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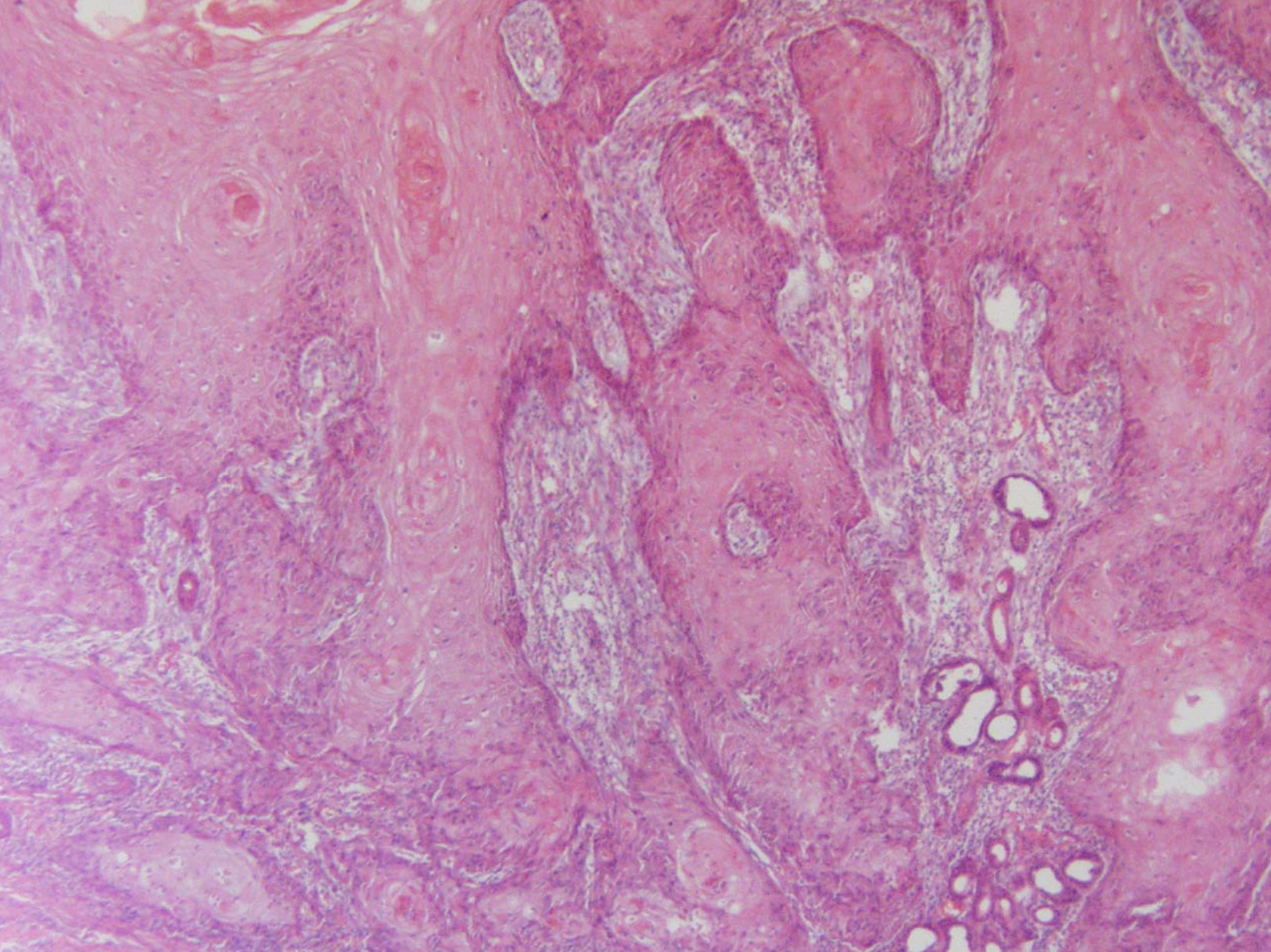
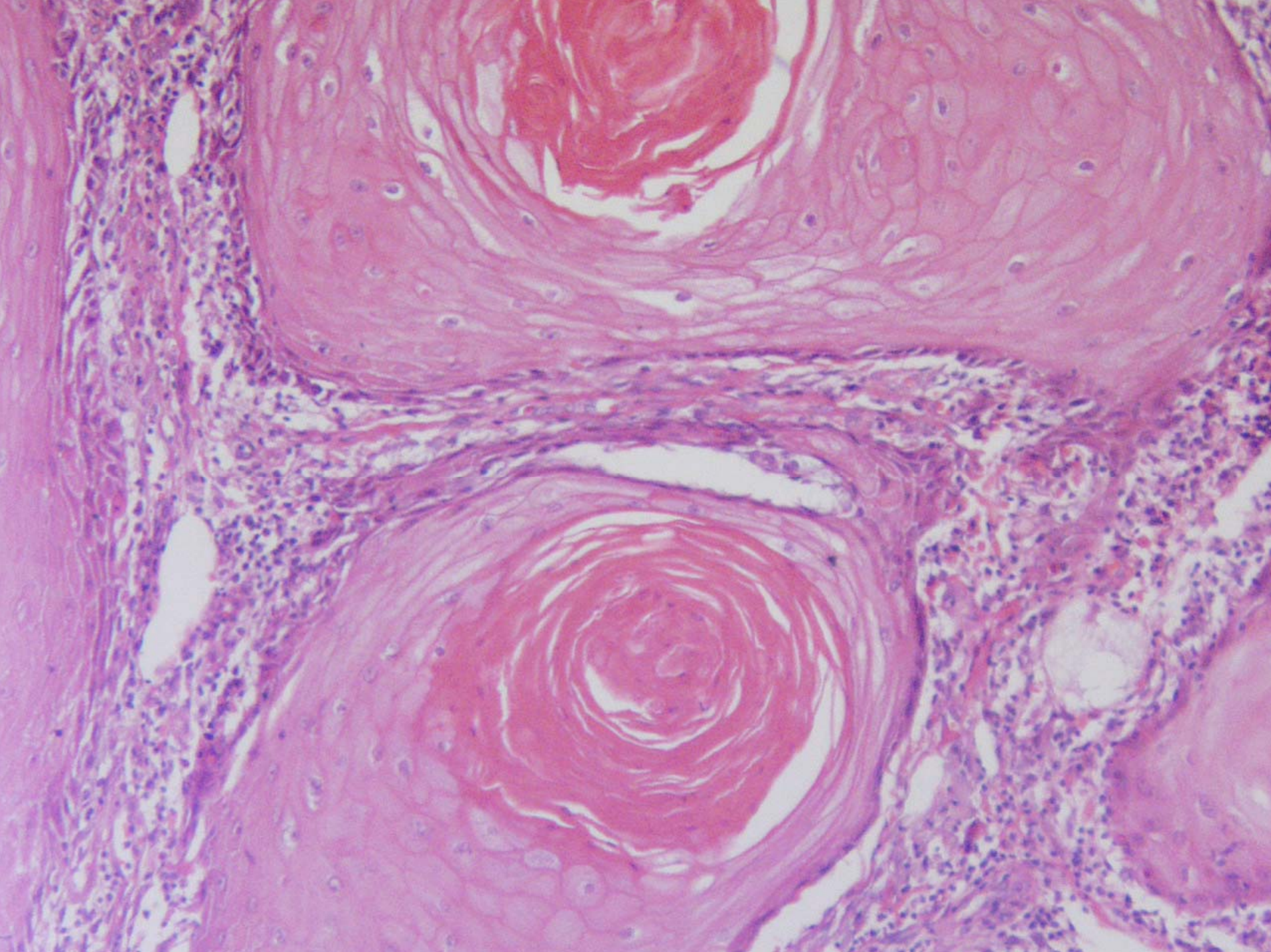
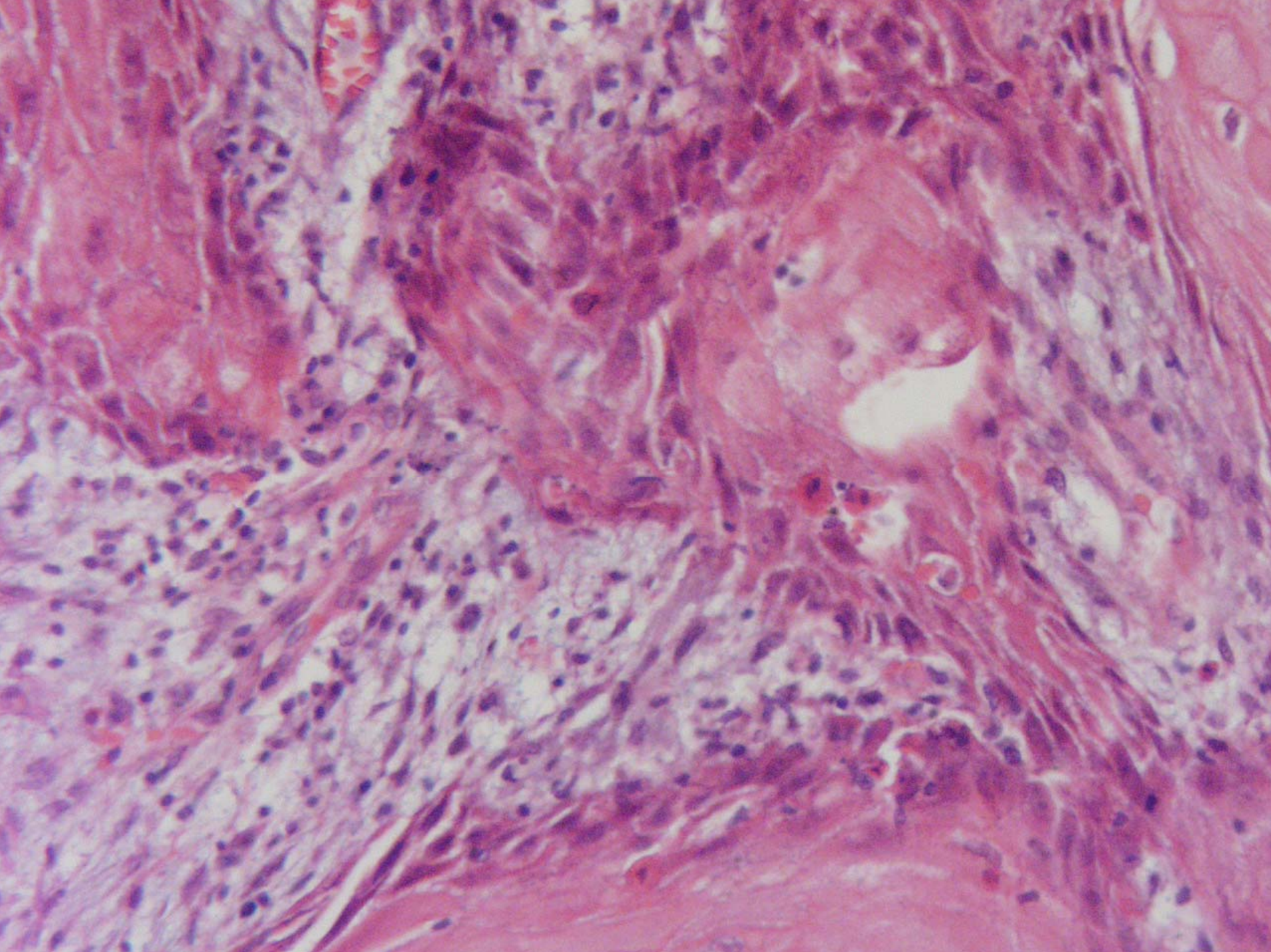






Conventional Diagnosis-
Skin, Scalp, Biopsy:

Squamous cell carcinoma involving the biopsy margins.

Better

Skin, Scalp, Biopsy:
Squamous cell carcinoma, well differentiated, involving the biopsy margins.

Squamous Cell Carcinoma… Good Grades Are Not Enough!

