

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

Skin, dermis, **papillary**

L

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, **bullae**
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**
microscopic, **spongiosis**
A 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)

B Pigmentation disorders, **melasma**
Pigmentation disorders, **lentigo**
Pigmentation disorders, **nevus**
Pigmentation disorders, nevus, melanocytic

N Pigmentation disorders, nevus, dysplastic
Pigmentation disorders, malignant melanoma
Epidermal neoplasms

O Epidermal neoplasms, benign
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
Epidermis/Dermis, inflammation, acute, **urticaria**
Epidermis/Dermis, inflammation, acute, **eczema**

B 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

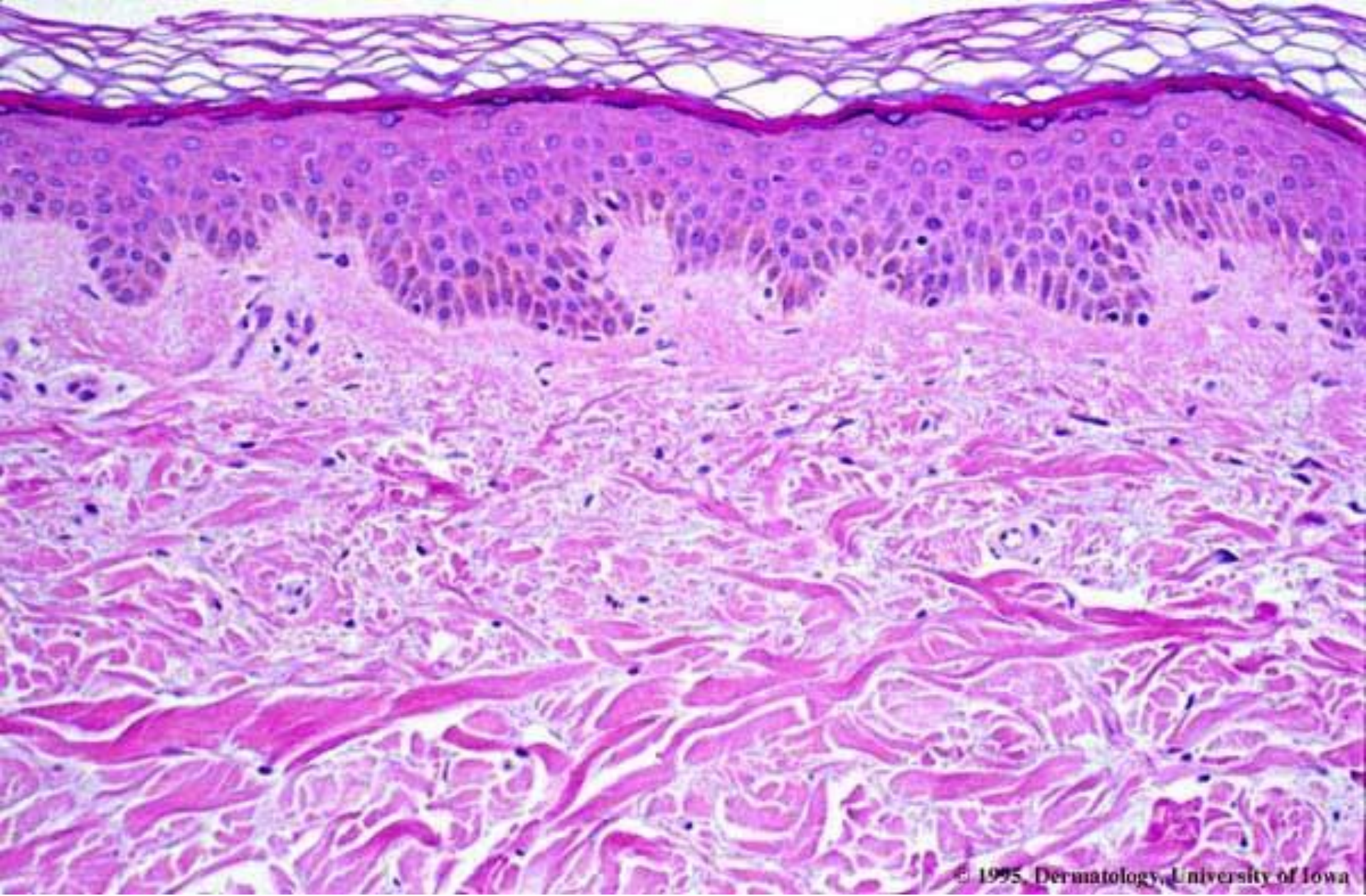
O Epidermis/Dermis, infection/infestation, (**verrucae**)
Epidermis/Dermis, infection/infestation, molluscum contagiosum
Epidermis/Dermis, infection/infestation, **impetigo**
Epidermis/Dermis, infection/infestation, **fungus**

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**
Epidermis/Dermis, bullae, dermatitis herpetiformis

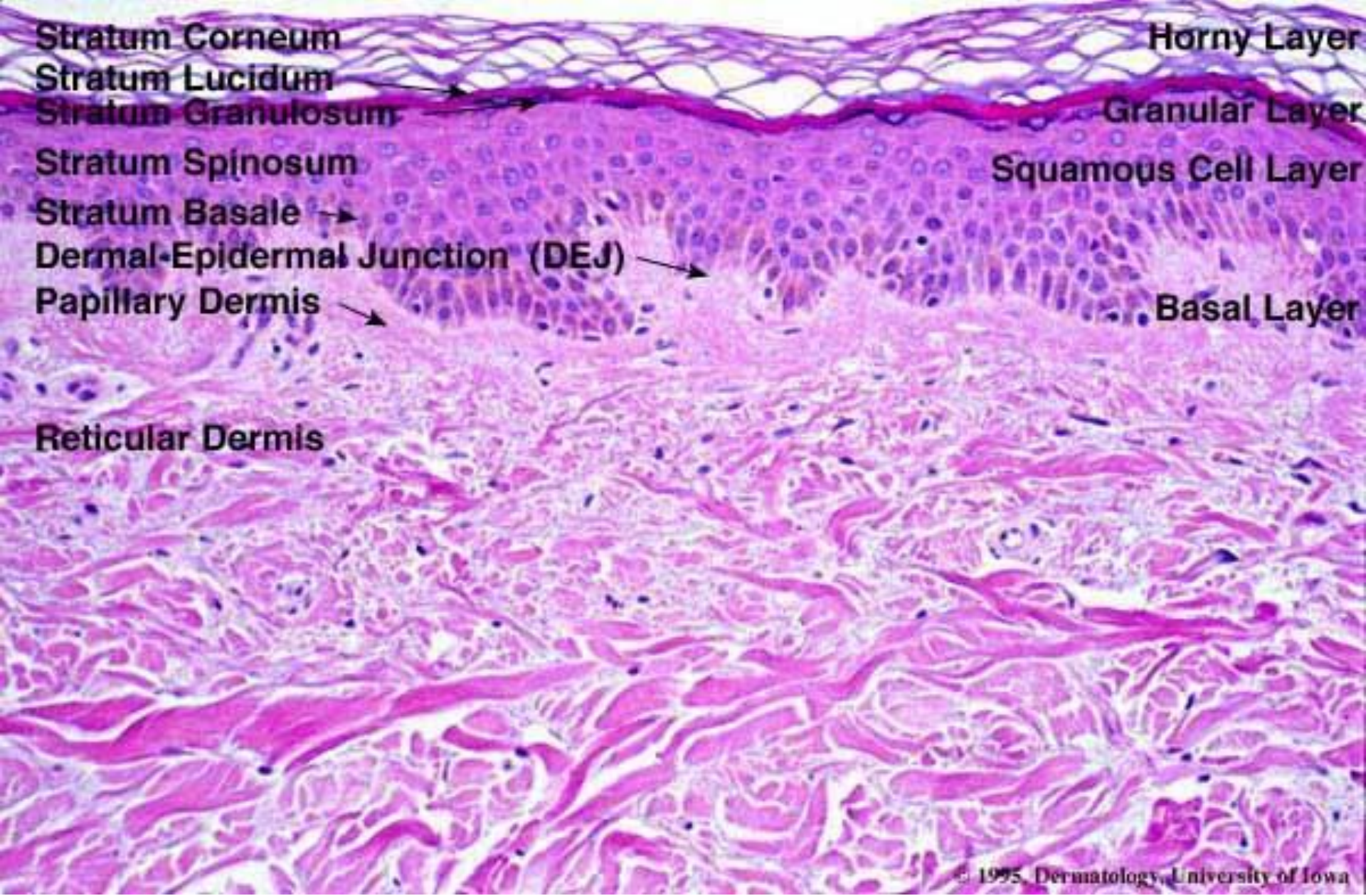
A Epidermis/Dermis, bullae, epidermolysis bullosa
Epidermis/Dermis, bullae, porphyria
Epidermis/Dermis, adnexae (appendages), **acne vulgaris**

L Hypodermis (pannus), inflammation (panniculitis)
Hypodermis (pannus), inflammation, **erythema nodosum**
Hypodermis (pannus), inflammation, erythema induratum



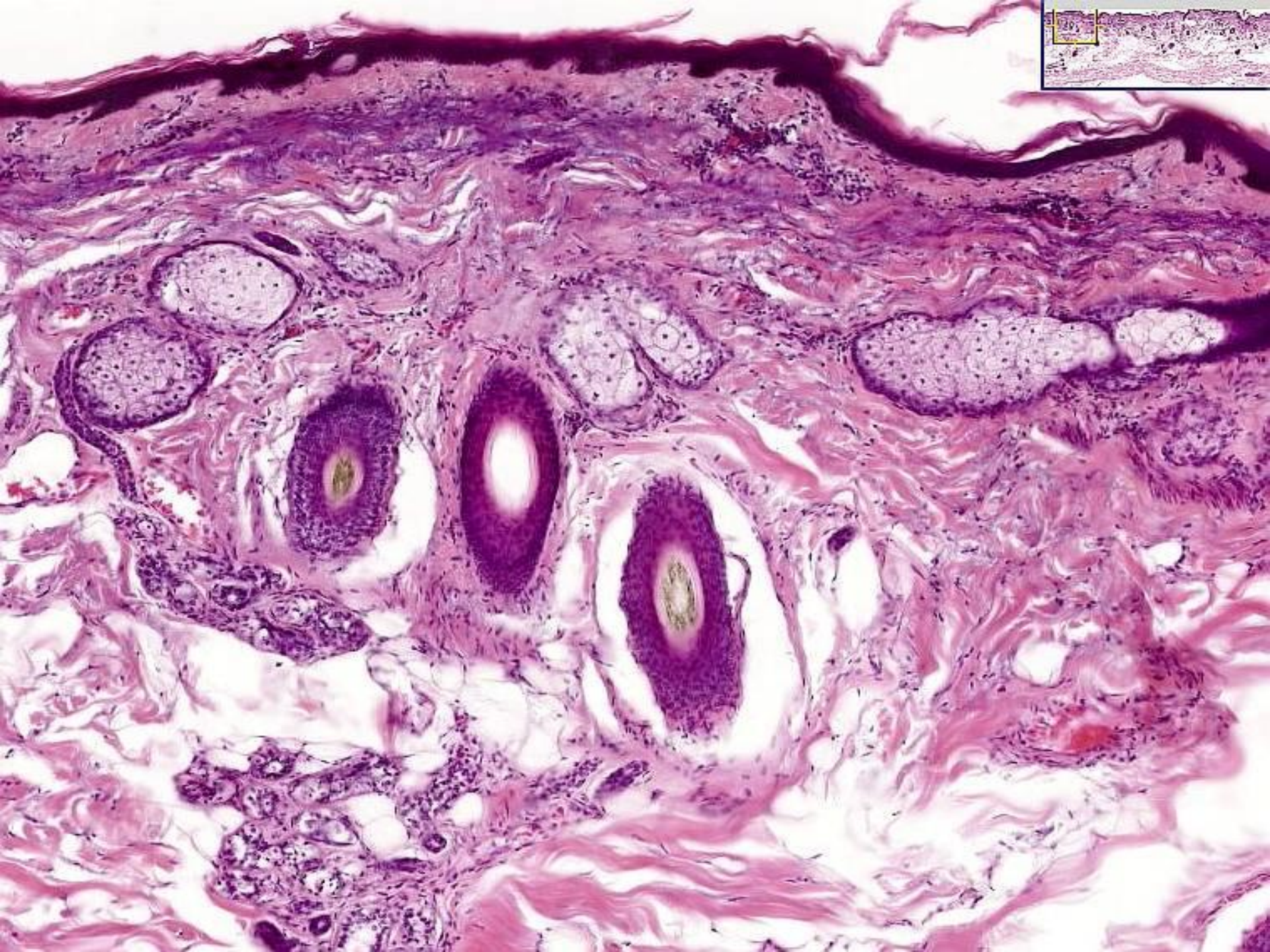
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NORMAL SKIN



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 up to 5 mm in diameter characterized by flatness and usually discolored (often red)

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

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

Nodule: Elevated lesion with spherical contour greater than 5 mm across.

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

Vesicle: Fluid-filled raised lesion 5 mm or less across.

