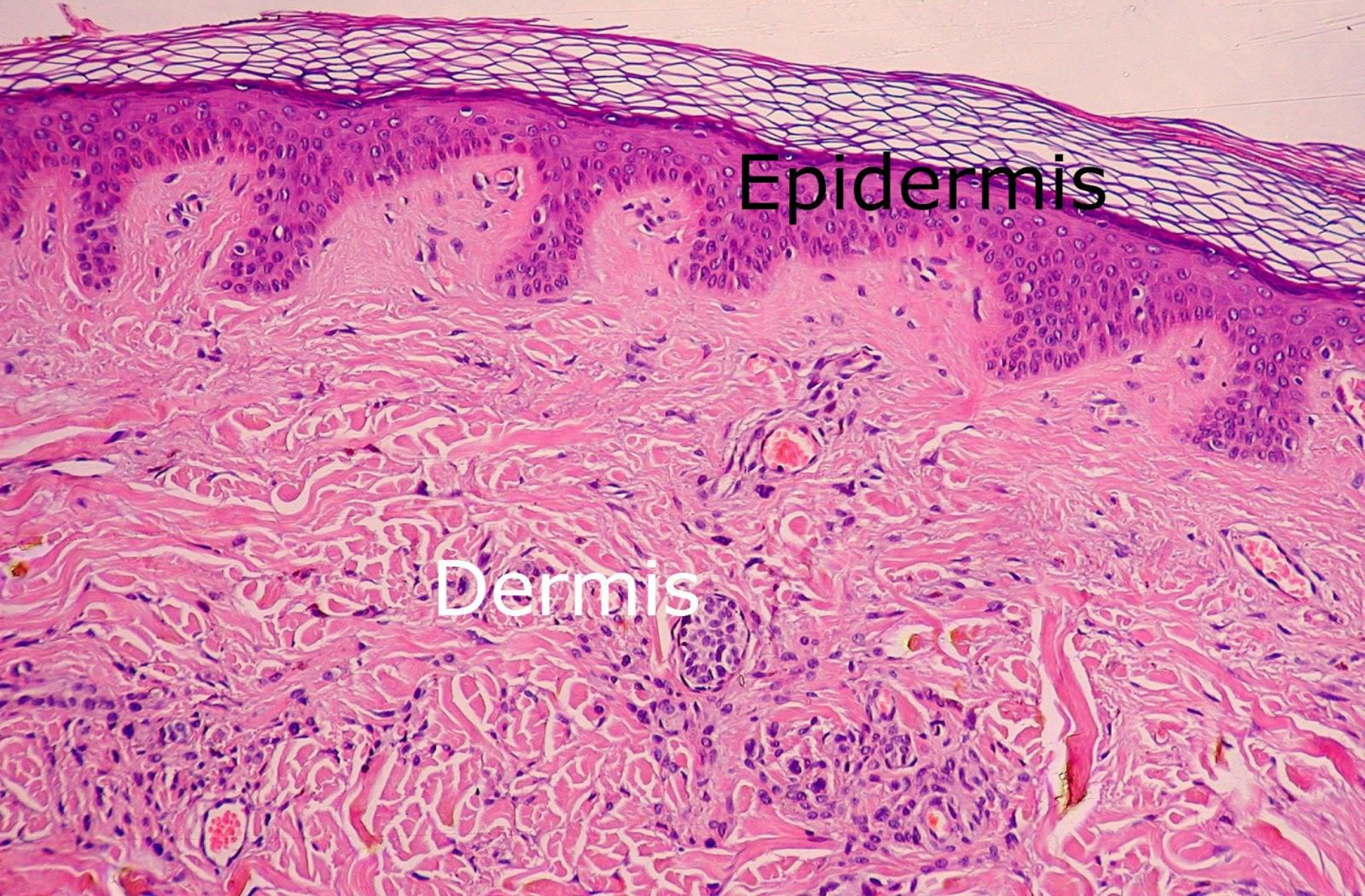


# Pathology of musculo - skeletal system and skin.



Epidermis

Dermis

## Pathology of musculo - skeletal system and skin.

### *I. Microspecimens:*

#### **№ 188. Capillary hemangioma. (H.E. stain). Indications:**

1. Epidermis.
2. Dermis
3. Spindle cells arranged compactly with spaces containing blood.
4. Reduced connective stroma.

In the microspecimen is presented a well-defined subepidermal tumoral node, consisting of proliferating capillary blood vessels, poor loose stroma; epidermis with normal histological structure.

*Hemangioma is a benign tumor of vascular origin, histological variants are capillary, venous and cavernous hemangioma. It is located mainly in the skin, the mucosa of the gastrointestinal tract, the liver. Capillary hemangioma is the most common benign tumor in children and has a disembryoplastic character, being interpreted as a hamartoma - a tumor from the embryonic tissues. Macroscopically it has the appearance of a red-purple node or plaque. Cutaneous hemangiomas can be complicated by exulceration, bleeding, the association of secondary infection.*

**№ 43. Fibrosarcoma. (H.E. stain). Indications:**

1. Epidermis.
2. Dermis.
3. Atypical tumor cells (fibroblast-like).
4. Bundles of collagen fibers.

In the skin, under the epidermis there is a rich cellular tumoral node, consisting of predominantly spindle-shaped cells, of the fibroblasts type, arranged in bundles, which intersect in different directions, the tumor has no precise limits, many mitoses, giant cells, foci of necrosis, hemorrhage, stroma is poor.

*Fibrosarcoma is a malignant tumor, which derives from fibroblasts, may have different degrees of differentiation. It is found in adults between the ages of 40 and 70, located more frequently in the deep tissues of the hip, knee, in the retroperitoneal area. It has a locally destructive growth, recurs after excision and may metastasize by hematogenous route, usually in the lungs. The metastasis rate is relatively low in well-differentiated fibrosarcomas and very high in low-differentiation tumors. Immunohistochemical methods are used to identify histogenesis and the degree of differentiation of tumors.*

**№ 142. Basal cell carcinoma. (H.E. stain). Indications:**

1. Epidermis.
2. Dermis.
3. Nests of malignant tumoral cells (resembling with basal layer cells of the epidermis).
4. Connective tissue stroma.

In the microspecimen, under the epidermis, there are solid, compact, round, oval or irregular tumor nests / islands, made up of tumor cells, reminiscent of normal cells of the basal layer of the epidermis, most are fusiform, with hyperchromic nuclei, little cytoplasm, colored basophil; the cells on the periphery of the islands are arranged "in a palisade", parallel to each other and perpendicular to the surrounding stroma; the stroma has a mixoid appearance, with moderate lympho-plasmatic infiltration; epidermis with foci of hyperplasia of the malpighian layer (acanthosis).

*Basal cell carcinoma is the most common malignant tumor of the skin. It develops on areas chronically exposed to the sun, especially in people with light skin. It is located mainly on the face, above the line between the corner of the mouth and the earlobe (90%). It is not found on the mucous membranes. It is characterized by slow growth, with local invasion and destruction, recurrence, but extremely rarely metastasizes (less than 1 case per 10,000 tumors). The risk of metastasis is higher in cases of extensive tumors with deep ulceration. Macroscopically it has a pearly appearance of plaque or node of different sizes, with dilated blood vessels, hyperemia (telangiectasia), with erosion or ulceration in the center. The tumor derives from the basal layer of the epidermis, infiltrates the dermis, spreads to adjacent tissues, can invade the underlying bone. Basal cell carcinoma can be complicated by hemorrhage, secondary inflammation.*

**№ 159. Hyperkeratosis of the skin. (H.E. stain). Indications:**

1. Thickened corneous layer of epidermis (hyperkeratosis).
2. Dermis.

The stratum corneum of the epidermis is considerably thickened, with masses of keratin, sometimes lamellar in appearance, the epidermis with acanthosis.

*Skin hyperkeratosis - excessive formation of keratin in the squamous cell epithelium of the skin, is found in many dermatological conditions. Macroscopically in outbreaks of hyperkeratosis, the skin is thickened, dry, looks like fish scales or welts. The most important etiological factors are chronic inflammation, viral infection, avitaminosis, especially avitaminosis A, chronic irritations, some skin development disorders. It is found in psoriasis, pemphigus, eczema, disseminated lupus erythematosus, scleroderma, actinic keratosis, in benign and malignant epidermal tumors, eg in papilloma, seborrheic keratosis, squamous cell carcinoma and a. in Greek ichtys - fish + osis - pathological process), palmar and plantar keratosis, xeroderma pigmentosum and others. High-grade generalized ichthyosis may be incompatible with life.*

### **№ 75. Metastases of melanoma into liver.**

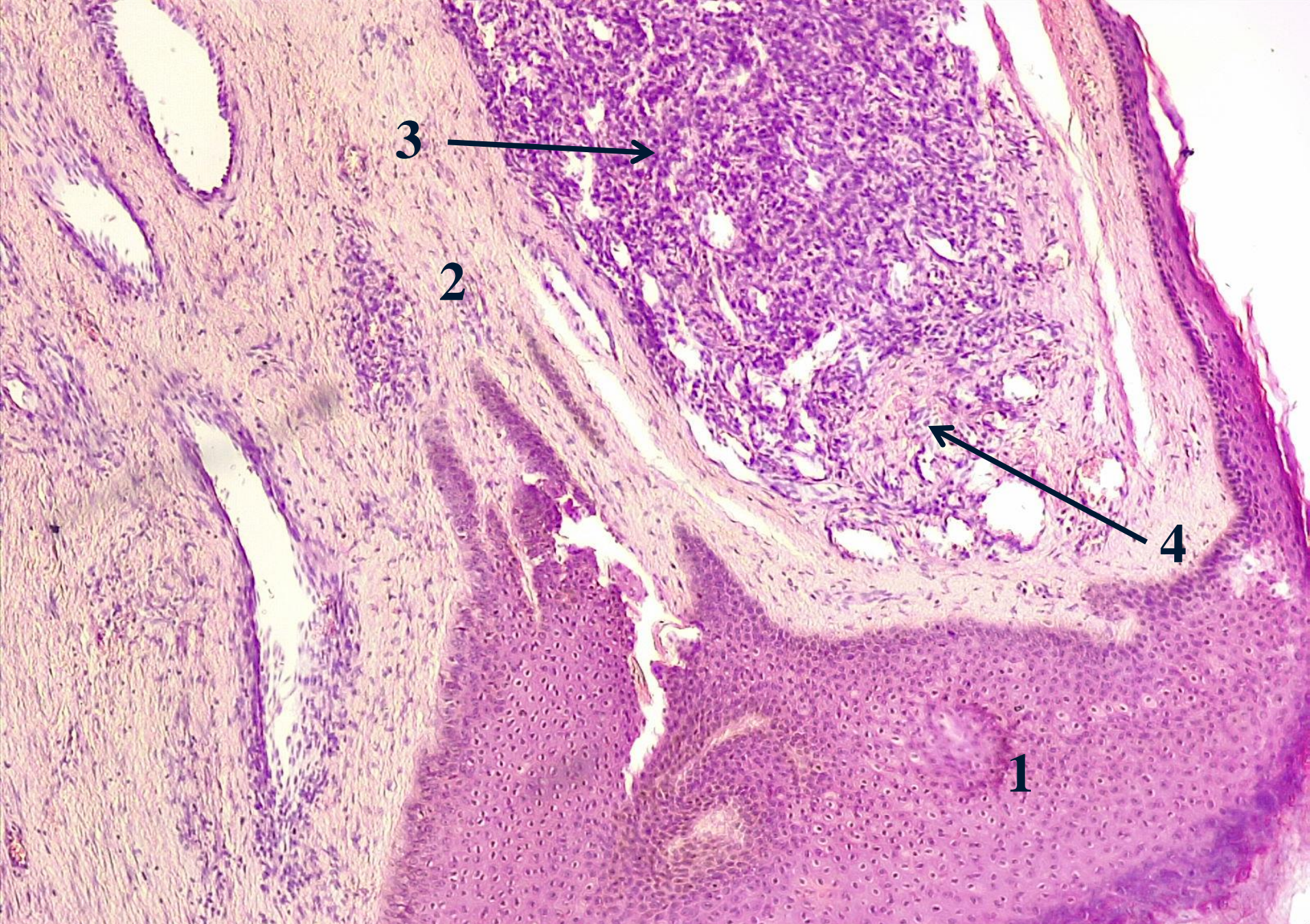
The liver is enlarged in size, on the section and under the capsule there are multiple tumor nodules with a diameter from 0.5-1 to a few cm, round or oval, well delimited, brown-black color, liver parenchyma between nodules with signs of steatosis.

*Melanoma is a malignant tumor of melanocytic origin, which is found in the skin, in the oral mucosa, anorectal, esophagus, meninges, or eyeball. It is extremely aggressive, a tumor with a thickness of only a few mm can produce multiple metastases. Lymphogen metastases in regional lymph nodes, and more frequently hematogenously in the liver, lungs, brain and other organs, can be metastases in virtually any region of the body. In most cases the metastases are black due to the melanin content.*

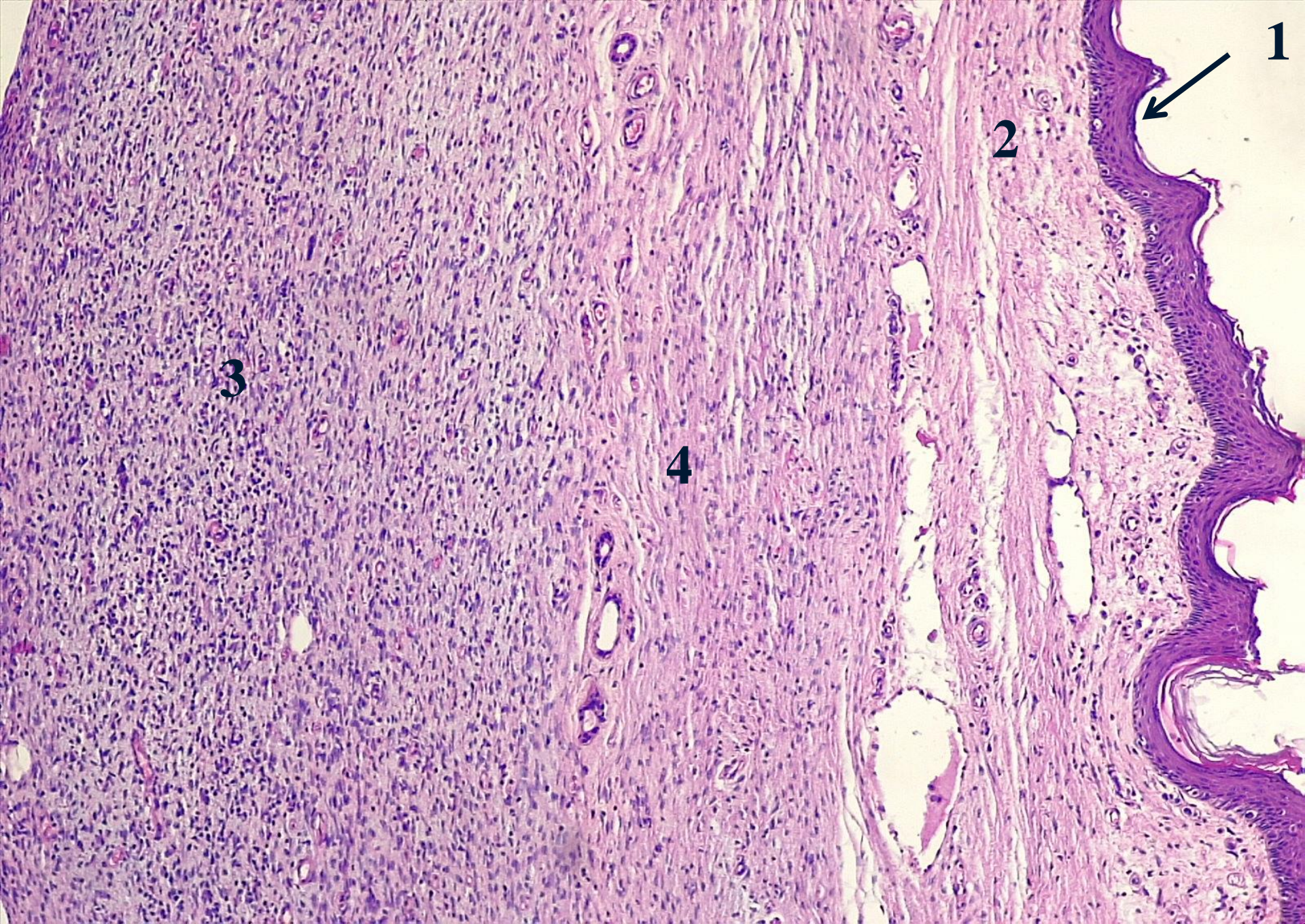
### **№ 251. Papiloma of the skin.**

On the skin there is a spherical tumor node, with a wide base, the surface is nipped liked (reminds of cauliflower or raspberry), ~ 1 cm in diameter.

*Skin papilloma is a benign epidermal tumor that develops from the squamous cell epithelium. The clinical manifestations and the evolution depends on the location, it can be complicated with exulcerations and secondary inflammation. Papillomas can be single or multiple (papillomatosis). Sometimes they recur after removal. In cases of prolonged mechanical excitation, the papilloma may become malignant.*