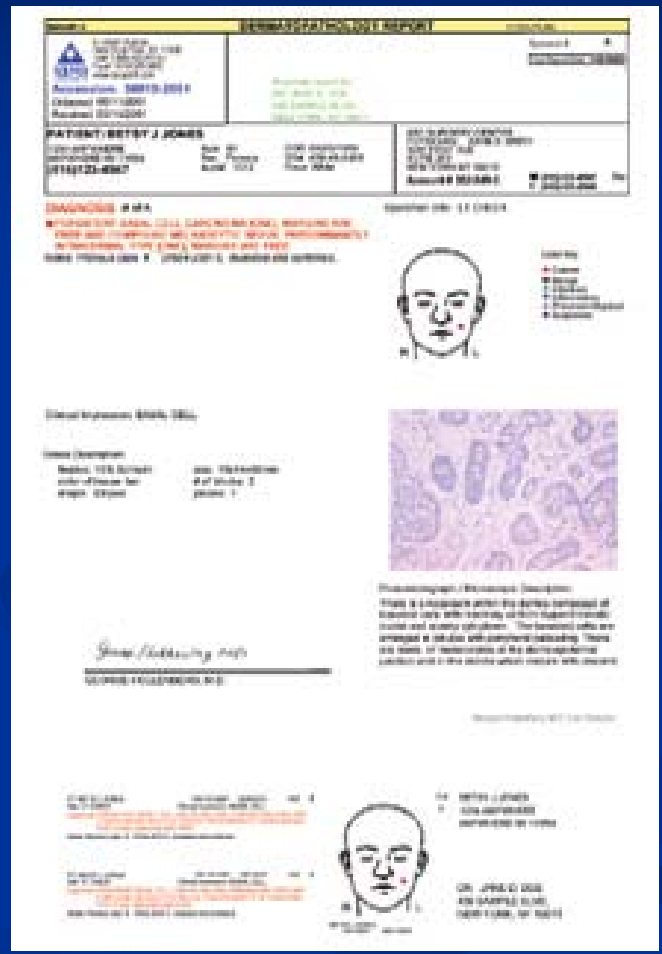
Paul K. Shitabata, M.D.

Dermatopathologist

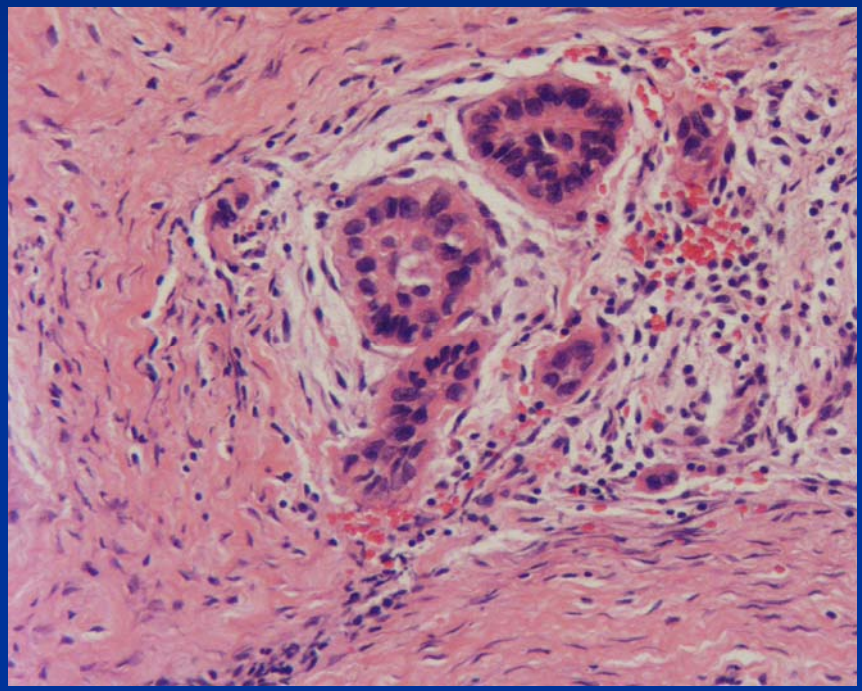
Pathology Inc.

Should We Report These?

- Thickness
- Grade of differentiation
- Histologic type
- Growth pattern
- Perineural invasion
- Lymphovascular invasion

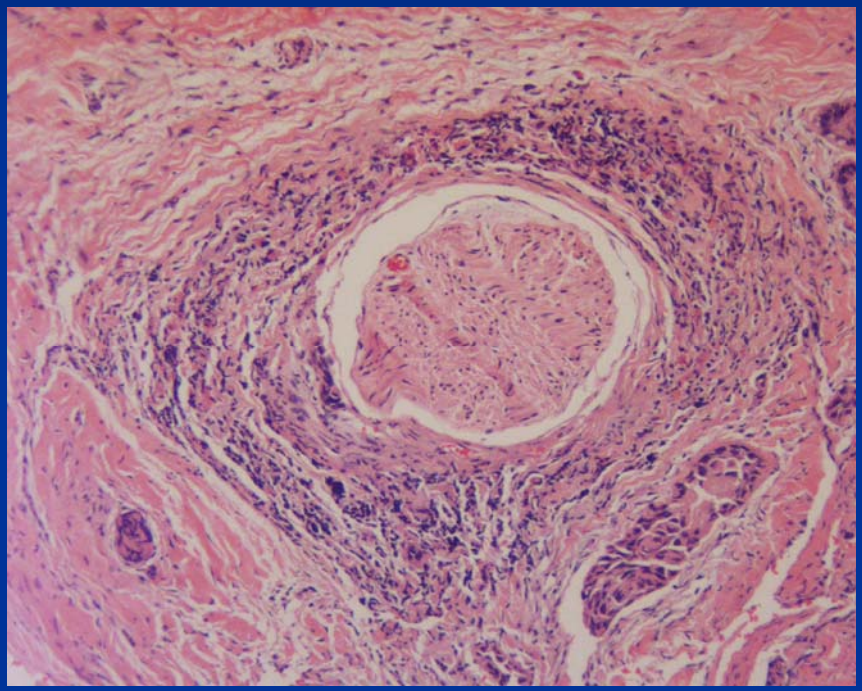


Poor Prognostic Features



- Thickness (Clark's level and Breslow depth)
  - Recurrence risk
    <10% for lesions <2 cm
    30% for lesions >2 cm
  - Survival
    3 YRS was 98% if tumor <3.5 mm in depth
    84% >3.5 mm in depth
- Growth pattern
  - Small nests
  - Infiltrative pattern
  - Diffuse haphazard growth
  - Isolated strands
  - Clusters of cells or single cells

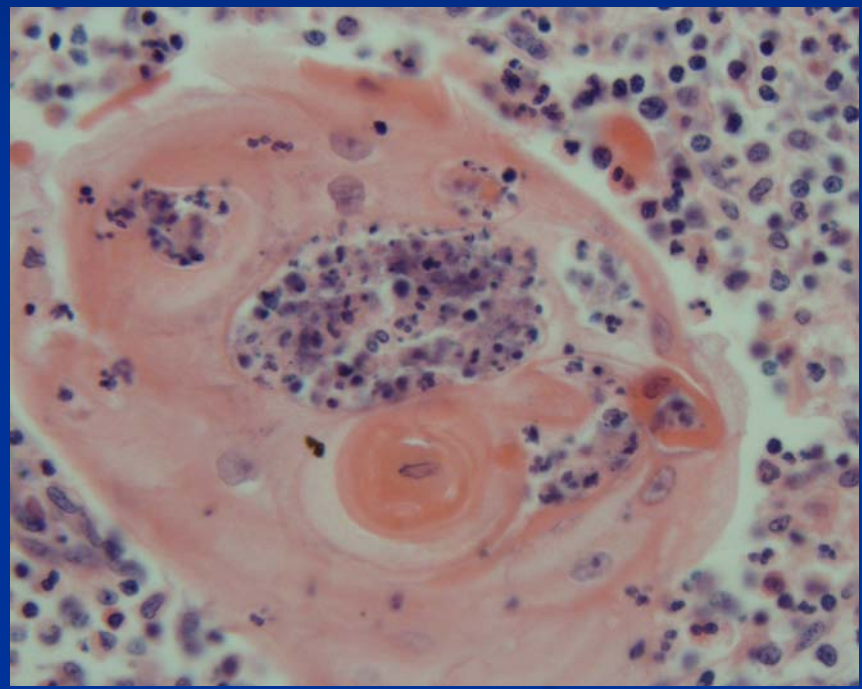
Poor Prognostic Factors



- Perineural invasion
  - Present in 2.4-14% of tumors
  - More frequent in recurrences
  - 2 year cure rate of only 2% if perineural invasion was found
- Degree of differentiation
- Histologic type
- Recurrence after treatment

