



INTEGUMENTARY SYSTEM

- Skin
 - thin type
 - thick type

- Keratinized adnexa
 - hair
 - nail

- Nonkeratinized adnexa
 - small sweat glands (eccrine)
 - great sweat glands (apocrine)
 - sebaceous glands (holocrine)
 - mammary glands

Skin (integumentum)

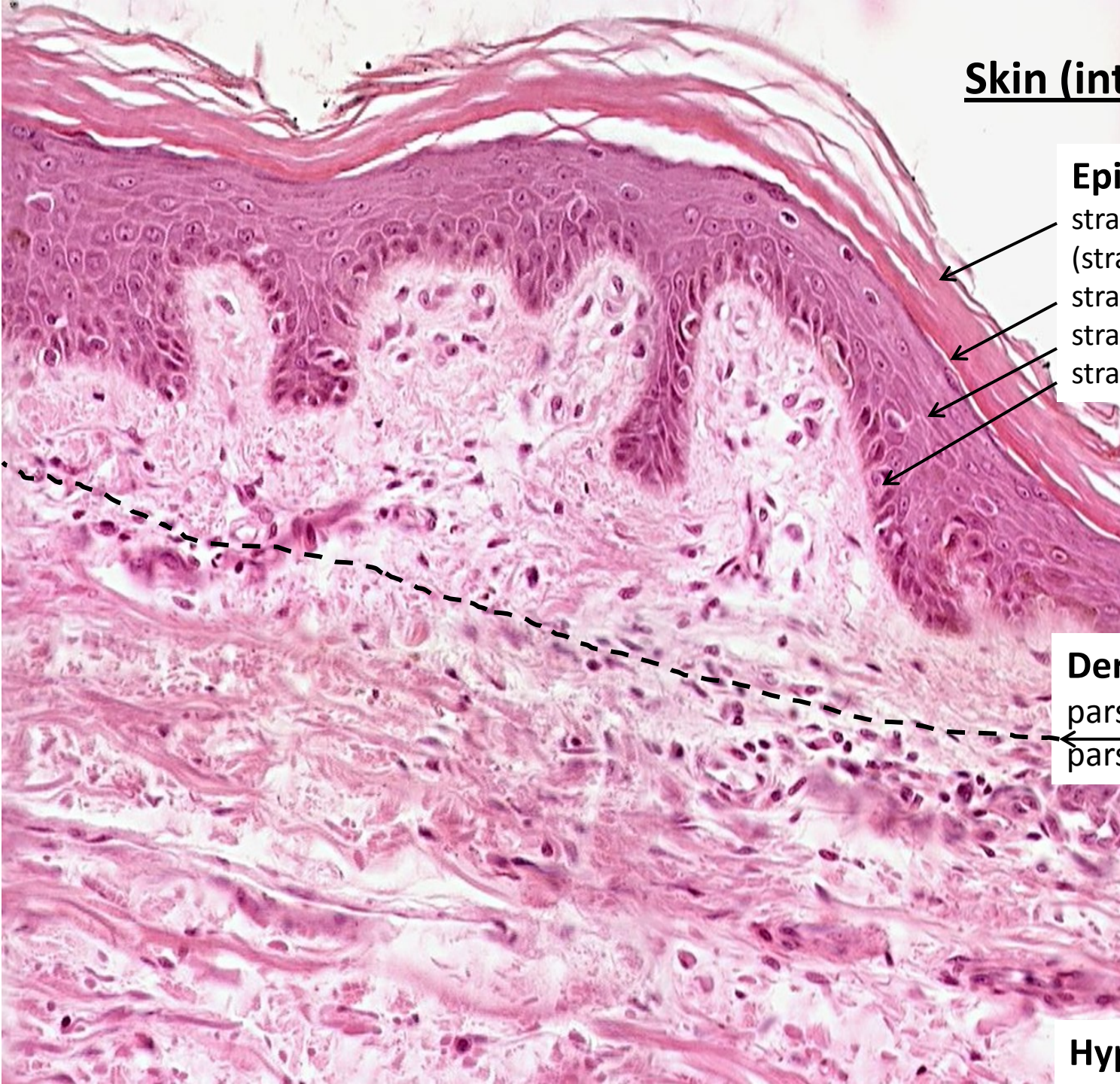
Epidermis

- stratum corneum proprium (stratum lucidum)
- stratum granulosum
- stratum spinosum
- stratum basale

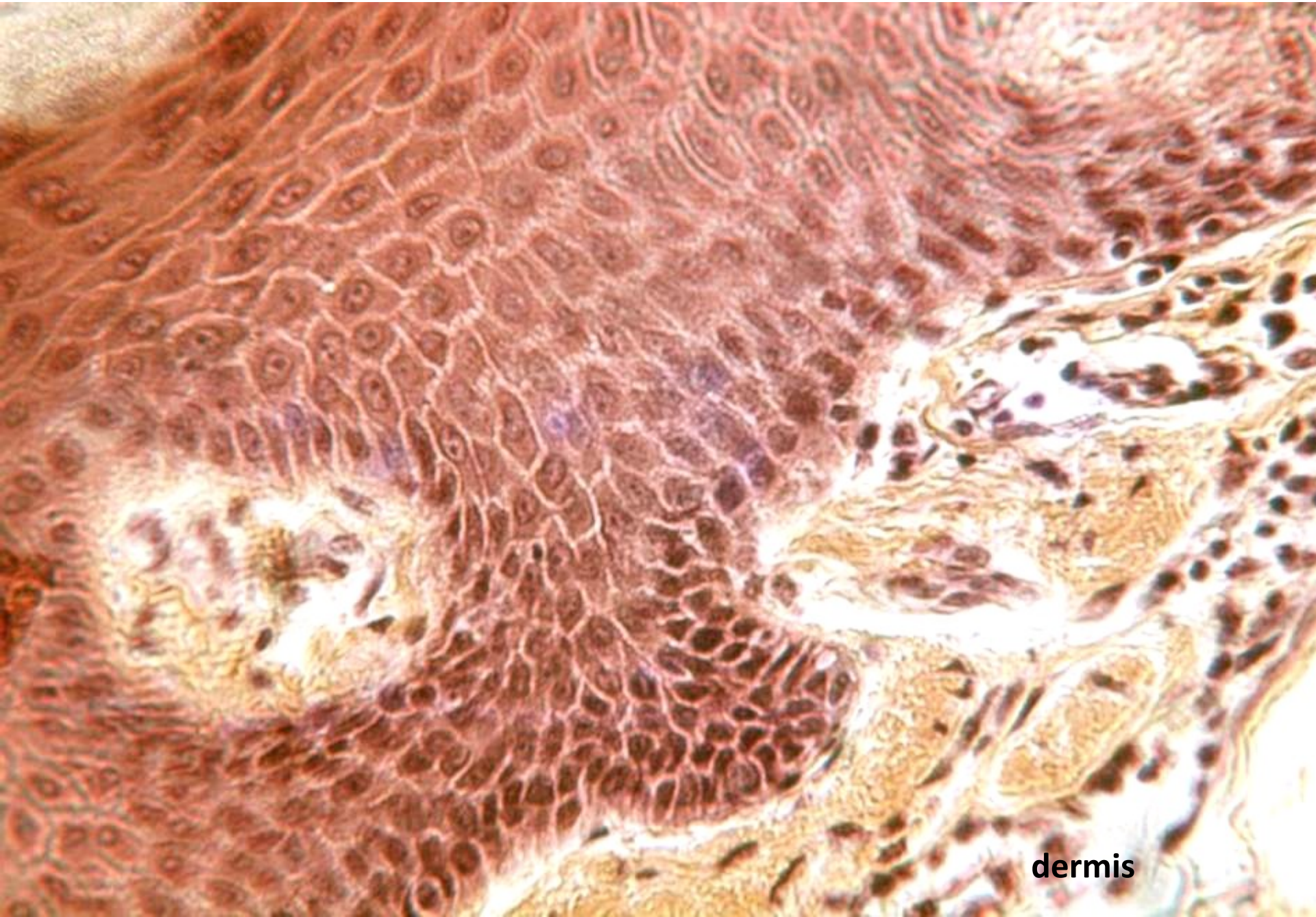
Dermis (corium)

- pars papillaris
- pars reticularis

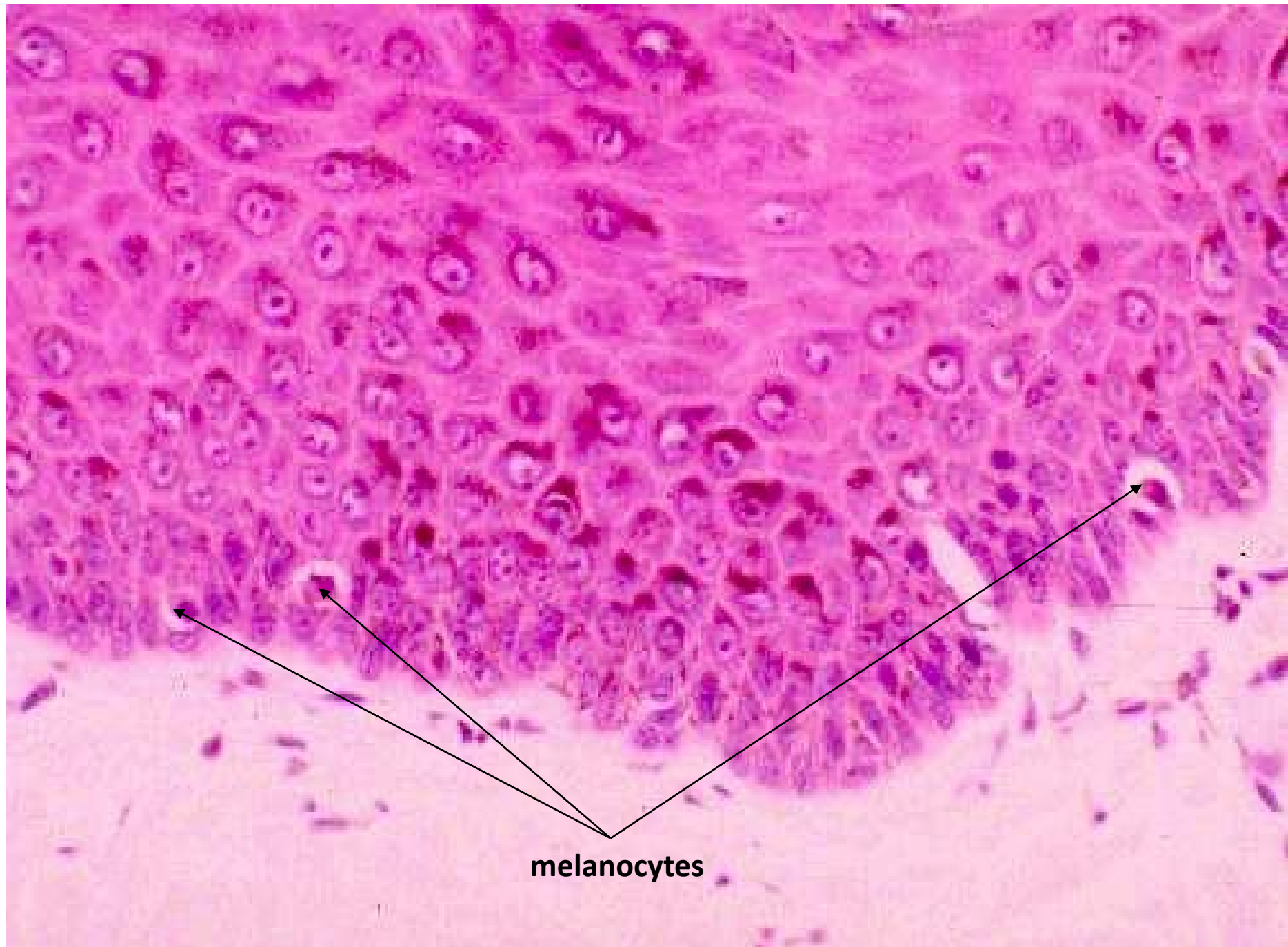
Hypodermis)