Bulla: Fluid-filled raised lesion greater than 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, platelike 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

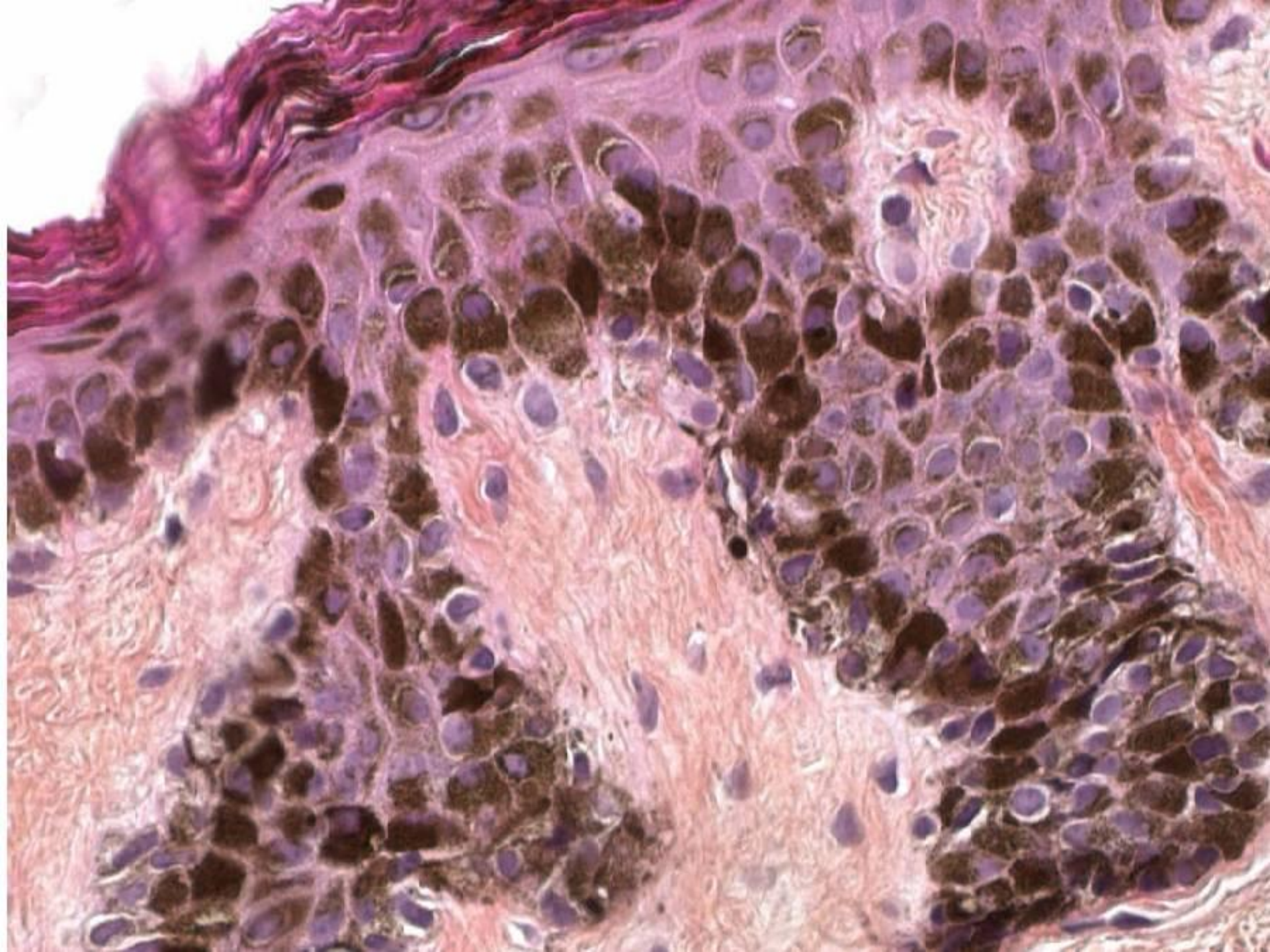
- VITILIGO
- FRECKLE (EPHELIS)
- MELASMA
- LENTIGO
- NEVUS
- “DYSPLASTIC” NEVUS
- MALIGNANT MELANOMA







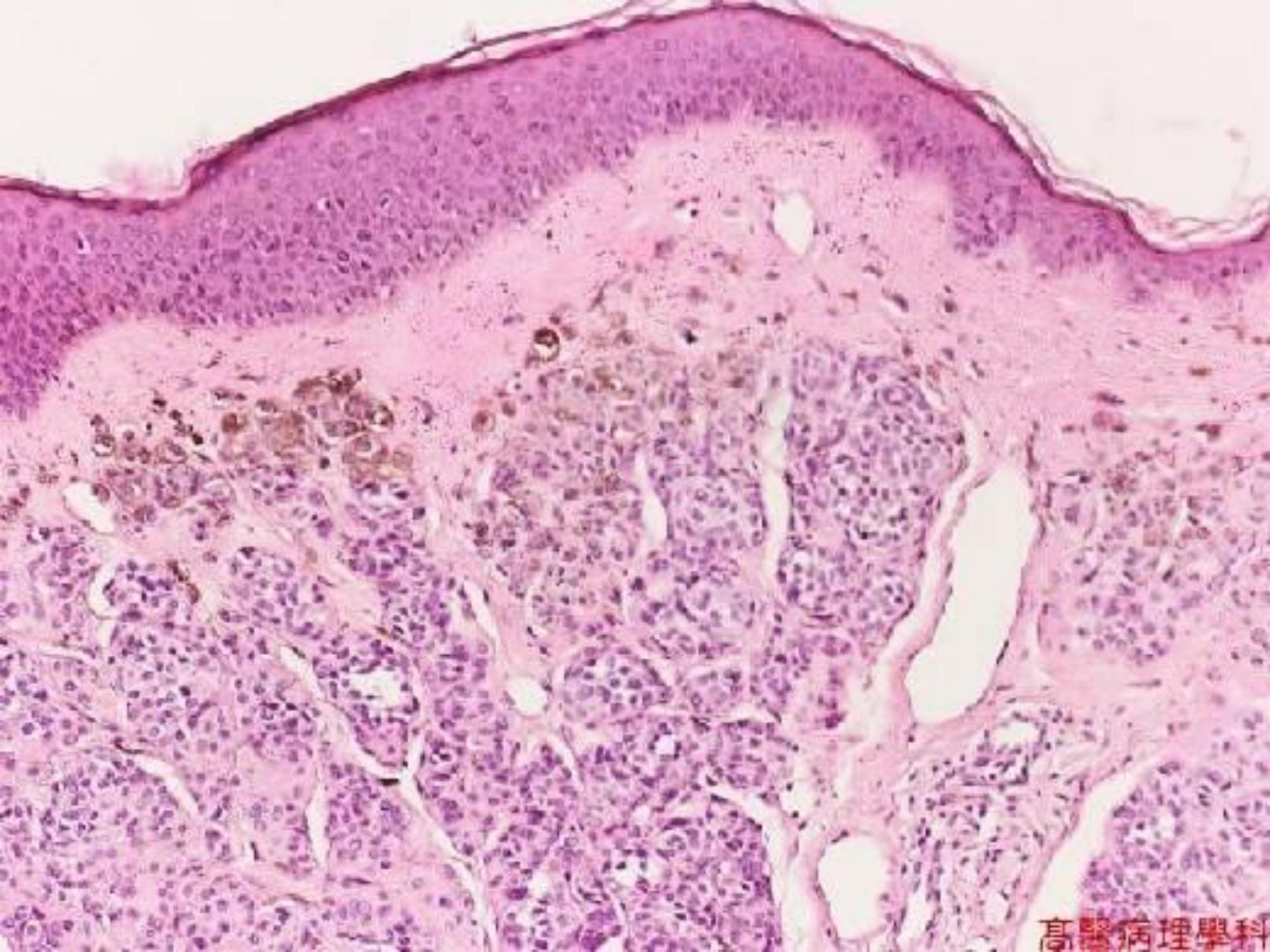




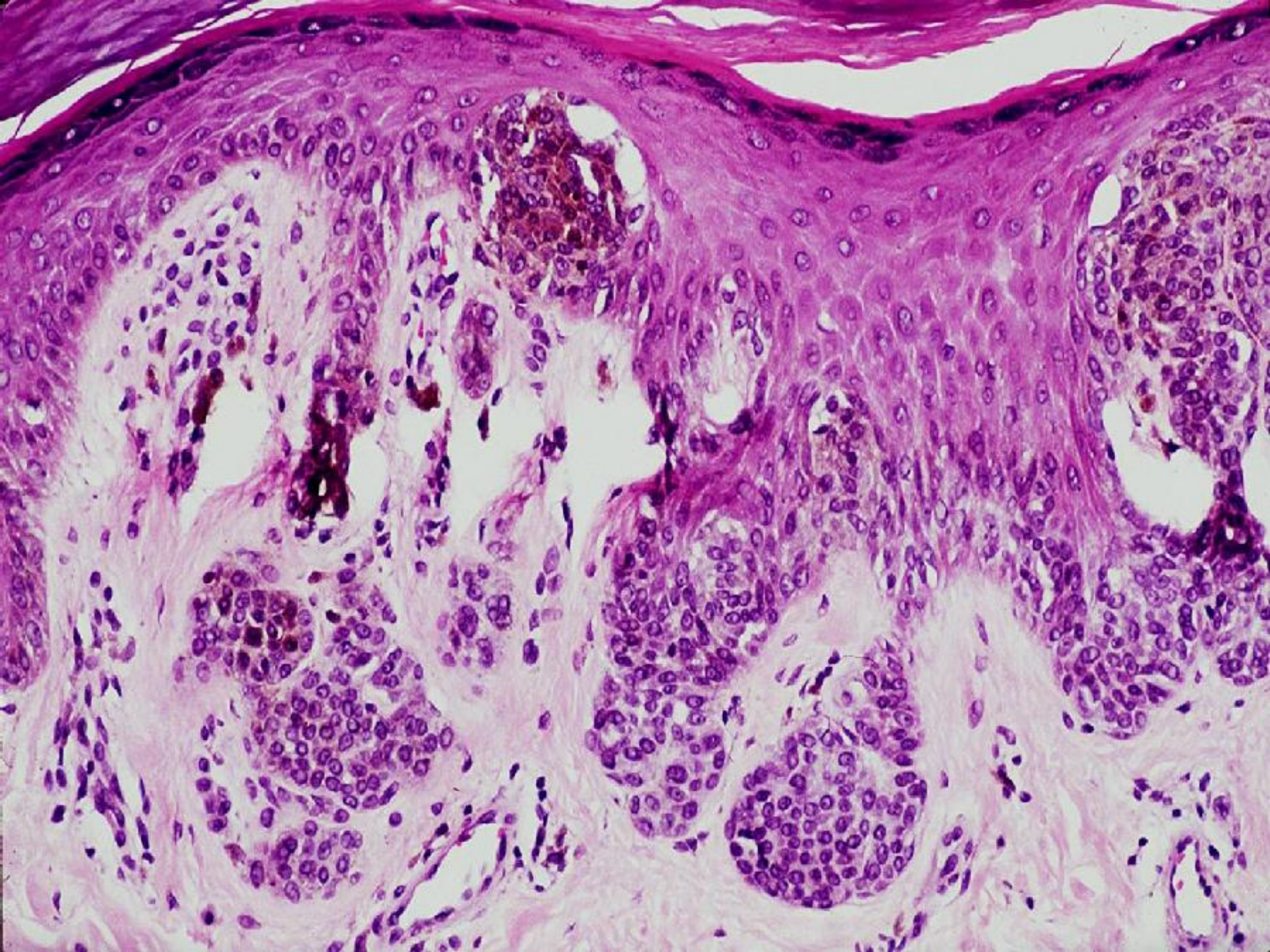
NEVI

- Many, many adjectives and classifications.
- The MAIN things to differentiate from melanomas
- **Junctional** (more pigmented, more closely associated with melanoma)
- **Intradermal**
- **Compound** (both)