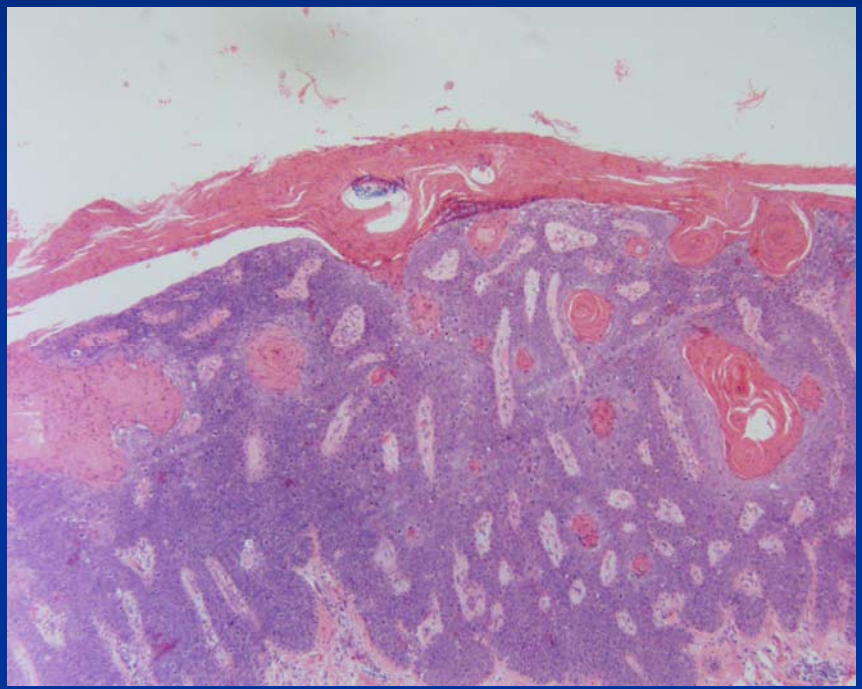
Questionable Significance

- Location (non-mucosal surfaces excluded)
- Ulceration
- Inflammation



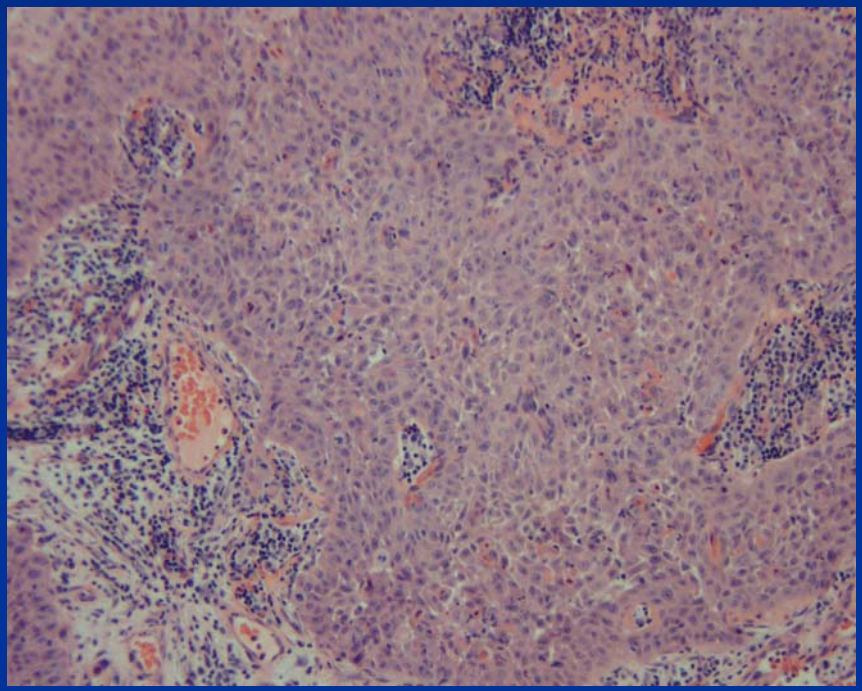
Dermatol Surg 2002 Mar;28(3):268-73

Low Risk of Aggressive Behavior

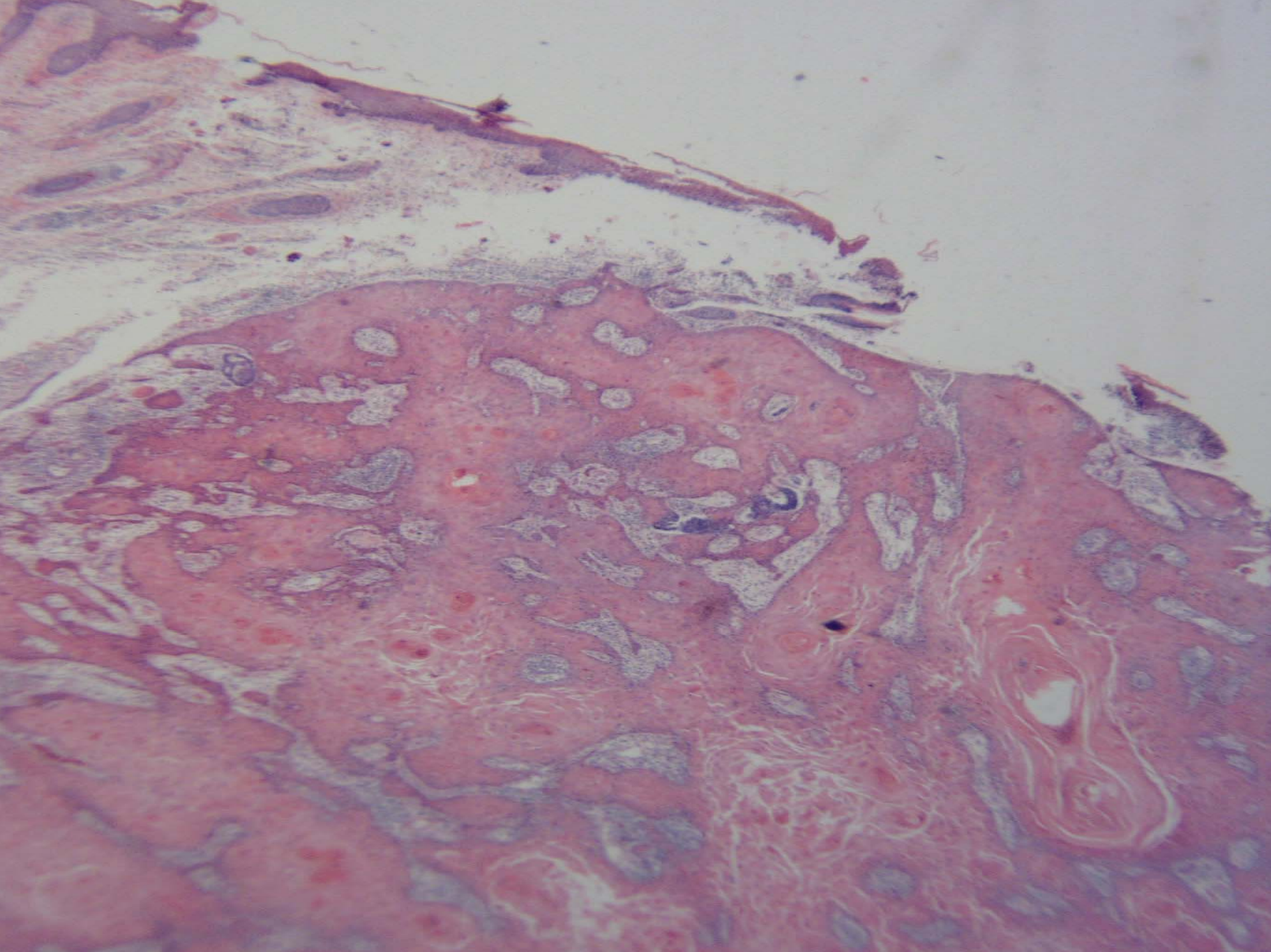


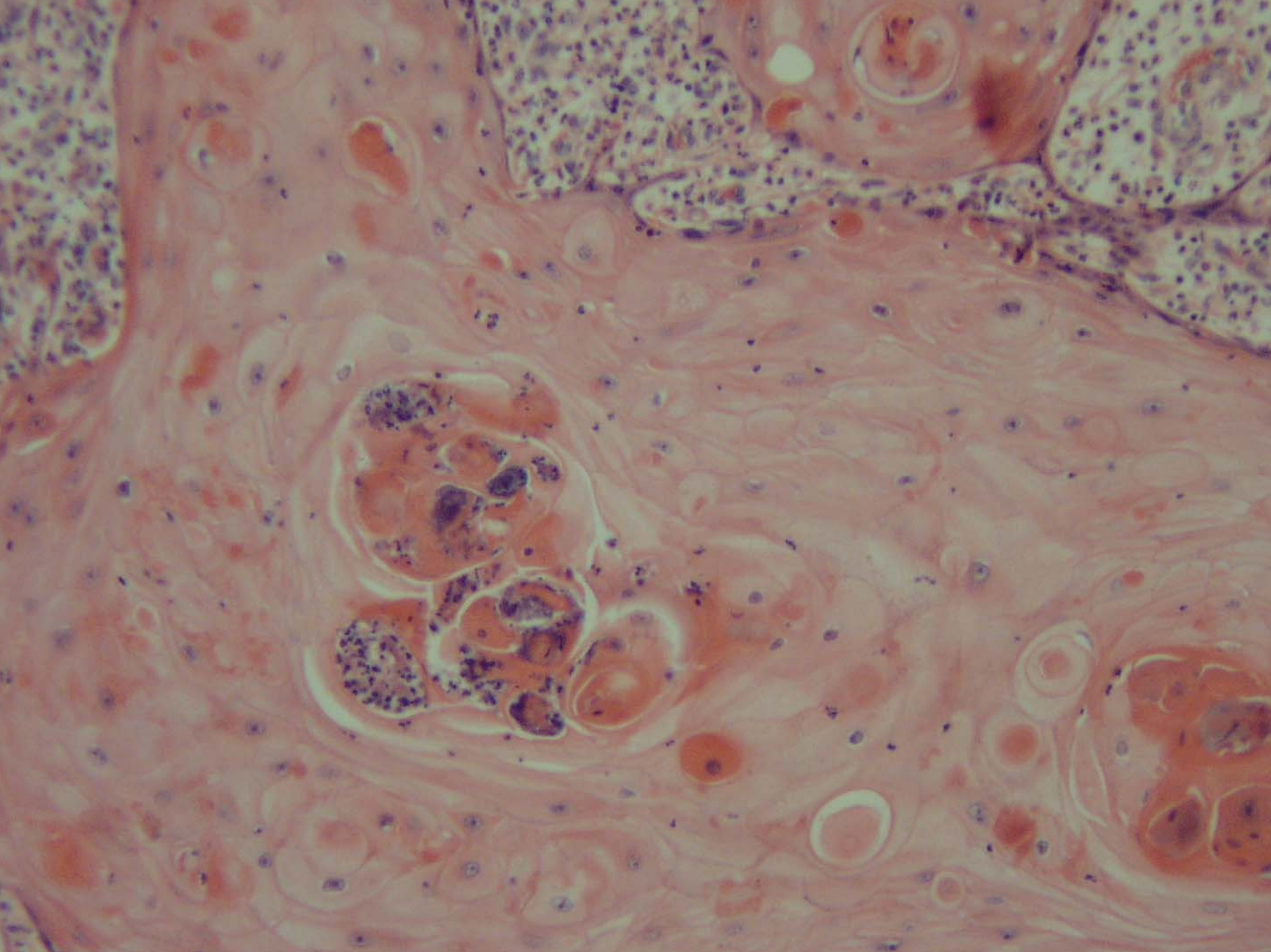
- Bowen's Disease/Carcinoma in situ/Erythroplasia of Queyrat
- Actinic keratosis/ KIN I-III
- Keratoacanthoma
- Verrucous
- Papillary