Epidermis

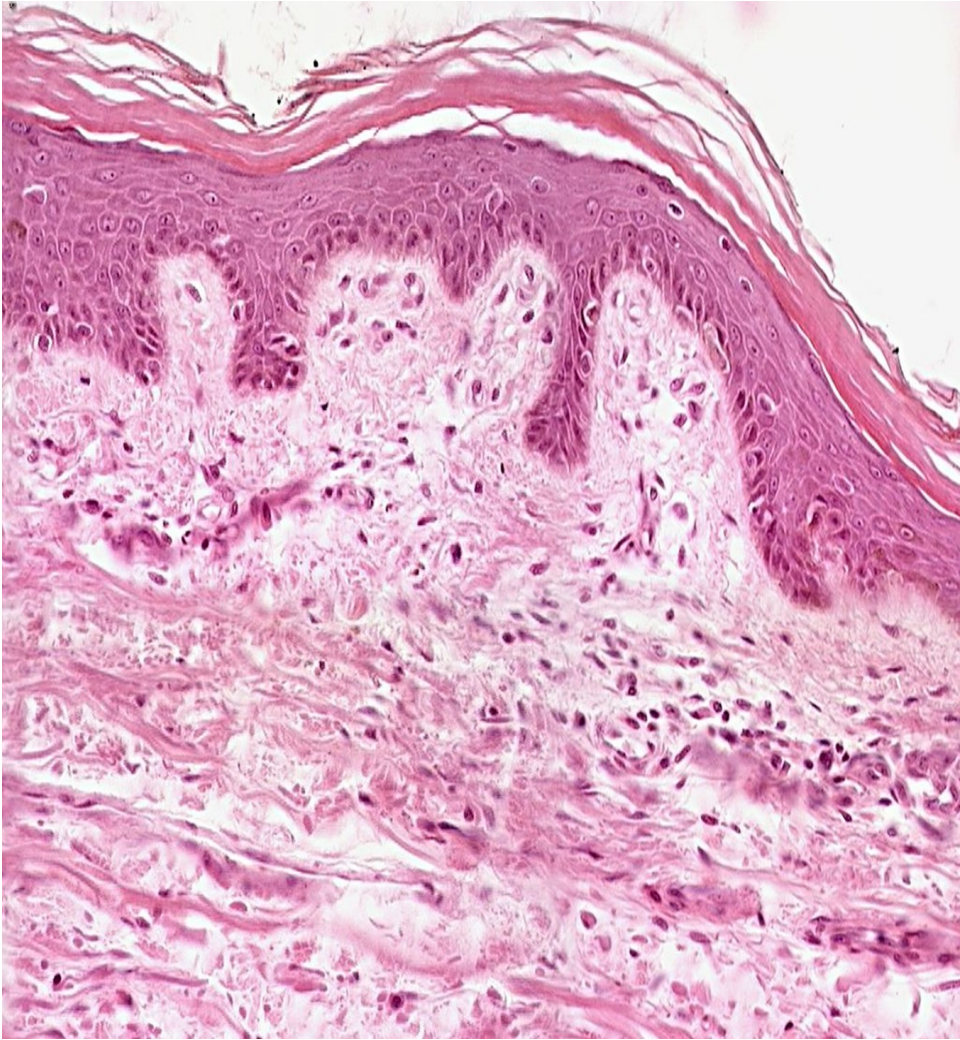


dermis

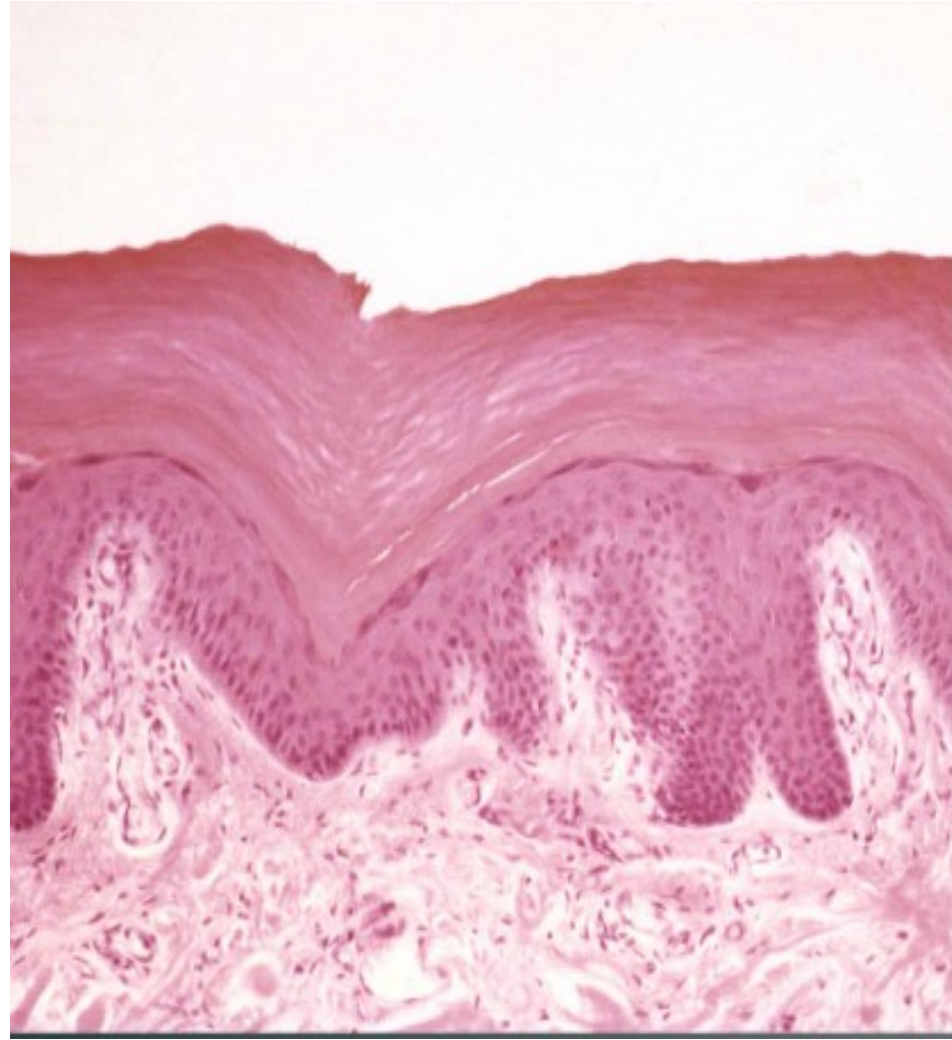


melanocytes

Thin skin



Thick skin

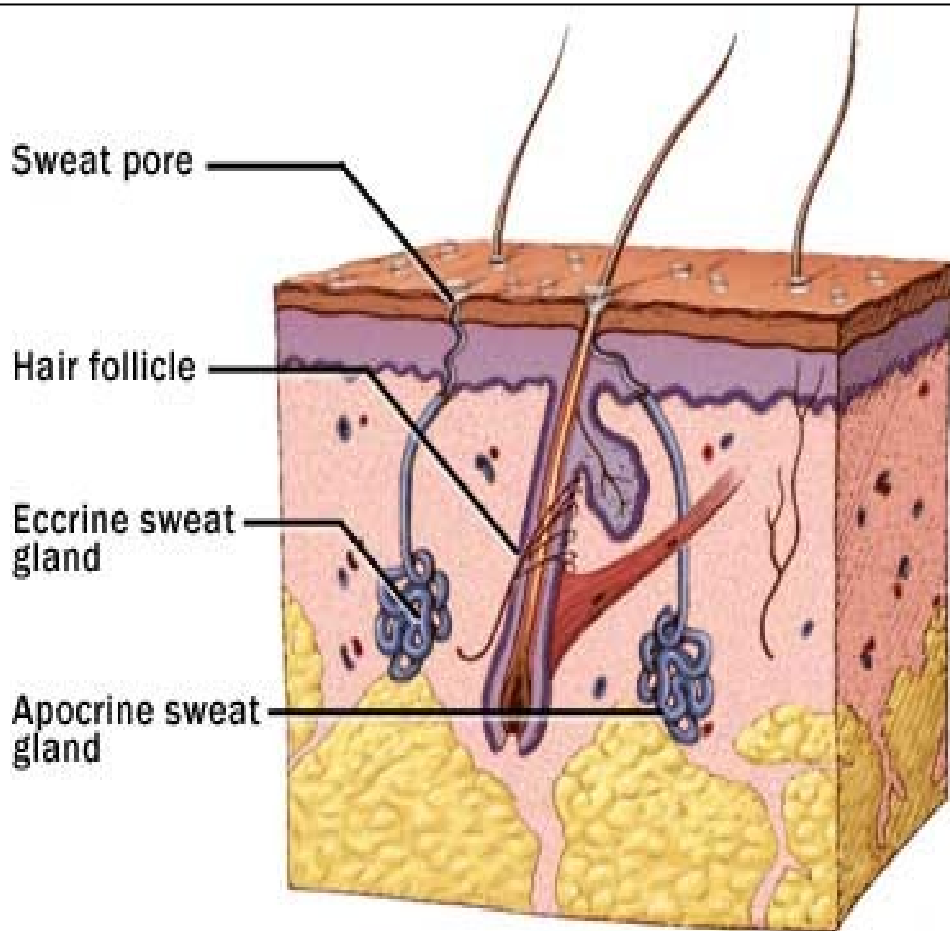


Occurrence: palma manus, planta pedis

Skin glands

small sweat (eccrine)
large sweat (apocrine)
sebaceous (holocrine)

} Gll. sudoriferae
Gll. sebaceae

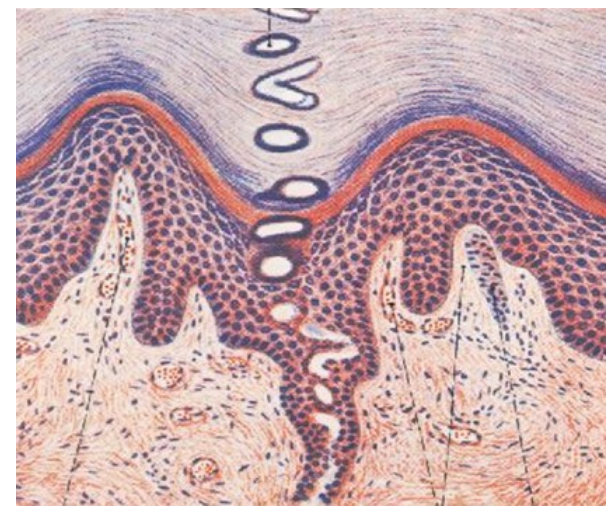
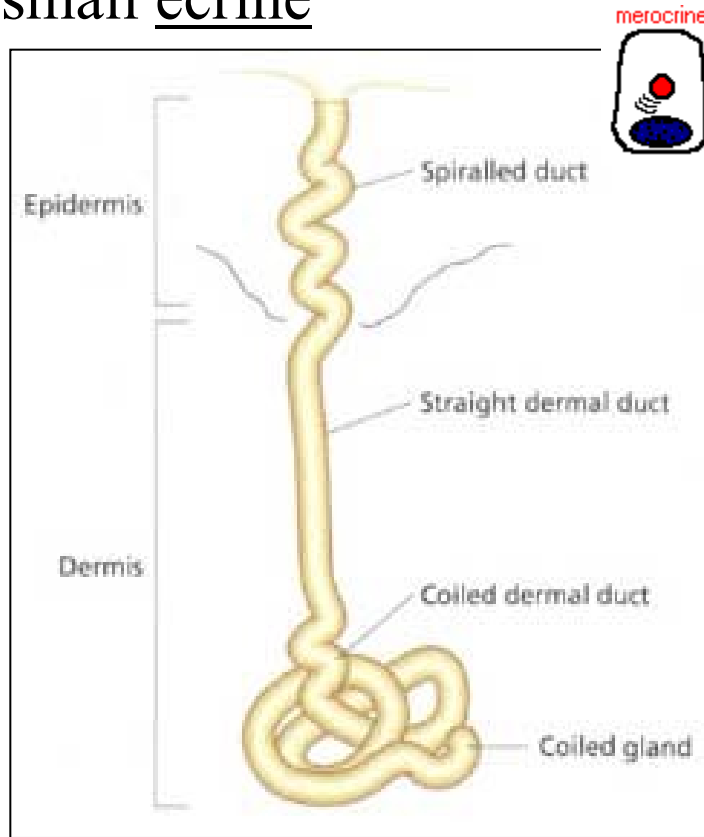