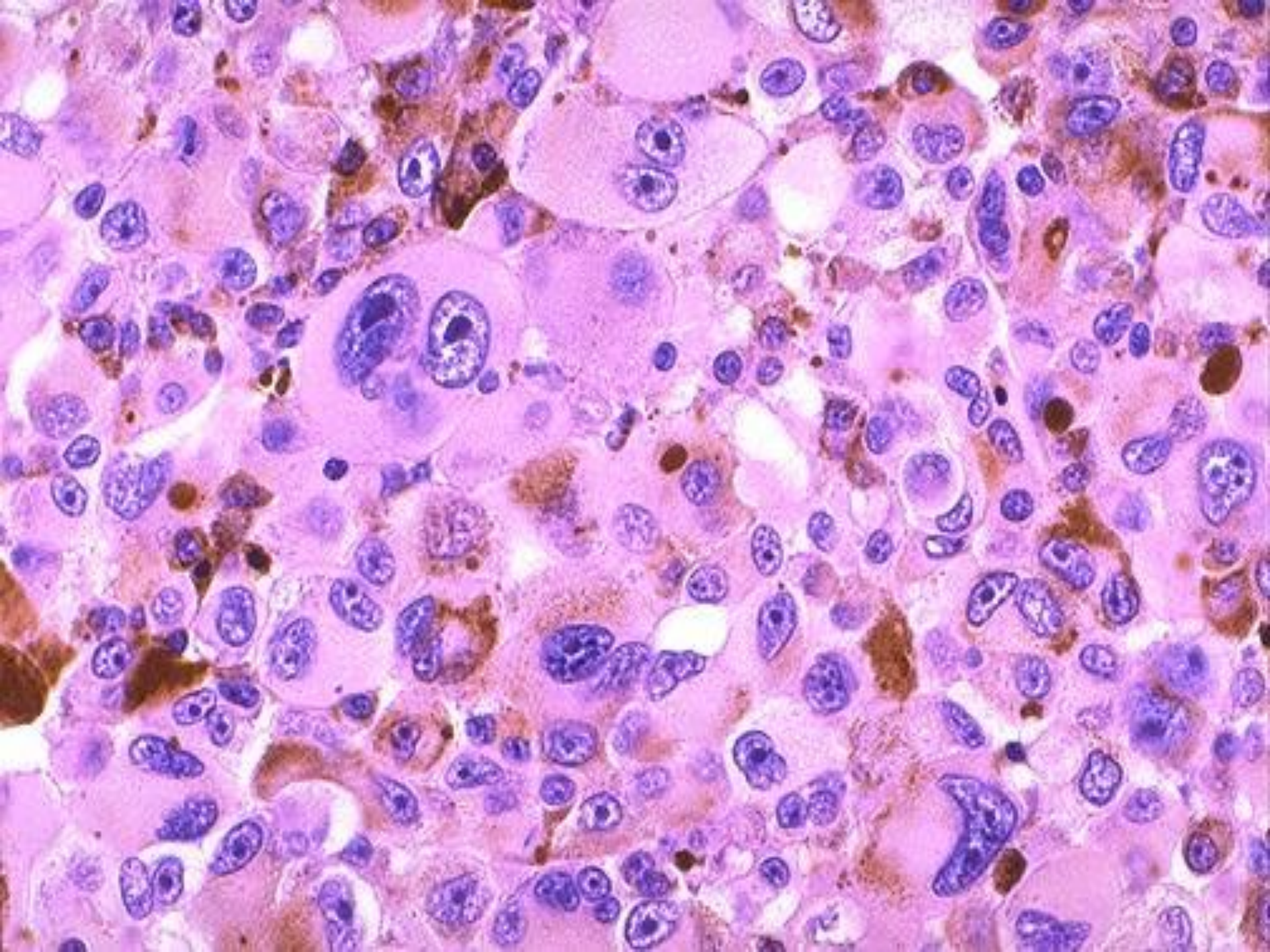




MALIGNANT MELANOMA

- 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

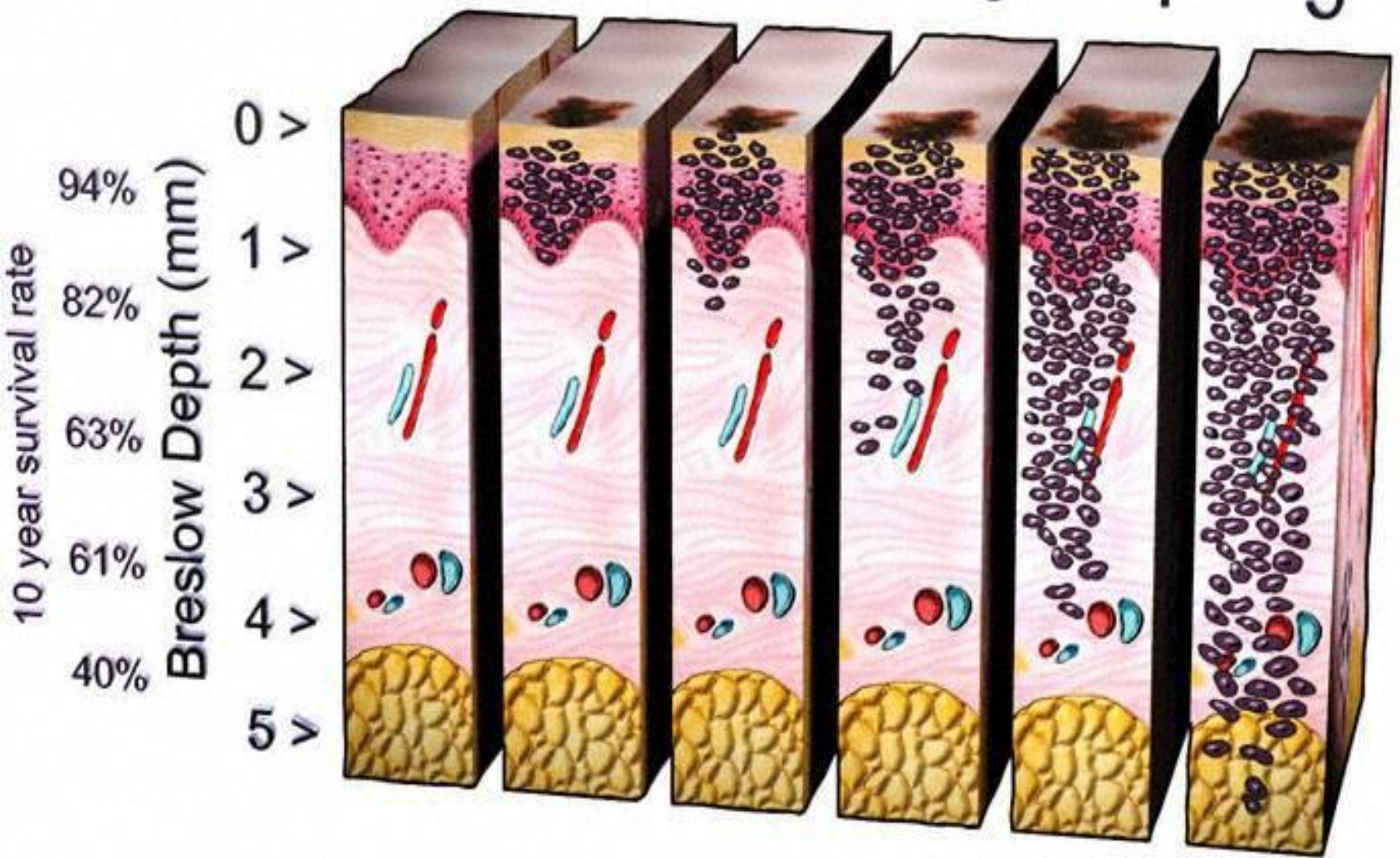




10 year survival rate

93% 71% 59% 36%

Clark's Levels 1 2 3 4 5



BENIGN Epidermal Tumors

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



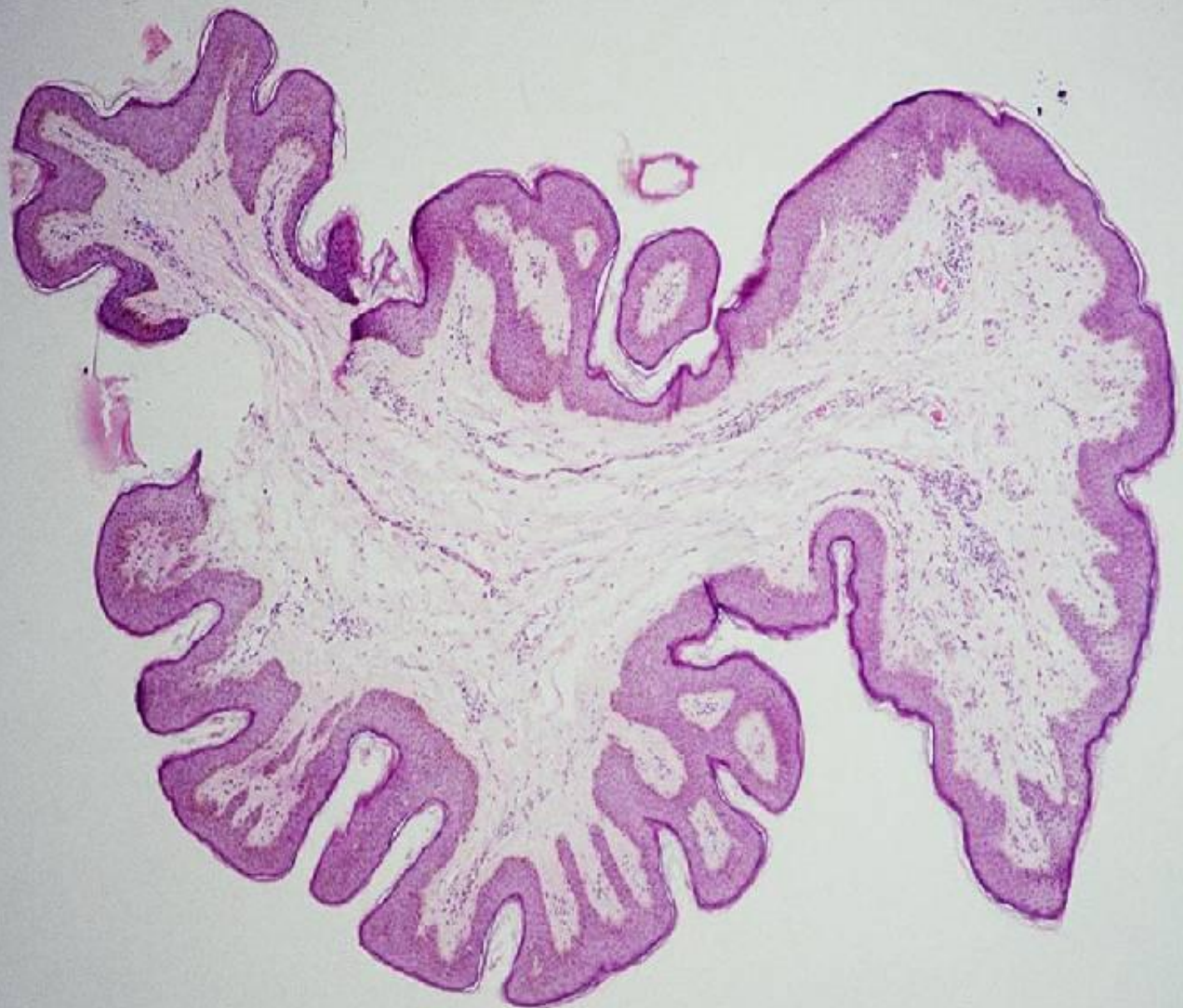


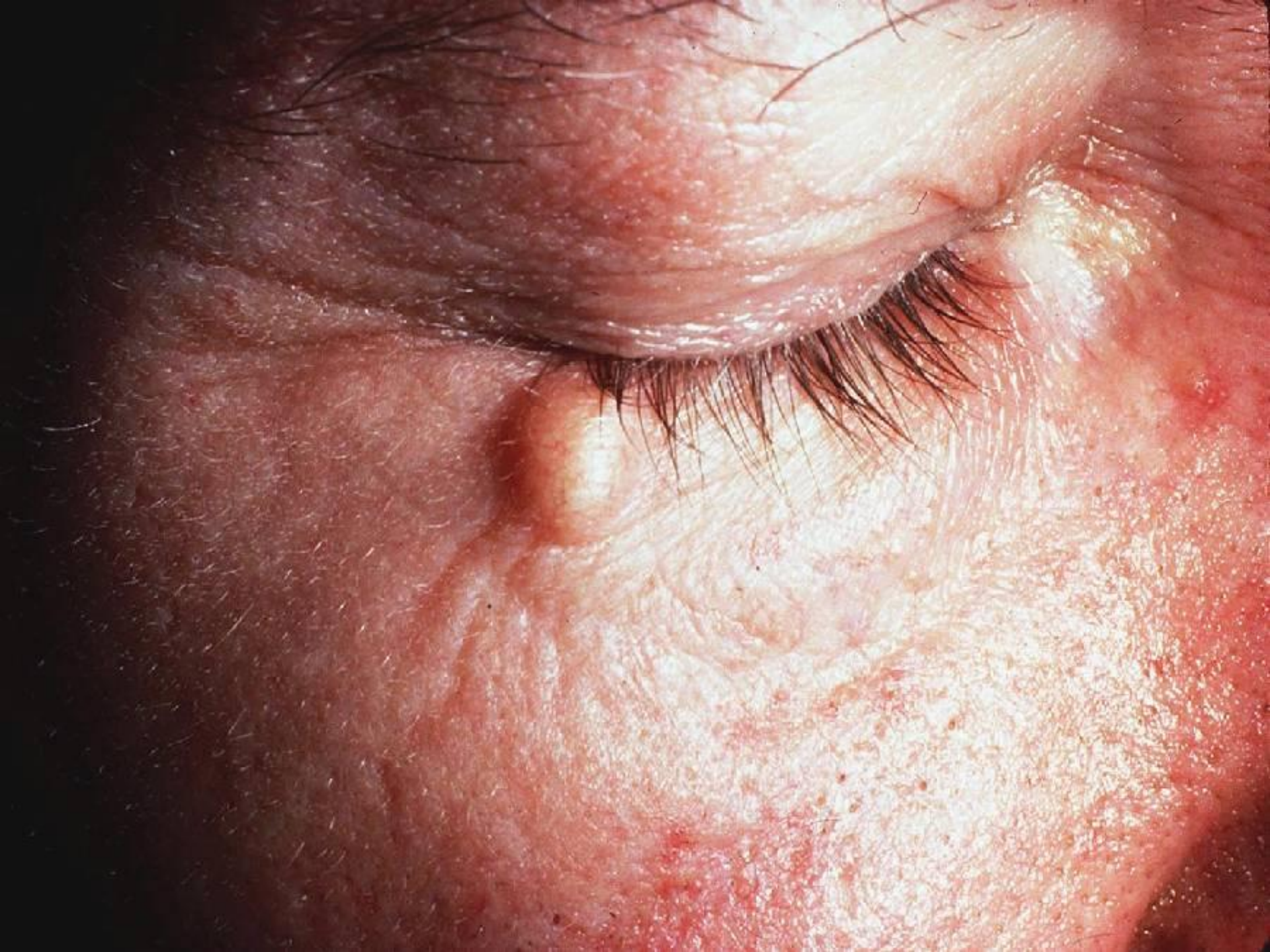


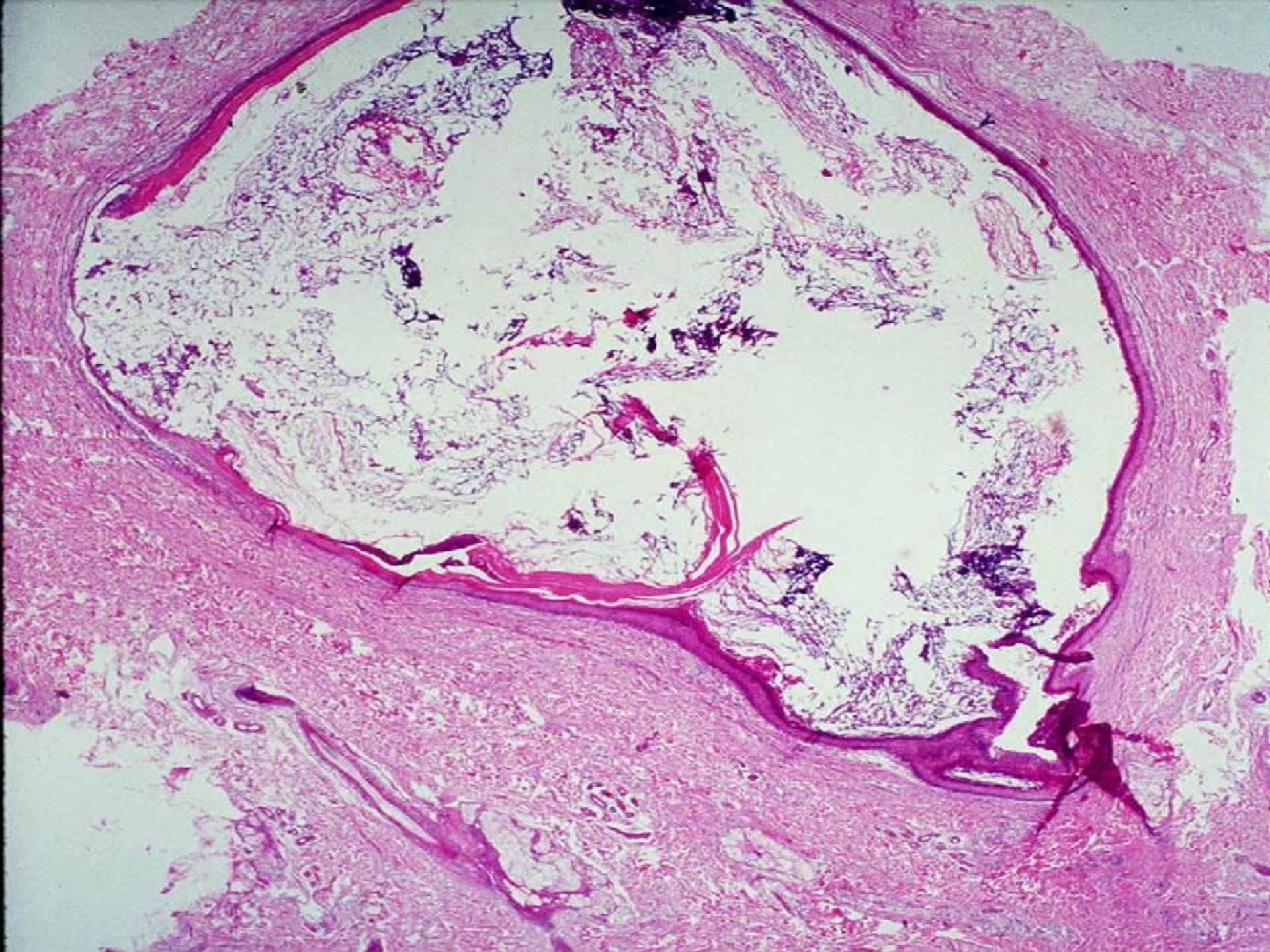










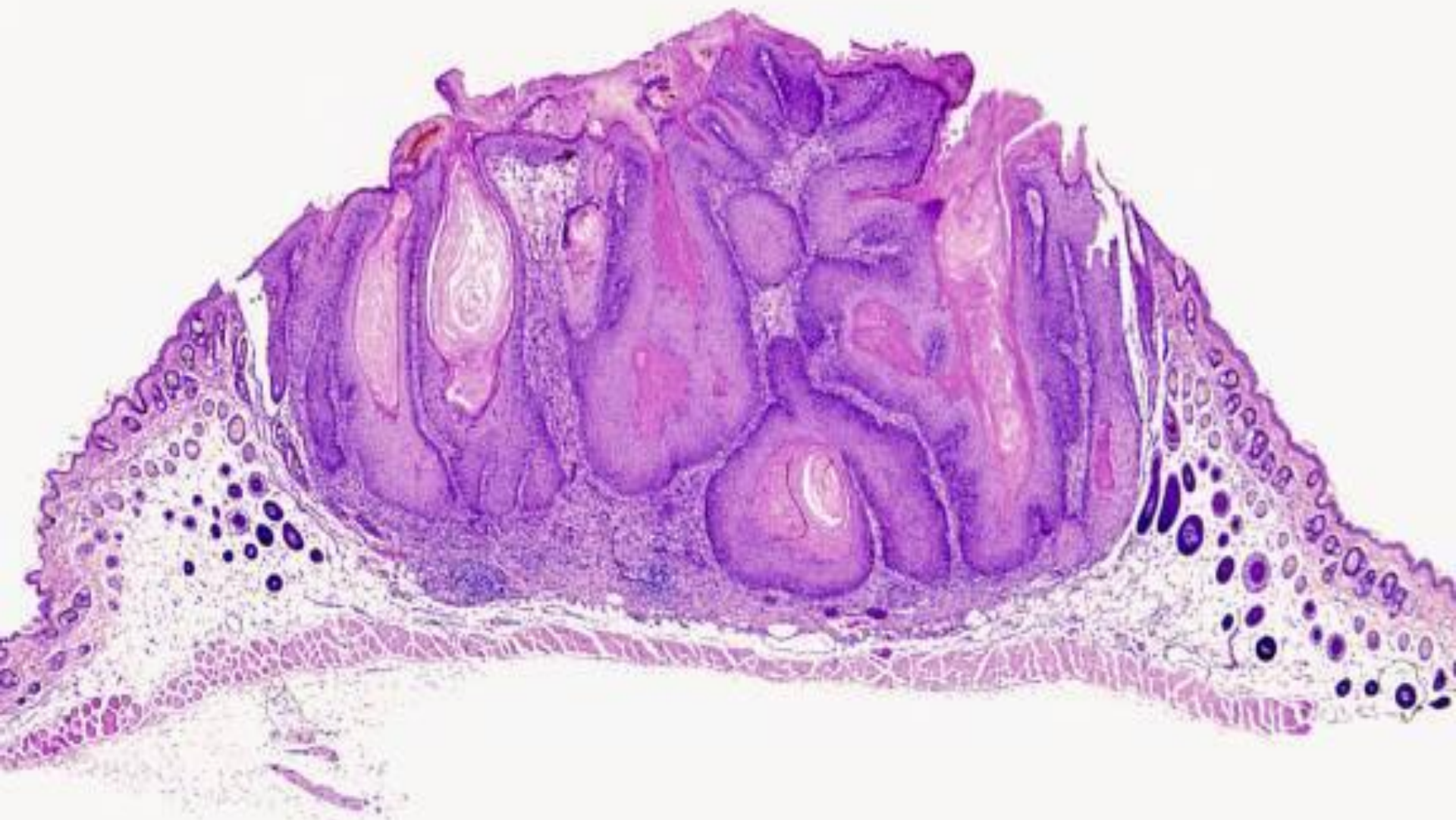


ADNEXAL TUMORS

- HAIR FOLLICLES
- SEBACEOUS GLANDS
- SWEAT GLANDS
 - ECCRINE
 - APOCRINE







PREMALIGNANT/MALIGNANT

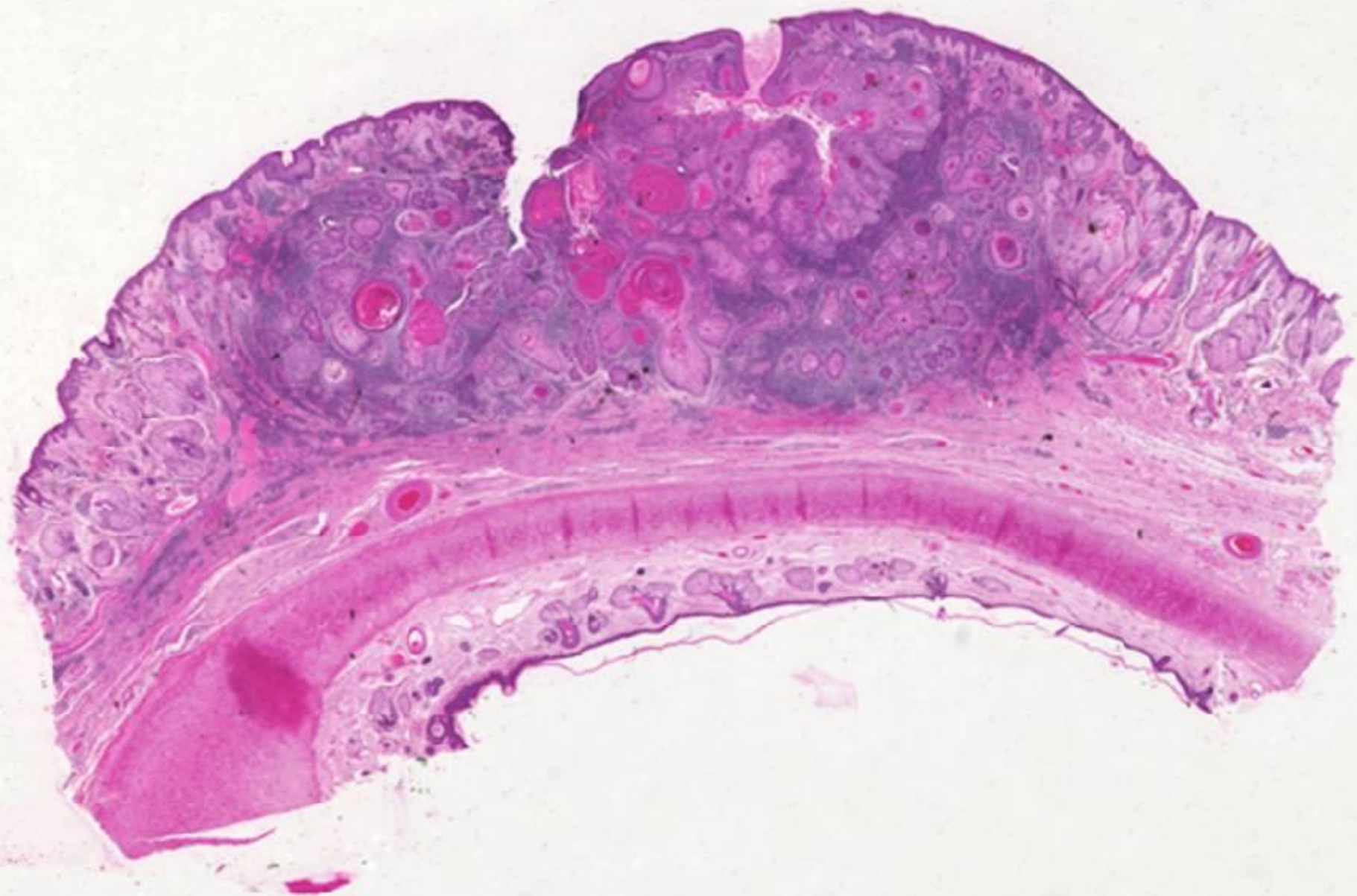
