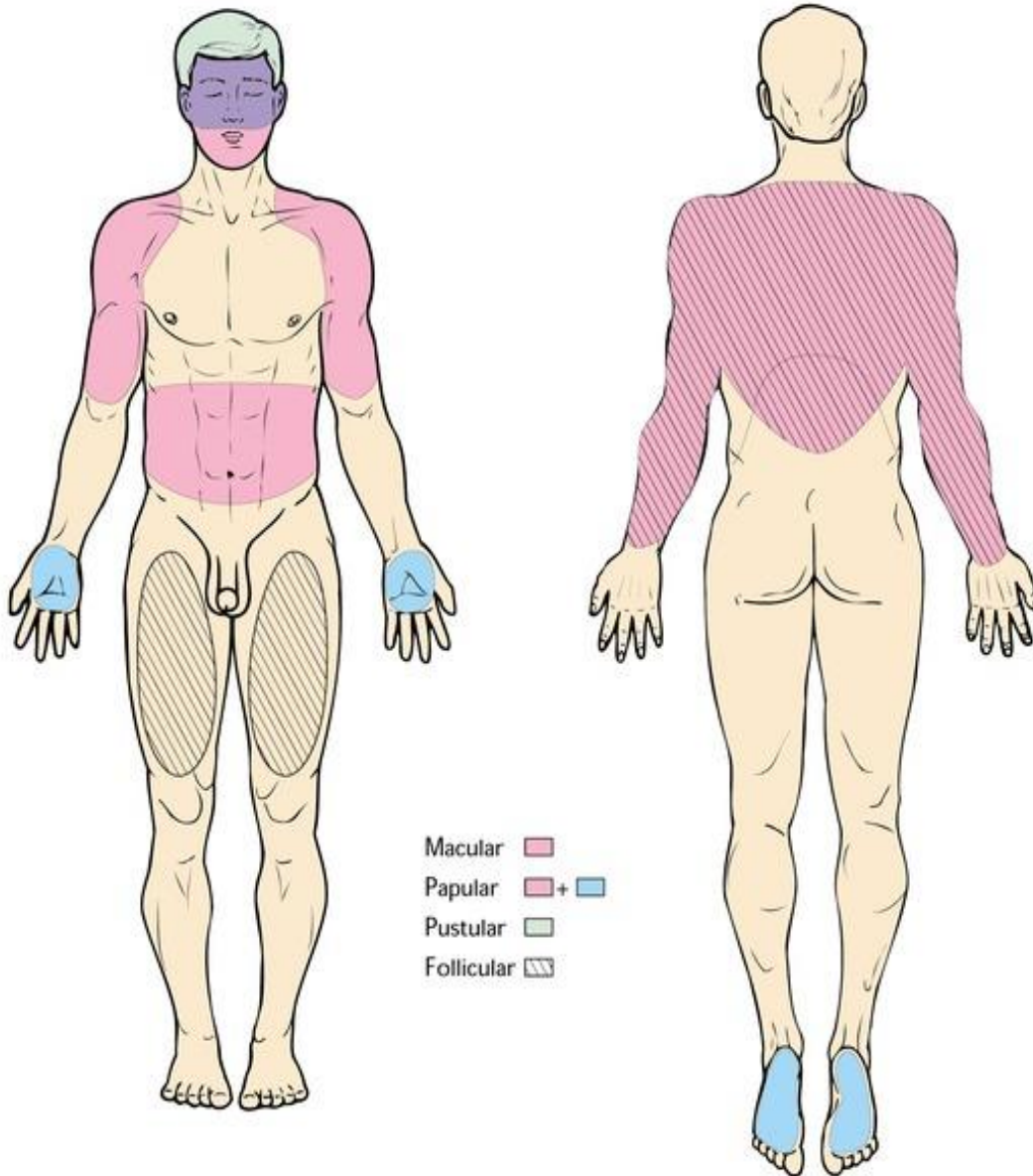
## Macroscopic finding

- Primary lesion
- Secondary lesion

## Microscopic finding

- Epidermis
- Dermis
- Hypodermis

# Distributions of lesions





# Macroscopic Lesion

## Primary lesion

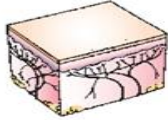
basic lesion

## Secondary lesion

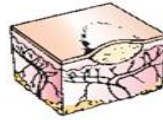
lesions develop during  
procession of disease

# Classification of skin lesions

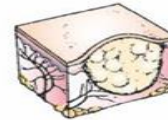
## Primary lesions (originating from previously normal skin)



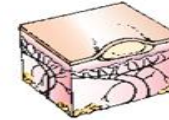
**Type:** Macule  
**Description:**  
 Flat, discolored spot on skin with sharp borders  
**Example:** Freckle



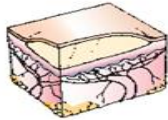
**Type:** Papule  
**Description:**  
 Solid elevations without fluid with sharp borders  
**Example:** Mole



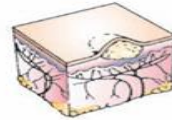
**Type:** Nodule, tumor  
**Description:**  
 Palpable, solid, elevated mass  
 Nodules with distinct borders  
 Tumors extending deep into the dermis  
**Example:** Wart (nodule)  
 Large lipoma (tumor)



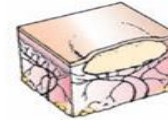
**Type:** Vesicle  
**Description:**  
 Small distinct elevation with fluid  
**Example:** Blister caused by herpes simplex



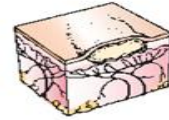
**Type:** Bulla  
**Description:**  
 Large distinct elevation with fluid  
**Example:** Large friction or burn blister



**Type:** Pustule  
**Description:**  
 Vesicle or bulla filled with purulent fluid  
**Example:** Acne, carbuncles



**Type:** Wheal  
**Description:**  
 Localized area of edema, often irregular and of variable size and color  
**Example:** Hive, insect bite



**Type:** Plaque  
**Description:**  
 Larger, flat, elevated, solid surface  
**Example:** Psoriasis

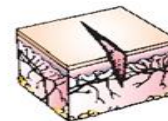
## Secondary lesions (originating from a primary lesion)



**Type:** Scale  
**Description:**  
 Thin or thick flake of skin varying in color; usually secondary to desquamated, dead epithelium  
**Example:** Dandruff



**Type:** Crust  
**Description:**  
 Dried residue of exudates  
**Example:** Residue of impetigo



**Type:** Fissure  
**Description:**  
 Linear crack in the skin  
**Example:** Athlete's foot



**Type:** Ulcer  
**Description:**  
 Opening in the skin caused by sloughing of necrotic tissue, extending past the epidermis  
**Example:** Pressure ulcer, stasis ulcer

- Primary lesions
- Secondary lesions

# Macroscopic Lesion

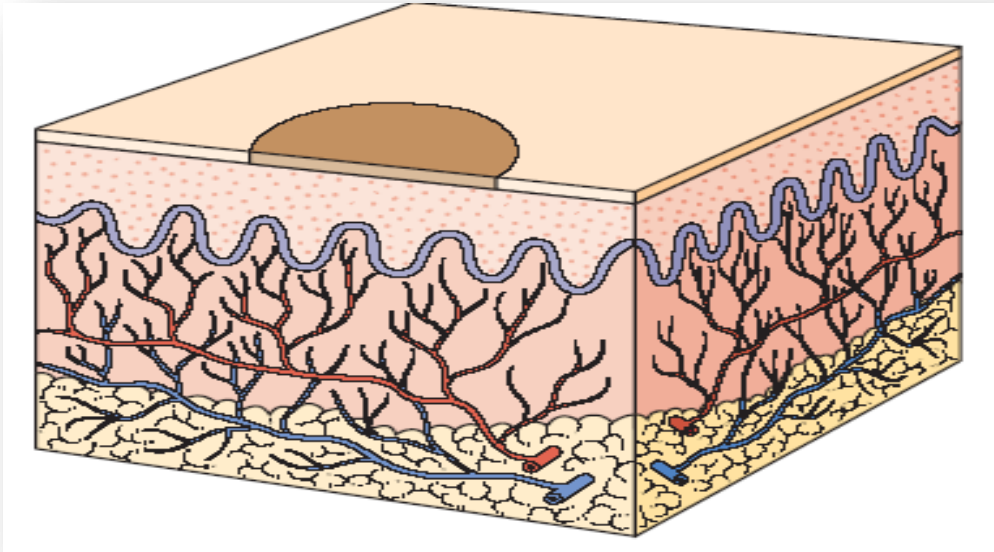
## Primary lesion

- Macule
- Patch
- Plaque
- Papule
- Nodule
- Vesicle
- Bullae
- Pustule
- Wheal
- Cyst

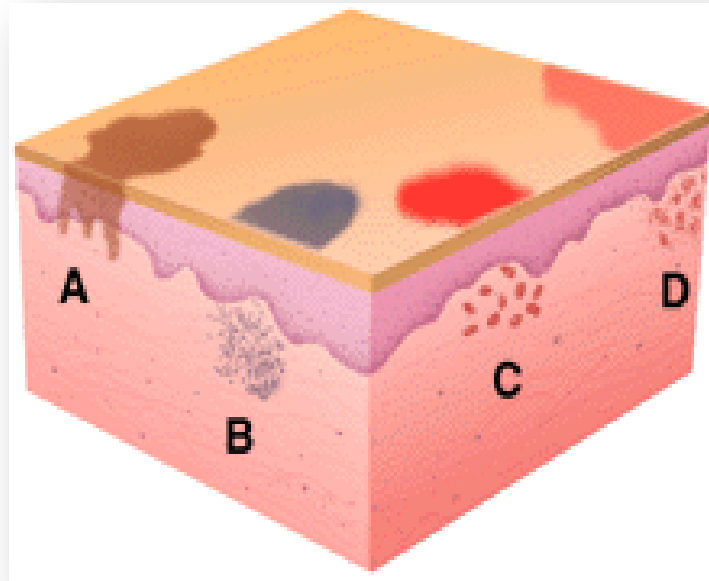
## Secondary lesion

- Crust
- Scale
- Erosion
- Ulcer
- Scar
- Atrophy

# Macule



- Circumscribed color change
- No elevation or depress
- Macule : diameter  $< 0.5$  cm
- Patch :  $> 0.5$  cm



## The colors of macules

A. Brown : melanin pigmentation in the epidermis

B. Blue : melanin or particulates (tattoo) in the dermis as in Mongolian spots

C. Red : vasodilatation in the dermis = erythema extravasated red blood cell.= purpura

D. Red : inflammatory cells infiltration

# Macule

- A macule is a circumscribed color change , flat lesion .
- Macules may have any size or shape.
- Some macular lesions are associated with fine scaling  
“Maculosquamous”



# Patch

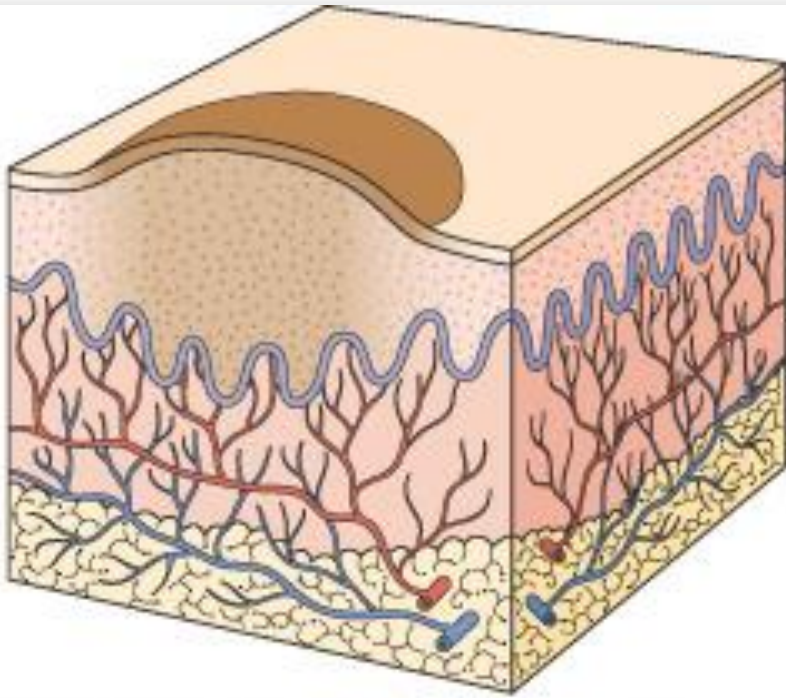


**B**

Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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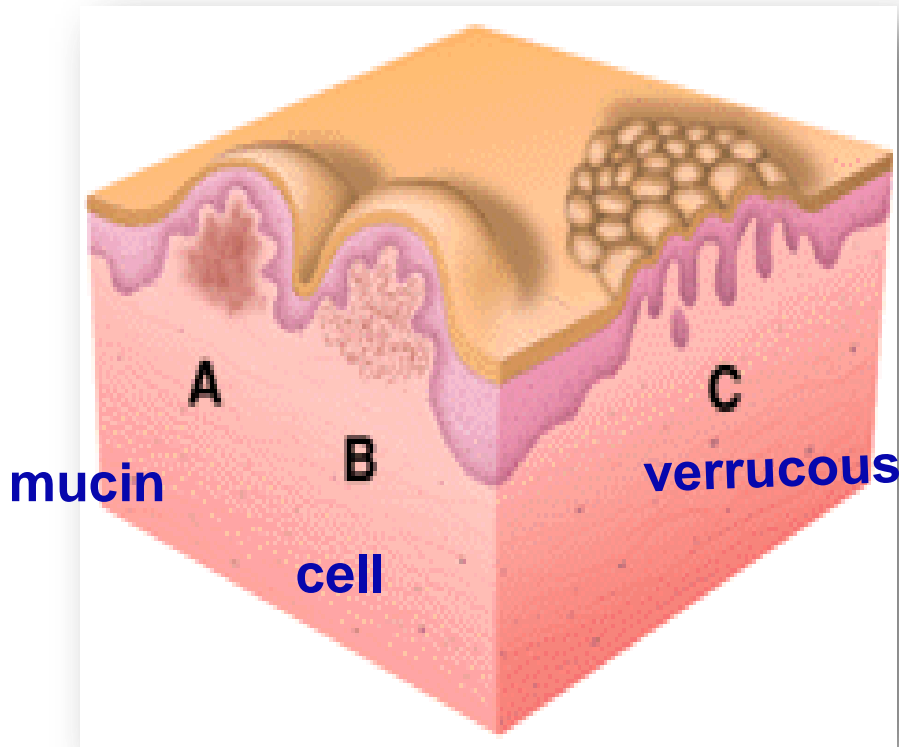
- “A small well-defined area of the skin distinct in color or appearance.”  
such as
  - large macule,
  - thin and scaling plaque.

# Papule



- A small, solid, elevated lesion
- Flat, pointed or round
- <0.5 cm in diameter
- Coalesce into Plaque





- A. The accumulated material may be a metabolic deposit, amyloid or mucin.
- B. A cellular infiltrate of inflammatory or neoplastic cells
- C. A proliferation of cells in the epidermis
  - papule tightly packed ,the lesion is verrucous or warty

**Dermal**

**Epidermal**

tend to have indistinct margins

very well-demarcated margins

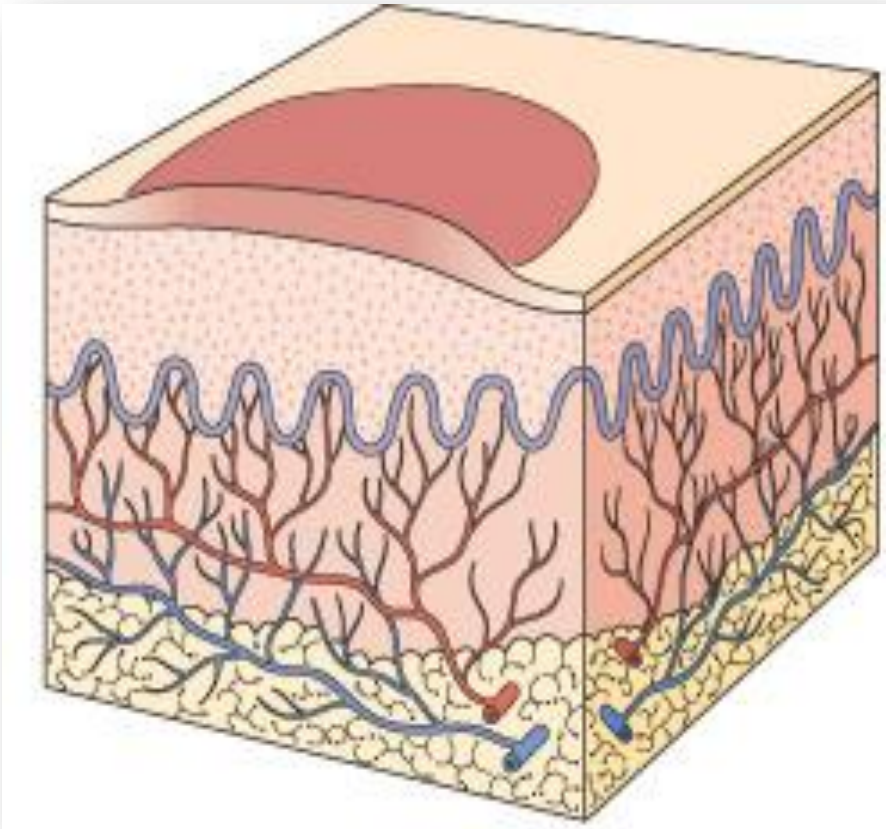
# Papule



- Multiple, well-defined papules of varying sizes are seen
- Flat tops and glistening surface are characteristic of Lichen planus

Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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# Plaque



- Circumscribed
- Solid elevation
- Usually flat-topped
- It may be a confluence of papules over a surface

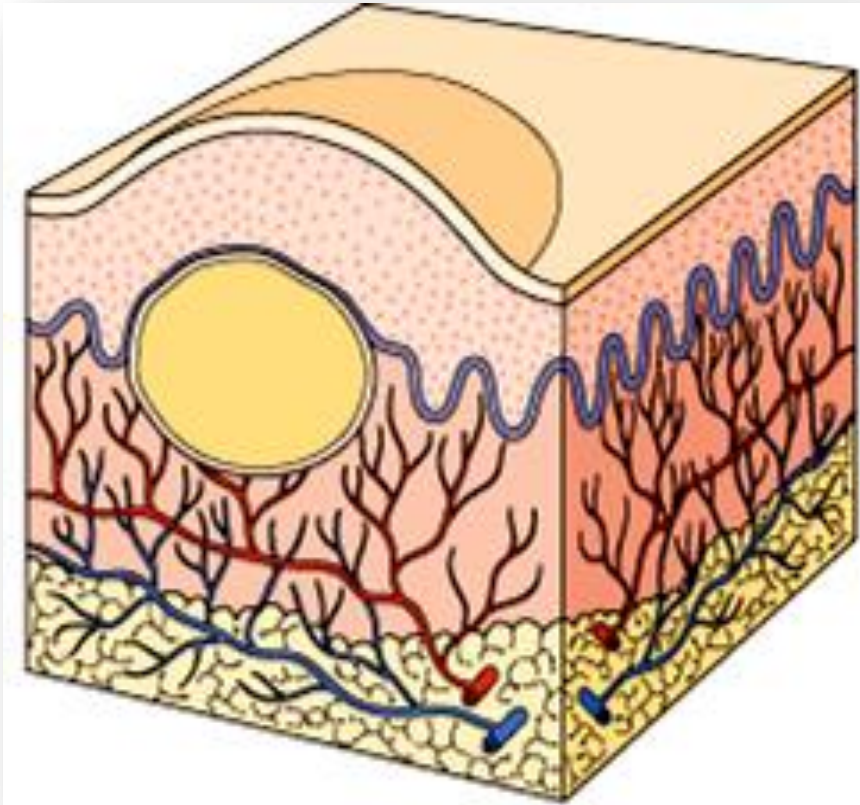
# Plaque



- Well-demarcated pink plaques with a silvery scale representing psoriasis vulgaris

Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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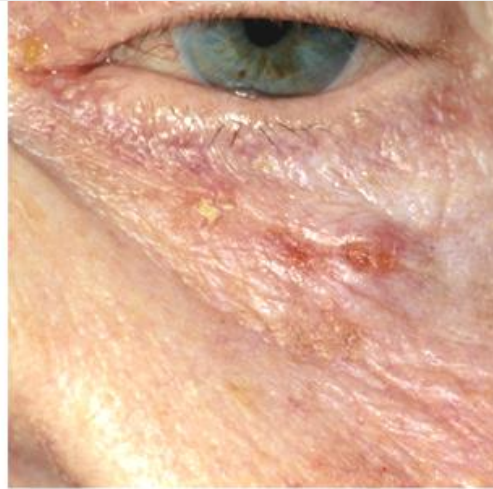
# Nodule