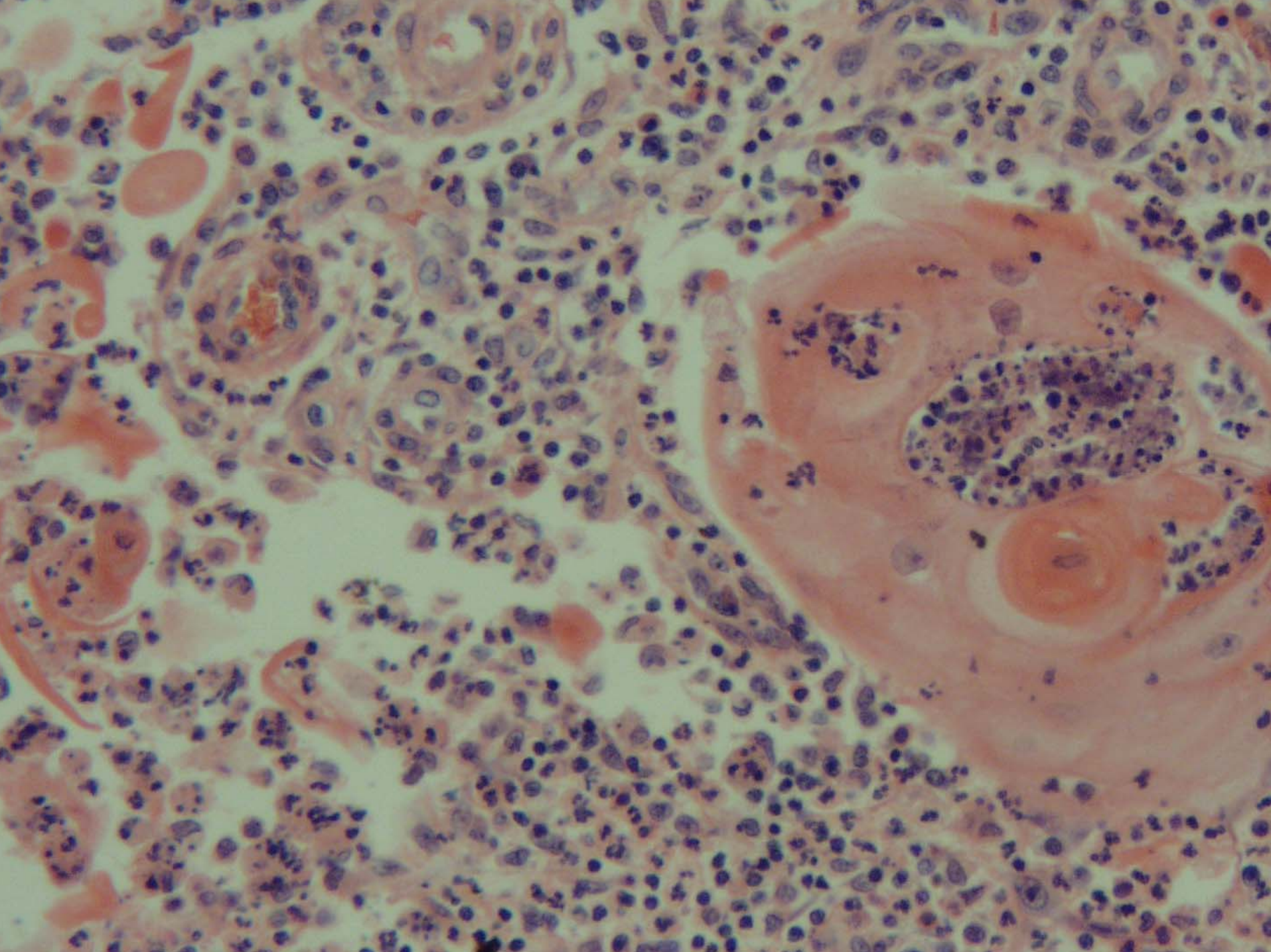
High Risk of Aggressive Behavior

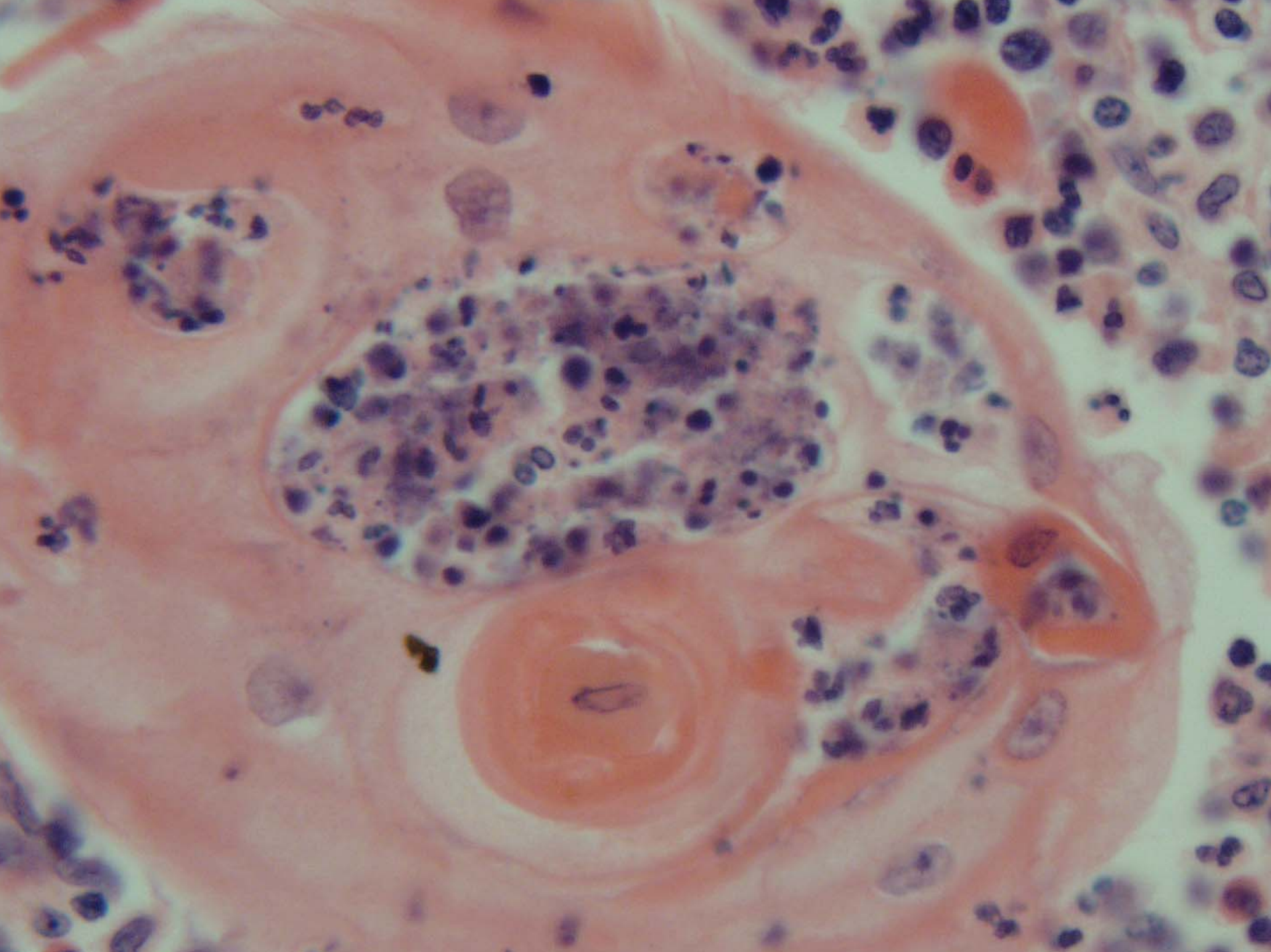


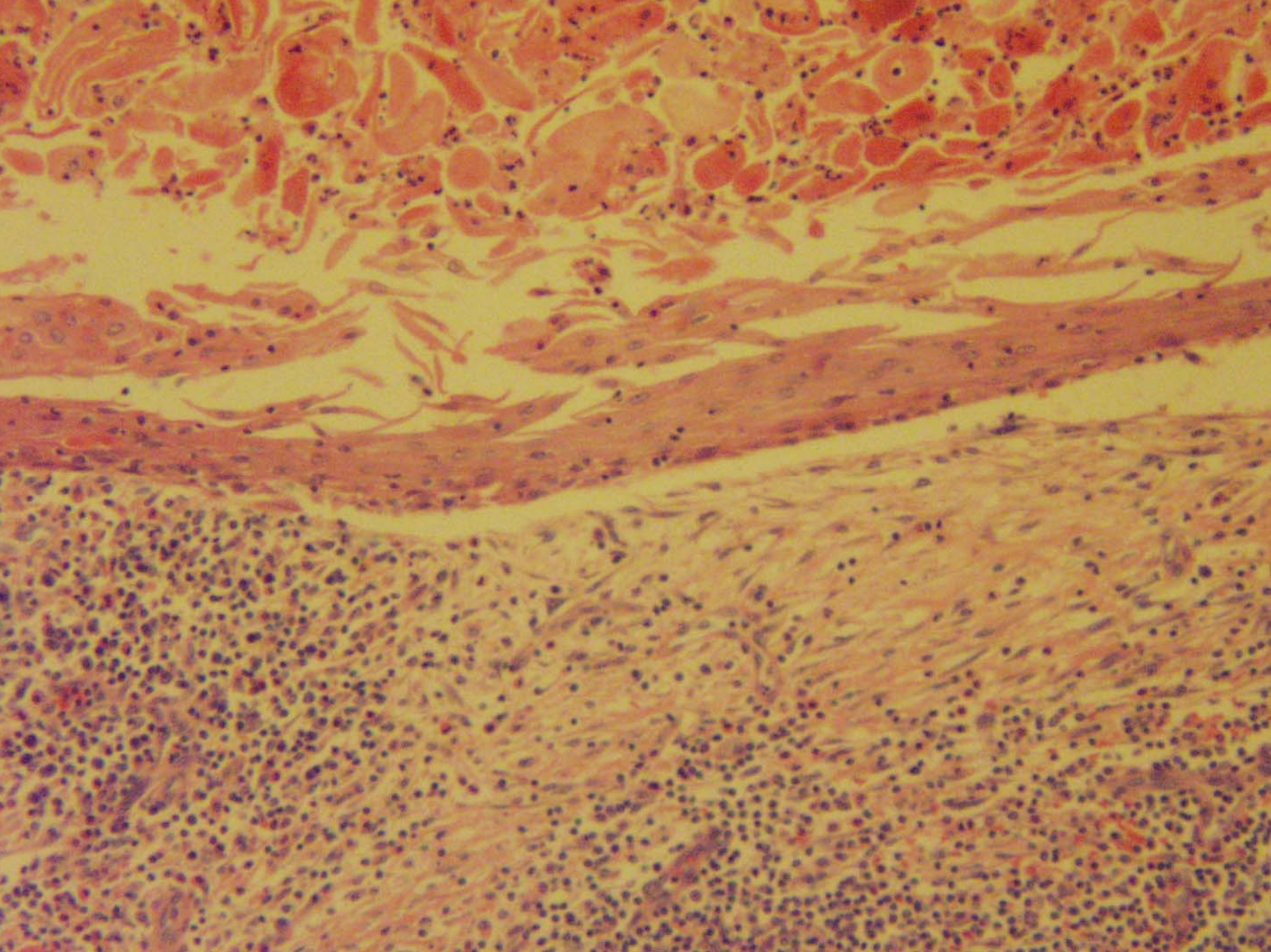
- Marjolin's Ulcer
- Acantholytic
- Desmoplastic/ Sarcomatoid
- Invasive Bowenoid
- Adenosquamous
- Lymphoepithelioma-like carcinoma
- Transplant related









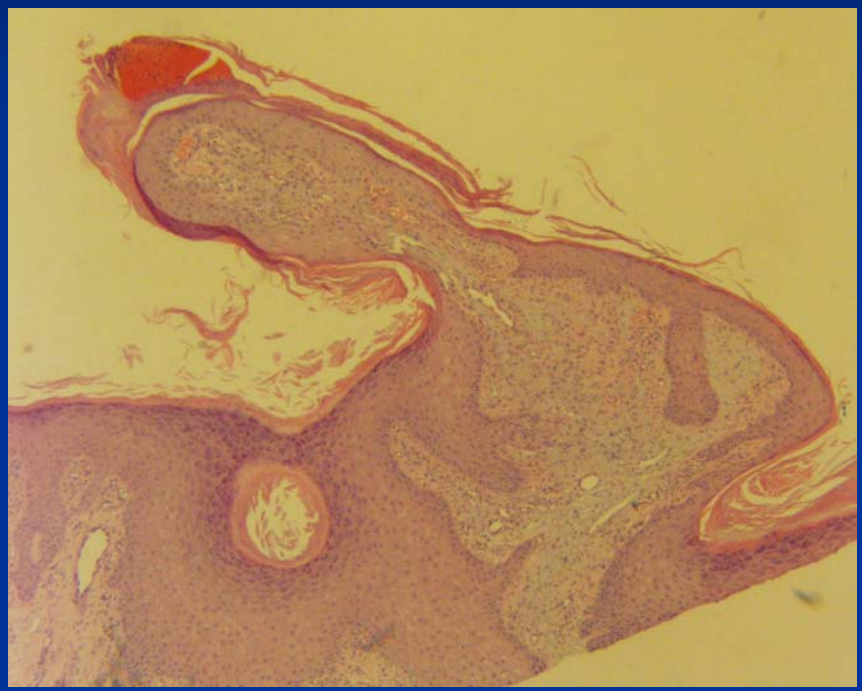


Keratoacanthoma

Keratoacanthoma Clinical Variants

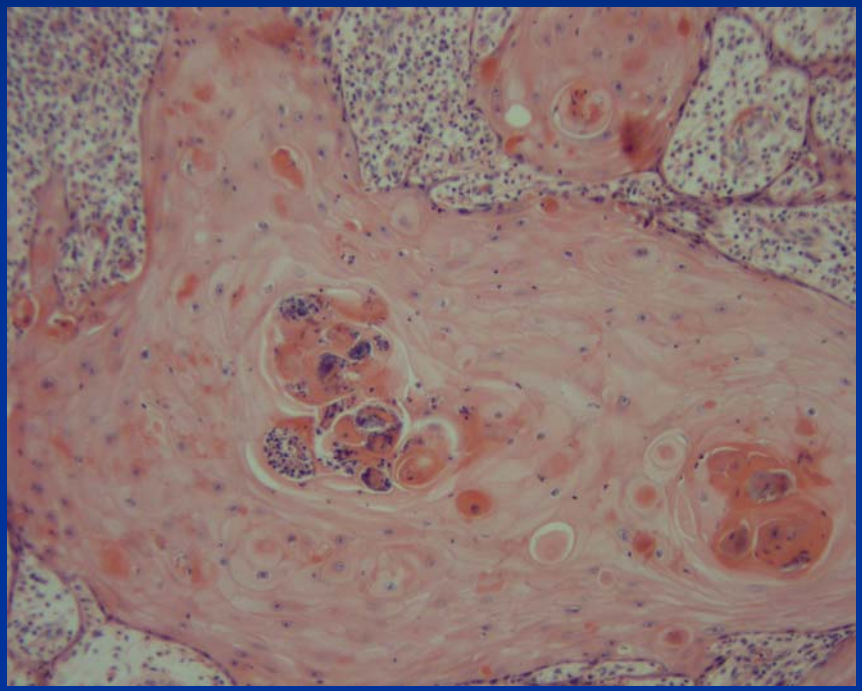
- Giant
- Multiple-Ferguson Smith Type
- Multiple-Grzybowski (Eruptive) Type
- Subungual

Histopathology



- Exo-endophytic proliferation
- Keratin filled crater
- Buttressing or lipping of the epidermal edges