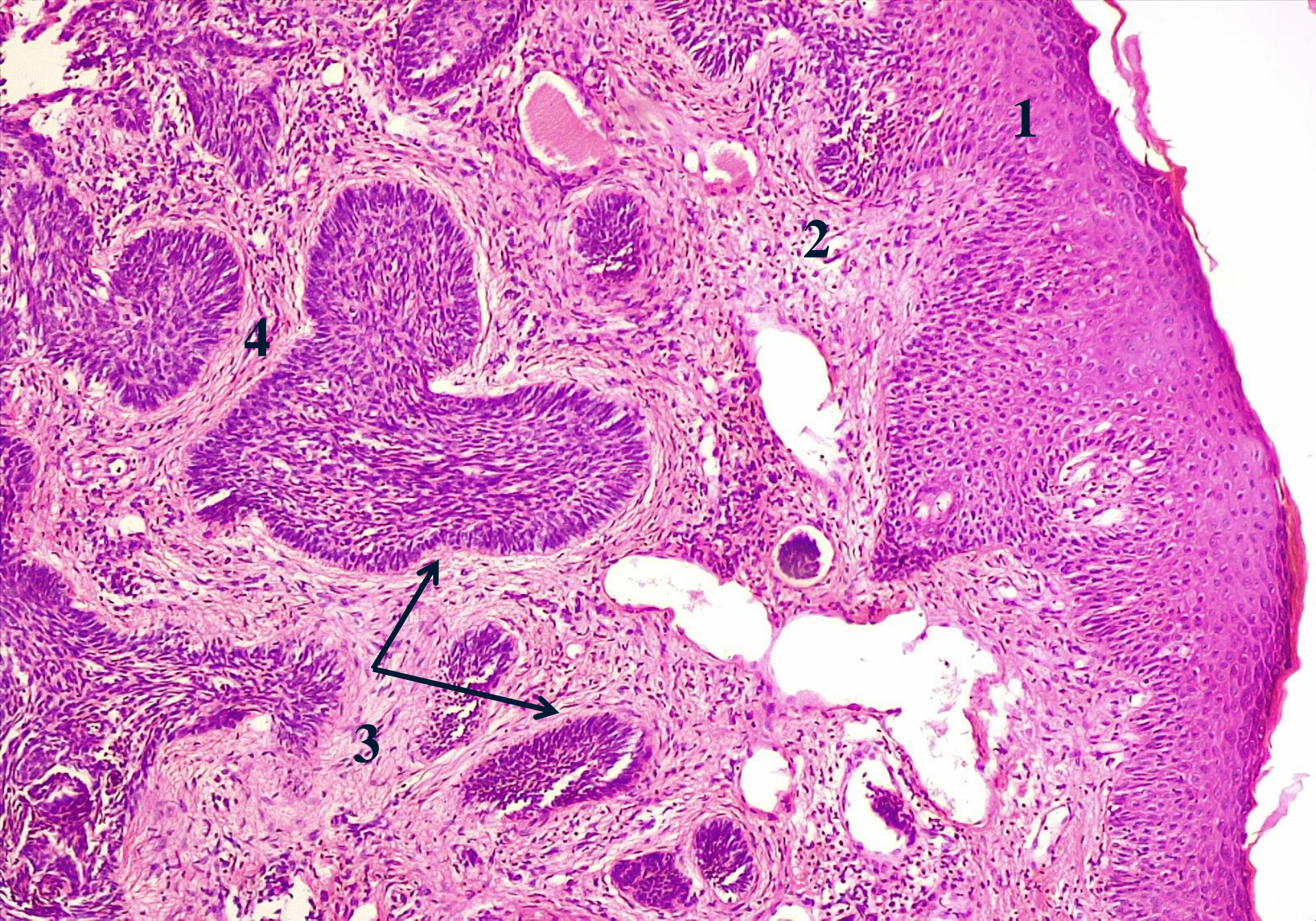


**№ 188. Capillary hemangioma. (H.E. stain).**

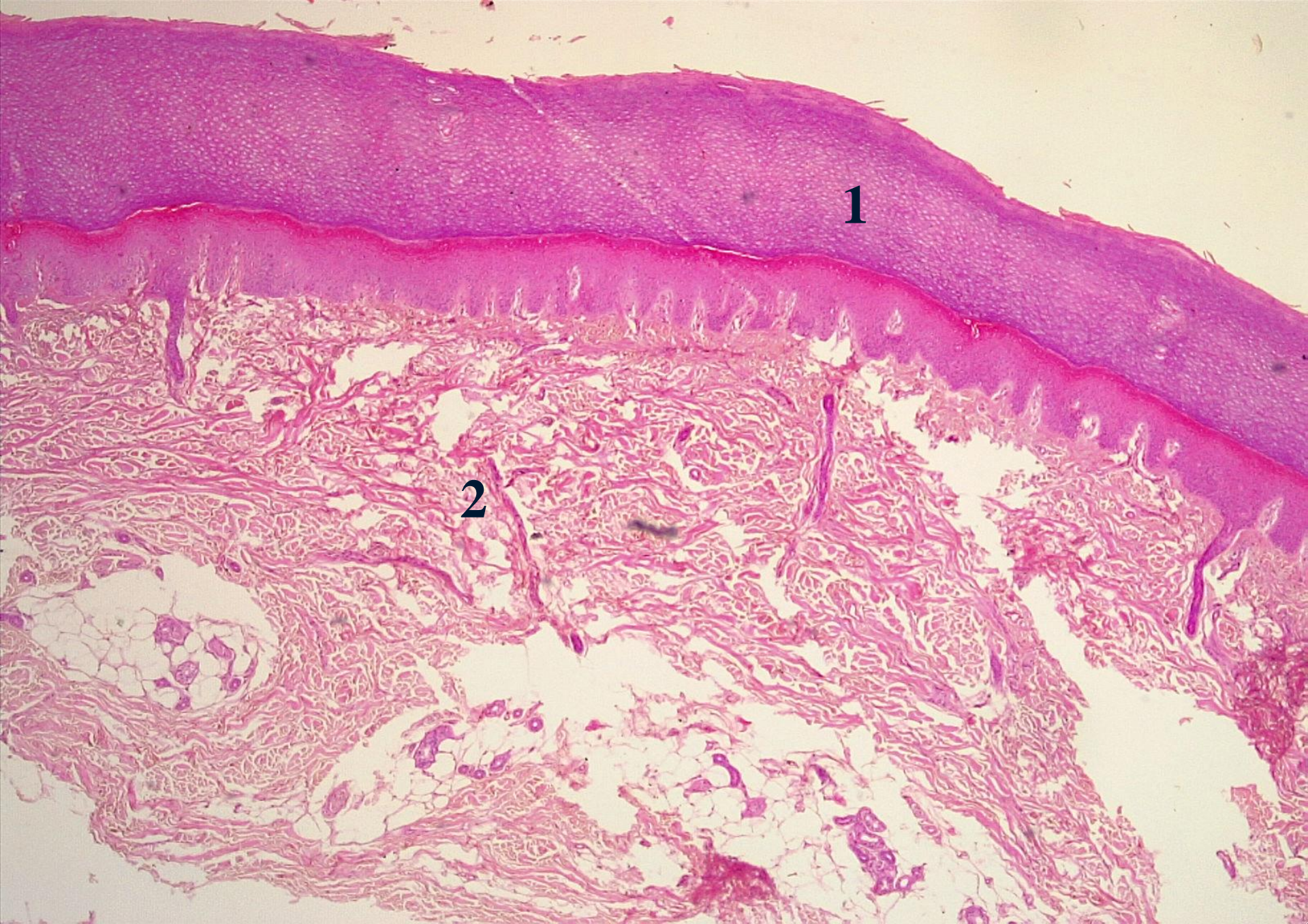


№ 43. Fibrosarcoma. (H.E. stain).

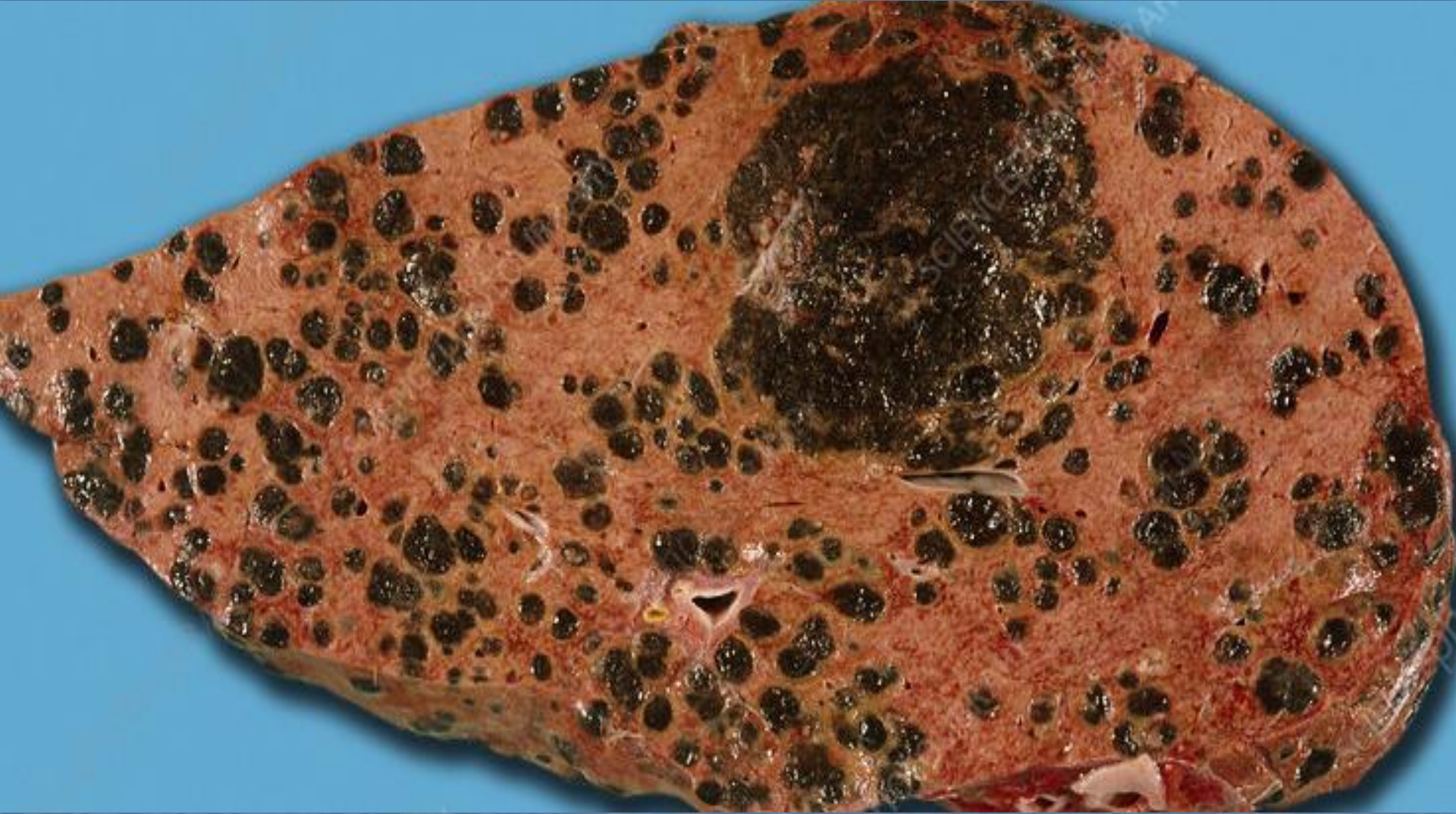




№ 142. Basal cell carcinoma. (*H.E. stain*).



**№ 159.** Hyperkeratosis of the skin. (*H.E. stain*).



№ 75. Metastases of melanoma into liver.



№ 251. Papiloma of the skin.

Skin

N

Skin, epidermis

Skin, epidermis, keratinocytes, stratum **basale** (germinativum)

Skin, epidermis, keratinocytes, stratum **spinosum** (prickle cells)

Skin, epidermis, keratinocytes, stratum **granulosum**

O

Skin, epidermis, keratinocytes, stratum **lucidum**

Skin, epidermis, keratinocytes, stratum **corneum**, thin skin

Skin, epidermis, keratinocytes, stratum corneum, thick skin

R

Skin, epidermis, **melanocytes**

Skin, epidermis, Langerhans cells

Skin, epidermis, Merkel cells

Skin, epidermis, appendage(s)

M

Skin, epidermis, appendage, **hair follicle**

Skin, epidermis, appendage, hair follicle, shaft

Skin, epidermis, appendage, hair follicle, **sebaceous gland**

Skin, epidermis, appendage, sweat gland, **eccrine**

A

Skin, epidermis, appendage, sweat gland, **apocrine**

Skin, basement membrane

Skin, dermis

L

Skin, dermis, **papillary**

Skin, dermis, **reticular**

Skin, hypodermis (sub-cutis, pannus)

**A** Macroscopic  
Macroscopic, **macule**  
Macroscopic, **patch**  
**B** Macroscopic, **papule**  
Macroscopic, **nodule**  
Macroscopic, **plaque**  
Macroscopic, **vesicle**  
**N** Macroscopic, **bulla**  
Macroscopic, **blister**  
Macroscopic, **pustule**  
Macroscopic, **wheal**  
**O** Macroscopic, **scale**  
Macroscopic, **lichenification**  
Macroscopic, **excoriation**  
Macroscopic, **onycholysis**  
**R** microscopic  
microscopic, **hyperkeratosis**  
microscopic, **parakeratosis**  
microscopic, **hypergranulosis**  
**M** microscopic, **acanthosis**  
microscopic, **papillomatosis**  
microscopic, **acantholysis**  
**A** microscopic, **spongiosis**  
microscopic, **hydropic swelling (ballooning)**  
microscopic, **exocytosis**  
microscopic, **erosion**  
**L** microscopic, **ulceration**  
microscopic, **vacuolization**  
microscopic, **lentiginous**



A

Pigmentation disorders

Pigmentation disorders, **vitiligo**

Pigmentation disorders, **freckle** (ephelis)

Pigmentation disorders, **melasma**

B

Pigmentation disorders, **lentigo**

Pigmentation disorders, **nevus**

Pigmentation disorders, nevus, melanocytic

N

Pigmentation disorders, nevus, dysplastic

Pigmentation disorders, malignant melanoma

Epidermal neoplasms

Epidermal neoplasms, benign

O

Epidermal neoplasms, benign, **seborrheic keratosis**

Epidermal neoplasms, benign, **acanthosis nigricans**

Epidermal neoplasms, benign, **fibroepithelial polyp** (skin tag)

Epidermal neoplasms, benign, **epithelial inclusion cyst** (wen)

R

Epidermal neoplasms, benign, **appendage tumors**

Epidermal neoplasms, benign, **keratoacanthoma**

Epidermal neoplasms, malignant, **actinic keratosis**

M

Epidermal neoplasms, malignant, squamous cell carcinoma (**SCC**)

Epidermal neoplasms, malignant, basal cell carcinoma (**BCC**)

Epidermal neoplasms, malignant, **Merkel** cell tumor

Dermal neoplasms

A

Dermal neoplasms, fibrous histiocytoma (**dermatofibroma**)

Dermal neoplasms, **dermatofibrosarcoma protuberans**

Dermal neoplasms, **xanthomas**

Dermal neoplasms, **vascular** tumors

L

Tumors of cellular "immigrants", **Langerhans** cells

Tumors of cellular "immigrants", **t- cell lymphomas** (Mycosis Fungoides)

Tumors of cellular "immigrants", **mast** cells

**A** Epidermis, maturation disorder, **ichthyosis**  
Epidermis/Dermis, inflammation, acute

**B** Epidermis/Dermis, inflammation, acute, **urticaria**  
Epidermis/Dermis, inflammation, acute, **eczema**  
Epidermis/Dermis, inflammation, acute, erythema multiforme  
Epidermis/Dermis, inflammation, chronic  
Epidermis/Dermis, inflammation, chronic, **psoriasis**

**N** Epidermis/Dermis, inflammation, chronic, seborrheic dermatitis  
Epidermis/Dermis, inflammation, chronic, lichen planus  
Epidermis/Dermis, inflammation, chronic, lupus erythematosus  
Epidermis/Dermis, infection/infestation

**O** Epidermis/Dermis, infection/infestation, (**verrucae**)  
Epidermis/Dermis, infection/infestation, molluscum contagiosum  
Epidermis/Dermis, infection/infestation, **impetigo**  
Epidermis/Dermis, infection/infestation, **fungus**

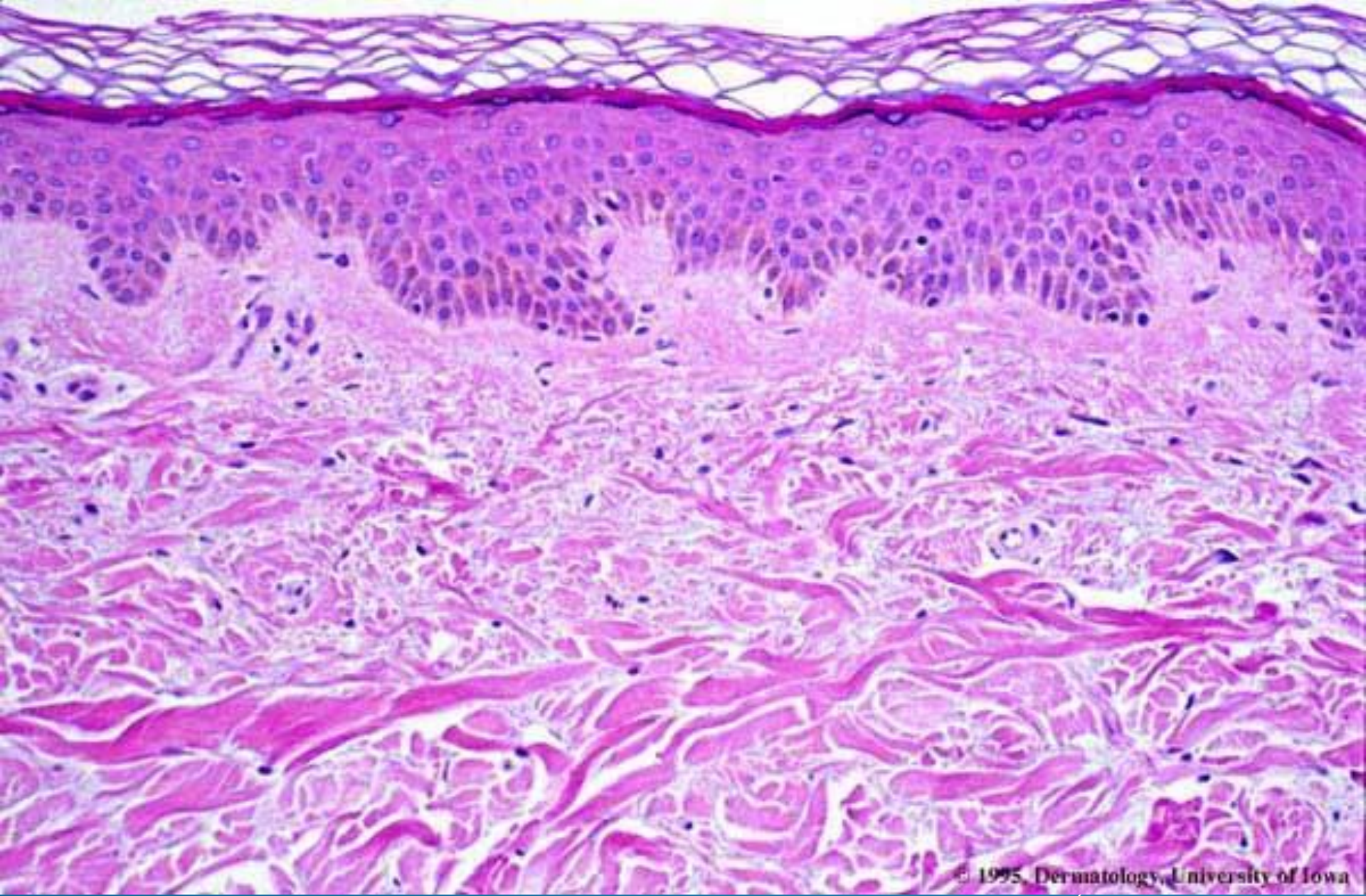
**R** Epidermis/Dermis, infection/infestation, **arthropods**  
Epidermis/Dermis, infection/infestation, arthropods, **bites**  
Epidermis/Dermis, infection/infestation, arthropods, **stings**  
Epidermis/Dermis, infection/infestation, arthropods, **infestations**

**M** Epidermis/Dermis, bullae (blisters)  
Epidermis/Dermis, bullae, **pemphigus**  
Epidermis/Dermis, bullae, **bullous pemphigoid**

**A** Epidermis/Dermis, bullae, dermatitis herpetiformis  
Epidermis/Dermis, bullae, epidermolysis bullosa  
Epidermis/Dermis, bullae, porphyria

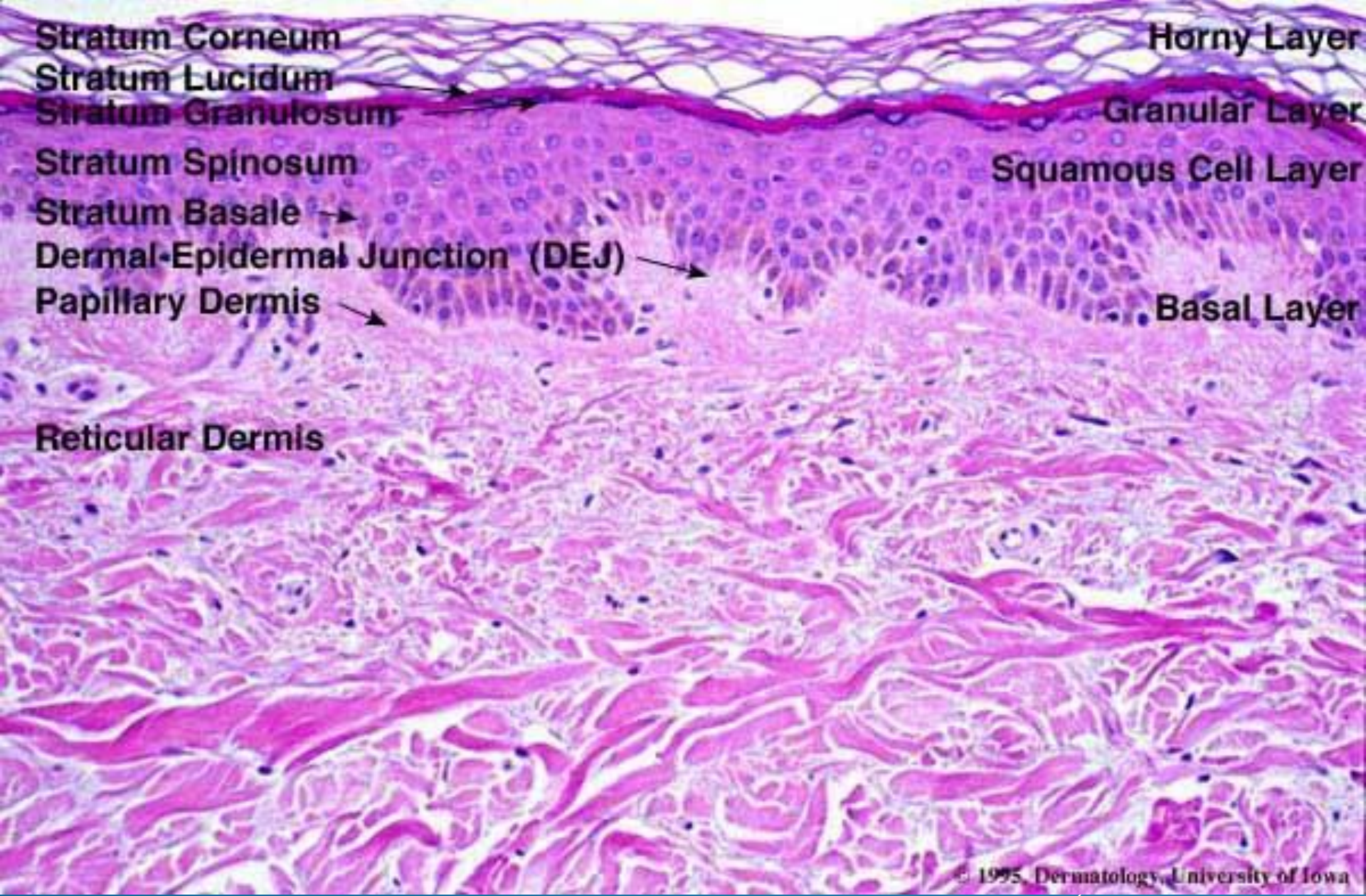
**L** Epidermis/Dermis, adnexae (appendages), **acne vulgaris**  
Hypodermis (pannus), inflammation (panniculitis)  
Hypodermis (pannus), inflammation, **erythema nodosum**  
Hypodermis (pannus), inflammation, erythema induratum





