

MELANOCYTIC LESIONS

The background of the slide is a photograph of a Gothic church tower, likely the Belfry of Bruges, with several adjacent buildings. The entire image is covered with a semi-transparent teal overlay. In the top left corner, there is a hand-drawn speech bubble containing the text 'MELANOCYTIC LESIONS'.

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A: asymmetry

B: border irregularity

C: color variation

D: diameter $> 6\text{mm}$

E: Elevation

WHO CRITERIA OF DYSPLASIA:

MAJOR CRITERIA:

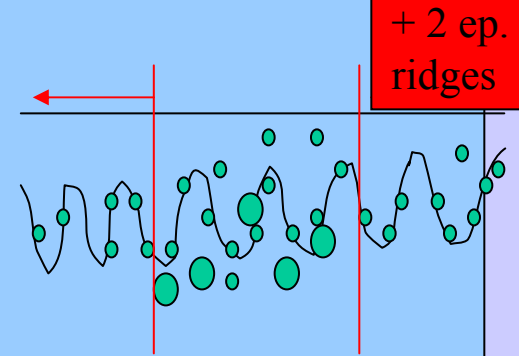
- Basal (lentiginous and “nesting”) proliferation of melanocytes
- Melanocytic atypia, lentiginous/epitheloid cell type

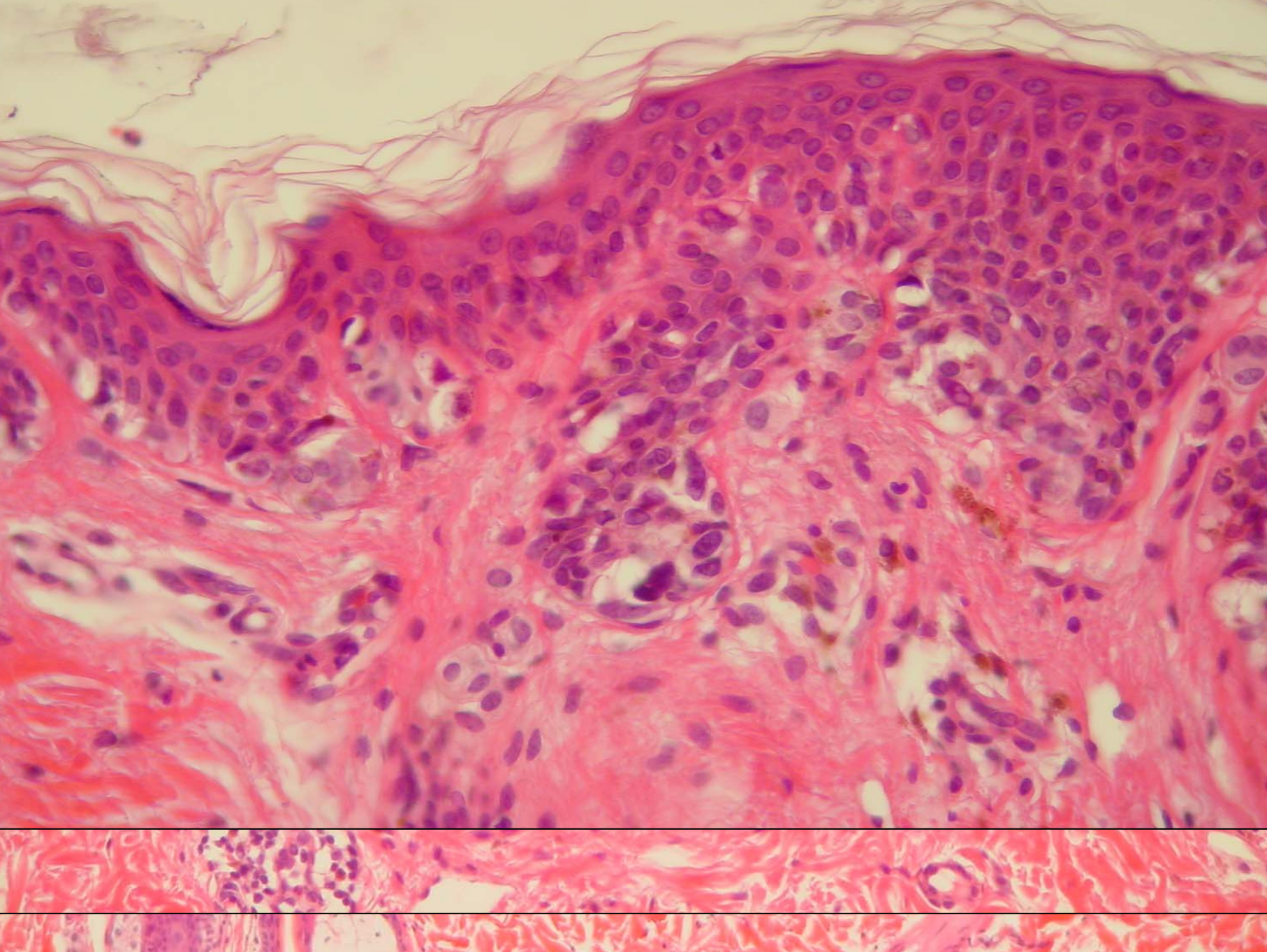
MINOR CRITERIA:

- Inflammation
- increased vascularity with endothelial hyperplasia
- concentric eosinophilic fibrosis/lammelar fibroplasia
- bridging of epidermal retae by “atypical” melanocytes

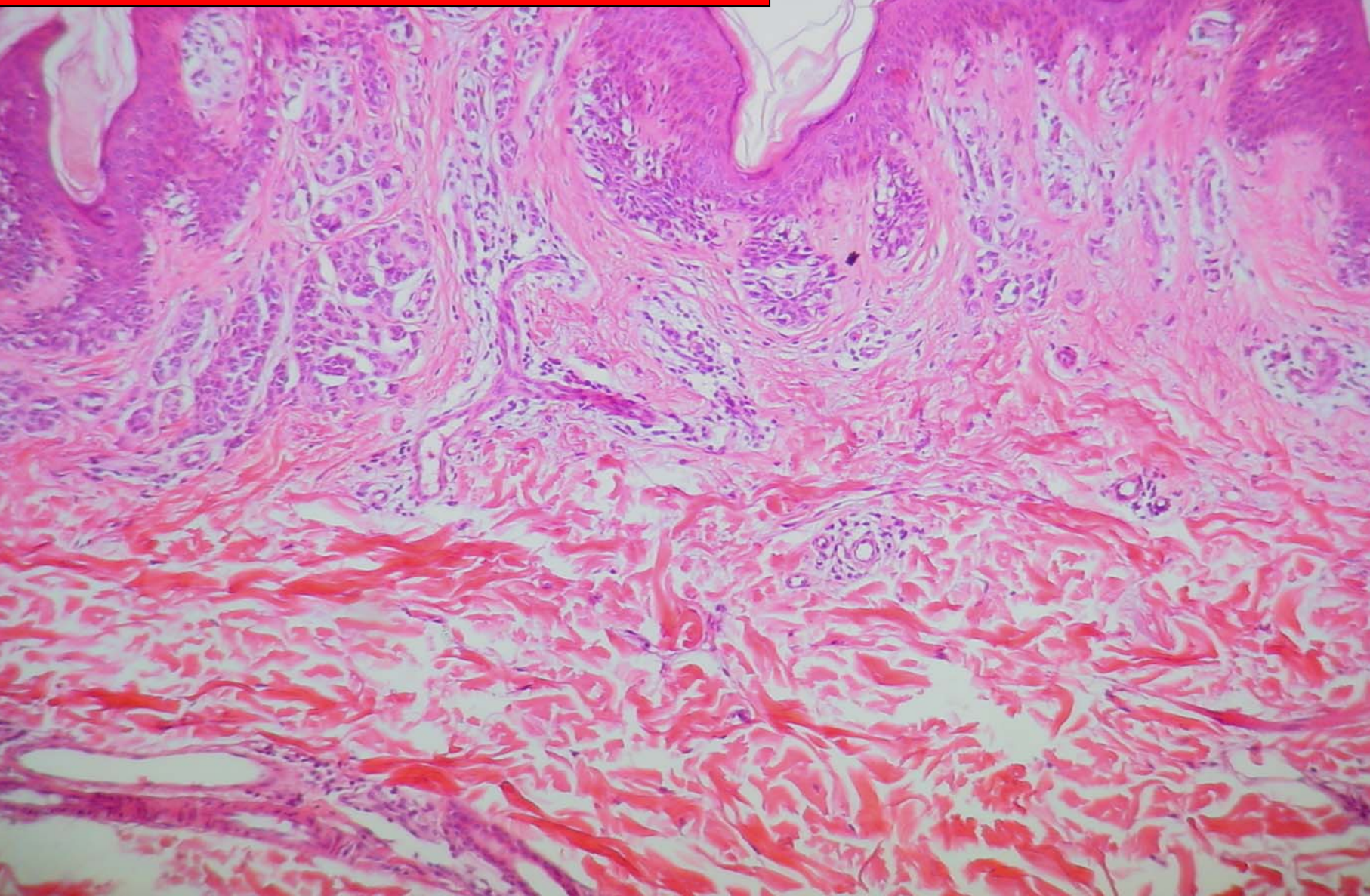
DYSPLASTIC NAEVUS : GENERAL HISTOLOGICAL HALLMARKS

- Usually “low power” diagnosis
- Shouldereffect ! => probably dysplastic
- Elongated epidermal ridges
- Individual lentiginous cells, irregular distribution
- Bridging
- Variabel cytol. aspect/pleomorphia/atypia/hyperchrom.
- Eosinophilic fibroplasia
- Reactive mononuclear infiltration
- Melanophages in the superficial dermis
- Irregular pigmentdistribution, “olive green” pigment





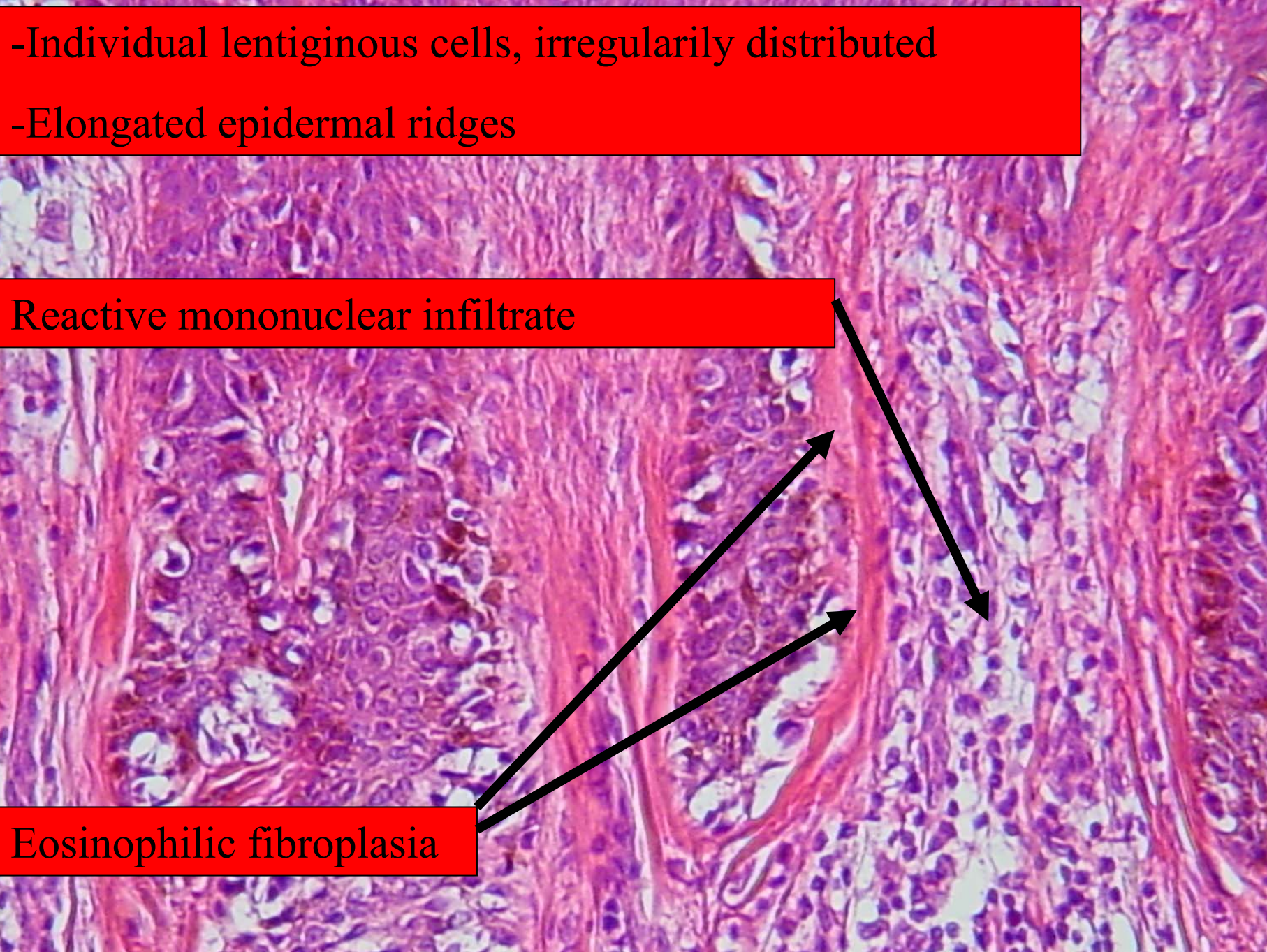
Shoulder component ! +/- always
dysplastic



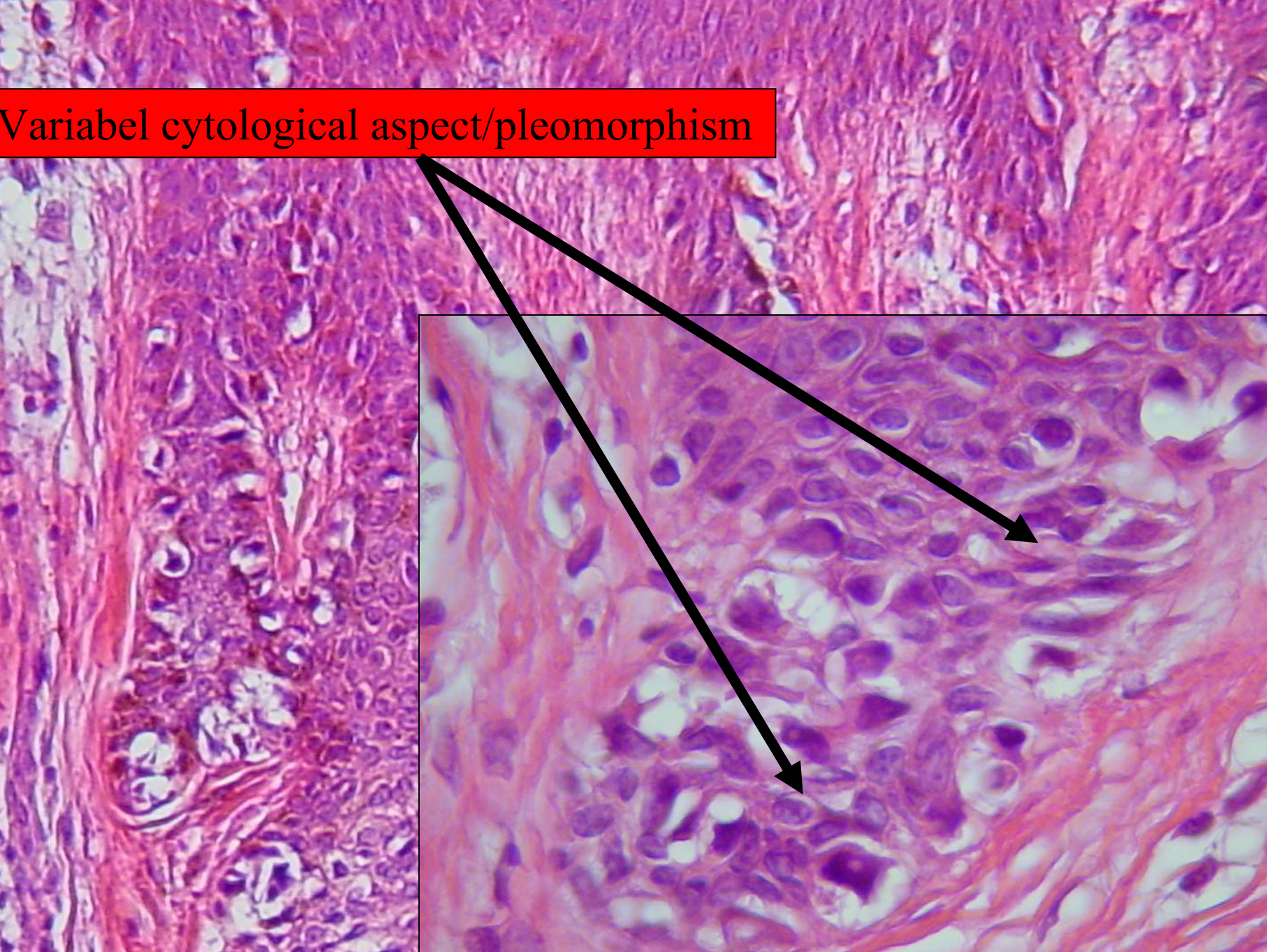
- Individual lentiginous cells, irregularly distributed
- Elongated epidermal ridges

Reactive mononuclear infiltrate

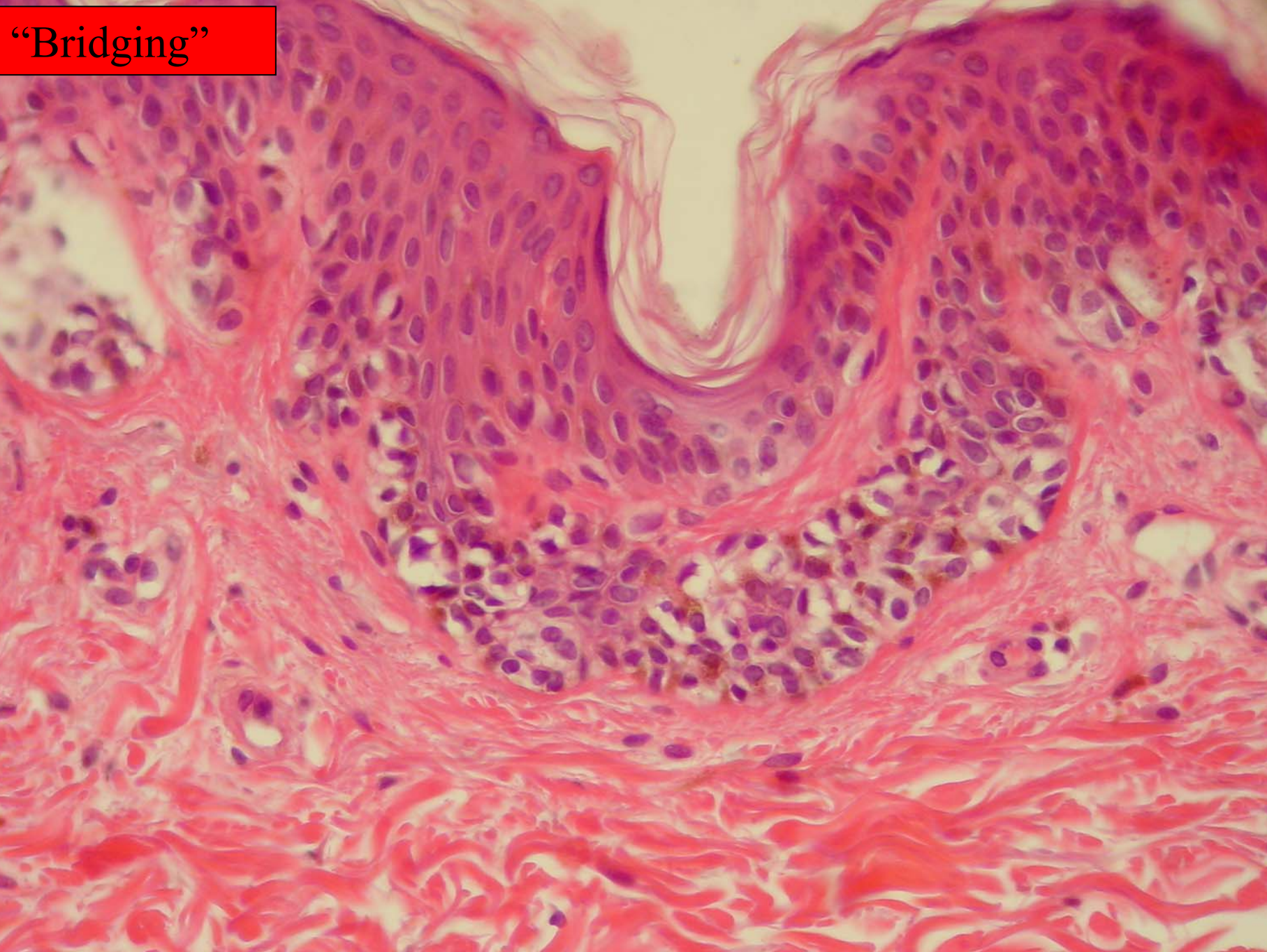
Eosinophilic fibroplasia



Variable cytological aspect/pleomorphism



“Bridging”



GRADING OF DYSPLASIA:

- No consensus/difficult interindividual reproducibility

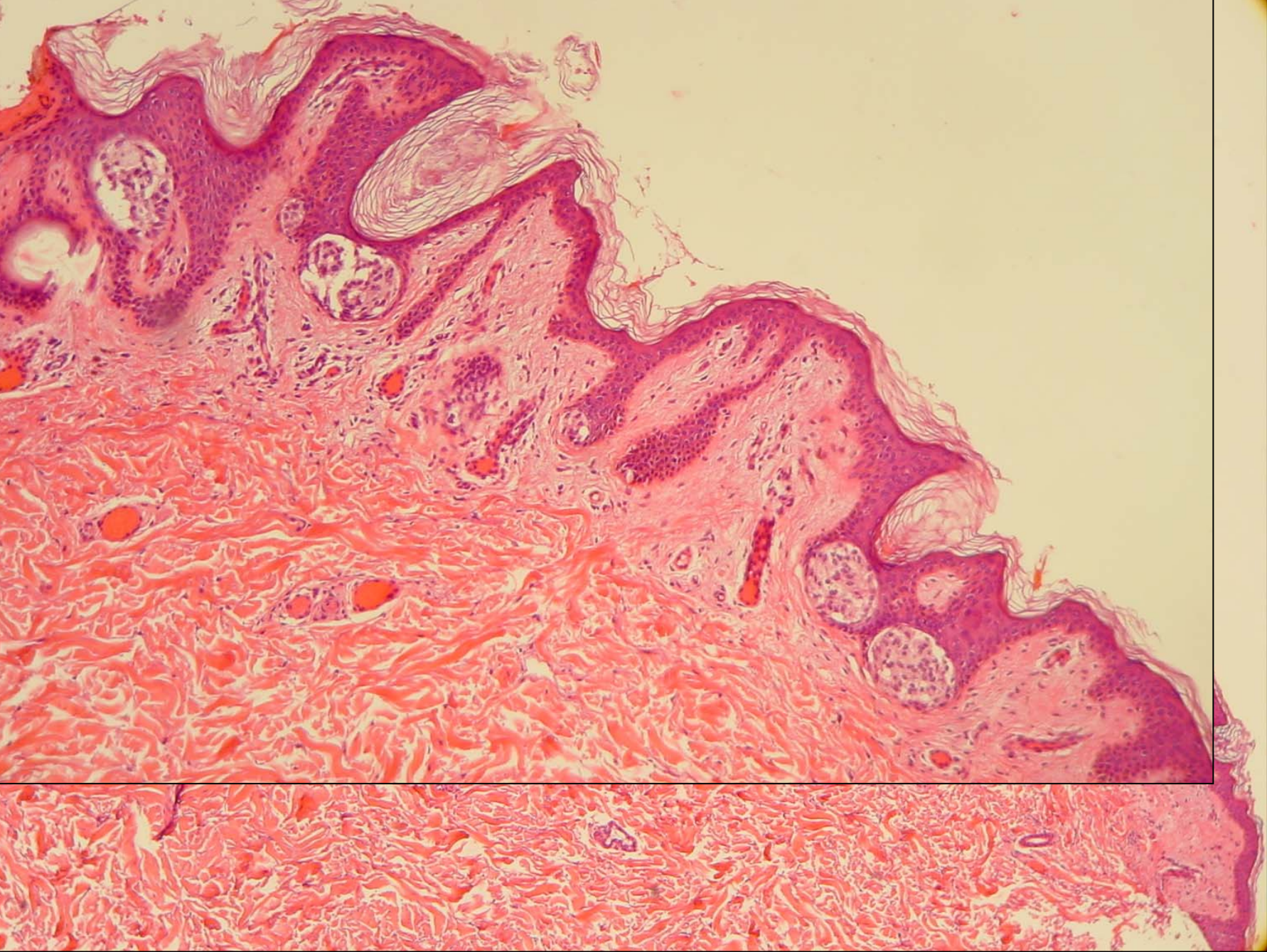
ARCHITECTURE:

Mild dysplasia

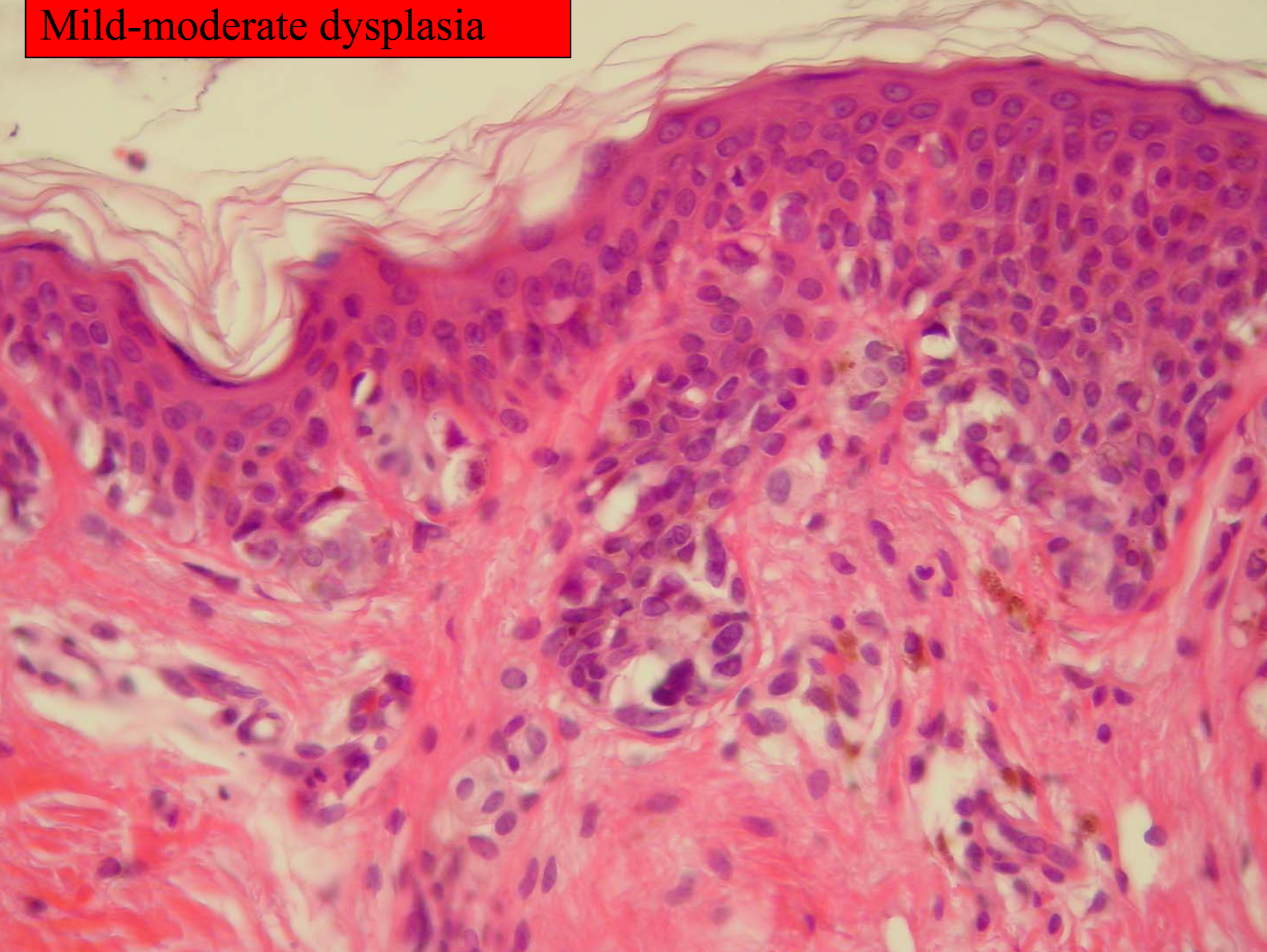
- “clean” aspect at “low power”, not “busy”
- shoulder component as most prominent hallmark
- individual lentiginous cells and “nests”

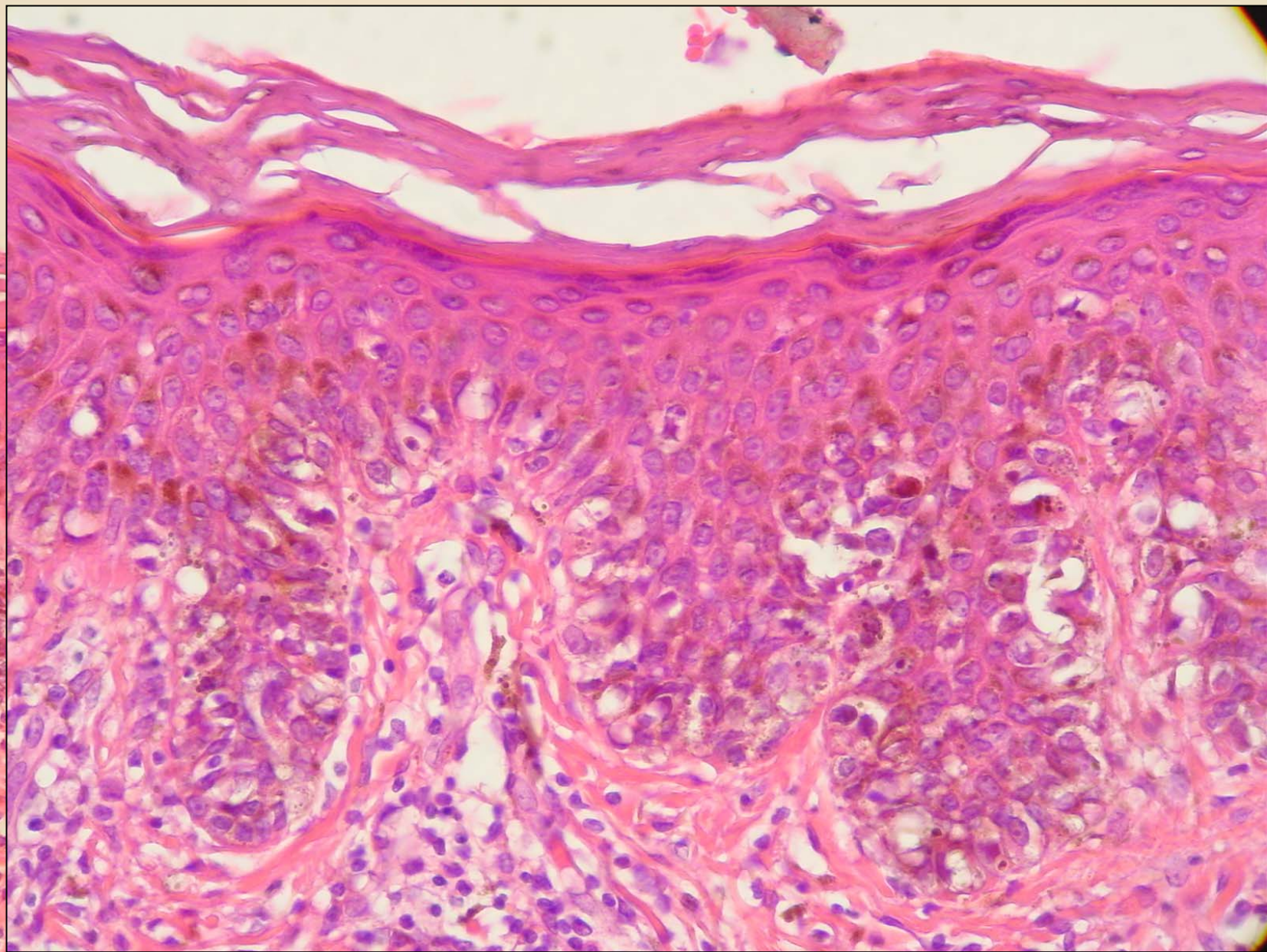
CYTOLOGY:

- no prominent atypia or nucleoli/some hyperchromasia
- not too much intercytological variation
- infrequent mitosis



Mild-moderate dysplasia





GRADERING OF DYSPLASIA:

Severe dysplasia

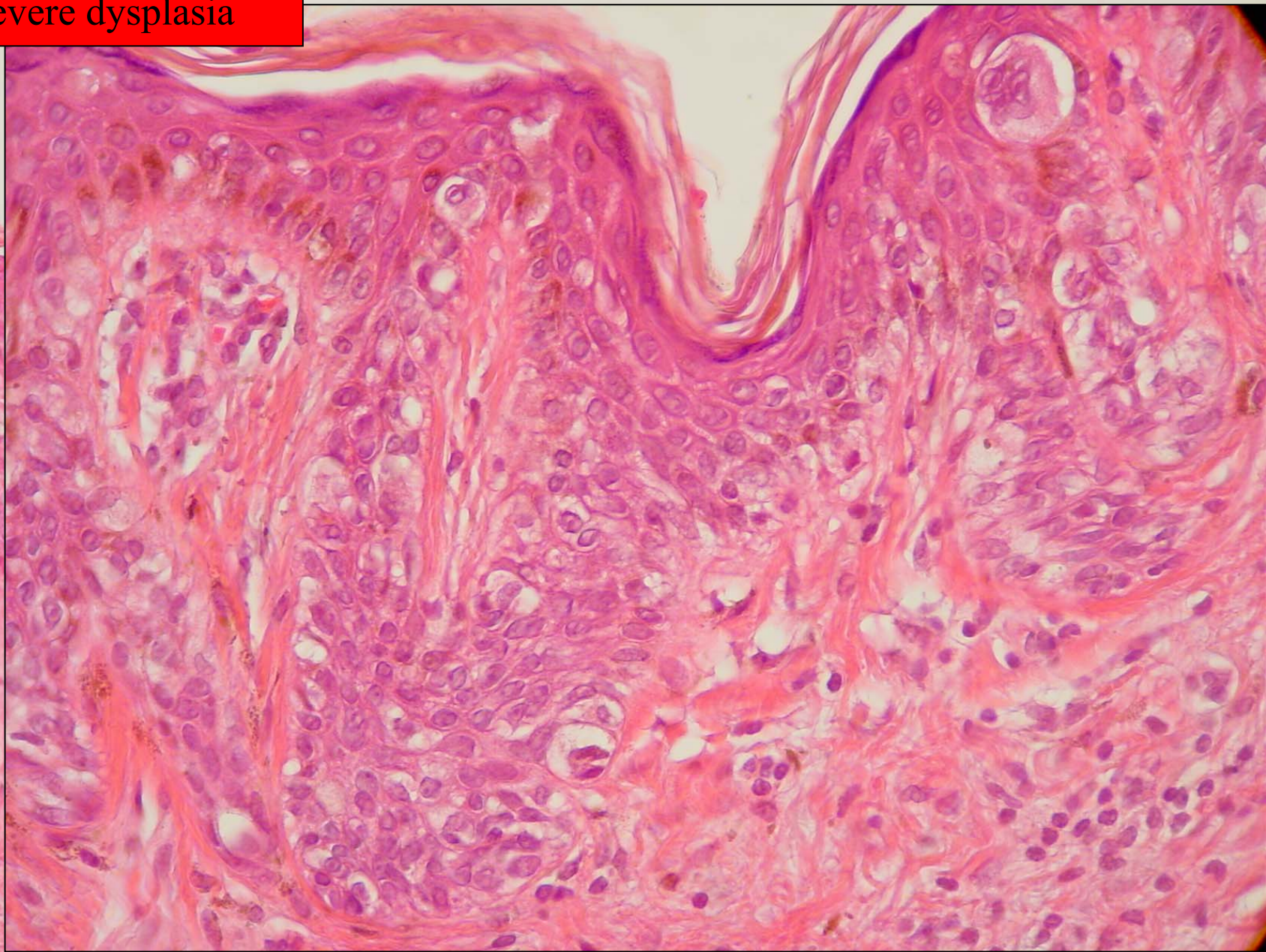
ARCHITECTURE:

- “busy”worrisome at low power
- always shouldercomponent

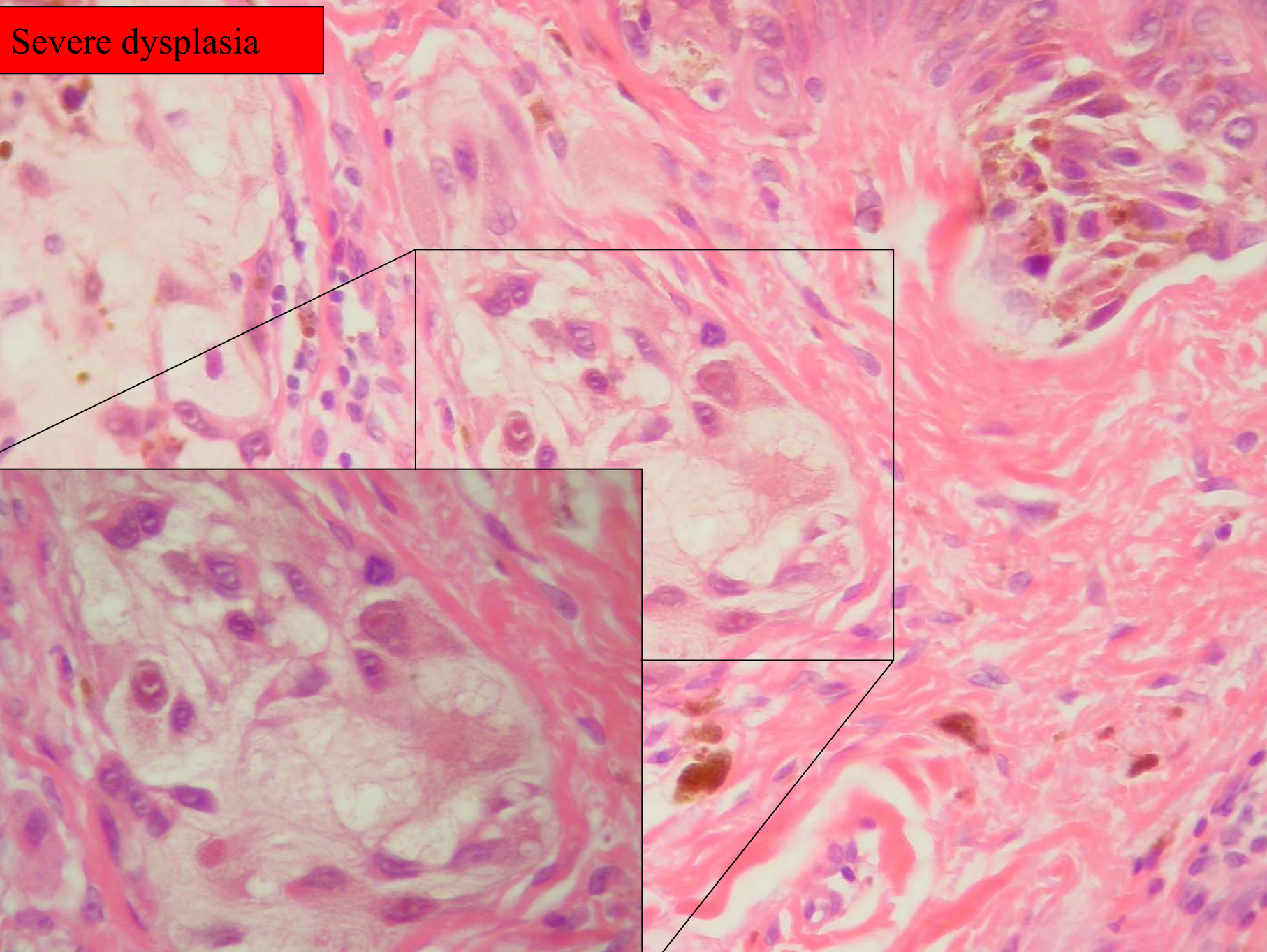
CYTOLOGY:

- prominent atypia/macronucleoli/hyperchromasia
- pronounced intercytological variability
- predominance of individual lentiginous irregularly distributed individual cells, less “nests”

Severe dysplasia



Severe dysplasia

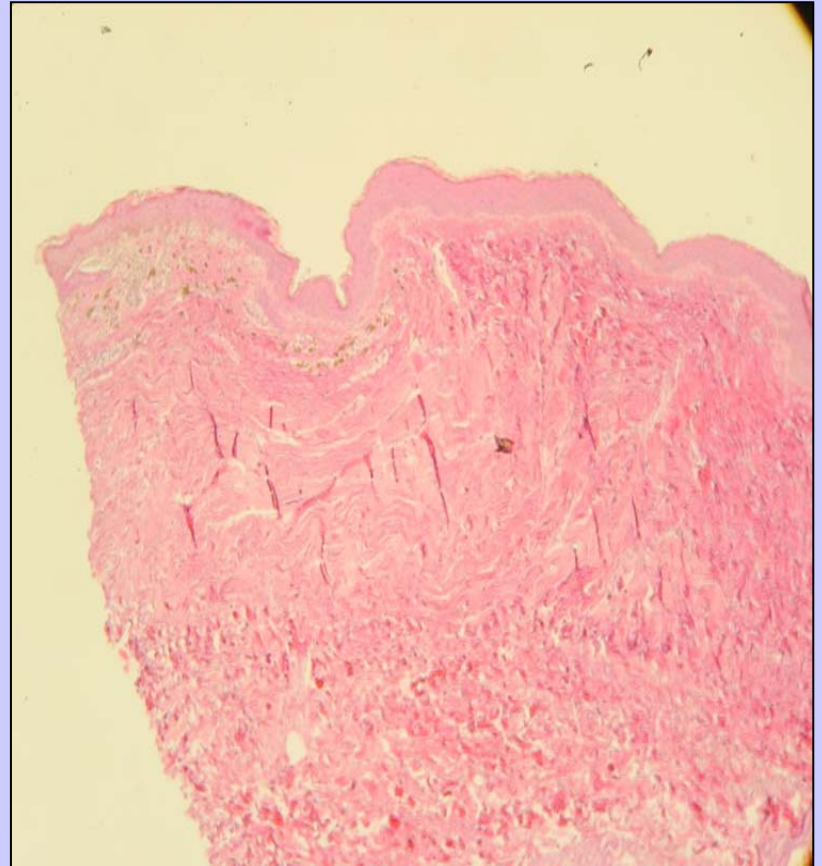


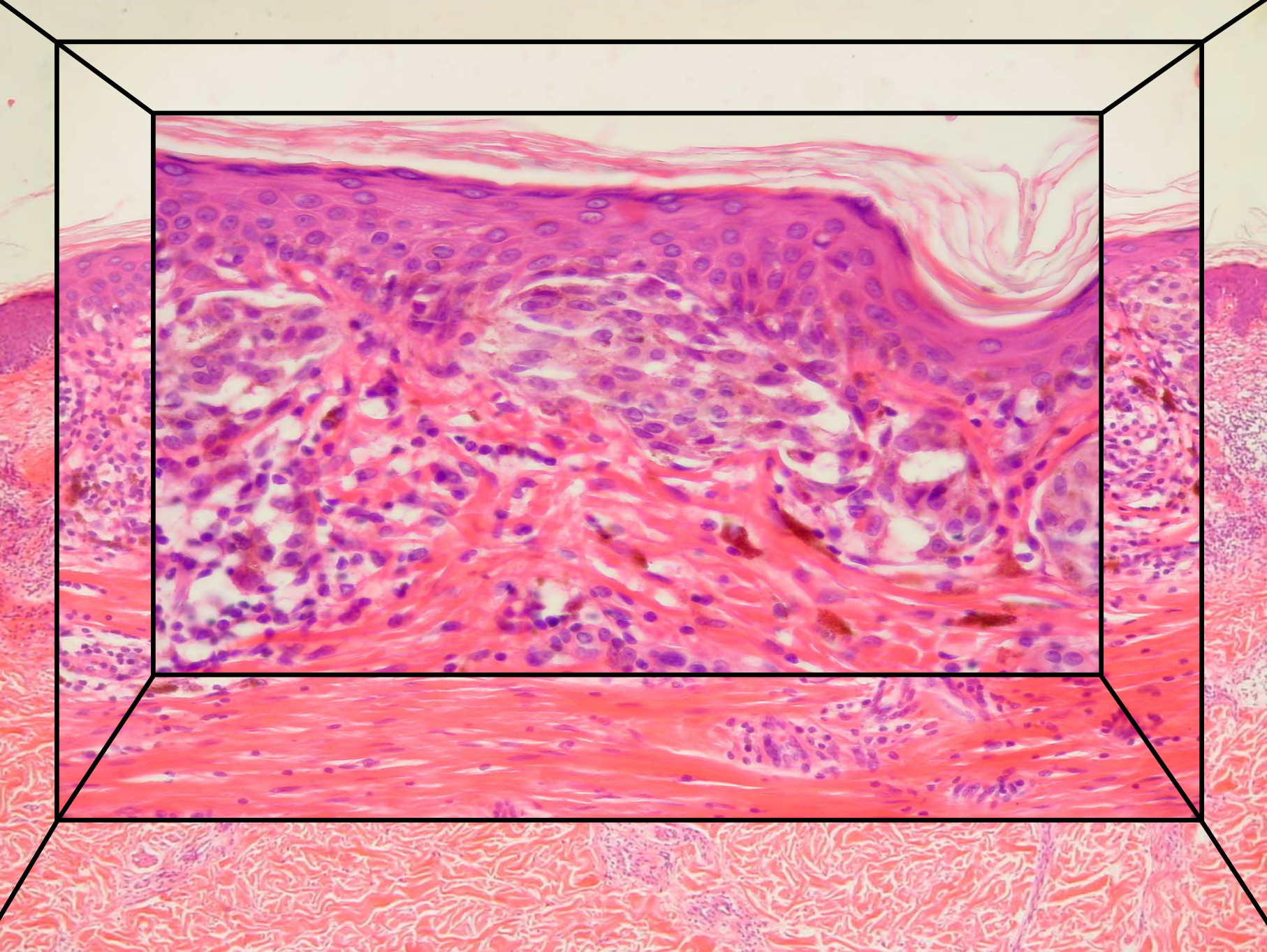
Some remarks with severe dysplastic naevi

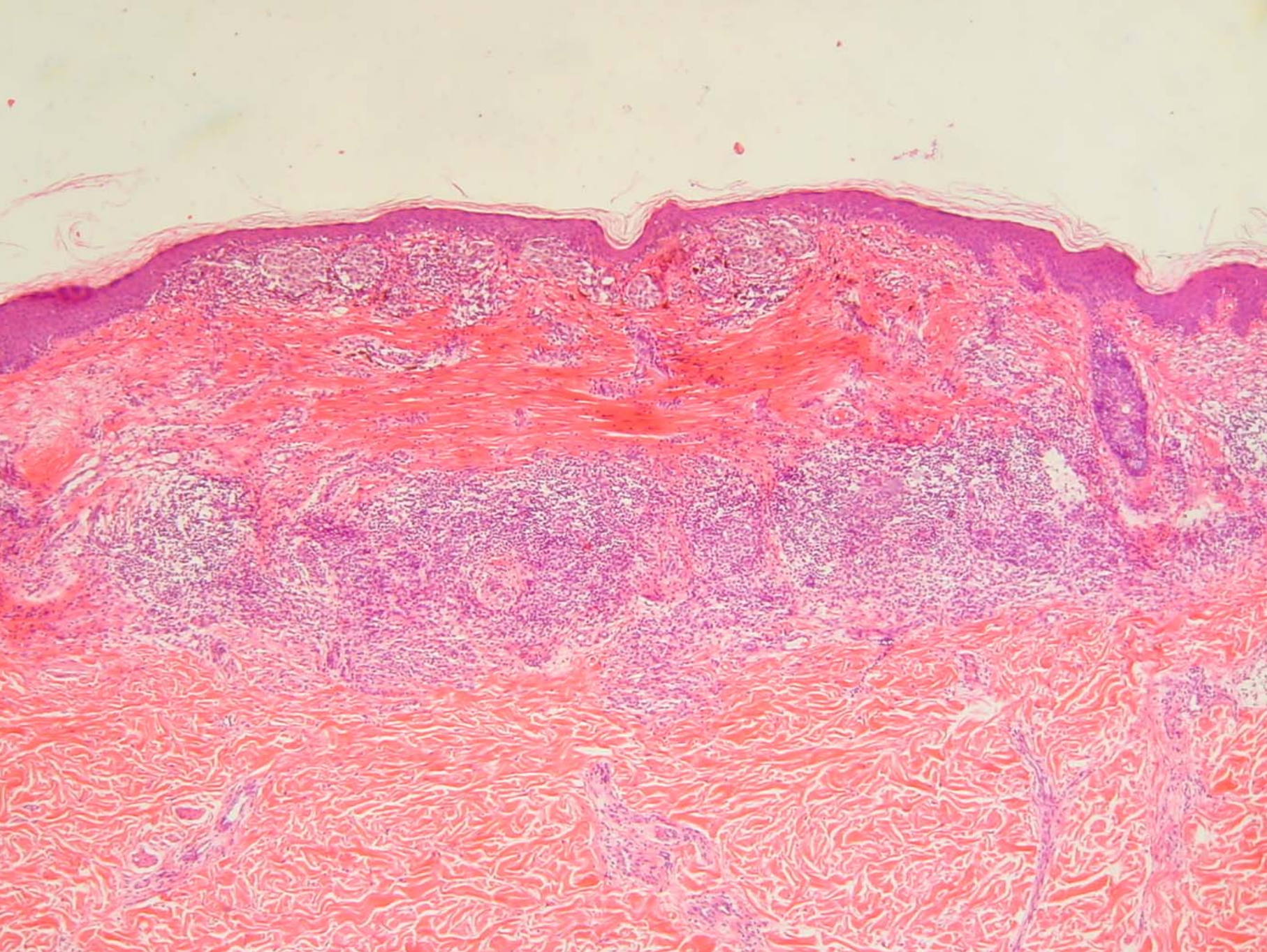
1. Severe dysplasie \approx melanoma in situ
2. Search for pagetoid invasion
3. Pay attention to the age of the patient
(life insurance)
4. Prognosis of completely excised severely dysplastic naevus/in situ melanoma/microinvasive SSM is “ \cong ”
5. Always do levels of the block