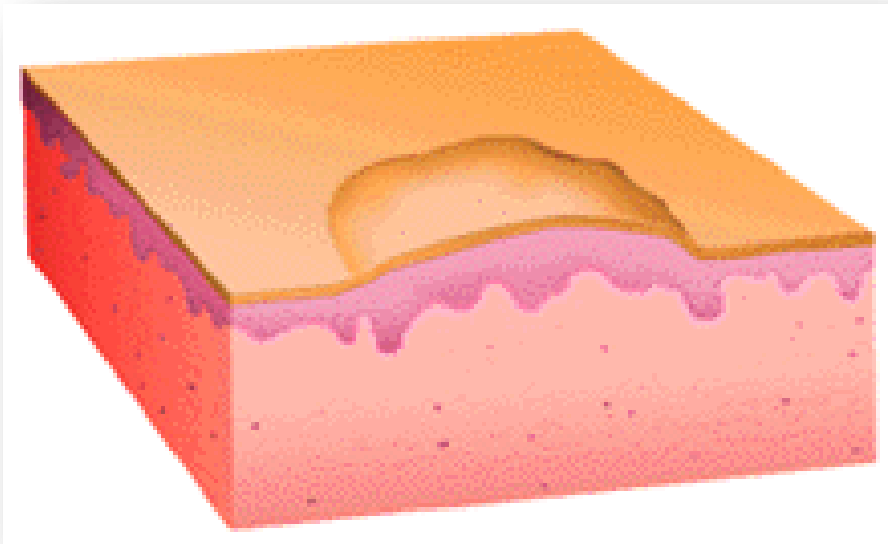
- Palpable, variably shaped lesion
- Epidermal, Dermal, SC.
- Usually elevated ,any size
- Tumor is term for any mass

# Nodule

- A nodular basal cell carcinoma
- Well - defined, firm nodule with a smooth and glistening surface through which telangiectasia can be seen



# Wheals

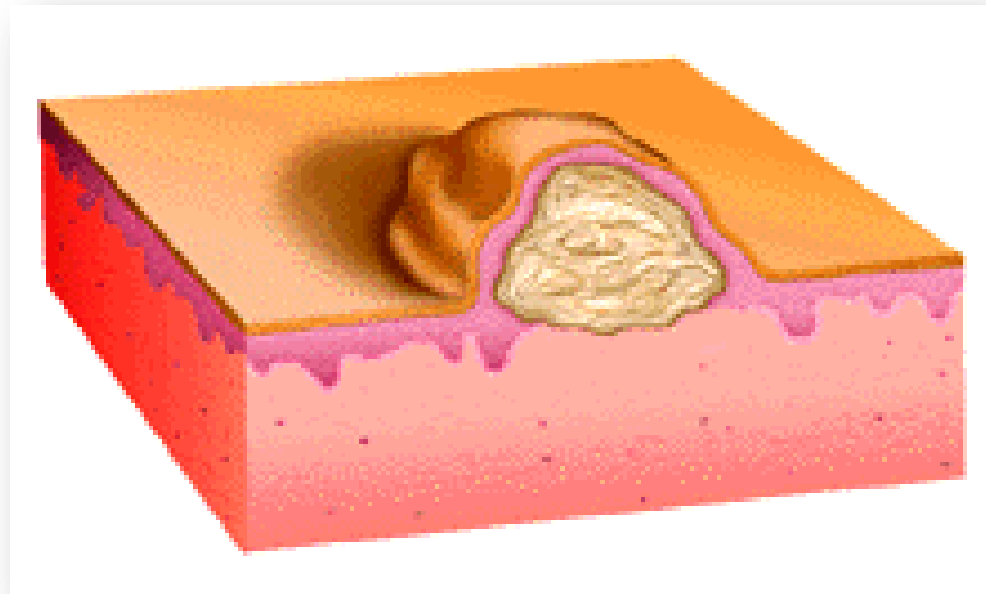


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- Firm edematous plaque.
- Infiltrating fluid may cause blanching.
- Usually transient.

# Vesicles and Bullae



- Circumscribed
- fluid –filled lesion
- Vesicle < 0.5 cm or less.
- Bulla >0.5 cm.



# Vesicles and Bullae

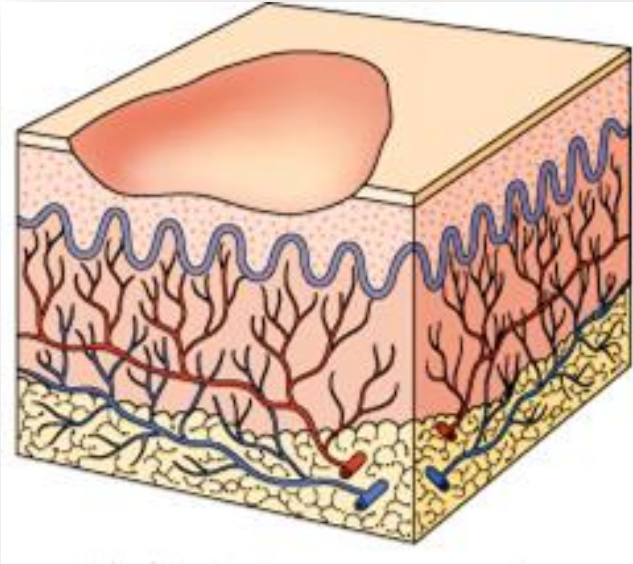
- A **vesicle** is a circumscribed, elevated lesion that contains fluid that they are translucent and the serum, lymph, blood, or extracellular fluid.
- A vesicle with a diameter greater than 0.5 cm is a **bulla**.



Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>

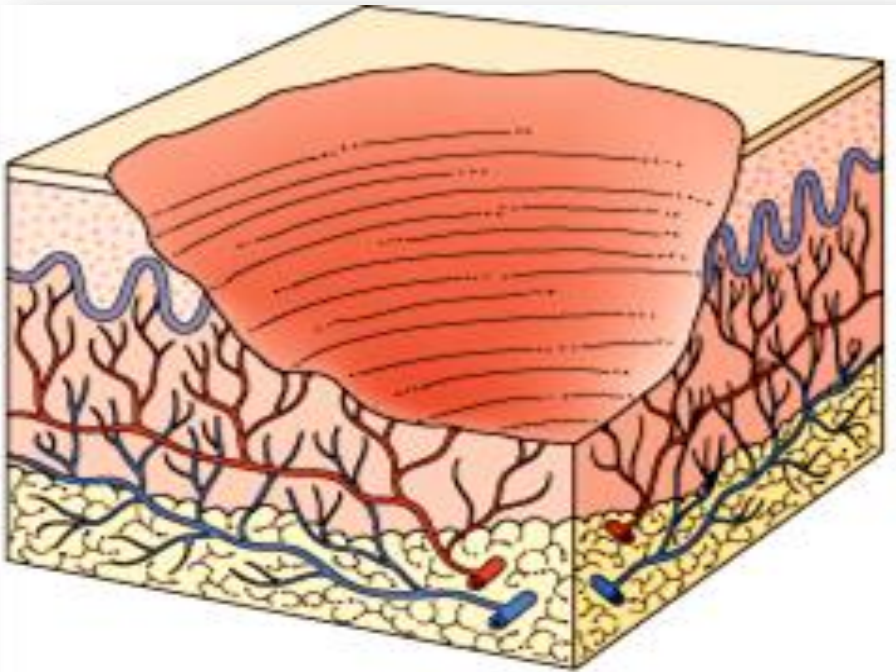
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# Erosion



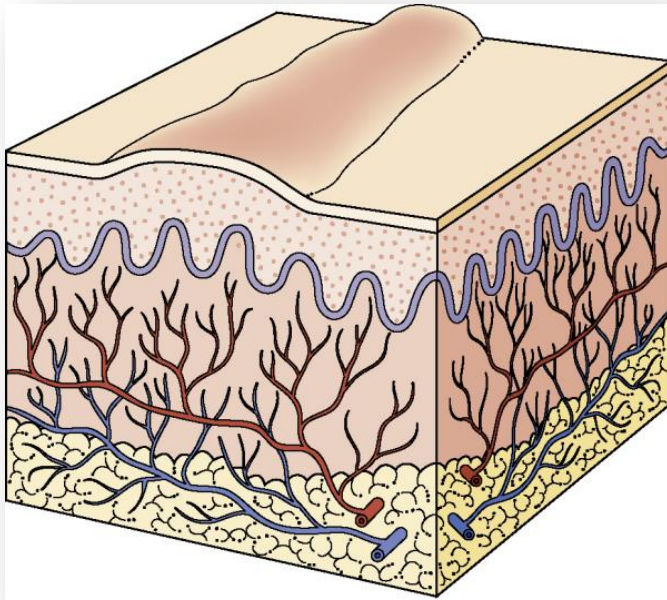
- Focal loss of epidermis.
- Loss does not penetrate into dermis
- Heal without scarring

# Ulcer



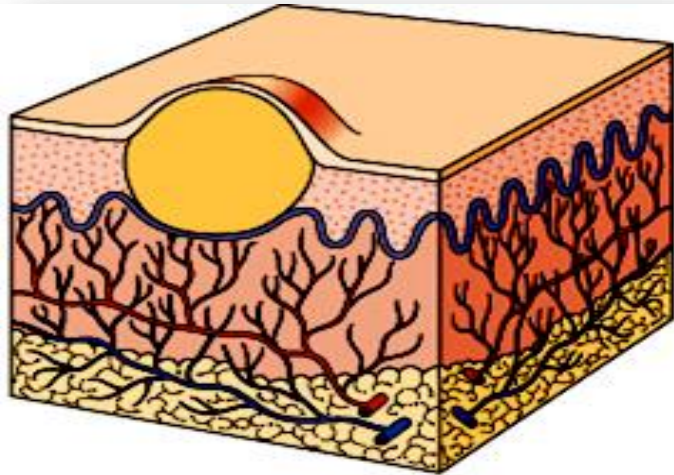
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- Focal loss of epidermis and dermis
- Loss does penetrate into at least upper dermis
- Heals with scarring



## Scar

- An abnormal formation of connective tissue implying dermal damage; after injury or surgery
- scars are initially thick and pink but with time become white and atrophic



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## Pustule

- A vesicle /bulla with pus exudate
- May/may not be sterile
- Vary in size & shape

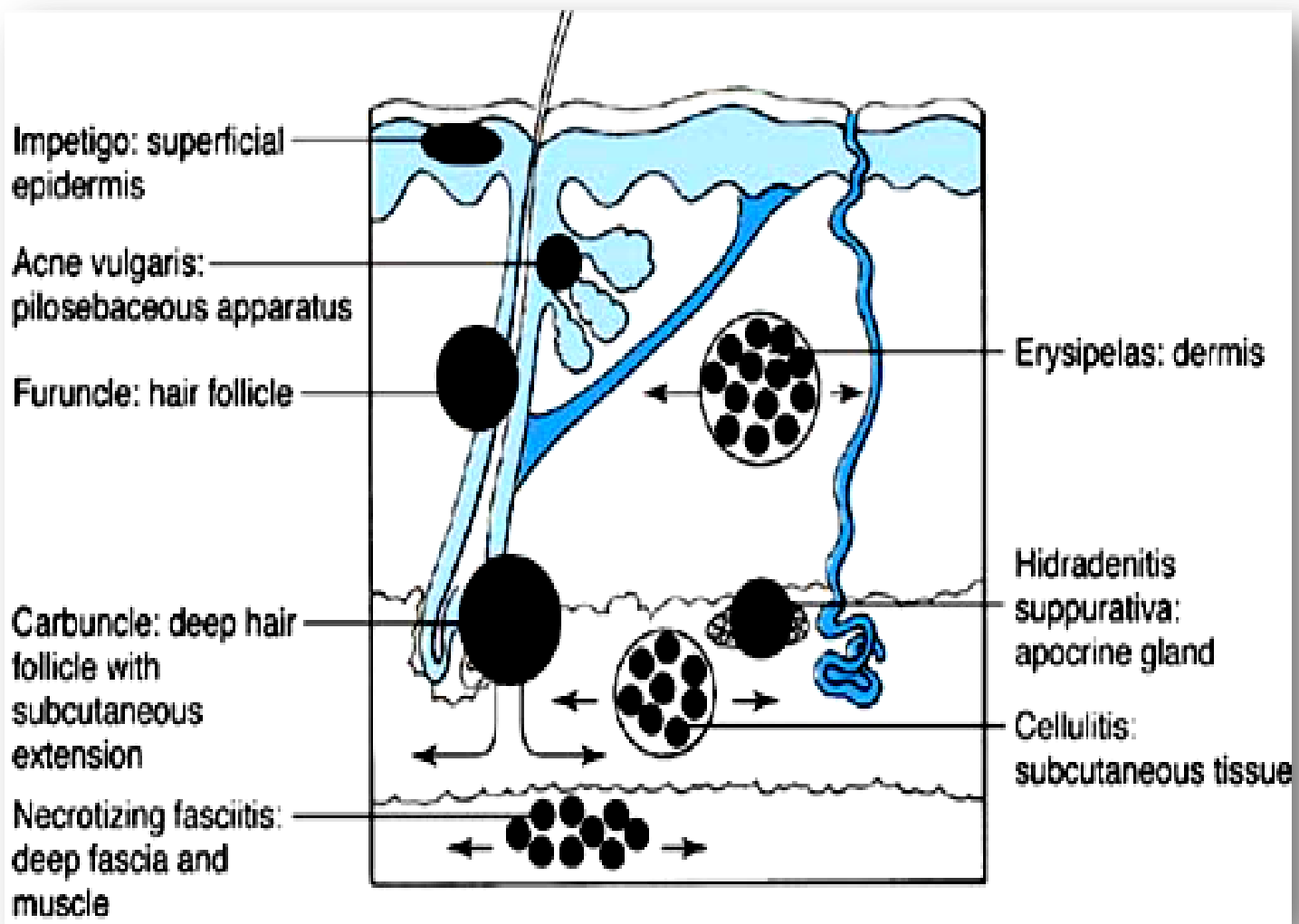


Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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# Pustules

may present different levels:

- Epidermis : pustule
- Dermis : abscess
- Follicle : Folliculitis
- Deep follicle : Furuncle
- Several Furuncle : Carbuncle



Source: Chandrasoma P, Taylor CR: *Concise Pathology*, 3rd Edition: <http://www.accessmedicine.com>

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# Folliculitis



**An inflamed follicular papule**



# Furuncle



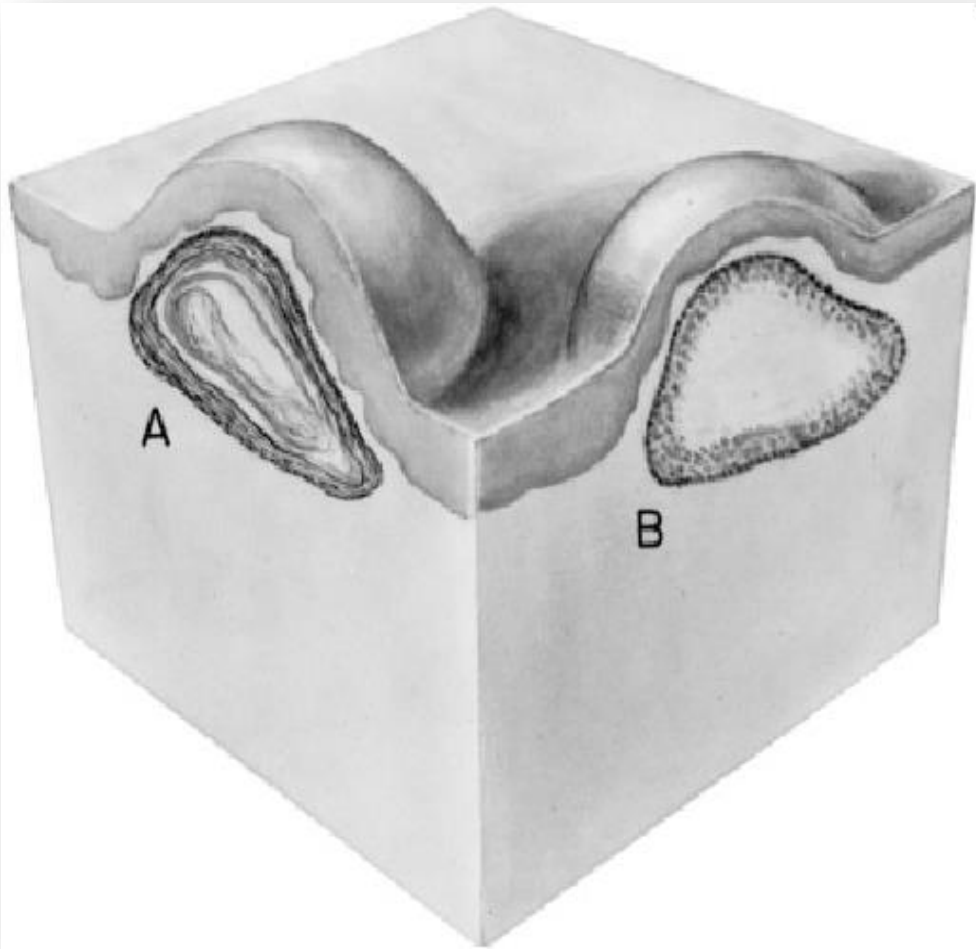
An inflamed deep follicular-based nodule  
with a central necrotic plug crusting over the surface

# Abscess



A tender red erythematous fluctuant abscess on the leg **dermis**

# Cysts



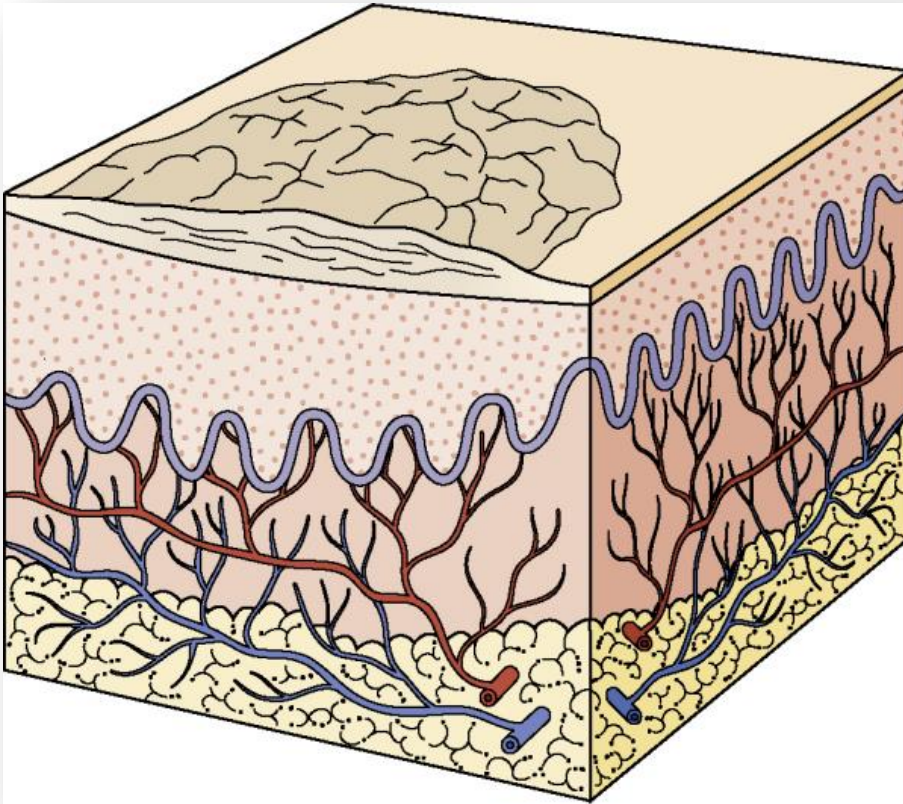
- A circumscribed lesion
- With a wall and a lumen
- The lumen may contain fluid or solid matter

# Atrophy



- Depression of the skin
- Results from thinning of the epidermis +/- dermis
- Potent topical steroid can cause