- **ACTINIC** (Solar) **KERATOSIS**, i.e. precursor to SCC
- **SQUAMOUS CELL CARCINOMA**, squamous “pearls”, intercellular bridges
- **BASAL CELL CARCINOMA**, by far, **MOST COMMON**, **BLUE** palisading nests
- **MERKEL CELL CARCINOMA (TUMOR)**, **VERY MALIGNANT AND LETHAL**, LOOK LIKE SMALL CELL CA. OF LUNG

GENERAL COMMENTS

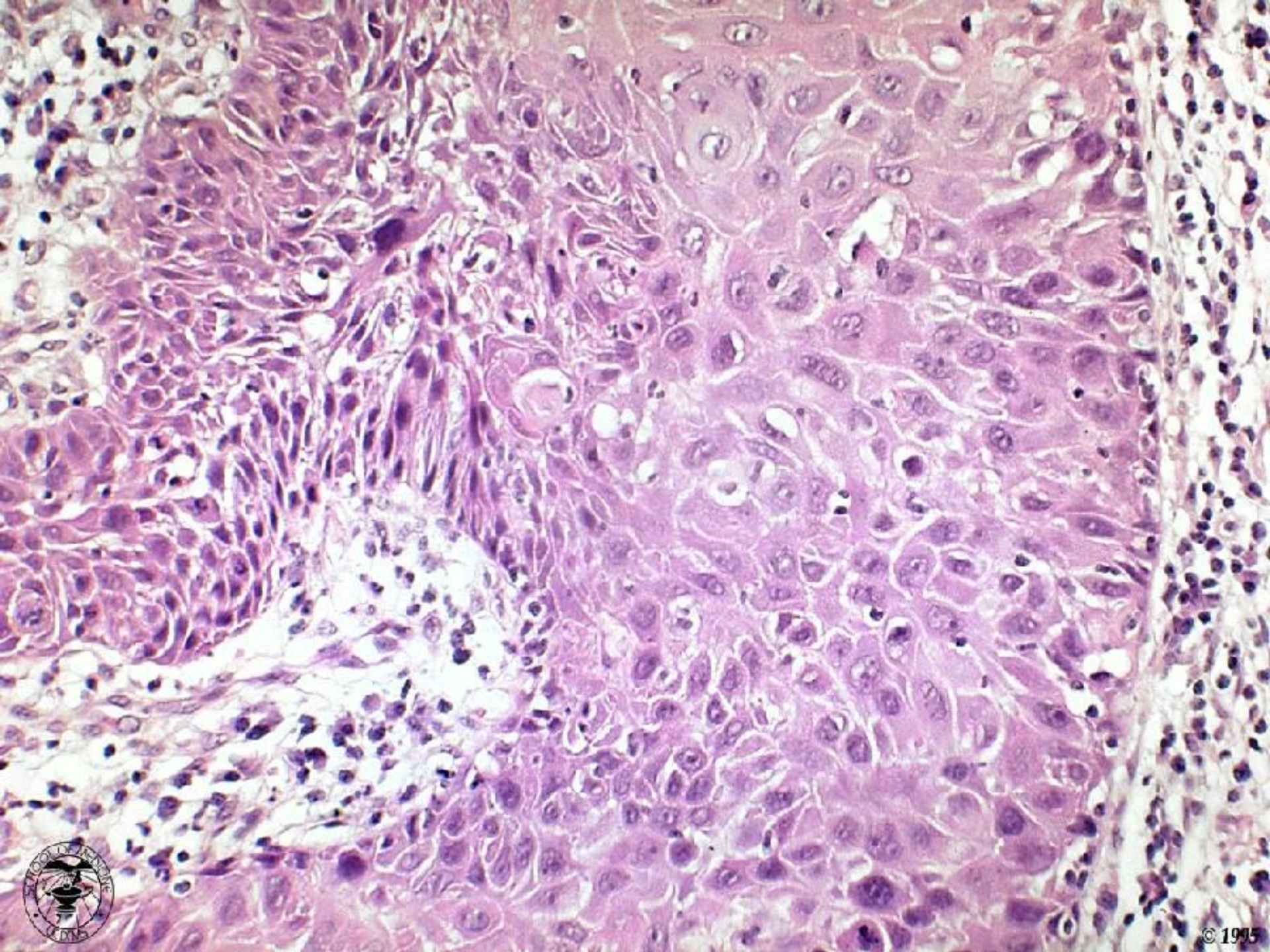
- **BOTH SCC and BCC related to SUN (i.e., radiation) exposure.**
- **SCC also related to As, carcinogens, chew, betel nut, HPV, familial, etc.**
- **BOTH SCC and BCC can do local damage but very rarely metastasize or kill.**
- **MERKEL CELL tumors metastasize early and extensively, like melanomas.**



