

Histopathology III
Benign epithelial pathoses
and potentially malignant
disorders

A/Prof Omar Kujan

Contents

- Glossary of terms used in histopathological diagnosis of premalignant lesions



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Pathological change in the overall structure of an epithelium can be described as:-

a) acanthosis



b) atrophy



c) keratosis

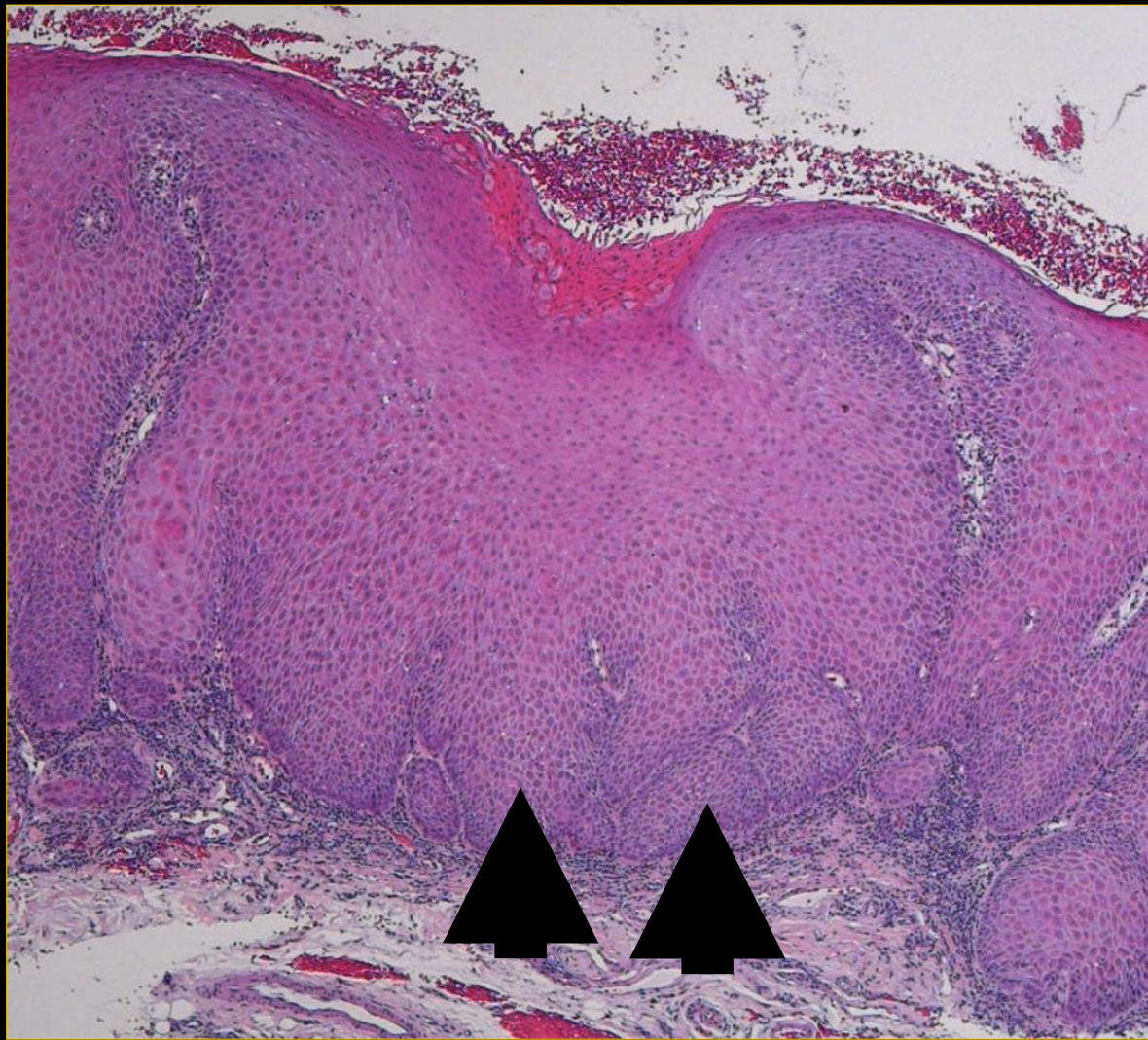


e) orthokeratosis



f) parakeratosis





Photomicrograph showing acanthotic oral epithelium. The epithelium is thicker due to an increased number of 'prickle' cells causing the rete ridges to broaden and lengthen (arrows)