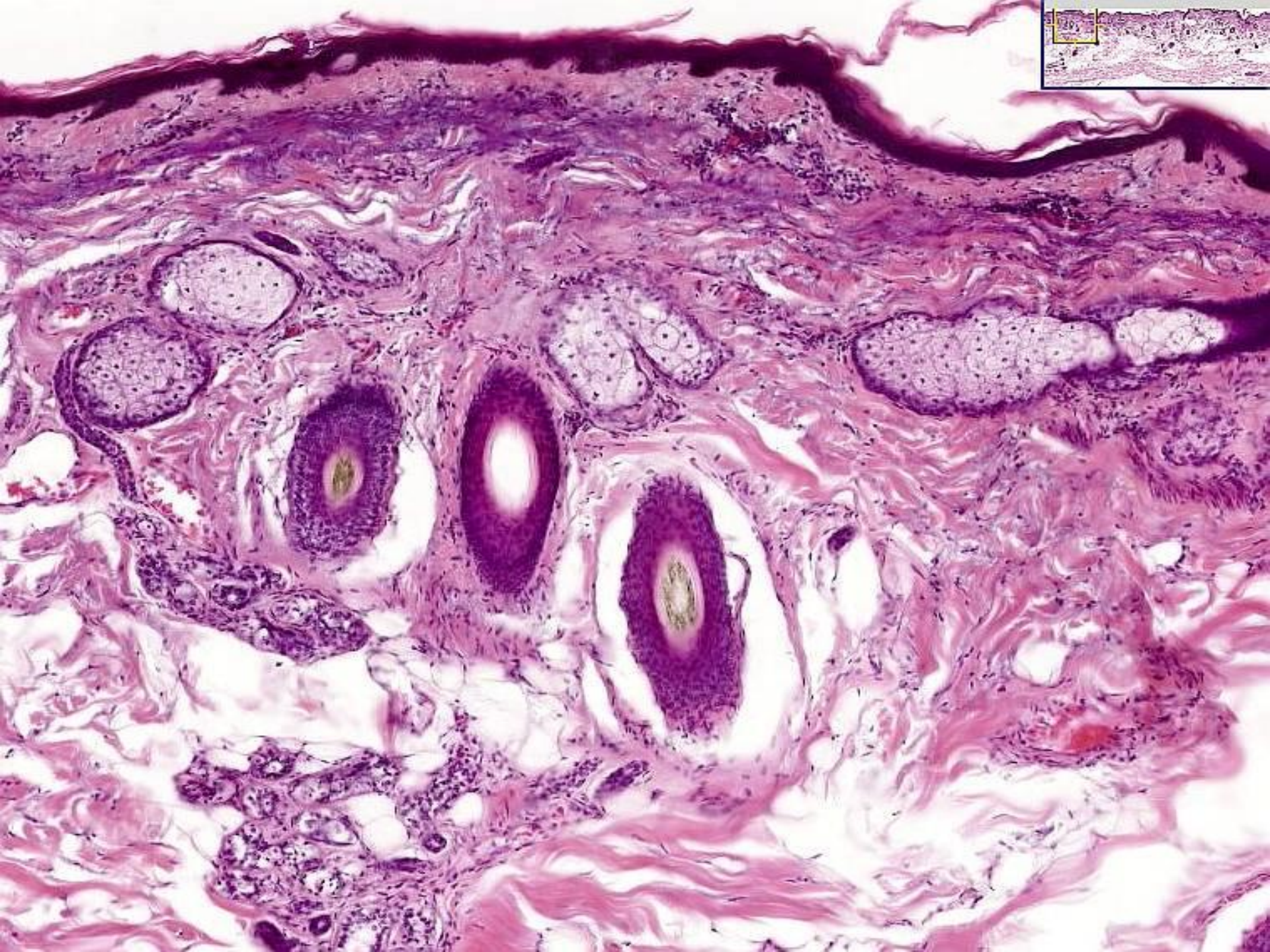
© 1995, Dermatology, University of Iowa

# NORMAL SKIN



**NORMAL SKIN, with labels**





# MACRO-SCOPIC (CLINICAL) TERMS

- ▶ macule
- ▶ patch
- ▶ papule
- ▶ nodule
- ▶ plaque
- ▶ vesicle
- ▶ bulla
- ▶ blister
- ▶ pustule
- ▶ wheal
- ▶ scale
- ▶ lichenification
- ▶ excoriation
- ▶ onycholysis



# MACROSCOPIC TERMS

**Macule:** Circumscribed lesion of <5 mm in diameter characterized by **flatness** and usually discolored (often red)

**Patch:** Circumscribed lesion of >5 mm in diameter characterized by **flatness** and usually discolored (often red)

**Papule:** **Elevated** dome-shaped or flat-topped lesion <5 mm across.

**Nodule:** **Elevated** lesion with spherical contour >5 mm across.

**Plaque:** **Elevated** flat-topped lesion, usually >5 mm across (may be caused by coalescent papules).

**Vesicle:** Fluid-filled raised lesion <5 mm across.

**Bulla:** Fluid-filled raised lesion >5 mm across.

**Blister:** Common term used for vesicle or bulla.

**Pustule:** Discrete, pus-filled, raised lesion.

**Wheal:** Itchy, transient, elevated lesion with variable blanching and erythema formed as the result of dermal edema.

**Scale:** Dry, horny, plate-like excrescence; usually the result of imperfect cornification (i.e., keratinization).

**Lichenification:** Thickened and rough skin characterized by prominent skin markings; usually the result of repeated rubbing in susceptible persons.

**Excoriation:** Traumatic lesion characterized by breakage of the epidermis, causing a raw linear area (i.e., a deep scratch)

**Onycholysis:** Separation of nail plate from nail bed.

# MICRO-SCOPIC (HISTOLOGIC) TERMS

- ▶ hyperkeratosis
- ▶ parakeratosis
- ▶ hypergranulosis
- ▶ acanthosis
- ▶ papillomatosis
- ▶ acantholysis
- ▶ spongiosis
- ▶ hydropic swelling (ballooning)
- ▶ exocytosis
- ▶ erosion
- ▶ ulceration
- ▶ vacuolization
- ▶ lentiginous



## MICROSCOPIC TERMS

**Hyperkeratosis:** Thickening of the stratum corneum, often associated with a qualitative abnormality of the keratin.

**Parakeratosis:** Modes of keratinization characterized by the retention of the nuclei in the stratum corneum. On mucous membranes, parakeratosis is normal.

**Hypergranulosis:** Hyperplasia of the stratum granulosum, often due to intense rubbing.

**Acanthosis:** Diffuse epidermal hyperplasia.

**Papillomatosis:** Surface elevation caused by hyperplasia and enlargement of contiguous dermal papillae.

**Dyskeratosis:** Abnormal keratinization occurring prematurely within individual cells or groups of cells below the stratum granulosum. Generally the same as DYSPLASIA.

**Acantholysis:** Loss of intercellular connections resulting in loss of cohesion between keratinocytes.

**Spongiosis:** Intercellular edema of the epidermis.

**Hydropic swelling (ballooning):** Intracellular edema of keratinocytes.

**Exocytosis:** Infiltration of the epidermis by inflammatory or circulating blood cells.

**Erosion:** Discontinuity of the skin exhibiting incomplete loss of the epidermis.

**Ulceration:** Discontinuity of the skin exhibiting complete loss of the epidermis and often of portions of the dermis and even subcutaneous fat.

**Vacuolization:** Formation of vacuoles within or adjacent to cells; often refers to basal cell-basement membrane zone area.

**Lentiginous:** Referring to a linear pattern of melanocyte proliferation within the epidermal basal cell layer. Lentiginous melanocytic hyperplasia can occur as a reactive change or as part of a neoplasm of melanocytes.



# SKIN PATHOLOGY

▶ DEGENERATION

▶ INFLAMMATION, i.e.,  
DERMATOSES


▶ NEOPLASMS:

Epidermis, Dermis,  
Benign, Malignant

# SKIN PATHOLOGY

- ▶ Pigmentation
- ▶ Epidermal tumors, benign
- ▶ Epidermal tumors premalignant
- ▶ Epidermal tumors, malignant
- ▶ Dermal tumors
- ▶ “Immigrant” tumors
- ▶ Maturation disorders
- ▶ Dermatoses, acute
- ▶ Dermatoses, chronic
- ▶ Blisters (Bullae)
- ▶ Appendage (adnexal) disorders
- ▶ Panniculitis
- ▶ Infection/Infestation

# PIGMENTATION DISORDERS

- ▶ VITILIGO
  - ▶ FRECKLE (EPHELIS)
  - ▶ MELASMA
  - ▶ LENTIGO
  - ▶ NEVUS
  - ▶ “DYSPLASTIC” NEVUS
  - ▶ MALIGNANT MELANOMA
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a dark blue background.



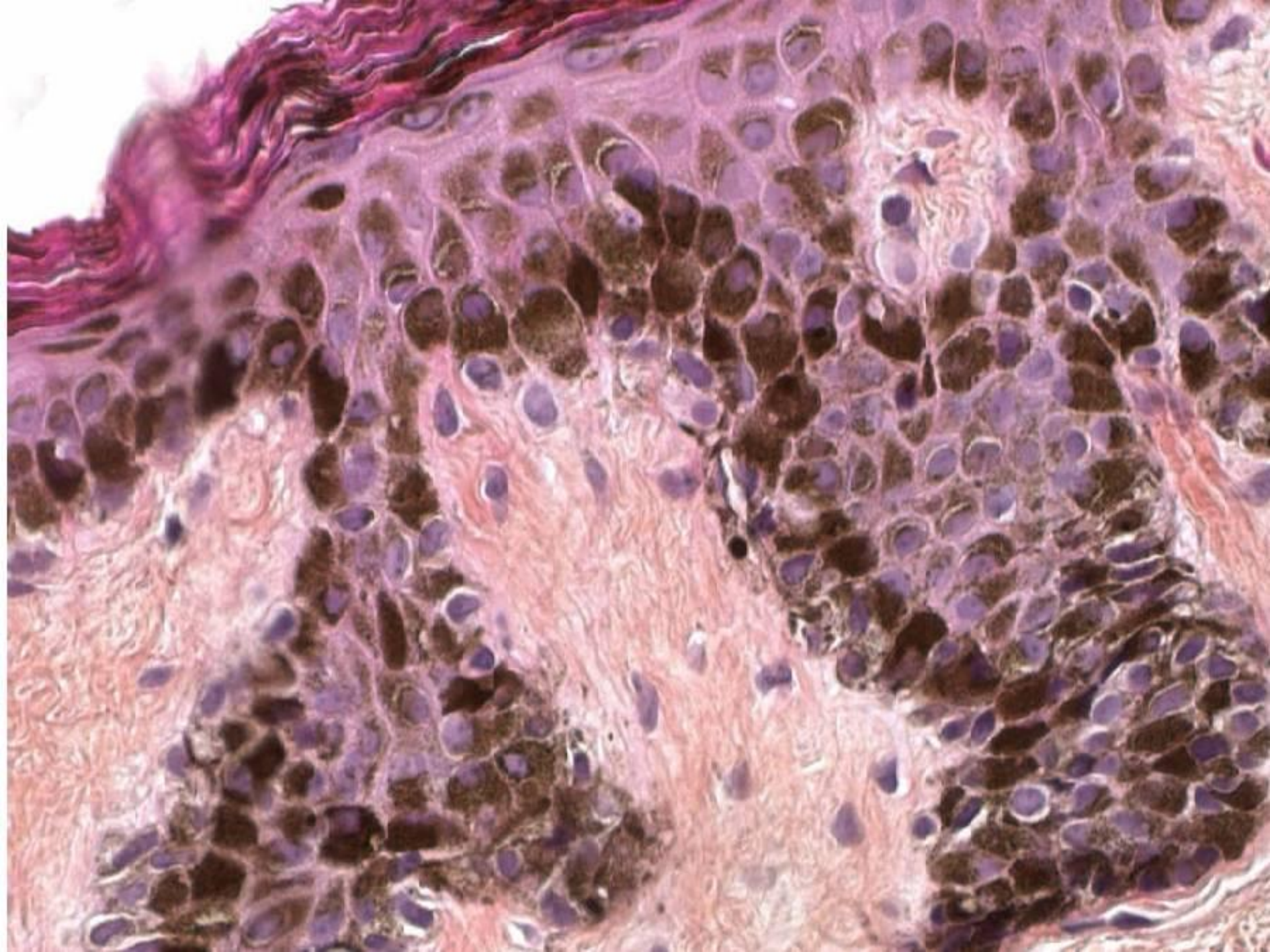


Melasma, also called “mask of pregnancy”




**Lentigo**, (plural: lentigenes), is generally considered a brown pigmented spot on the skin. It is a harmless (benign) hyperplasia of melanocytes which is linear in its spread







# NEVI

- ▶ Many, many adjectives and classifications.
  - ▶ The MAIN things to differentiate from melanomas
  - ▶ **Junctional** (more pigmented, more closely associated with melanoma)
  - ▶ **Intradermal**
  - ▶ **Compound** (both)
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue background.

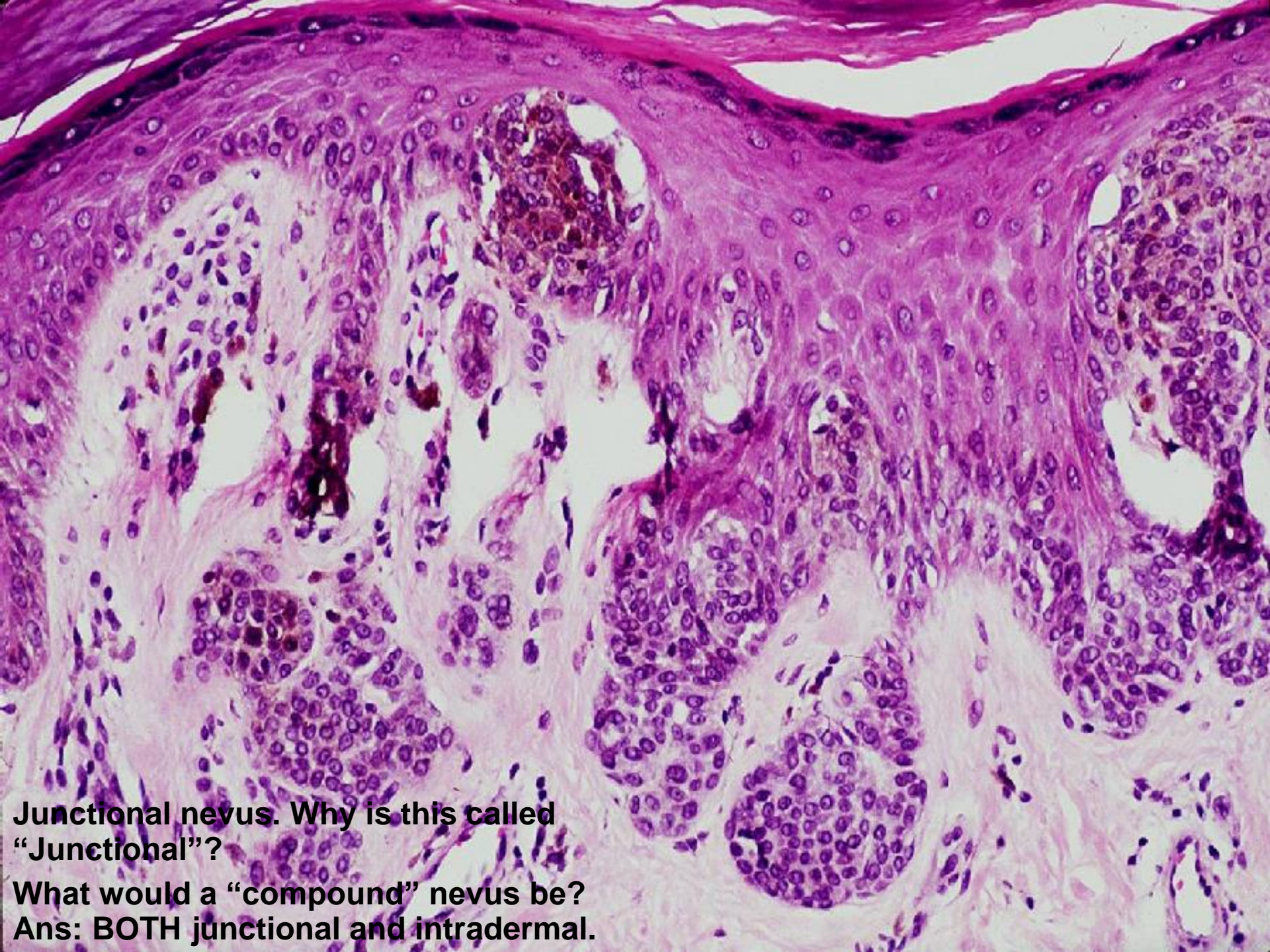


**Intradermal nevus.  
Note the lack of “junctional” activity.**



**Junctional nevus**





**Junctional nevus. Why is this called  
“Junctional”?**

**What would a “compound” nevus be?**

**Ans: BOTH junctional and intradermal.**

# MALIGNANT MELANOMA

- Incidence rising, VERY much
- Related to SUN like ALL skin cancers are
- The only primary skin cancer that can kill you (except for the RARE Merkel cell tumor)
- QUICKLY METASTASIZES
- Has both VERTICAL and HORIZONTAL growth phase but prognosis is 100% related to the VERTICAL, (BRESLOW staging, TNM too)
- DIFFICULT to differentiate from NEVUS clinically and often microscopically

Malignant melanomas are malignant proliferations of melanocytes.