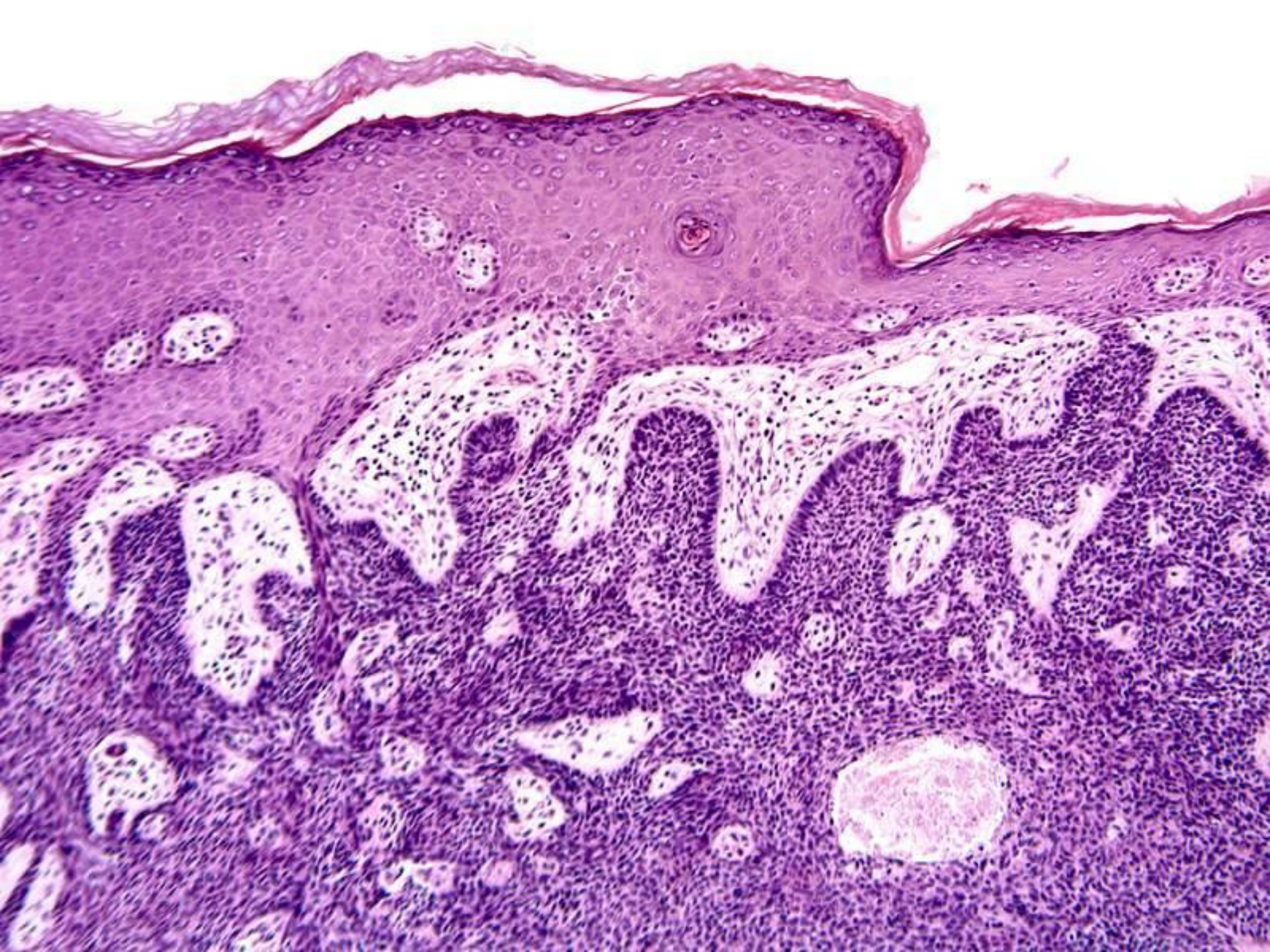


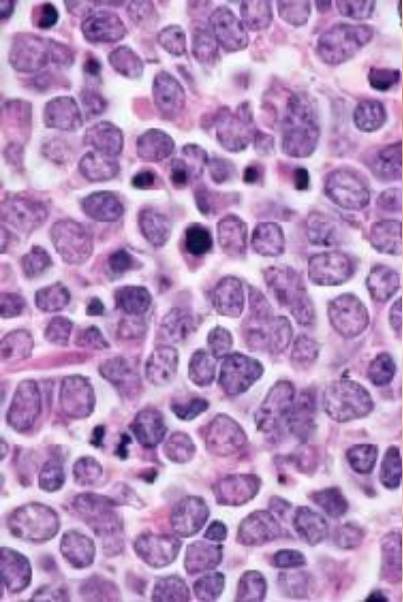








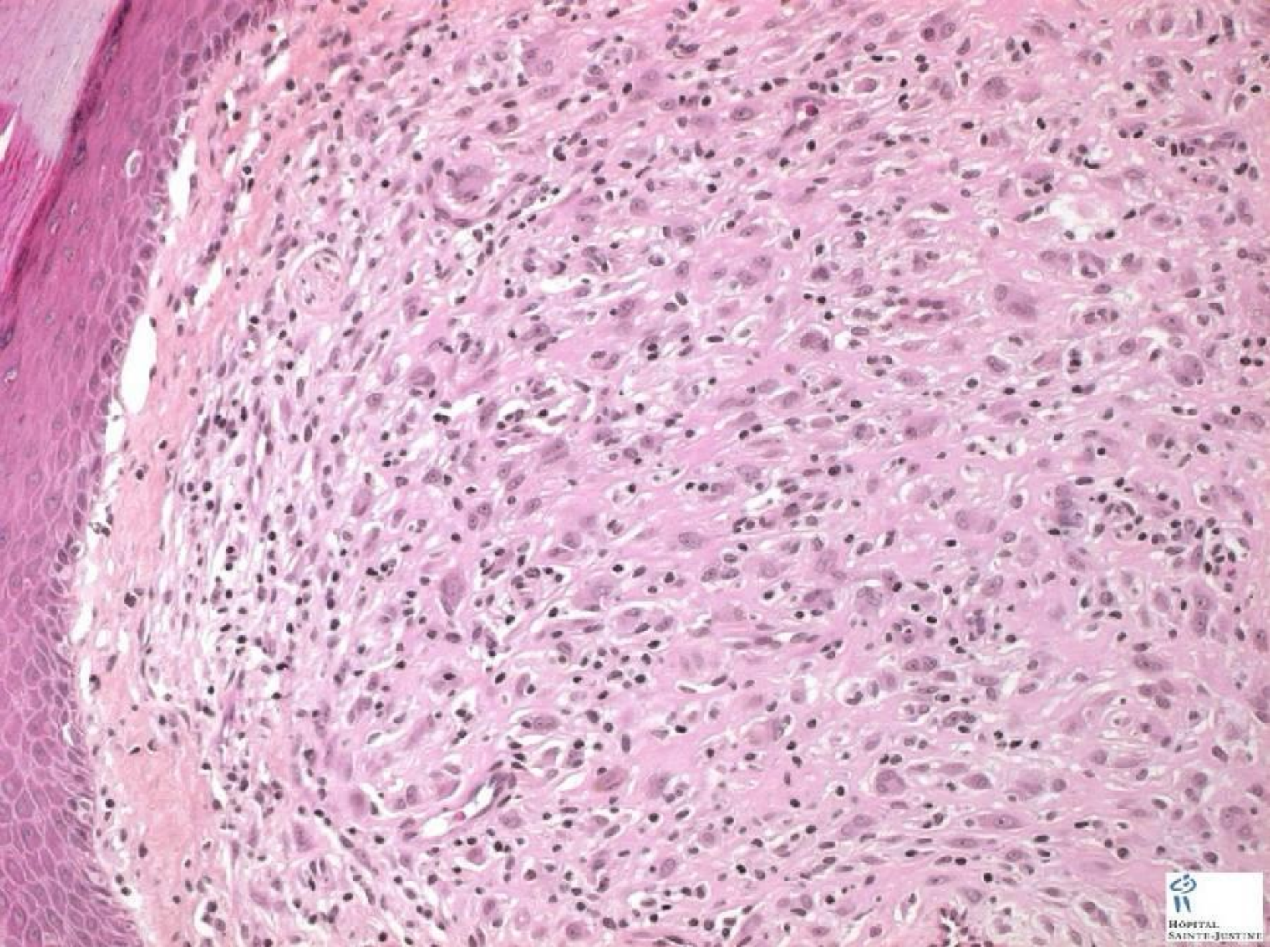




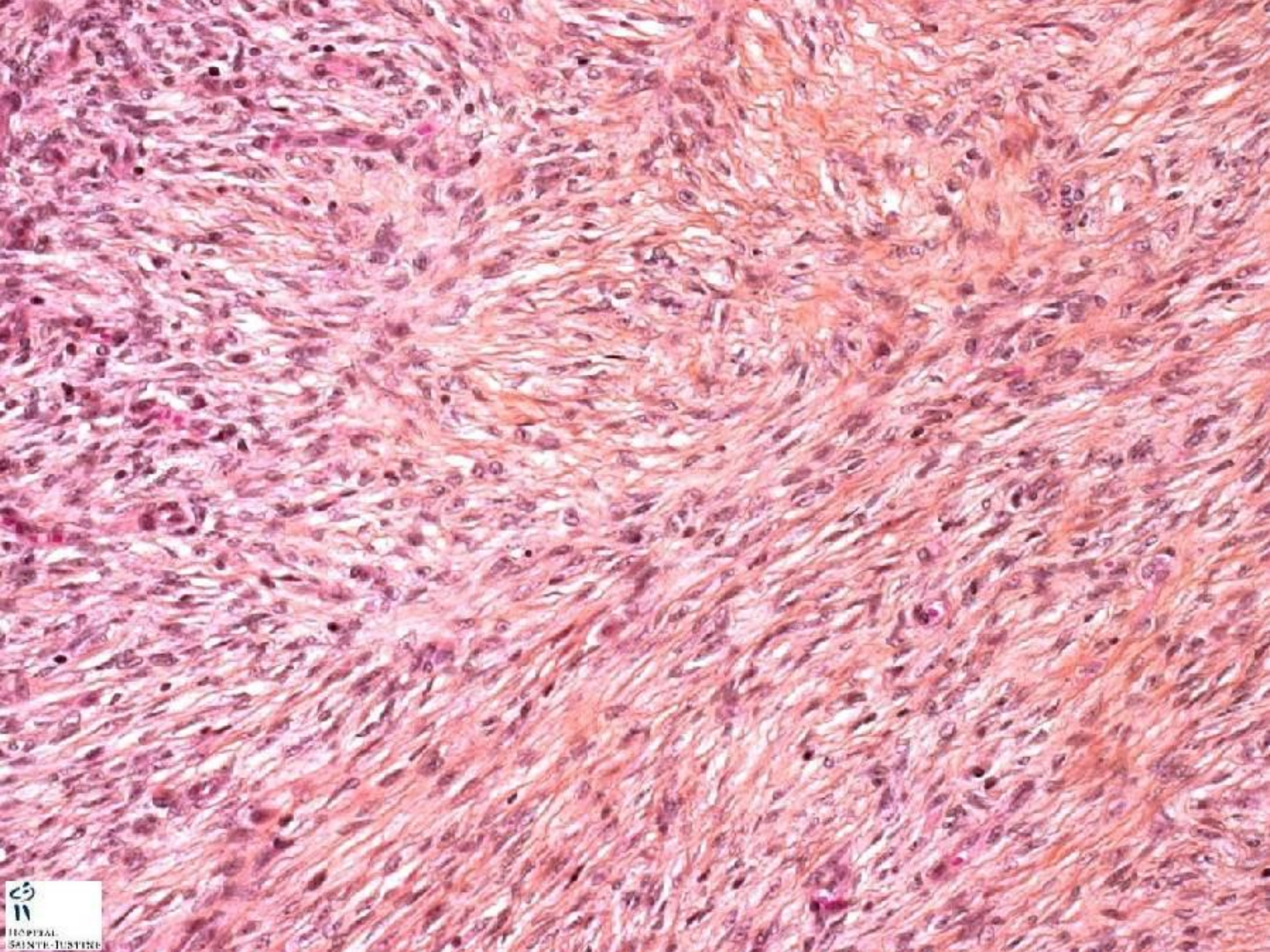
DERMIS TUMORS

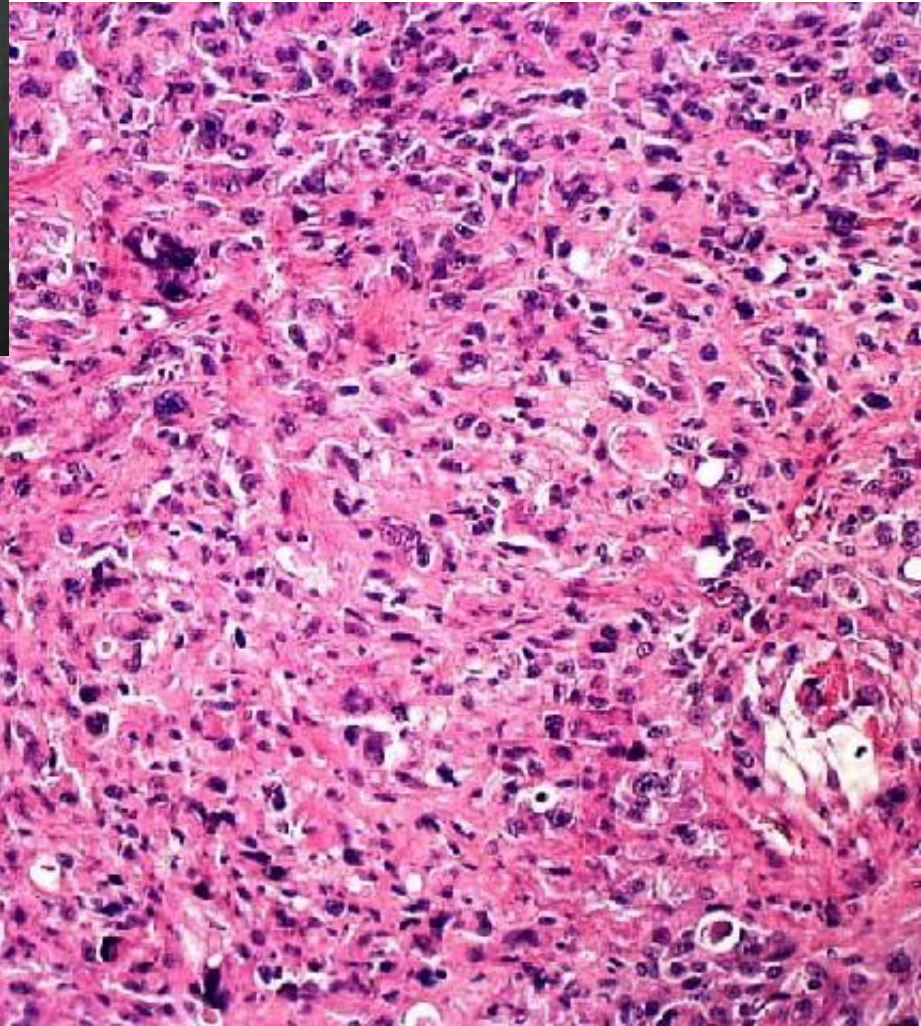
- **DERMATOFIBROMA (BENIGN FIBROUS HISTIOCYTOMA)**
- **DERMATOFIBROSARCOMA PROTUBERANS (DFP)**
- **MALIGNANT FIBROUS HISTIOCYTOMA (MFH)**
- **XANTHOMA**
- **VASCULAR TUMORS of various types**