Histopathology

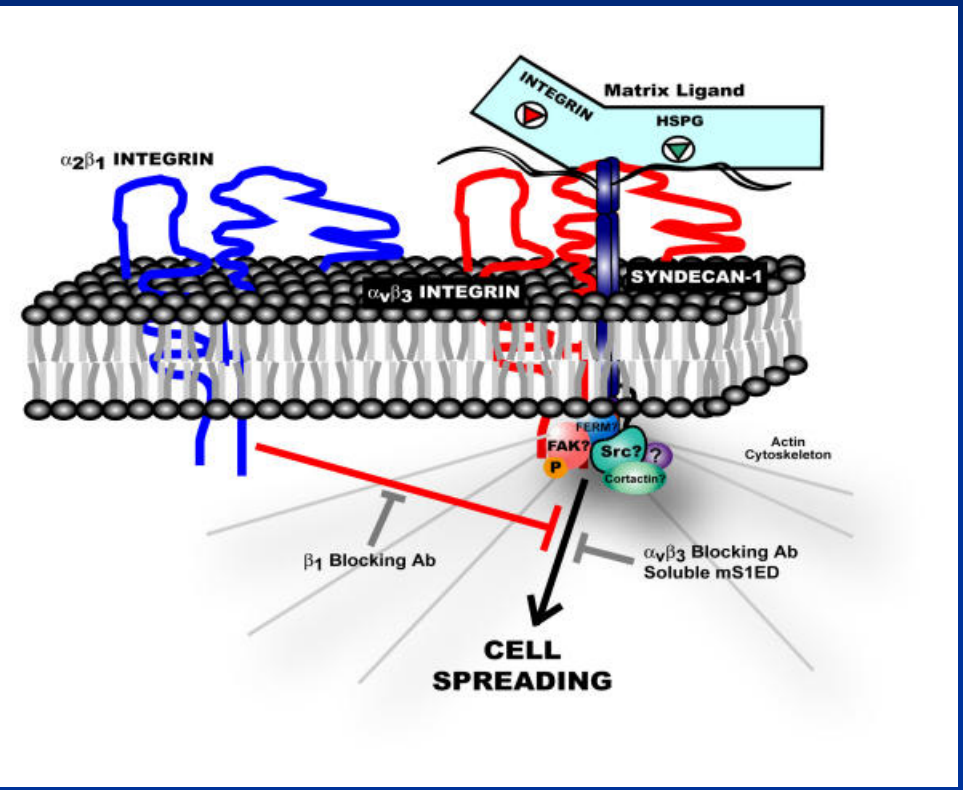


- Eosinophilic cytoplasm of keratinocytes
- Bland cytology
- Rare mitotic figures
- Frequent eosinophils and neutrophils

Solitary keratoacanthoma is a squamous-cell carcinoma: three examples with metastases.

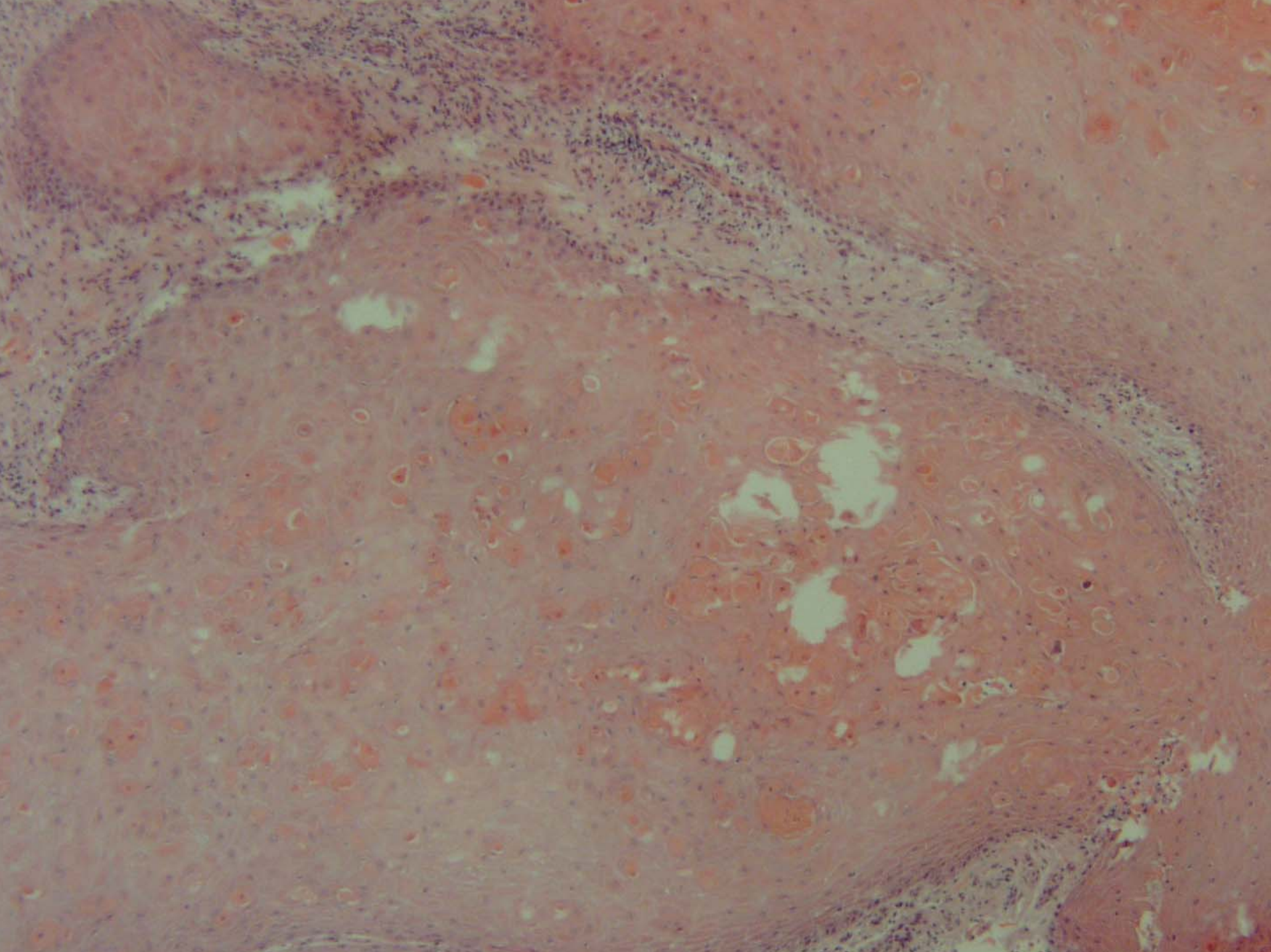
Hodak E, Jones RE, Ackerman AB.
Dermatopathology Unit, New York University Medical Center, NY 10016.
Am J Dermatopathol. 1993 Aug;15(4):332-42