## **What is the ABCDEEFG principle?**

**Asymmetry**

**Borders (irregular)**

**Color (variegated), and**

**Diameter (greater than 6 mm (0.24 in.), about the size of a pencil eraser)**

**Evolving over time**

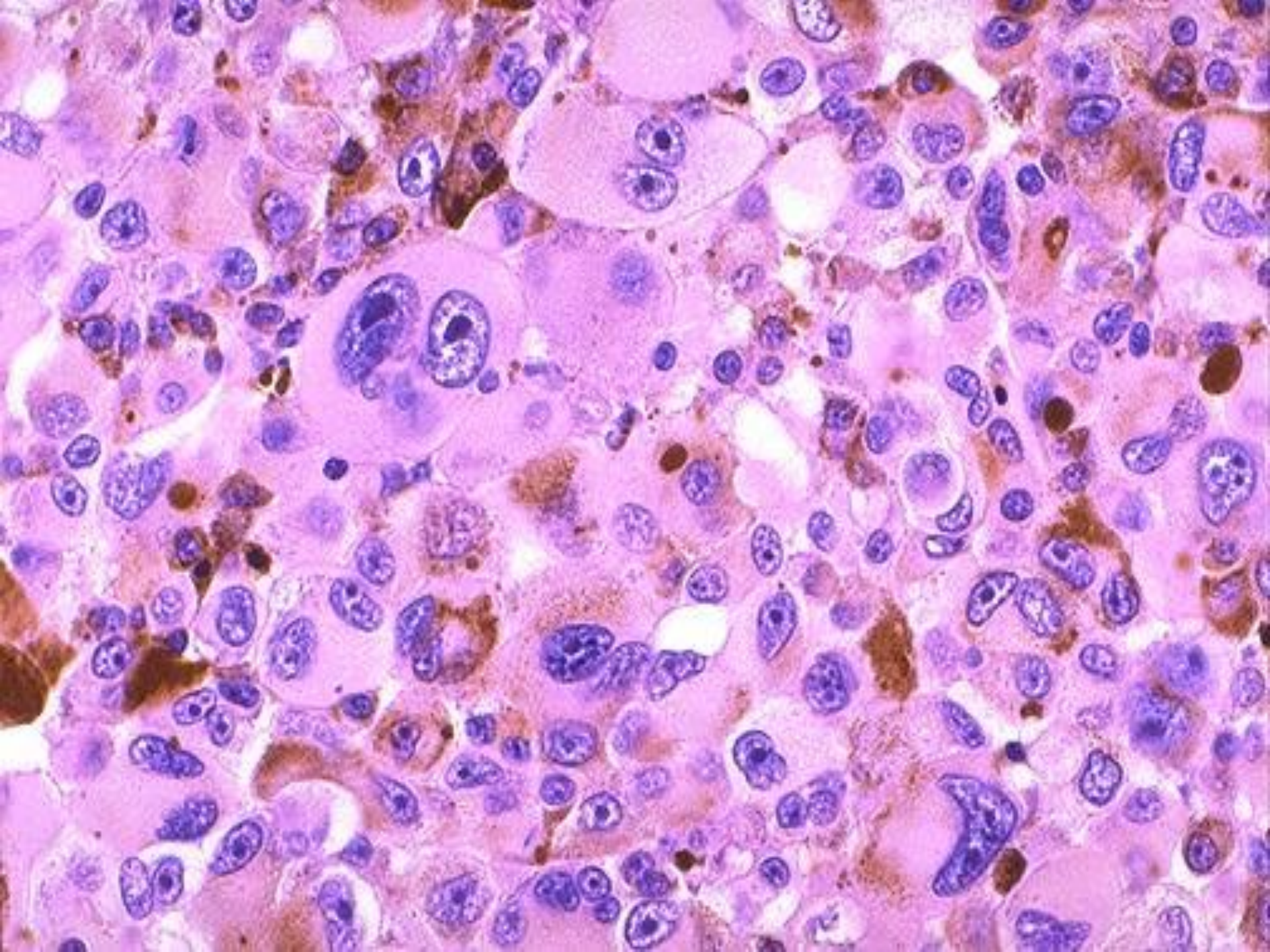
**These classifications do not however apply to the most dangerous form of melanoma, nodular melanoma, which has its own classifications:**

**Elevated above the skin surface**

**Firm to the touch**

**Growing**

**Why do only idiots learn the ABCDEEFG acronym? Ans: Because all these features are already basic in understanding malignancy.**





10 year survival rate

93%

71%

59%

36%

Clark's Levels

1

2

3

4

5

10 year survival rate

94%

82%

63%

61%

40%

Breslow Depth (mm)

0 >

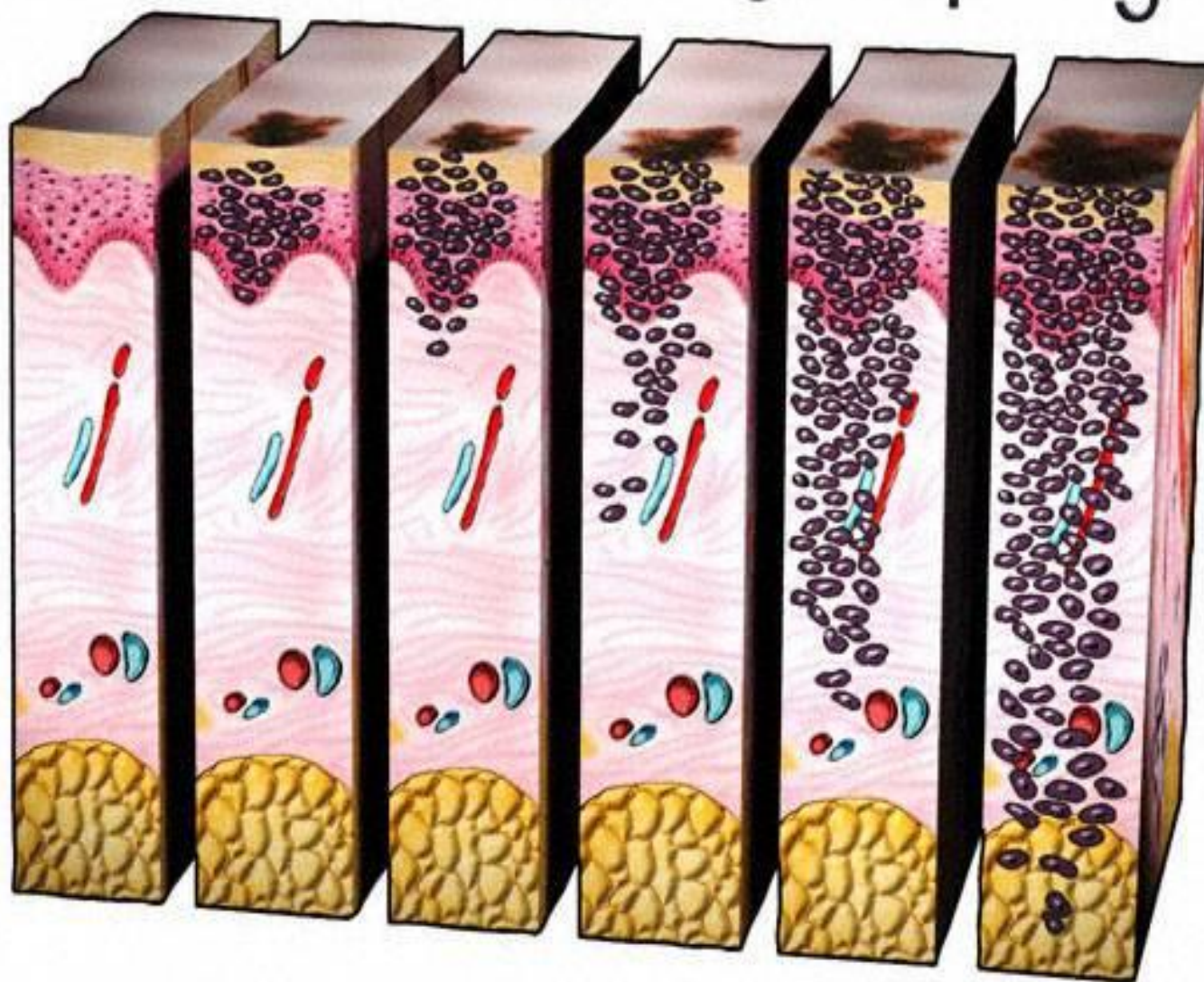
1 >

2 >


3 >

4 >

5 >



# BENIGN EPIDERMAL TUMORS

- ▶ Seborrheic Keratosis
  - ▶ Acanthosis Nigricans
  - ▶ Fibroepithelial Polyp (skin tag)
  - ▶ Epidermal (inclusion) Cyst
  - ▶ Adnexal tumors : Eccrine, Apocrine
  - ▶ Keratoacanthoma
- 

**Seborrheic keratosis**

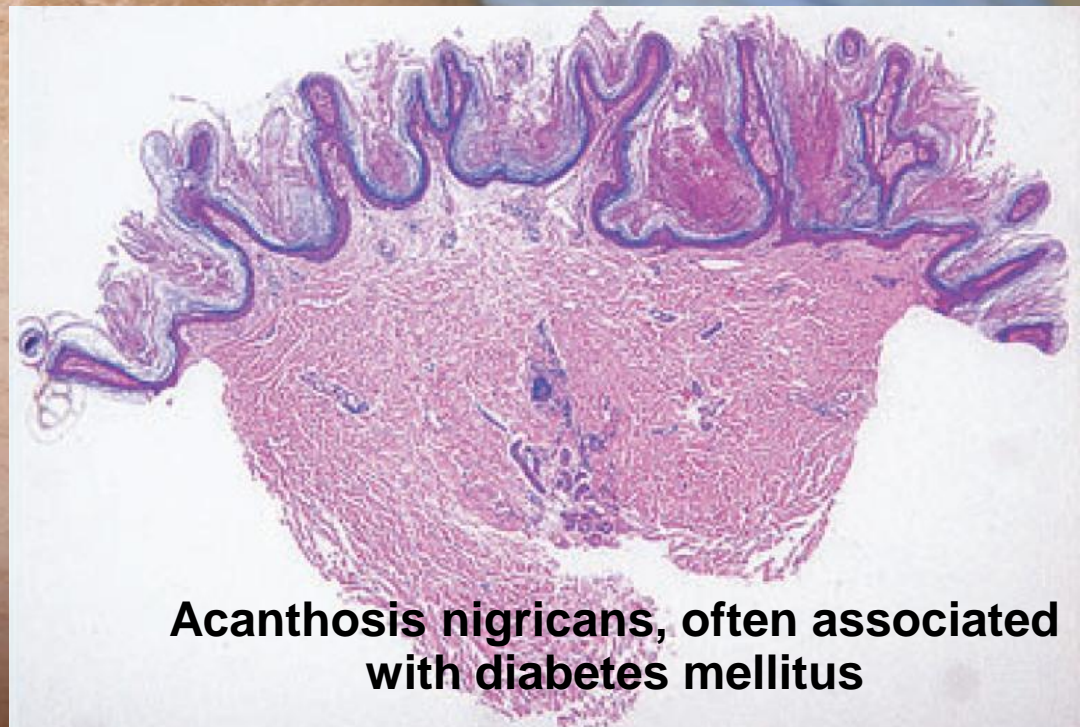


**Seborrheic keratosis, a bit more pigmented than the previous one, pigmentation is very common in ALL types of benign keratoses.**



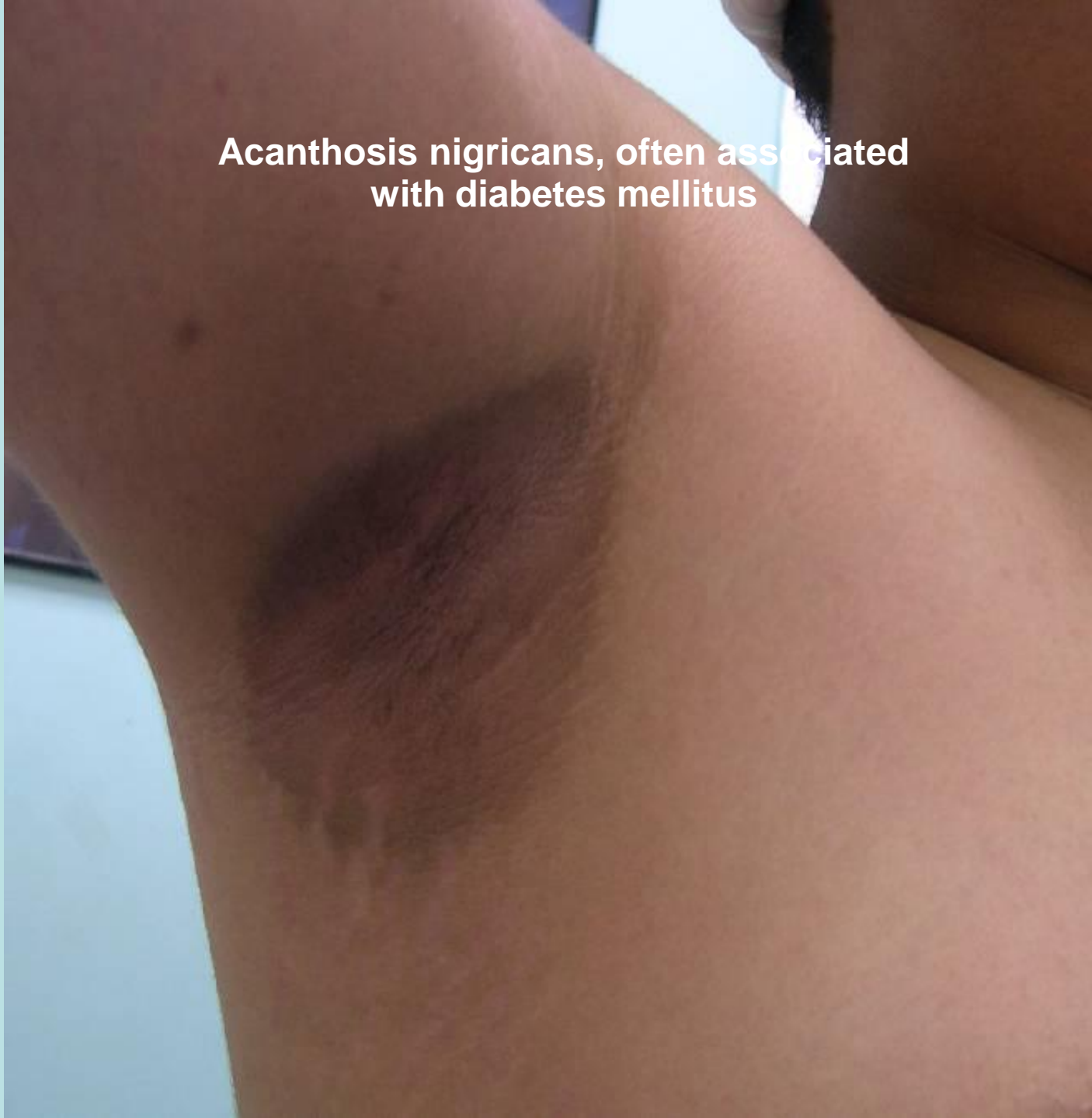
**Squamous “horn cysts” in seborrheic keratosis**





**Acanthosis nigricans, often associated with diabetes mellitus**

**Acanthosis nigricans, often associated  
with diabetes mellitus**

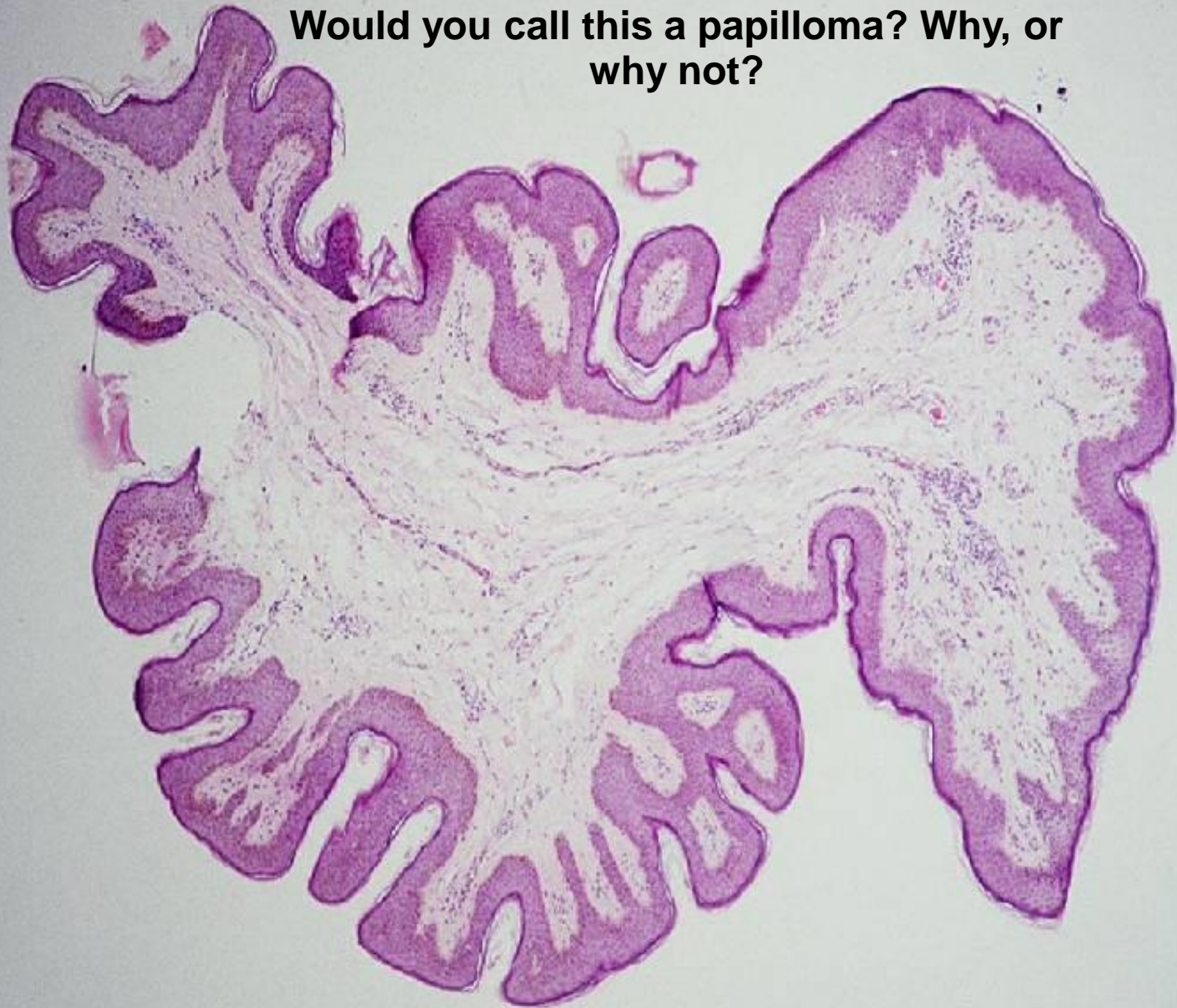




Fibroepithelial polyp, or "skin tag"

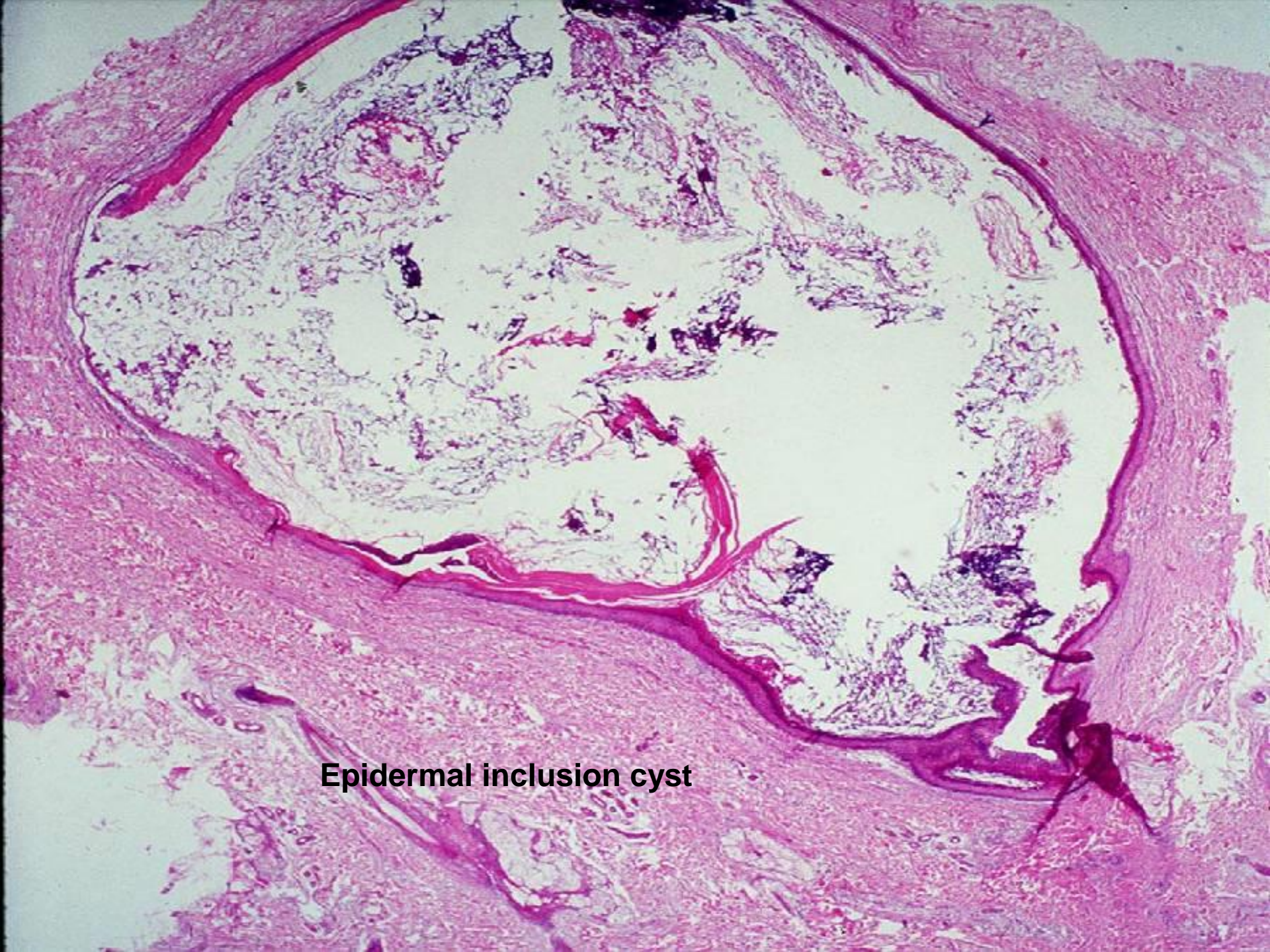


**Fibroepithelial polyp, or “skin tag”.**  
**Would you call this a papilloma? Why, or why not?**





**Epidermal inclusion cyst, the overlying skin looks normal.**



**Epidermal inclusion cyst**

# ADNEXAL TUMORS

- ▶ HAIR FOLLICLES
  - ▶ SEBACEOUS GLANDS
  - ▶ SWEAT GLANDS
    - ▶ ECCRINE
    - ▶ APOCRINE
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue background.