# Scale



Abnormal shedding  
or accumulation of  
stratum corneum

# Erythema craquele (crack dense scale)



# Pityriasis rosea (collarete)



# Psoriasis (silvery)





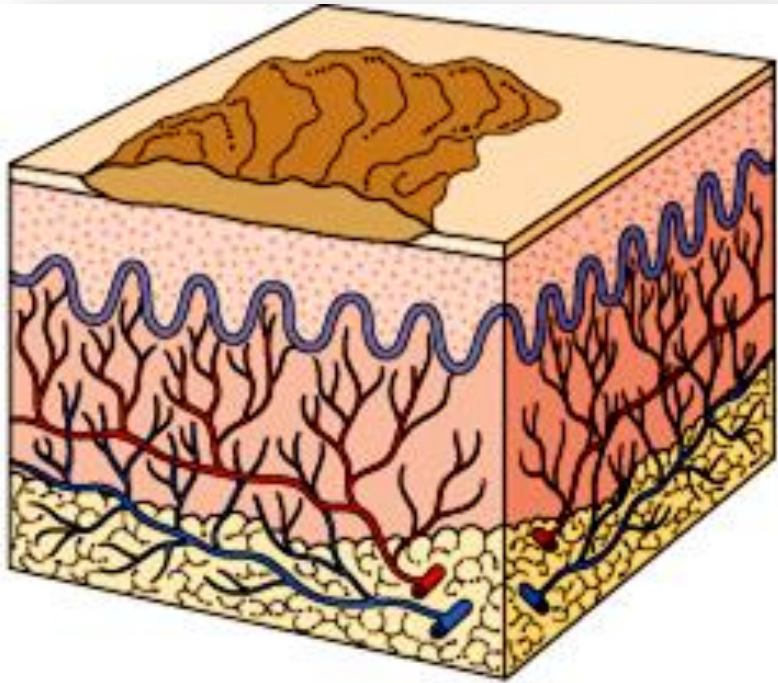
## Tinea versicolor (fine)



# Ichthyosis



# Crust



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- A collection of dried serum and cellular debris
- a scab

# Impetigo



Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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- Crusts
  - yellow - dried serum
  - green - purulent exudate
  - brown or dark red - blood.
- Acute eczematous dermatitis and impetigo
  - honey-colored, glistening crusts

# Excoriations



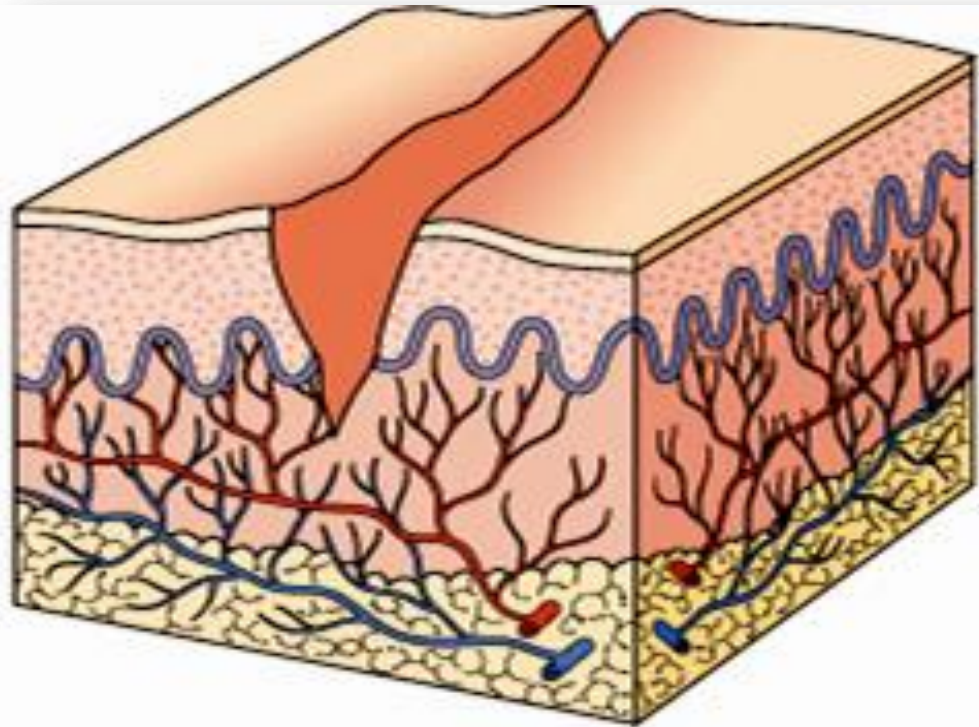
- Superficial excavations of epidermis result from scratching
- Linear loss of epidermis and punctate excoriations

Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ;  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>

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# Fissure

A linear loss of epidermis and dermis with sharply defined, nearly vertical walls



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# Fissures

- linear cleavages or cracks in the skin
  - in palmar/plantar psoriasis
  - in chronic eczematous dermatitis of the hands and feet



# Poikiloderma

- Refers to the combination of
  - Atrophy
  - Telangiectasia
  - Pigmentary changes (hyper- and hypo-).
- Poikilodermatous lesions can be seen in
  - Radiodermatitis
  - Dermatomyositis
  - mycosis fungoides
  - lupus erythematosus



Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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# Microscopic Lesion

# Microscopic finding

Response	Terminology	Clinical Appearance
Hyperplasia of keratinocytes → thickening of the epidermis	Acanthosis	Diffuse thickening or localized elevated plaque (papule)
Increased rate of maturation of keratinocytes → thickening of stratum corneum	Hyperkeratosis	Silvery surface scales
Increased rate of maturation of keratinocytes with premature shedding → nucleated cells in stratum corneum	Parakeratosis	None
Abnormal keratinization	Dyskeratosis	None

# Microscopic finding

## layer

Response	Terminology	Clinical Appearance
Epidermal atrophy → thin epidermis	Atrophy	Thinning of skin
Degeneration of basal layer	...	Subepidermal vesicle <sup>1</sup>
Separation of epidermal cells	Acantholysis	Intraepidermal vesicle <sup>1</sup>

# Microscopic finding

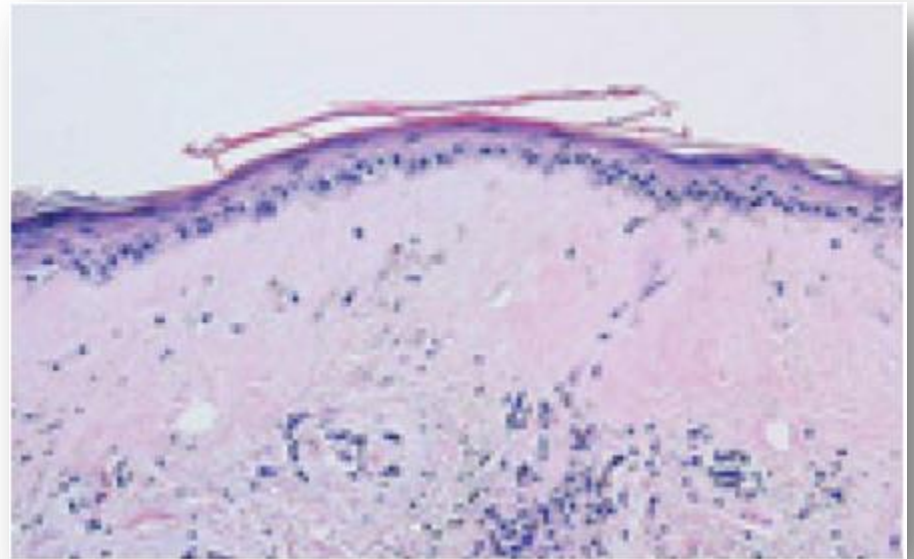
Response	Terminology	Clinical Appearance
Epidermal edema	Spongiosis	Intraepidermal vesicle <sup>1</sup>
Dysplasia of keratinocytes	Dysplasia	Papule <sup>2</sup>
Inflammatory cells in epidermis	Exocytosis	None
Epidermal abscess formation	Pustule	Pus-filled vesicle <sup>1</sup>
Dermal inflammation, edema	. . .	Macule; <sup>2</sup> wheal
Dermal hemorrhage	. . .	Petechiae, purpura

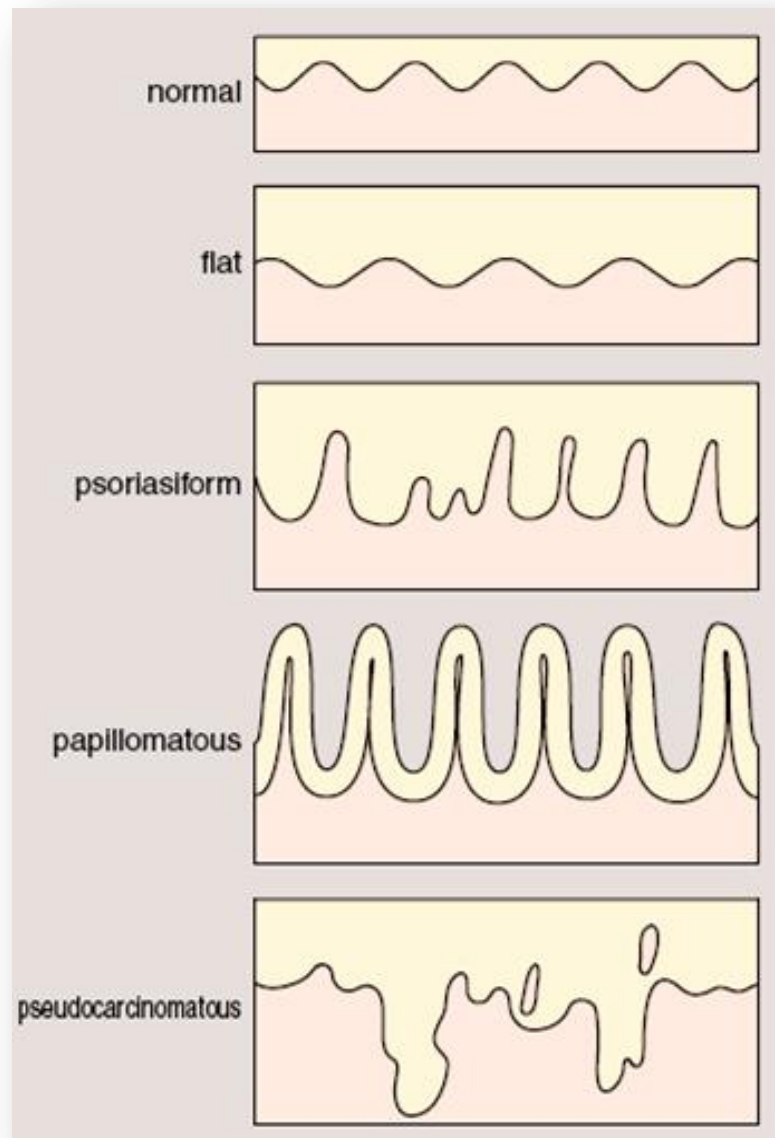
**Anaplasia – Dedifferentiation**  
**Hyperplasia – Physiological proli.**  
**Neoplasia – Abn. proliferation**  
**Dysplasia – Abn. maturation**  
**Metaplasia – cell type conversion**  
**Dyskeratosis-Abn. keratinization**

# Epidermal atrophy

(Epidermal Hypoplasia\_ພົວກາງ)

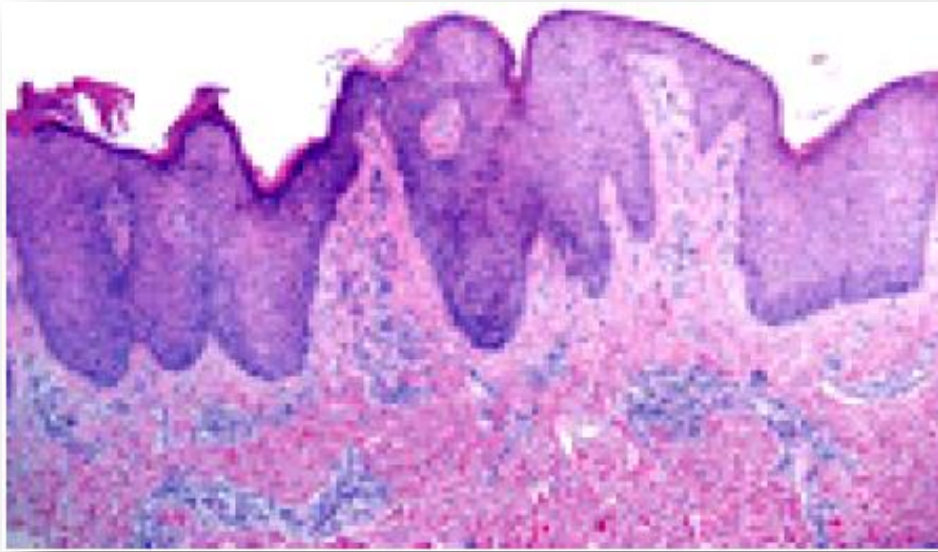
- Reduction of keratinocytes leads to
  - thinning of the epidermis
  - the papillary processes are diminished or lost
  - It is often found in
    - senile skin,
    - actinic keratosis



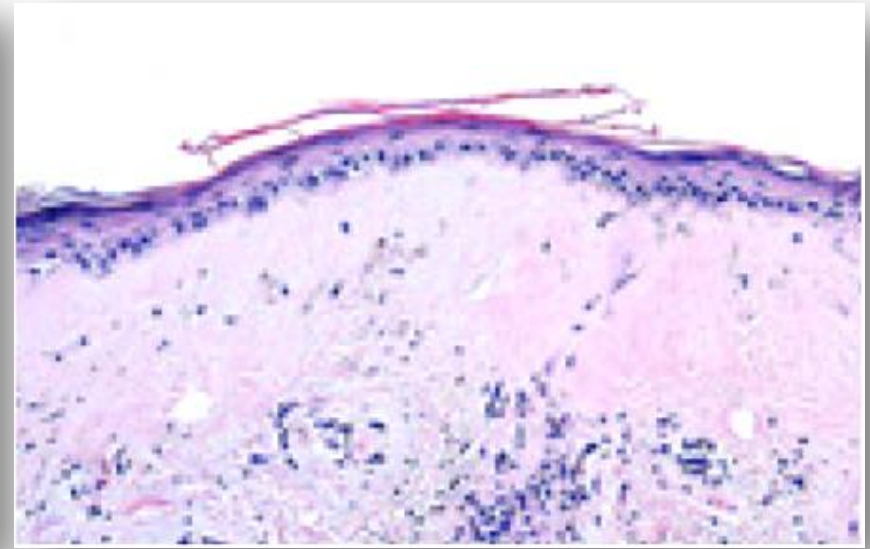


## Acanthosis (Epidermal Hyperplasia\_ผิวยหนา)

- Acanthosis is diffuse epidermal hyperplasia implies increased thickness of stratum spinosum
- It is classified into
  - flat : the entire site thickens moderately chronic eczema
  - psoriasiform: epidermal protrusions/elongated rete ridge psoriasis
  - papillomatous : the epidermis projects upwards e.g warts or seborrheic keratosis
  - pseudocarcinomatous : irregularly downward project e.g chronic ulcer margin, deep mycoses



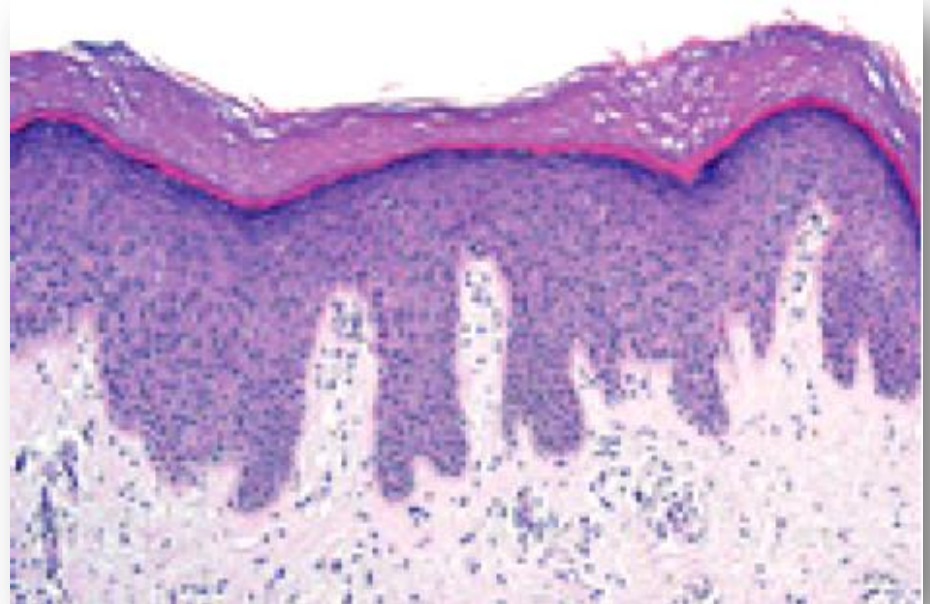
**Acanthosis**



**Atrophy**

# Hyperkeratosis

- Thickening of the stratum corneum
- associated with a qualitative abnormality of the keratin
  - **Parakeratosis:**
    - retained nuclei
  - **Orthohyperkeratosis**
    - without retained nuclei

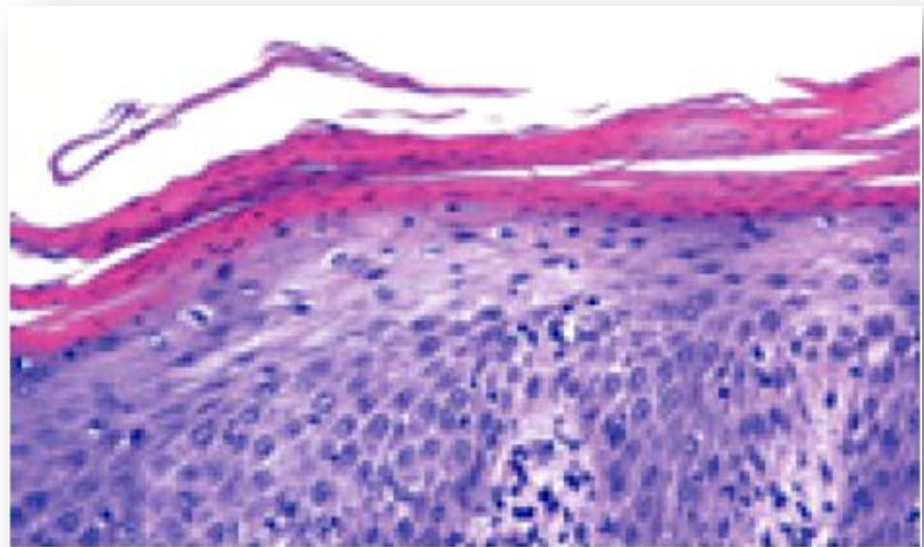


<http://www.derm-hokudai.jp/shimizu-dermatology>



# Parakeratosis

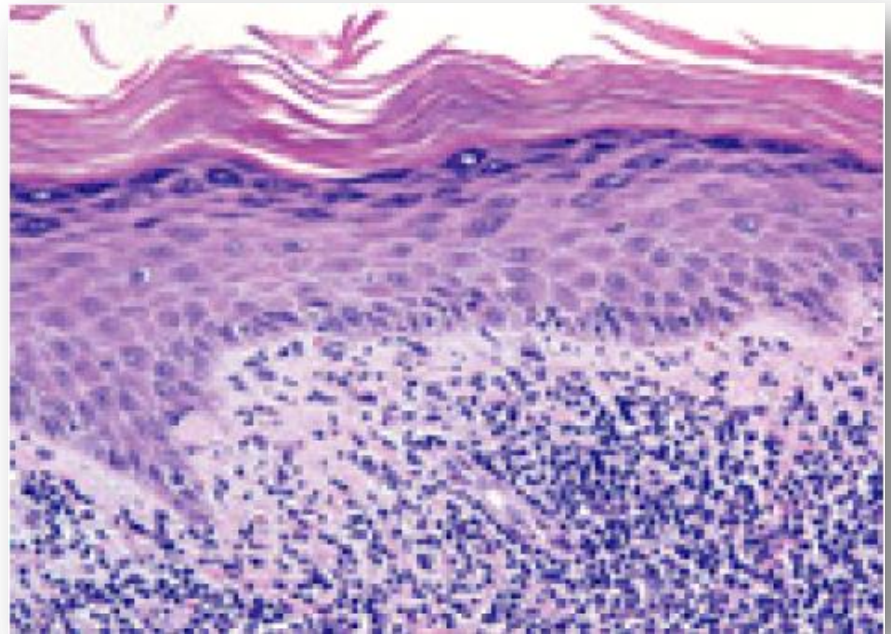
- **Caused by incomplete keratinization**
  - nuclei remain in the cells of the horny cell layer
  - **such as psoriasis vulgaris**
- **Column parakeratosis, “cornoid lamellae.”**
  - **porokeratosis**