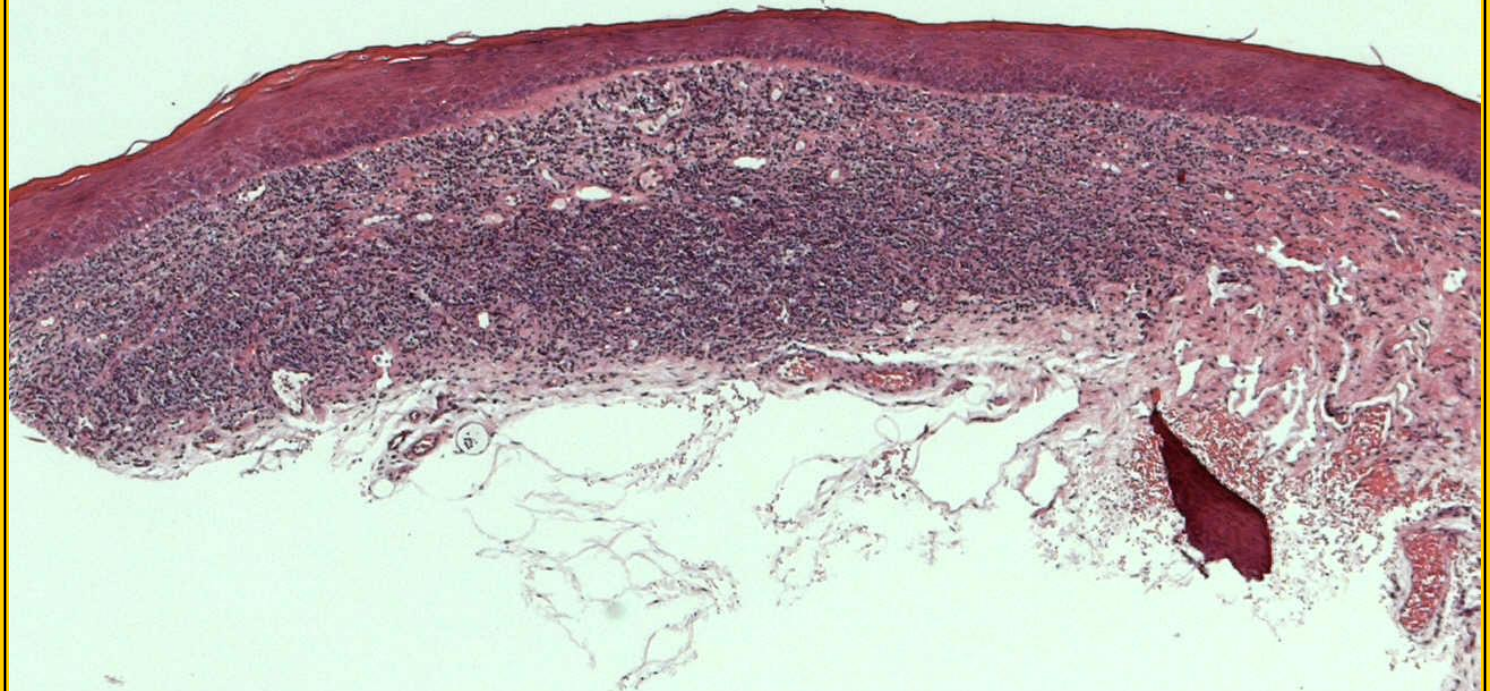
Acanthotic oral epithelium



Normal oral epithelium

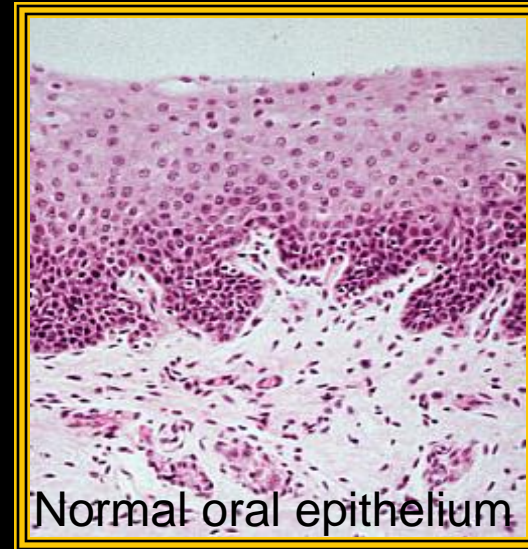
Photomicrographs comparing normal oral epithelium with acanthotic epithelium





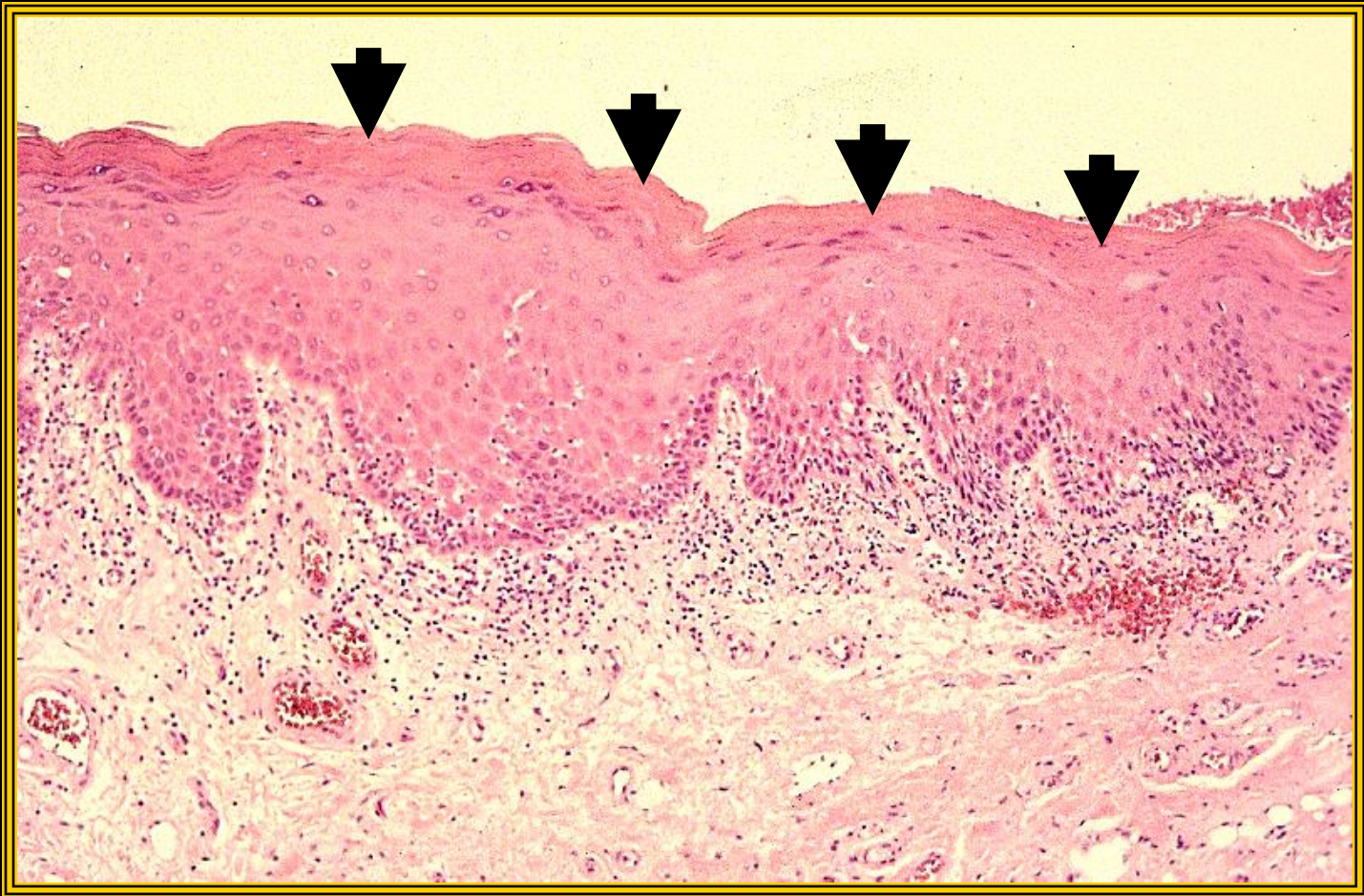
Photomicrograph showing atrophic oral epithelium.
The thickness of the epithelium is reduced and
often the rete pegs are lost





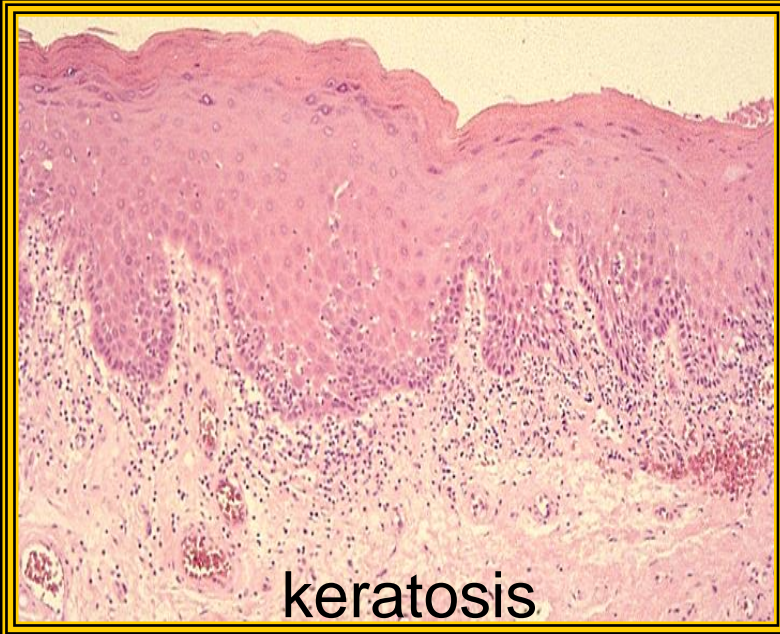
Photomicrographs comparing normal oral epithelium with atrophic epithelium





Photomicrograph showing keratosis of an epithelium (arrowed) that is not normally keratinised