Keratoacanthoma, the MAIN lesion to differentiate from squamous cell carcinoma

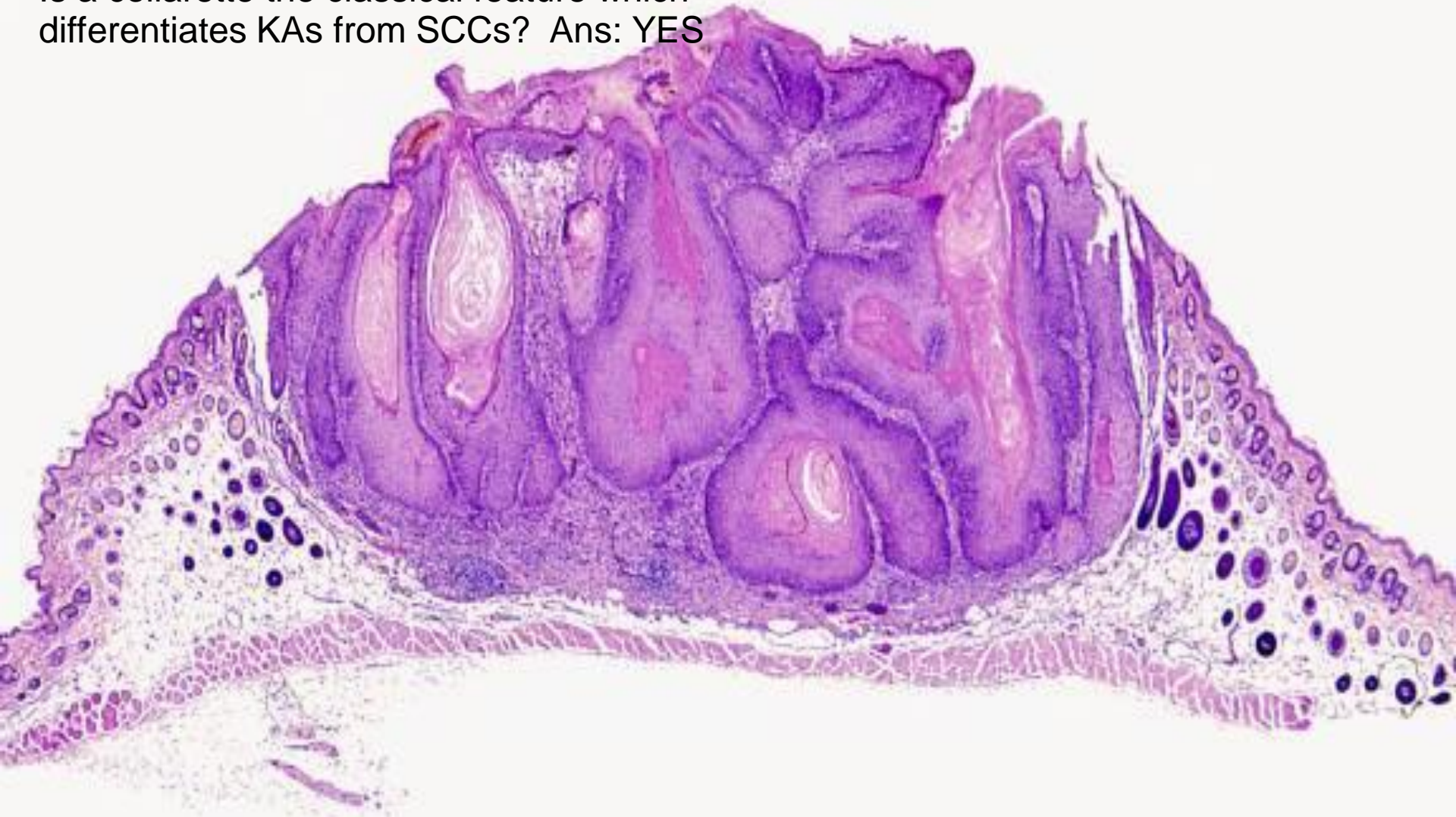


Keratoacanthoma, the MAIN lesion to differentiate from squamous cell carcinoma



Keratoacanthoma, the MAIN lesion to differentiate from squamous cell carcinoma.  
What is a collarette?

Is a collarette the classical feature which differentiates KAs from SCCs? Ans: YES




# PREMALIGNANT/MALIGNANT

- ▶ **A**CTINIC (Solar) **K**ERATOSIS, i.e. precursor to SCC
- ▶ **S**QUAMOUS **C**ELL **C**ARCINOMA, squamous “pearls”, intercellular bridges
- ▶ **B**ASAL **C**ELL **C**ARCINOMA, by far, MOST COMMON, **BLUE** palisading nests
- ▶ **MERKEL** CELL CARCINOMA (TUMOR), VERY MALIGNANT AND LETHAL, LOOK LIKE SMALL CELL CA. OF LUNG



# GENERAL COMMENTS

- ▶ BOTH SCC and BCC related to SUN (i.e., radiation) exposure. (as is MM also)
  - ▶ SCC also related to As, carcinogens, chew, betel nut, HPV, familial, etc.
  - ▶ BOTH SCC and BCC can do local damage but very rarely metastasize or kill.
  - ▶ MERKEL CELL tumors metastasize early and extensively, like melanomas.
- 

Actinic keratosis

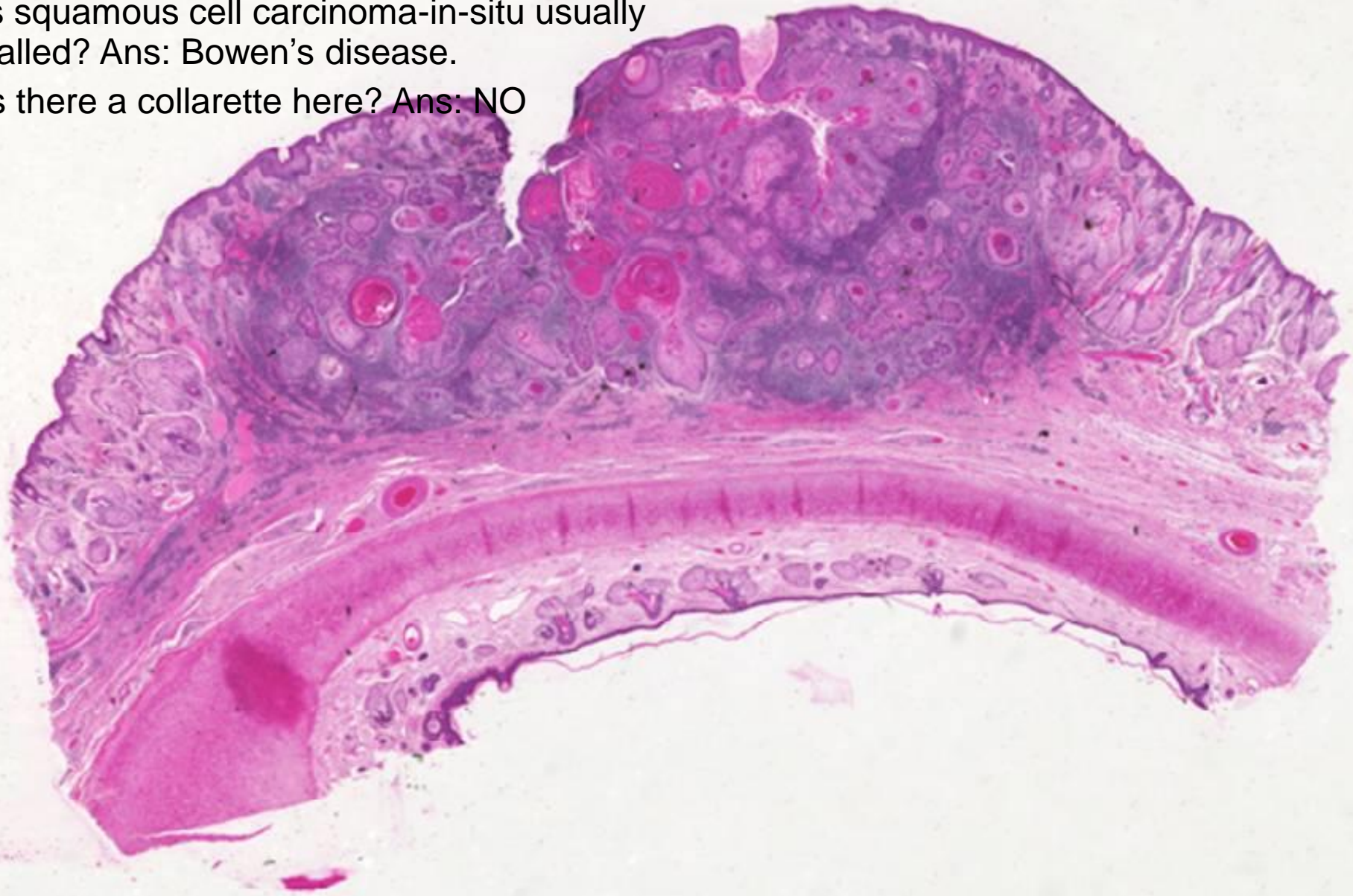


Actinic keratosis vs. squamous cell carcinoma



Squamous cell carcinoma, infiltrating. What is squamous cell carcinoma-in-situ usually called? Ans: Bowen's disease.

Is there a collarette here? Ans: NO



Squamous cell carcinoma, infiltrating. Note the “pearls”. Does the presence of pearls make this well differentiated? Ans: Yes.



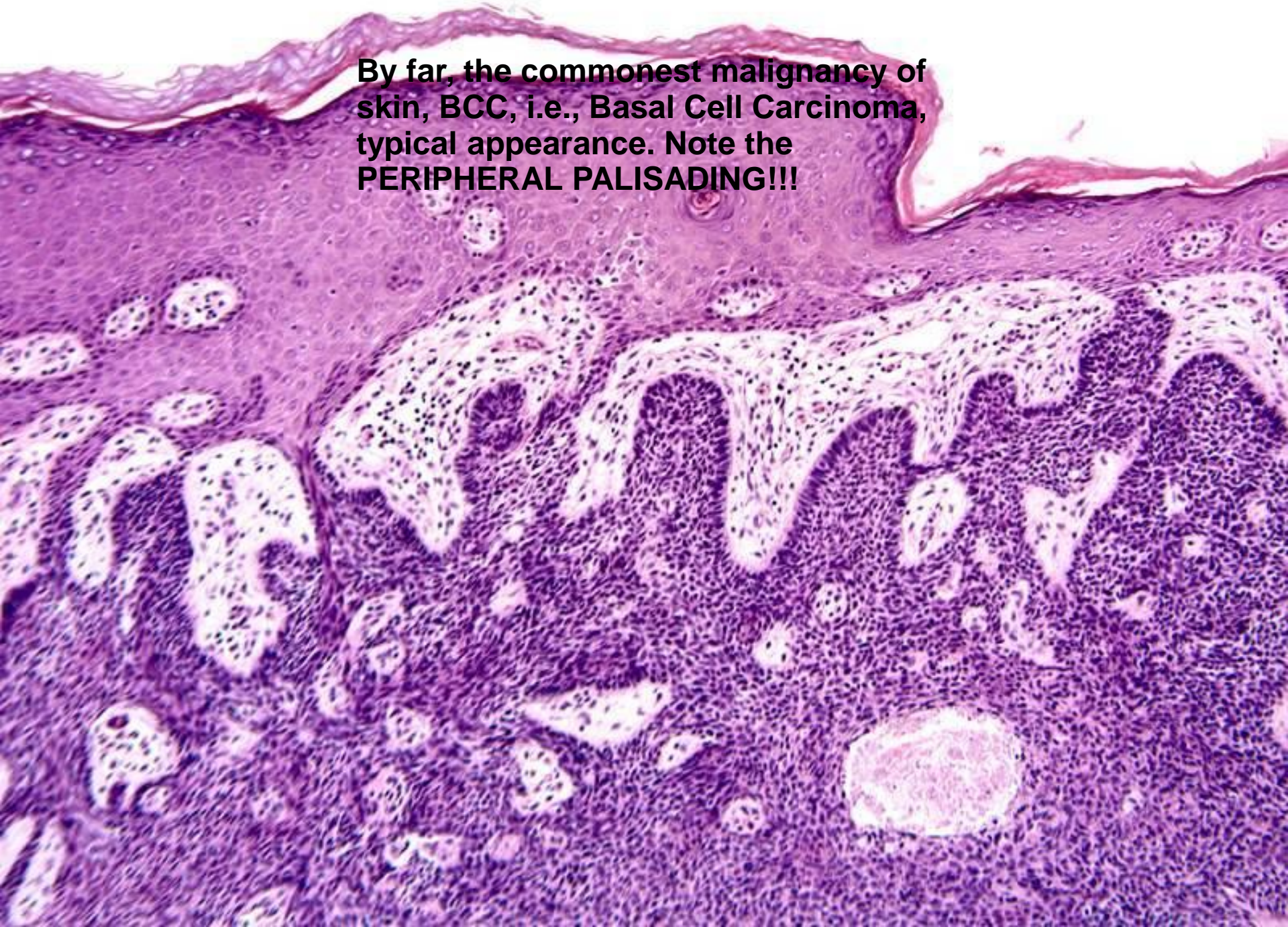
**Squamous dysplasia, perhaps actinic keratosis, or something leading into squamous cell carcinoma.**



**By far, the commonest malignancy of skin, BCC, i.e., Basal Cell Carcinoma, typical appearance.**

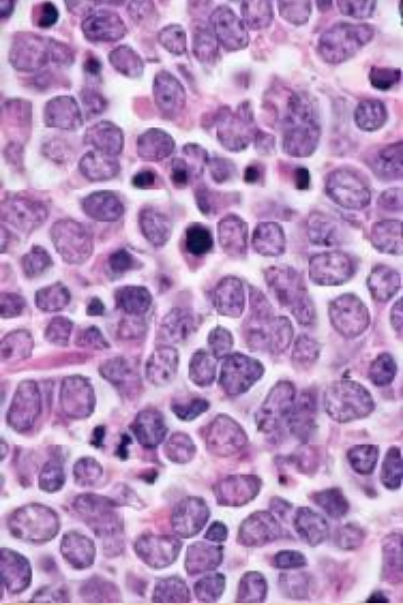


**By far, the commonest malignancy of skin, BCC, i.e., Basal Cell Carcinoma, typical appearance. Note the PERIPHERAL PALISADING!!!**





**Merkel cell tumor, very highly malignant  
RARE and usually fatal, looks EXACTLY  
like a small cell carcinoma of the lung?  
Ans: yes.**



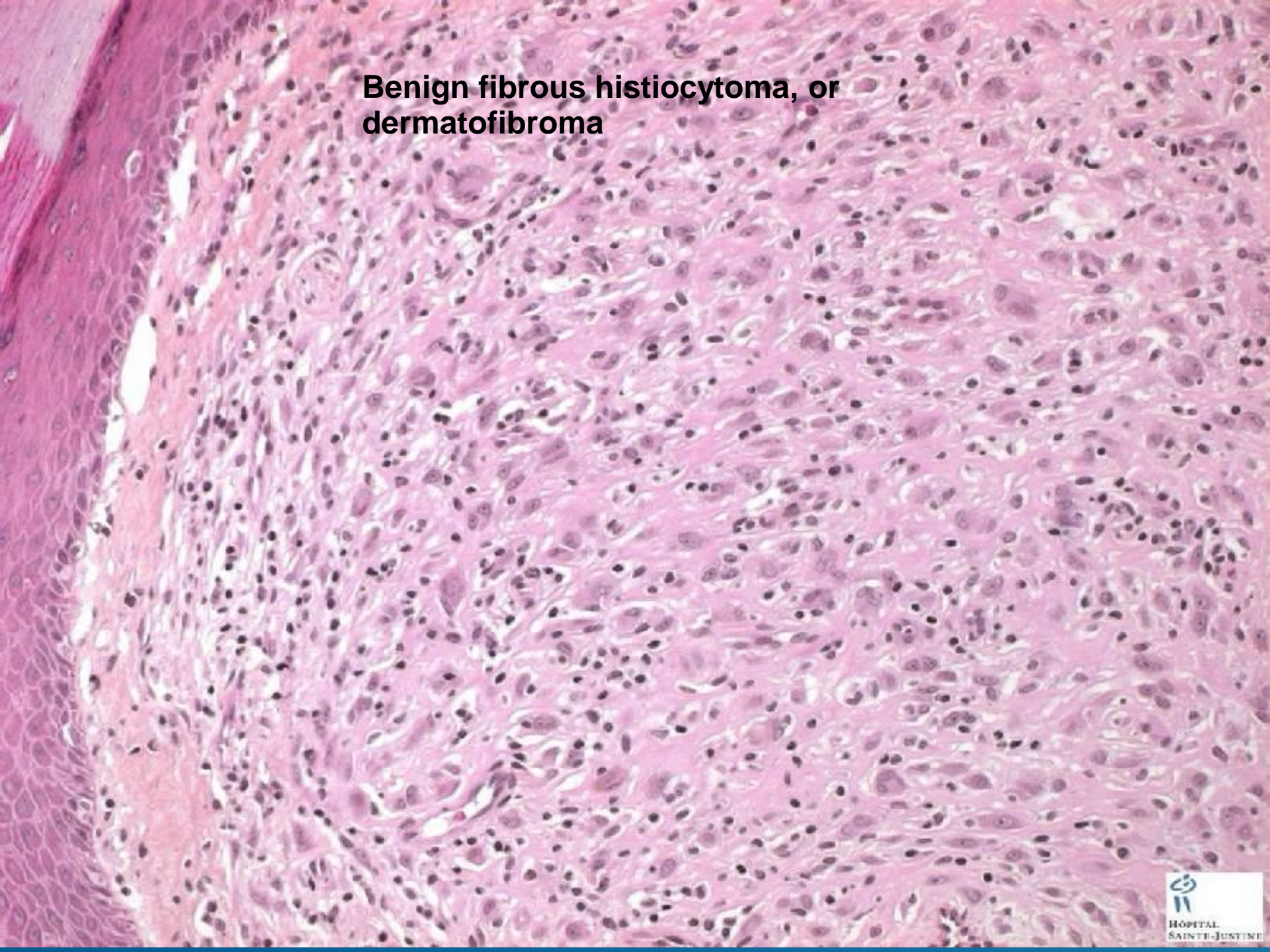
# DERMIS TUMORS

- ▶ DERMATOFIBROMA (BENIGN FIBROUS HISTIOCYTOMA)
- ▶ DERMATOFIBROSARCOMA PROTUBERANS (DFP)
- ▶ MALIGNANT FIBROUS HISTIOCYTOMA (MFH)
- ▶ XANTHOMA
- ▶ VASCULAR TUMORS of various types