General structure of glands:

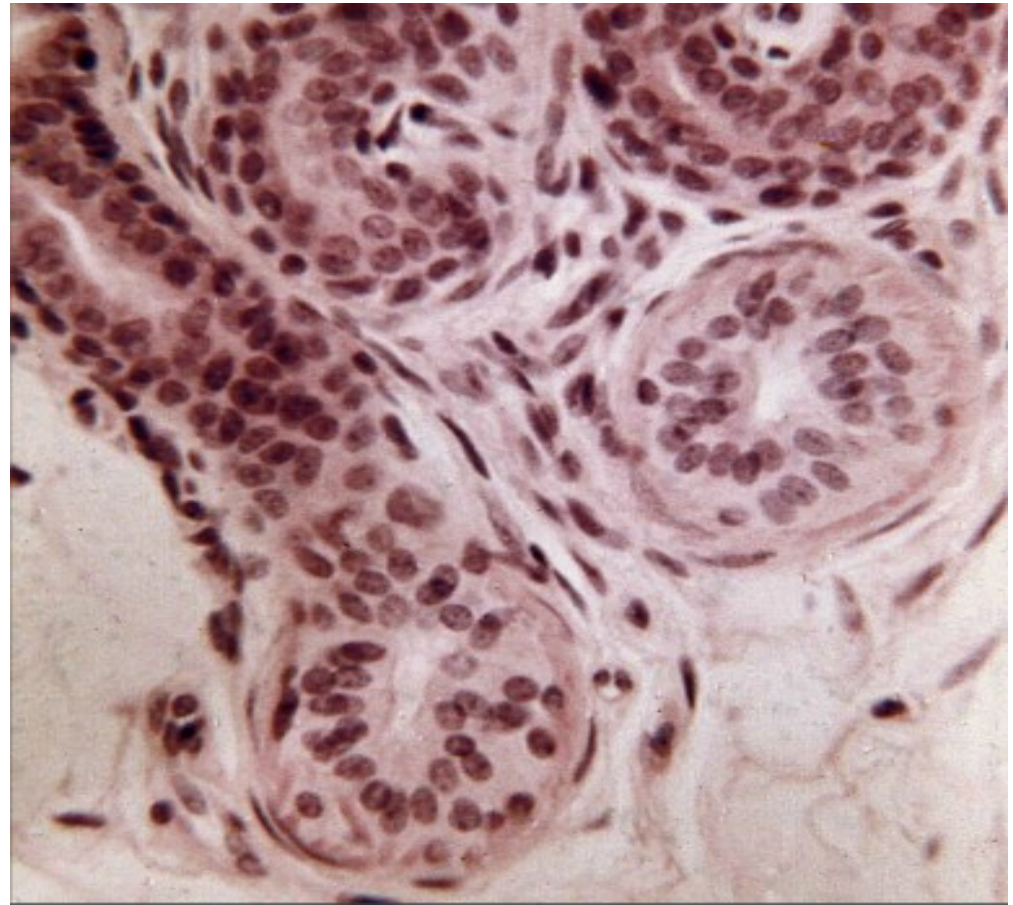
- excretory portion (ducts)
- secretory portion
 - glandular cells
 - myoepithelial cells

SWEAT GLANDS (gll. sudoriferae)

small ecrine



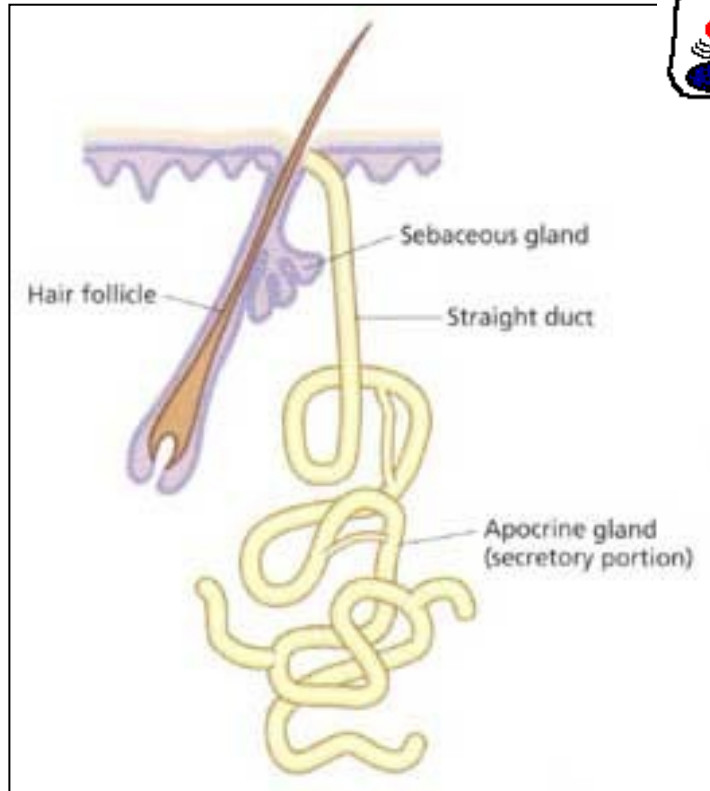
SWEAT – H_2O , $NaCl_2$, NH_3 ,
urea, uric acid, proteins



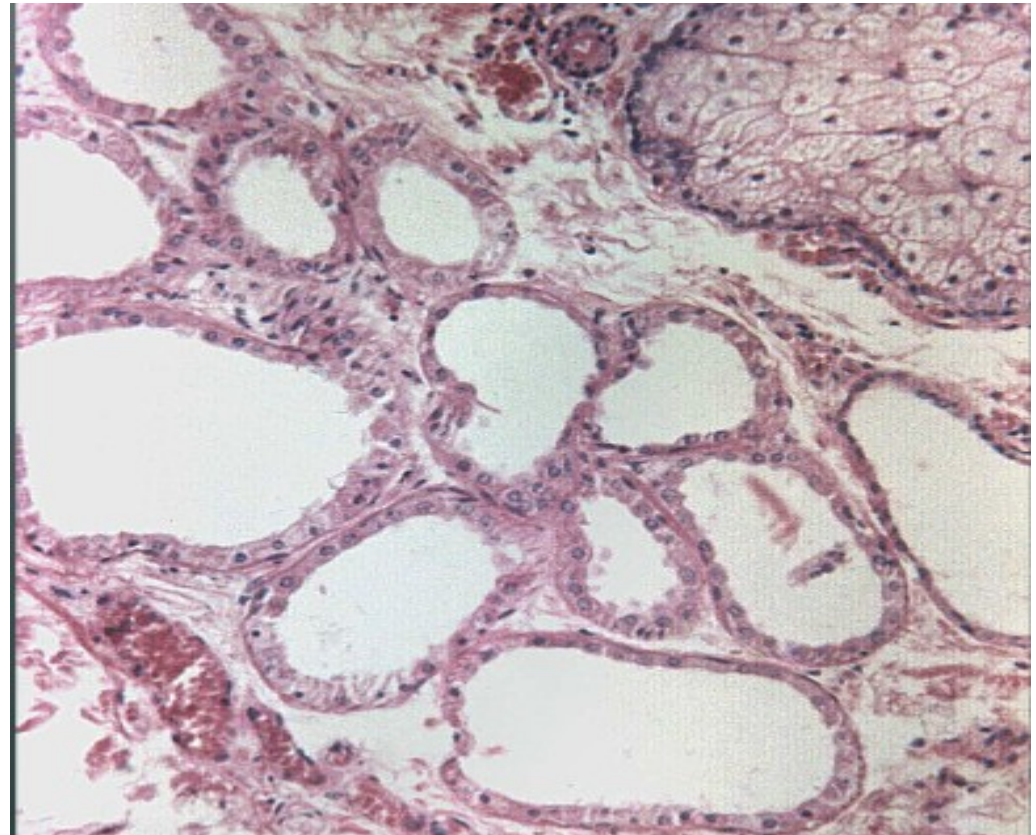
SWEAT GLANDS (gll. sudoriferae)