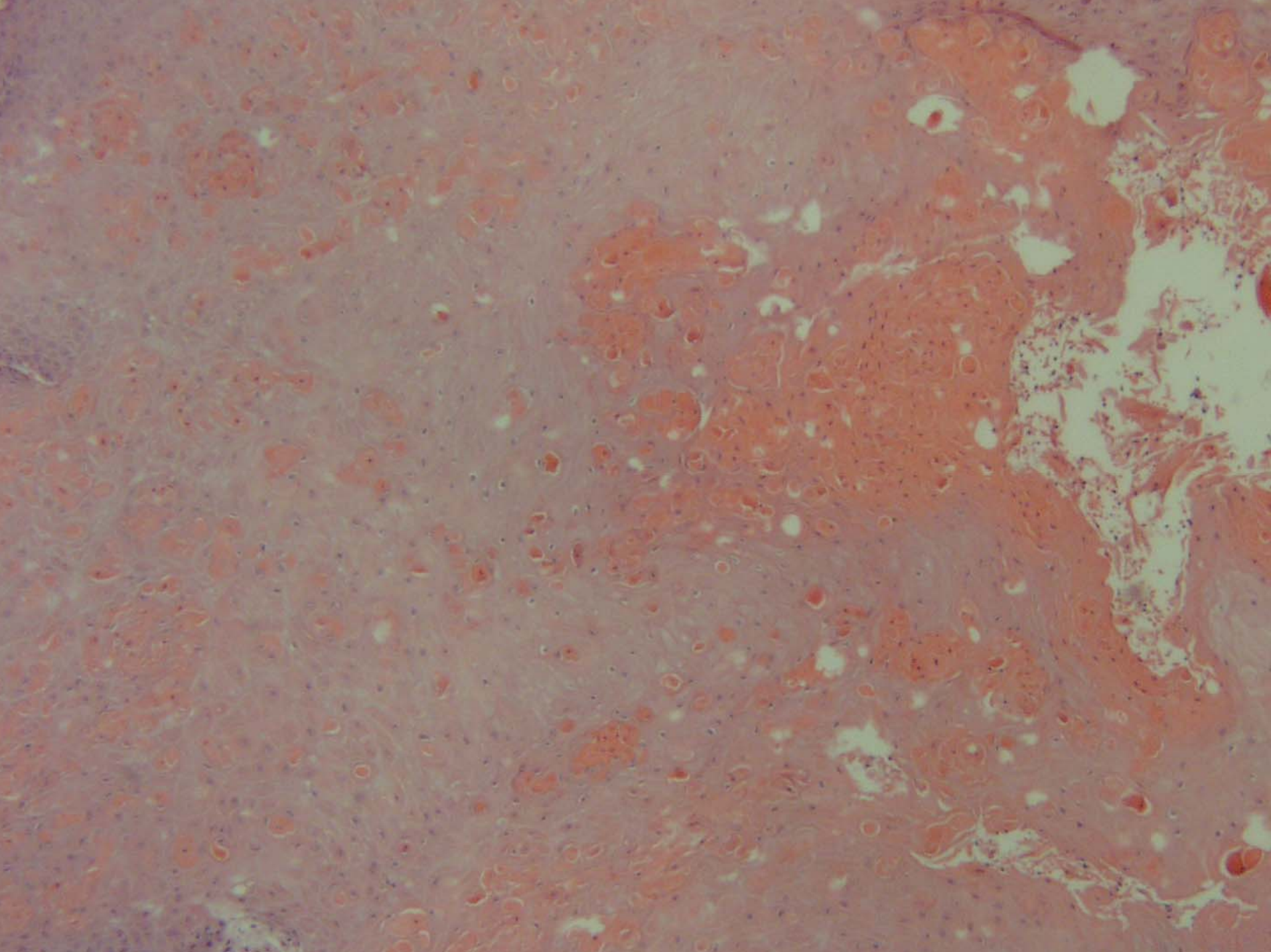
KA-Differentiation from SCCA

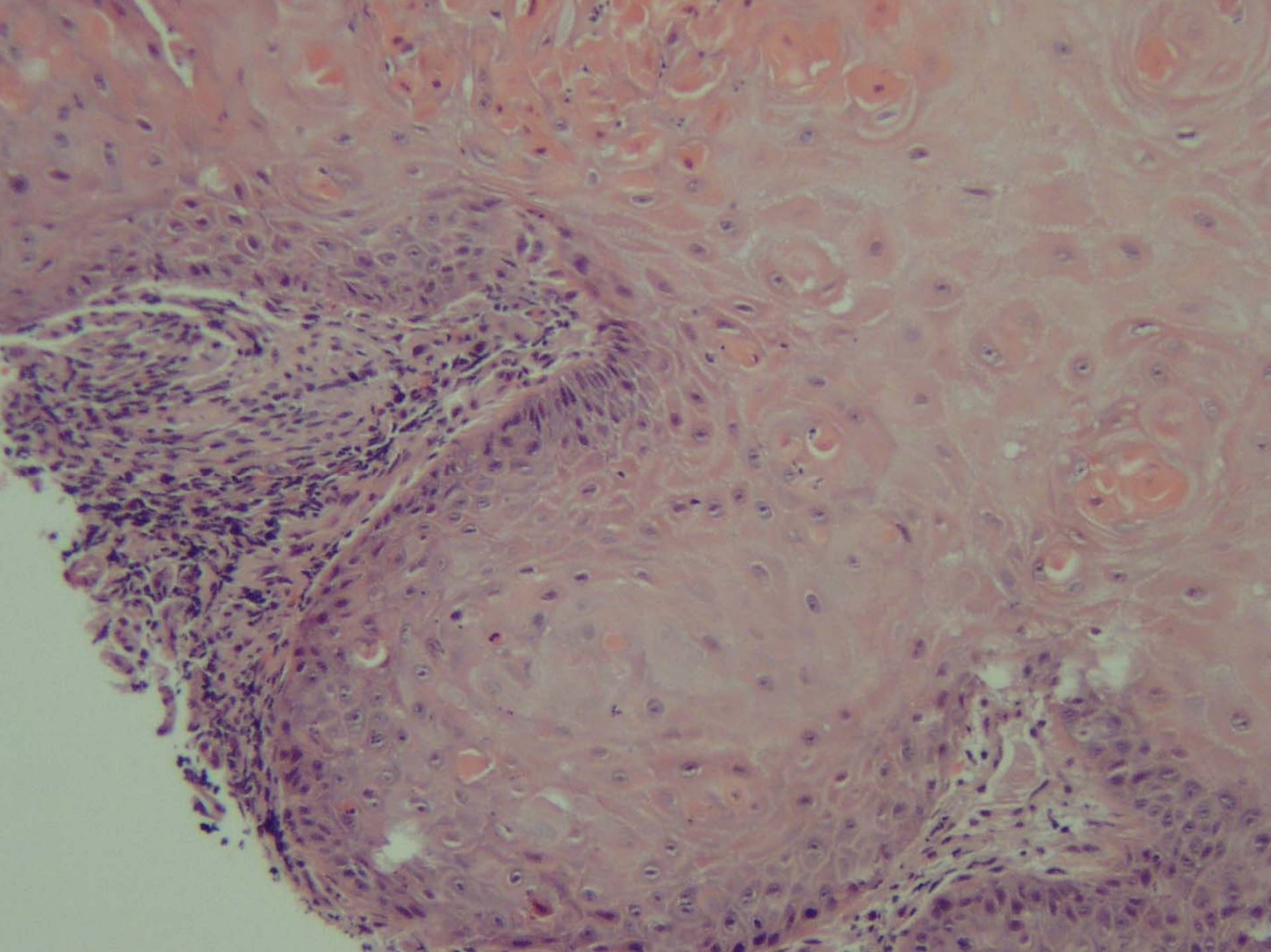


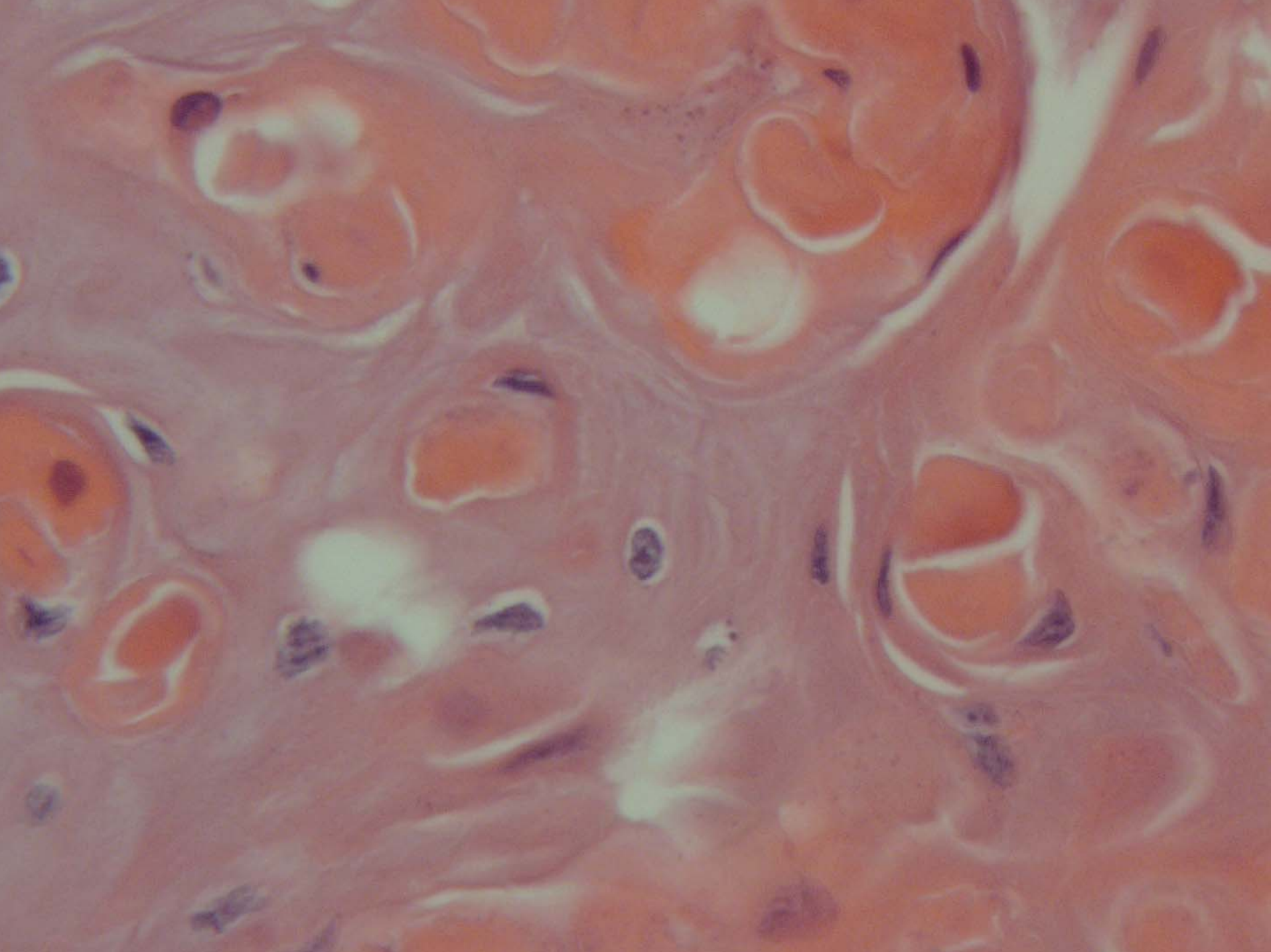
- Syndecan-1, heparan sulfate proteoglycans that mediates intercellular and cell to matrix adhesion
- All 24 KAs positive for syndecan-1 expression.
- Invasive SCC diminished staining.
- Expression mirrors SCC in situ and normal epidermis
- KA may be closely related to SCC in situ but distinctively different from invasive SCC