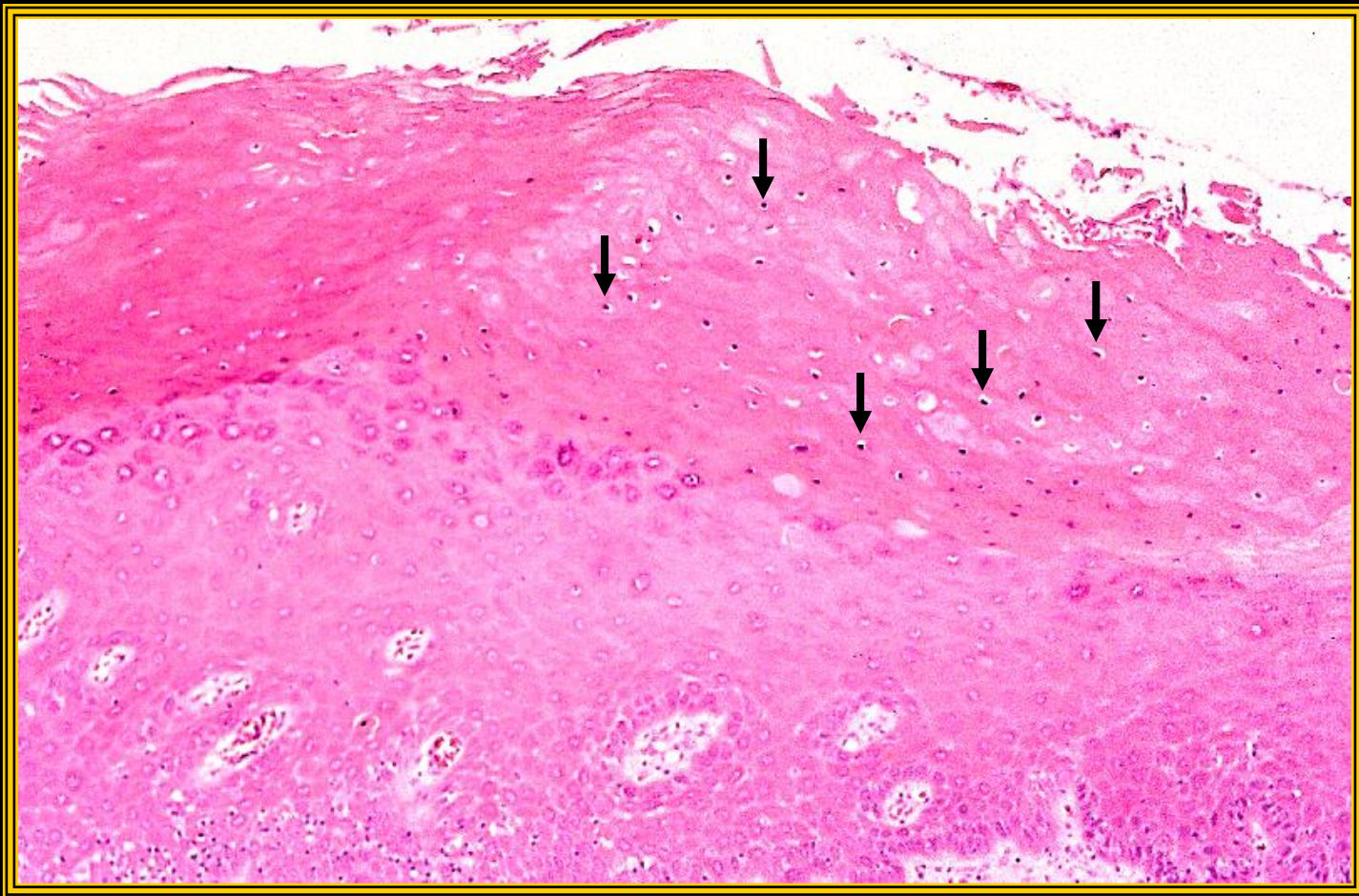
Photomicrographs comparing normal oral epithelium with keratotic epithelium





Photomicrograph showing orthokeratosis of an epithelium - the superficial cell layers are increased in thickness, the cells are flattened and have no nuclei, the layer stains bright pink. Note the granular layer in the superficial keratinocytes (arrowed), this is a feature of orthokeratosis





Photomicrograph showing parakeratosis of an epithelium - the superficial cell layers are increased in thickness, the cells are often flattened and contain pyknotic (dark condensed, arrowed) nuclei, the layer stains bright pink



Oral epithelial dysplasia

Dysplasia Grading

WHO 2022 Classification

- Mild Dysplasia
- Moderate Dysplasia
- Severe Dysplasia

Dysplasia Grading

WHO 2022 Classification

1. Low grade oral epithelial dysplasia
2. High grade oral epithelial dysplasia

Architecture Changes

- 1- Irregular epithelial stratification
- 2- Loss of polarity of basal cells
- 3- Drop-shaped rete ridges
- 4- Increased number of mitotic figures
- 5- Abnormally superficial mitoses
- 6- Premature keratinisation in single cells
- 7- Keratin pearls within rete ridges
- 8- Loss of epithelial cohesion

Cytology Changes

- 1- Abnormal variation in nuclear size
- 2- Abnormal variation in nuclear shape
- 3- Abnormal variation in cell size
- 4- Abnormal variation in cell shape
- 5- Increased Nuclear-cytoplasmic ratio
- 6- Increased nuclear size
- 7- Atypical mitoses
- 8- Increase number and size of nucleoli
- 9- Hyperchromatism



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ORAL
ONCOLOGY

Evaluation of a new binary system of grading oral epithelial dysplasia for prediction of malignant transformation

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<4 architecture changes
+
<5 cytological changes