Recurrent naevus

- Usually recurr. after shaving
- **>50% within 6m**
- Usually spotty macular
- ***≤ contour of the scar ⇔ Mel***
- ***No epidermal ridges***
- ***Epidermal mc prol. of nests and individual cells, above a dermal scar***





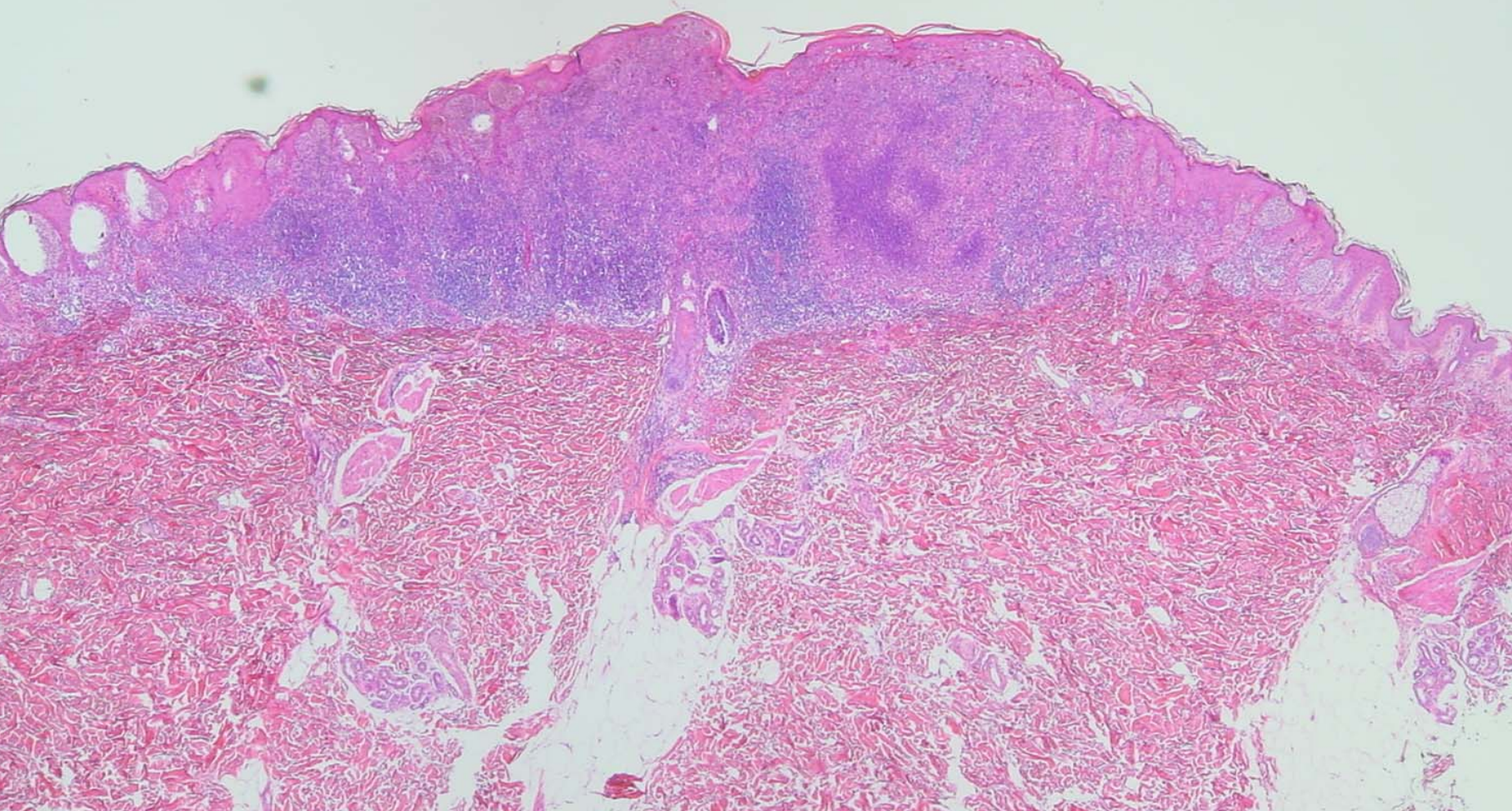


Halo naevus (Suton's naevus)

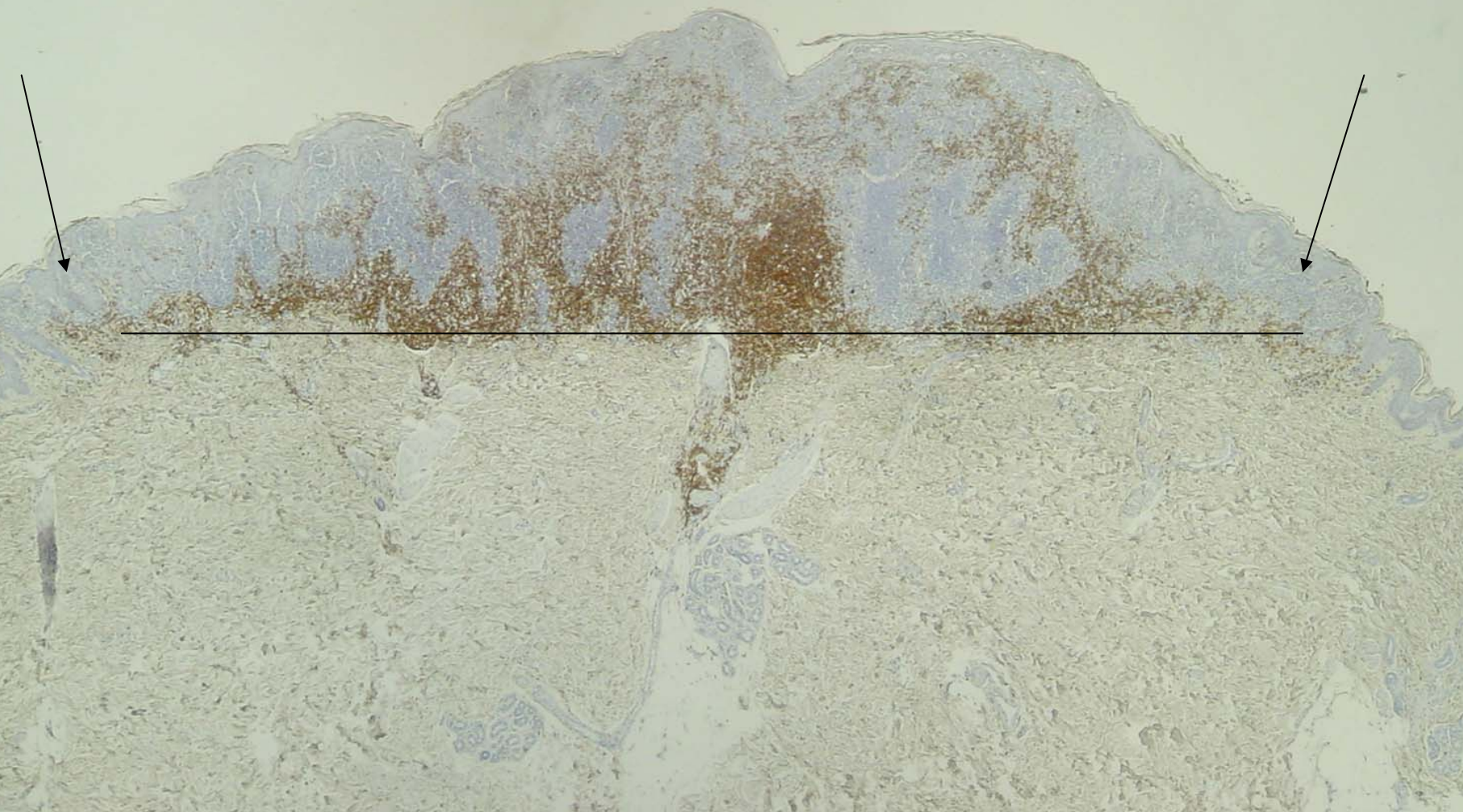
- Dens mononuclear infiltrate !
- = clinical diagnosis
- Sometimes atypia
- Usually compound
- Usually < 20 y old
- Symmetry / lat. margin



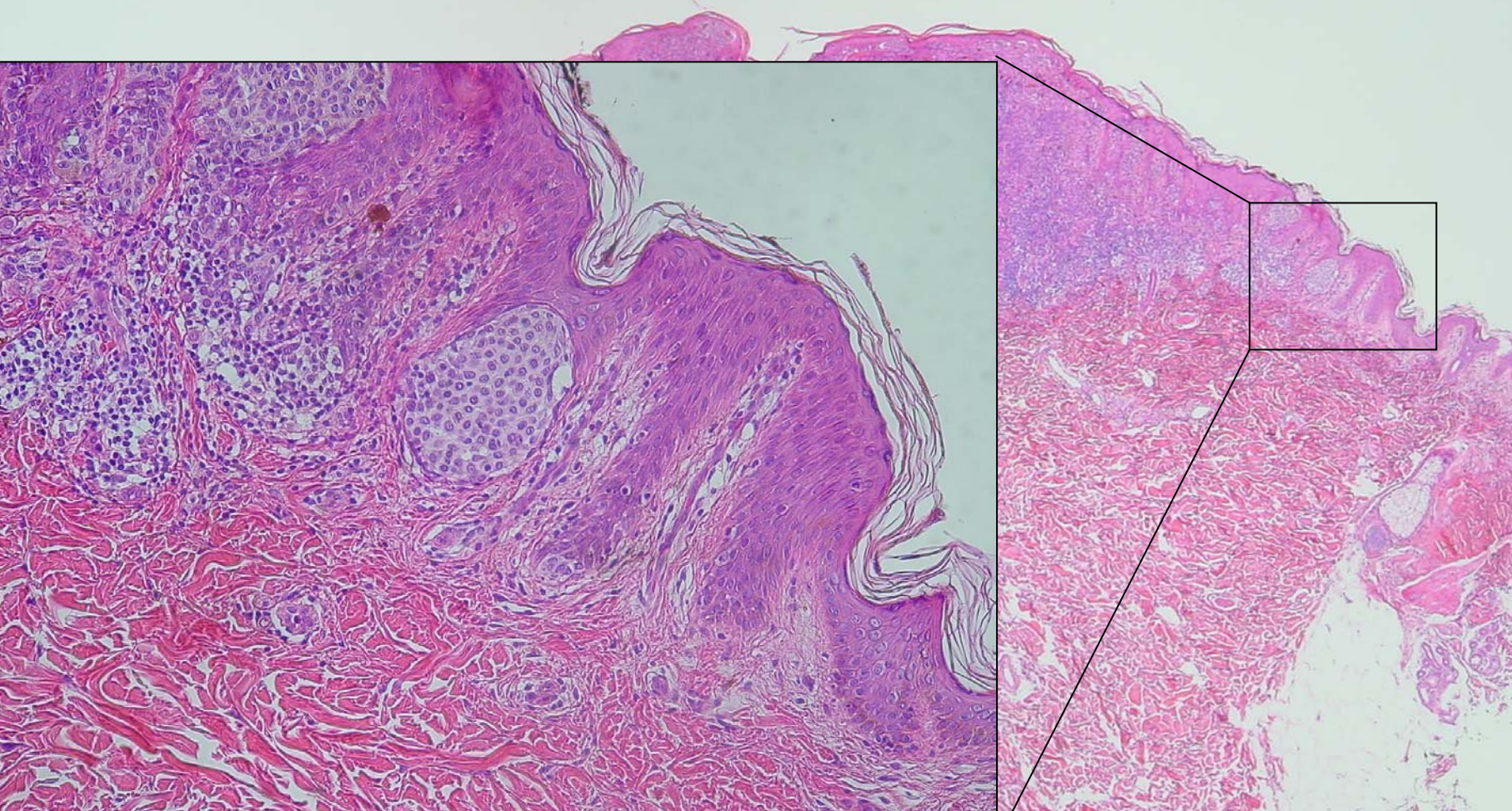
Halo naevus



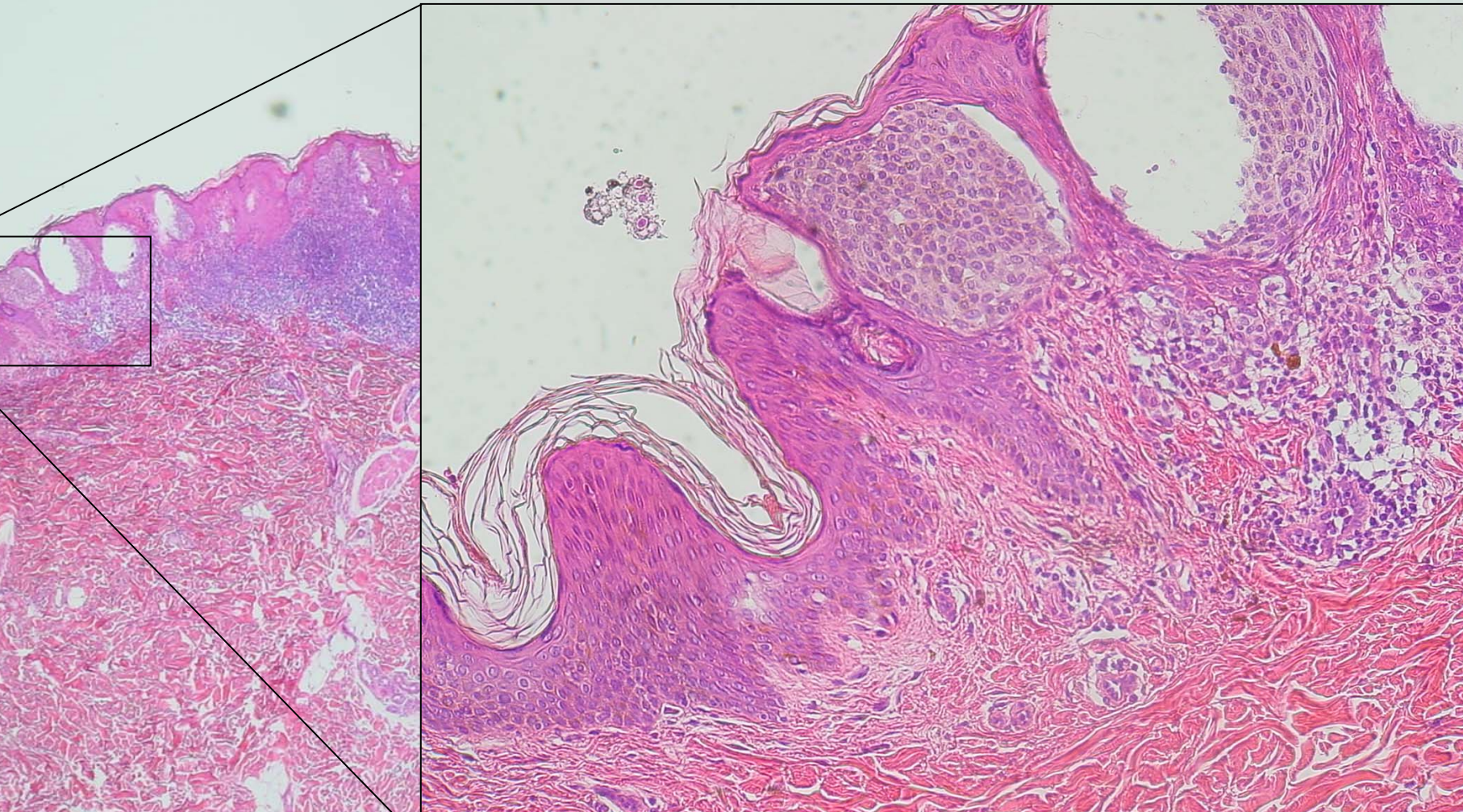
LC



Halo naevus



Halo naevus



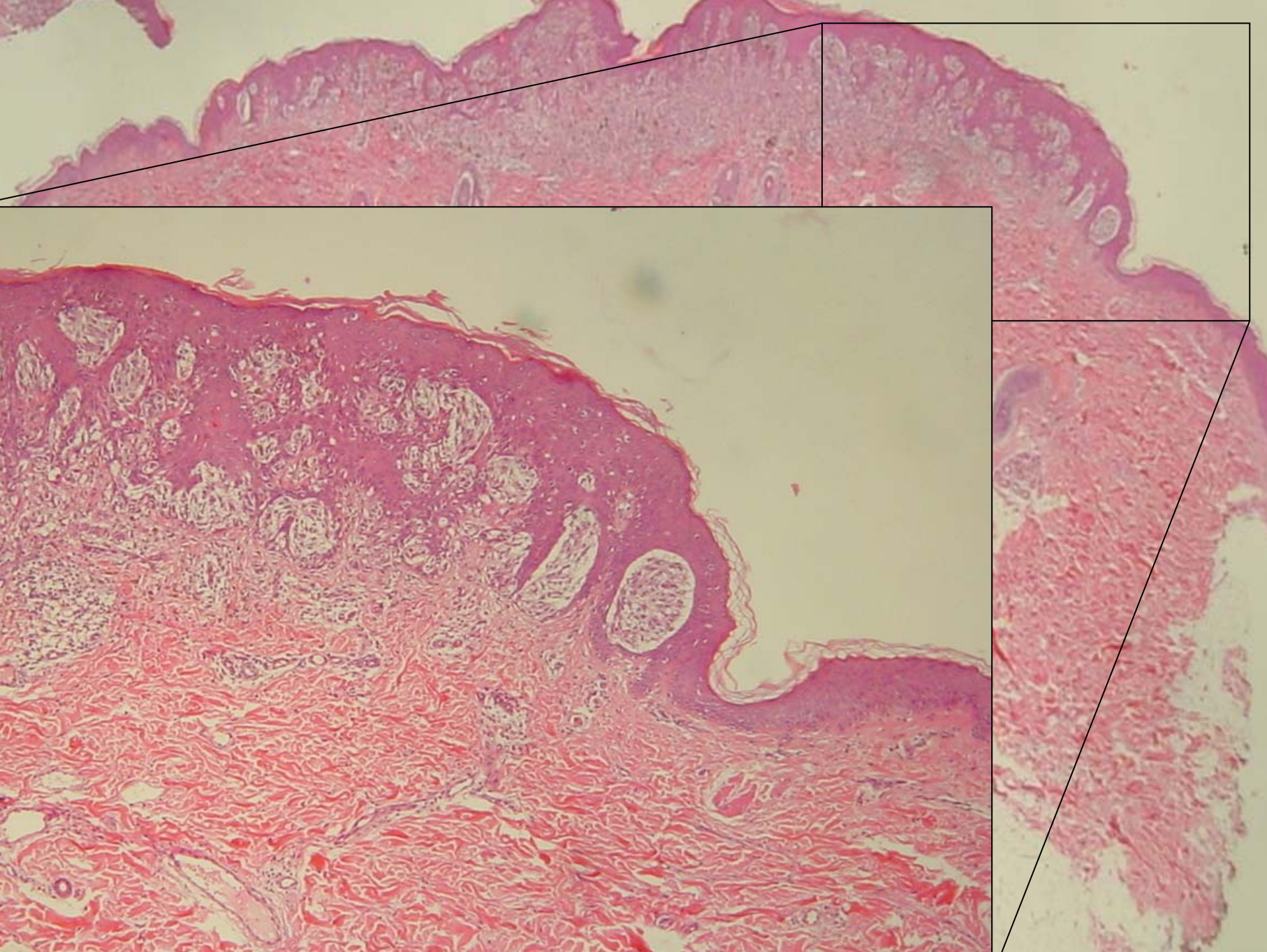
Spitz Naevus: classic

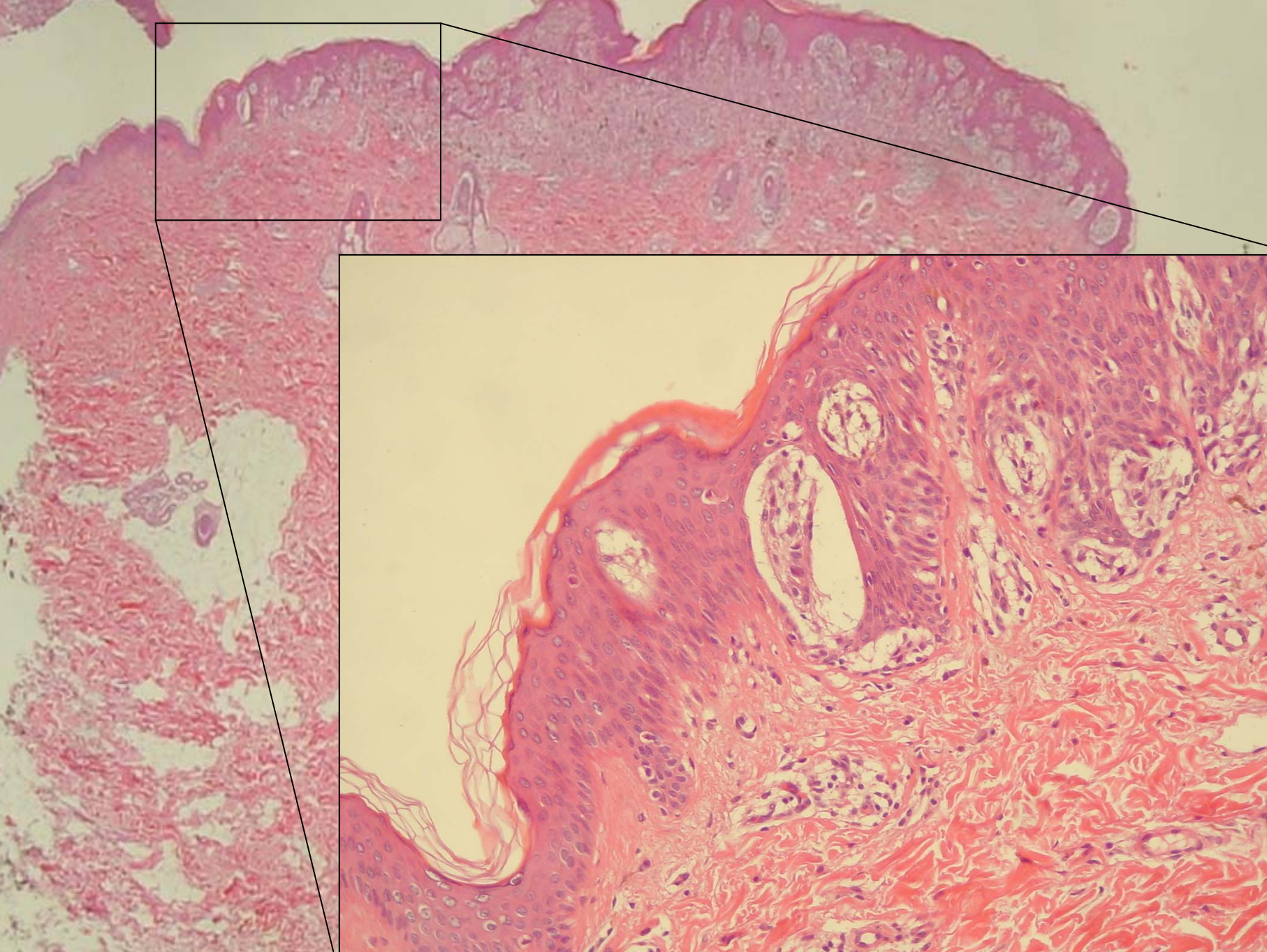
- Syn.: juvenile melanoma
- Children en adolesc.
- Usually solitary and <1cm
- Usually asymptomatic
- Growth in months, <1j
- Pink-red – meat red
- Usually lens-shaped
- Face and extremities