- Mod Pathol 2002;15:45-49



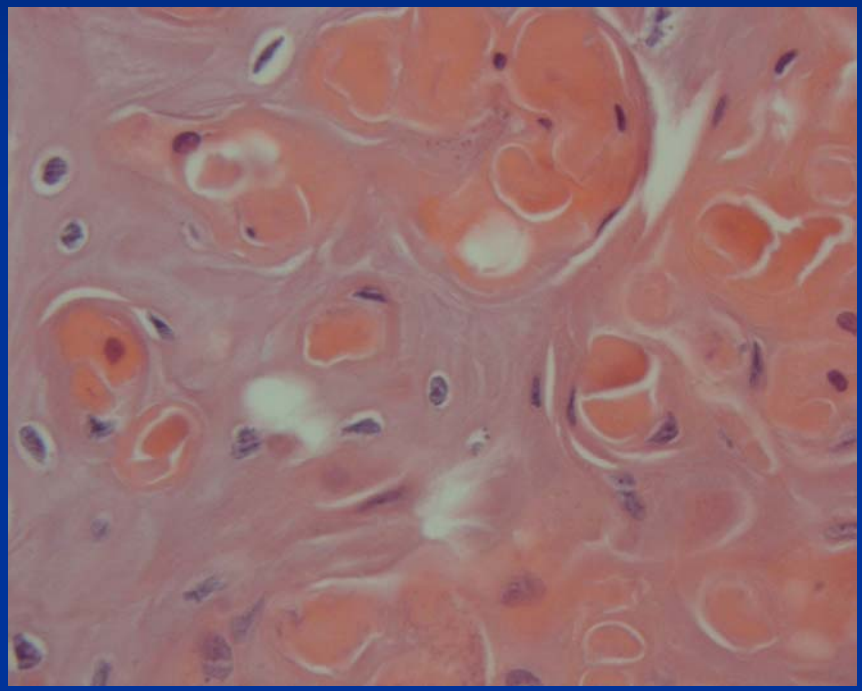




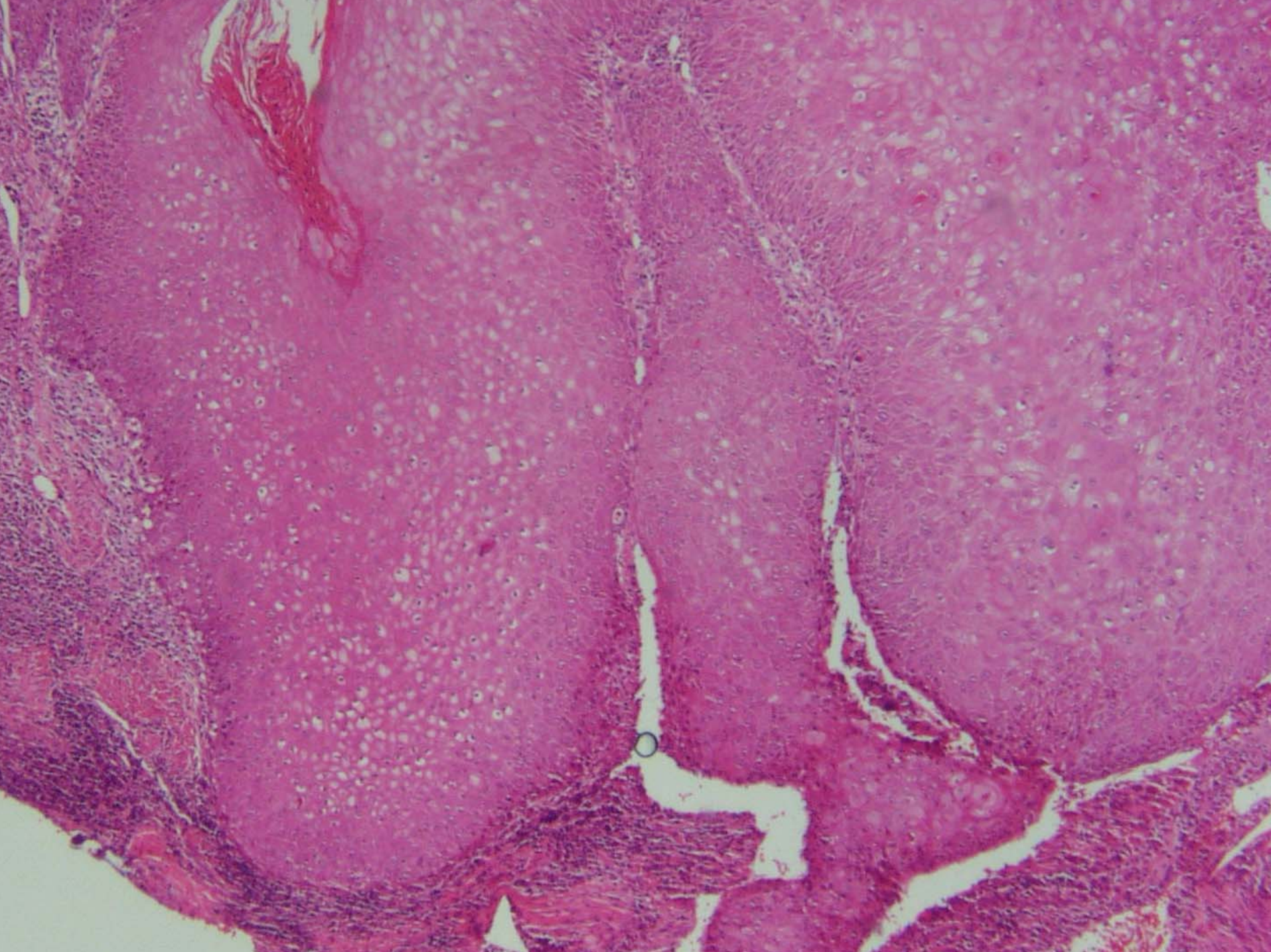


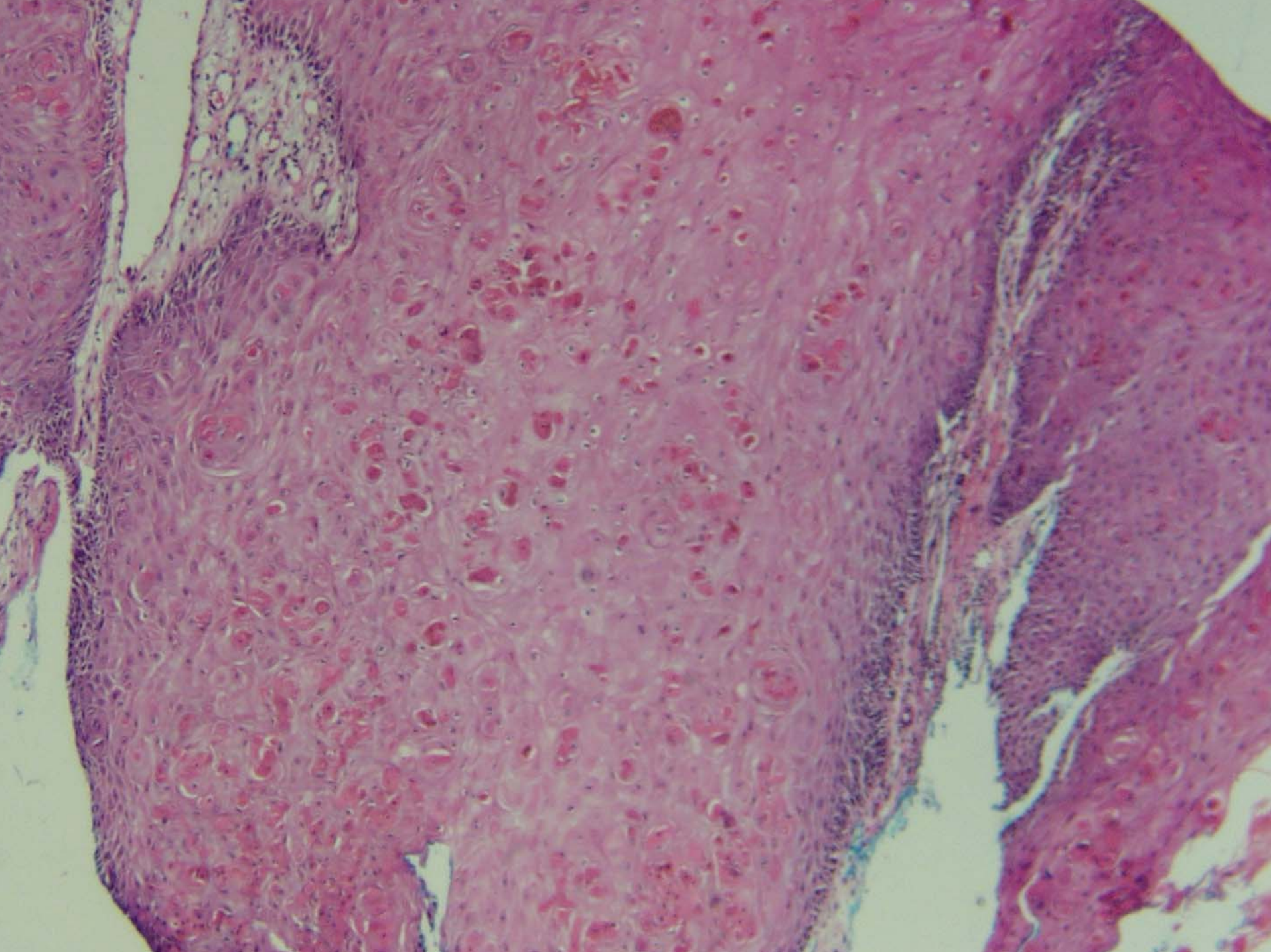
Subungual Keratoacanthoma

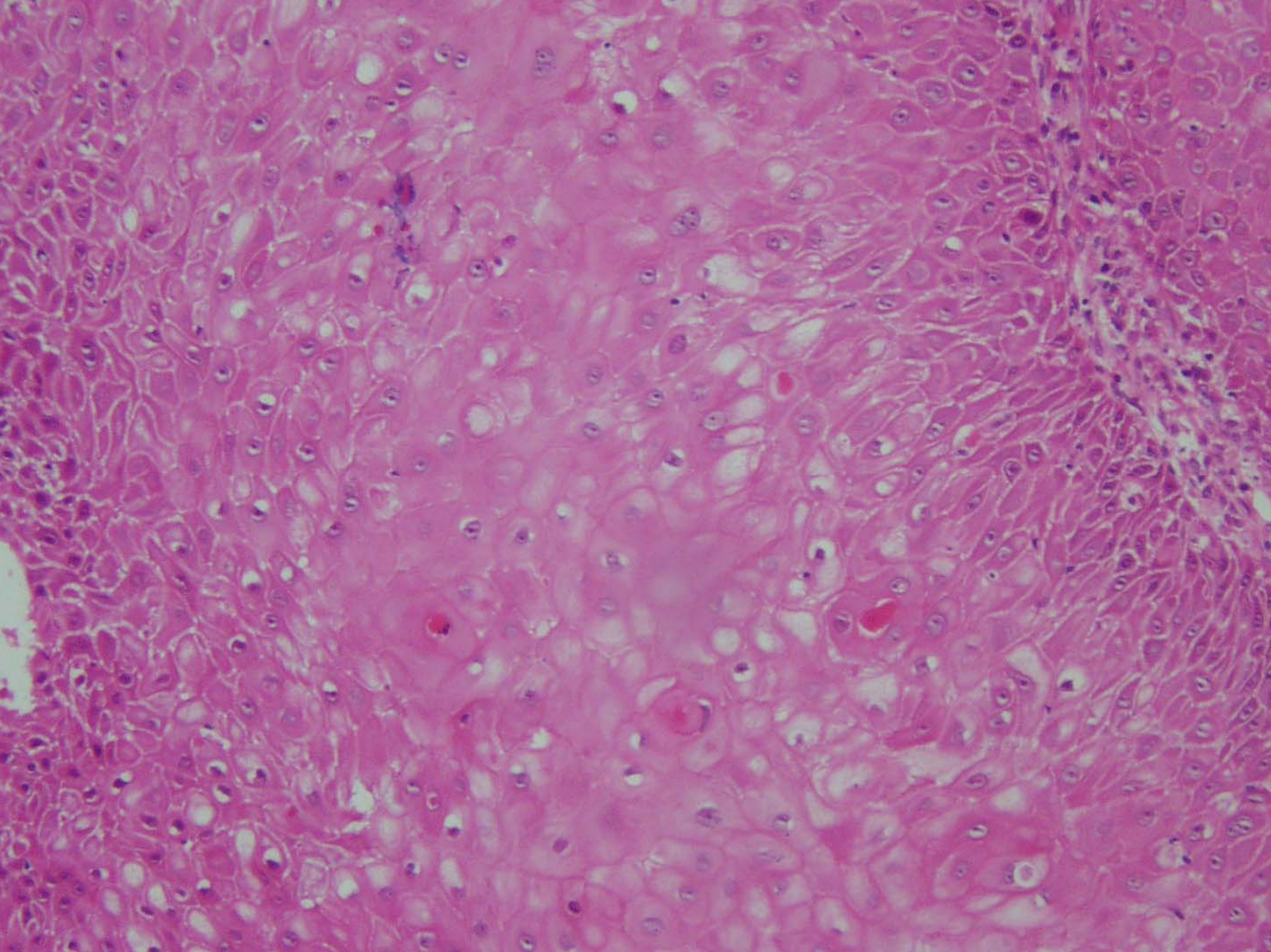
Histopathology

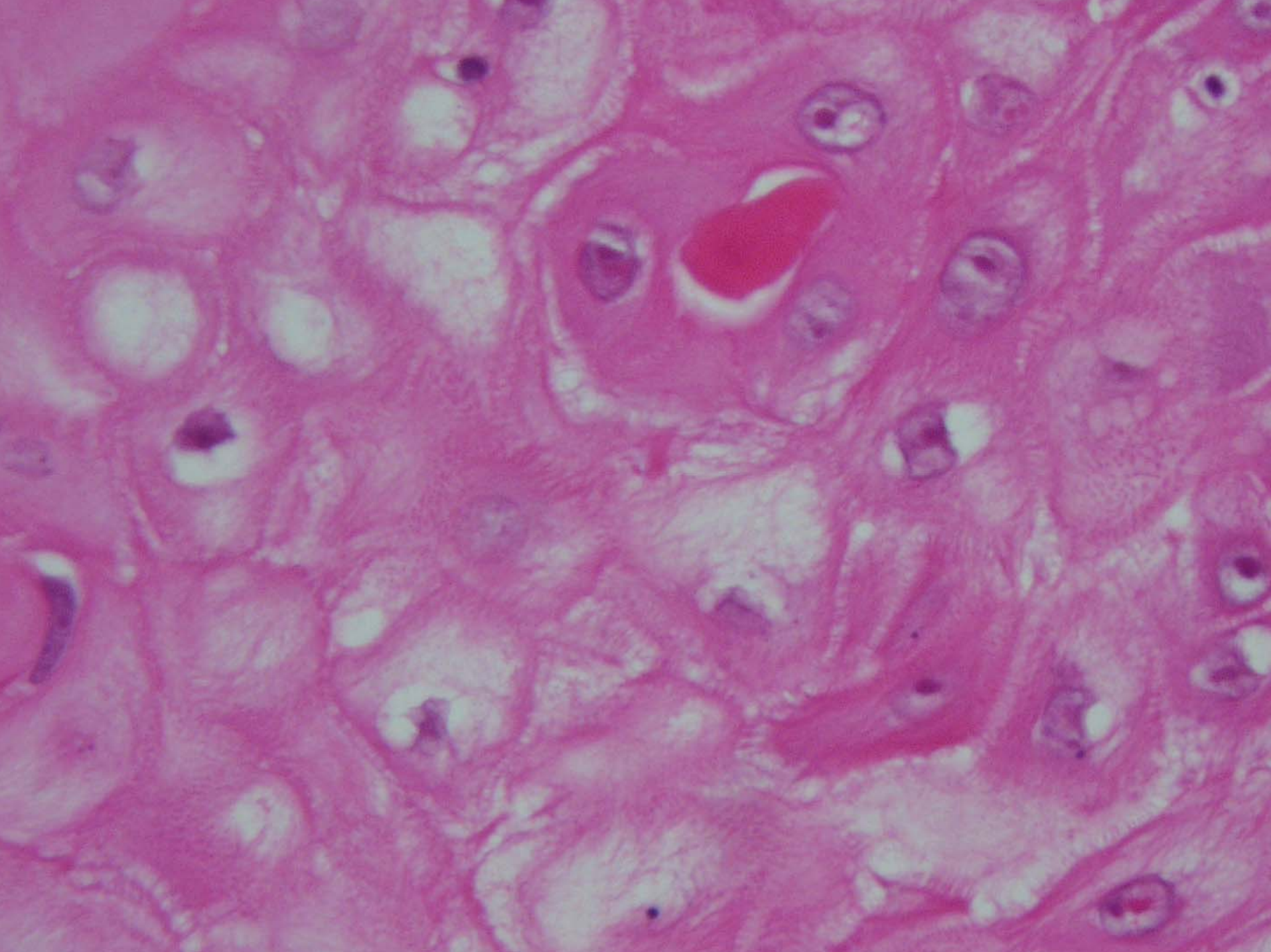


- More dyskeratotic cells and fewer neutrophils and eosinophils
- More vertical in orientation (longer than it is broad)
- Tendency to destroy bone
- Failure to regress spontaneously
- Longer course
- Keratoacanthoma more destructive than SCC in same location