large apocrine

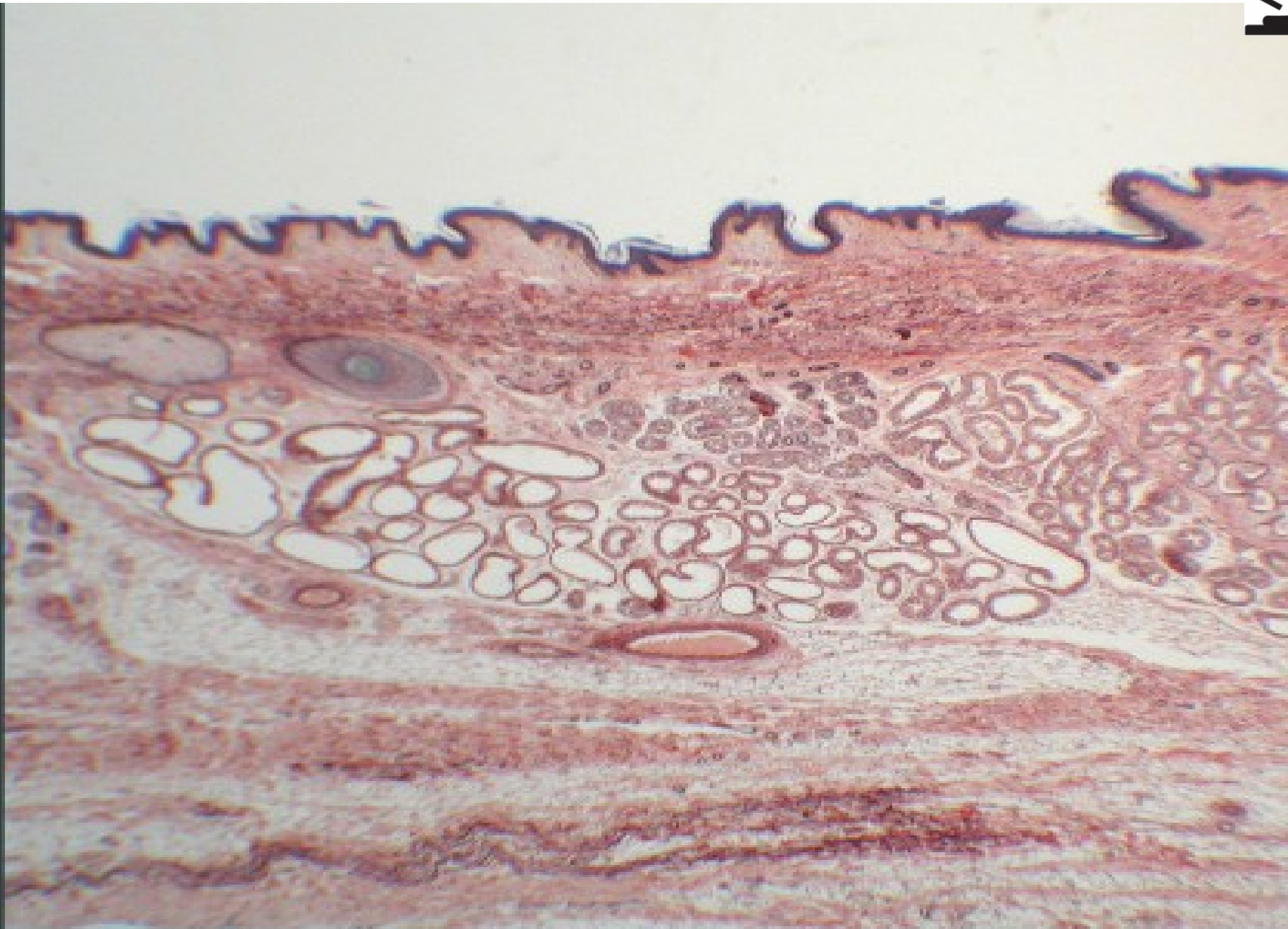
apocrine



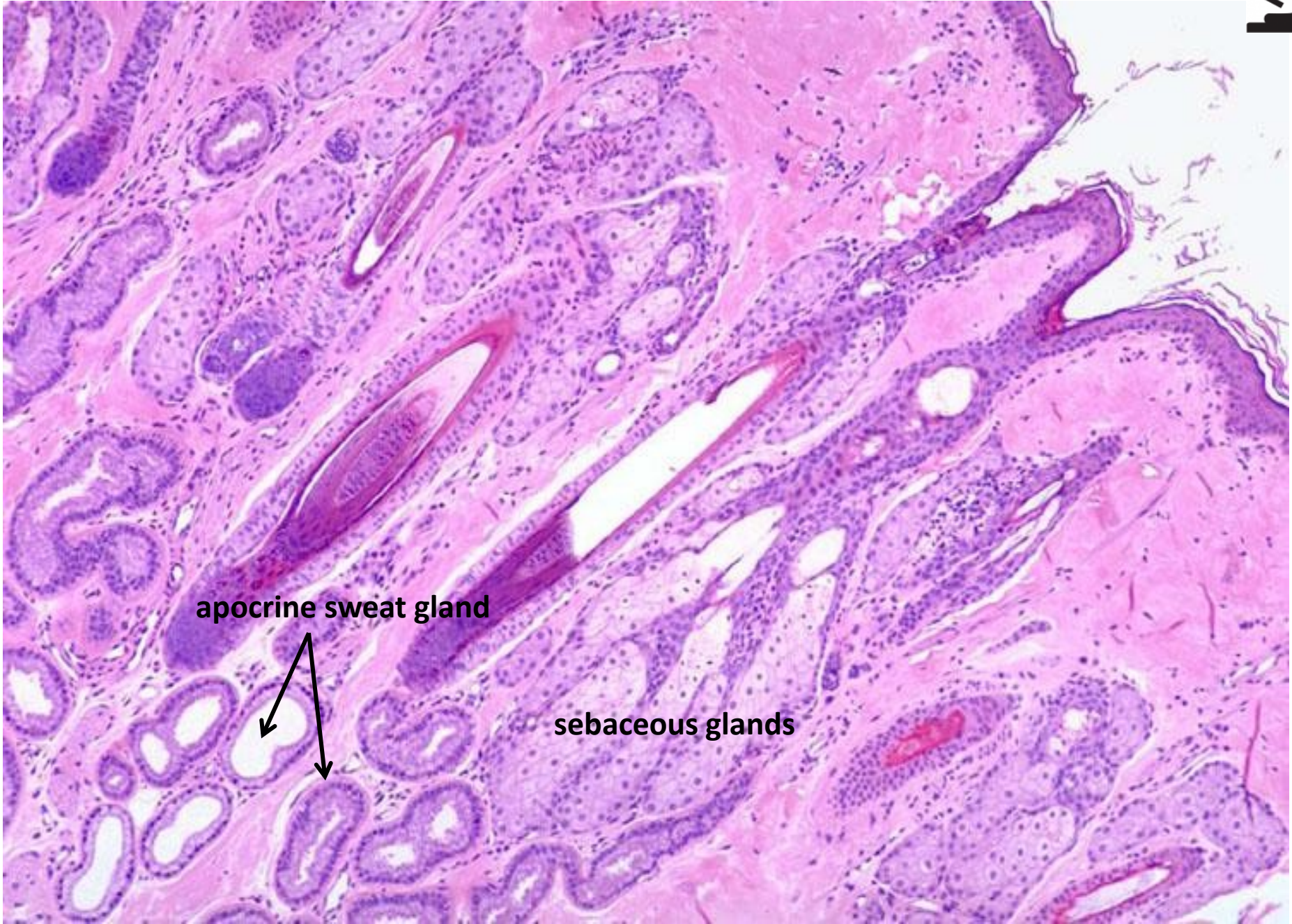
after puberty complete **sweat**
–pheromones, fats, steroids;
under hormonal influence



Skin from axilla – great sweat glands (apocrine, aromatic)



Skin from axilla(HE)



apocrine sweat gland



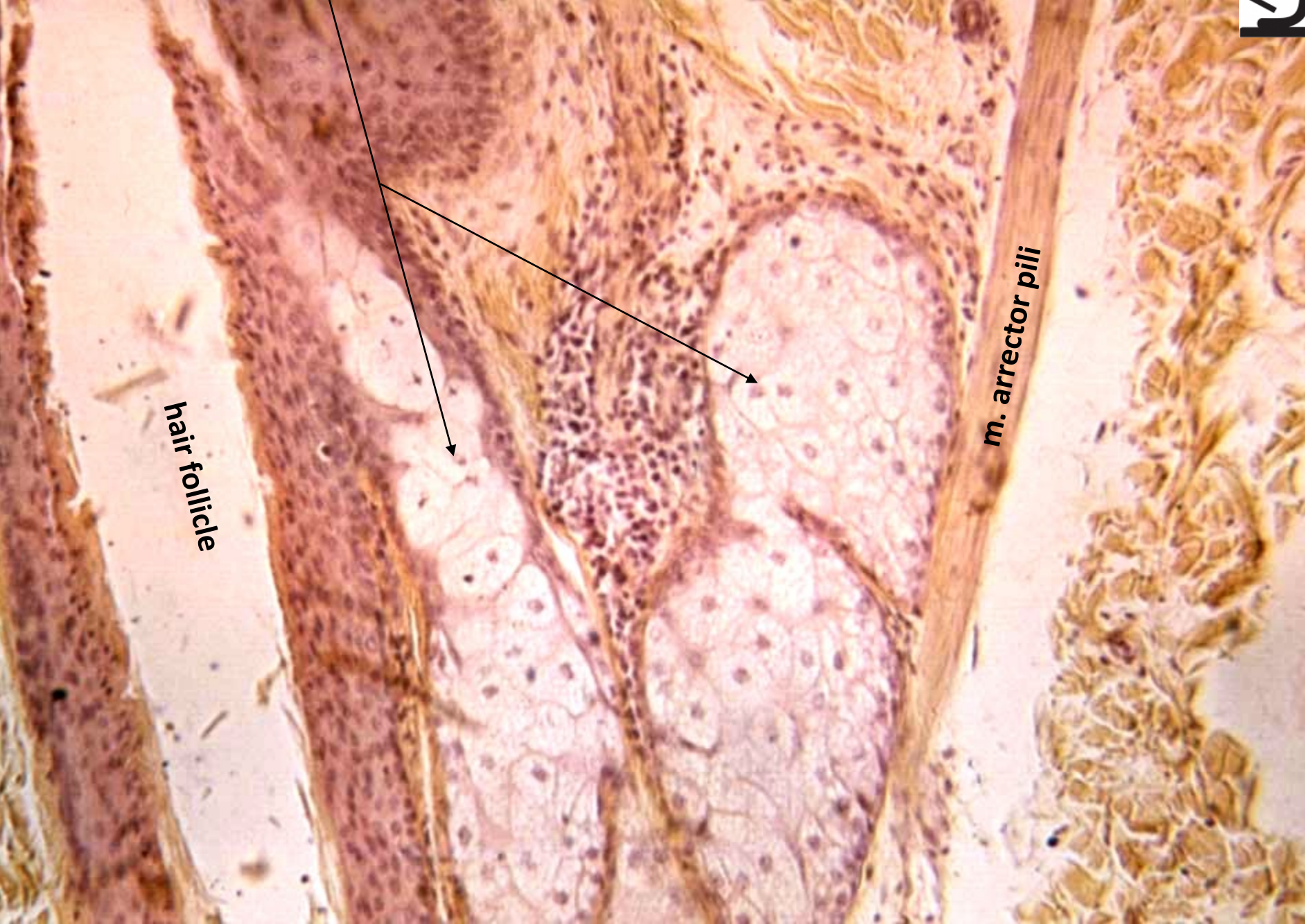
sebaceous glands

Sebaceous glands (HES)