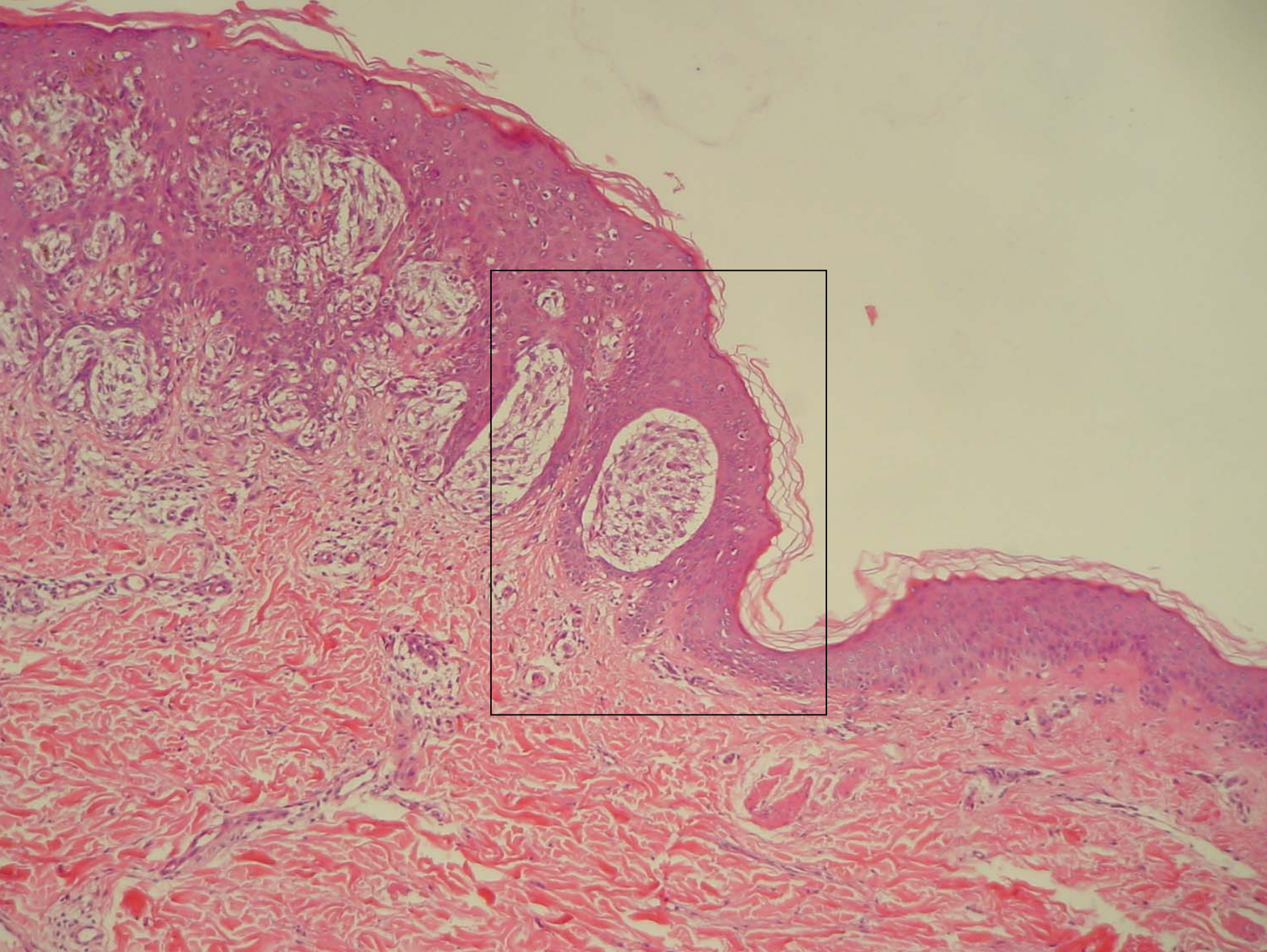


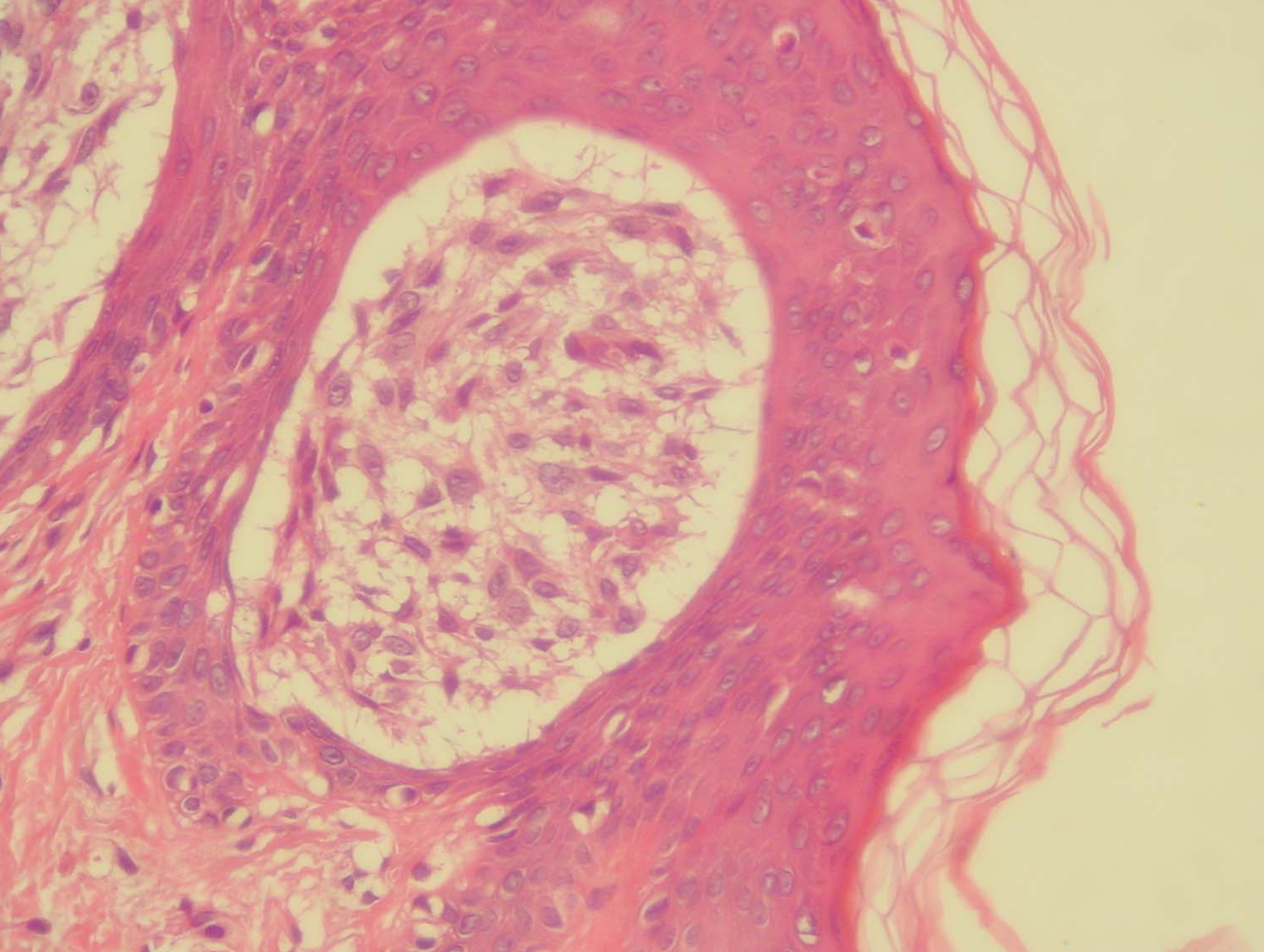
Spitz naevus

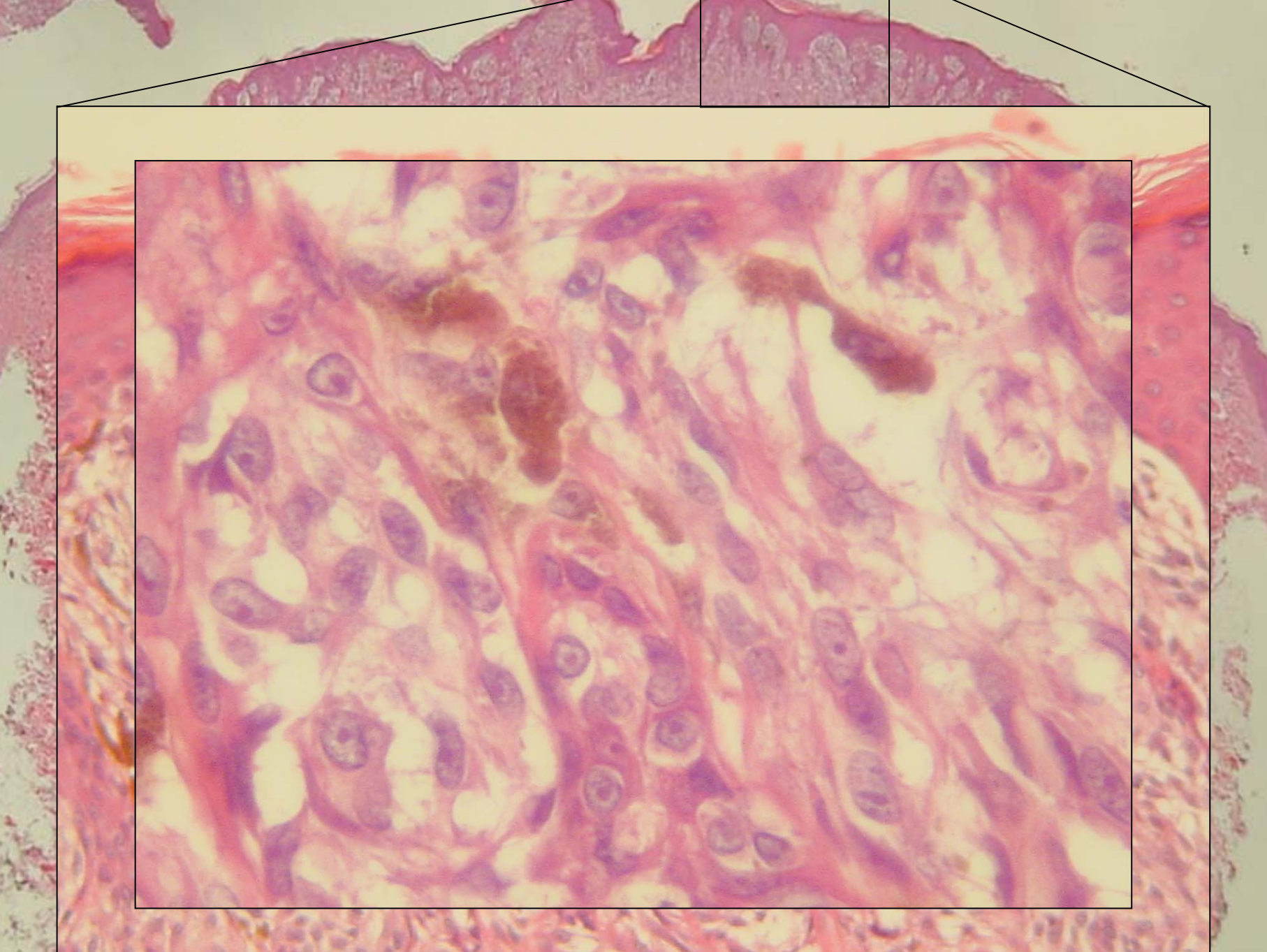
- Large **epitheloid** en/or **spindle** cells evt + GC
- “**Cytological symmetry**”
- Large junctional nests, “caught” btw. ↓ ep. ridges usually with “**cleft *artefact***”
- “School fish / bananas”, ↓ orientation
- “**Halo**” around (red) **macro-nucleolus**
- Kamino bodies, rare pagetoid cells / elimination cn
- Symmetrical, sharply delineated lateral
- “**Single cell**” **maturation** in depth, nl. collagen
- Usually **few** inflammatory cells, no necrosis/ulceration
- Few mitosen possible, usually superficial, no atypical
- MIB-1: +/- 3% pos ↔ melanoma: 14-16% pos

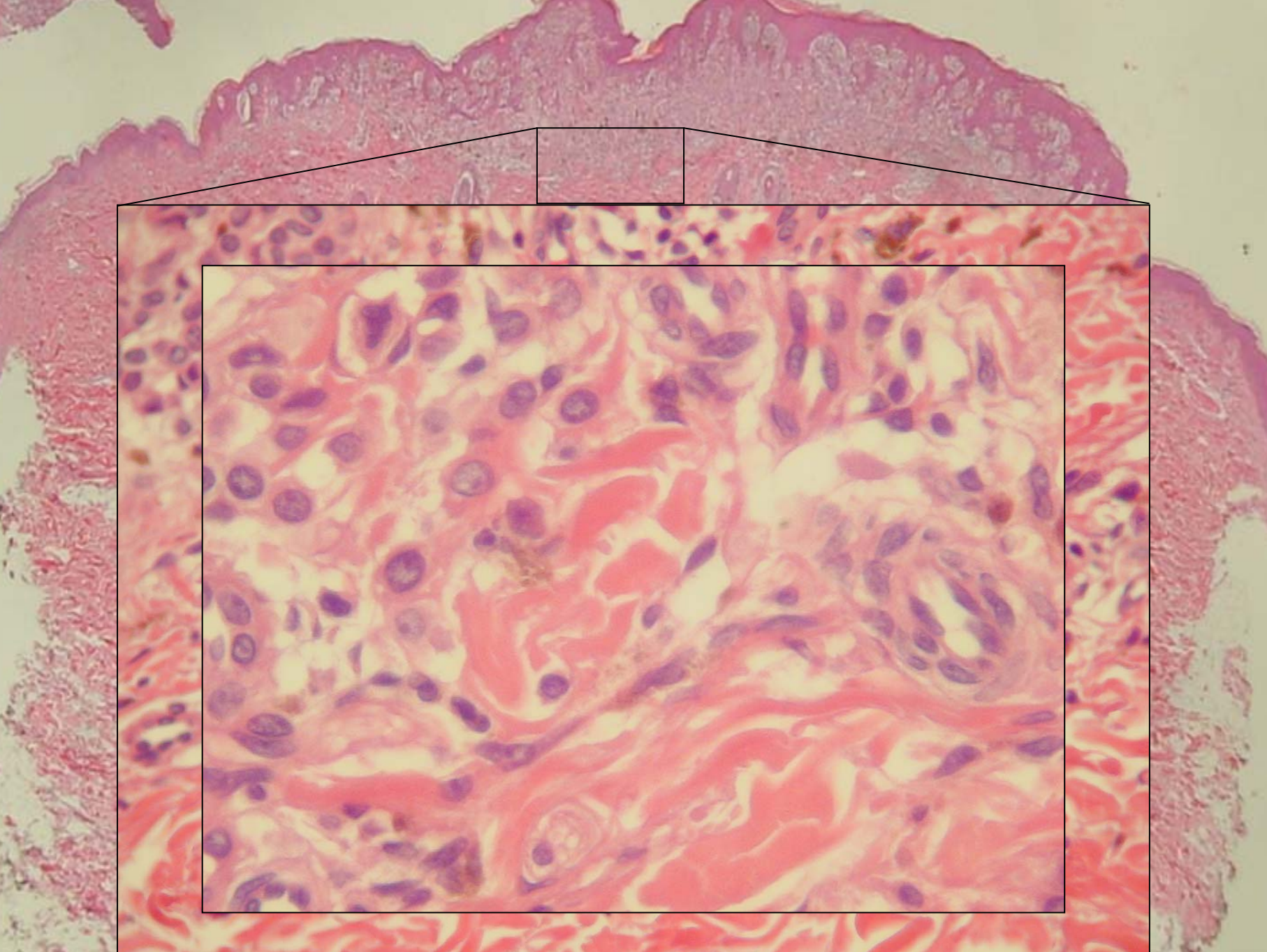


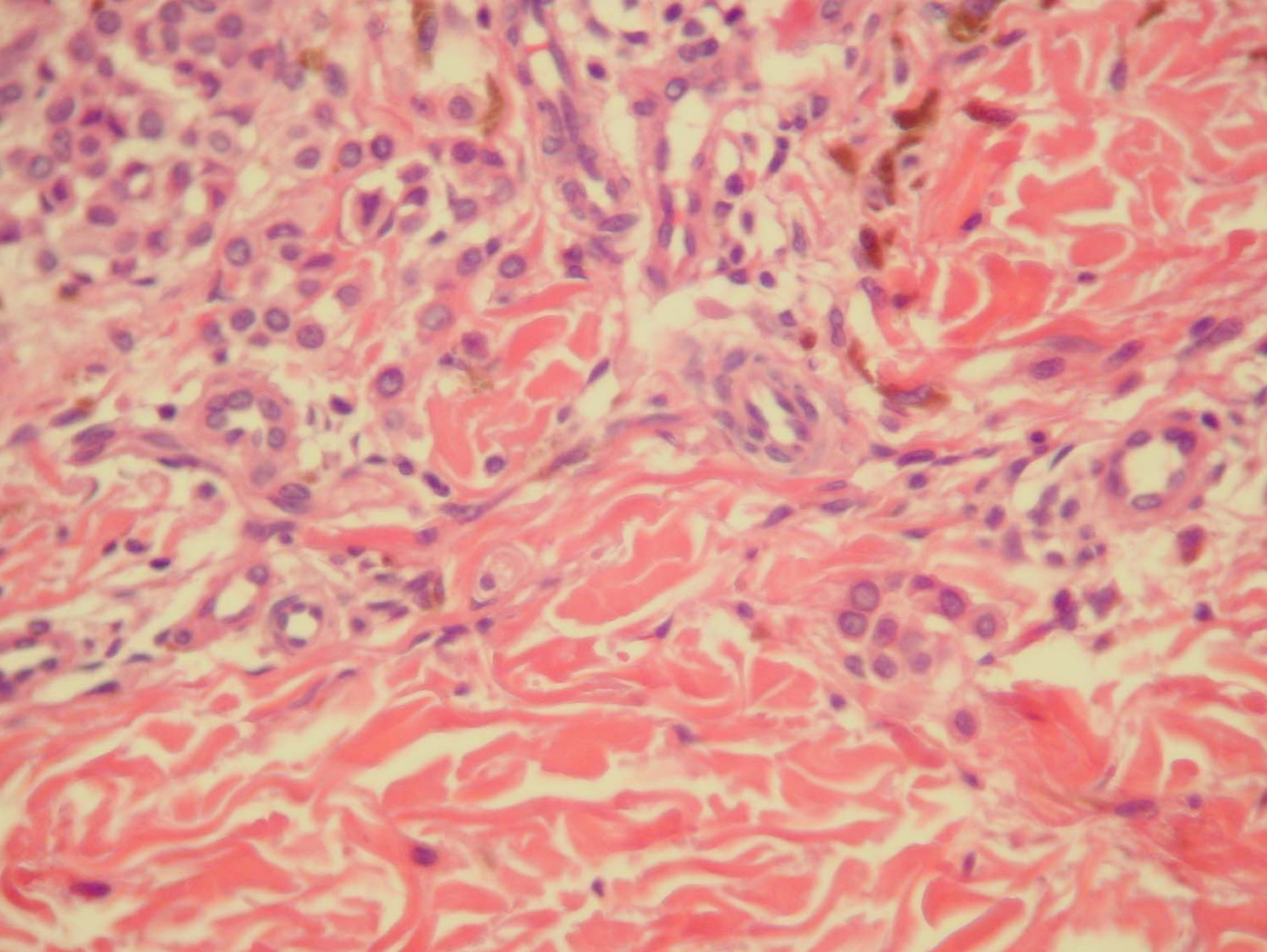


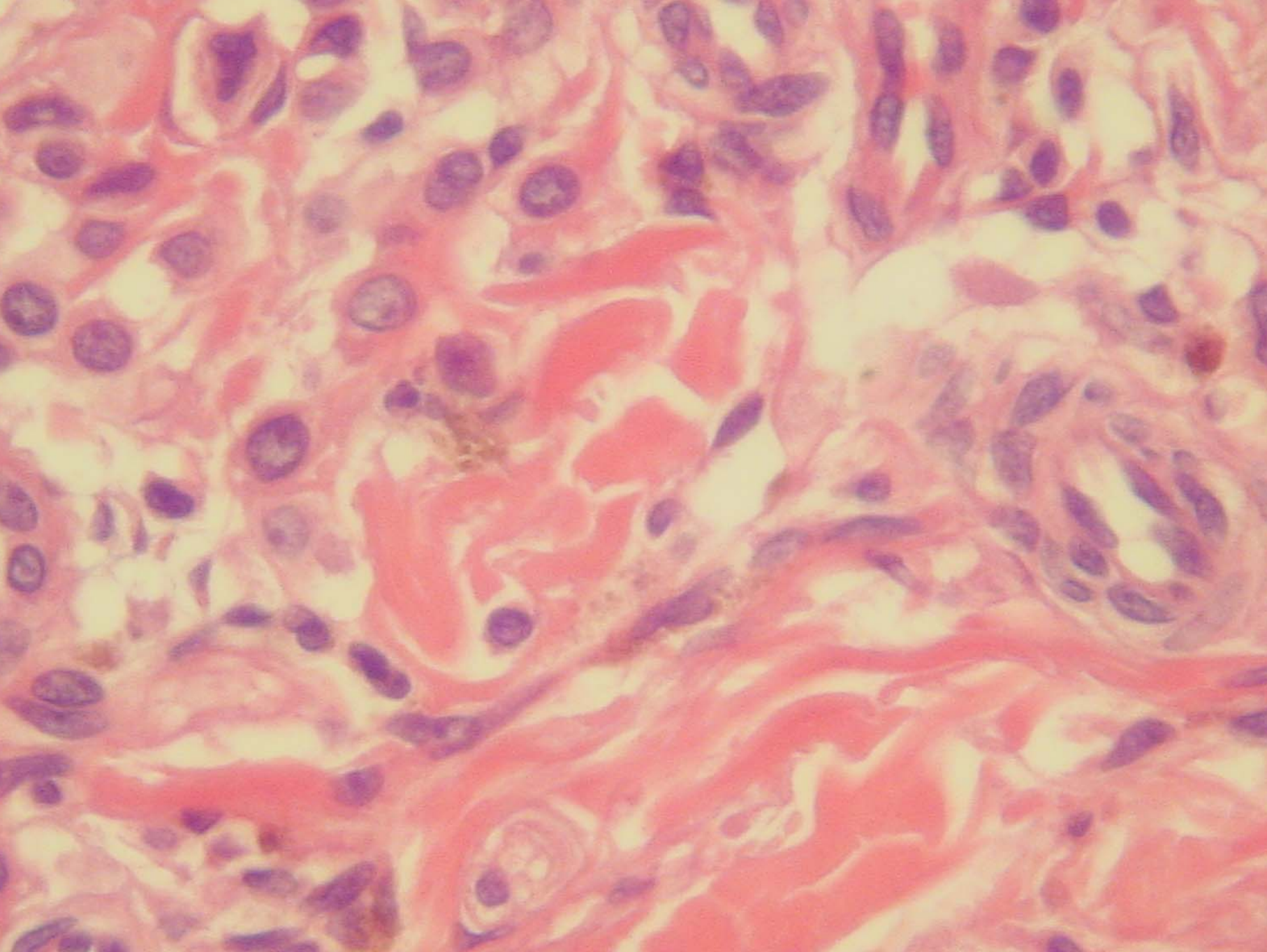






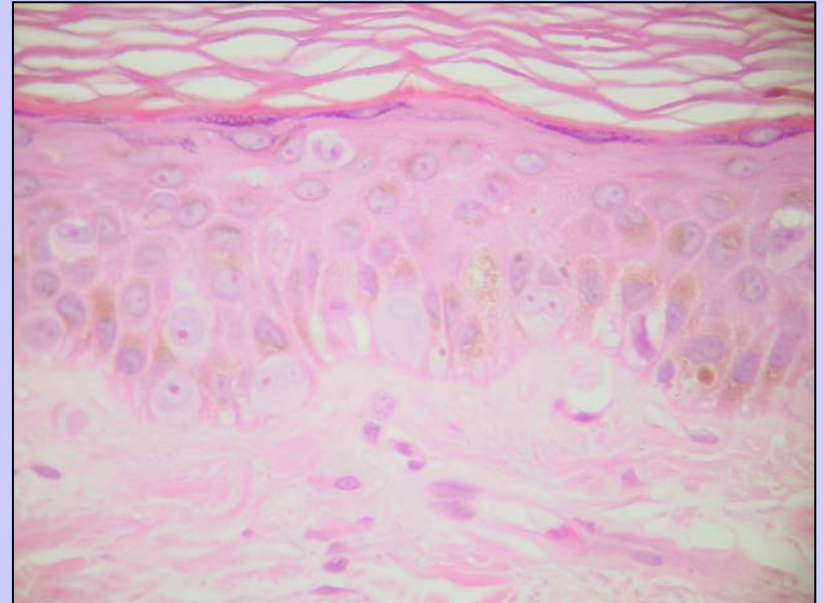




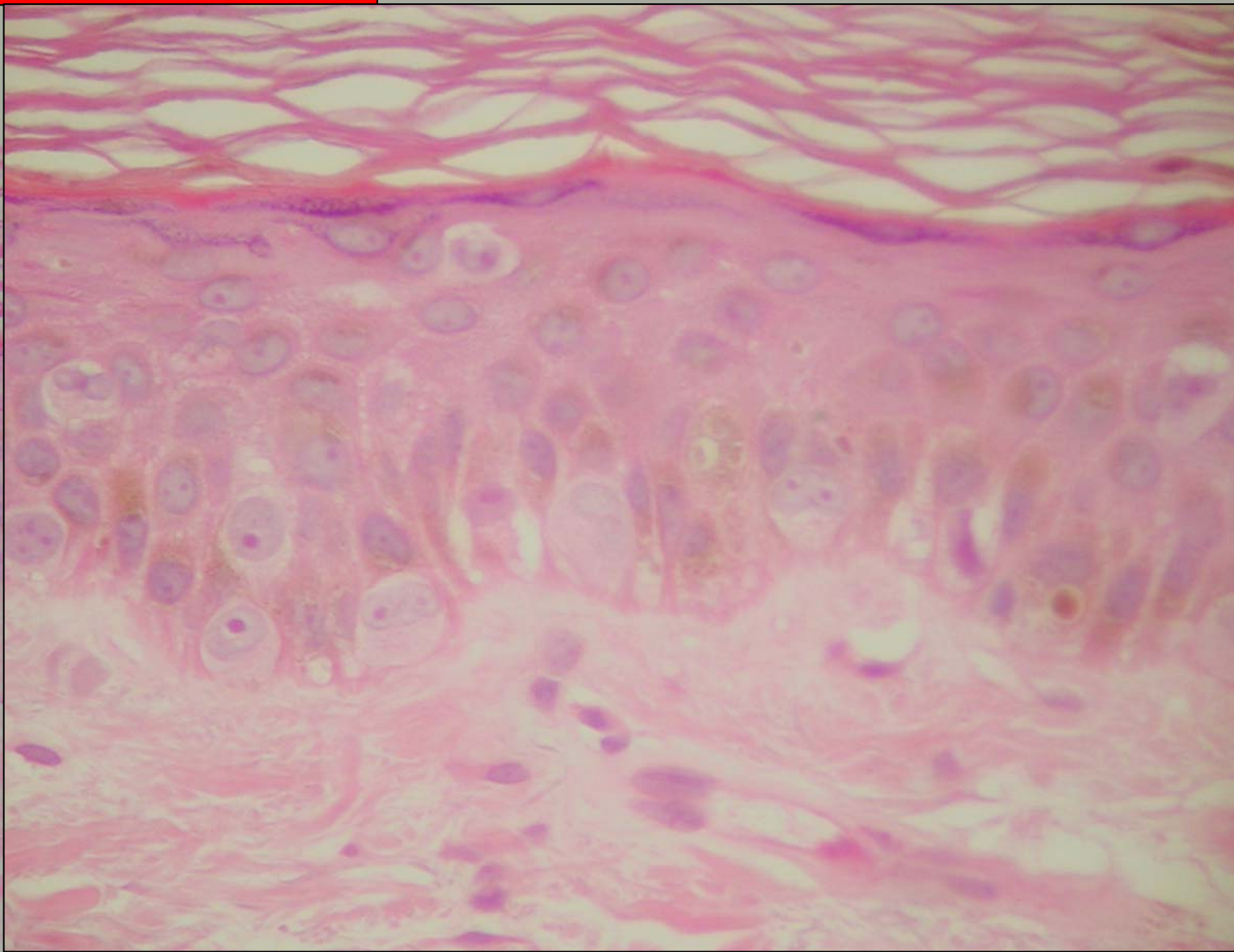


Spitz Naevus: pagetoïd

- Only epidermal component
- > F, legs
- < 5- 6 mm
- Basal en pagetoïd cells
- Usually epitheloid cells