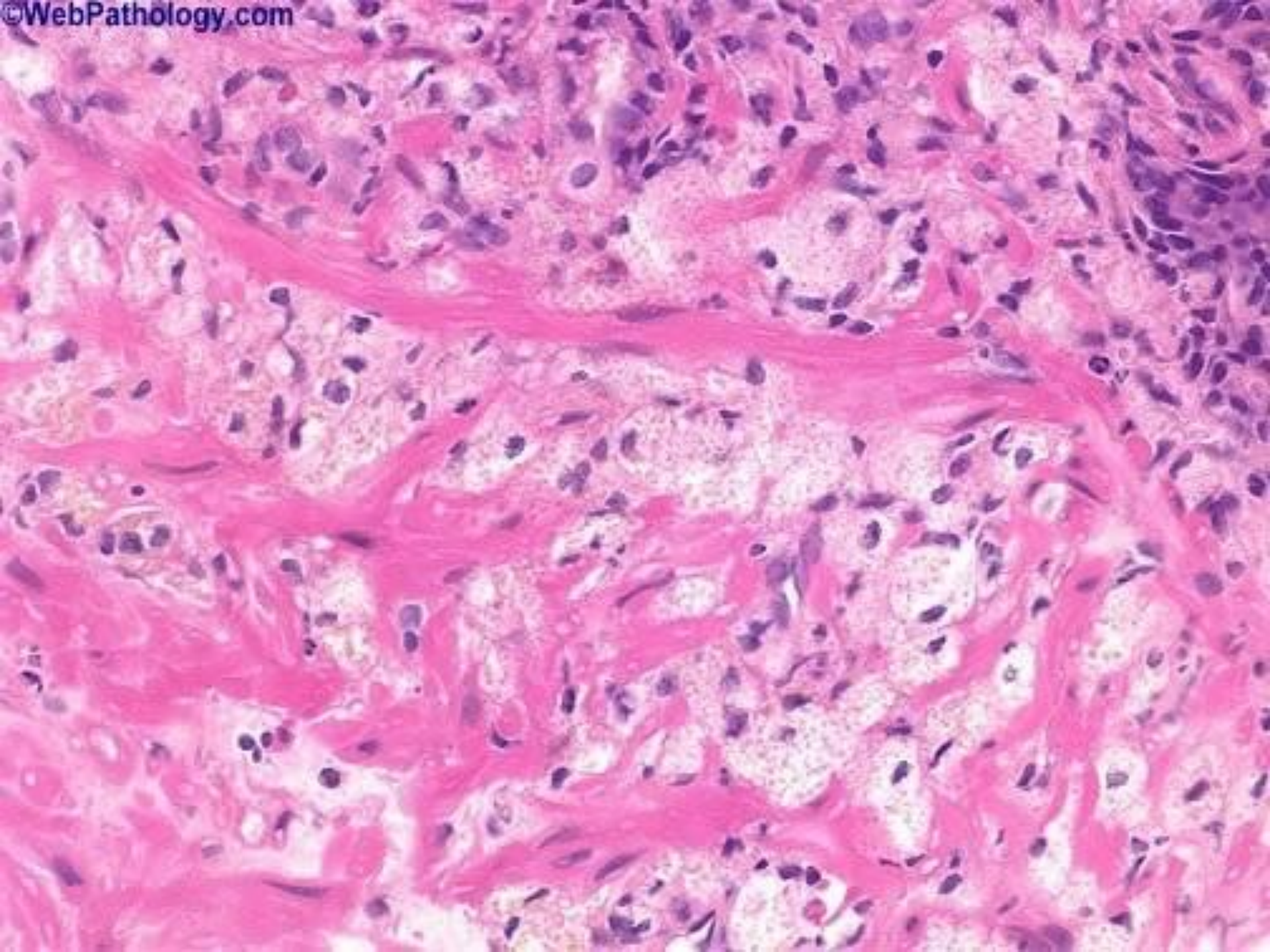


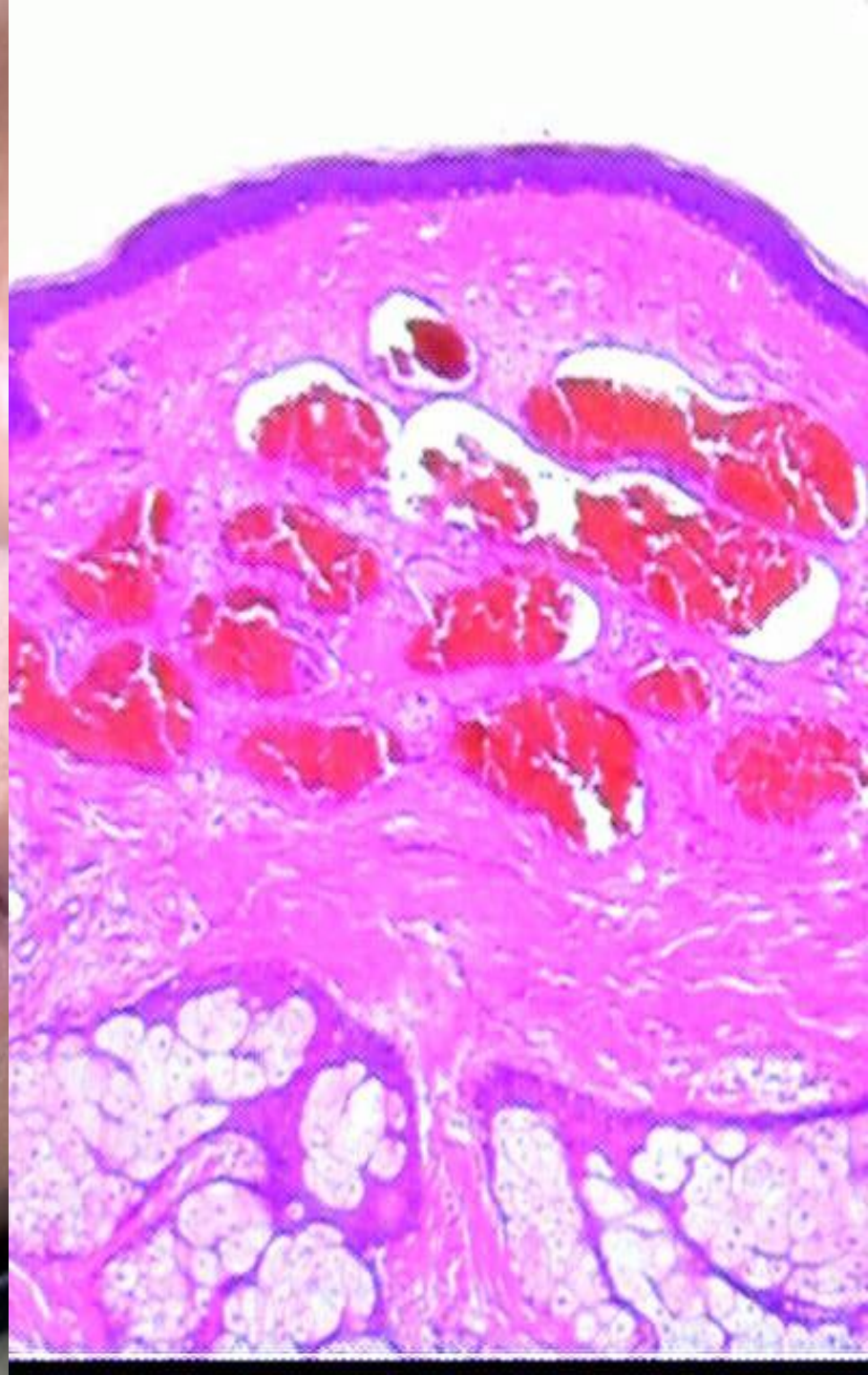


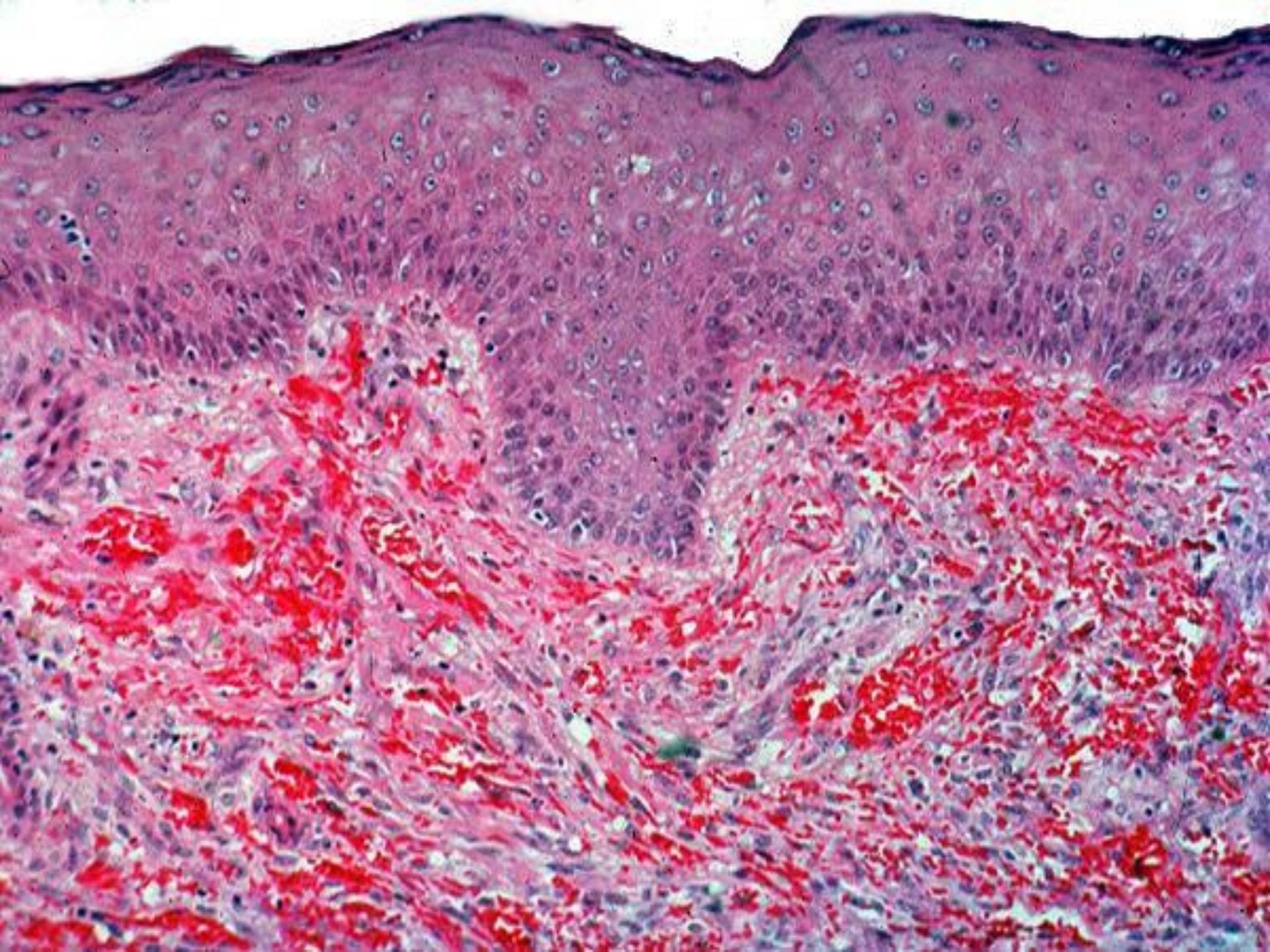










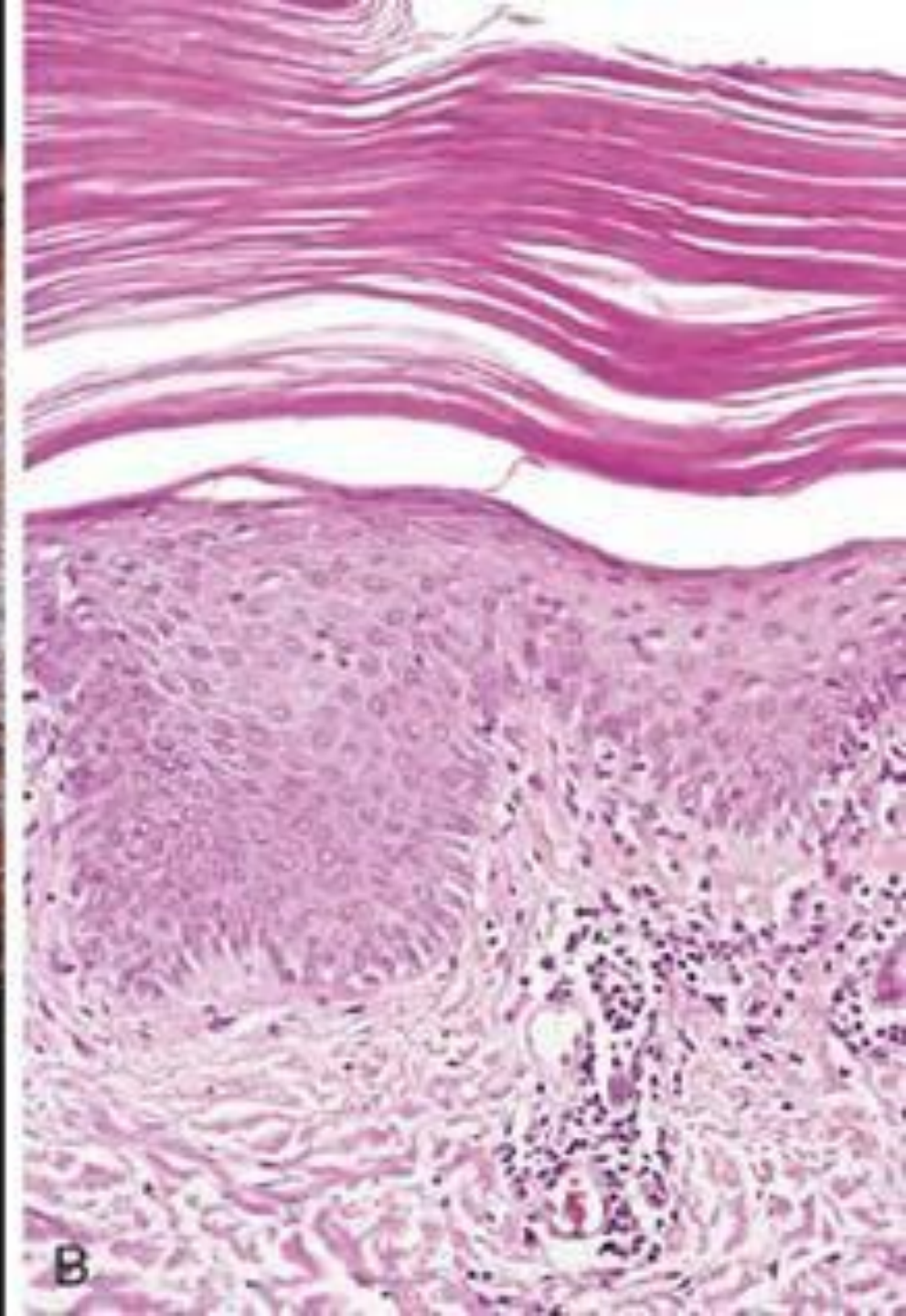


Cellular “Immigrants”