<http://www.derm-hokudai.jp/shimizu-dermatology>

# Hypergranulosis

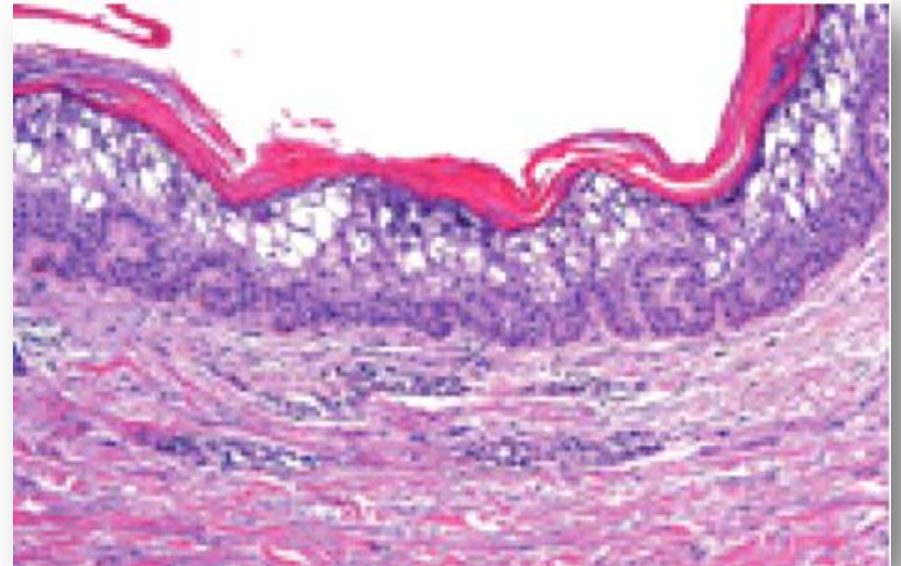
- A thickening of the granular cell layers to  $> 4$  layers (normal 1-3)
- It is often found in
  - lichen planus
  - warts
  - congenital ichthyosis



<http://www.derm-hokudai.jp/shimizu-dermatology>

# Granular degeneration

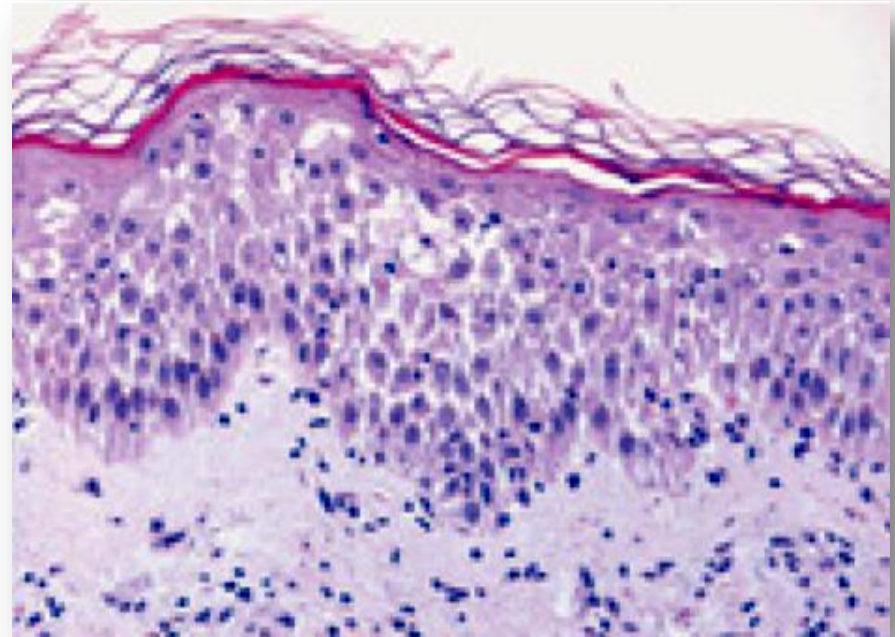
- **In the granular cell layer**
  - vacuolated cells containing large keratohyaline granules appear
- **It is characteristic of**
  - Vörner palmoplantar keratosis
  - ichthyosiform erythroderma (bullous congenital)



<http://www.derm-hokudai.jp/shimizu-dermatology>

# Spongiosis

- Separation of spinous layer because of increased fluid in epidermis secondary to inflammation
- Excessive spongiosis can lead to intraepidermal vesicles
- It is found in
  - Atopic dermatitis
  - Acute eczema

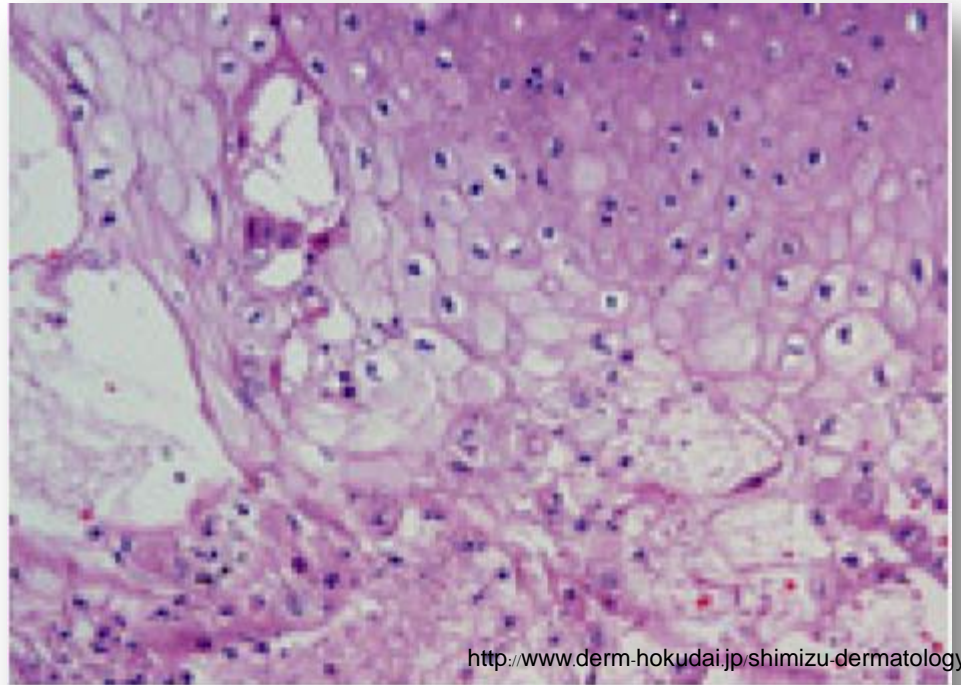


<http://www.derm-hokudai.jp/shimizu-dermatology>

# Intracellular edema

## Ballooning Degeneration

- Ballooning degeneration
  - Intracellular swelling
  - The cells become spherical
  - such as herpes simplex



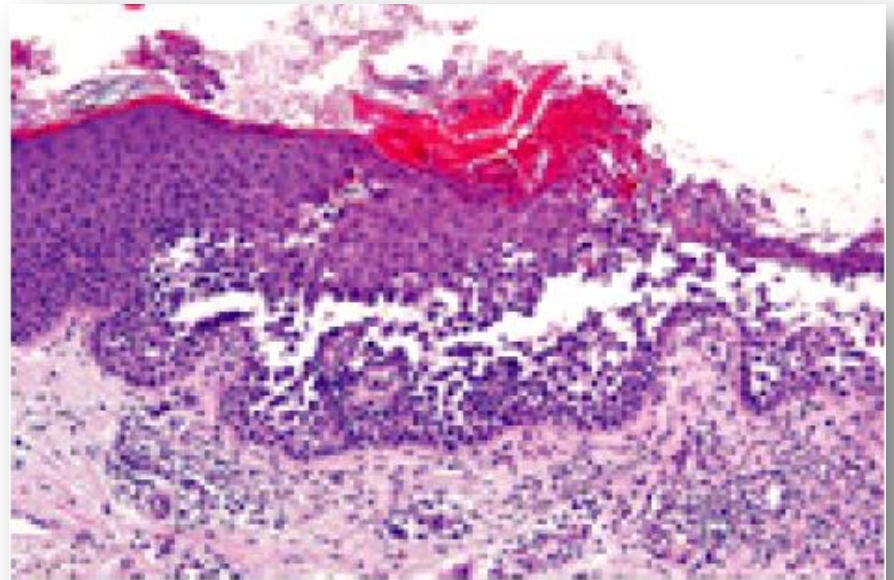
**Fig. 2.12 Intracellular edema.**  
Herpes simplex.

<http://www.derm.hokudai.jp/shimizu-dermatology>

# Acantholysis

Loss of intercellular bridges of keratinocyte (desmosomes) resulting in

- The dispersion of keratinocytes call Acantholytic cell
- Form Intercellular spaces and blisters
- Acantholytic cells have a tendency to become dyskeratotic



**Fig. 2.13 Acantholysis.**

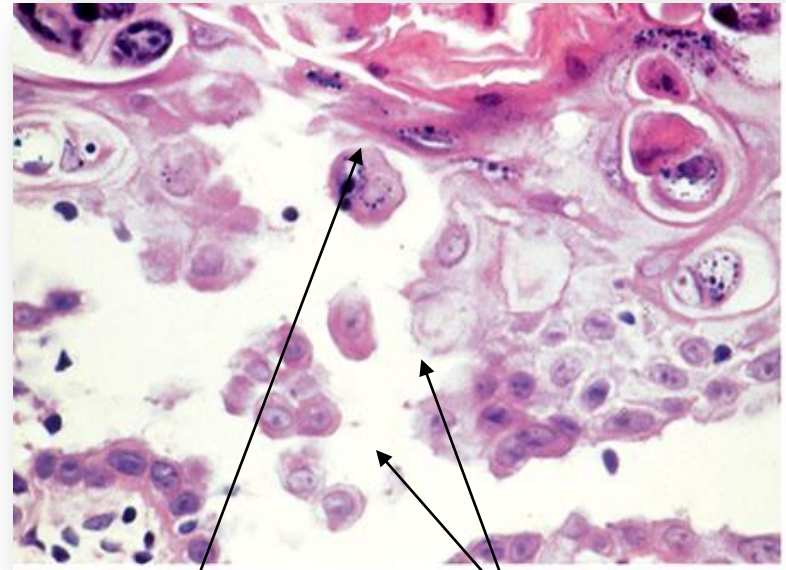
<http://www.derm-hokudai.jp/shimizu-dermatology>

The phenomenon is found in

- Pemphigus
- Hailey-Hailey disease
- Darier's disease

# Dyskeratosis

- Abnormal keratinization occurring prematurely within individual cells below the stratum corneum

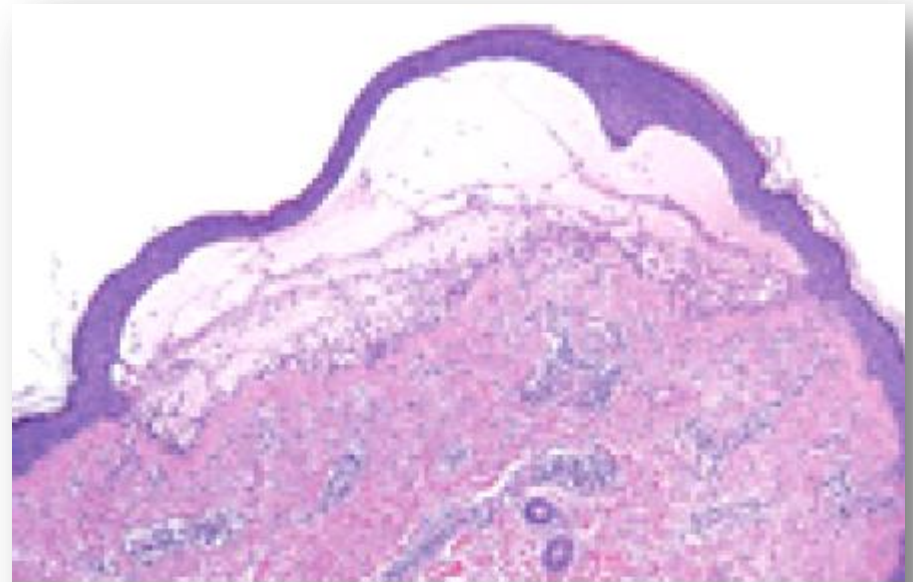


Dyskeratosis, acantholysis and the intraepidermal cleft formation

Darier's disease

# Blister

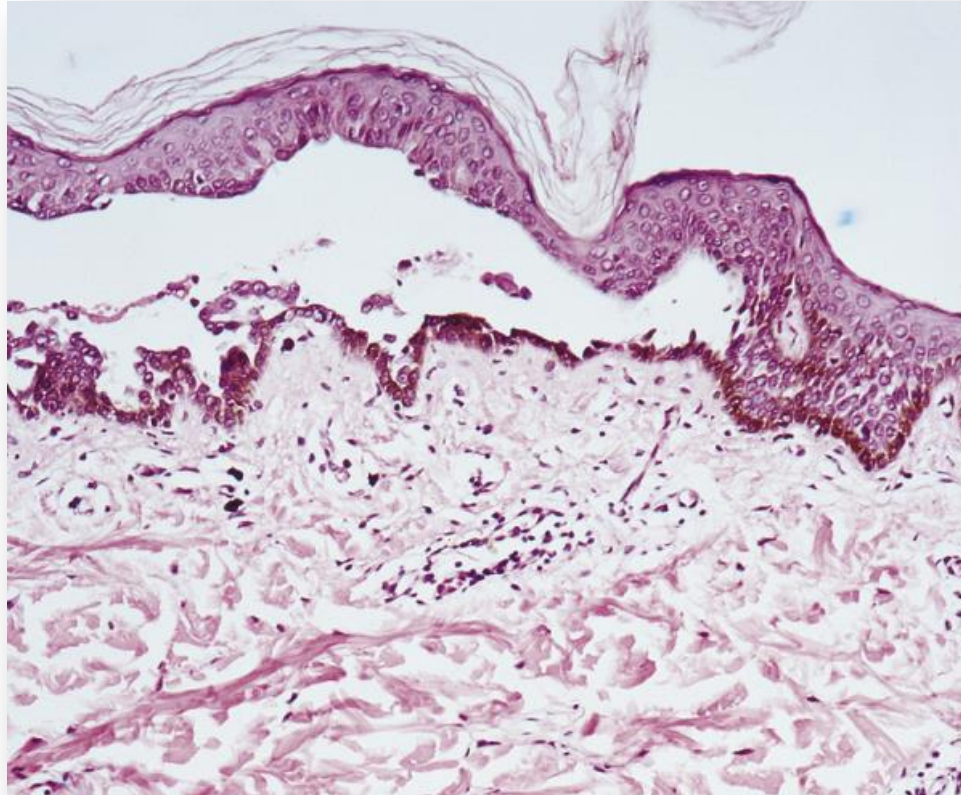
- Intraepidermal and subepidermal separation resulting in blister formation
- Blister contents are cytoplasm and infiltrating cells



**Fig. 2.14 Bulla.**  
Bullous pemphigoid.



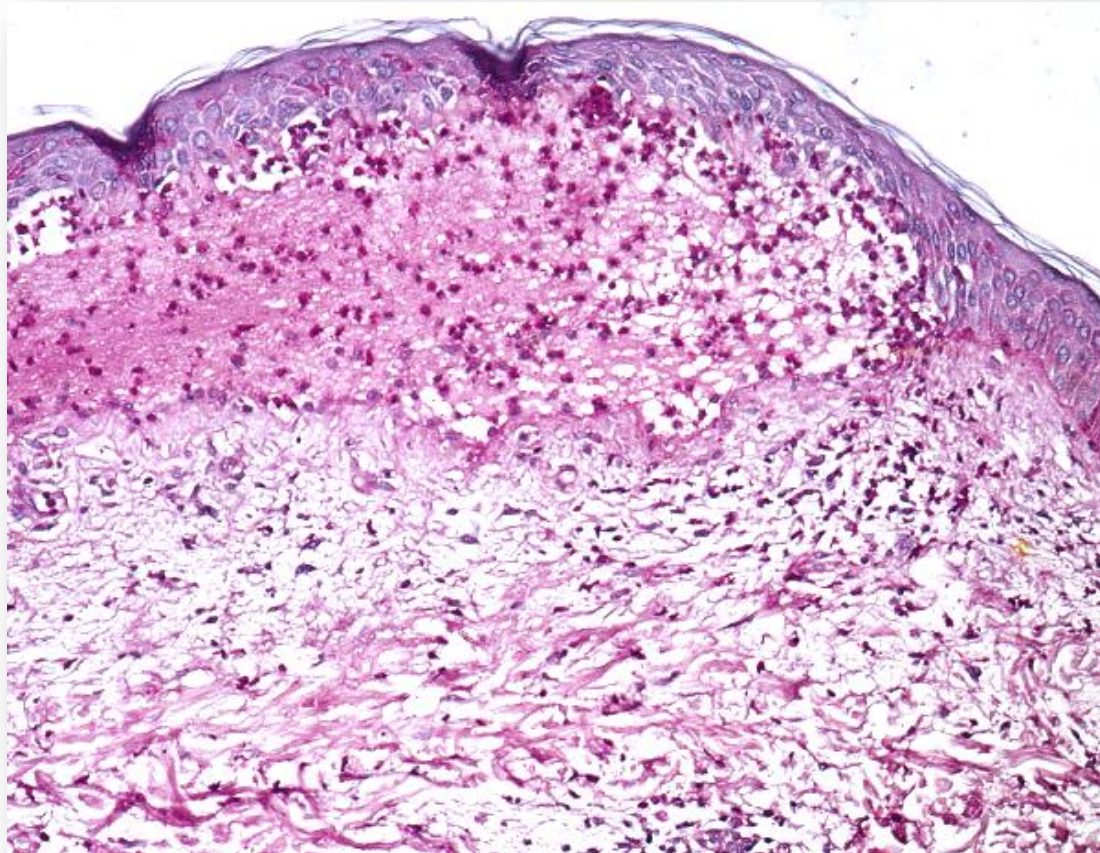
# Pemphigus vulgaris.