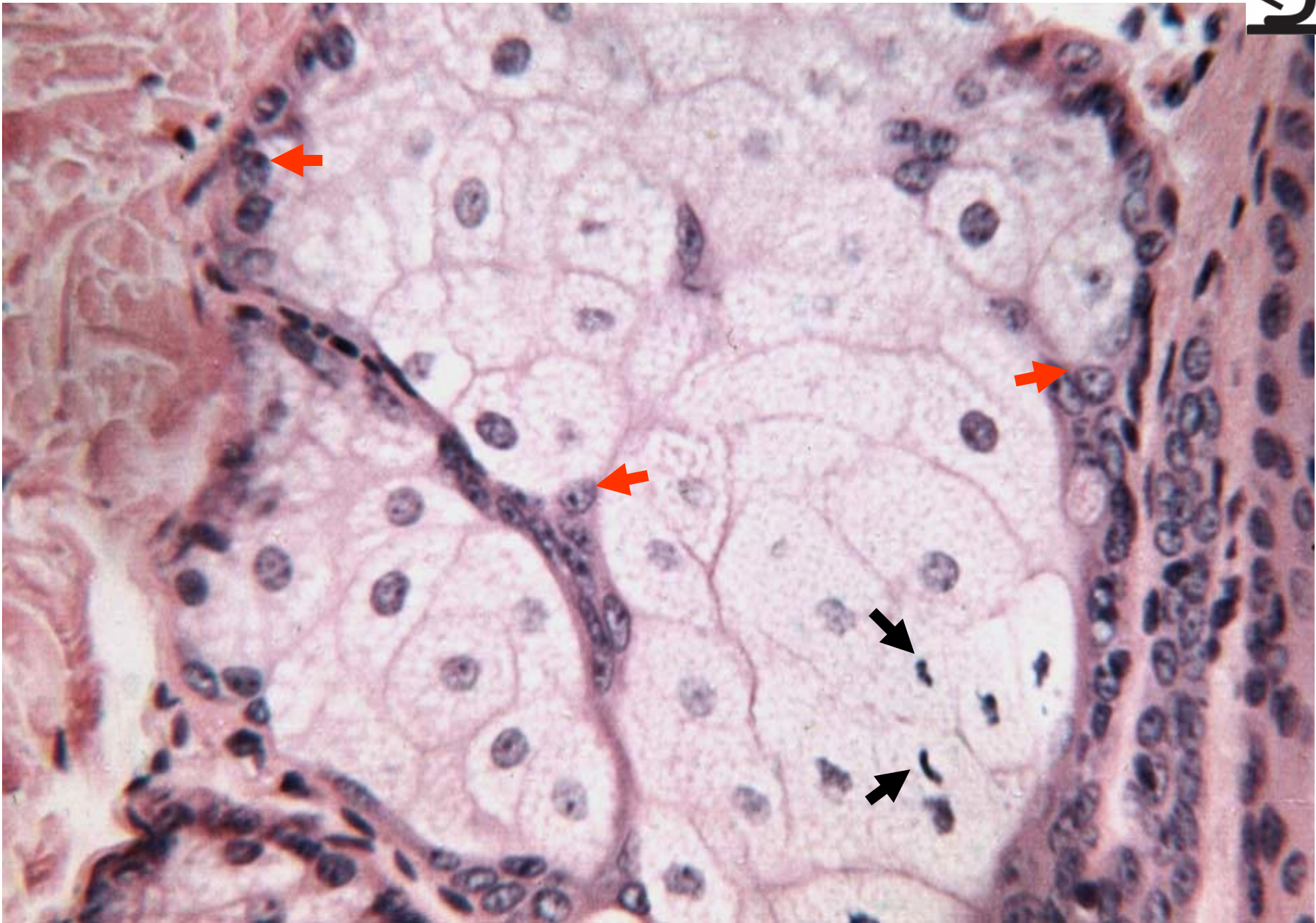


hair follicle

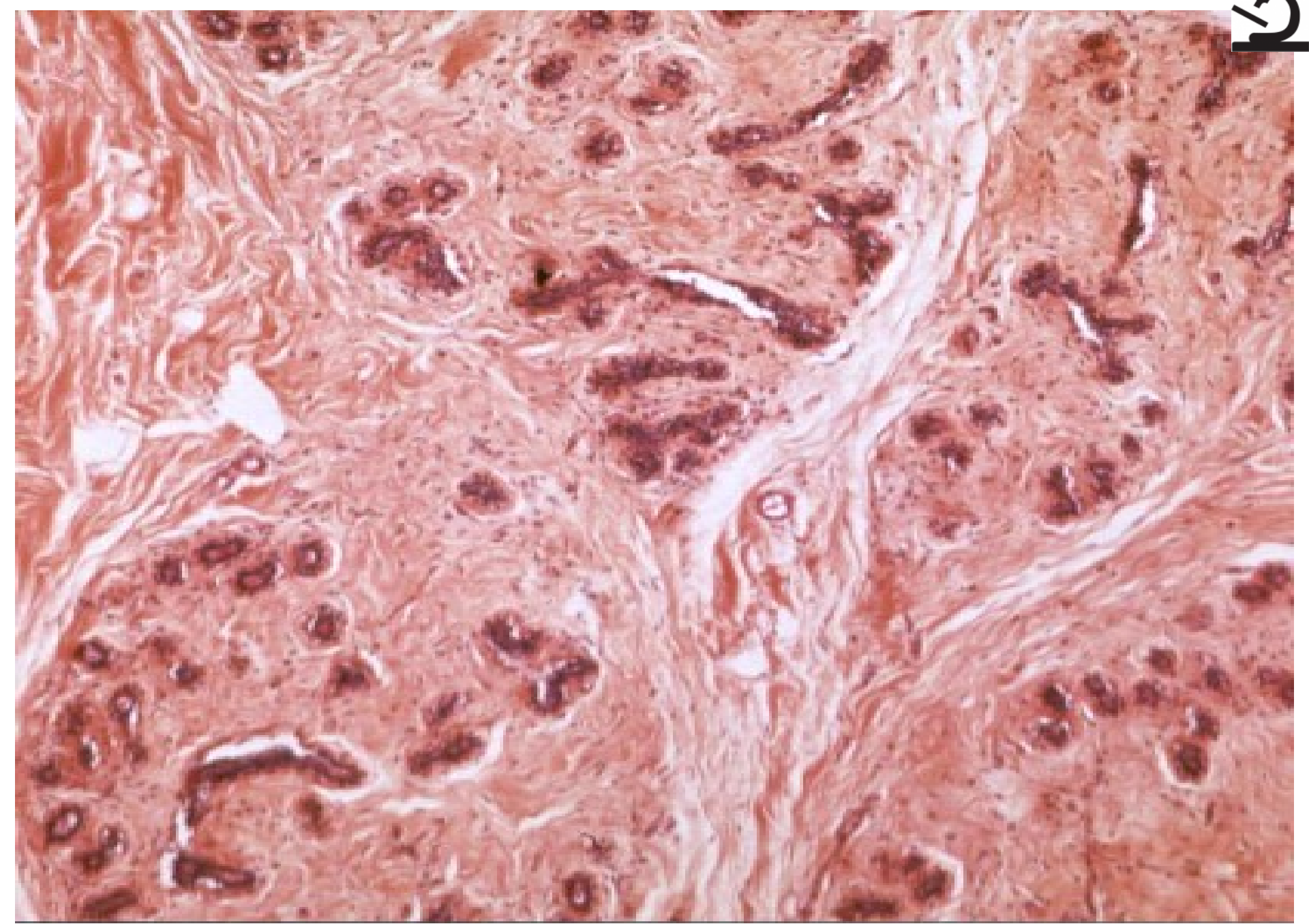
m. arrector pili



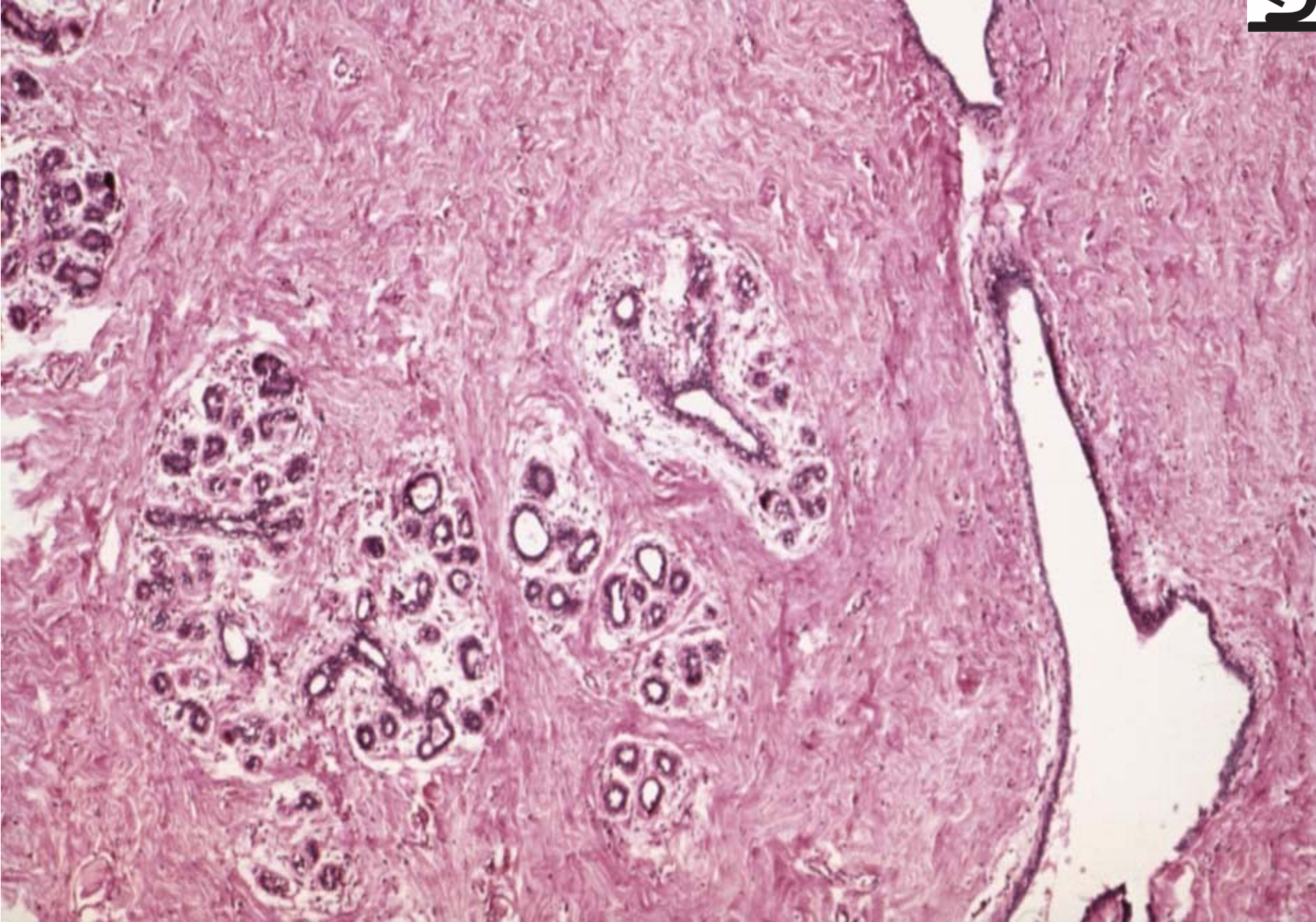
Sebaceous glands (HE)



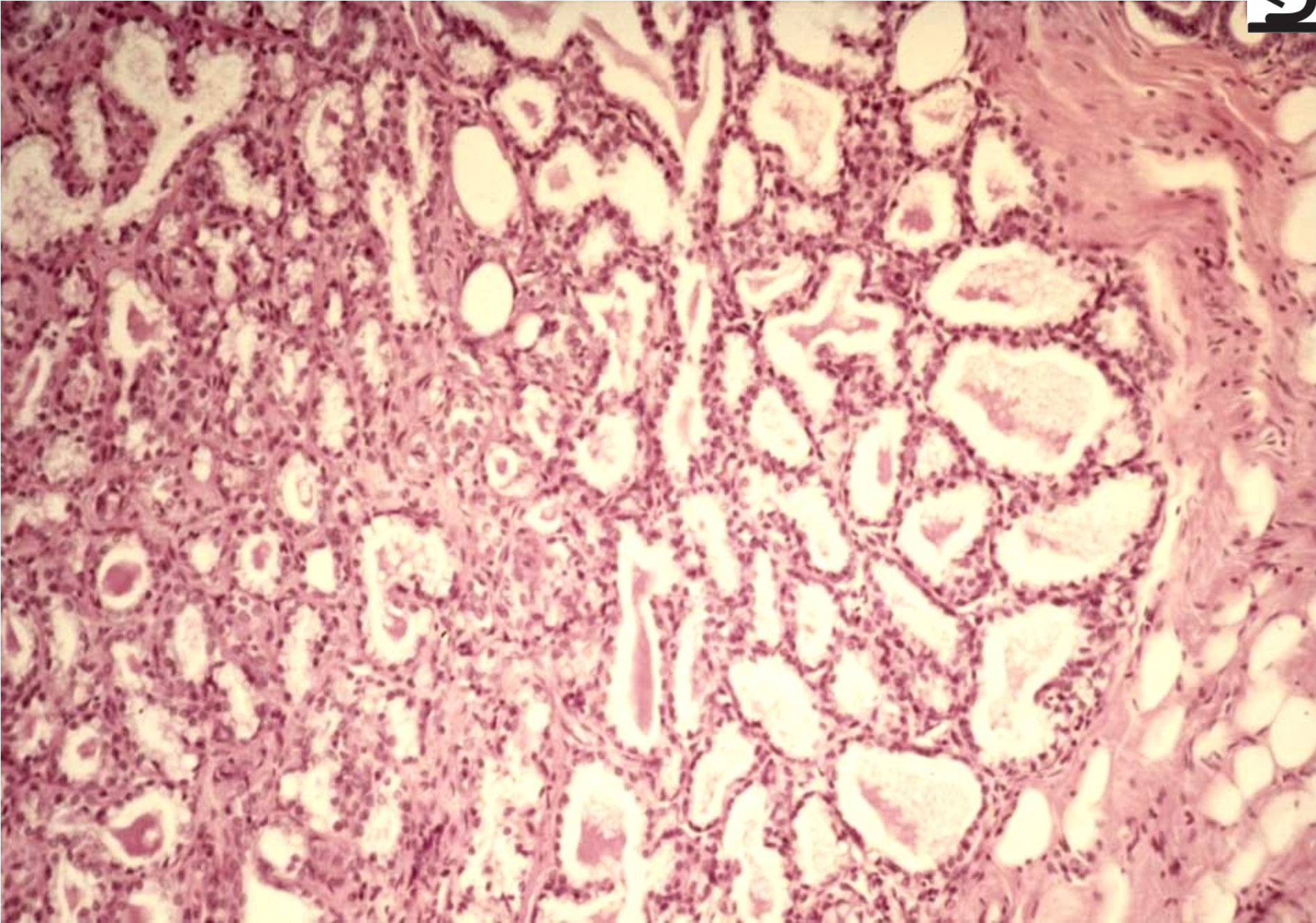
Mamma non lactans (HE)