Benign fibrous histiocytoma, or  
dermatofibroma

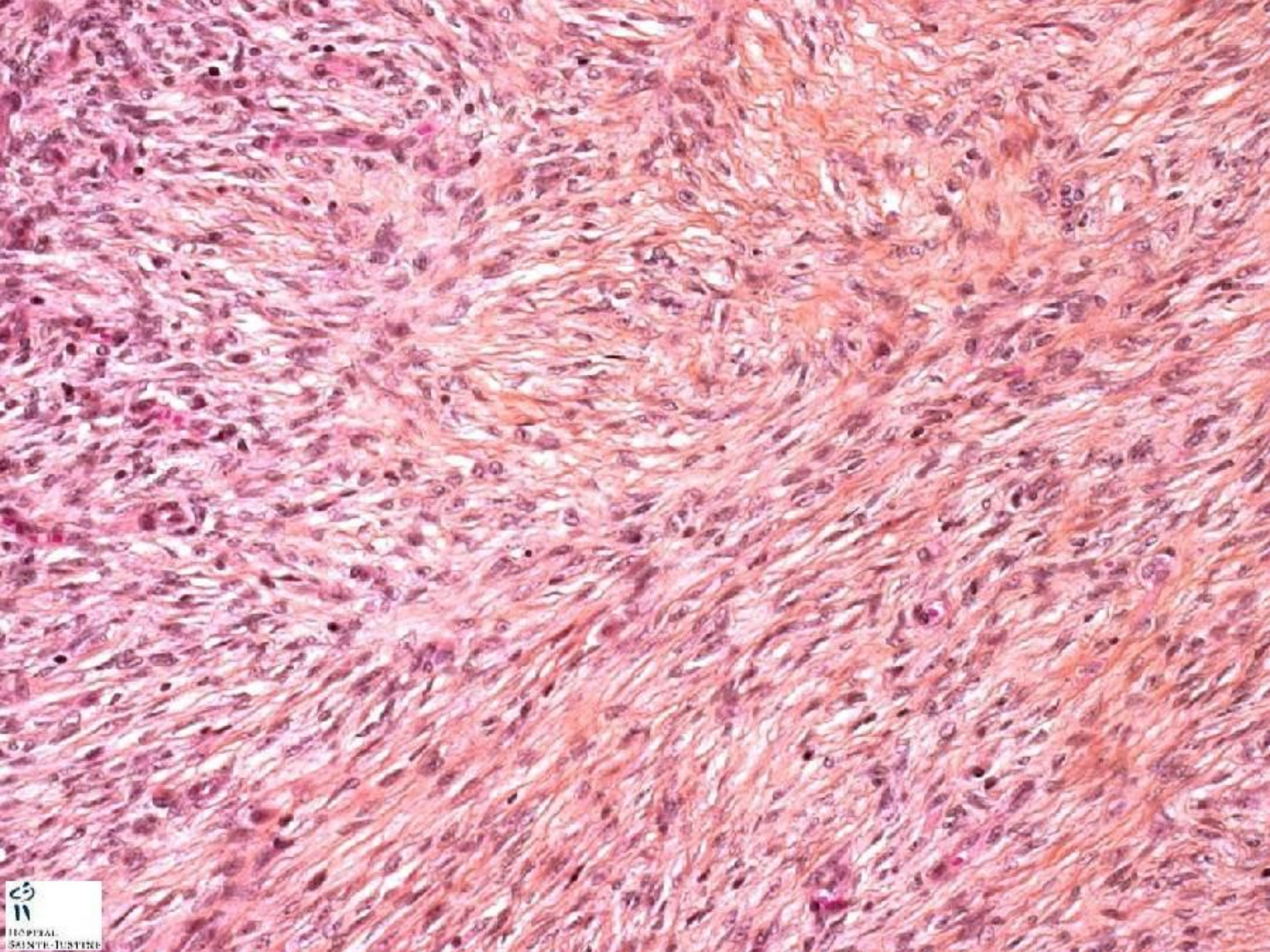


**Benign fibrous histiocytoma, or  
dermatofibroma**

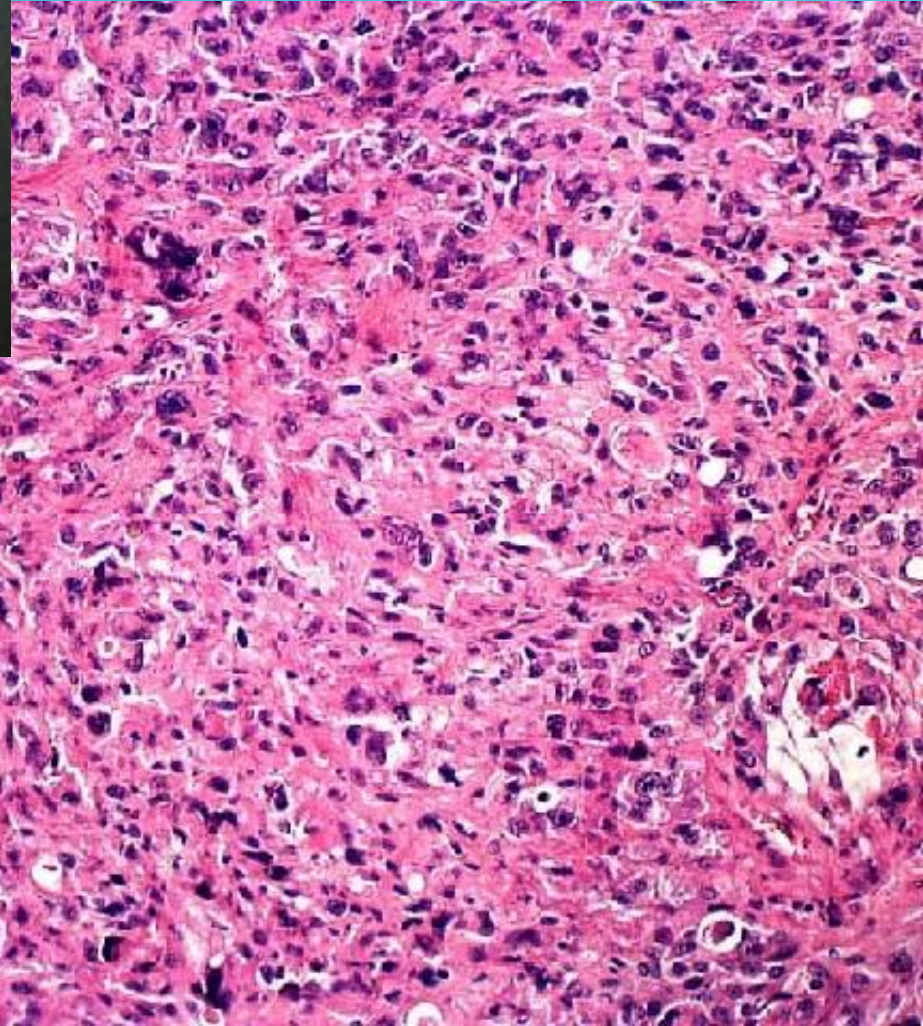


**Large fibrous histiocytoma, perhaps a dermatofibrosarcoma protuberans?**





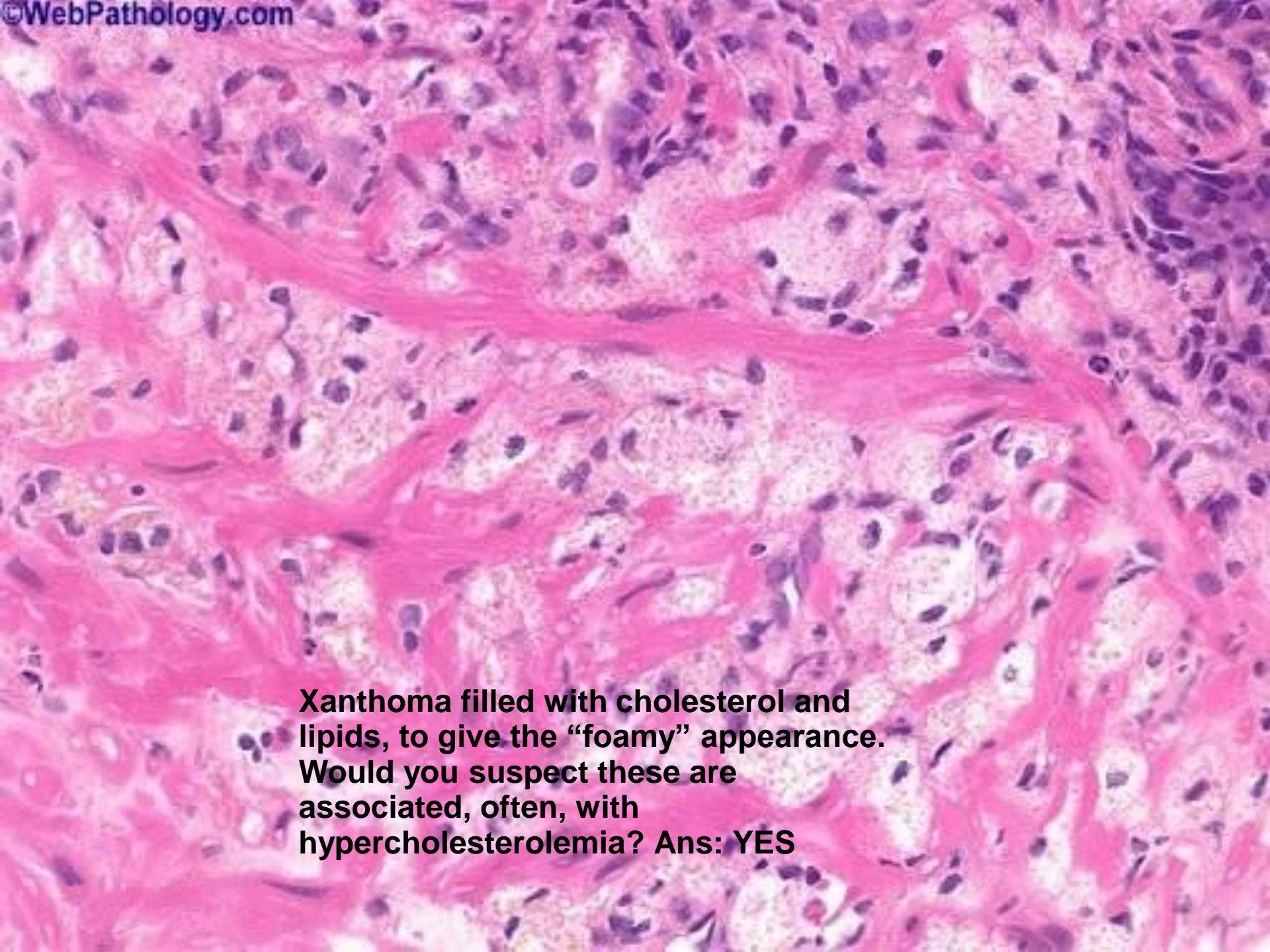
Malignant fibrous histiocytoma.



Xanthomas filled with cholesterol and lipids, to give the “foamy” appearance.

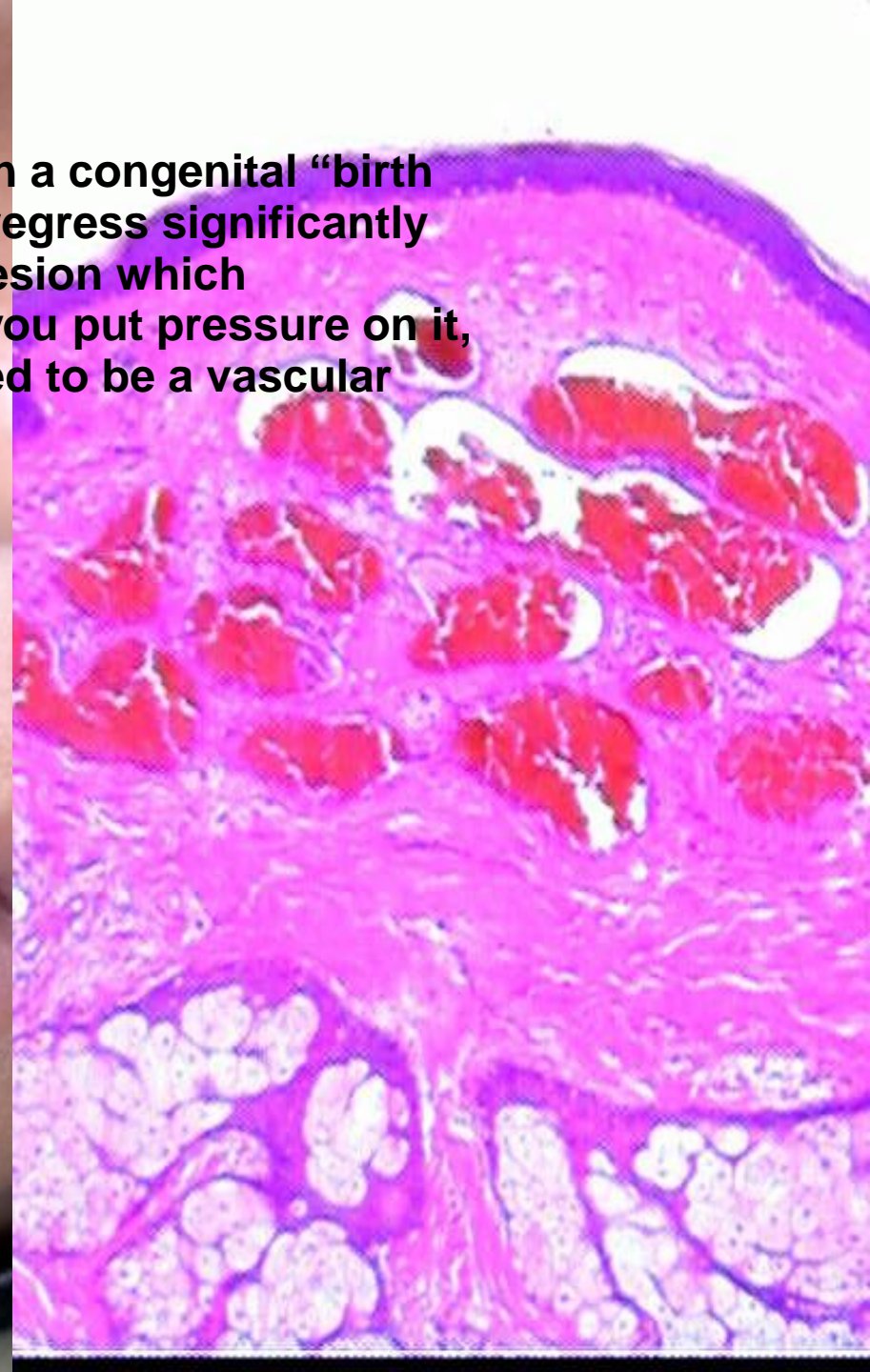




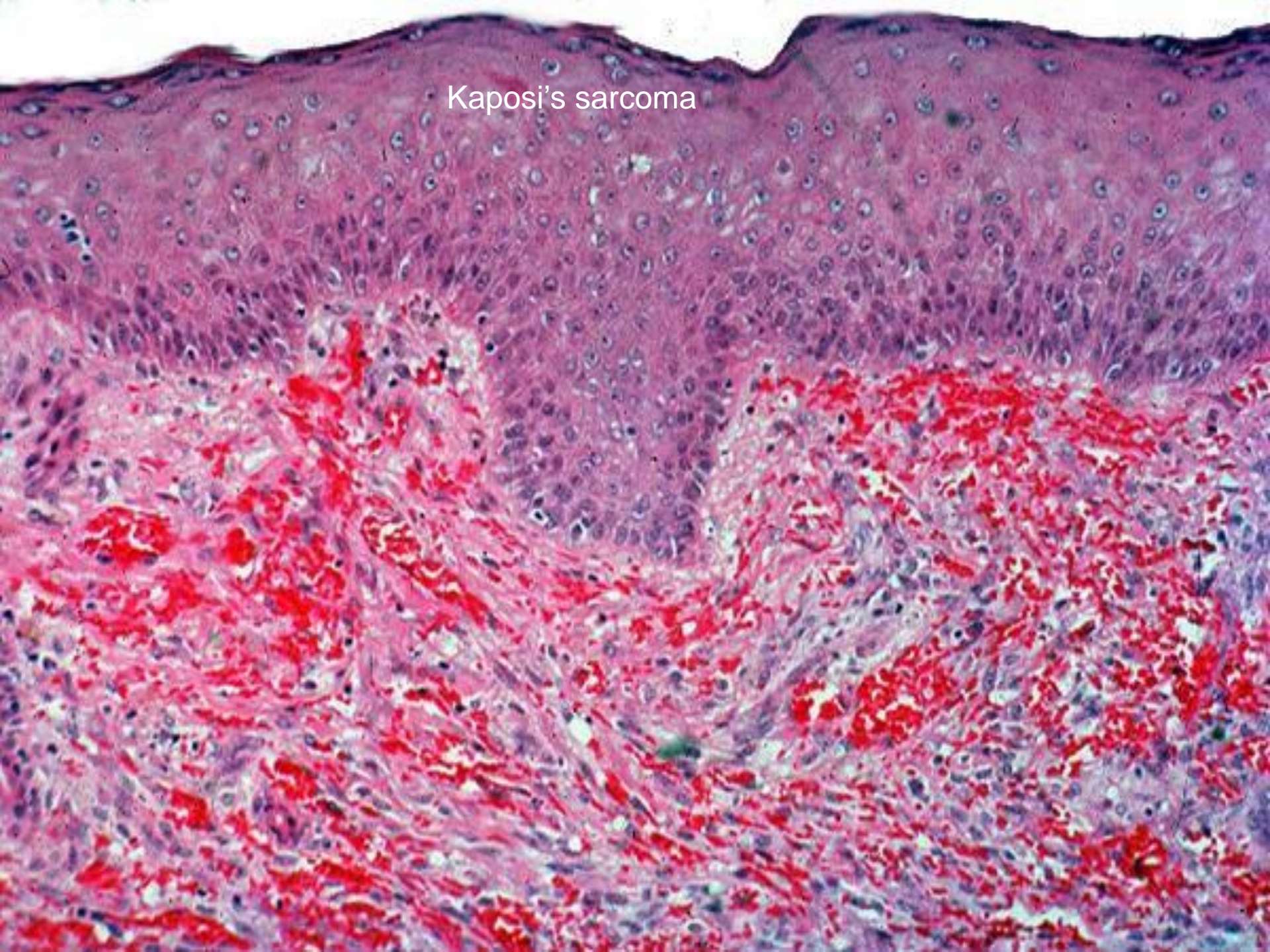


**Xanthoma filled with cholesterol and lipids, to give the “foamy” appearance. Would you suspect these are associated, often, with hypercholesterolemia? Ans: YES**

**Hemangioma, often a congenital “birth mark”, which can regress significantly with aging. A red lesion which “blanches” when you put pressure on it, is always suspected to be a vascular tumor.**



Kaposi's sarcoma



# CELLULAR

## “IMMIGRANTS”

- ▶ **Langerhans cells**  
(Histiocytosis)
- ▶ **Mycosis Fungoides (T-Cell cutaneous lymphoma)**
- ▶ **Mastocytosis (mast cell tumors)**



A

**Ichthyosis, usually genetic. Do you see the lamellae? Would you guess the term “lamellar” ichthiosis is often used? Ans:**

**Yes**

**What is the Greek word for fish?**



B

# DERMATOSES

## ▶ ACUTE

▶ URTICARIA (i.e.,  
“HIVES”)

▶ ECZEMA

▶ ERYTHEMA  
MULTIFORME

## ▶ CHRONIC


▶ PSORIASIS

▶ SEBORRHEIC  
DERMATITIS

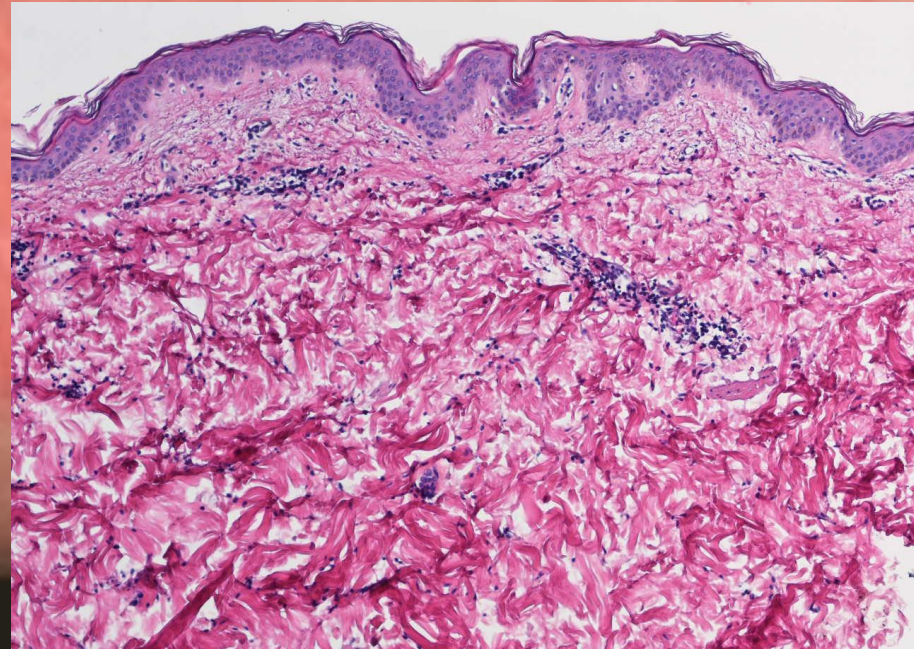
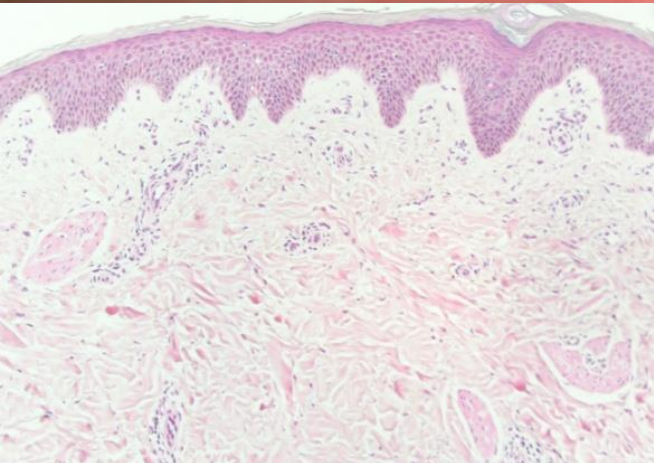
▶ LICHEN PLANUS

▶ LUPUS  
ERYTHMATOSUS

# URTICARIA

- ▶ **DERMAL EDEMA**
  - ▶ **DILATATION of VASCULAR SPACES**
  - ▶ **EARLY PERIVASCULAR CUFFING OF INFLAMMATORY CELLS**
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against the blue background.