Spitz naevus: pagetoid

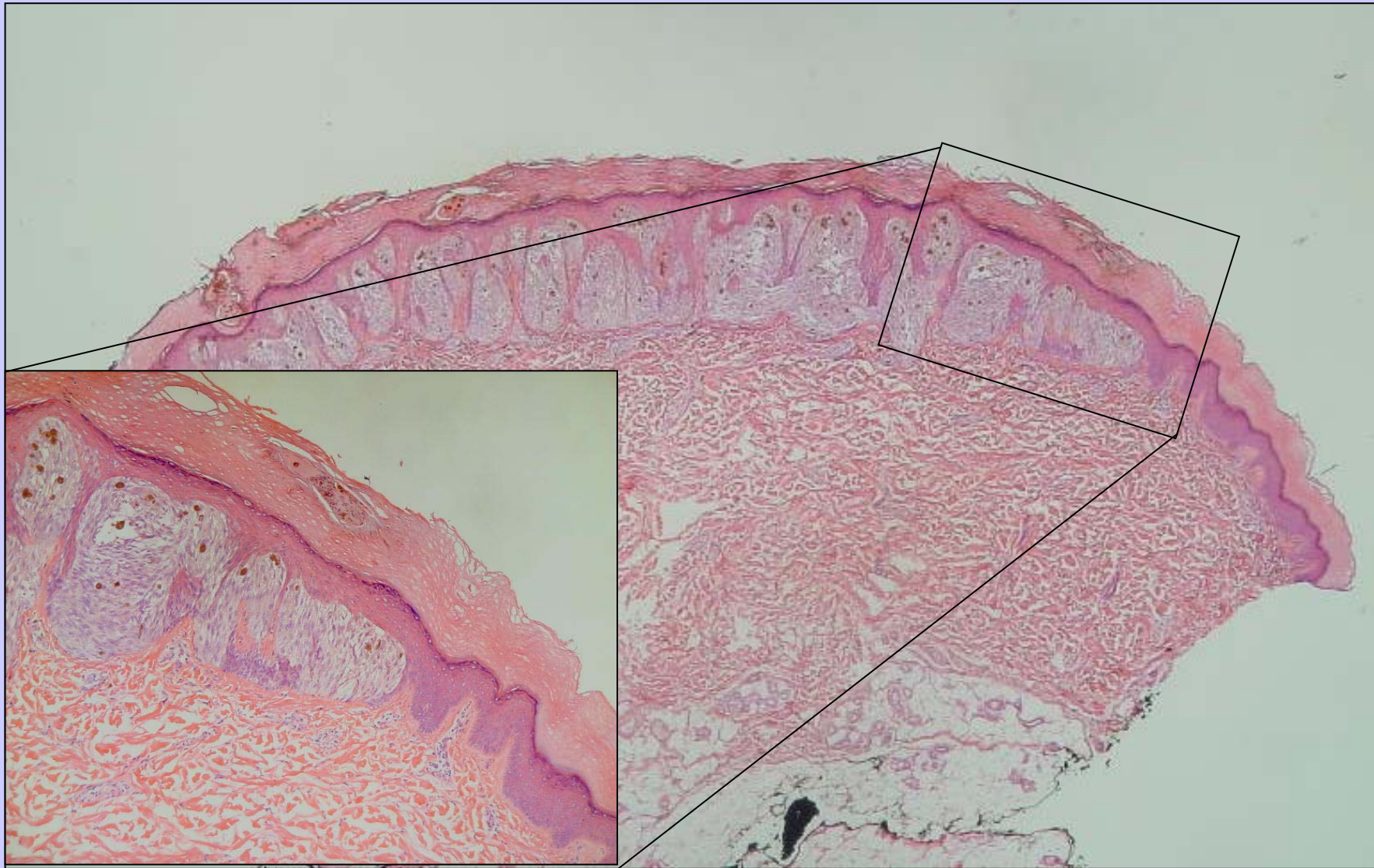


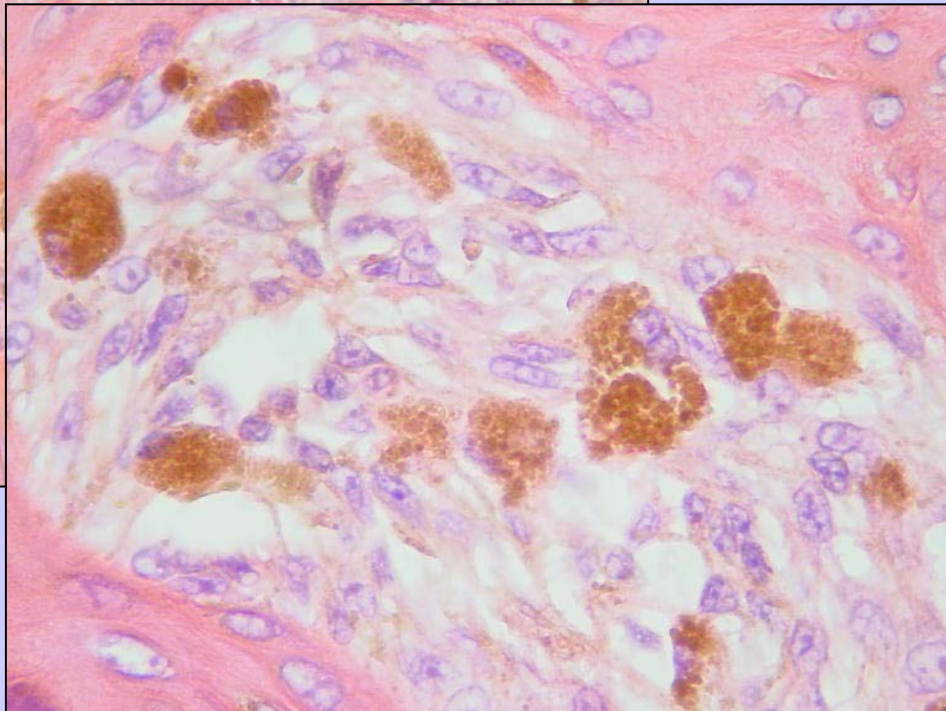
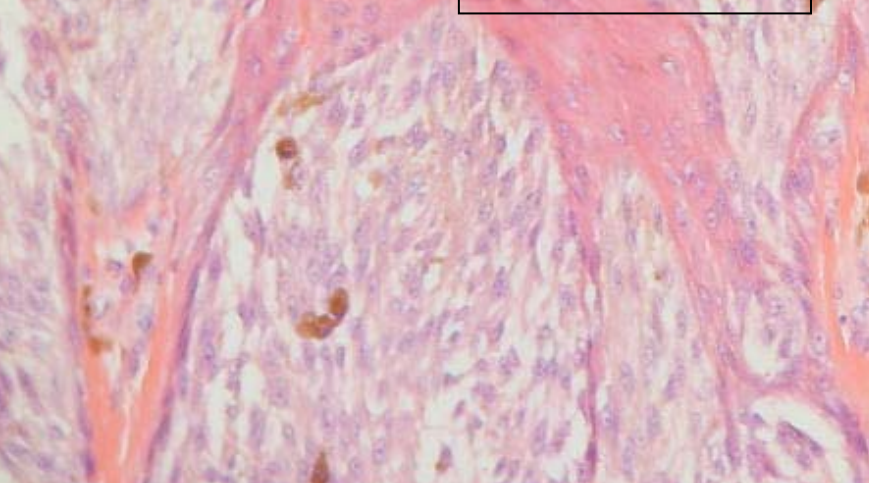
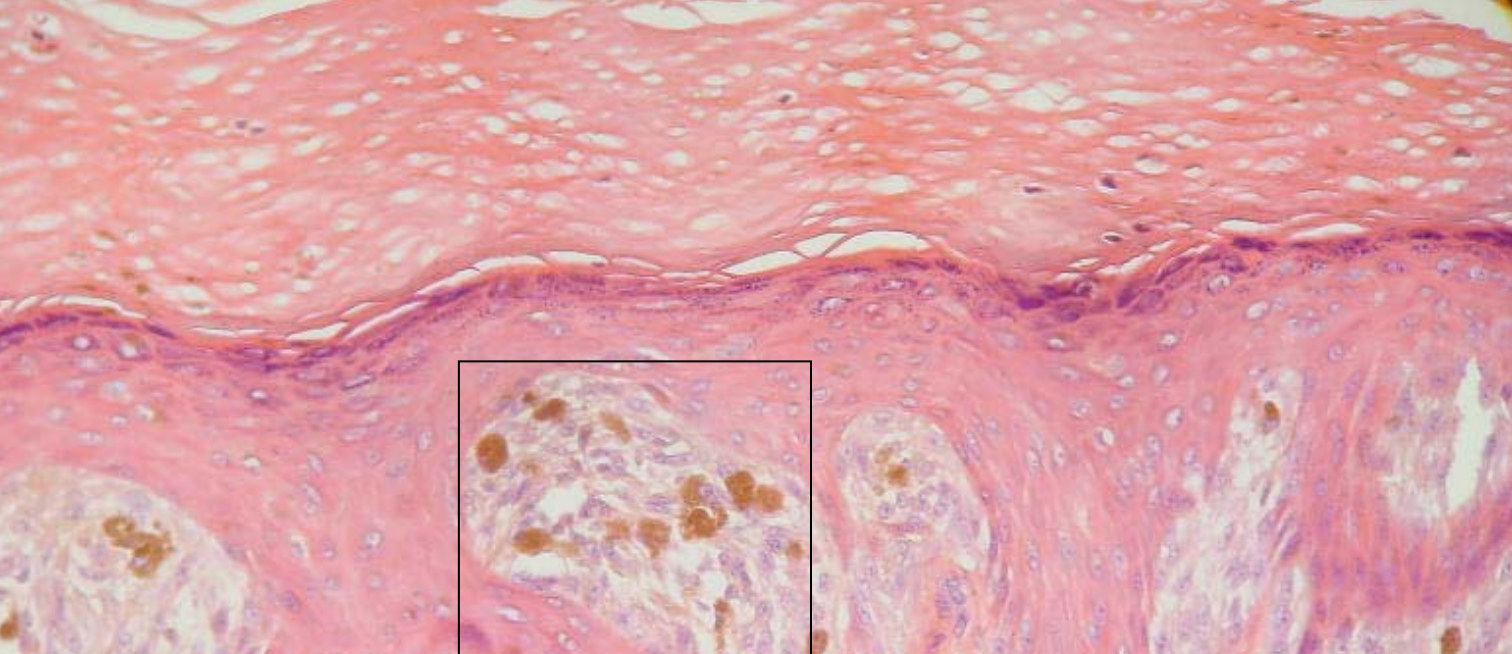
Reed Naevus

- Syn: **pigm.** spindle cell naevus of Reed
- Joung, F>M, < 6mm
- Usually rapid growth
- Pred. legs, esp. thigh
- Symmetrical
- Pigm. large superficial nests with spindle cells
- Transepidermal elimination



Reed Naevus





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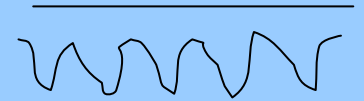


MELANOMA: GENERAL HALLMARCS

FIRST: important distinction:

Dysplastic naevi

ACANTHOSIS



- usually non sun exposed areas: **no atrophy**
- “younger” persons (30-40 y)
- Terminology: DN/ISM/SSM(rad/vert)

Lentigo Maligna

ATROPHY / ELASTOID DEG.



- **atrophic** sun exposed skin/face
- older people (+60-70 y)
- Terminology: Lent. Mal.(in situ) / LMM (invasive)

MELANOMA

Lentigo Maligna (in situ)

Lentigo Maligna Melanoma (invasive)



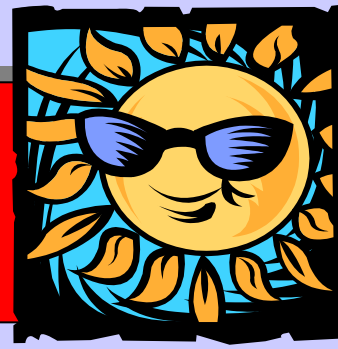
Superficial Spreading Melanoma

- In situ (SSM, clark I)
- invasive radial growthphase
- invasive vertical growthphase

Other

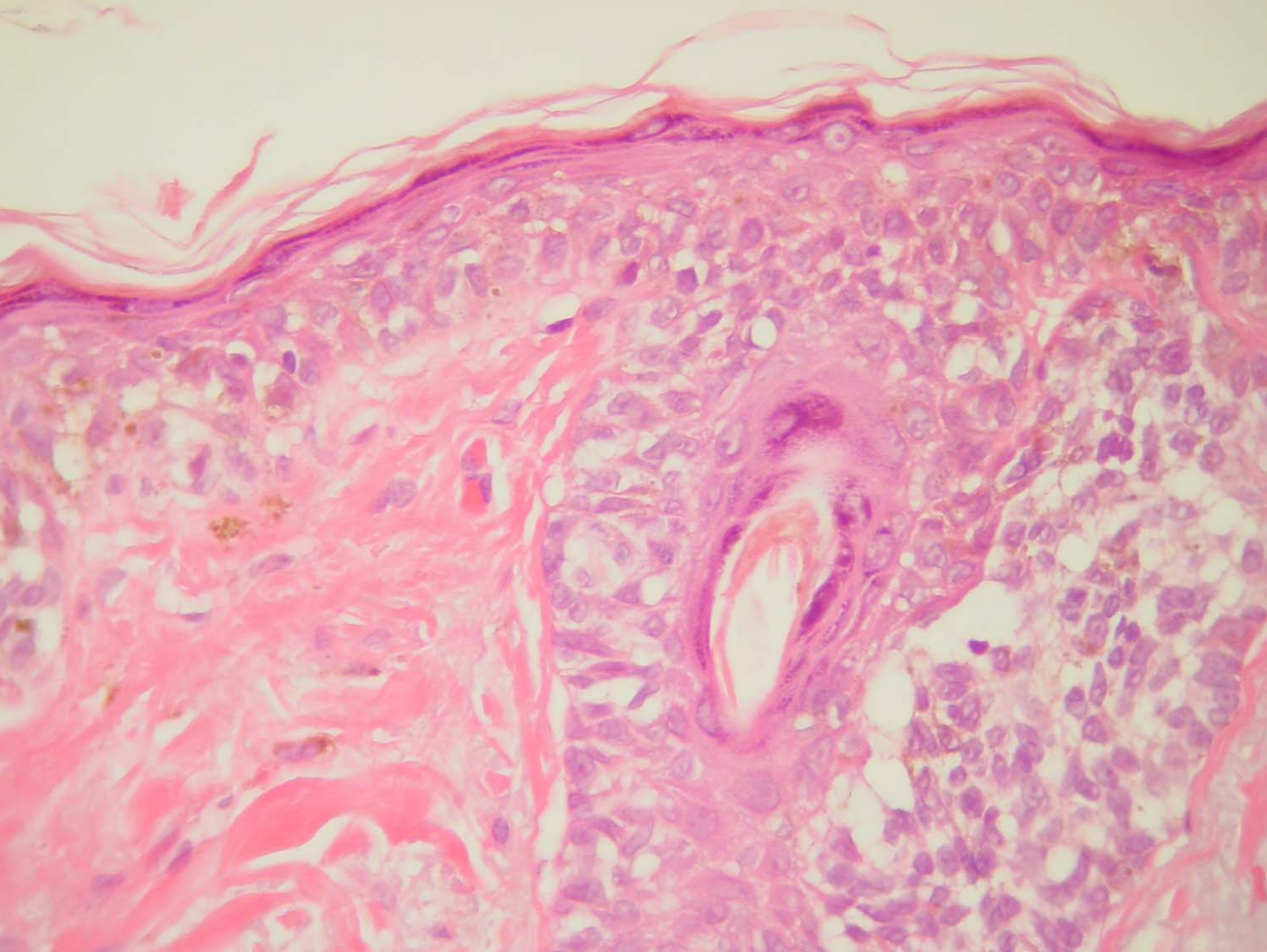
- acral lentiginous
- nodular
- mucosal
- balloon cell M
- Rhabdoïd M
- naevoïd
- spitsoïd
- desmoplastic
- signet ring
- Small cell M

Lentigo Maligna

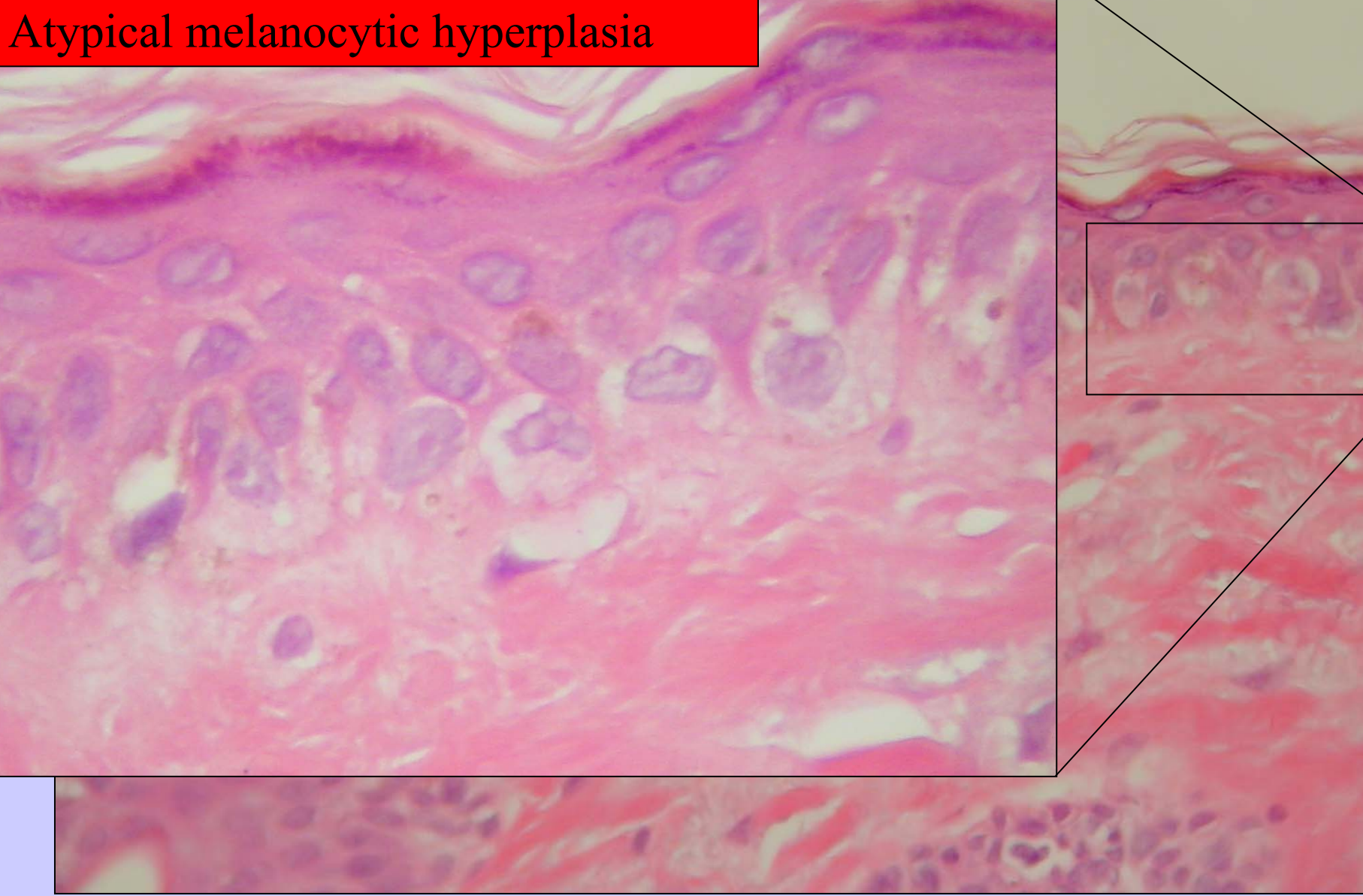


- Older persons (+60 - 70 y)
- Sunexposed skin
- Usually >1cm (slow growing)
- +/- always atrophic skin
- Elastoid degeneration
- Lentiginous -variabel- but always atypical melanocytes
- infundibular “downgrowth”
- Always do levels





Atypical melanocytic hyperplasia



MELANOMA

Lentigo Maligna (in situ)

Lentigo Maligna Melanoma (invasive)



Superficial Spreading Melanoma

- In situ (SSM, clark I)
- invasive radial growthphase
- invasive vertical growthphase

Other

- acral lentiginous
- nodular
- mucosal
- balloon cell M
- Rhabdoïd M
- naevoïd
- spitsoïd
- desmoplastic
- signet ring
- Small cell M

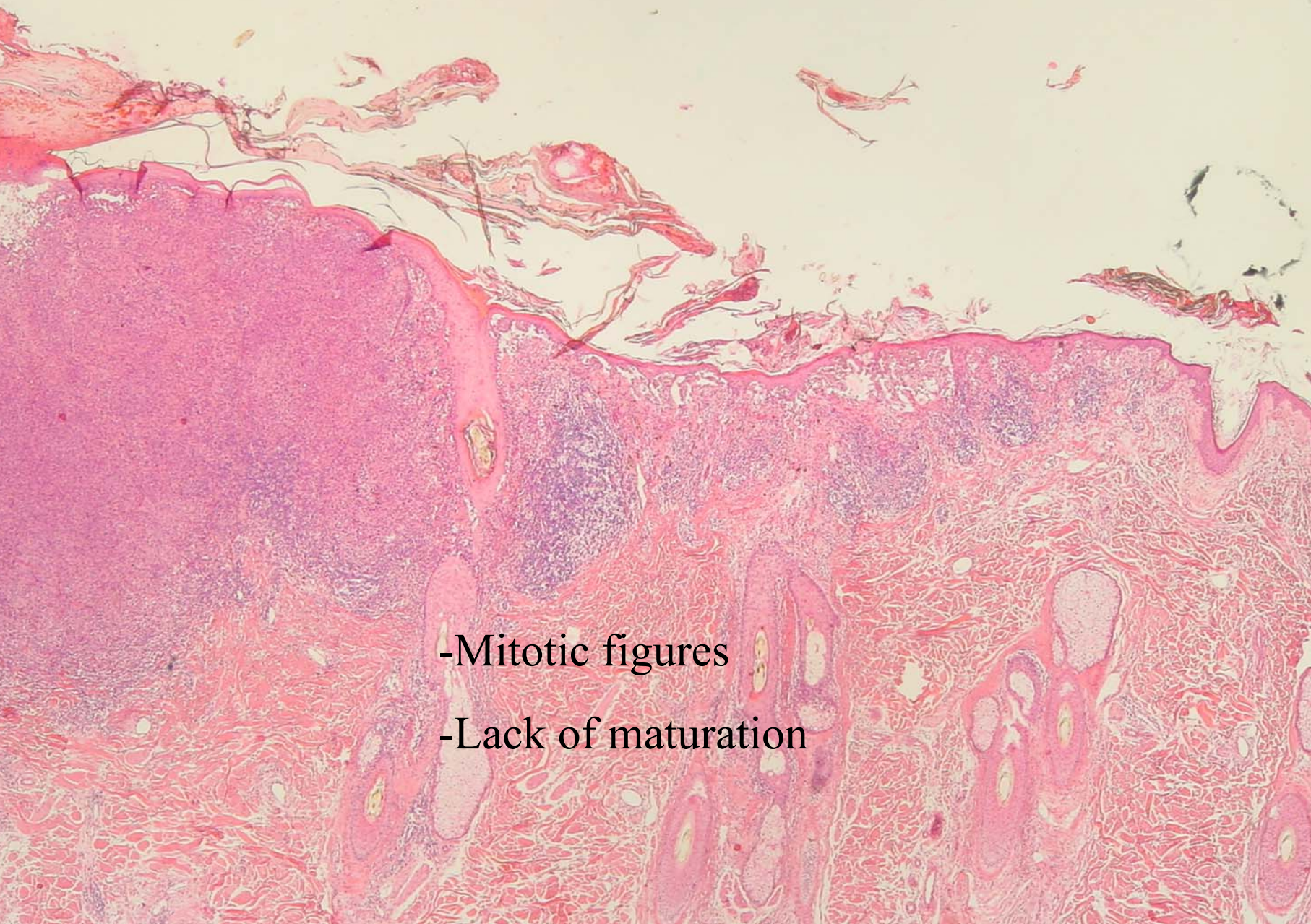
Superficial Spreading Melanoma

- M: most ✓ on back
- F: most ✓ on legs
- Pagetoid spread of individual cells / cell nests
- ABCDE rule