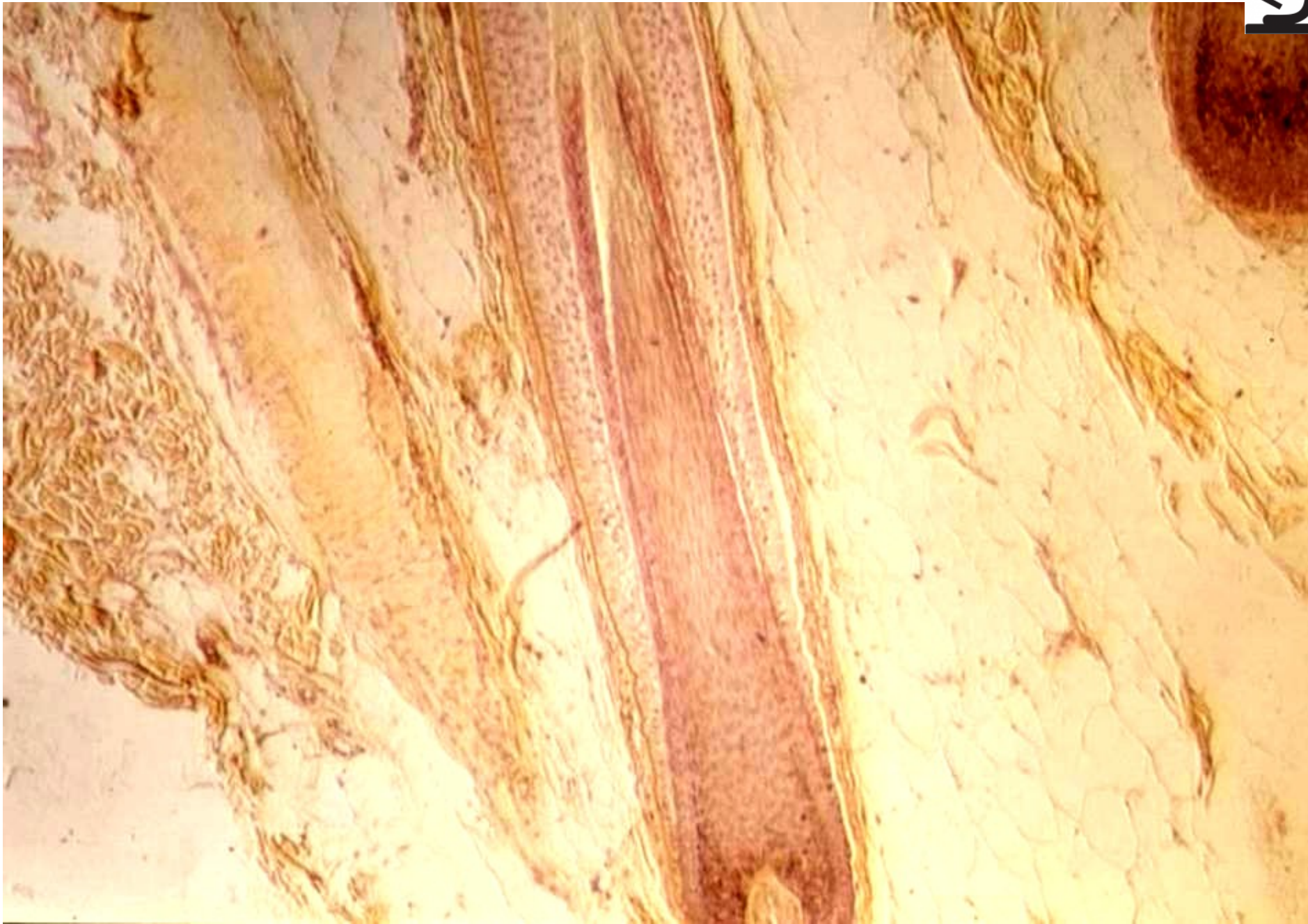
Mamma non lactans (HE)



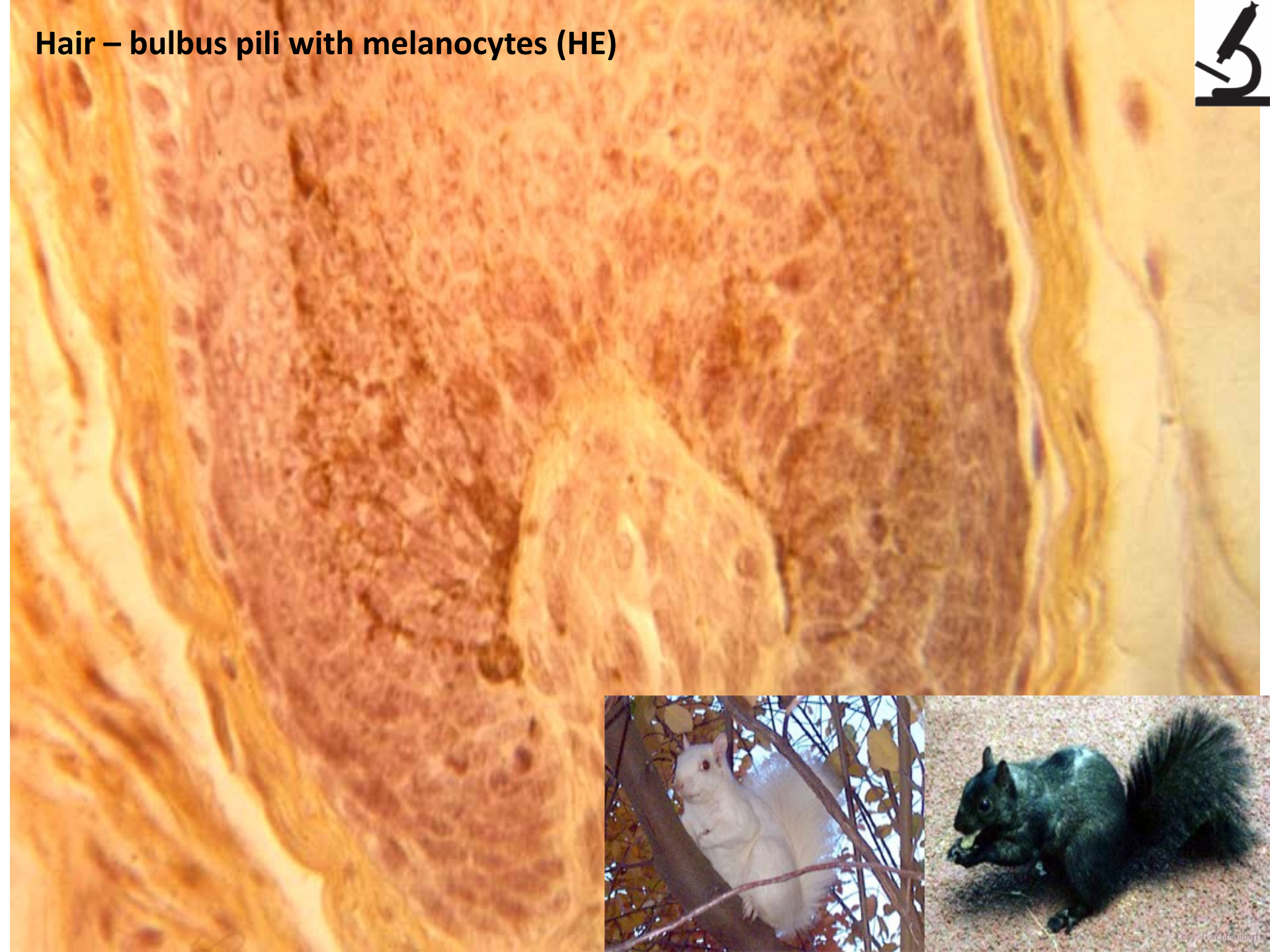
Mamma lactans (HE)



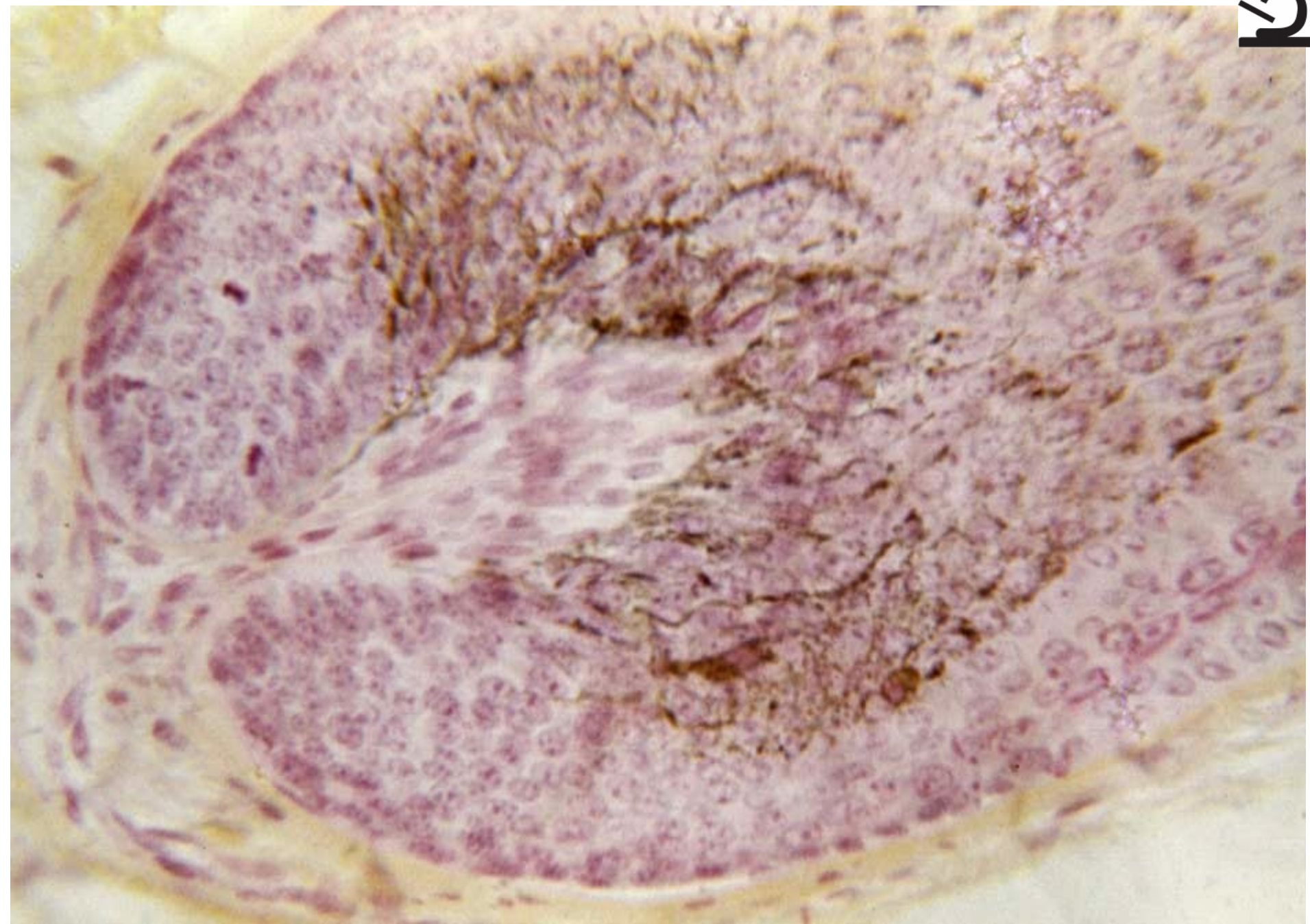
Skin with hair (HEŠ)