Habif: Clinical Dermatology, 5th ed. Copyright © 2009 Mosby, An Imprint of Elsevier

The epidermal separation occurs low in the epidermis  
(Suprabasal blister)

## Bullous pemphigoid.



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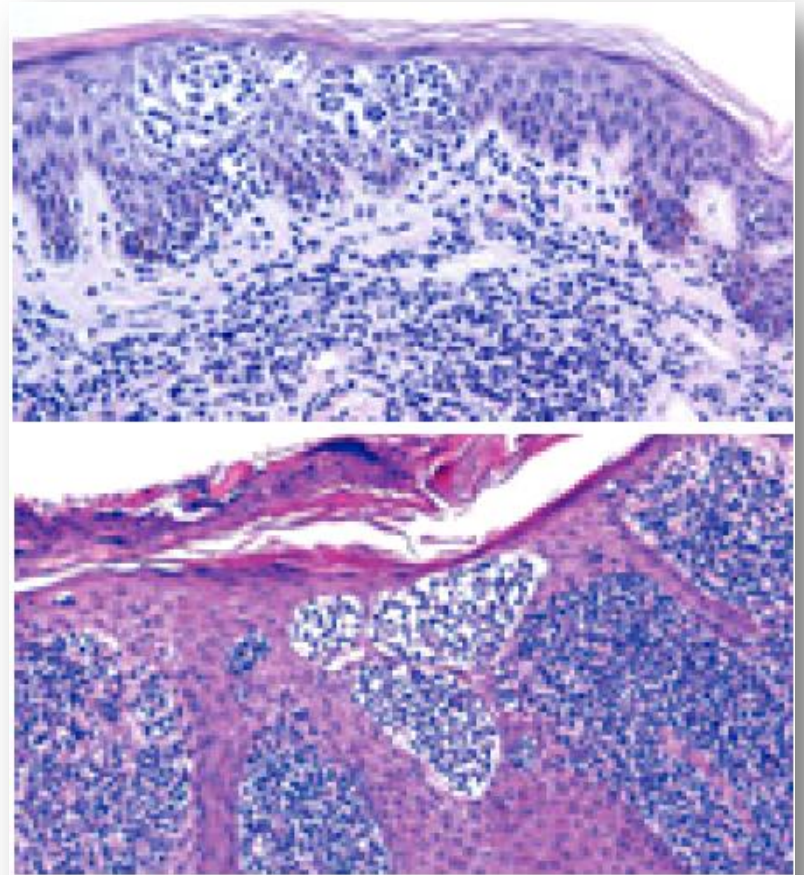
A subepidermal blister contains numerous eosinophils

# Exocytosis

- The infiltration of inflammatory cells and erythrocytes into the dermis
- It is mostly found in spongiotic space

# Pautrier's microabscess

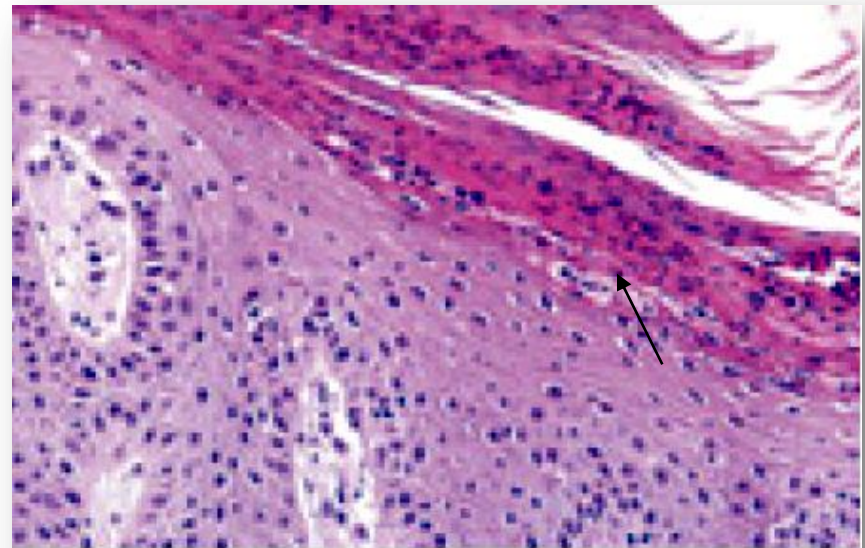
- Infiltration of tumorous lymphocytes
- Cutaneous Tcell lymphoma (CTCL)



**Fig. 2.17 Pautrier's microabscess.**  
Mycosis fungoides.

# Munro's microabscess

- A blister containing purulent (mainly neutrophils)
- A small pustule below the horny cell layer



**Fig. 2.15 Munro's microabscess.**  
Psoriasis vulgaris.

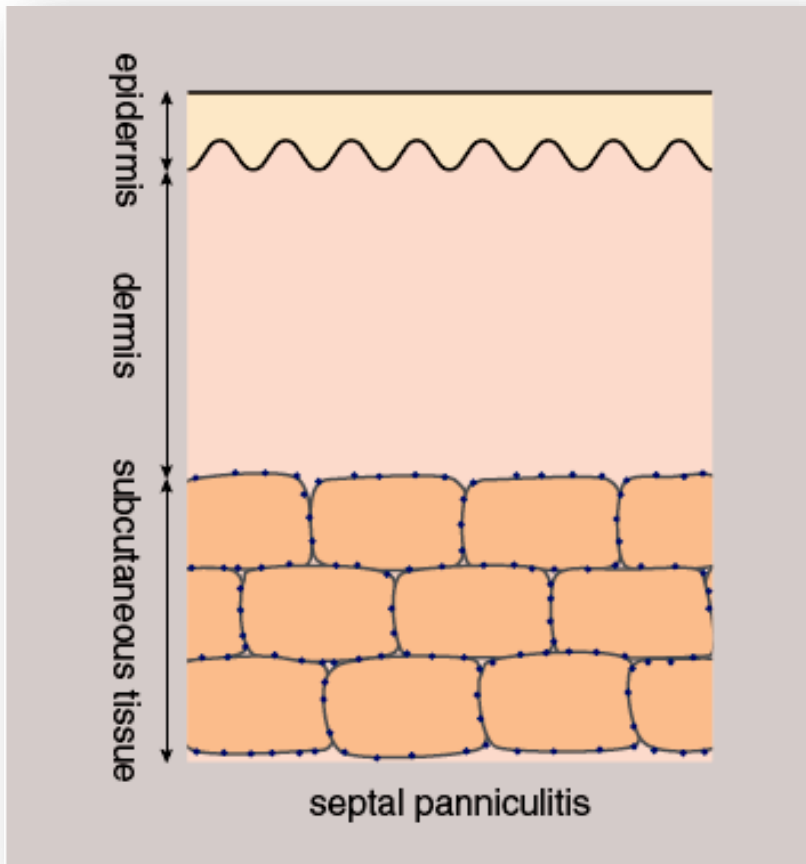
<http://www.derm-hokudai.jp/shimizu-dermatology/pdf/02-02.pdf>

# Dermal Infiltration

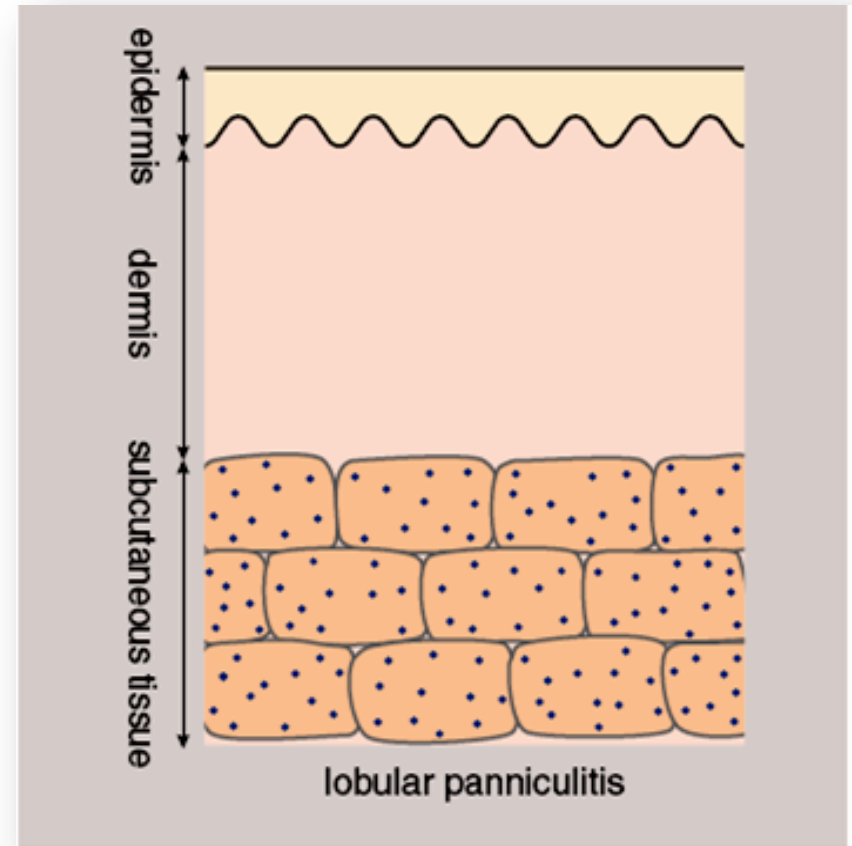
- There are several infiltration patterns
  - **Perivascular infiltration** : Inflammatory cells infiltrate around the blood vessels
  - **Lichenoid infiltration** : the cells infiltrate in a band resembling that in lichen planus
  - **Vasculitis** : the cells cause fibrinoid degeneration, blood clots, or bleeding in the blood vessels
  - **Nodular infiltration**

# Subcutaneous fat tissue

Panniculitis is an inflammation of the subcutaneous fat tissue

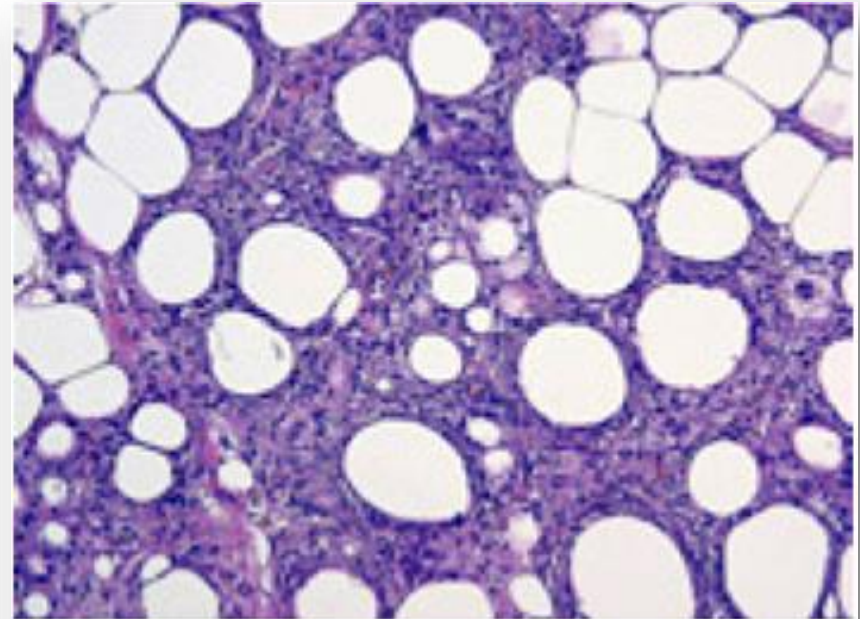
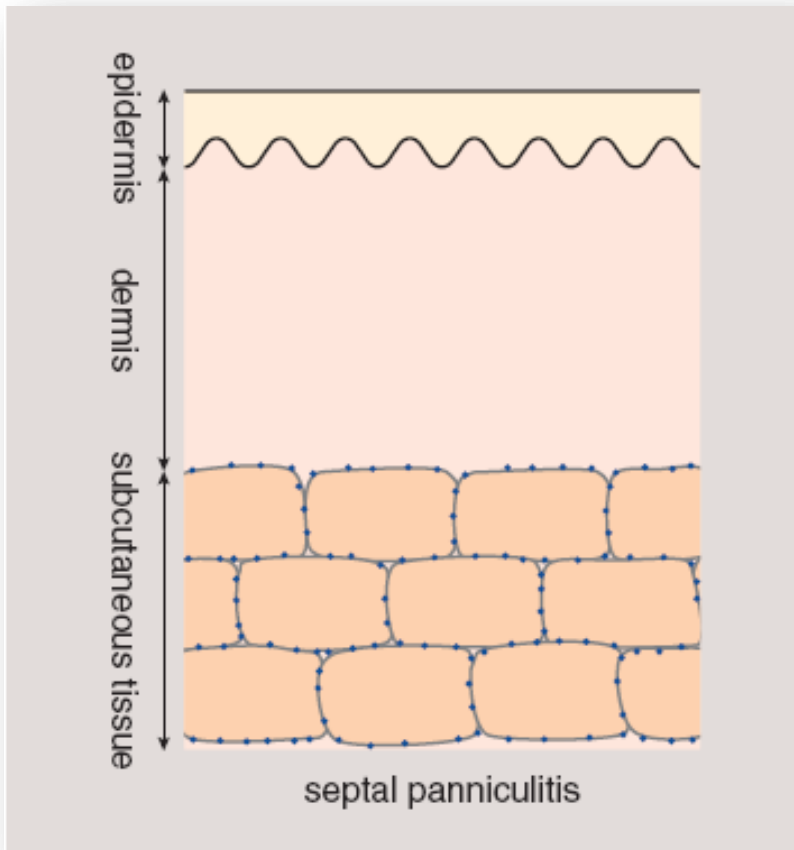


erythema nodosum.



erythema induratum

# Septal Panniculitis



**Fig. 2.23 Septal panniculitis.**  
Erythema nodosum.



# Common Skin Diseases

# Common Skin Diseases

- Infection diseases of the skin
  - Bacterial
  - Viral
  - Fungal
- Inflammatory diseases of the skin
  - Atopic dermatitis
  - Psoriasis
  - Lichen planus
  - Bullous Disease
- Neoplasm of the skin
- Benign Lesion : Actinic keratosis, Bowen
- Malignant Lesion : SCC BCC
- Pigmentary Disorders
  - NEVUS
  - MELANOMA
- Disorders of Epidermal Maturation
  - ICHTHYOSIS
- Disorders of Epidermal Appendages
  - ACNE VULGARIS

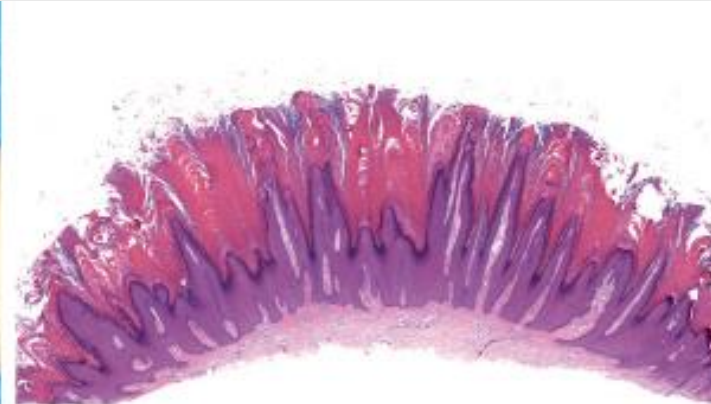
# Infection

- Verrucae (Warts)
- Molluscum Contagiosum
- Impetigo
- Superficial Fungal Infections

# Verrucae (Warts)

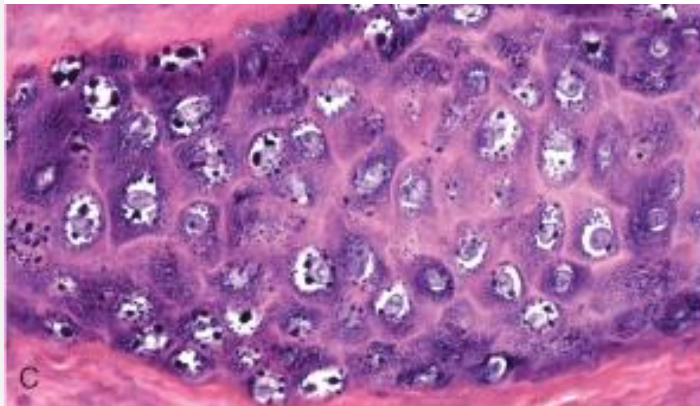


Multiple papules with rough pebble-like surfaces

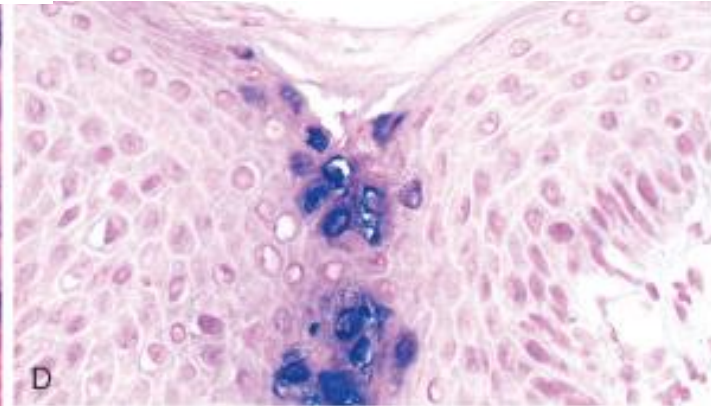


B

Papillomatous epidermal hyperplasia



Vacuolar degeneration\_perinuclear halo (koilocyte)  
Enlarge/clump keratohyaline granules



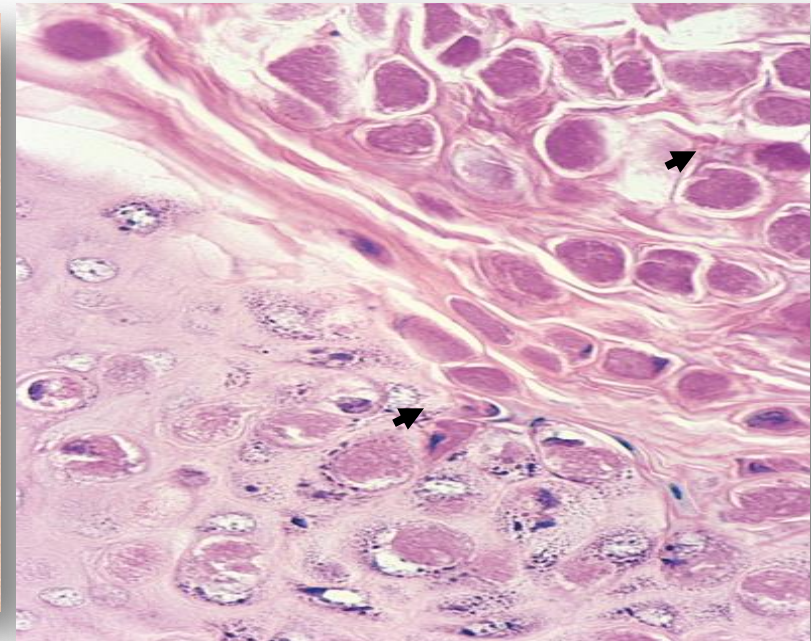
D

In situ hybridization demonstrating viral DNA within epidermal cells

# Molluscum contagiosum



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Kumar: Robbins and Cotran Pathologic Basis of Disease, Professional Edition, 8th ed.  
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- A rounded, pink to flesh skin color
- A central umbilication
- “Molluscum Body”
- Viral particle contain
- Verrucous epidermal hyperplasia
- KC eosinophilic intracytoplasmic inclusions (molluscum bodies)

# Impetigo contagiosum



Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:  
*Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://www.accessmedicine.com>  
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**Honey-colored, glistening crusts**

# Impetigo Bullosa



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Source: Weedon: Skin Pathology 2nd edition

Intraepidermal Vesicle

Subcorneal pustule with Neutrophil infiltration

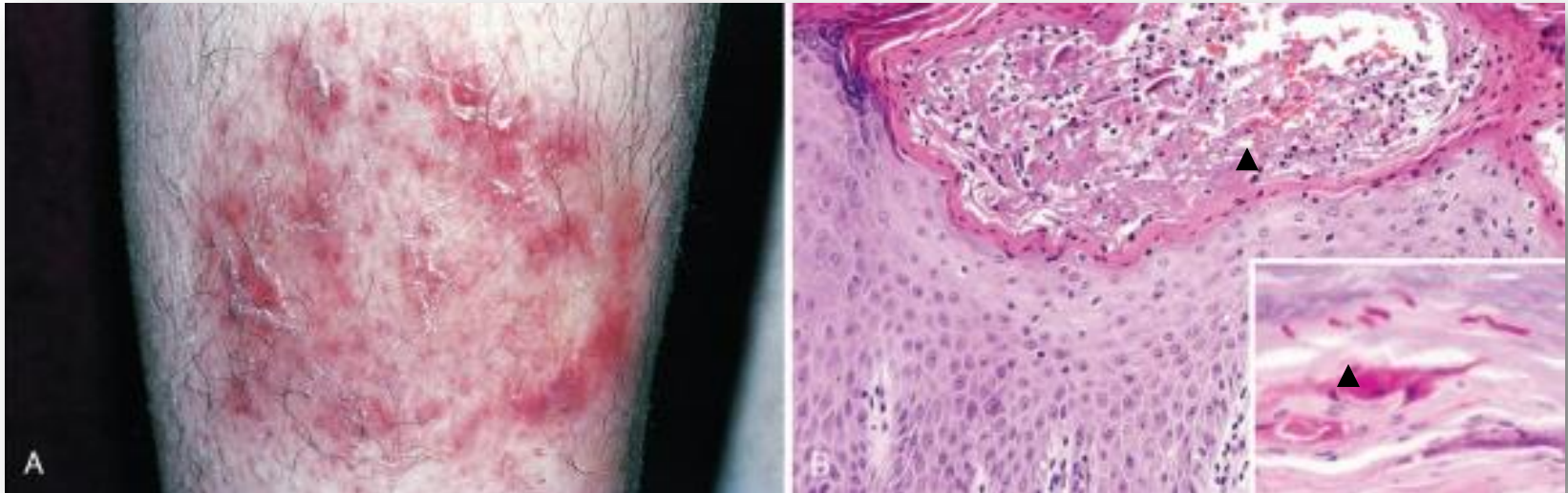
Special stains : bacteria foci

# Superficial Fungal Infections

- Tinea
- Dermatophyte 3 organism
  - Trichophyton
  - Epidermophyton
  - Microsporum
- Various forms : location
  - Scalp :Tinea Capitis
  - Face :Tinea Faciei
  - Body :Tinea Corporis
  - Inguinal :TineaCruis
  - Hand :Tinea Manuum
  - Foot :Tinea Pedis
  - Nail :Tinea Ungium
- Tinea versicolor  
(Pityriasis versicolor)
- Malassezia furfur, a yeast
- Condition :
  - Humidity area
  - Seborrheic area
- Location :
  - upper chest
  - Upper back
- Lesion :
  - hypo-hyperpigment macule
  - With fine scale



# Tinea Corporis



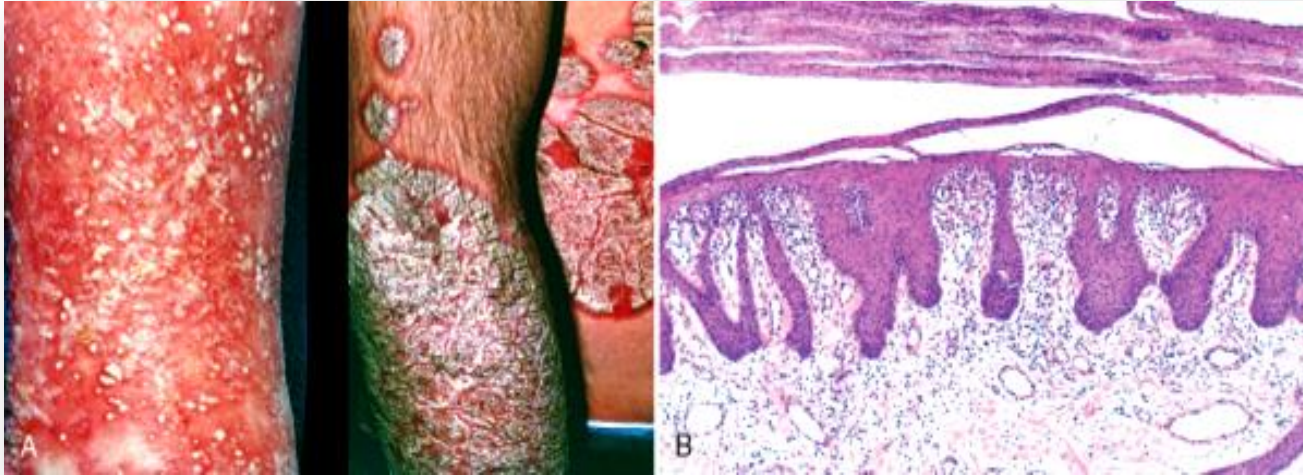
Tinea

A : well circumscribed erythematous macule, papule to plaque with active border and central regression

B : mild spongiosis and focal neutrophilic abscesses with fungal hyphae

C : Periodic Acid–Schiff stain (PAS) : hyphae within the S.corneum.