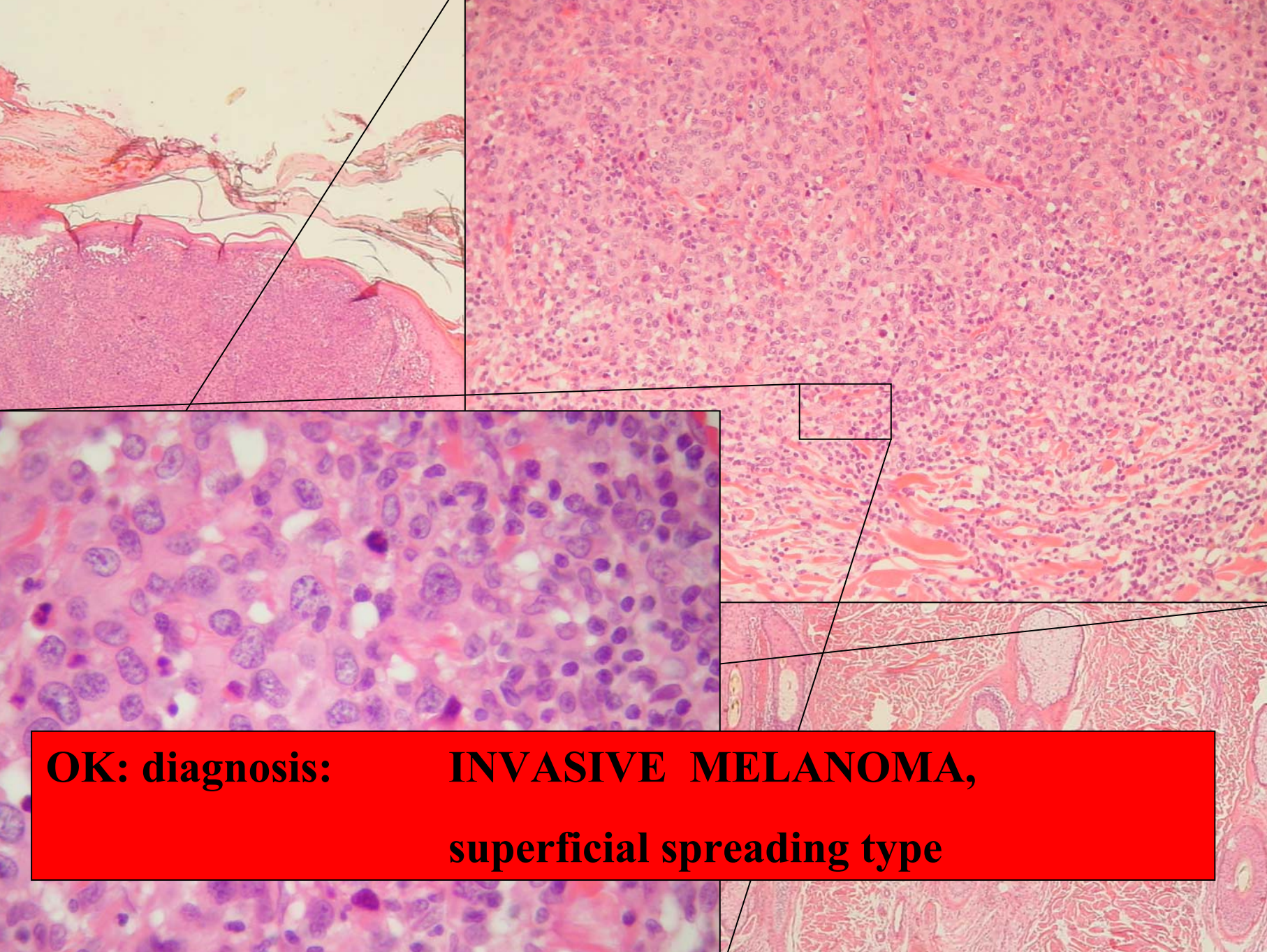


Is it a melanoma ??



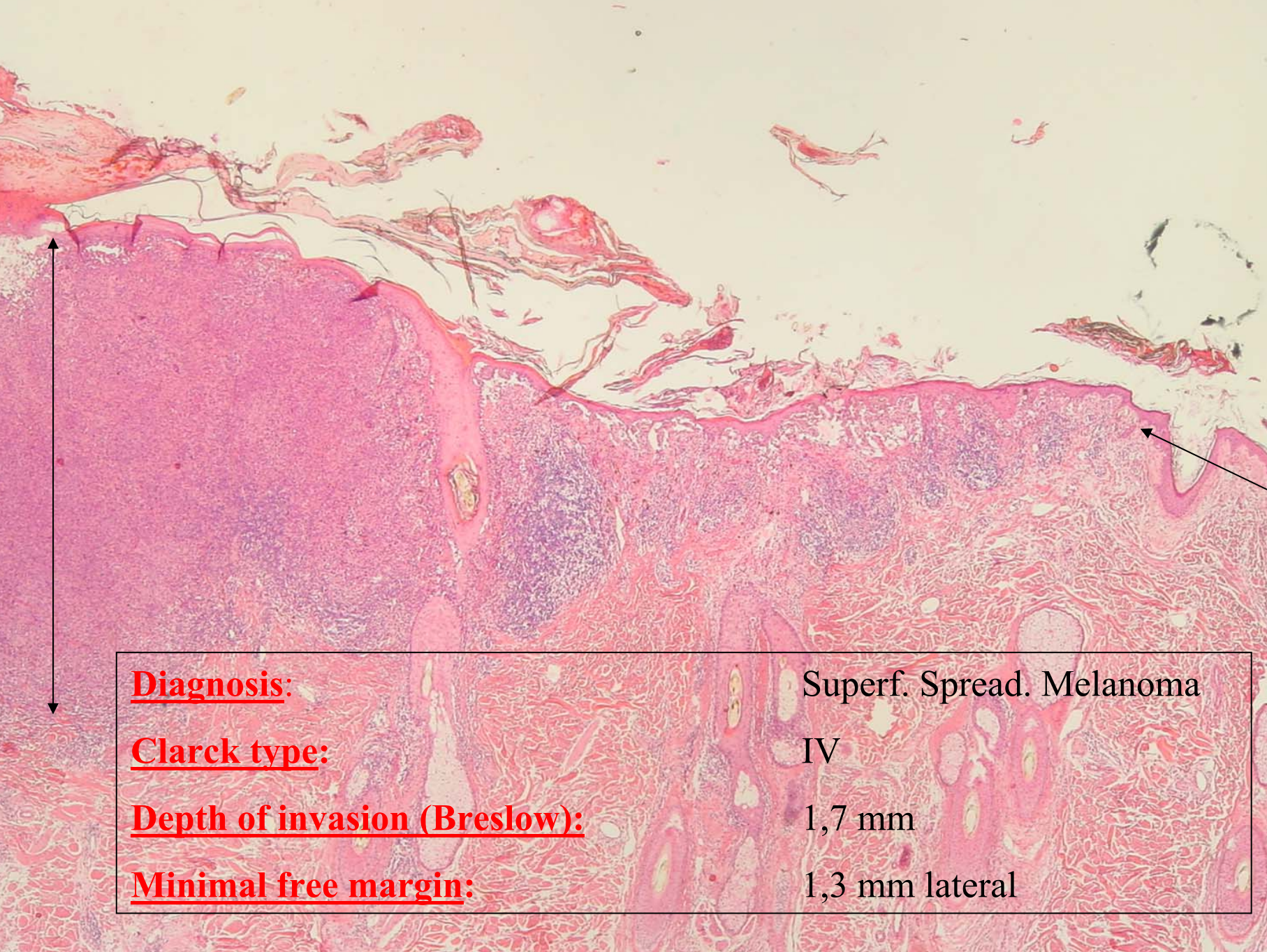
-Mitotic figures

-Lack of maturation



OK: diagnosis:

**INVASIVE MELANOMA,
superficial spreading type**



Diagnosis:

Superf. Spread. Melanoma

Clarck type:

IV

Depth of invasion (Breslow):

1,7 mm

Minimal free margin:

1,3 mm lateral

In General :

5 y survival

Clarck:

I:

= in situ

100%

(1967)

II:

invasion papillary dermis

98%

III:

filling up of papillary dermis

83%

IV:

invasion reticular dermis

76%

V:

invasion subcutaneous fat

<15%

ABOUT TERMINOLOGY:

Invasive Melanoma:

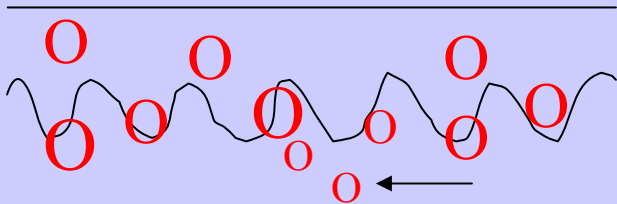
- invasive radial growth phase
- invasive vertical growth phase

SUPERFICIAL SPREADING (*MALIGNANT*) MELANOMA

- SUPERFICIAL SPREADING MELANOMA IN SITU (**Clark I**)
- INVASIVE SUPERFICIAL SPREADING MELANOMA

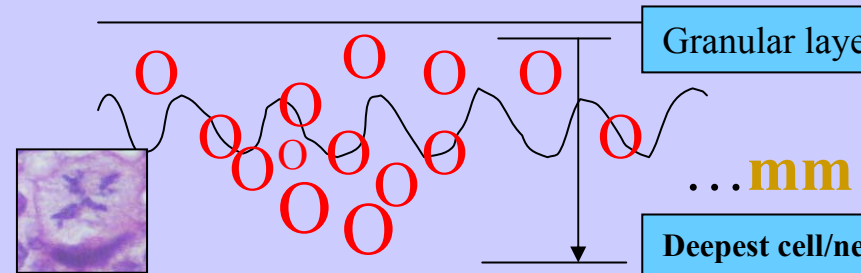
invasive radial growthphase

Always Clark II



→ do levels !!
Good prognosis

invasive vertical growth phase



Prognosis depends on
depth of invasion
(Breslow) + prognostic F

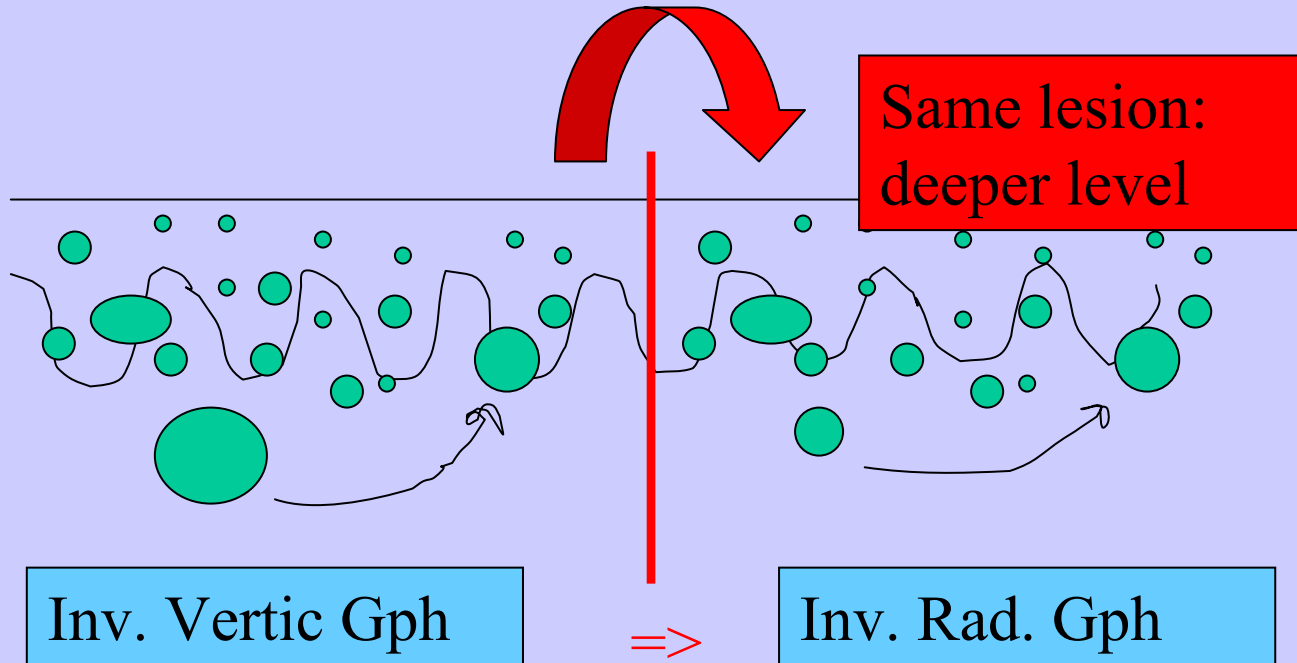
Diameter largest nest at the junction > dermal component => inv. Rad Gph

Diameter largest nest at the junction > dermal component => inv. Vert GF

FORGET IT !!

Diameter largest nest at the junction > dermal component => inv. Vert GF

- DD/
- invasive radial growth phase
 - invasive vertical growth phase



PROGNOSTIC FACTORS

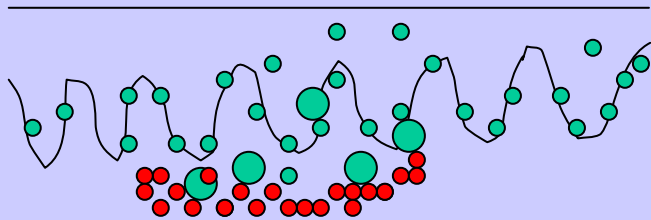
Prognostic factors:

- **ulceration:** present/not present
- **# mitoses:** /mm² (= 6 HPF)
- **celtype:** spindle / epitheloïd / mixed
- **TIL** brisk / non brisk / absent
- **Regression:** present / not present
- **Vascular invasion:** present / not present
- **Perineural invasion:** present / not present
- **Sattelite nodules:** present / not present

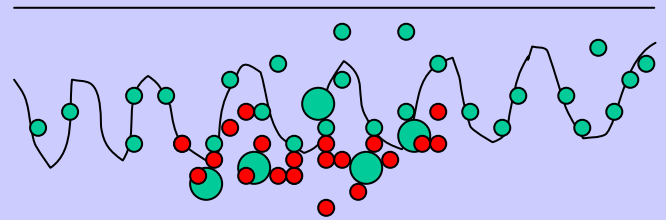
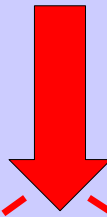
TIL: TUMOR INFILTRATING LYMPHOCYTES

TIL (+): brisk / non-brisk / absent

! Is there “**contact**” btw. host and melanoma?



bandlike = “brisk”

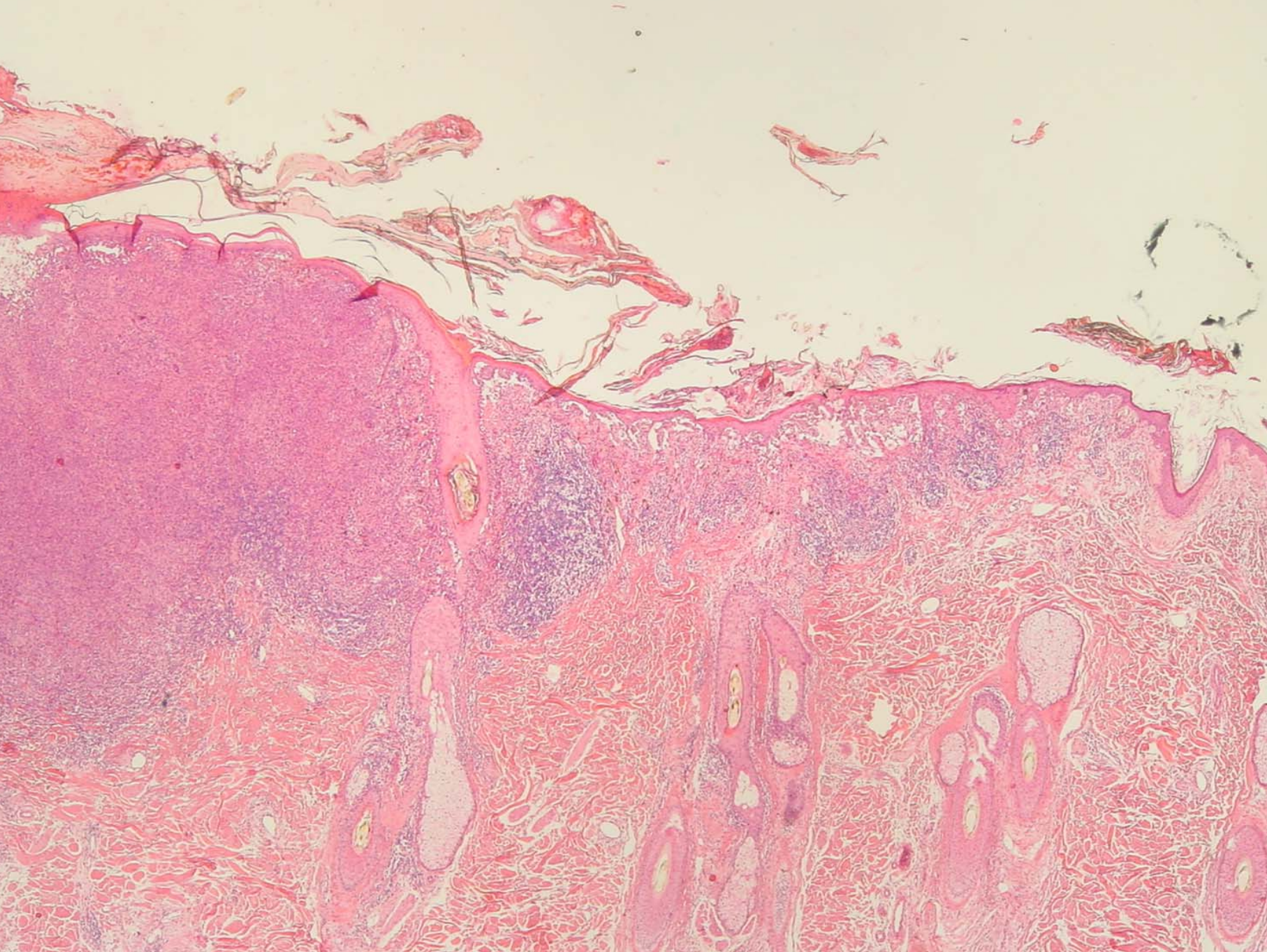


All the rest:

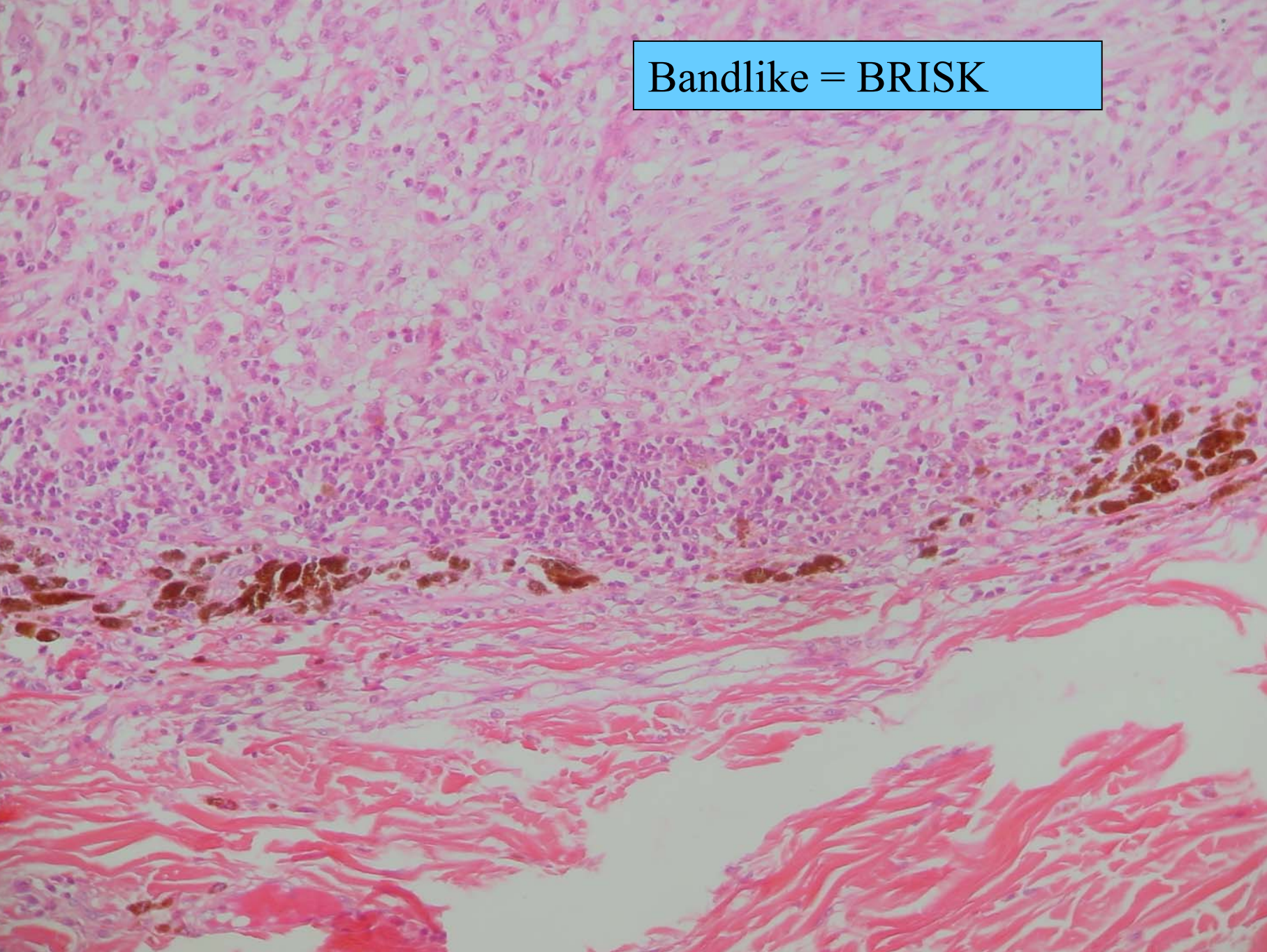
non-brisk/absent

numerous inbetween the cells = “brisk”

in the cellnests = “brisk”



Bandlike = BRISK





A histological section of breast tissue stained with hematoxylin and eosin (H&E). The image shows several glandular units in the upper portion, each surrounded by a thick layer of pink-stained fibrous stroma. The glandular epithelium is stained purple. The overall architecture suggests a benign or low-grade lesion. A blue box with the word 'ABSENT' is overlaid on the right side of the image.