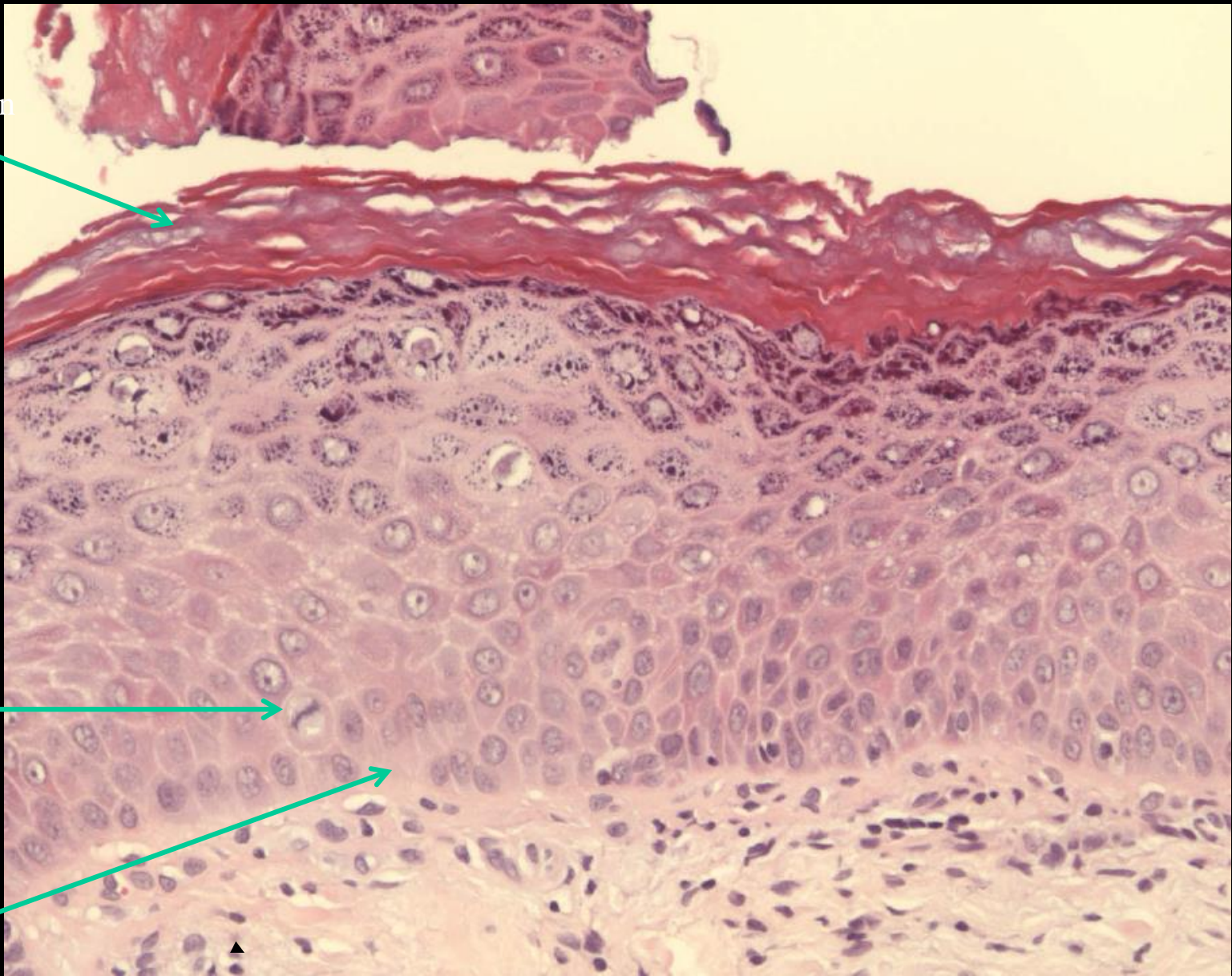


Low-grade
lesion

≥4 architecture changes
+
≥5 cytological changes



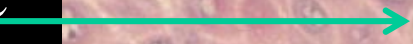
High-grade
lesion



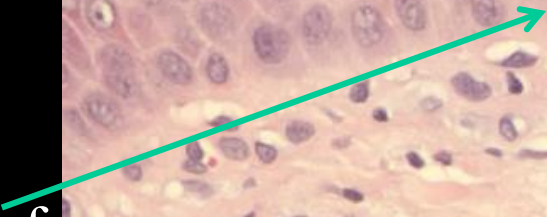
Orthokeratinisation

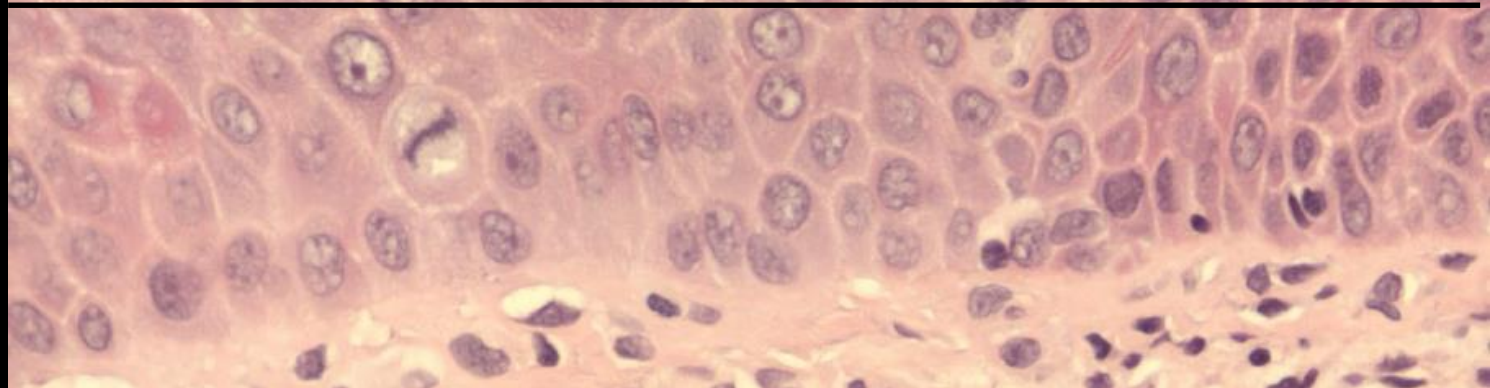
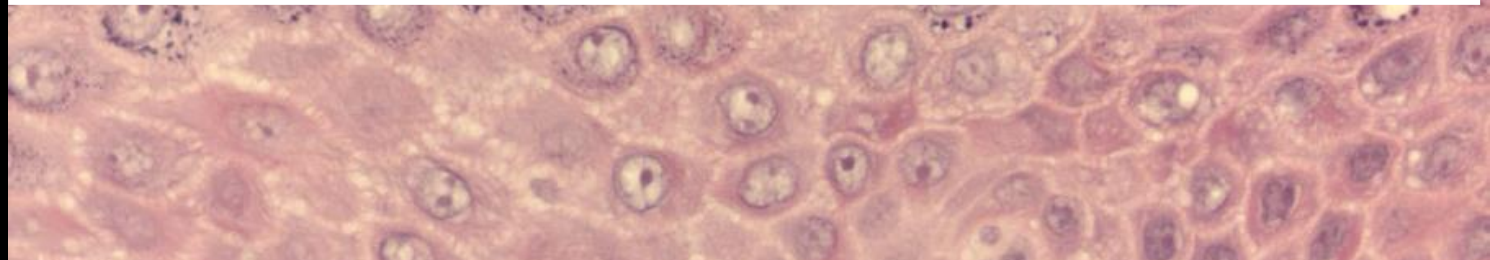
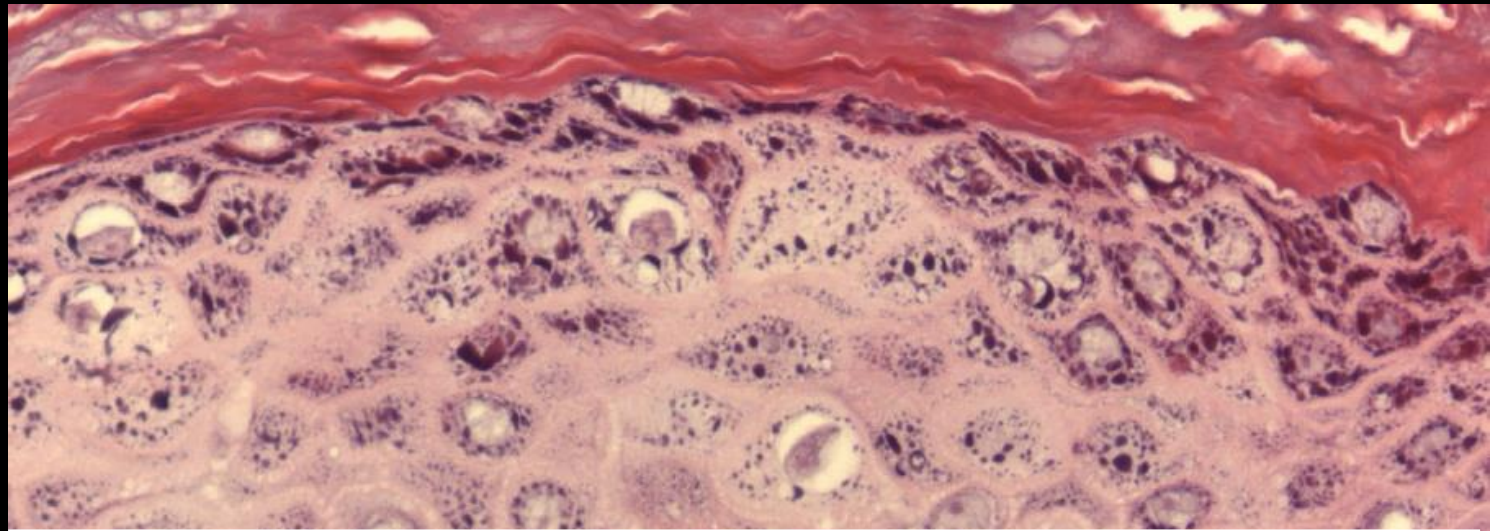