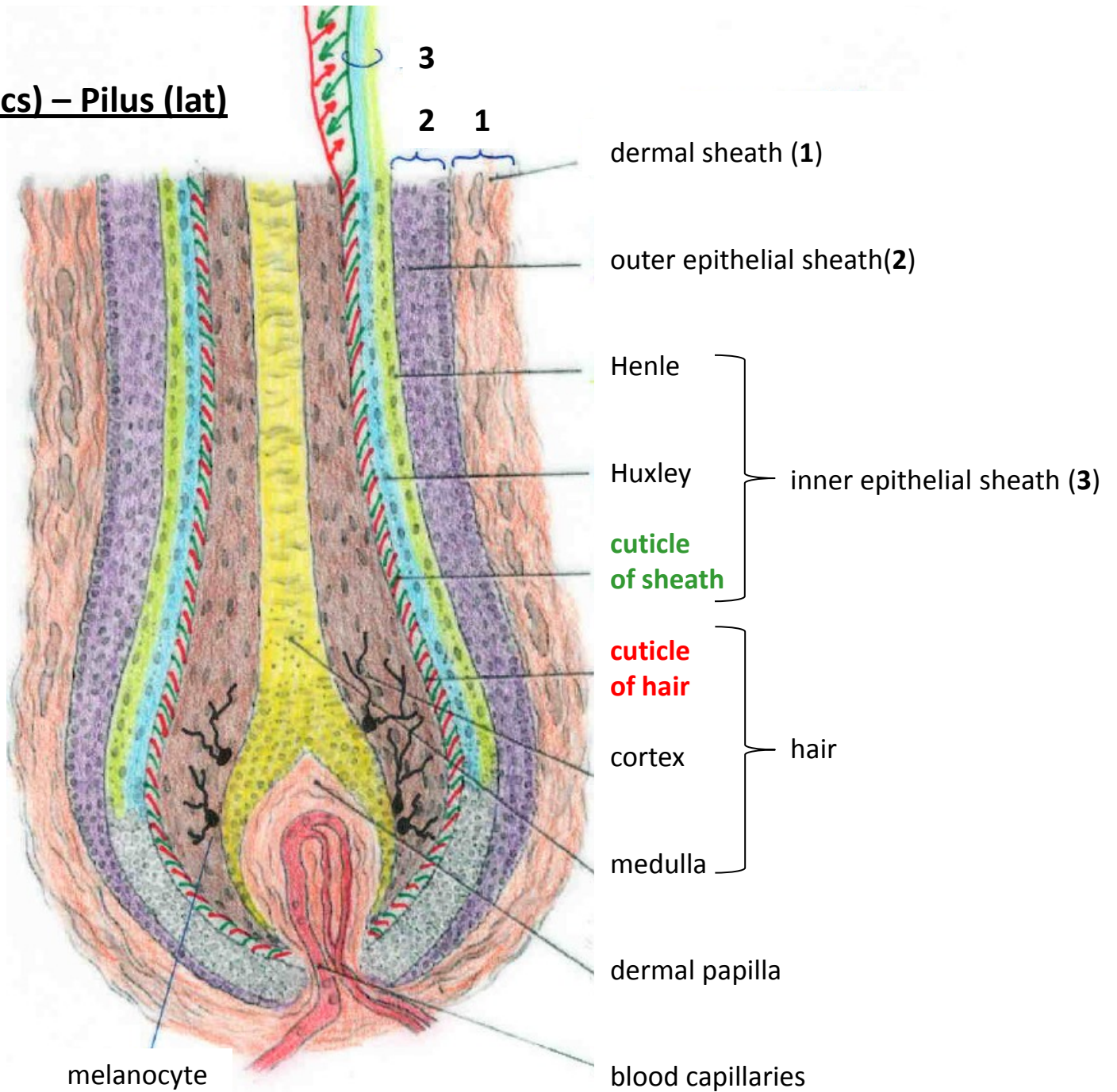
Hair – bulbus pili with melanocytes (HE)



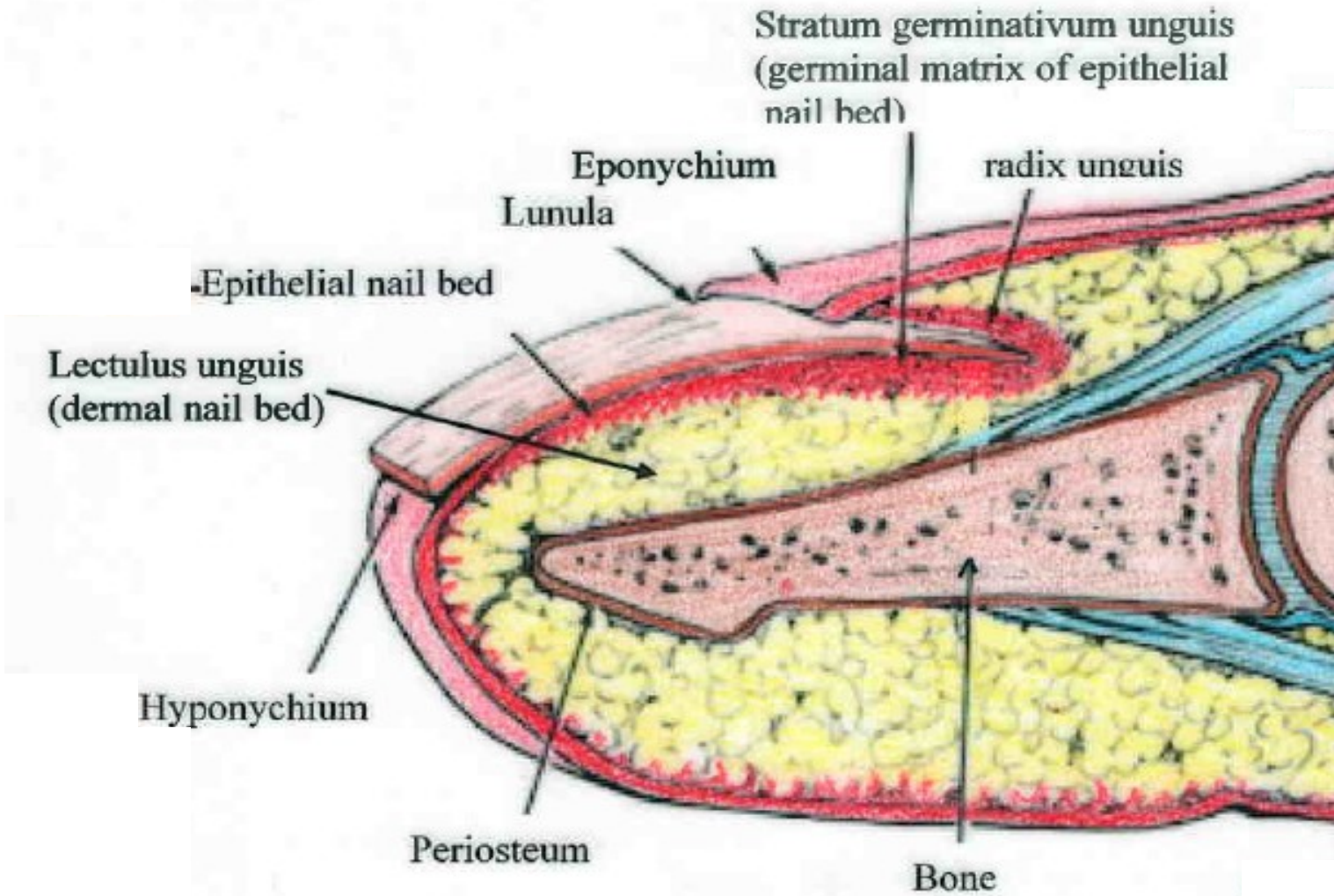
Hair – bulbus pili with melanocytes, papilla pili (HES)



Hair (eng) – Vlas (cs) – Pilus (lat)



Nail (eng) – Nehet (cs) – Unguis (lat) – Onyx (gr)



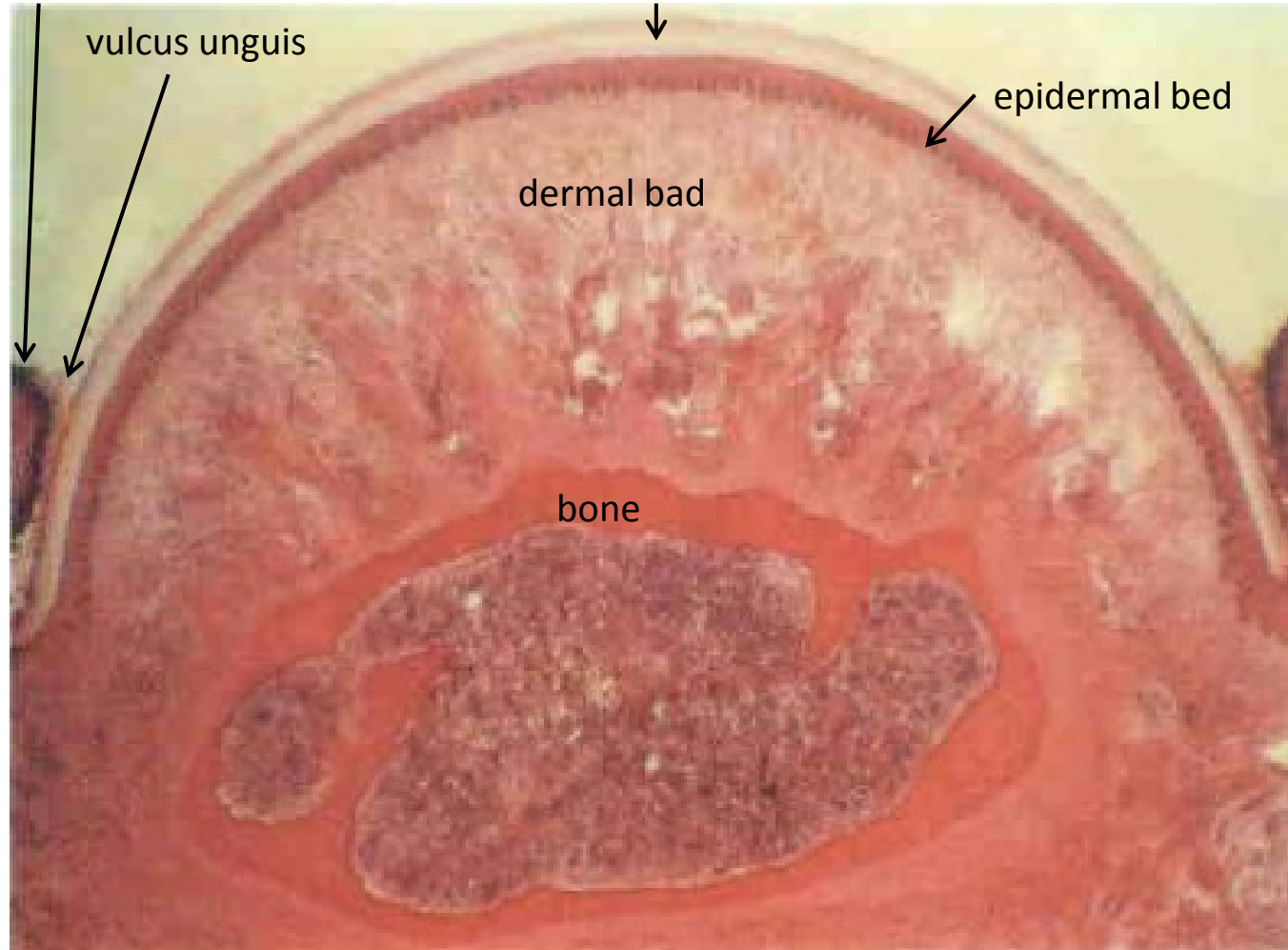
Nail (eng) – Nehet (cs) – Unguis (lat) – Onyx (gr)