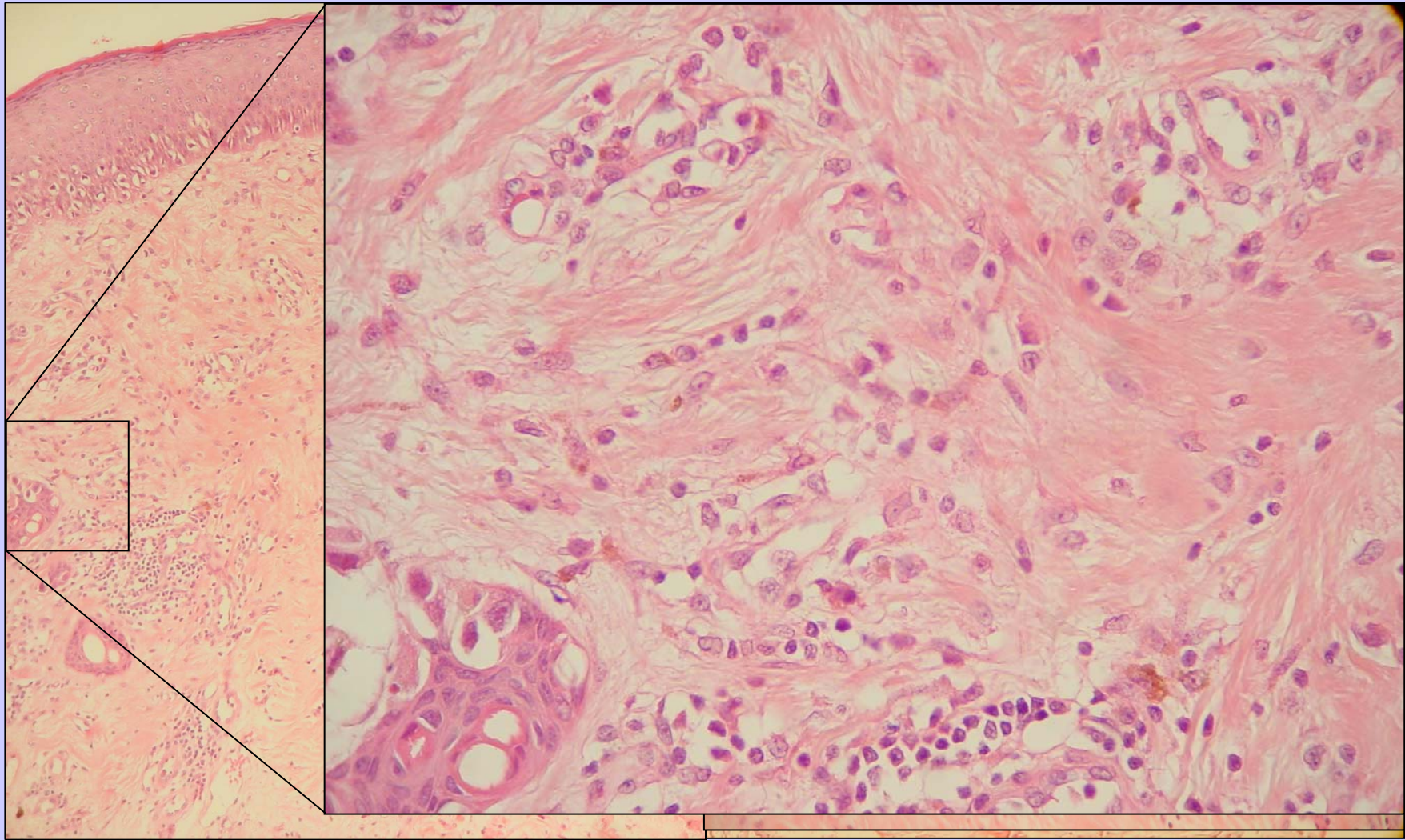
ABSENT

PROGNOSTIC FACTORS

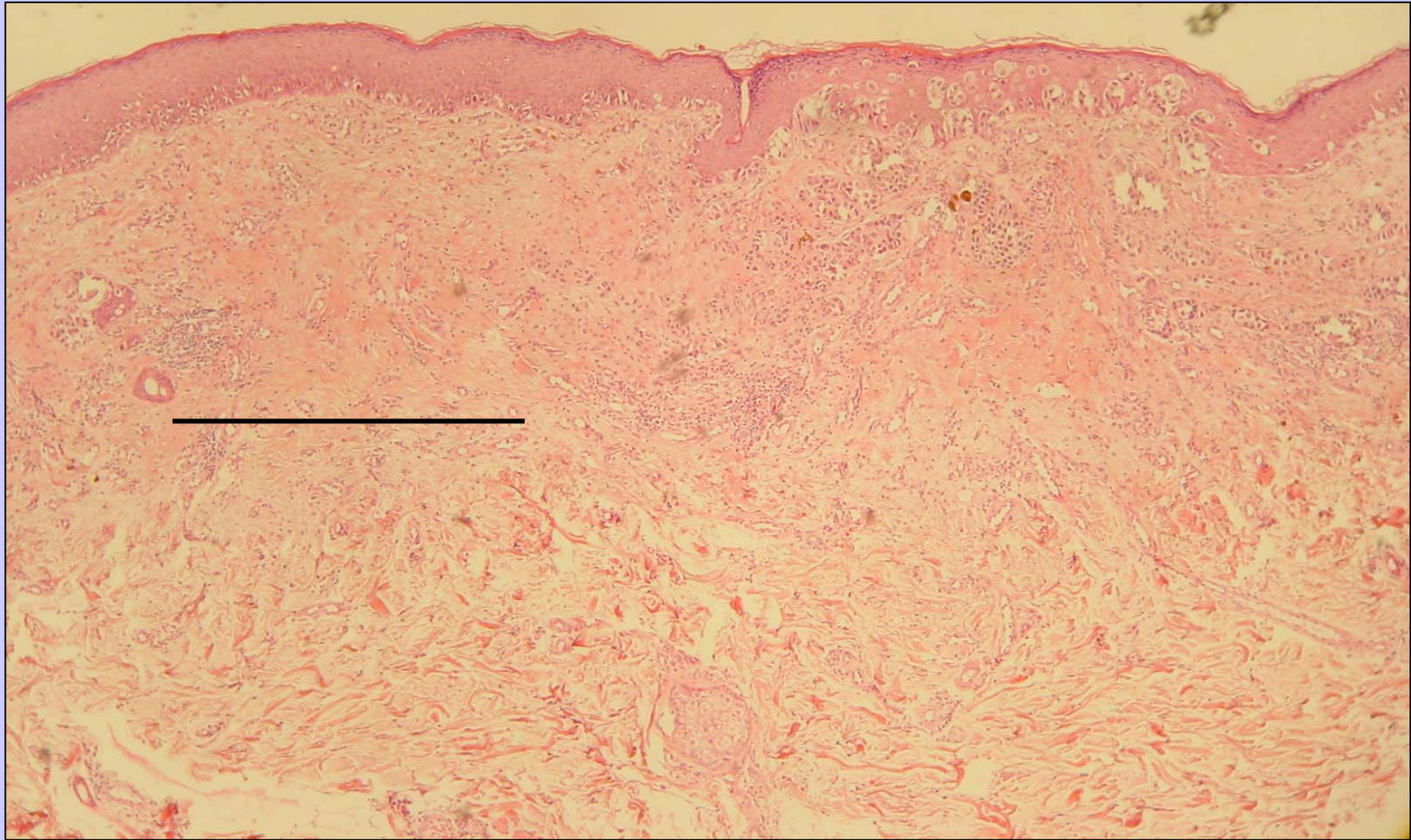
Prognostic factors:

- **ulceration:** present/not present
- **# mitoses:** /mm² (= 6 HPF)
- **celtype:** spindle / epitheloid / mixed
- **TIL** brisk / non brisk / absent
- **Regression:** present / not present
- **Vascular invasion:** present / not present
- **Perineural invasion:** present / not present
- **Satteliectnoduli:** present / not present

Regression



Regression



Some remarks:

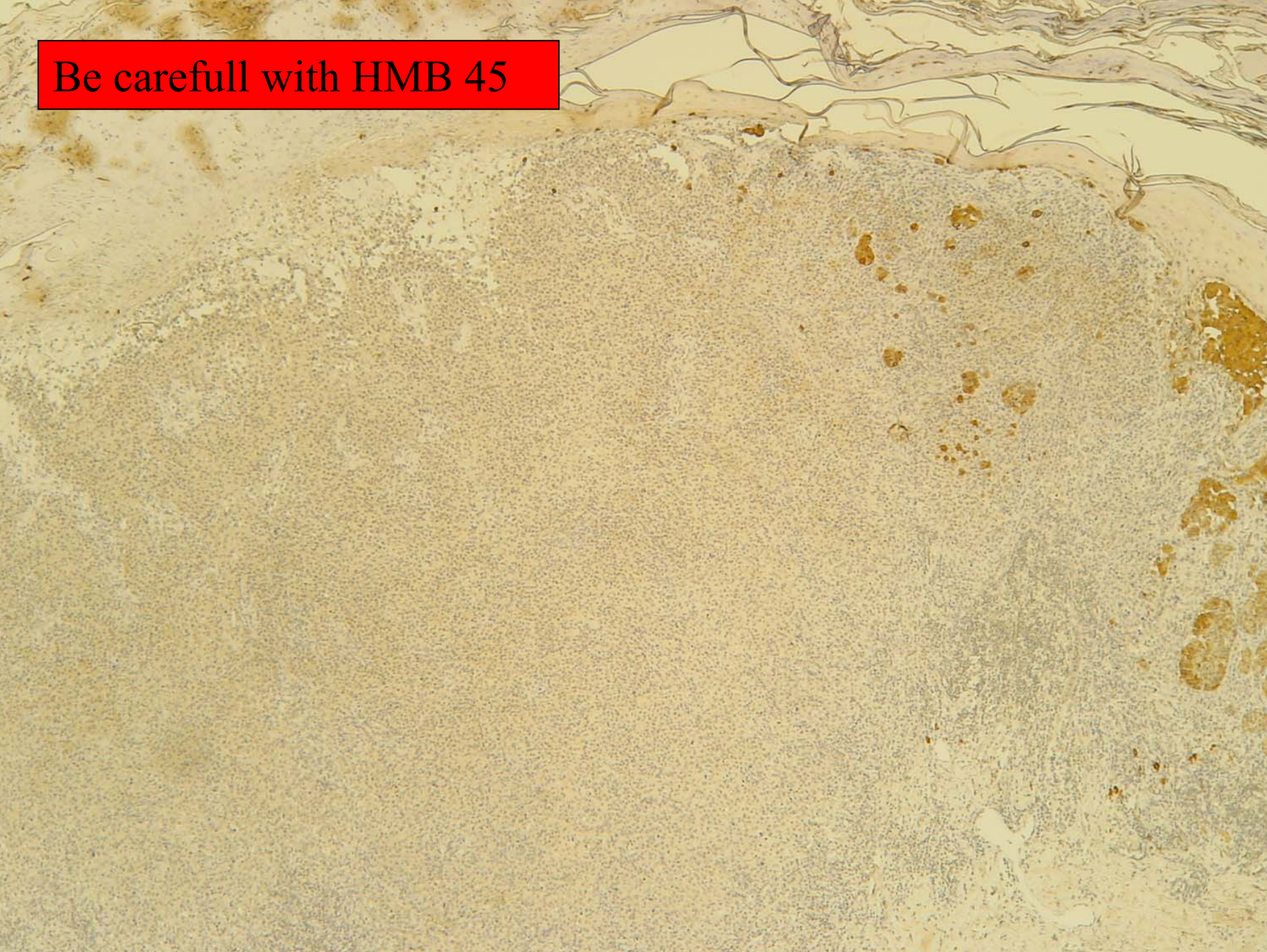
Regression (-):

- usually older people
- longer existing lesion
- considered as a negative factor
- “actually a good factor”
- Hist:
 - * fibrosis
 - * increased vascularity
 - * perpendicular vessels
 - * scarring
 - * “empty” pale area with melanophages

Prognostic parameters:

- 
- A histological section of a tumor, likely a melanoma, stained with hematoxylin and eosin (H&E). The image shows a large, dark, pigmented area on the left, which is the tumor mass. The tumor is composed of nests and cords of cells. There is a clear ulceration at the top left, where the tumor has broken through the epidermis. The cells are epithelioid in morphology. The tumor is surrounded by a dense infiltrate of inflammatory cells, including lymphocytes and macrophages. The tumor is not invading the surrounding tissue, and there is no evidence of vascular or perineural invasion.
- **ulceration:** present
 - **celtype:** epitheloid
 - **# mitoses:** 5/mm² (= 6 HP)
 - **TIL** brisk
 - **Regression:** not present
 - **Sattelite nodules:** not present
 - **Vascular invasion:** not present
 - **Perineural invasion:** not present

Be carefull with HMB 45



PROTOCOL

Diagnose:

Superf. Spread. Melanoma

Clarck type:

I/II/III/IV

Depth of invasion (Breslow):

...mm

Minimal tumorfree margin:

...mm, lateral (scoulder)

pTNM:

pT.... N.... M....

Prognostic parameters:

- **ulceration:**

present

- **celtype:**

epitheloid

- **# mitoses:**

5/mm² (= 6 HPF)

- **TIL**

brisk

- **Regression:**

not present

- **Sattelite nodules:**

not present

- **Vascular invasion:**

not present

- **Perineural invasion:**

not present

pTNM classification (AJCC)

T classification

Depth

Ulceration status

Tis

T1

≤ 1.0 mm

a. without ulceration en \leq IV

b. with ulceration en \geq IV

T2

1.1–2.0 mm

a. without ulceration

b. with ulceration

T3

2.1–4.0 mm

a. without ulceration

b. with ulceration

T4

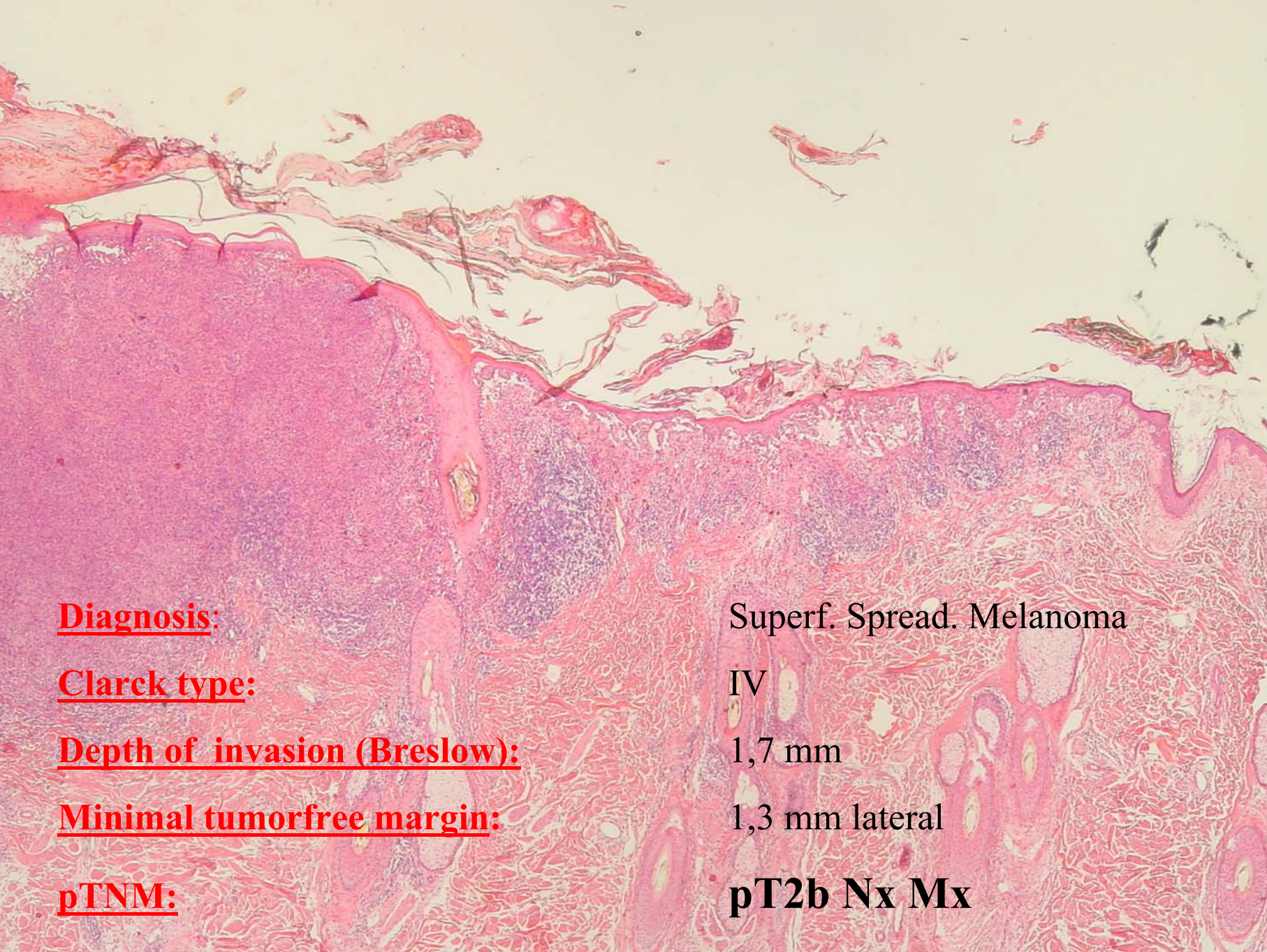
≥ 4.0 mm

a. without ulceration

b. with ulceration

T_x

e.g. curettage, shave biopsy



Diagnosis:

Superf. Spread. Melanoma

Clark type:

IV

Depth of invasion (Breslow):

1,7 mm

Minimal tumorfree margin:

1,3 mm lateral

pTNM:

pT2b Nx Mx

5 y survival

Negative nodes						Positive nodes		
	IA	IB	IIA	IIB	IIC	IIIA	IIIB	IIIC
Ta	T1 95%	T2 89%	T3 79%	T4 67%		N1a/N2a 67%	N1b/N2b 54%	N3 28%
Tb		T1 91%	T2 77%	T3 63%	T4 45%		N1a/N2a 52%	N1b/N2b/ N3 24%

Ta = not ulcerated

Tb = ulcerated

Ref. : J Clin Oncol 19:3635-3648, 2001

Some golden rules:

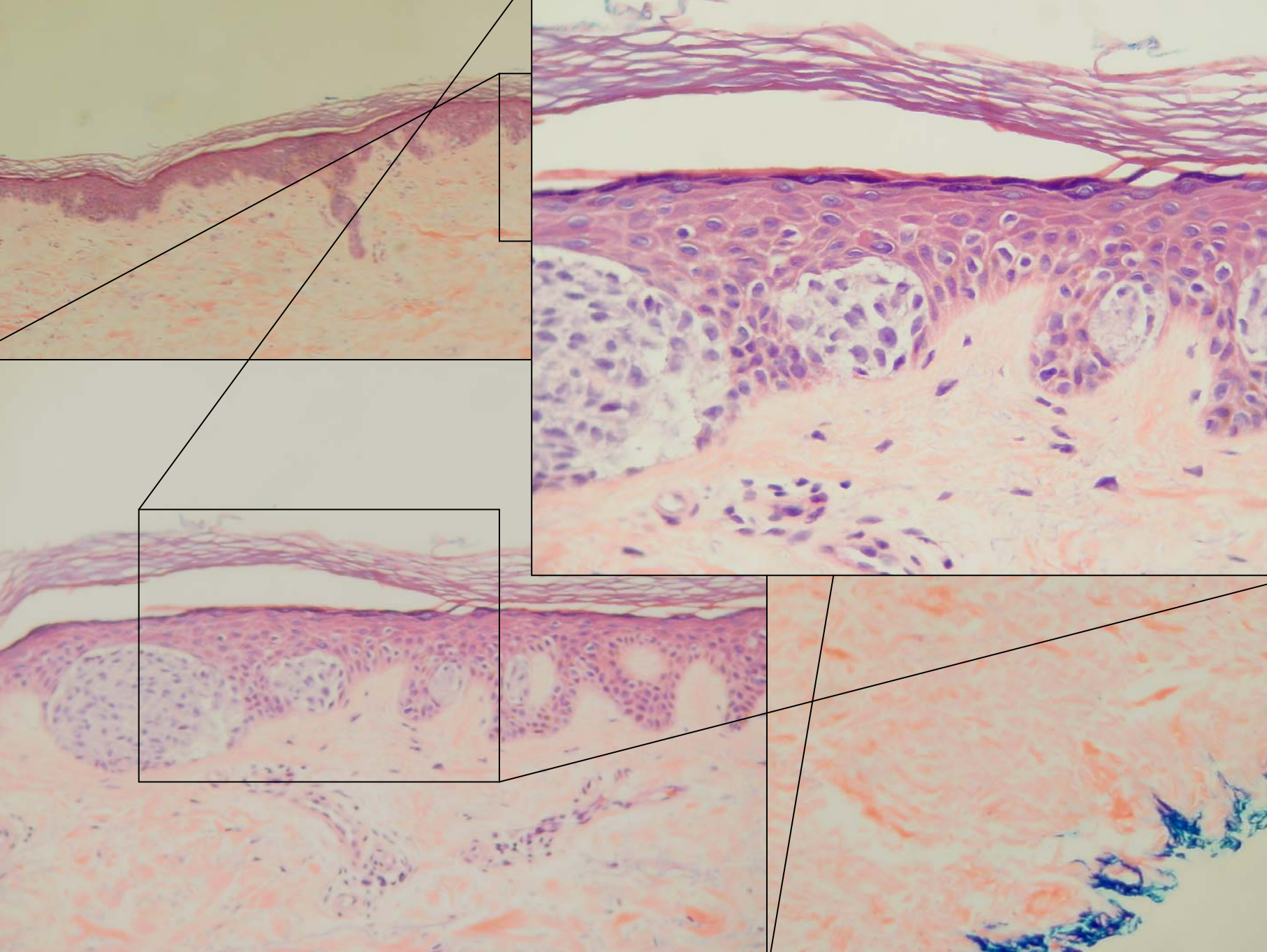
Be careful with a diagnosis of melanoma if:

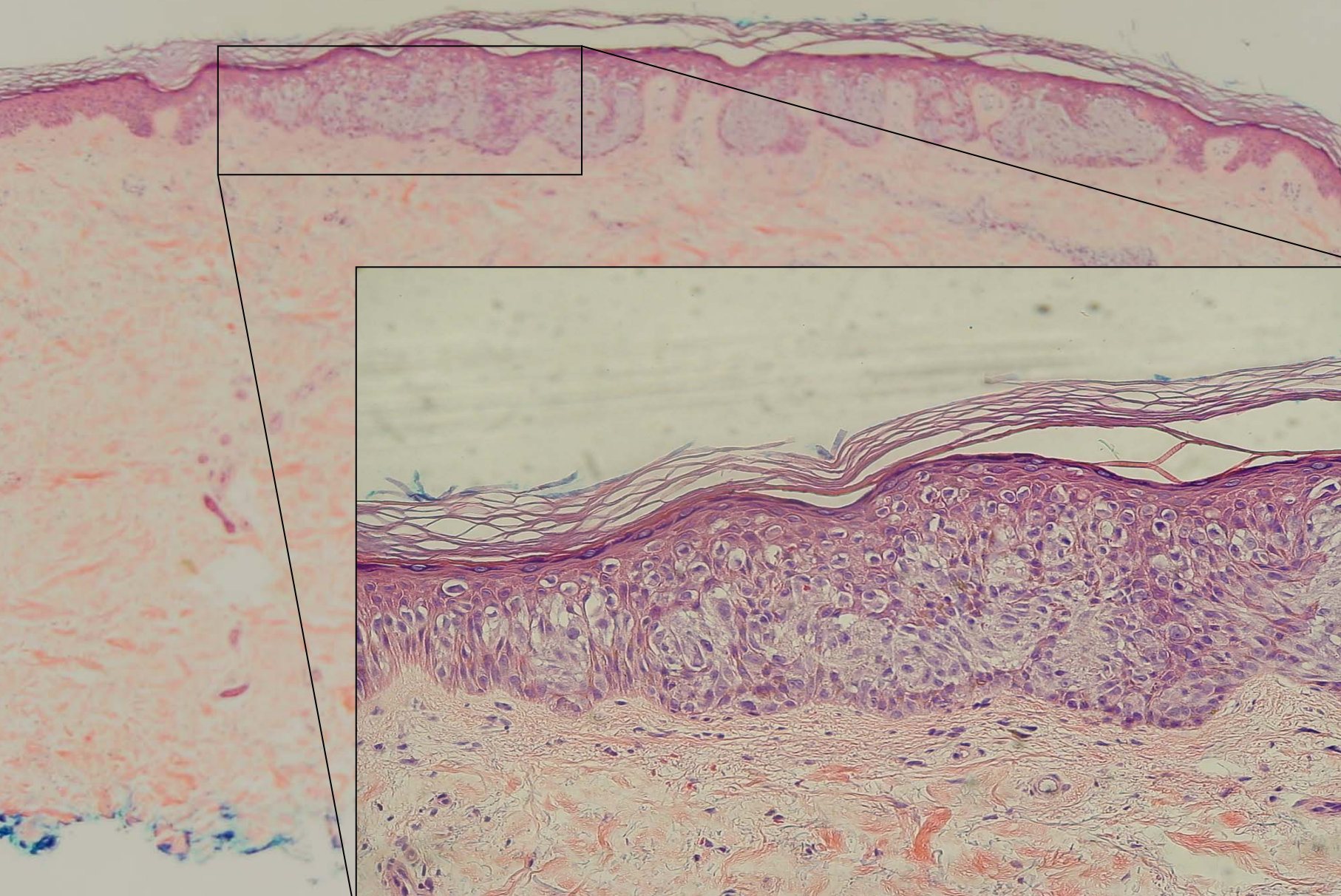
- no inflammation at all / no host response
- < 20 y (unless familial/Xeroderma pigmentosum)
- lesion smaller than 0.7cm
- clinical information of a “banal naevus”....”surprised clinician”