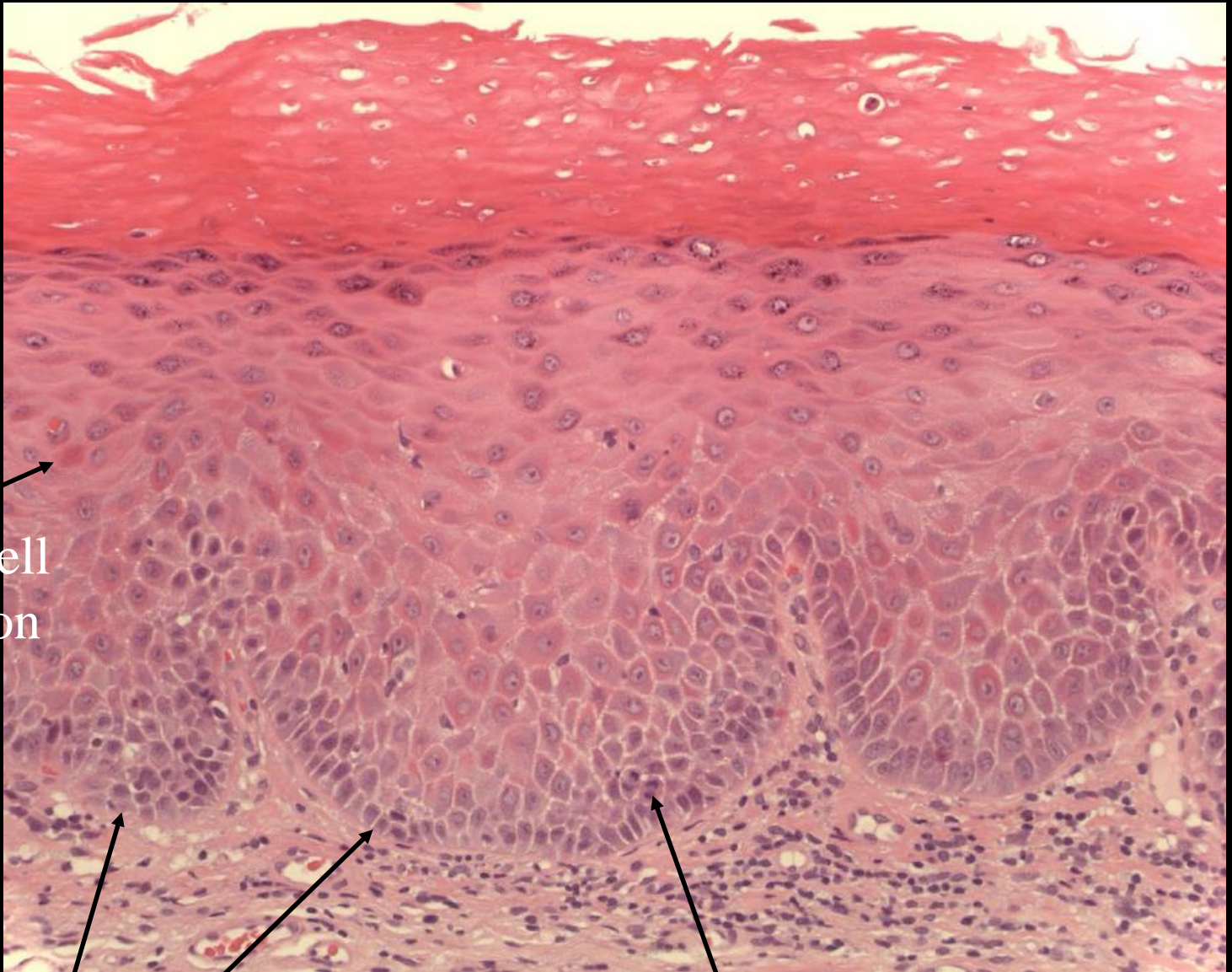
Mitotic activity



Loss of polarity of basal cells



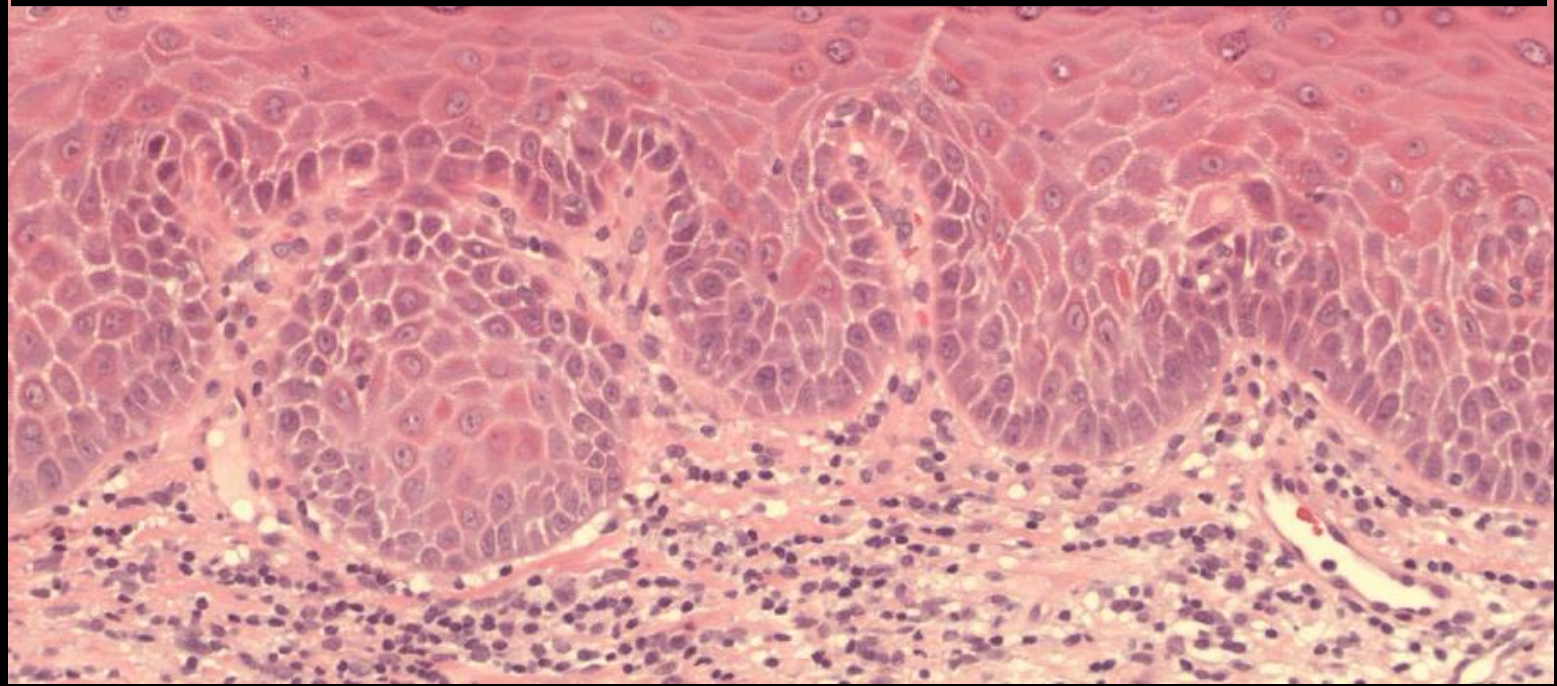
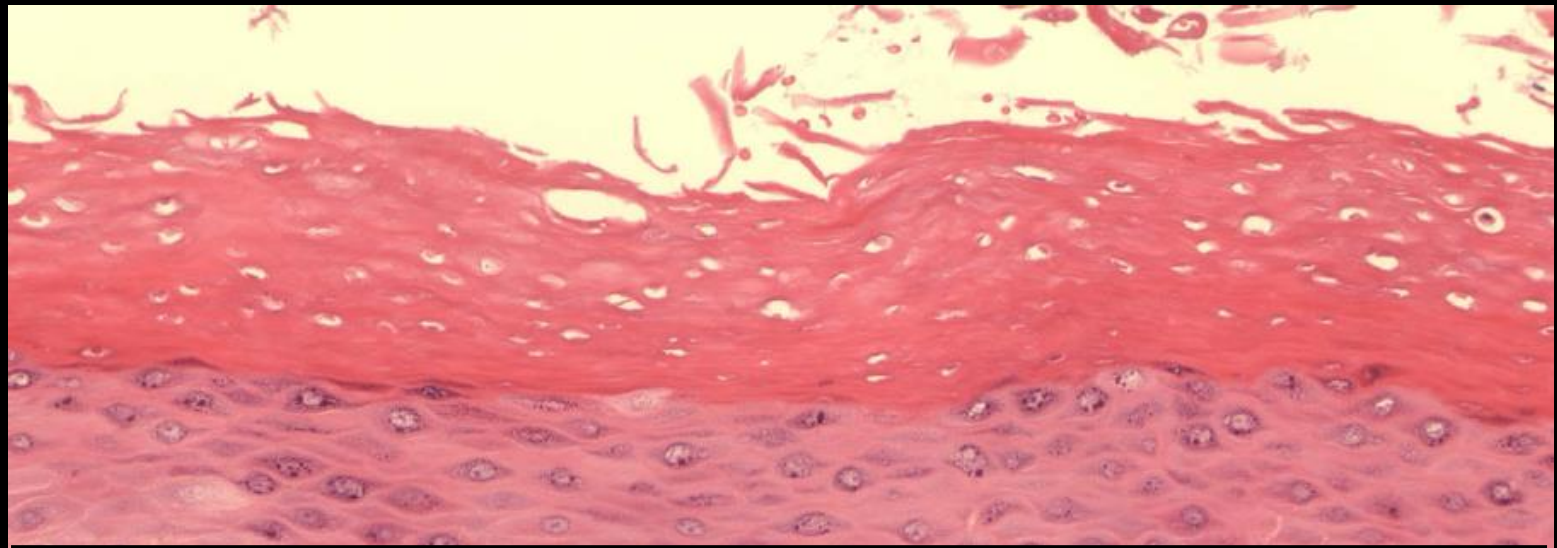