# Psoriasis



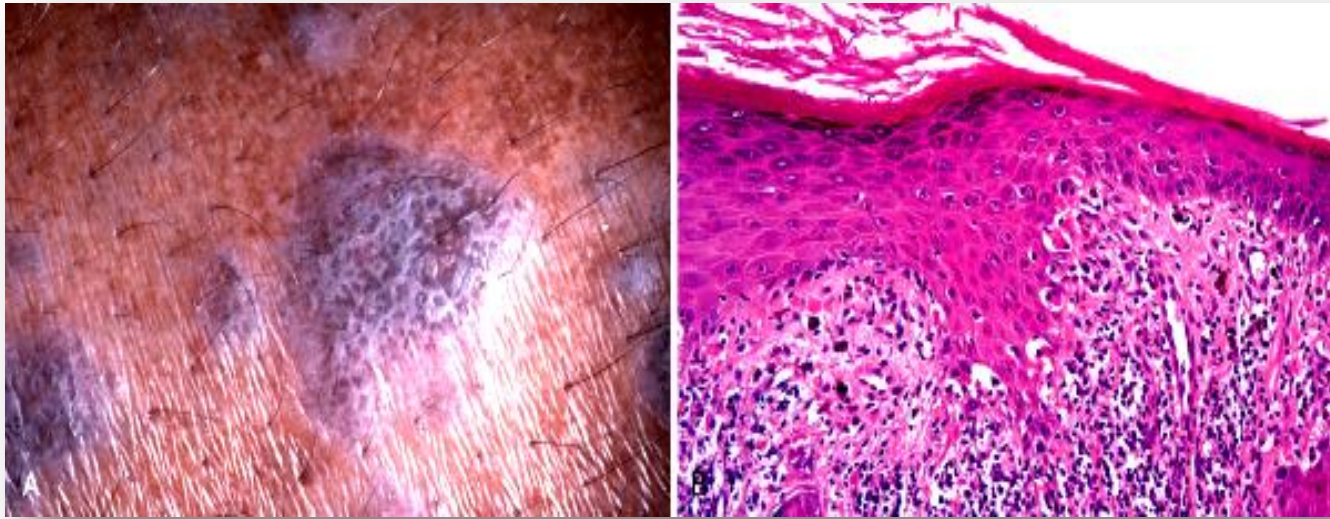
## Psoriasis

Kumar: Robbins and Cotran Pathologic Basis of Disease, Professional Edition , 8th ed.  
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**A: erythema plaque with silvery-white scale**

**B: Histologically :**

- hyperkeratosis with parakeratosis
- regular acanthosis with clubbing
- an absent granular layer
- neutrophils infiltration in the stratum corneum (Munro microabscesses)
- subcorneal layer (Kojog spongiform pustules)



## Lichen planus

A : This flat-topped pink-purple, polygonal papule  
a white lacelike pattern that is referred to as Wickham stria.

B : A bandlike infiltrate of lymphocytes at the dermoepidermal junction  
hyperkeratosis  
hypergranulosis  
pointed rete ridges (saw tothing)

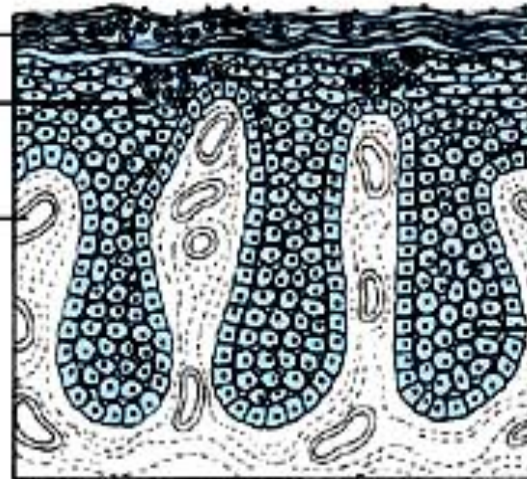
\* Mostly idiopathic but the possibility of a cell mediated immunologic mechanism

### A. Psoriasis

Neutrophil collections in stratum corneum (Munro abscess)

Neutrophil collections in subcorneal region (Kojog pustules)

Dilated vessels in papillary dermis



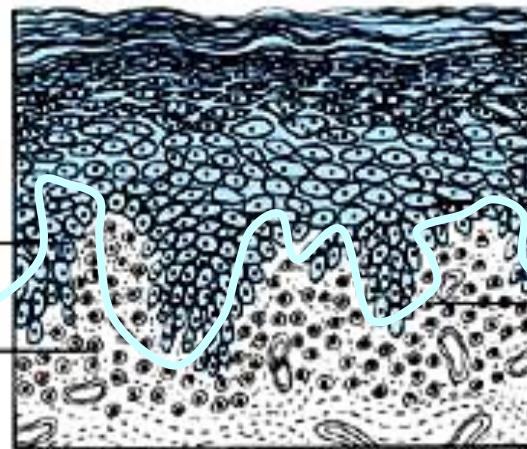
Parakeratosis  
Hyperkeratosis  
Absent granular layer } Scale layer

Regular acanthosis – club-shaped, elongated rete pegs

### B. Lichen planus

Vacuolar degeneration of basal cells

Bandlike lymphocytic infiltrate hugging the basement membrane

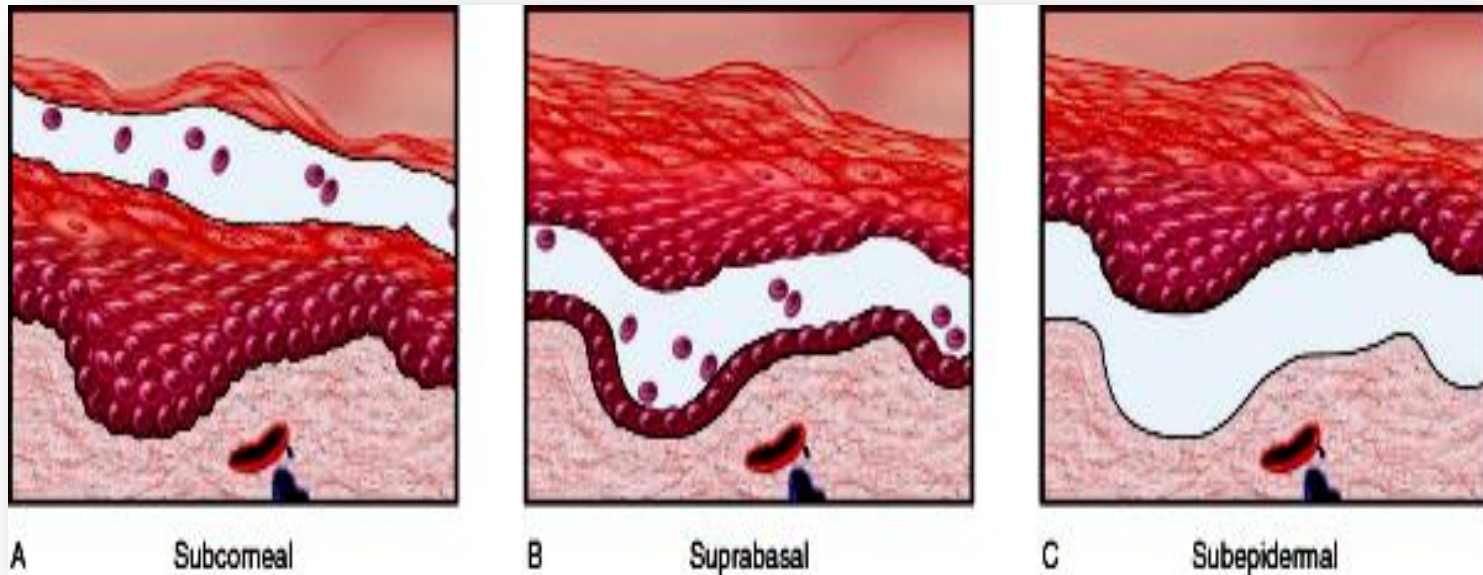


Hyperkeratosis (scale)  
No parakeratosis

Increased granular layer

Highly keratinized epidermal cells

Acanthosis – irregular "saw toothed" appearance due to basal layer loss

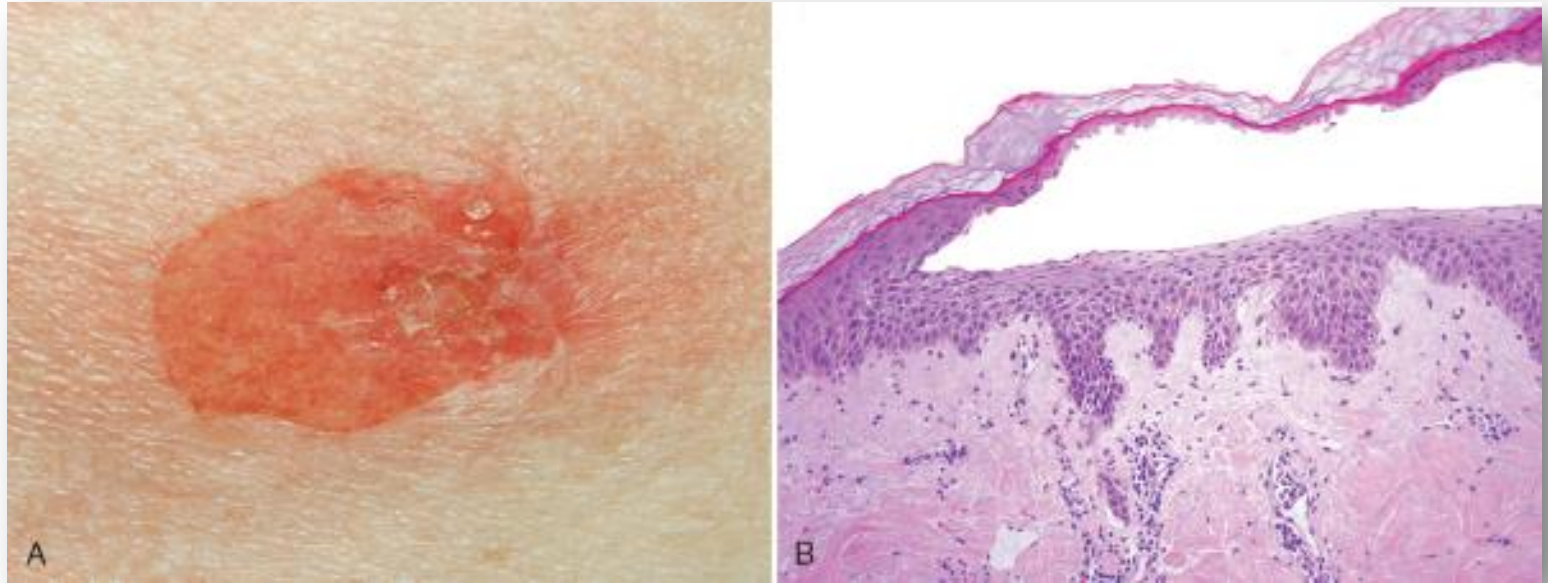


### Histologic levels of blister formation

A : **Subcorneal blister** the stratum corneum forms the roof of the bulla  
 (as in **pemphigus foliaceus**)

B : **Suprabasal blister** a portion of the epidermis, including the stratum corneum, forms the roof (as in **pemphigus vulgaris**)

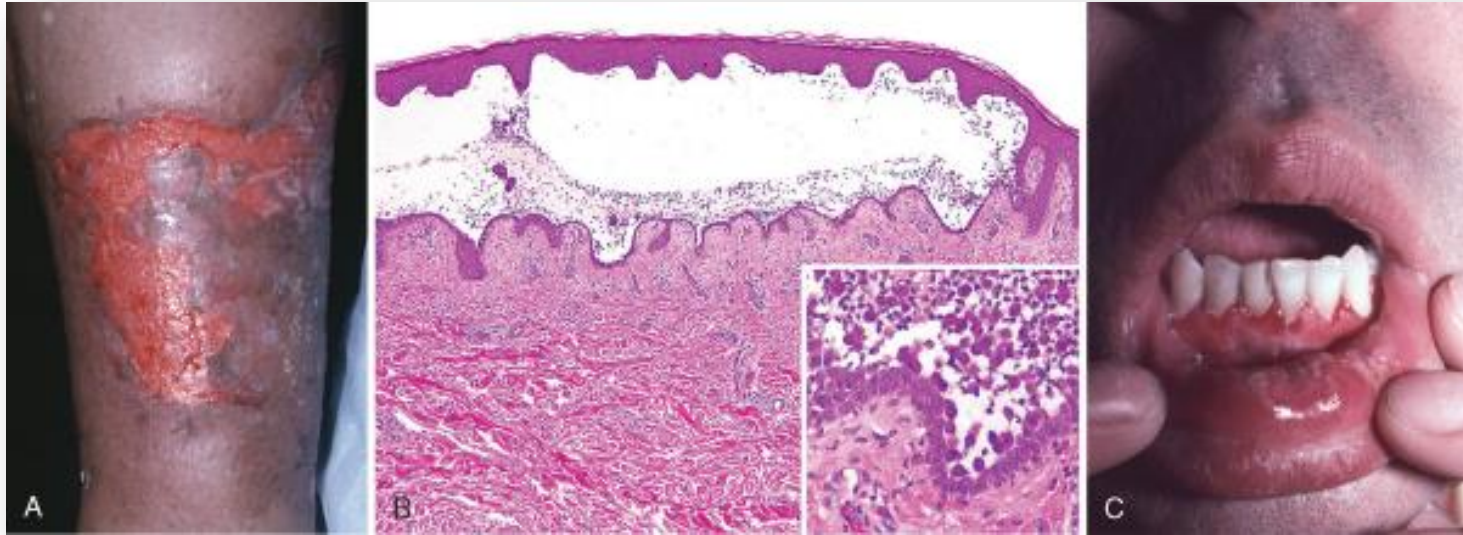
C : **Subepidermal blister** the entire epidermis separates from the dermis  
 (as in **bullous pemphigoid**)



## **Pemphigus foliaceus.**

- A The delicate, superficial (subcorneal) blisters are much less erosive than seen in pemphigus vulgaris.
- B Subcorneal separation of the epidermis is seen.