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



A



B

DERMATOSES

• ACUTE

- URTICARIA
(i.e., “HIVES”)
- ECZEMA
- ERYTHEMA
MULTIFORME

• CHRONIC

- PSORIASIS
- SEBORRHEIC
DERMATITIS
- LICHEN PLANUS
- LUPUS
ERYTHEMATOSUS

URTICARIA

- **DERMAL EDEMA**
- **DILATATION of VASCULAR SPACES**
- **EARLY PERIVASCULAR CUFFING OF INFLAMMATORY CELLS**

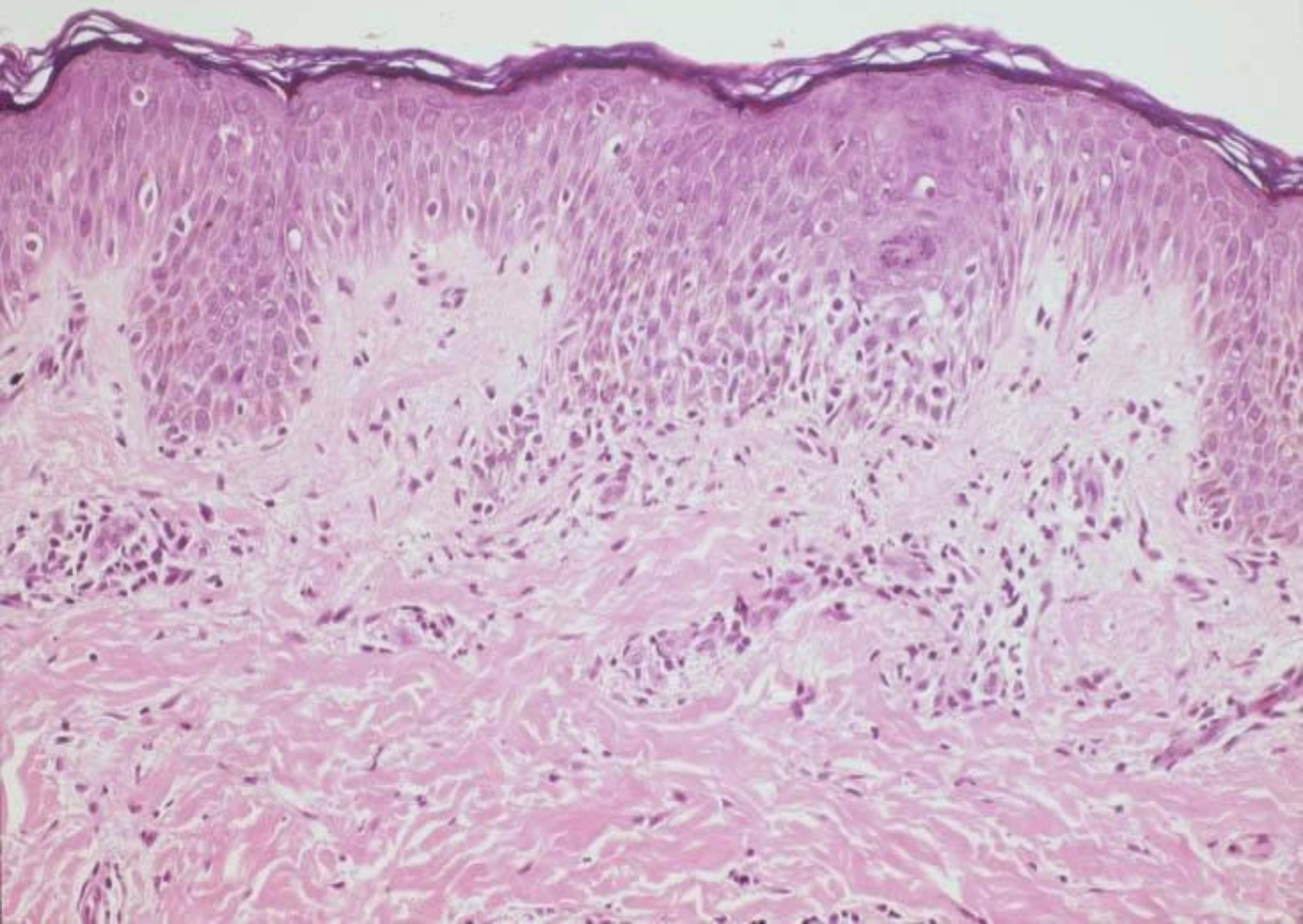


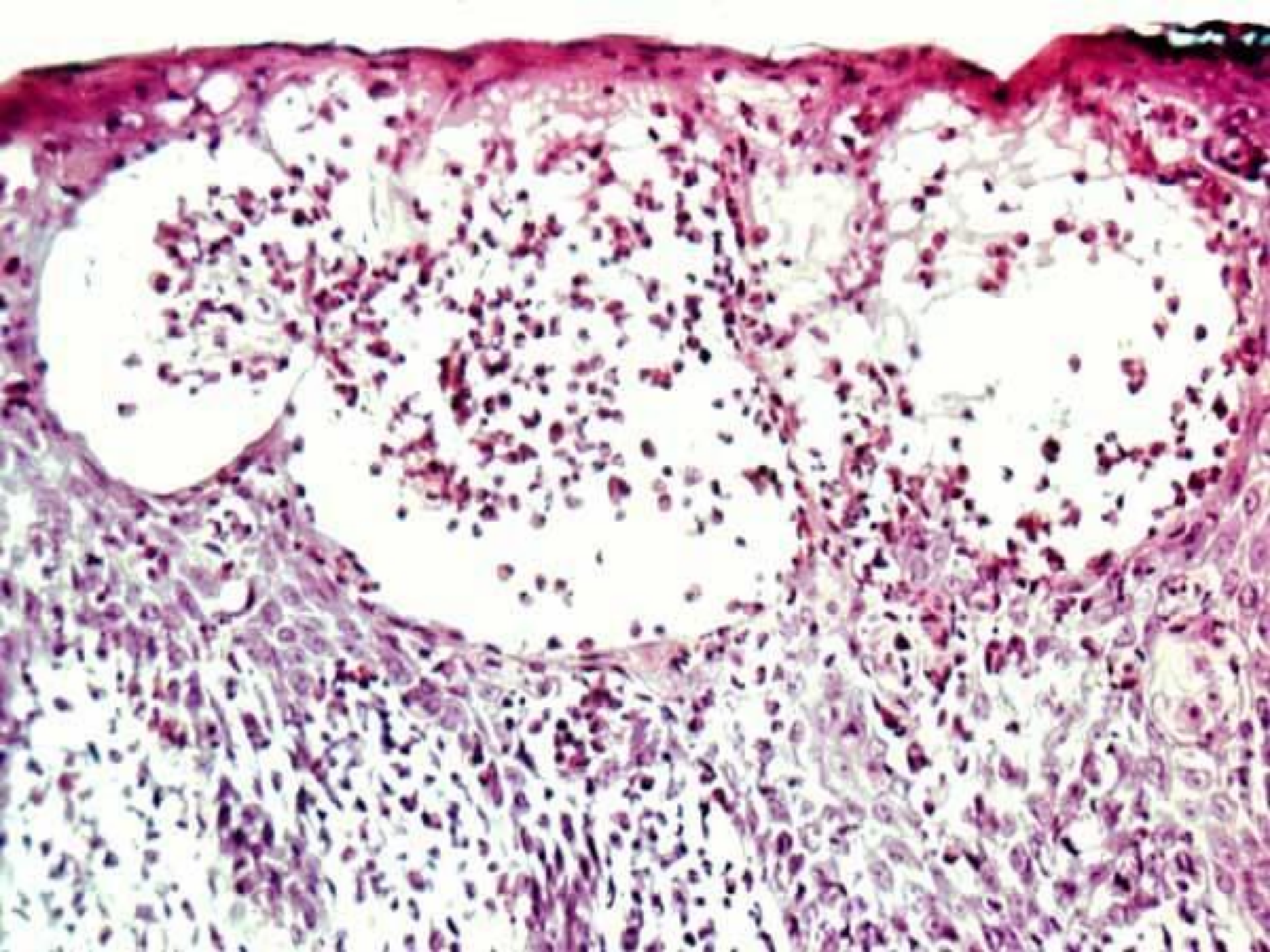
ECZEMA

(aka, acute eczematous dermatitis)