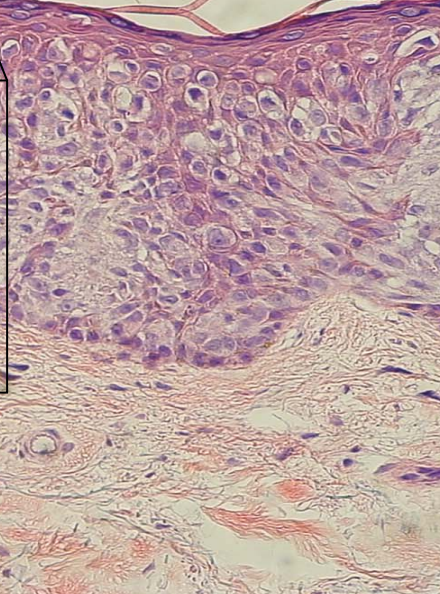
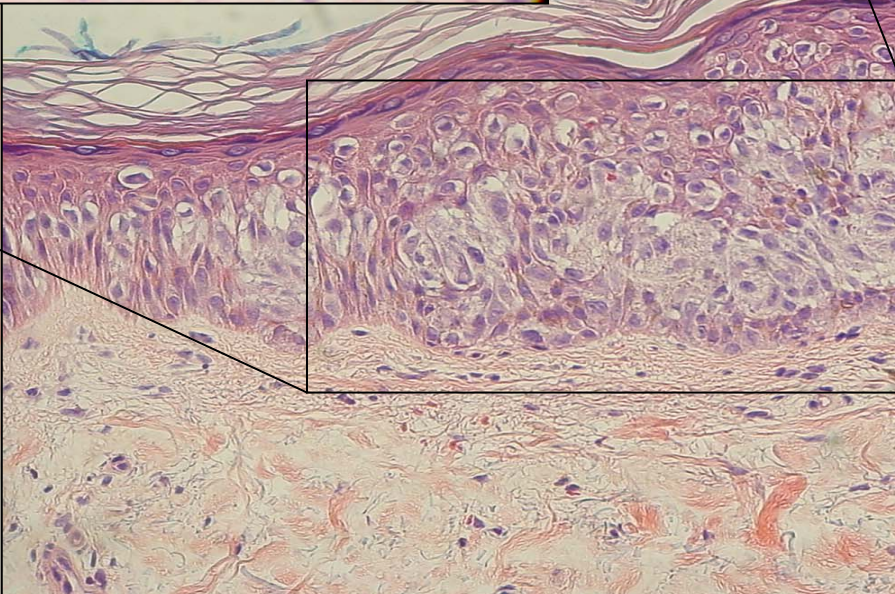
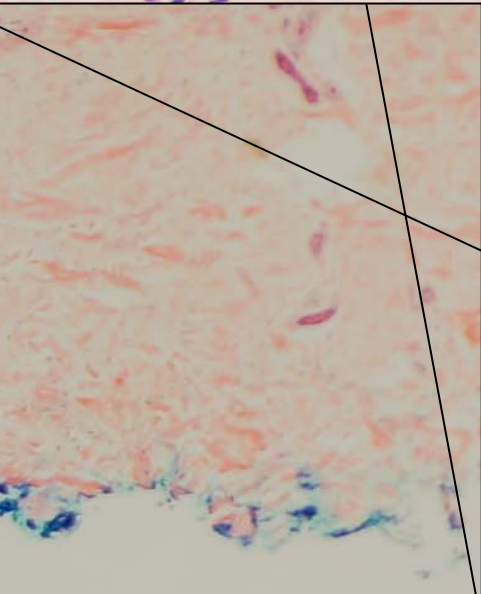
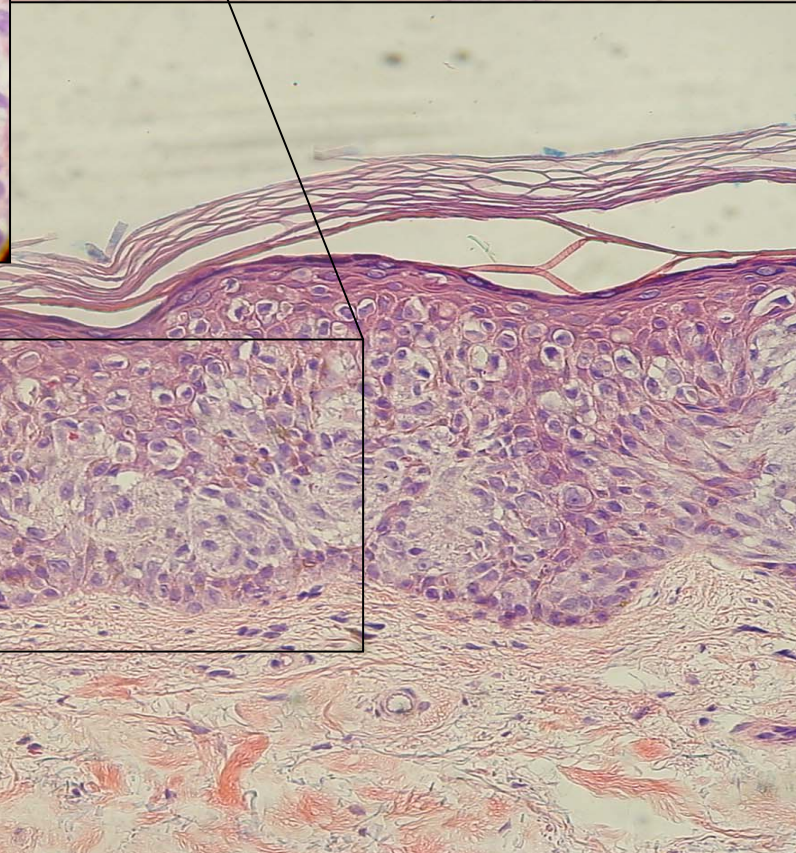
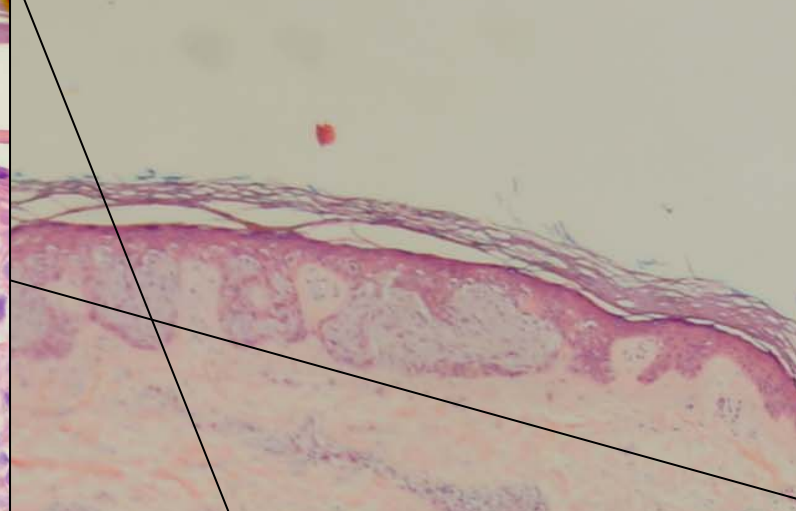
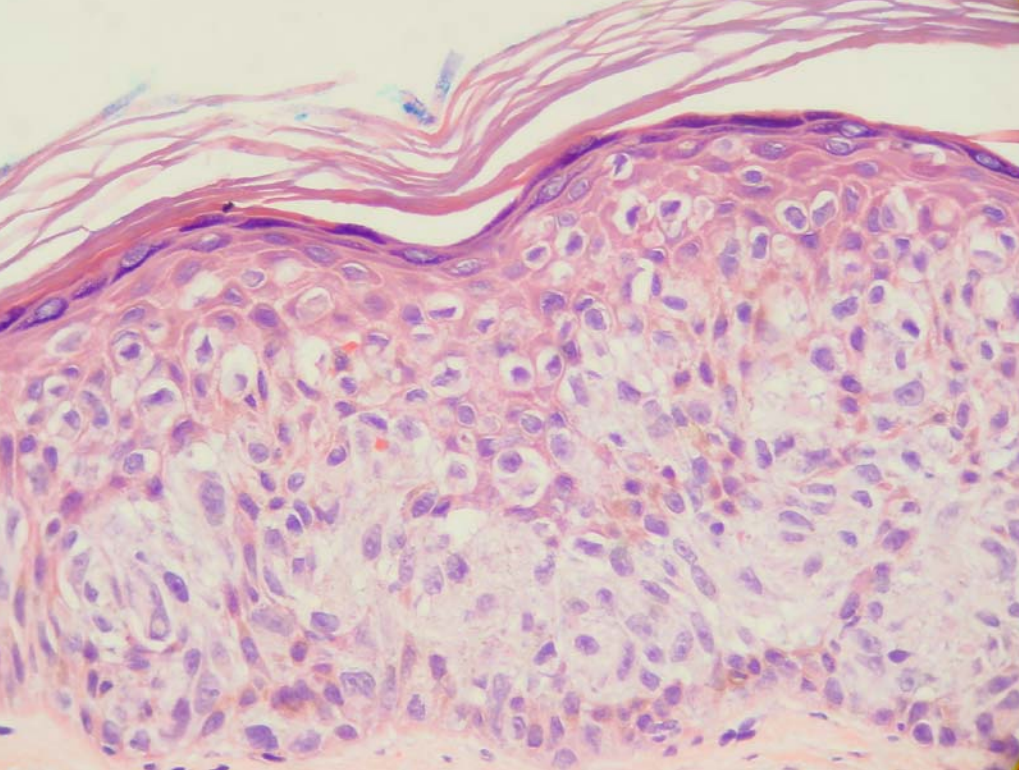
Junctional activity in a person older than 45-60y: almost always a sign of dysplasia or more: do levels !!

Papillomatous lesion in a person older than 50-60y: think of a naevoid melanoma!!...look for mitoses/shoulder/check junction

Spindle proliferation in the dermis: think of desmoplastic melanoma







Some golden rules:

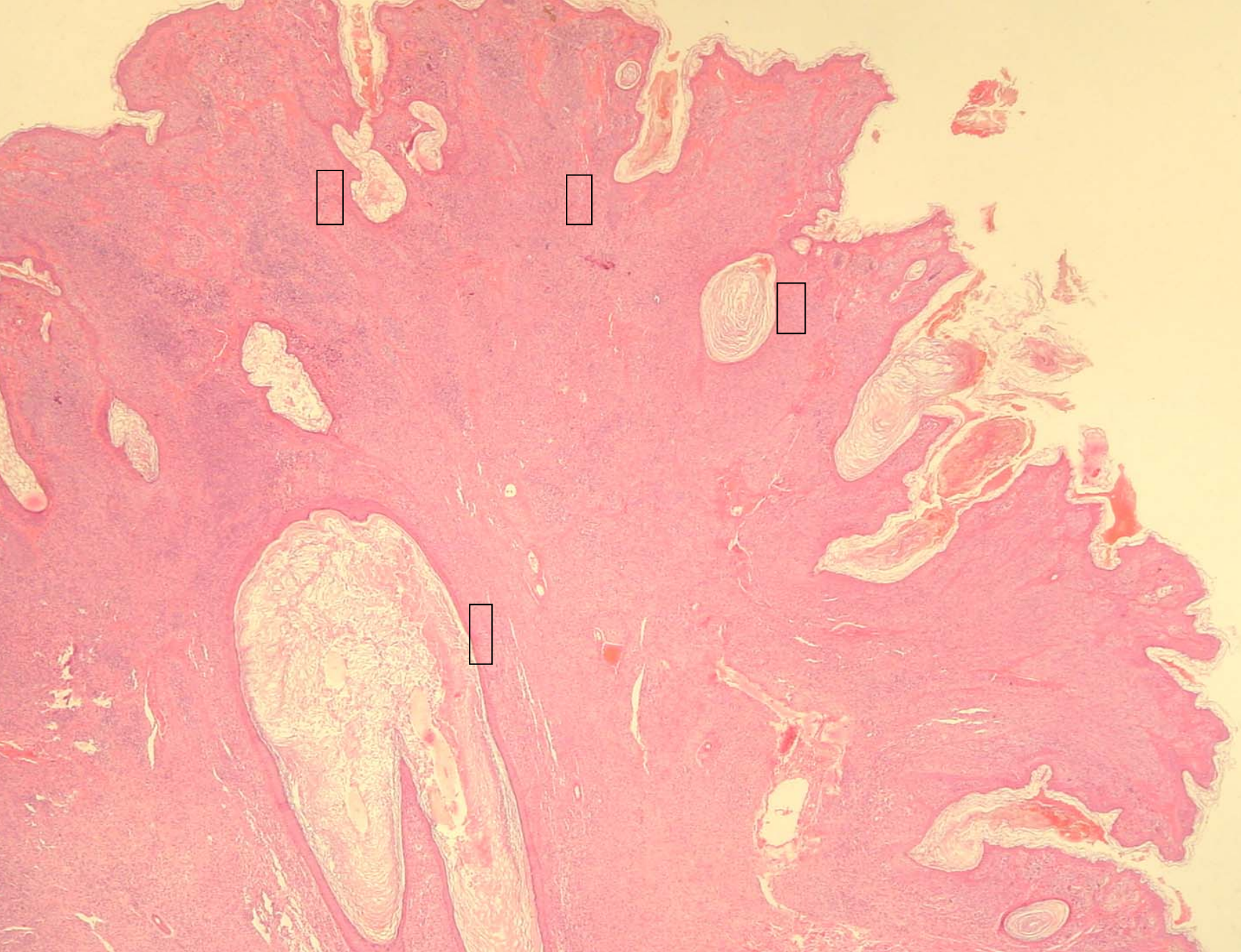
Be careful with a diagnosis of melanoma if:

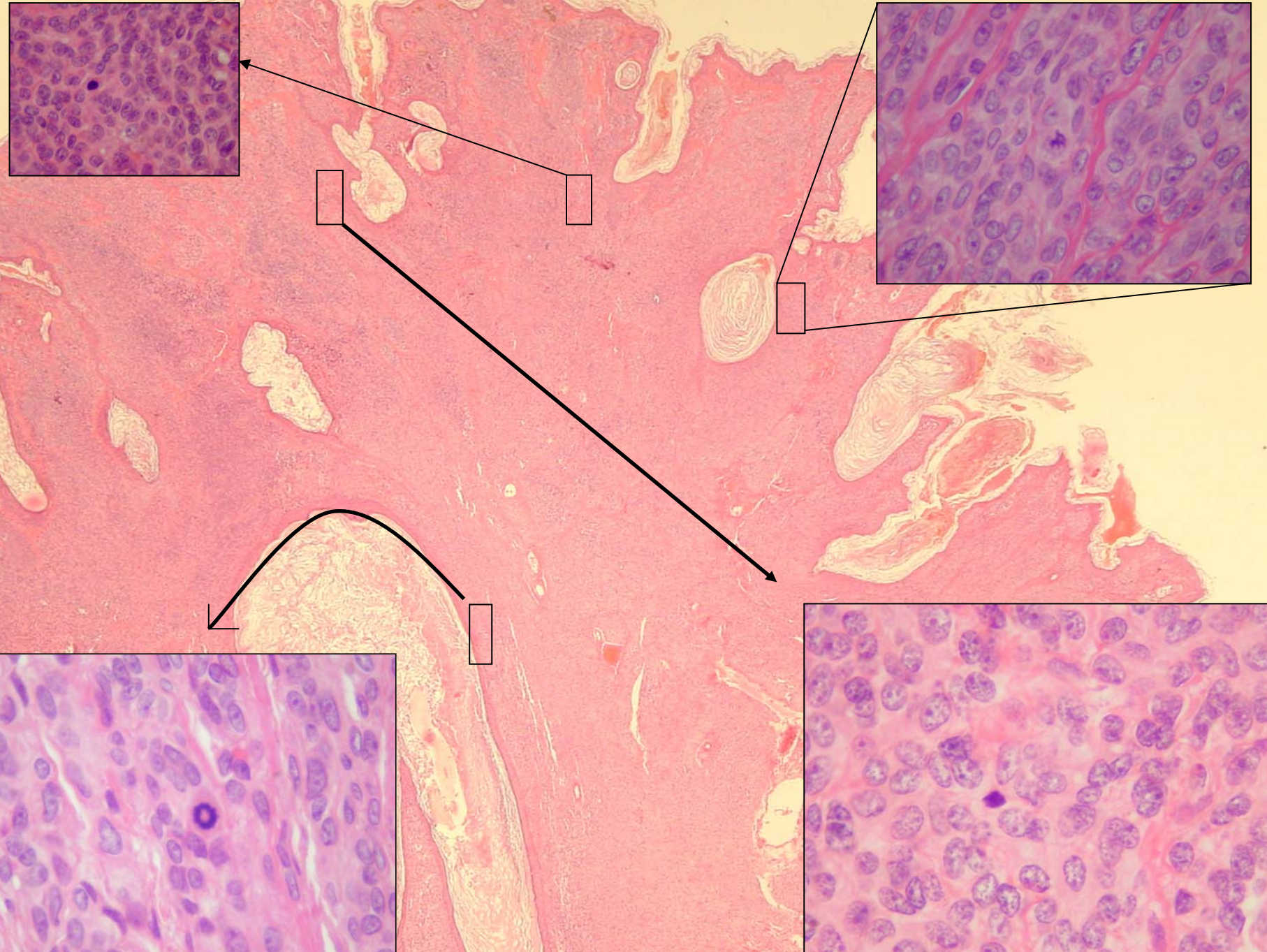
- no inflammation at all / no host response
- < 20 y (unless Xeroderma pigmentosum)
- lesion smaller than 0.7cm
- clinical information of a “banal naevus”....”surprised clinician”

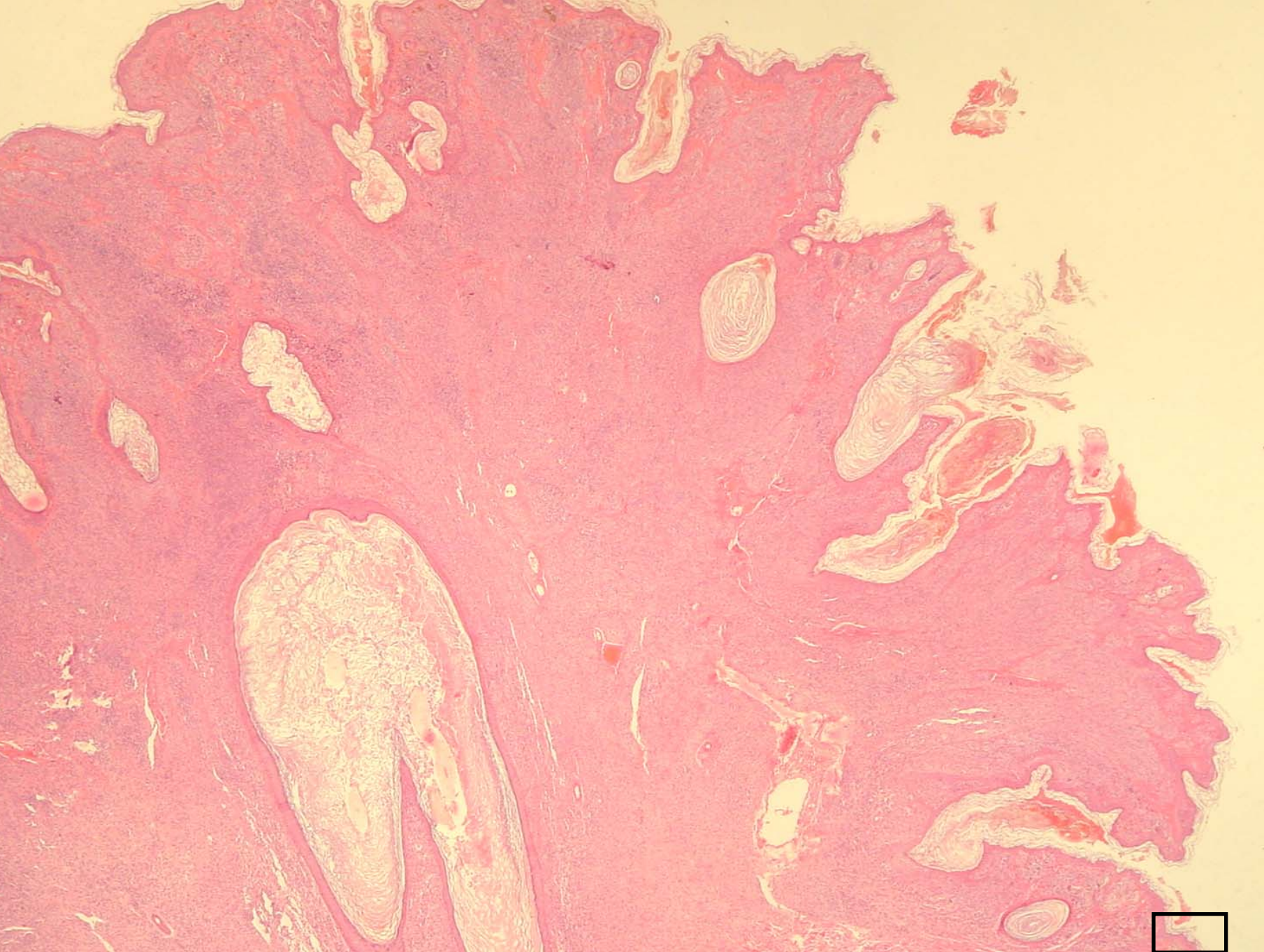
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Spindle proliferation in the dermis: think of desmoplastic melanoma









NAEVOÏD MELANOMA !!!

This histological slide shows a skin biopsy with a large, deep, and infiltrative lesion. The lesion is characterized by a large number of atypical melanocytes, which are cells that have a high degree of nuclear atypia, including enlarged, hyperchromatic nuclei and prominent nucleoli. These cells are arranged in nests and cords, and they are infiltrating the dermis. The surrounding tissue shows a dense inflammatory response, with many small, dark-staining cells (likely lymphocytes) present. The overall appearance is consistent with a nevoid melanoma, a rare and aggressive form of melanoma.

Some golden rules:

Be careful with a diagnosis of melanoma if:

- no inflammation at all / no host response
- < 20 y (unless Xeroderma pigmentosum)
- lesion smaller than 1 cm
- clinical information from a "non-specialised clinician"

Junctional
sign of dysplasia

Papillomatous
naevoid melanoma

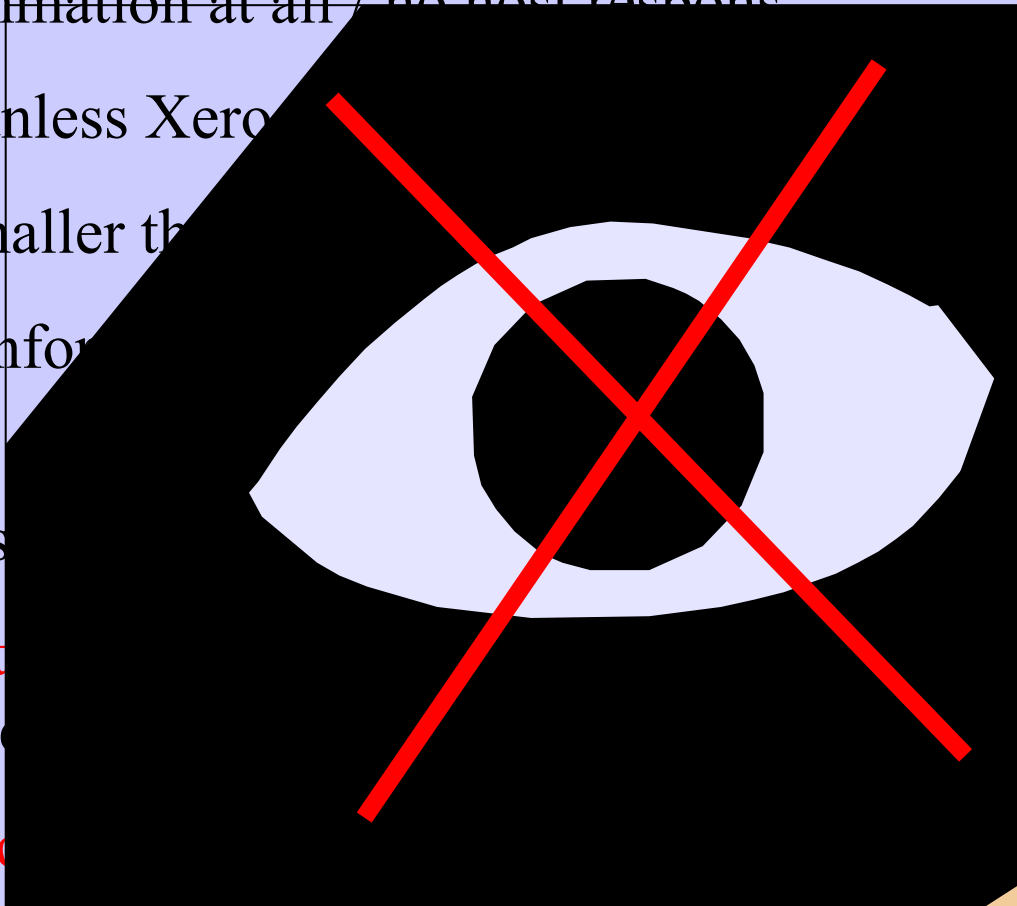
Spindle proliferation

"non-specialised clinician"

: almost always a

y: think of a
check junction

plastic melanoma



Thank you very much

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