# Pemphigus



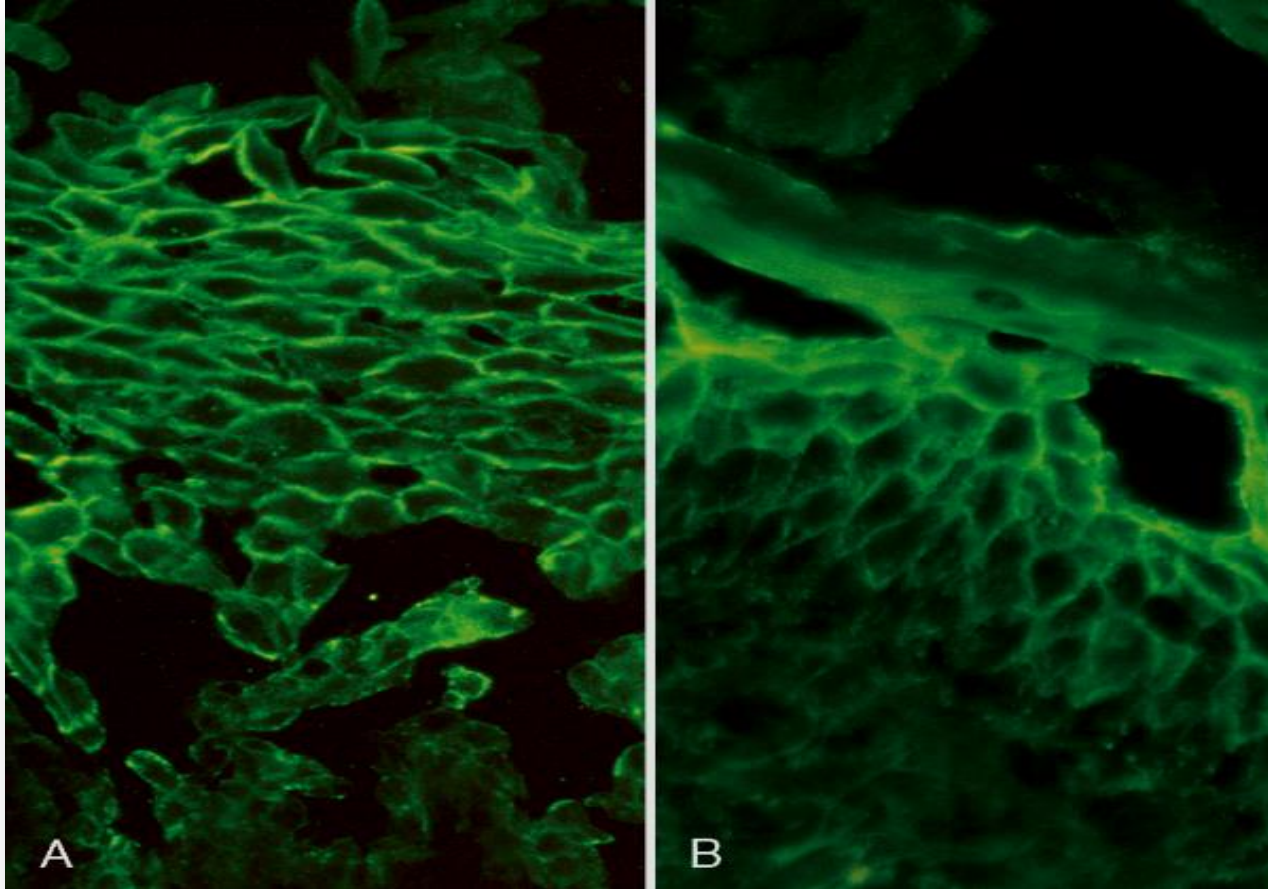
## Pemphigus vulgaris

A : flaccid bullae and thin-roofed => Eroded plaques

B : Suprabasal acantholysis => intraepidermal blister

C : Ulcerated blisters in the oral mucosa are also common

# Direct immunofluorescence of IgG

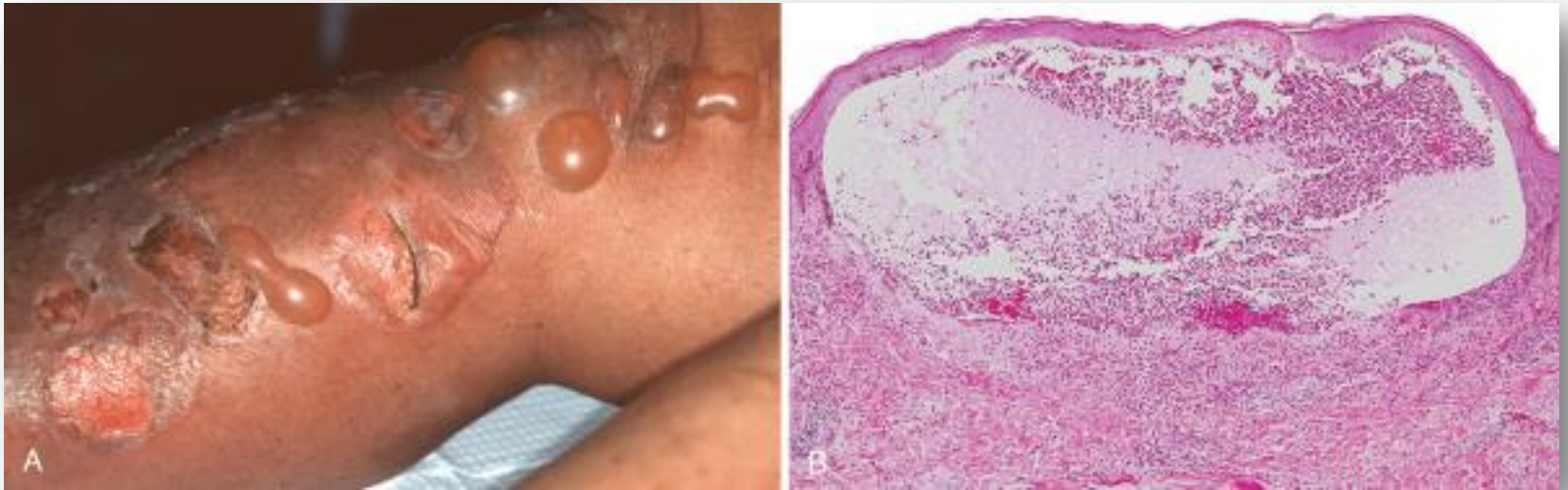


**Pemphigus vulgaris**  
the intercellular membranes in a reticular pattern

**Pemphigus foliaceus**  
the deposits are more superficial



# Bullous Pemphigoid

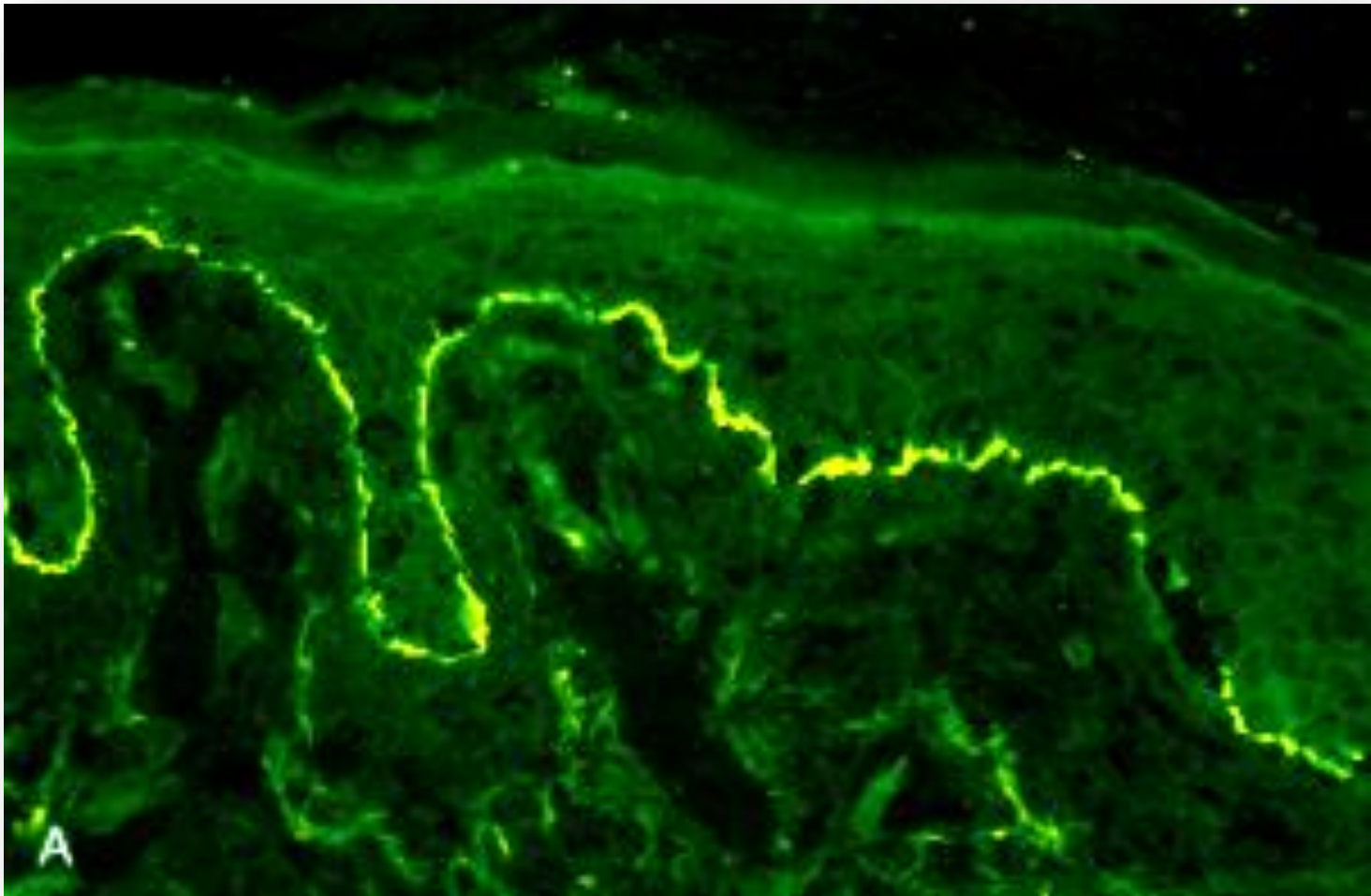


## **Bullous pemphigoid.**

A : Tense bullae, filled with clear fluid, on normal or erythematous skin

B : Histopathology shows

- Basal cell layer vacuolization, producing tense, intact subepidermal blisters
- With eosinophils, as well as lymphocytes or neutrophils



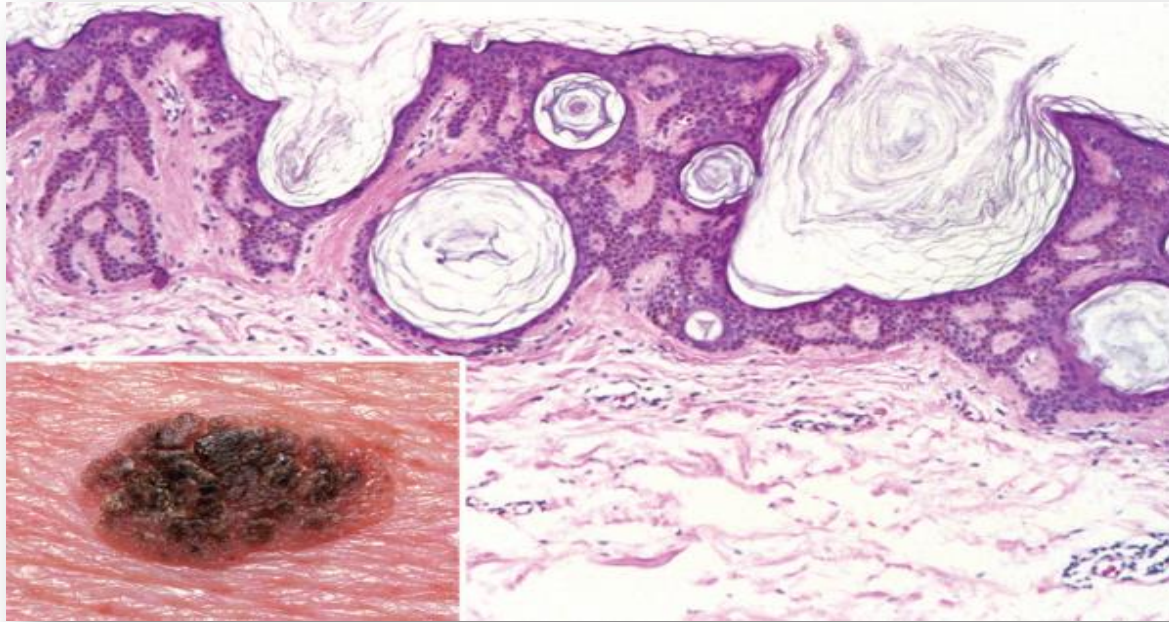
Linear deposition of complement along the dermoepidermal junction in bullous pemphigoid; the ribbon candy pattern

# Neoplasm of the skin

# Seborrheic Keratosis

- Common benign tumor
- usually in elderly persons
- This lesion occurring on the face, trunk and extremities
- The lesions are flat, raised, soft, sharply demarcated, and brown

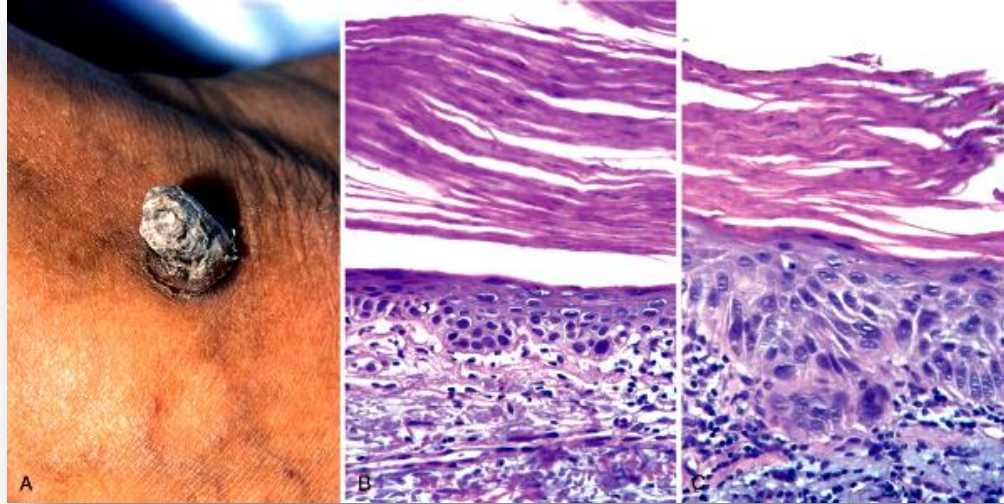




## Seborrheic keratosis

- A well-demarcated coin like pigmented lesion with warty surface
- stuck on appearance
- Histologically of benign **basaloid cells proliferation** interspersed with keratin filled horny cysts

# Actinic Keratosis



## Hypertrophic Actinic keratosis

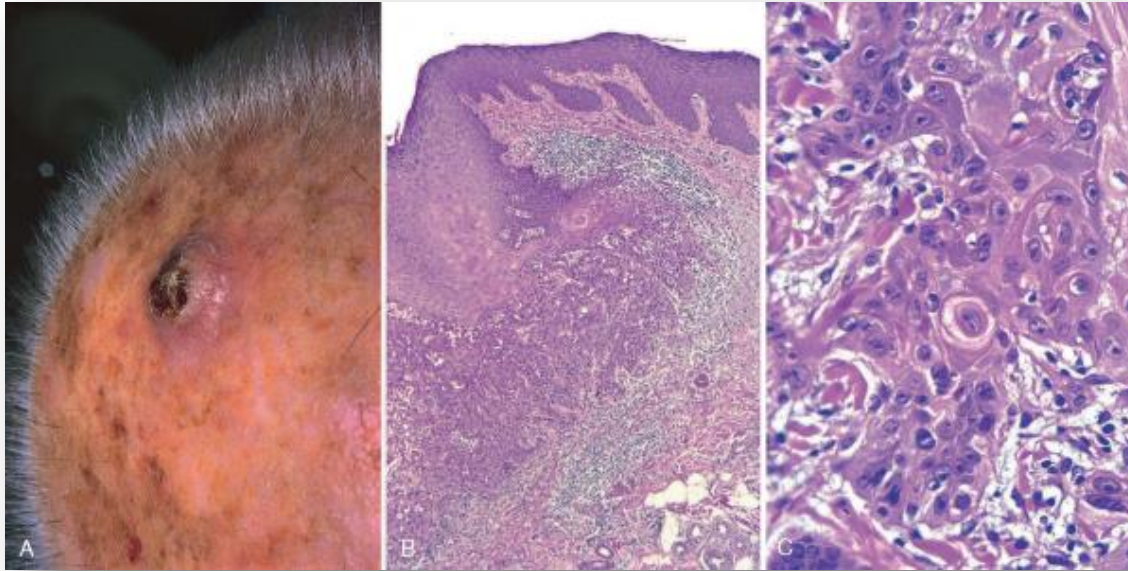
A : A “cutaneous horn” horn like projection keratin

B : **Basal cell layer atypia (dysplasia)** is associated with marked hyperkeratosis and parakeratosis

C : Progression to **full-thickness nuclear atypia**, with or without the presence of superficial epidermal maturation, heralds the development of **squamous cell carcinoma in situ**

**: Actinic keratosis is a premalignant lesion**

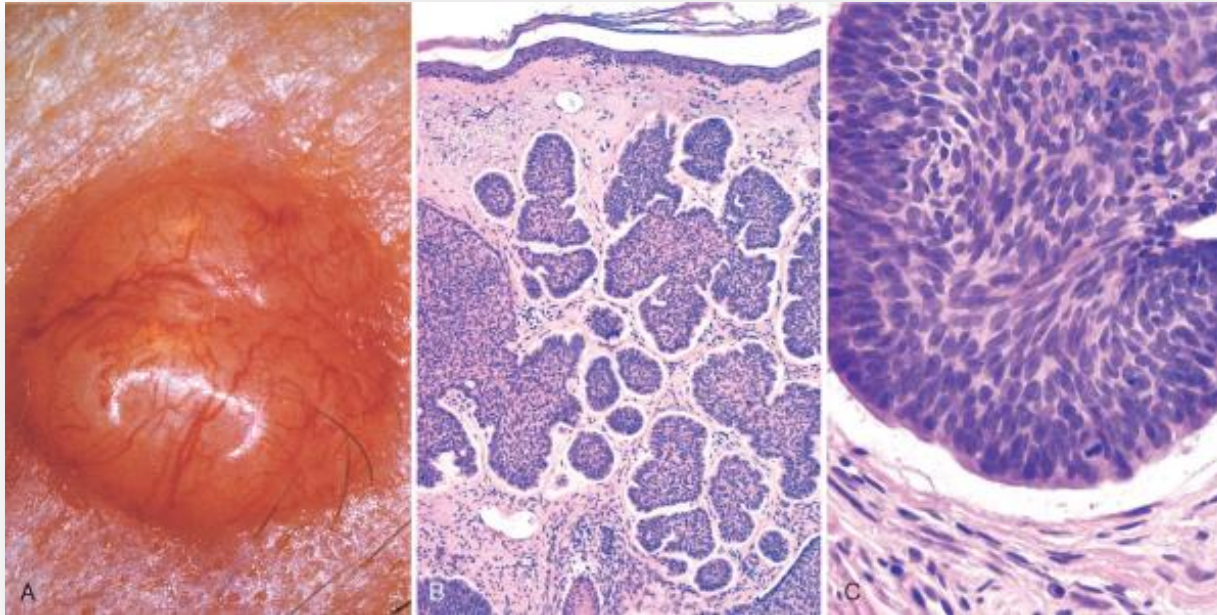
# Squamous Cell Carcinoma



## Invasive squamous cell carcinoma

- A: Lesions are often **nodular and ulcerated** as seen in this scalp tumor.
- B: **Atypical squamous epithelium** invading BM into the dermis
- C: A magnified image : **invasive tumor cells** showing enlarged nuclei with angulated contours and prominent nucleoli.

# Basal Cell Carcinoma



## Basal cell carcinoma

A : Pearly, telangiectatic nodules

B : Nests of uniformly atypical basaloid cells

C : Often separated from the adjacent stroma by **clefts**



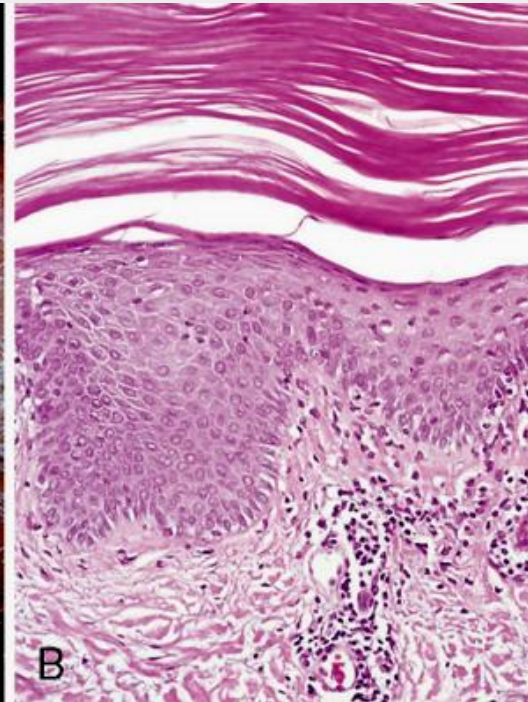
# Disorders of Epidermal Maturation

- **Ichthyosis**

# Ichthyosis

prominent fishlike scales

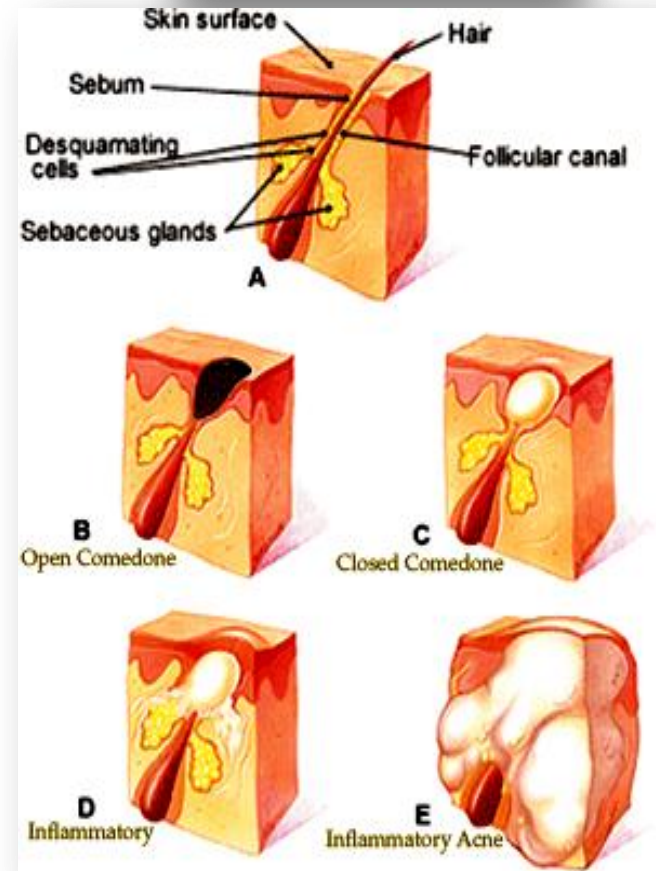
compacted, thickened  
stratum corneum

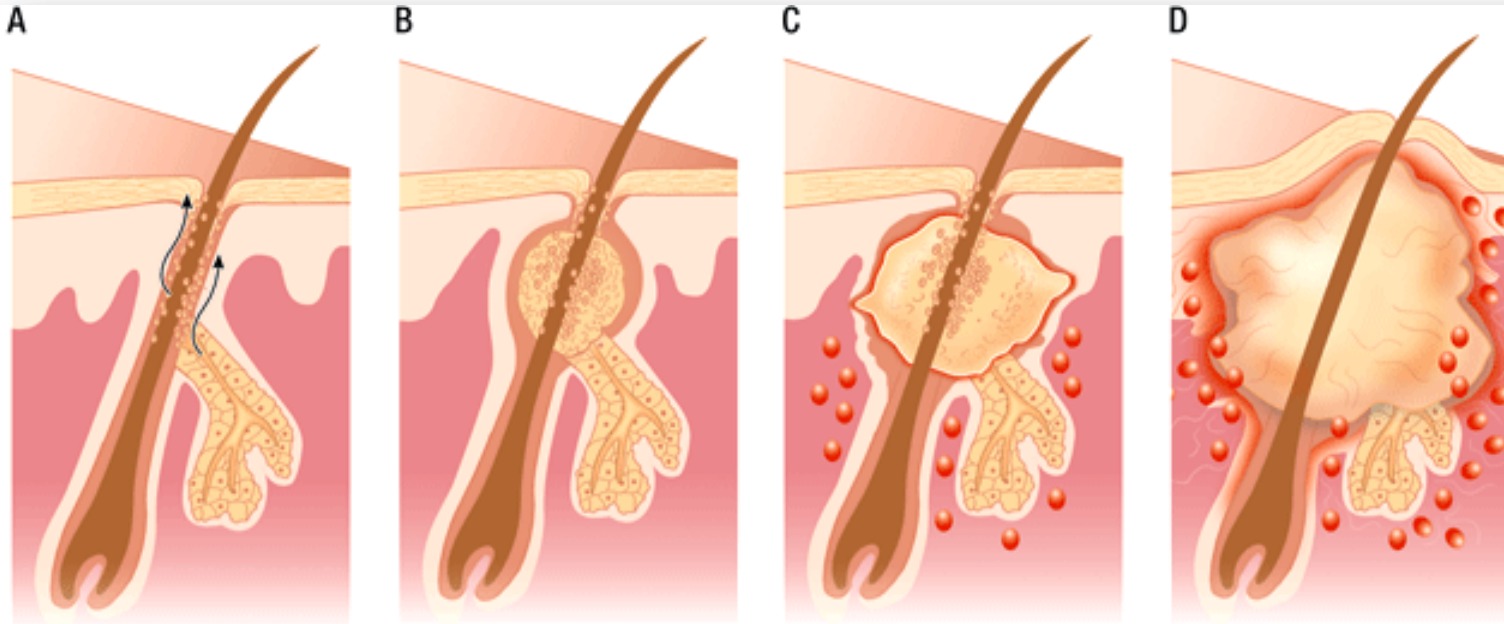


- Group of genetically inherited disorders
- Ichthyosis exists in several forms with different inheritance patterns (dominant, recessive, X-linked)