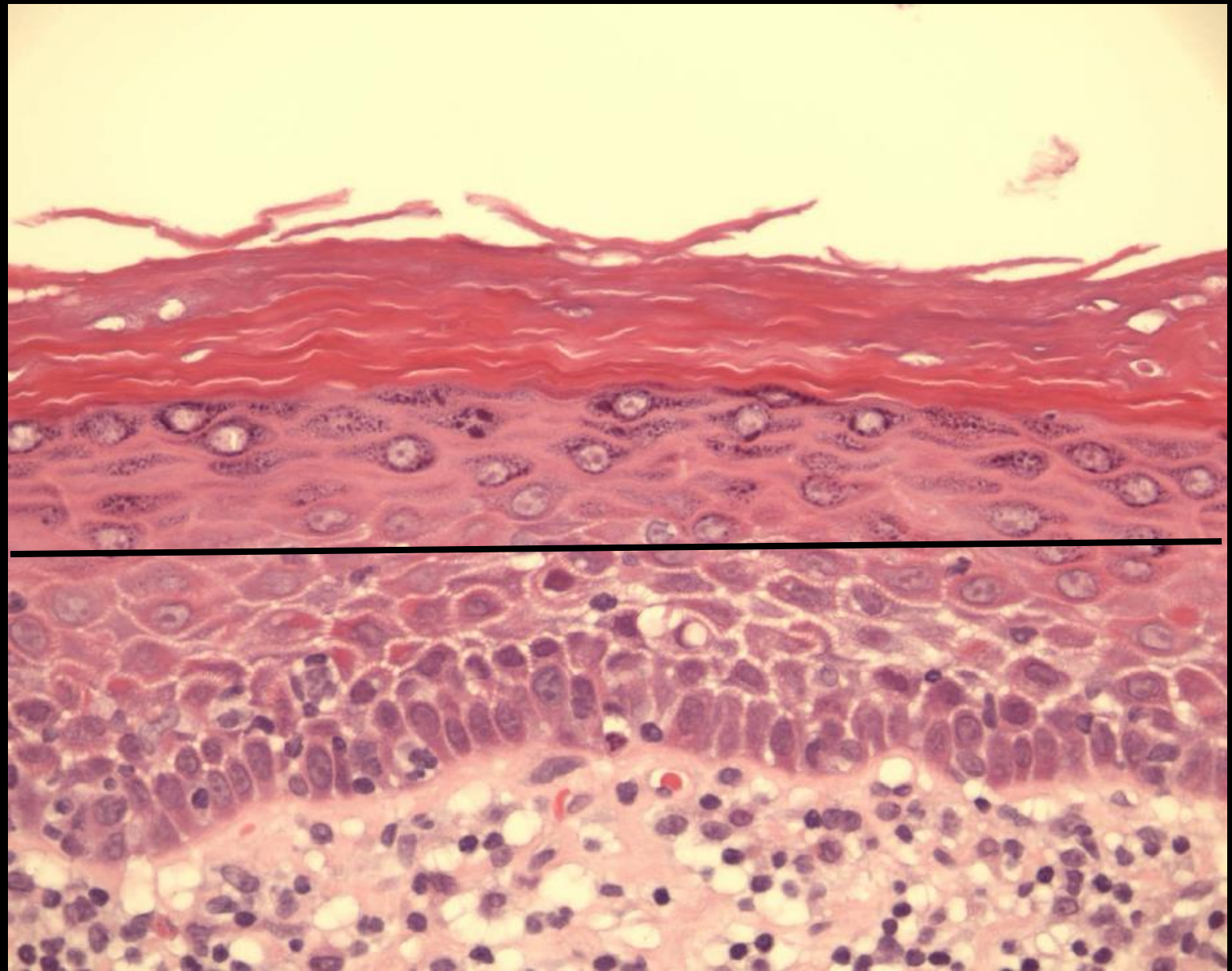


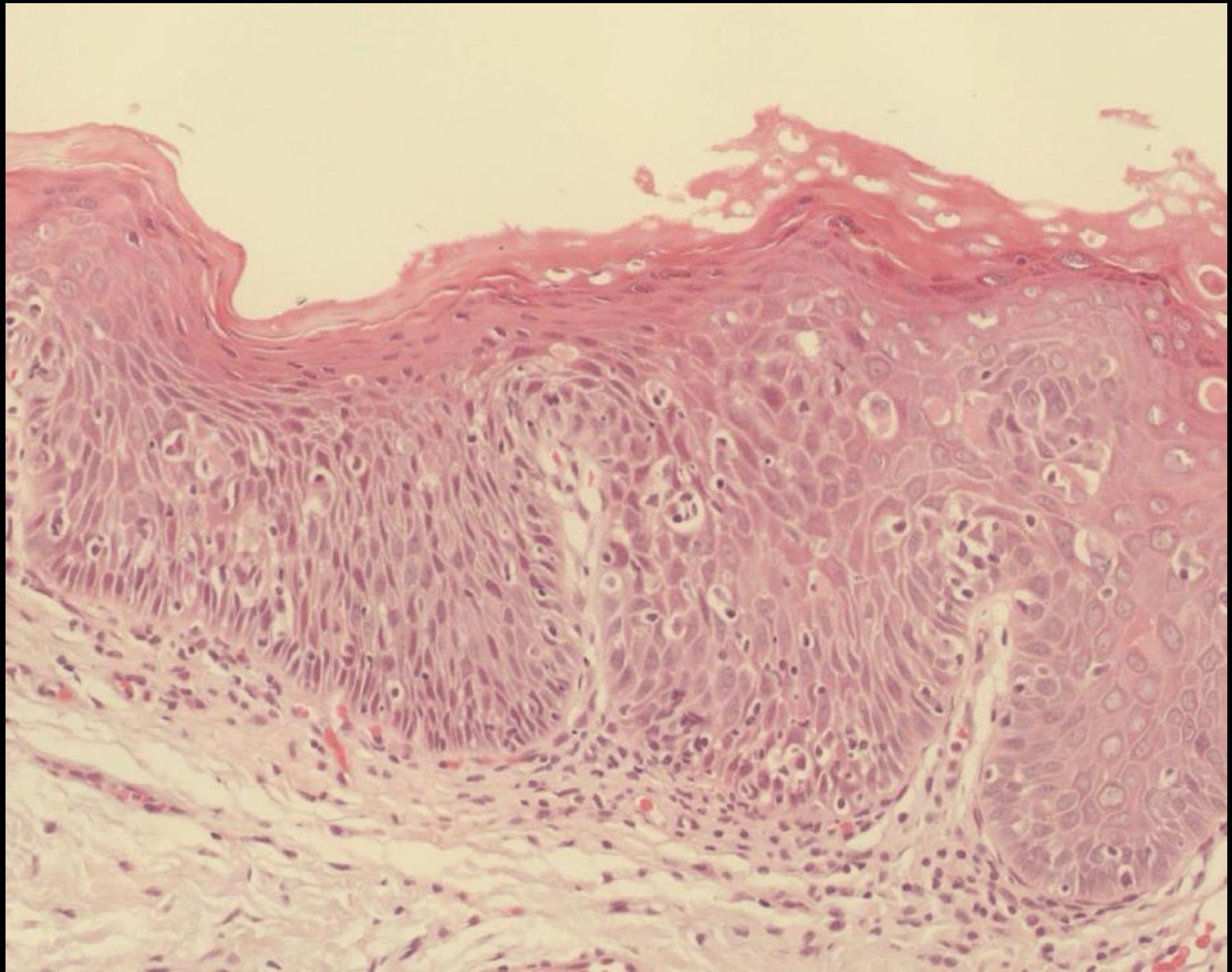
Individual cell
keratinisation

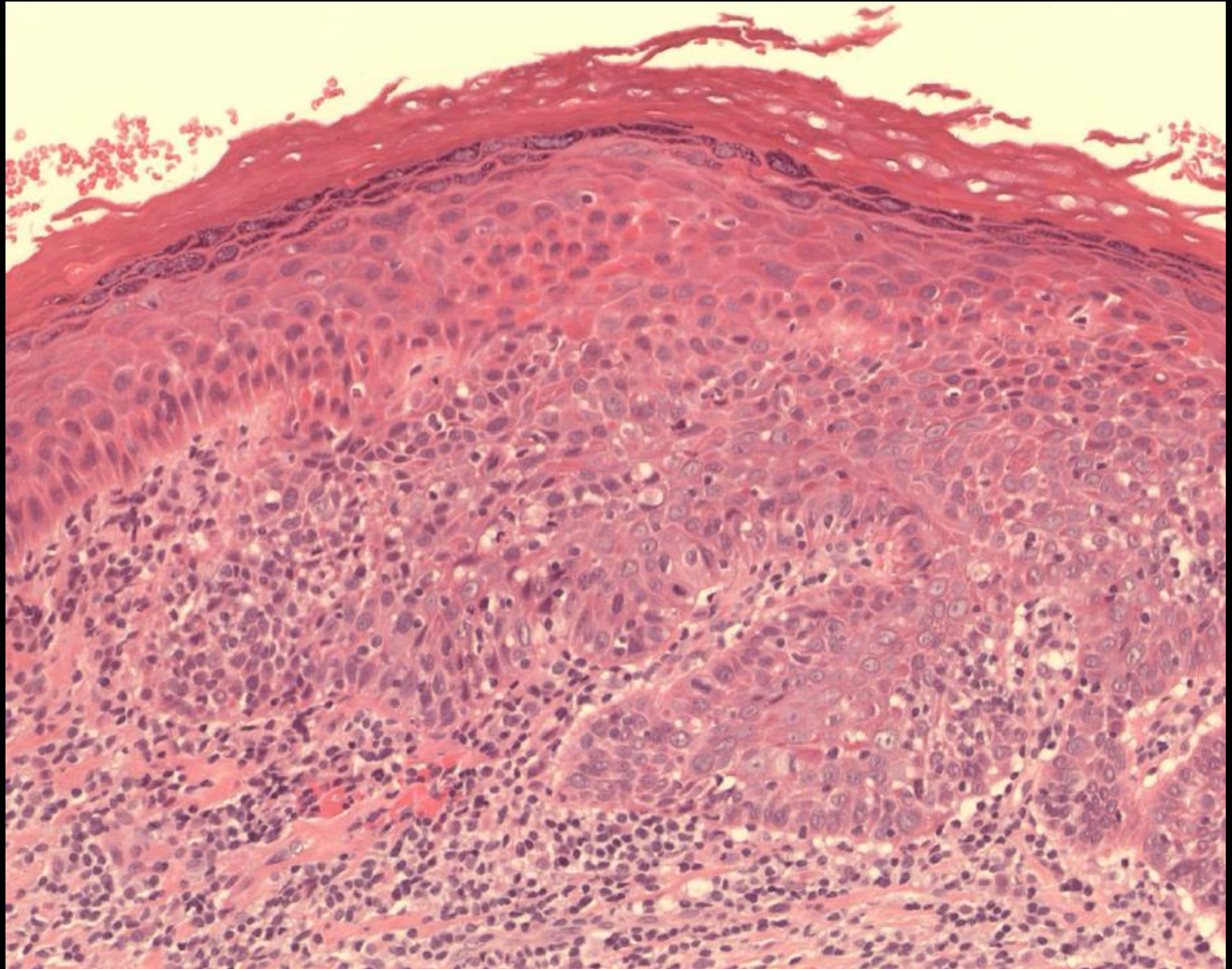
Drop shaped rete ridges

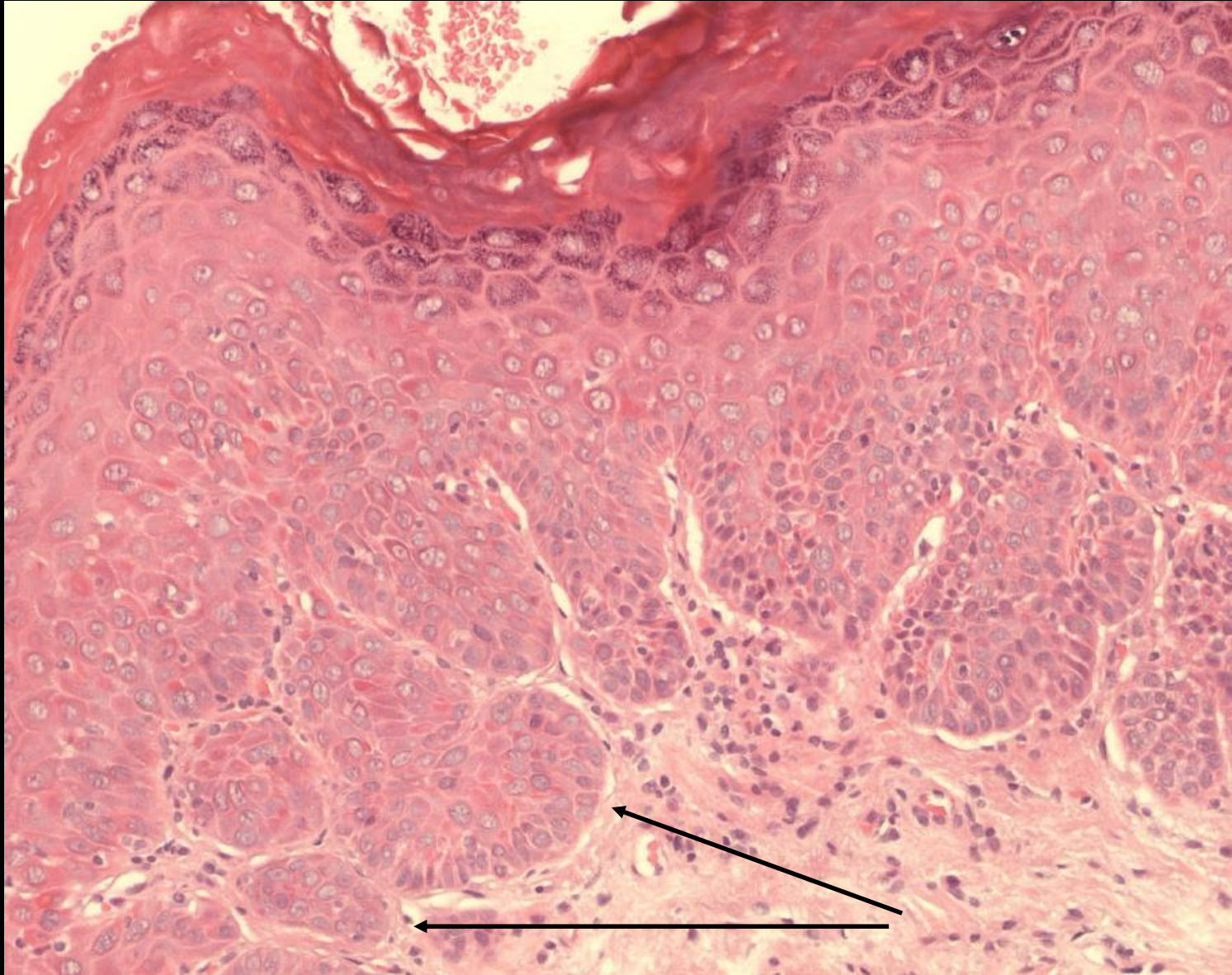