Longitudinal section

vallum unguis

nail plate



vulcus unguis

dermal bad

epidermal bed

bone

Cross section



INTEGUMENTARY SYSTEM



Slides:

Skin from tip of finger

Skin with hair

Skin from axilla

Nail

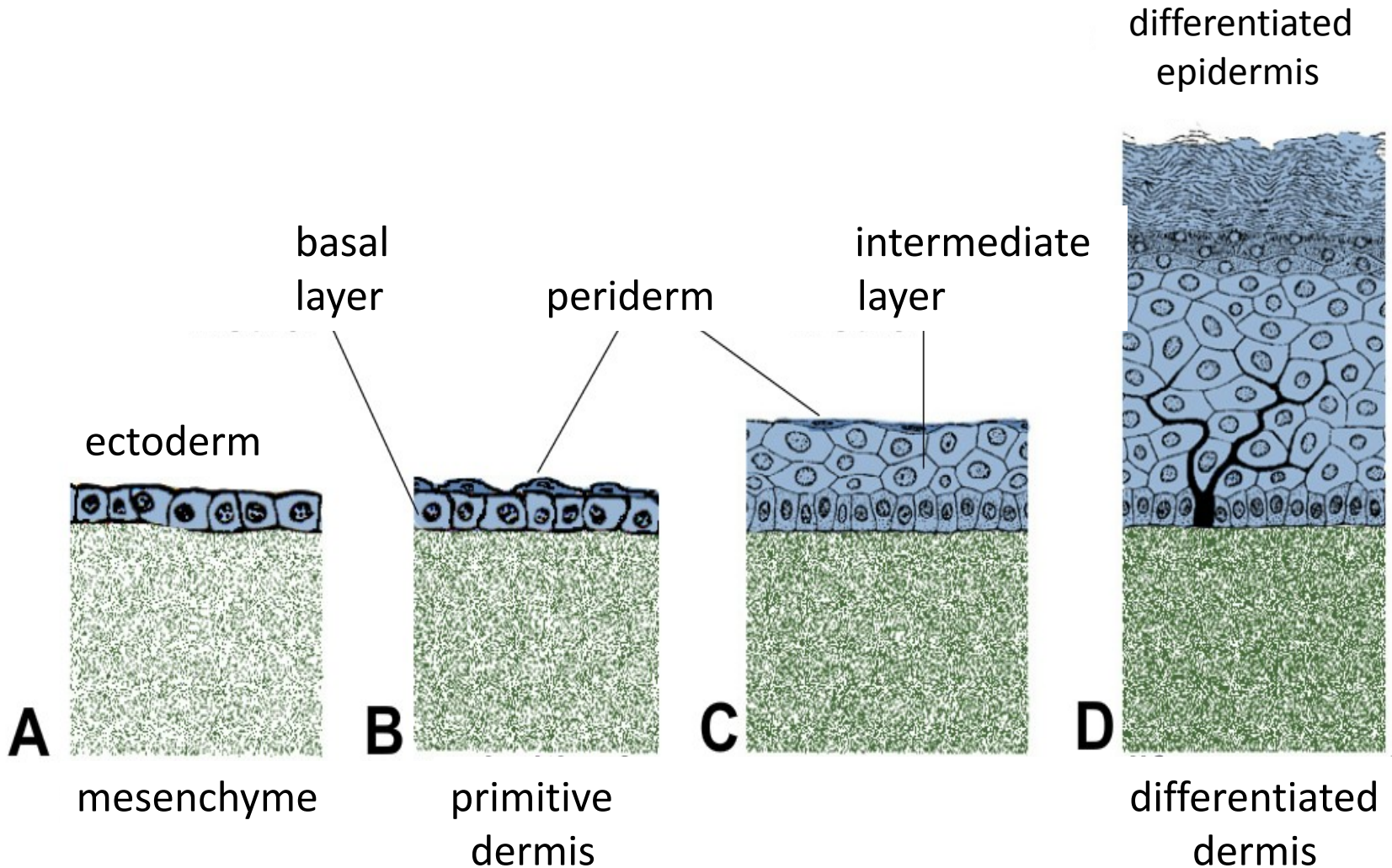
Mamma non-lactans

Mamma lactans

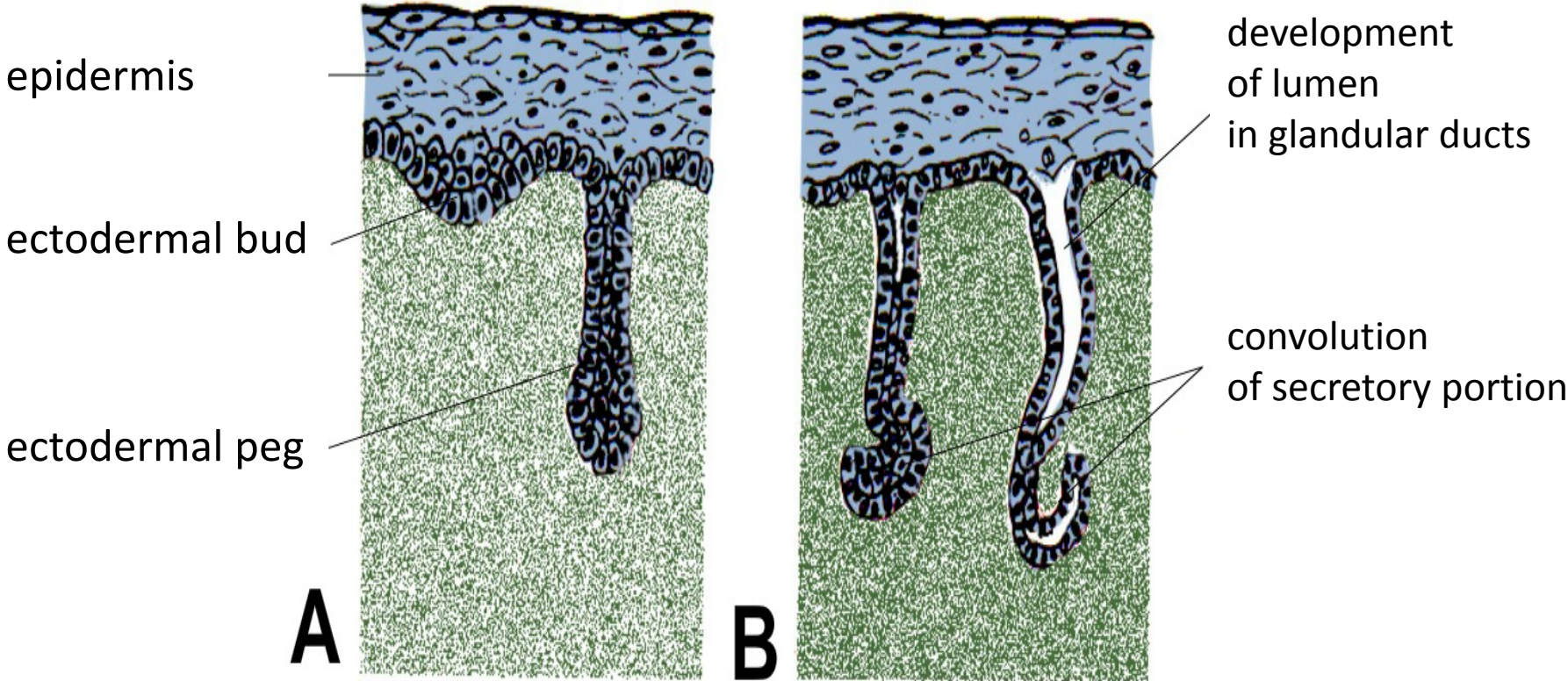
Embryology

Development of skin and skin adnexa

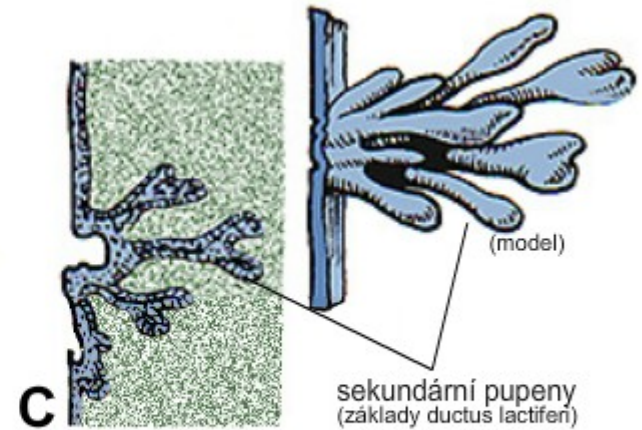
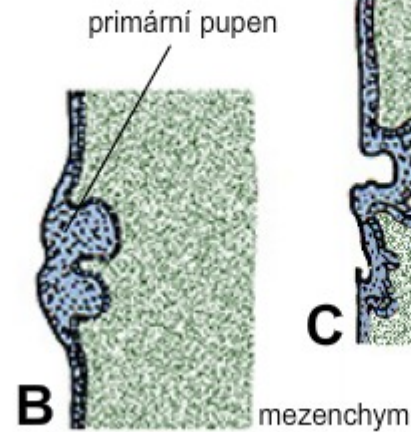
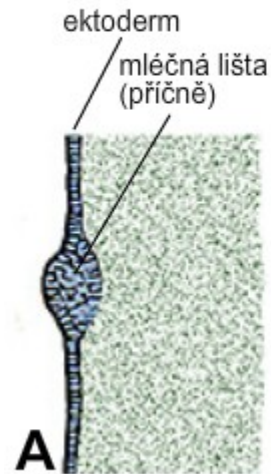
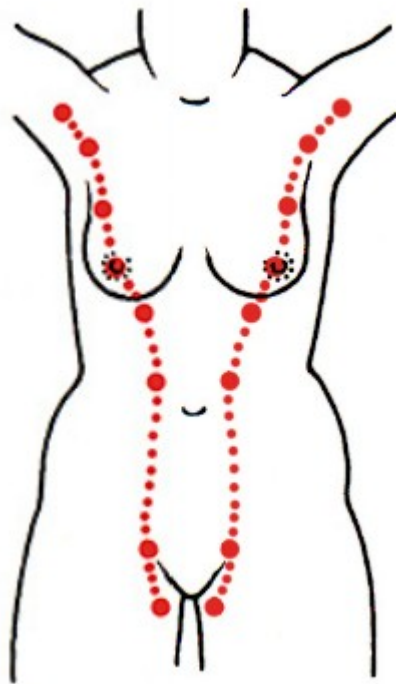
Development of epidermis and corium



Development of sweat glands



Development of mammary line and gland



B, C: primary and secondary ectodermal buds ingrowth mesenchyme

Development of hair and sebaceous gland