# Acne

- **Divided into 2 types**
- Non inflammatory types
  - Open comedones :
    - black keratin plug
  - Closed comedones
    - the keratin plug is trapped beneath the epidermal surface
- Inflammatory types
  - erythematous **papules, nodules, and pustules**
  - **Severe** : **acne conglobata** => sinus tract formation & physical scarring





**Microcomedone**

- hyperkeratotic infundibulum
- cohesive corneocytes
- sebum secretion

**Comedone**

- accumulation of shed corneocytes and sebum
- dilation of follicular ostium

**Inflammatory papule/ pustule**

- further expansion of follicular unit
- proliferation of *Propionibacterium acnes*
- perifollicular inflammation

**Nodule**

- rupture of follicular wall
- marked perifollicular inflammation
- scarring

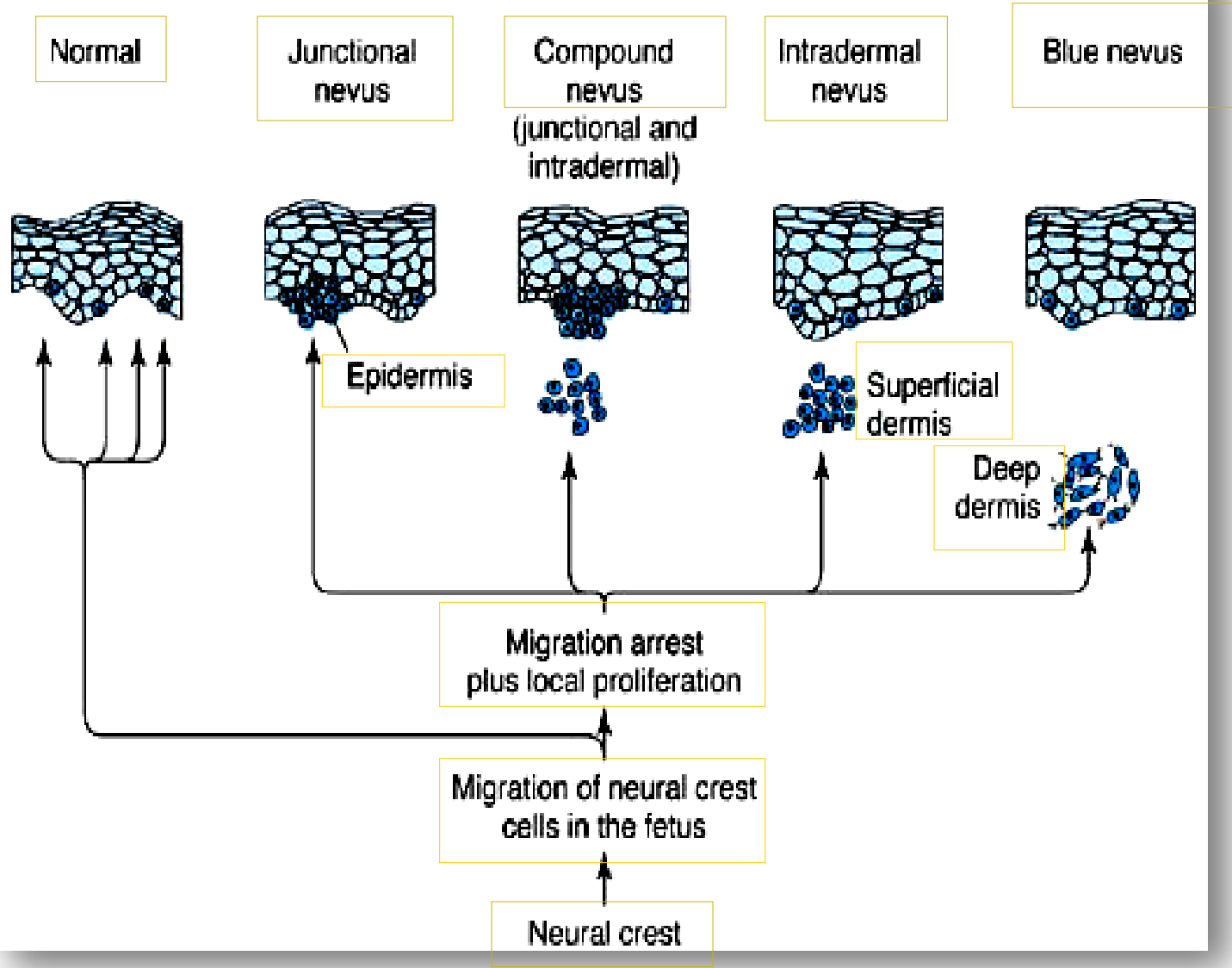
Source: Wolff K, Johnson RA: *Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology, 5th Edition*: <http://www.accessmedicine.com>

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# Pigmentary Disorder

- NEVUS
- MELANOMA

A



# Melanoma

**B**

Neoplastic transformation of melanocytes in epidermis, with proliferation and spread

Superficial spreading malignant melanoma in situ



Invasive malignant melanoma



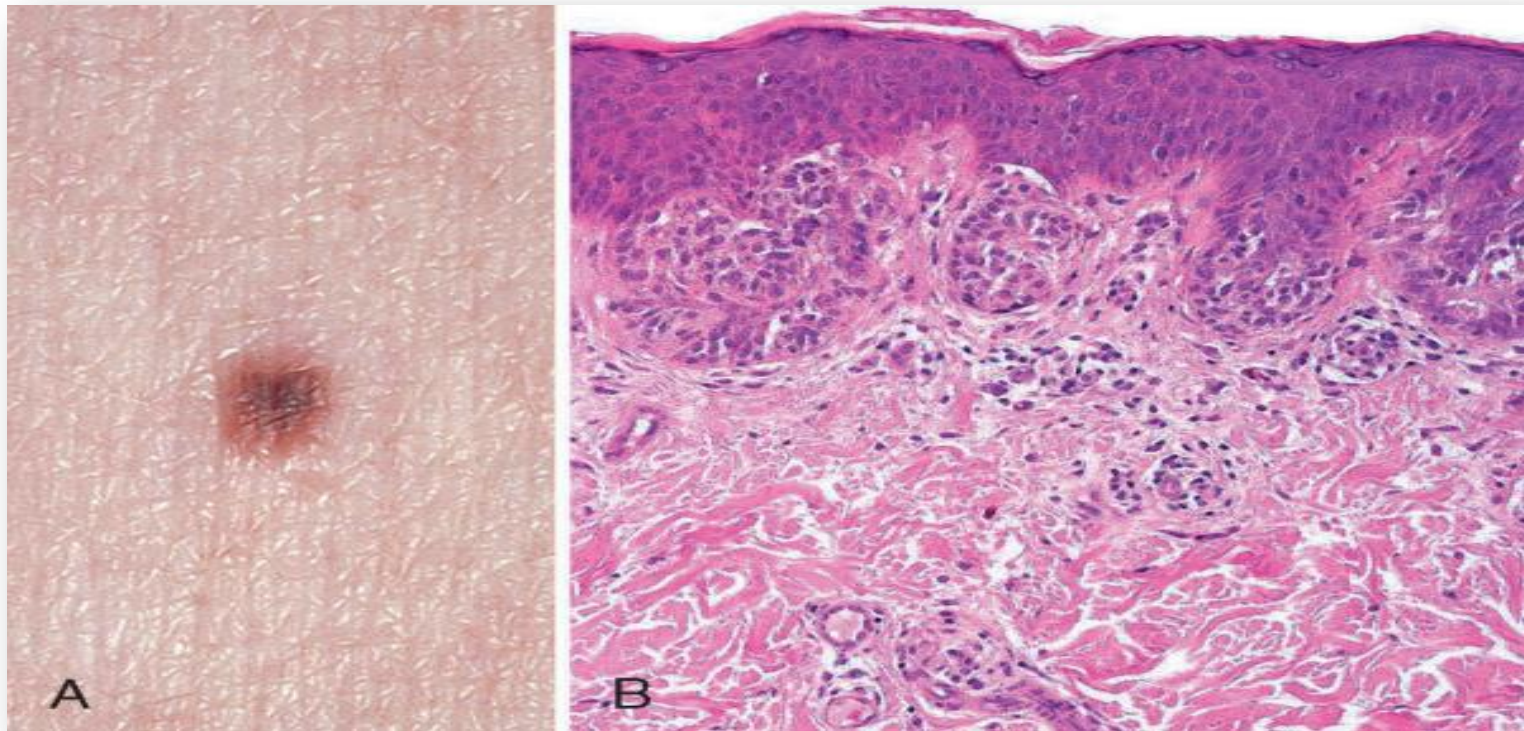
Invasive

Metastases

- Lymphatic
- Hematogenous

Source: Chandrasoma P, Taylor CR: *Concise Pathology*, 3rd Edition: <http://www.accessmedicine.com>

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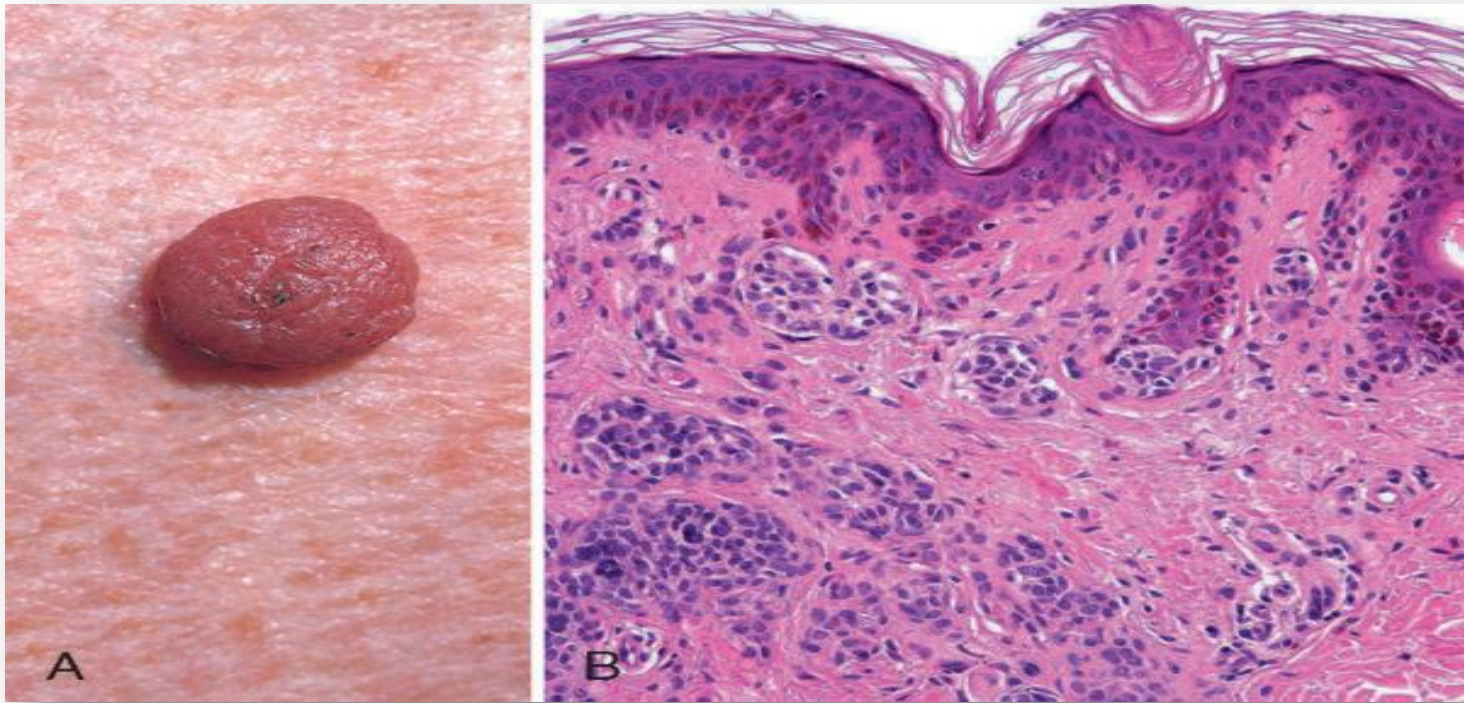


### **Melanocytic nevus : junctional type**

A small, relatively flat, symmetric, and uniform.

B On histologic examination, junctional nevi are characterized by rounded nests of nevus cells originating at the tips of rete ridges along DEJ





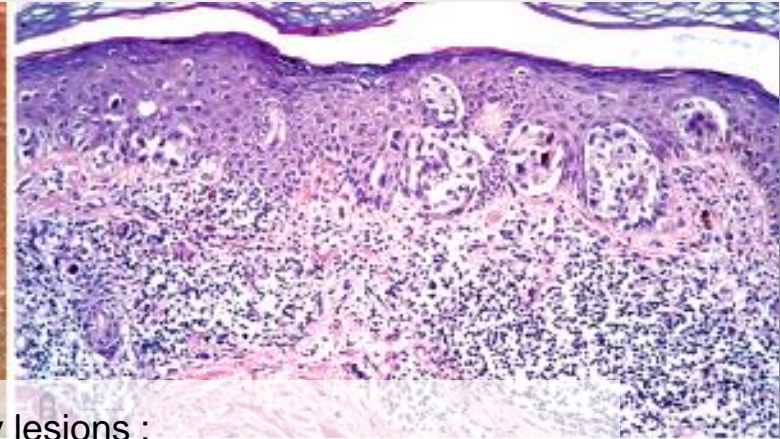
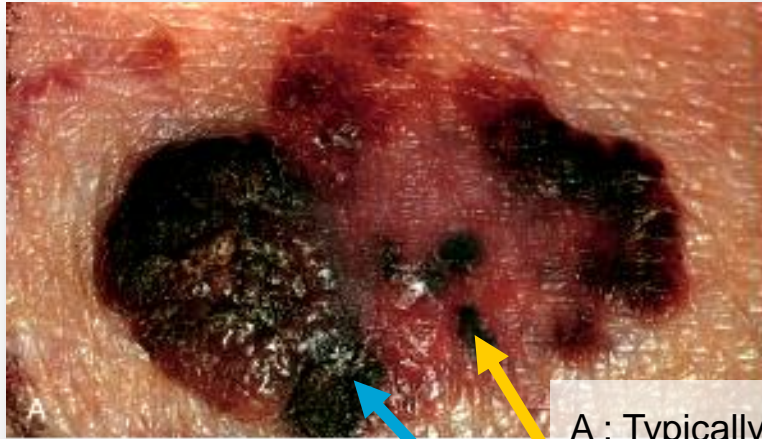
### Melanocytic nevus, compound type

(A) the compound nevus is more raised and dome-shaped.

- The symmetry and uniform pigment distribution suggest a benign process.

(B) Histologically : combine the features of

- junctional nevi (intraepidermal nevus cell nests) with nests
- cords of nevus cells in the underlying dermis

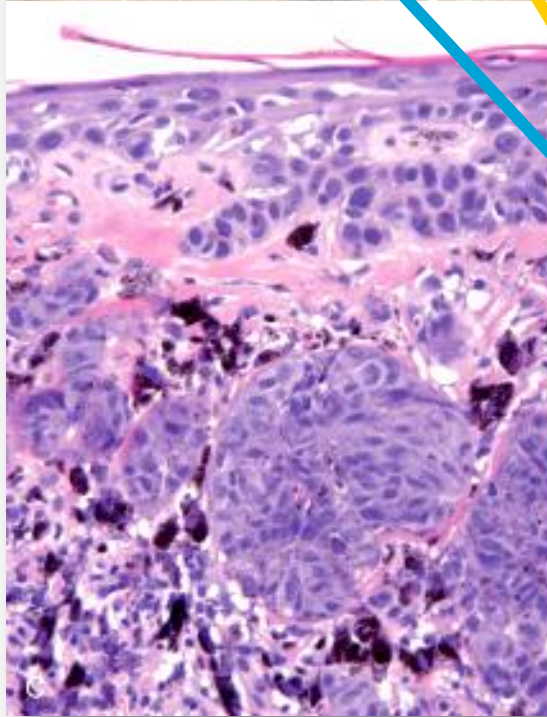


A : Typically lesions :

irregular in contour and pigmentation

Macule area : radial growth phase

Raise area : verticle growth phase



B : Radial growth phase

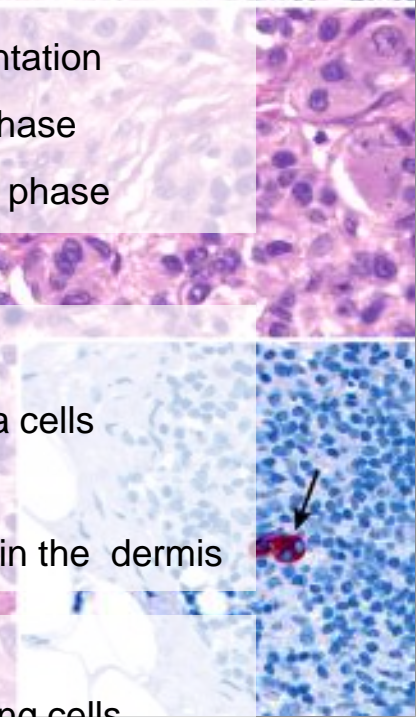
irregular nested and melanoma cells

within the epidermis

an inflammatory response within the dermis

C : Vertical growth phase

nodular aggregates of infiltrating cells



# Reference

1. Kumar: Robbins and Cotran Pathologic Basis of Disease, Professional Edition , 8th ed.
2. Fitzpatrick's Dermatology in General Medicine, 7e  
Klaus Wolff, Lowell A. Goldsmith, Stephen I. Katz, Barbara A. Gilchrest, Amy S. Paller, David J. Leffell
3. Concise Pathology , 3th ed. Chapter 61, Diseases of the Skin, Copyright © The McGraw-Hill Companies. All rights reserved.
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<http://www.accessmedicine.com/content.aspx?aID=5185601>

***Thank you for Attention***