Mitotic activity

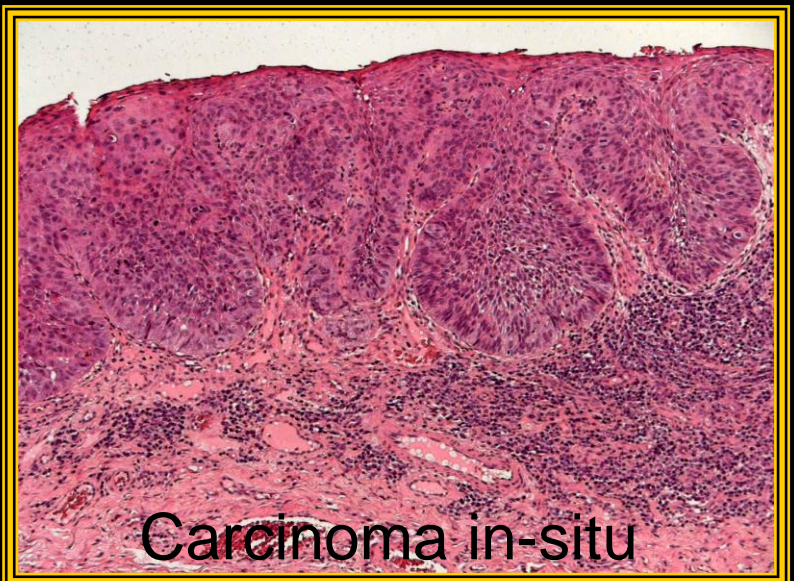
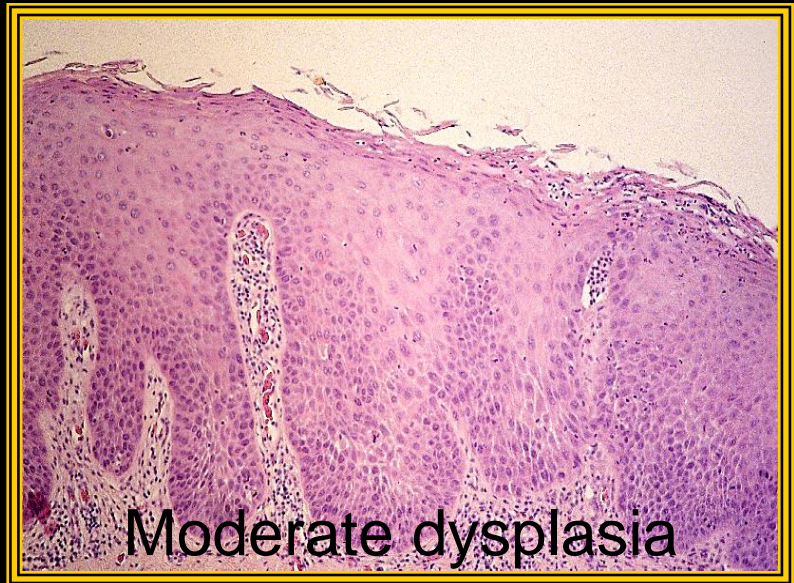












The severity of the dysplasia may vary considerably over the lesion as may also the histological features. The following photomicrographs illustrate a large dysplastic lesion of the palate and the histological variation that is encountered between different parts of the lesion

Blocks taken for histopathology