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









PSORIASIS

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



**SEBORRHEIC
DERMATITIS**

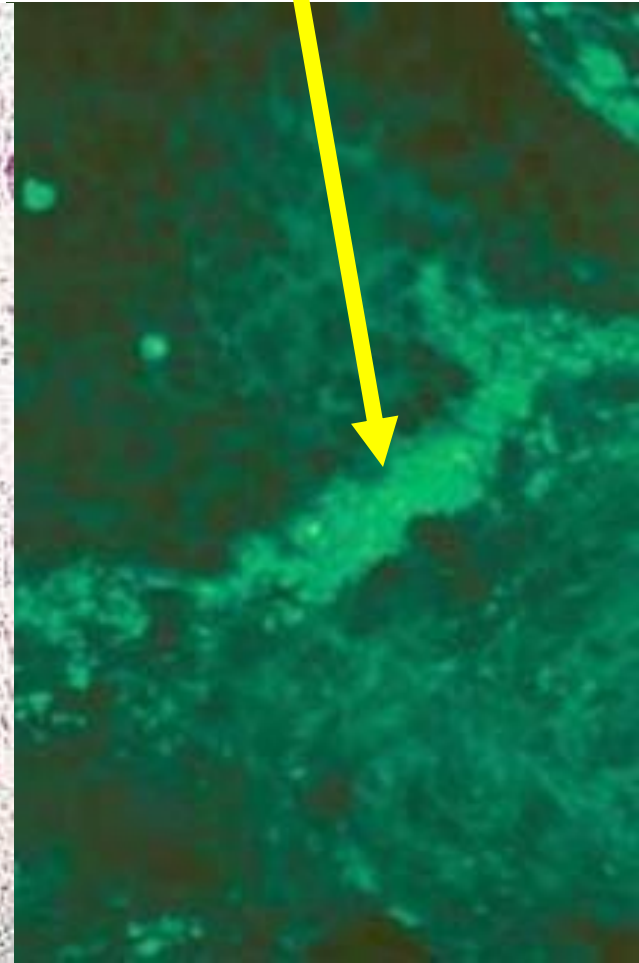
IN HIV



**LICHEN
PLANUS**



LUPUS





STASIS DERMATITIS



STASIS DERMATITIS



STASIS DERMATITIS



STASIS DERMATITIS

STASIS DERMATITIS



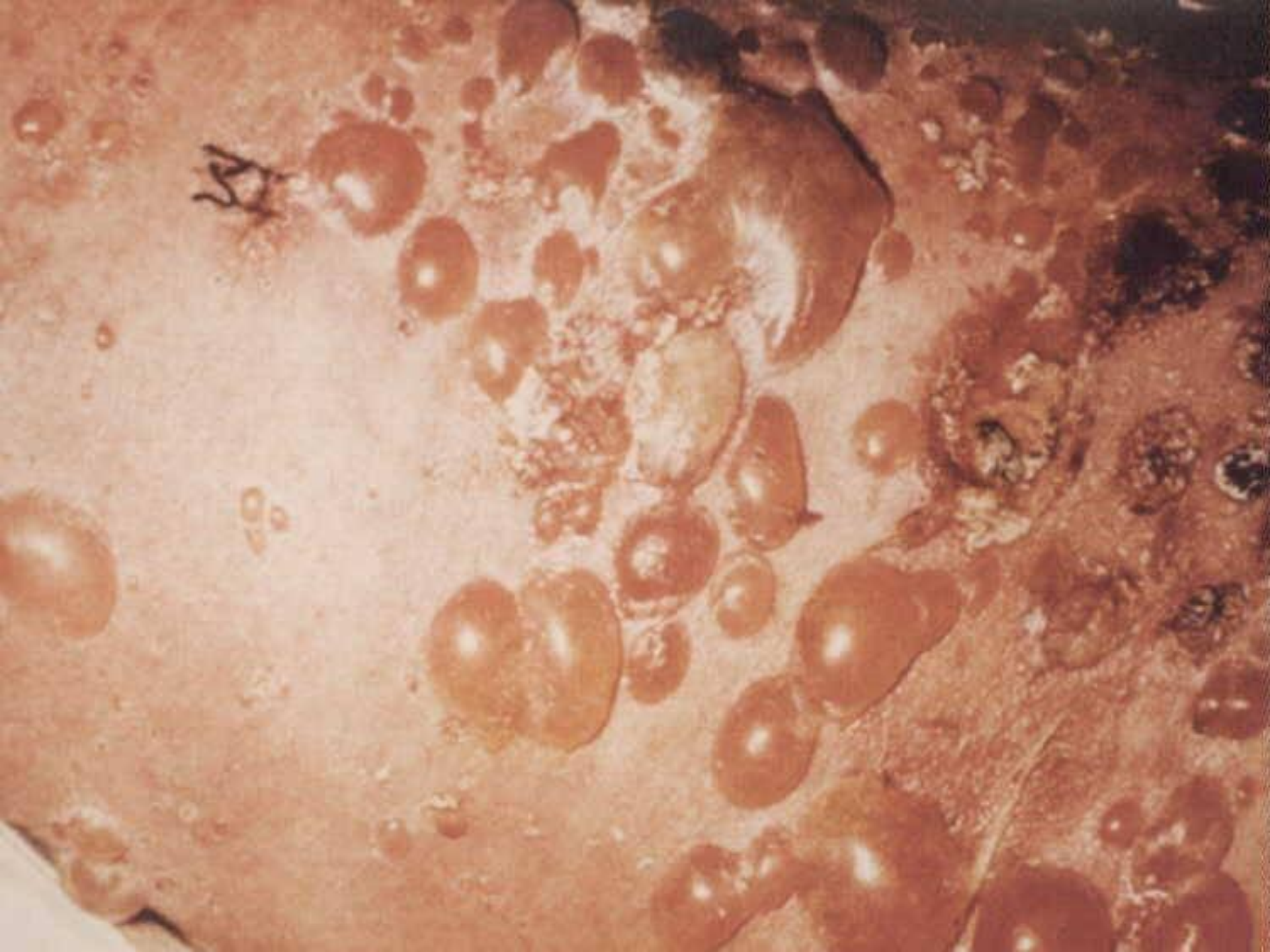
BULLOUS DISEASES

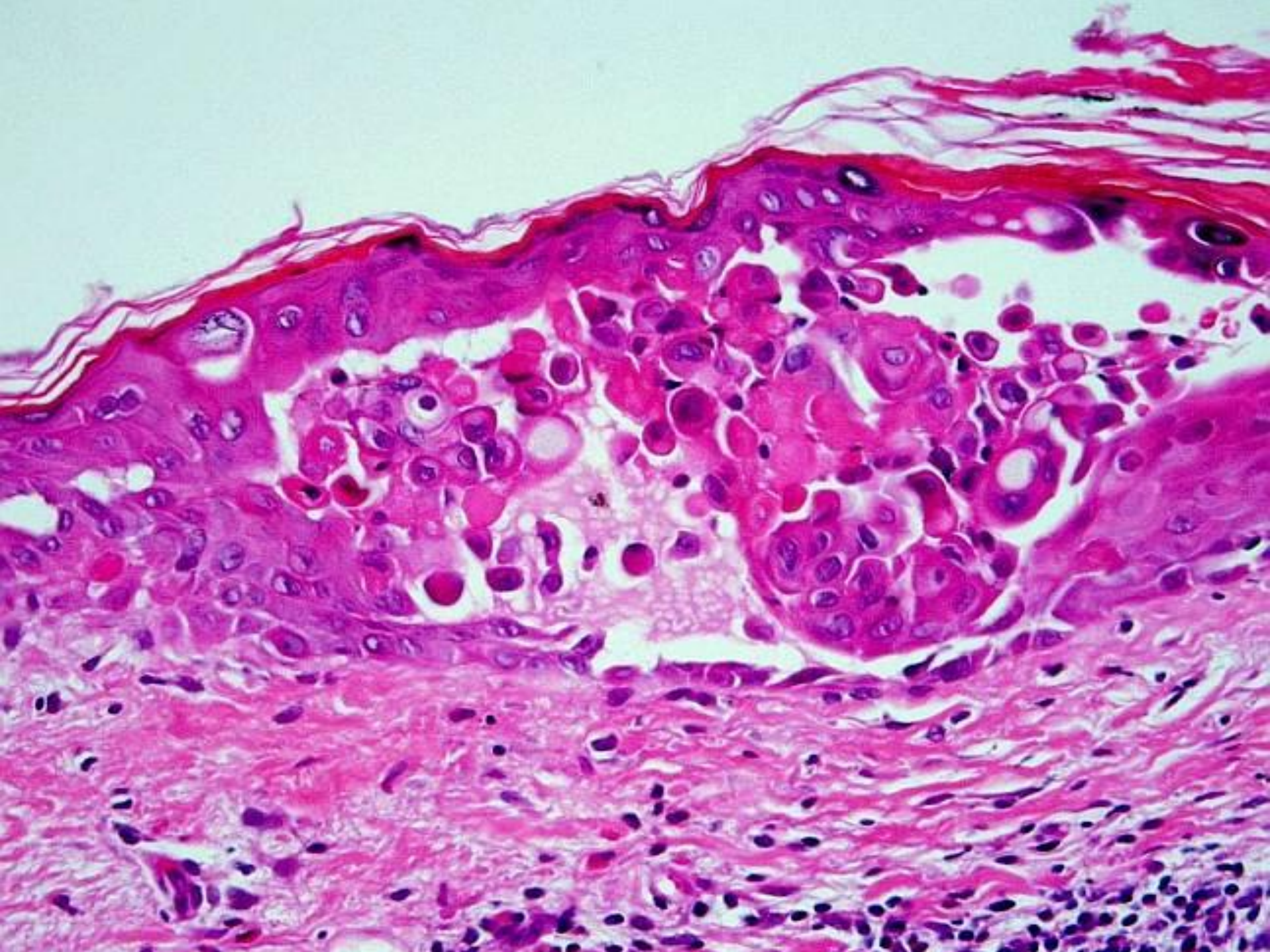
- **PEMPHIGUS** (VULGARIS)
- BULLOUS PEMPFIGOID
- DERMATITIS HERPETIFORMIS
- EPIDERMOLYSIS BULLOSA
- PORPHYRIA

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



8/22/98





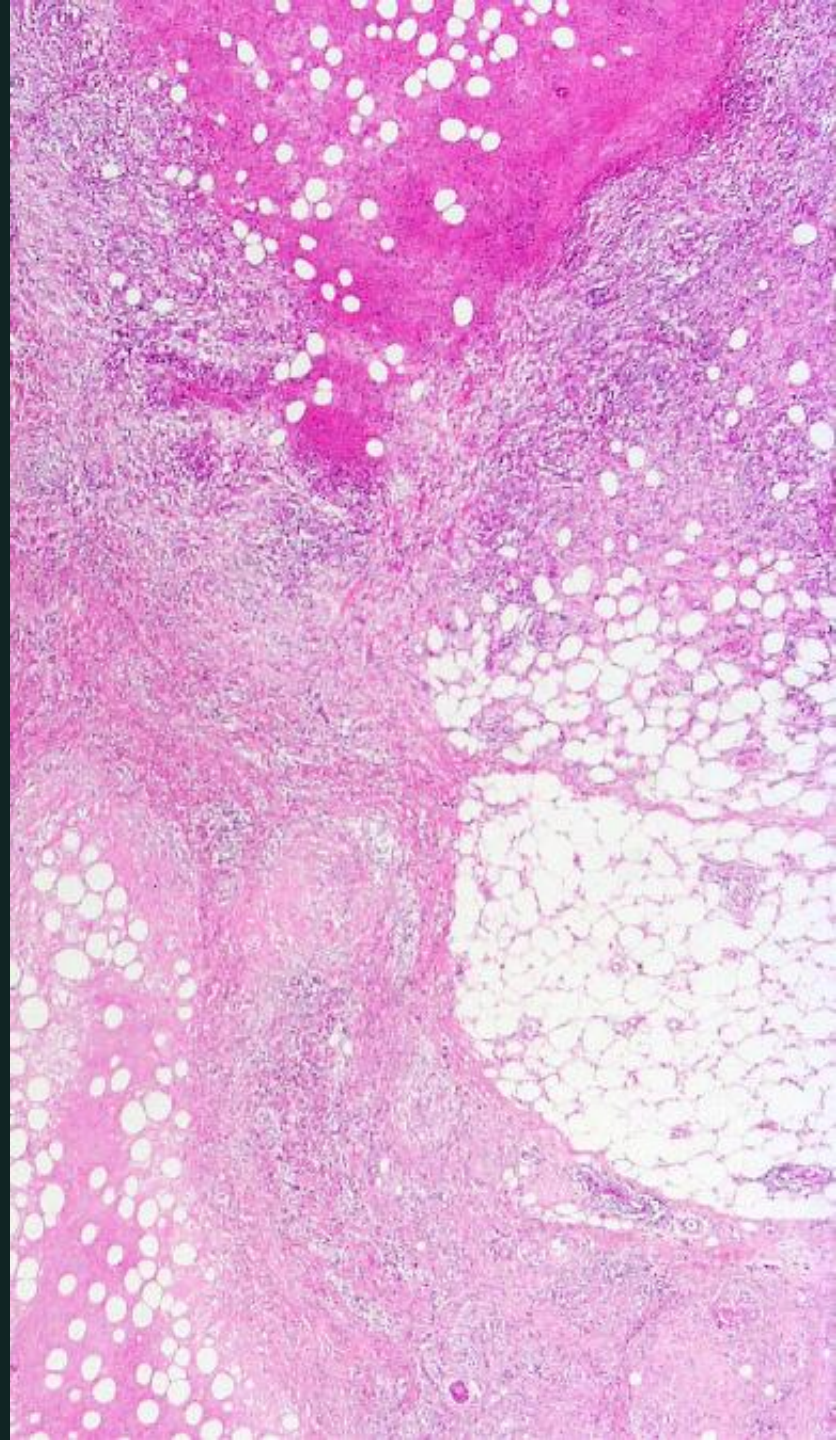
ACNE VULGARIS

- 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

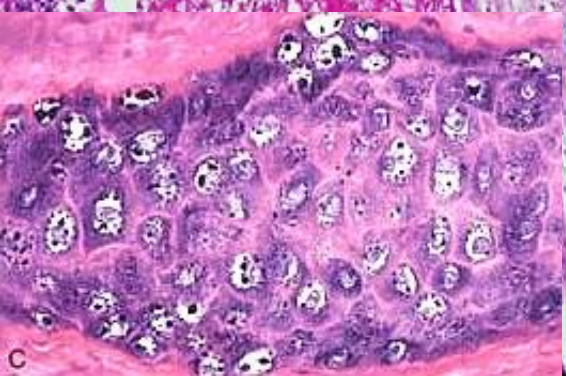
- **ERYTHEMA NODOSUM,**
(red nodules on legs)
- **ERYTHEMA INDURATUM**



INFECTION/INFESTATION

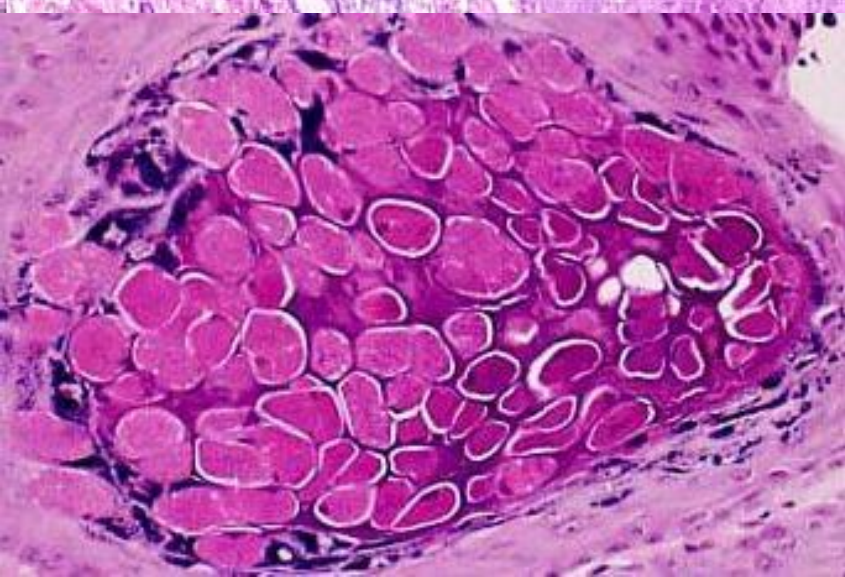
- **VERRUCAE**, viral (HPV)
- **MULLUSCUM CONTAGIOSUM**, viral
- **IMPETIGO**, bacterial, staph → strep
- **FUNGI**
- **ARTHROPODS**





C





RED → **PURPLE** → **BLUE**





TINEAS...

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

TINEAS

- **Trichophyton species**
- **Microsporum species**
- **Epidermophyton species**





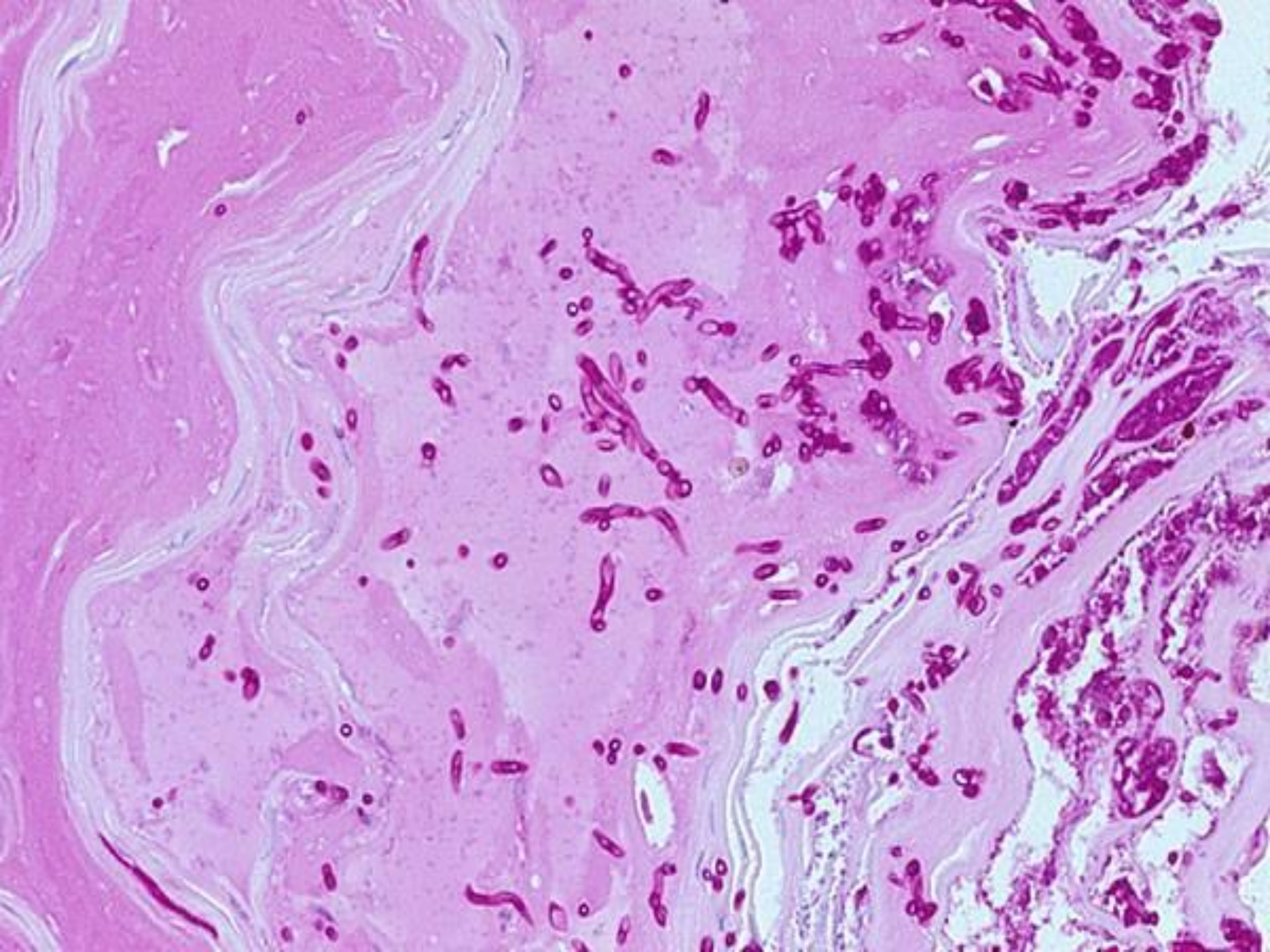












ARTHROPODS

- Bites
- Stings
- INFESTATIONS

ARTHROPODS

- **Scabies**
- **Pediculosis**
- **Demodex**
- **Ticks, Mites**