Is urticaria the classic skin response to type 1 hypersensitivity? Ans: YES





# ECZEMA

(aka, acute eczematous dermatitis)

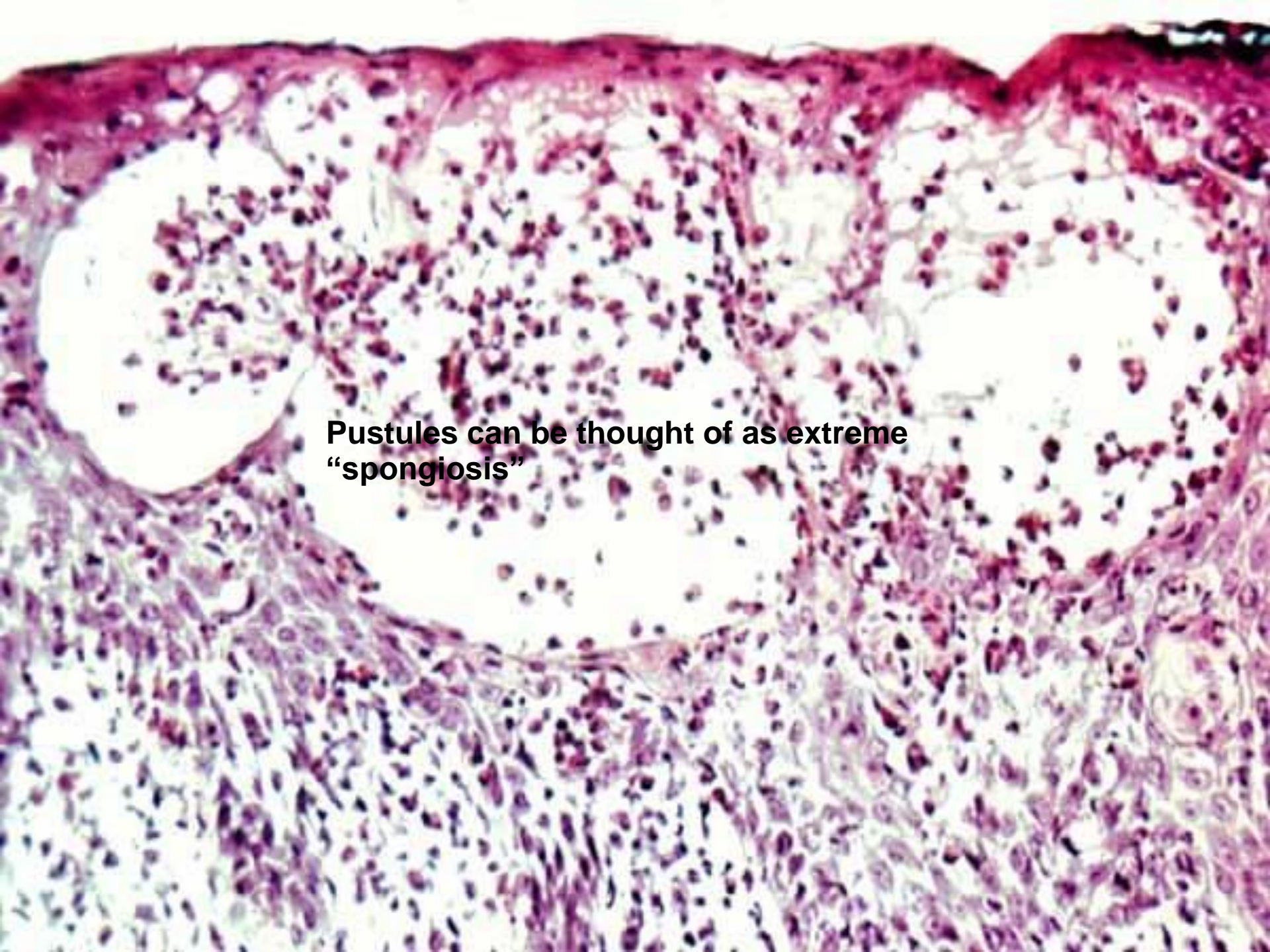
- A myriad of ACUTE inflammatory disorders, with allergic, drug related, sun related etiologies
- The common histologic feature is **SPONGIOSIS**



(Atopic) Eczema



Eczema with spongiosis. **Spongiosis**: =  
Intercellular edema of the epidermis.



**Pustules can be thought of as extreme  
“spongiosis”**



Pustules, ulcerated.

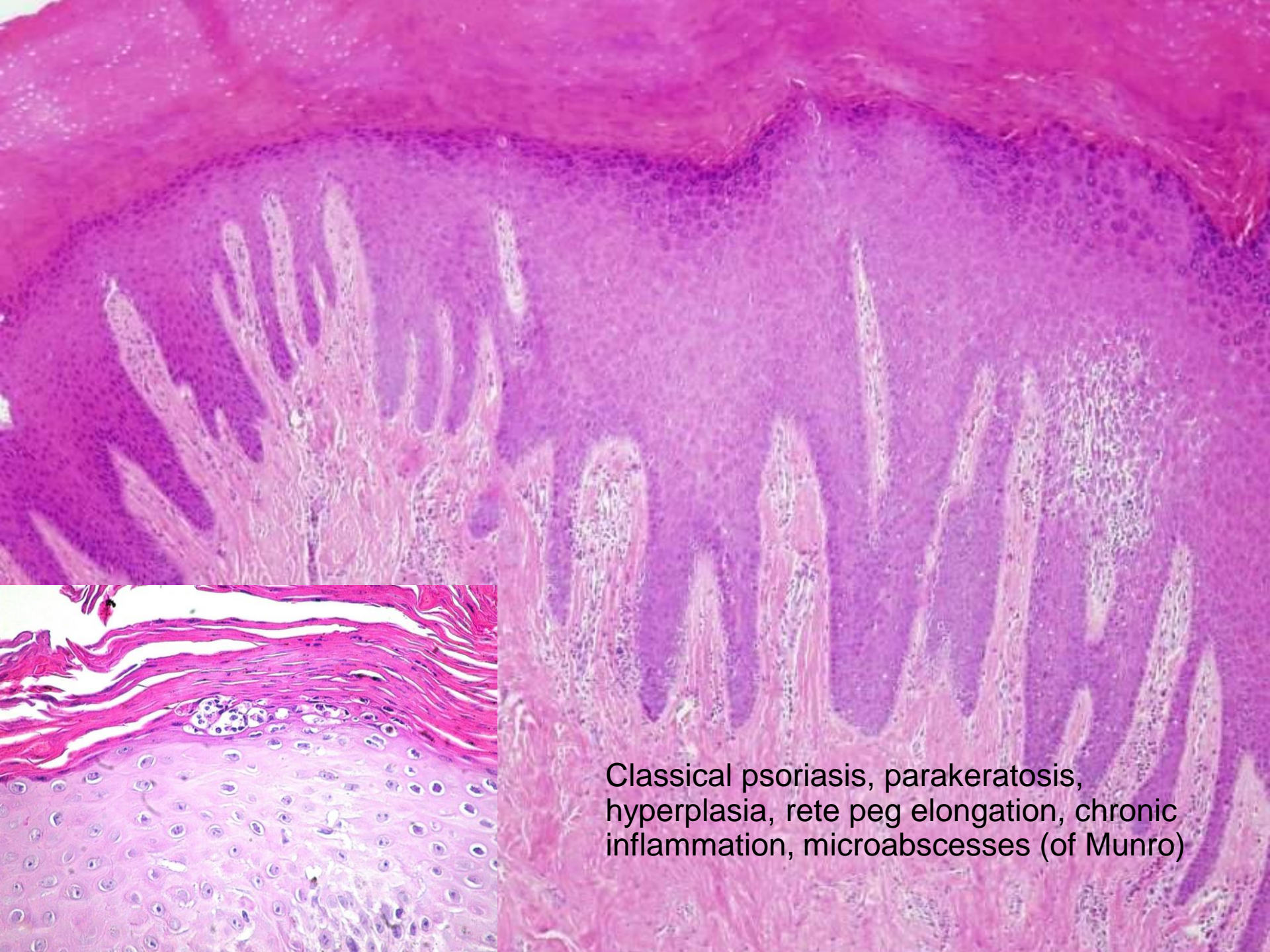
Pustules, like vesicles and bullae, have an “evolution” of clinical and histologic appearances, generally following the acute\_\_>chronic inflammatory evolution.



**Erythema multiforme** is a skin condition of unknown cause, possibly mediated by deposition of immune complex (mostly IgM) in the superficial microvasculature of the skin and oral mucous membrane that usually follows an infection or drug exposure. It is a common disorder, with peak incidence in the second and third decades of life. This severe form may be related to Stevens-Johnson syndrome. Does this look like extreme urticaria?

# PSORIASIS

- ▶ 1-2% of USA
- ▶ Elbows, Knees
- ▶ Parakeratosis, generalized epidermal hyperplasia, elongation of the rete pegs, extensive chronic inflammatory cell infiltrates, “MUNRO” intraepidermal microabscesses



Classical psoriasis, parakeratosis, hyperplasia, rete peg elongation, chronic inflammation, microabscesses (of Munro)

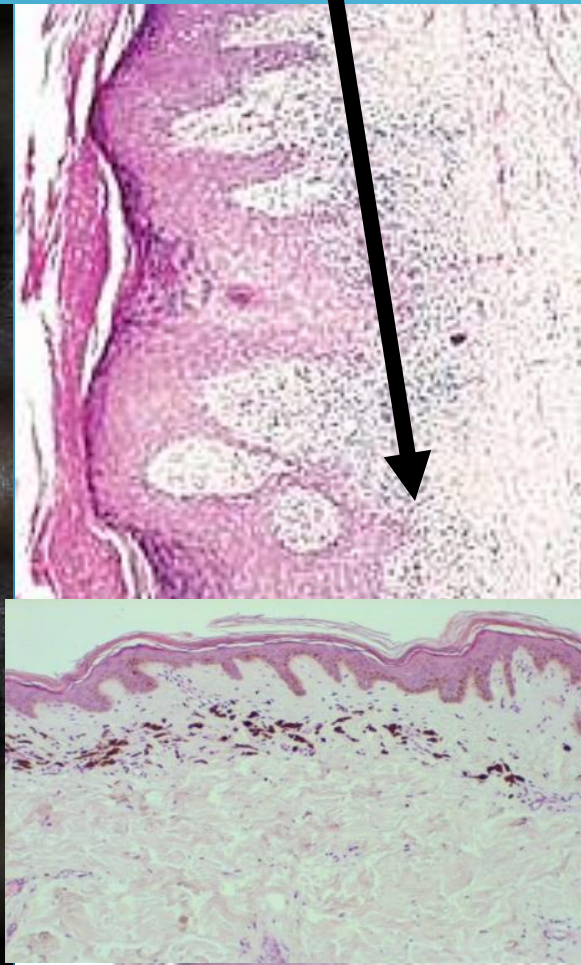


**SEBORRHEIC  
DERMATITIS**

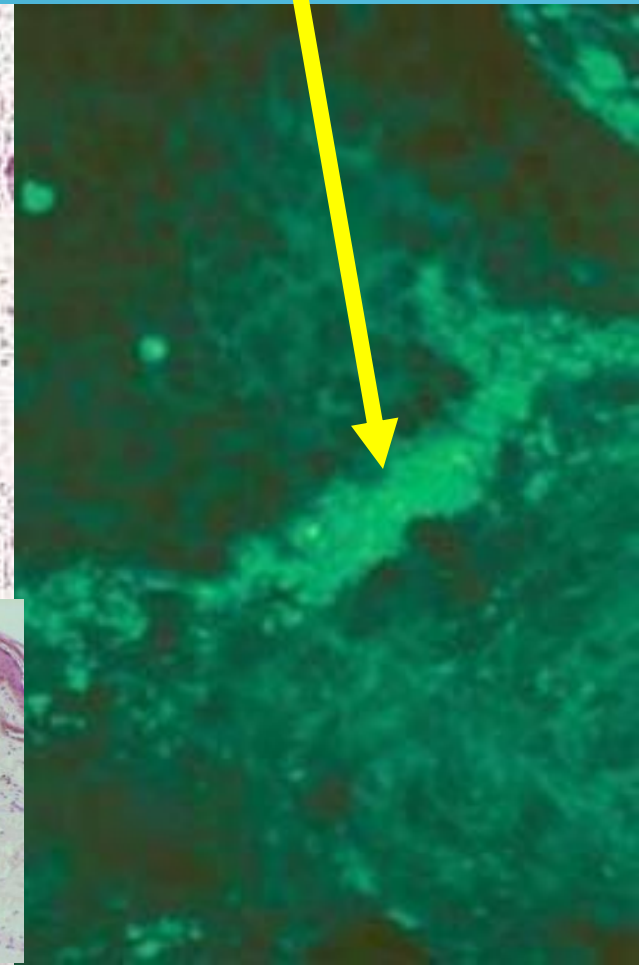
**IN HIV**




**LICHEN  
PLANUS**



**LUPUS**





Possibly the commonest skin disease you will see every day, so I'm giving you 5 classic views.

Do you think stasis dermatitis is commonest in the areas of tissues often most compromised by atherosclerosis?

**STASIS DERMATITIS**



**STASIS DERMATITIS**



**STASIS DERMATITIS**

# STASIS DERMATITIS



# BULLOUS DISEASES

## ▶ PEMPHIGUS (VULGARIS)

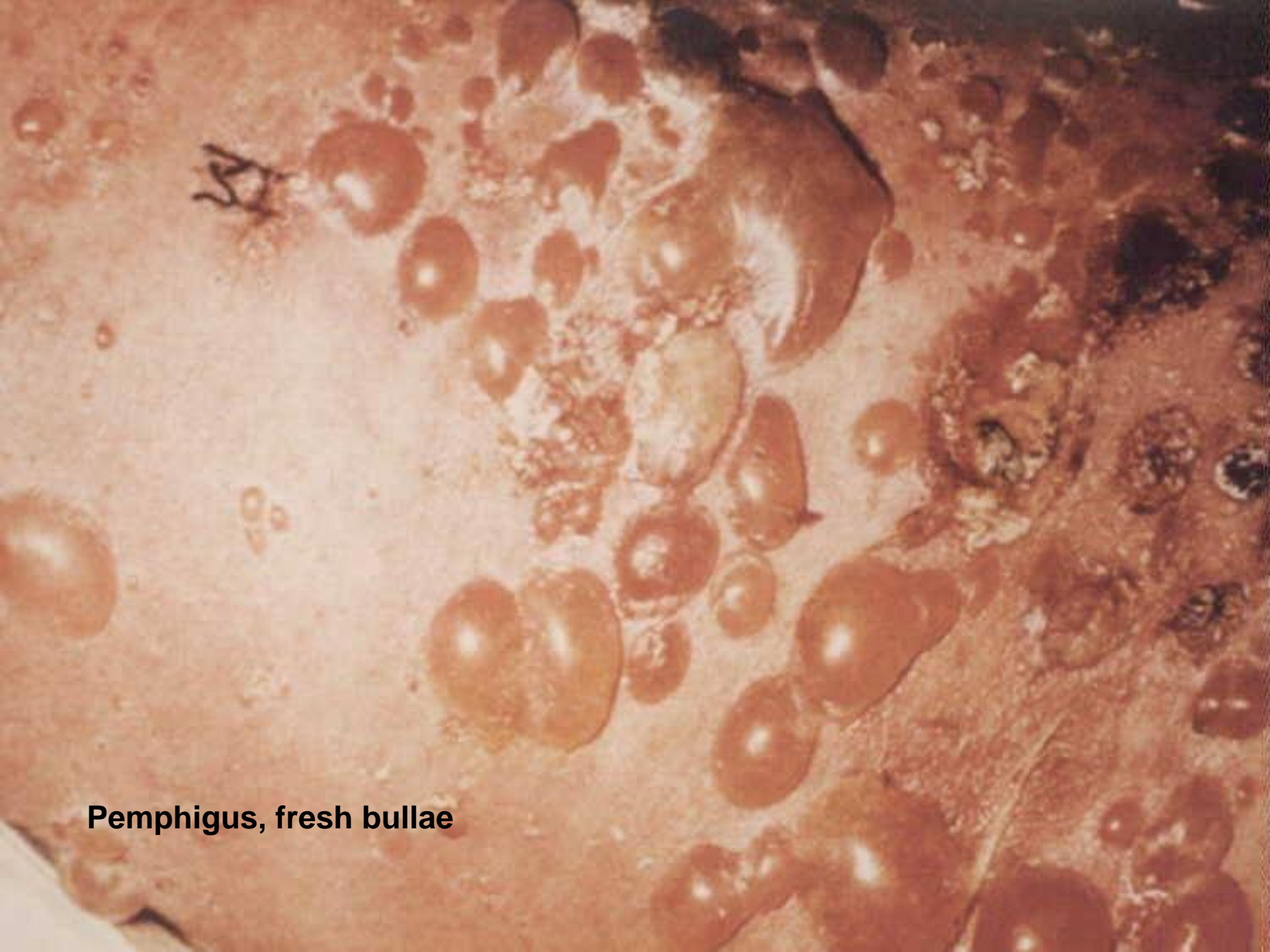
▶ BULLOUS PEMPHIGOID

▶ DERMATITIS HERPETIFORMIS

▶ EPIDERMOLYSIS BULLOSA

▶ PORPHYRIA

▶ “ACANTHOLYSIS” is the common unifying finding, as is basement membrane immunoglobulins



**Pemphigus, fresh bullae**

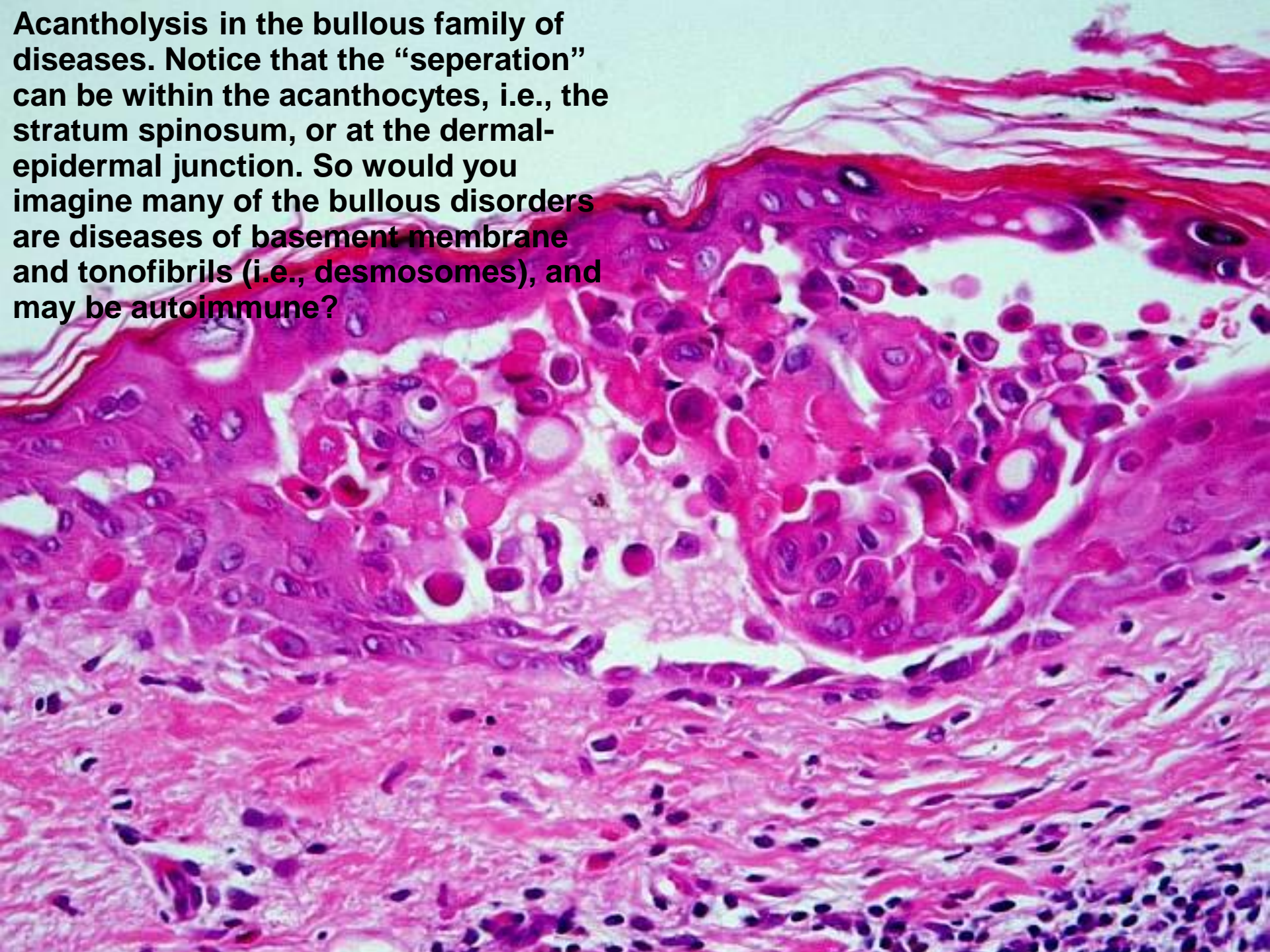


**Pemphigus, ruptured, scabbed bullae**

8/22/98



**Acantholysis in the bullous family of diseases. Notice that the “separation” can be within the acanthocytes, i.e., the stratum spinosum, or at the dermal-epidermal junction. So would you imagine many of the bullous disorders are diseases of basement membrane and tonofibrils (i.e., desmosomes), and may be autoimmune?**



# ACNE VULGARIS

- ▶ Bread and Butter of dermatology practice
- ▶ Sebaceous duct blockage with secondary inflammation is main feature
- ▶ bacterial lipases of *Propionibacterium acnes* break down sebaceous oils, and the resulting fatty acids acts as irritants



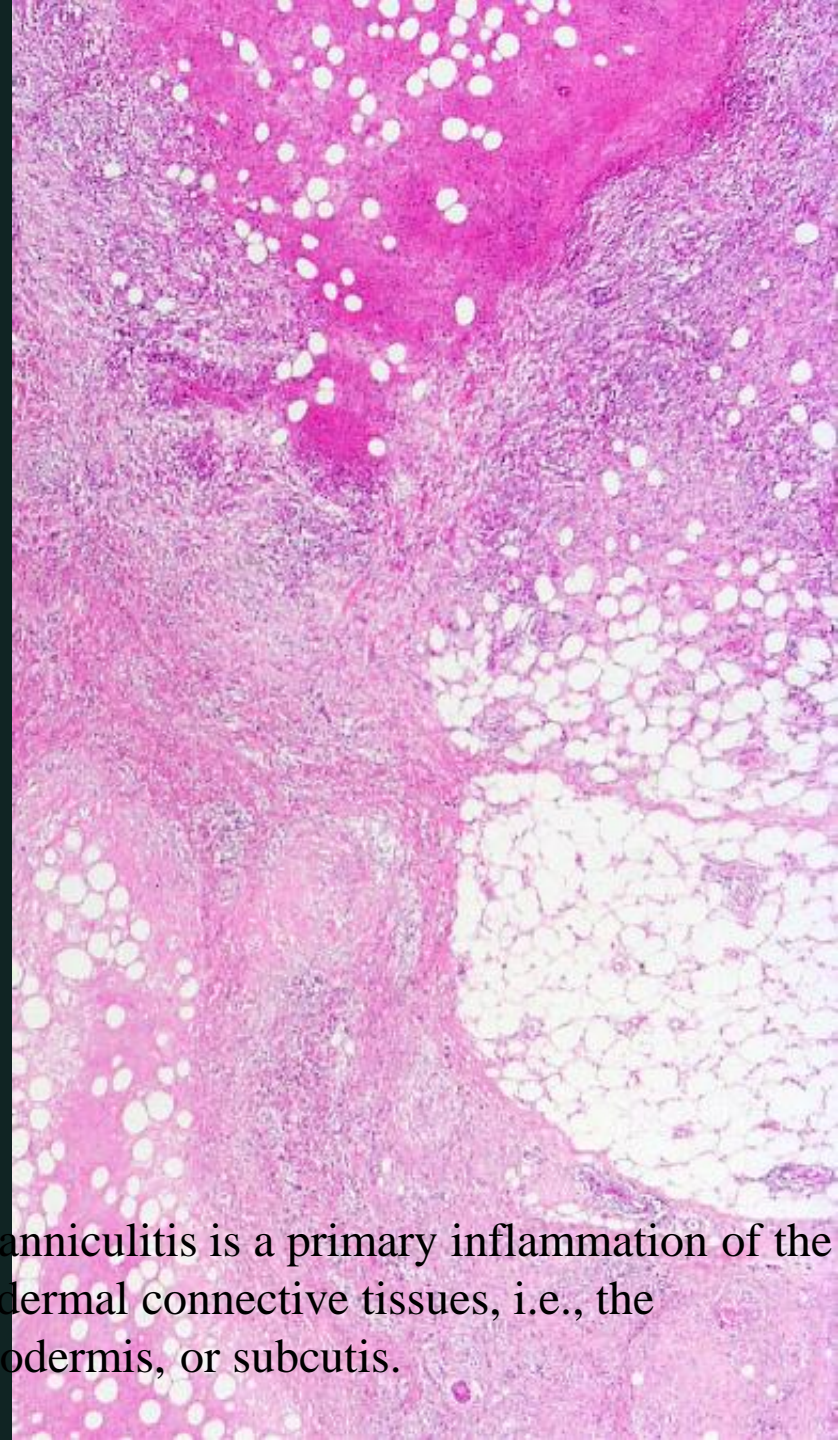
# PANNICULITIS

▶ **ERYTHEMA NODOSUM**, (red nodules on legs)



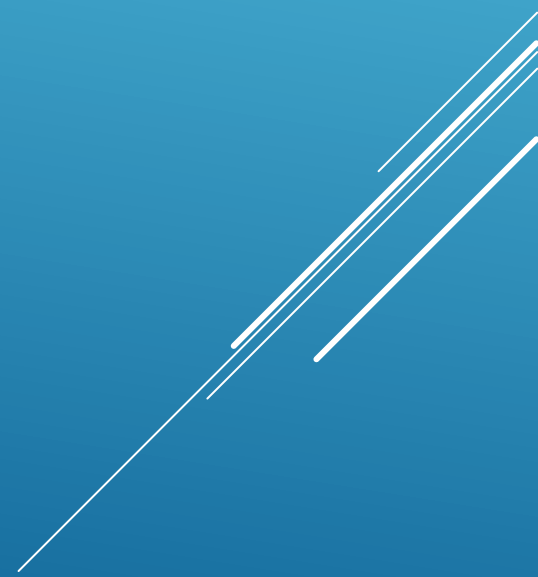
▶ **TUM**





A panniculitis is a primary inflammation of the subdermal connective tissues, i.e., the hypodermis, or subcutis.

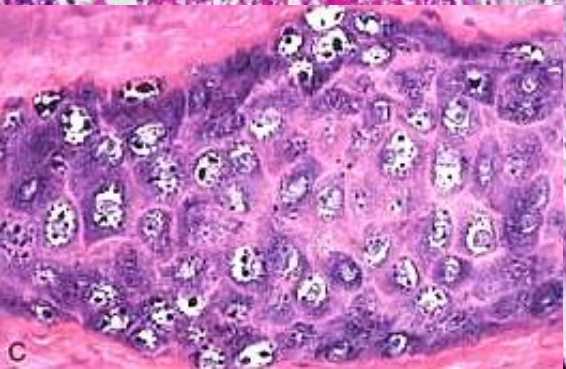
# INFECTION/INFESTATION

- ▶ **VERRUCAE**, viral (HPV)
  - ▶ **MULLUSCUM CONTAGIOSUM**, viral
  - ▶ **IMPETIGO**, bacterial, staph → strep
  - ▶ **FUNGI**
  - ▶ **ARTHROPODS**
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.





**Papillomatous epidermal hyperplasia is the most consistent feature of verrucae (warts), Also note the “hypergranulosis”.  
“hypergranulosis” “hypergranulosis”  
“hypergranulosis”**

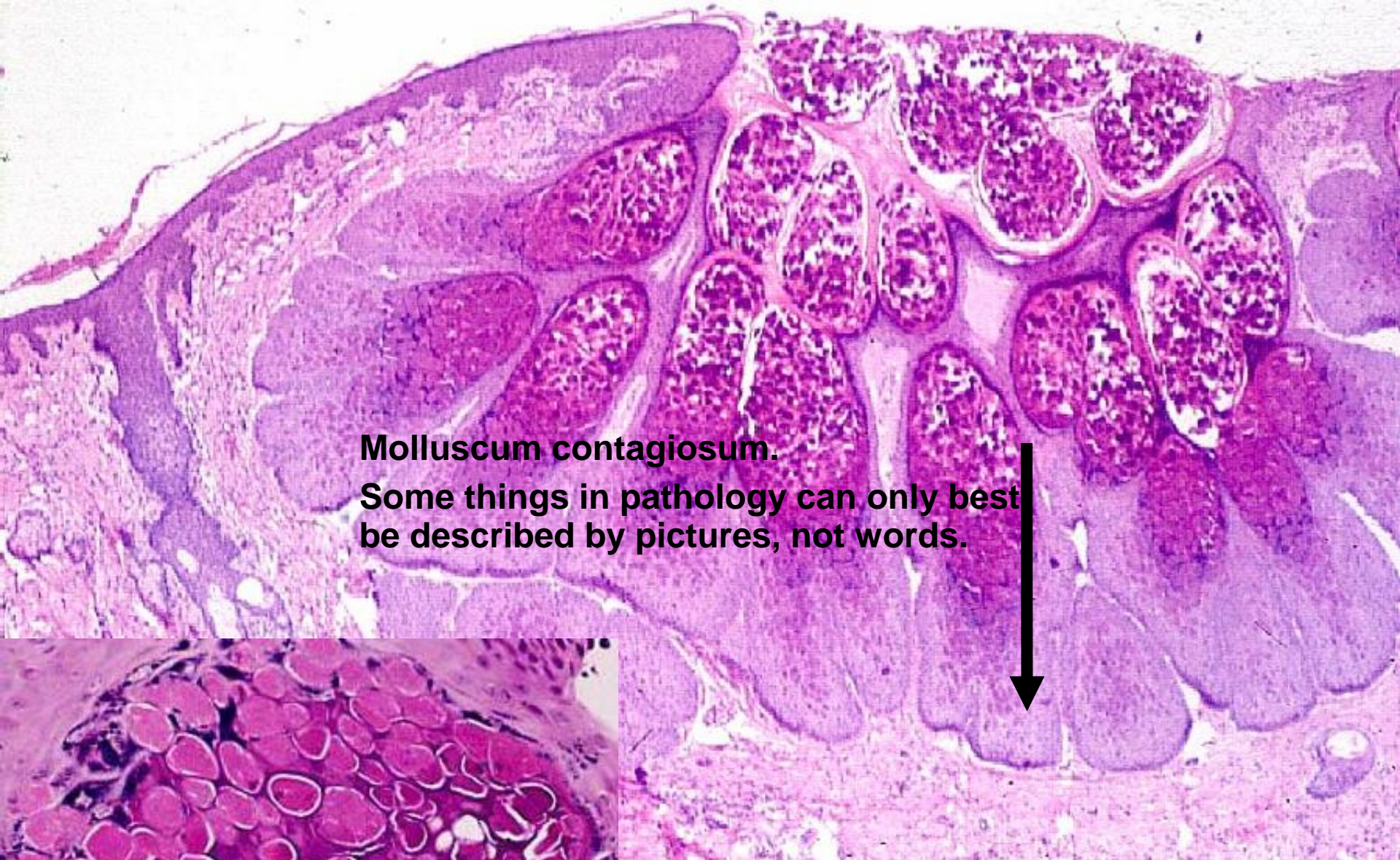


C

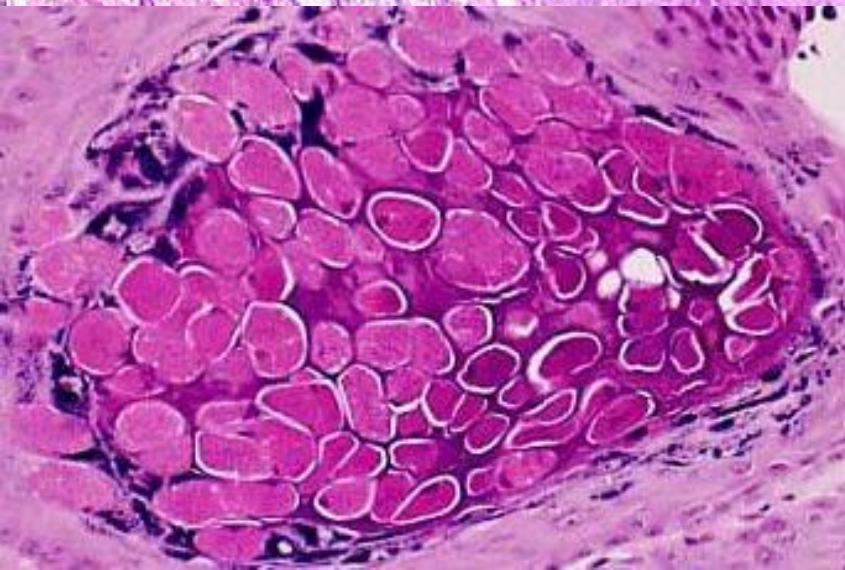


Molluscum contagiosum, a pox virus





**Molluscum contagiosum.**  
**Some things in pathology can only best be described by pictures, not words.**



**RED → PURPLE → BLUE**





Impetigo, caused by staph and strep, usually in small kids.

# TINEAS...

- ▶ ...Capitis (Scalp ringworm)
- ▶ ...Barbae
- ▶ ...Corporis (Ringworm)
- ▶ ...Cruris (Jock itch)
- ▶ ...Pedis (Athlete's foot)
- ▶ ▶ Onychomycosis (nail)

# TINEAS

- ▶ Trichophyton species
  - ▶ Microsporum species
  - ▶ Epidermophyton species
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.



Ringworm of scalp, Tinea capitis



Tinea barbae



Ringworm of the body, Tinea corporis





Tinea cruris, or jock itch



Athlete's foot, or tinea pedis.

Is this interspace the most common place for tinea pedis?

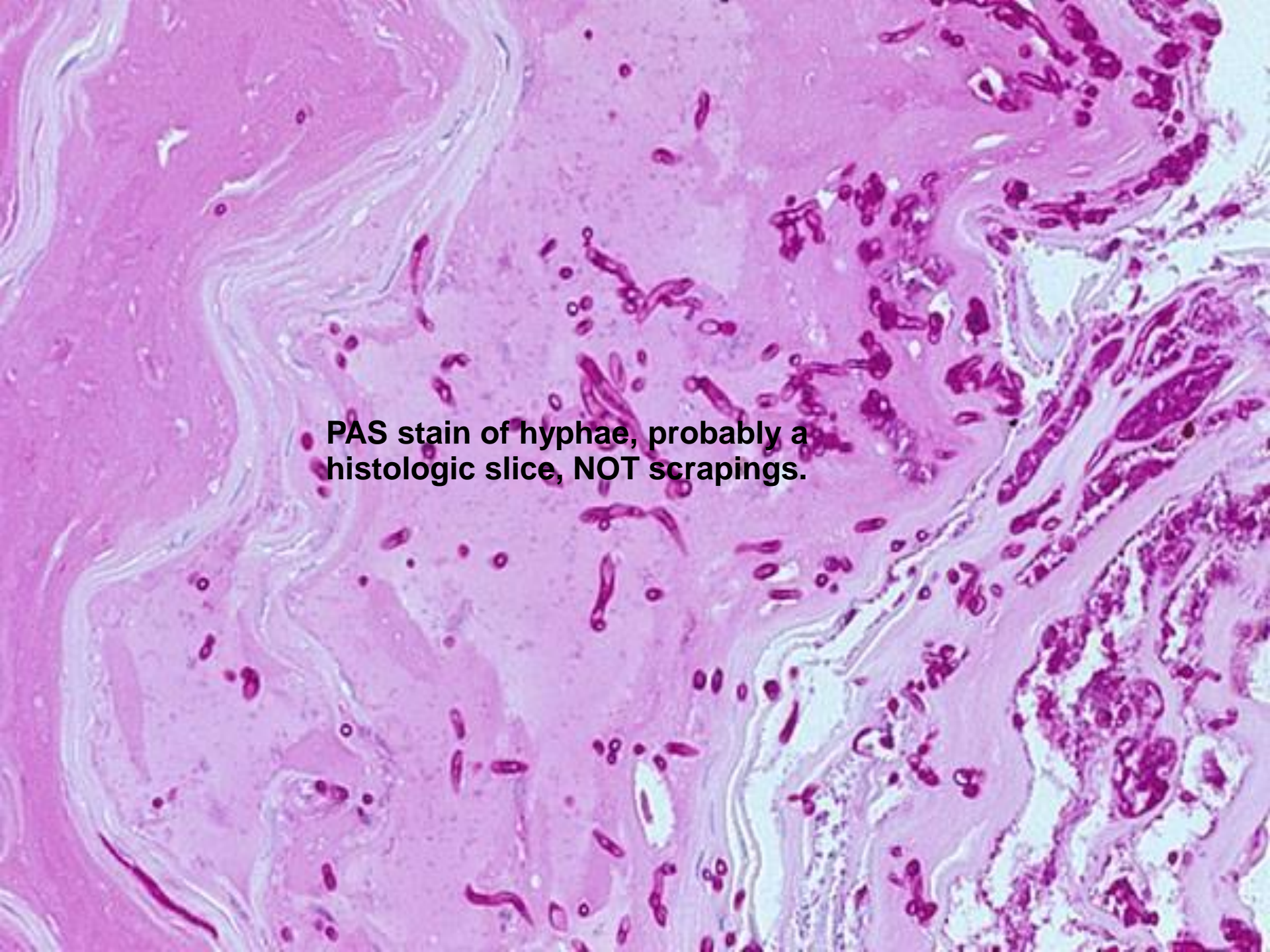
Why? If your patient has a gangrenous toe, which one is most likely?



Onychomycosis (Note the LACK of the word tinea)



**PAS stain of hyphae, probably scrapings**

A histological micrograph showing a tissue section stained with Periodic acid–Schiff (PAS). The image displays numerous pink, branching, and wavy structures, which are hyphae, characteristic of a fungal infection. The background tissue is stained a lighter pink, and there are some darker, more densely stained areas on the right side of the image. The overall appearance is that of a histologic slice rather than a scraping.

**PAS stain of hyphae, probably a histologic slice, NOT scrapings.**

# ARTHROPODS

▶ Bites

▶ Stings

▶ INFESTATIONS

A series of white, parallel diagonal lines in the bottom right corner of the slide, pointing towards the top right.

# ARTHROPODS

- ▶ Scabies
  - ▶ Pediculosis
  - ▶ Demodex
  - ▶ Ticks, Mites
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue background.



Scabies in it's most common location



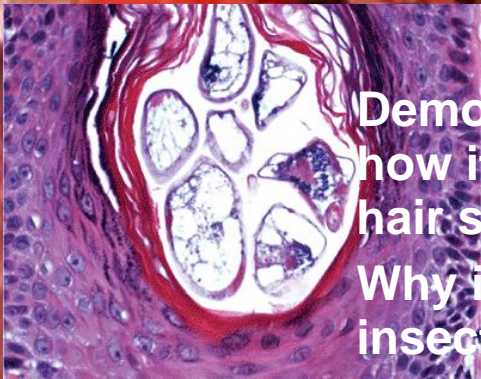


Body lice (pediculosis)





Pubic louse (*phthirus pubis*)



Demodex follicularis, a mite larva, notice how it likes to share a hair follicle with a hair shaft.

Why is this an arachnid, and not an insect? Ans: 8 legs.