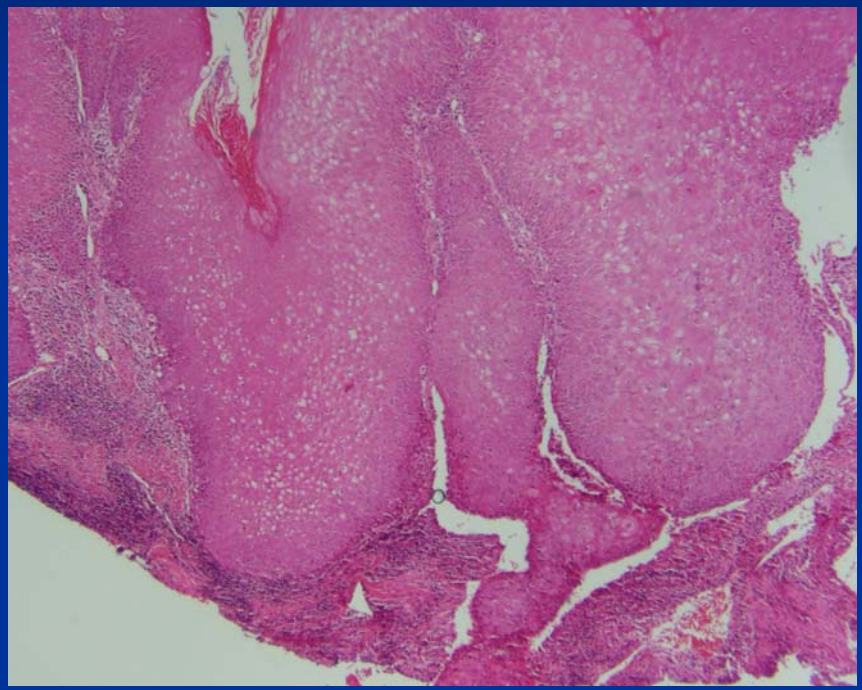




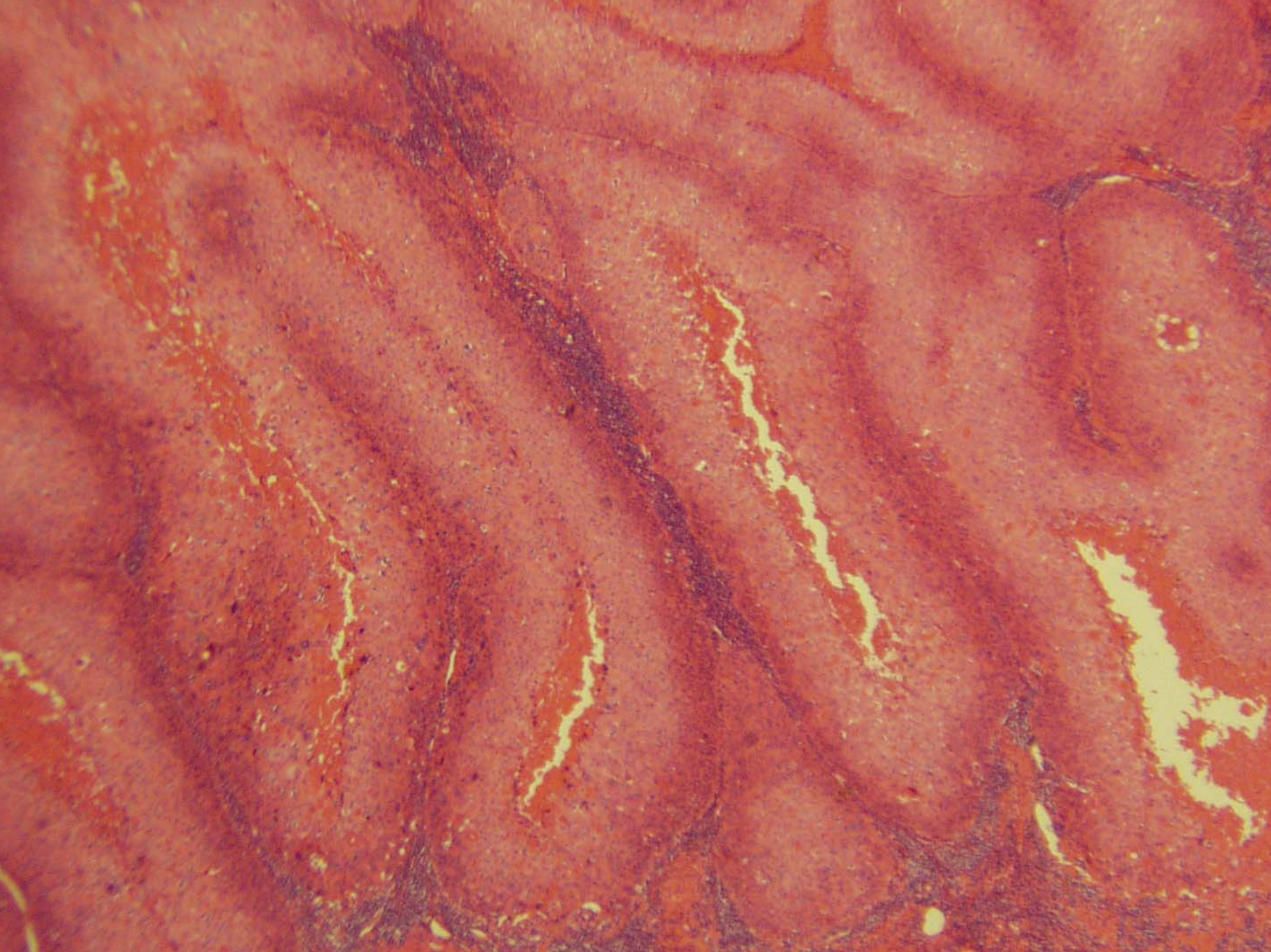


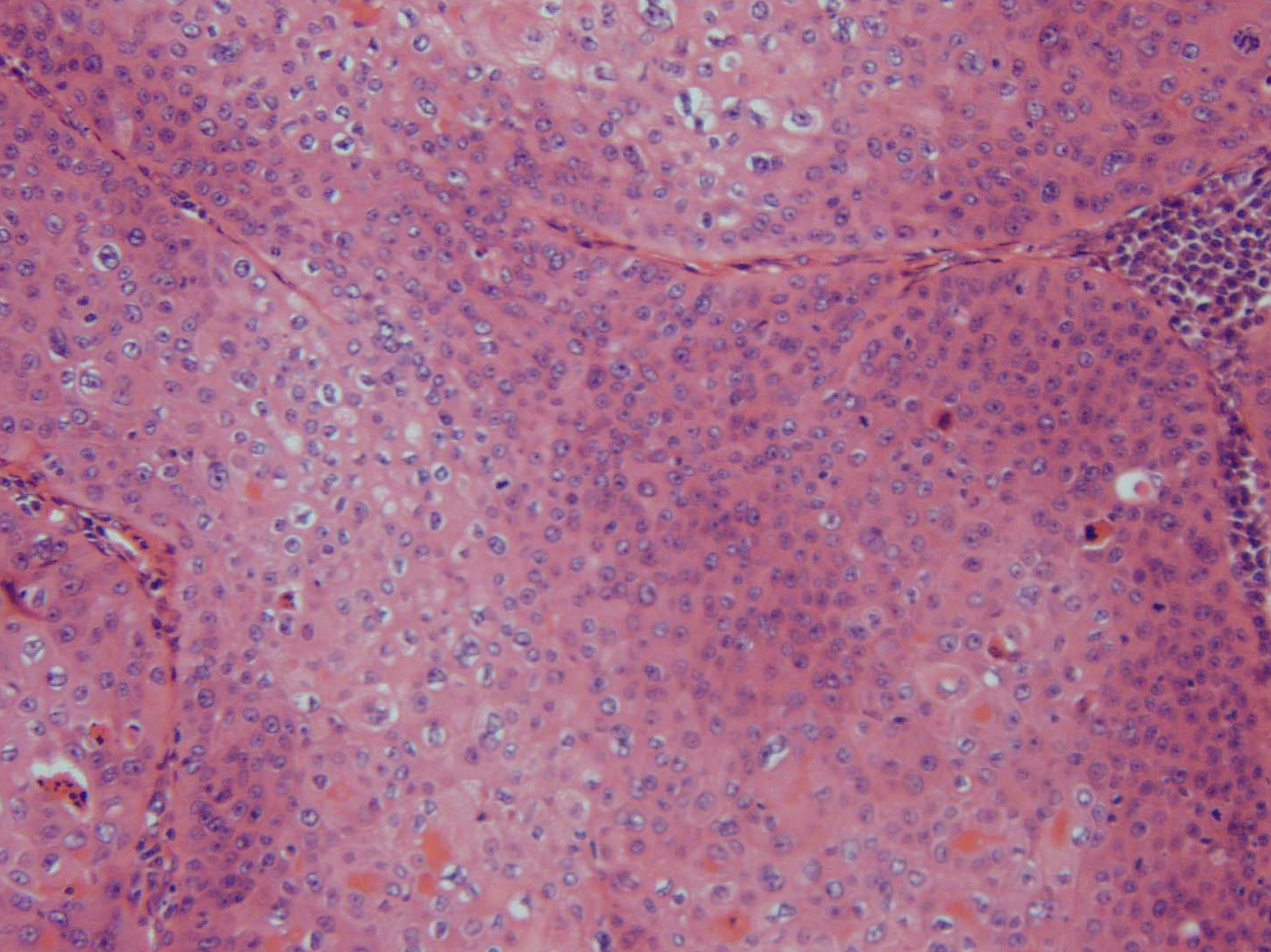
Verrucous Carcinoma

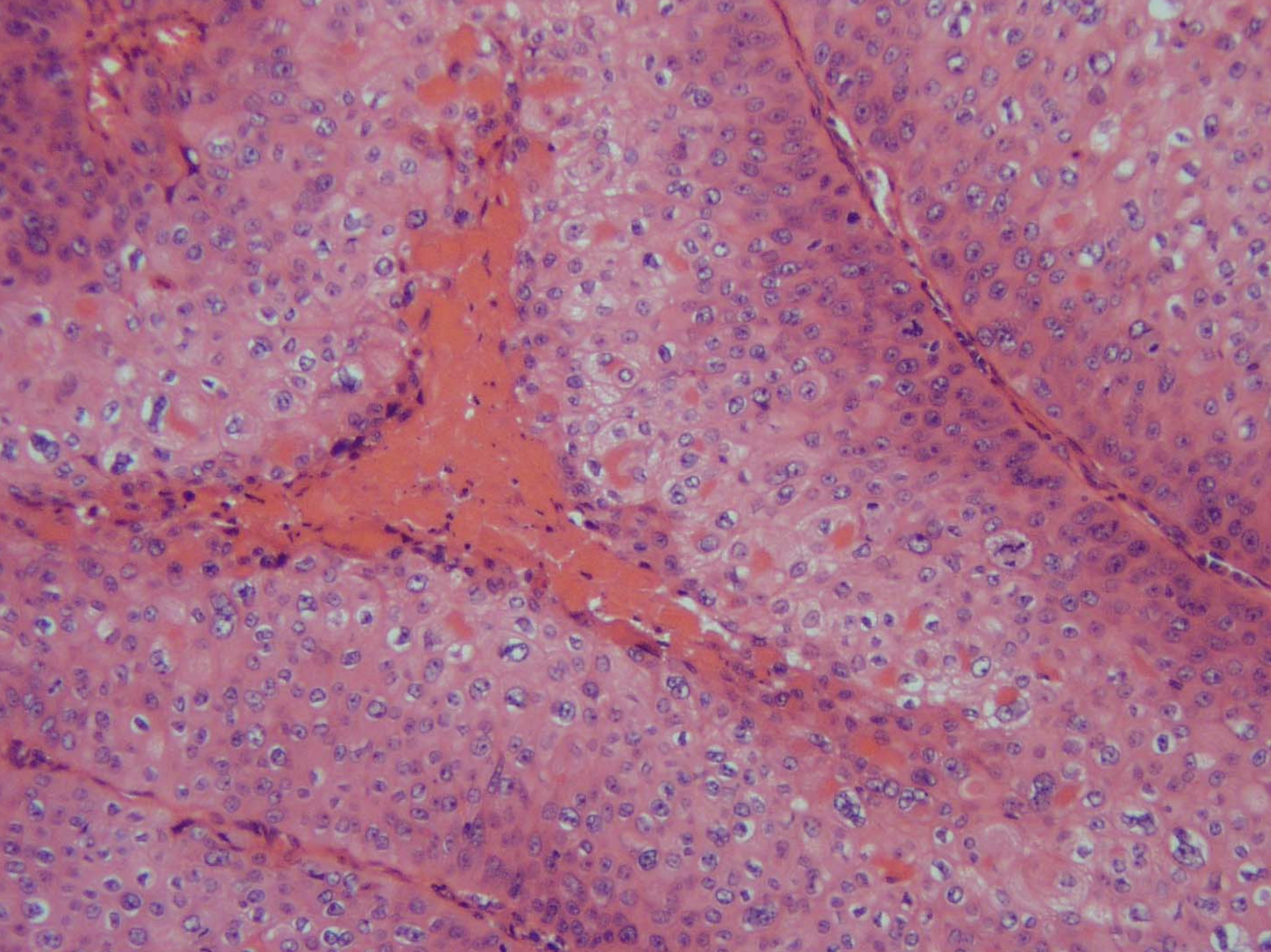
Histopathology

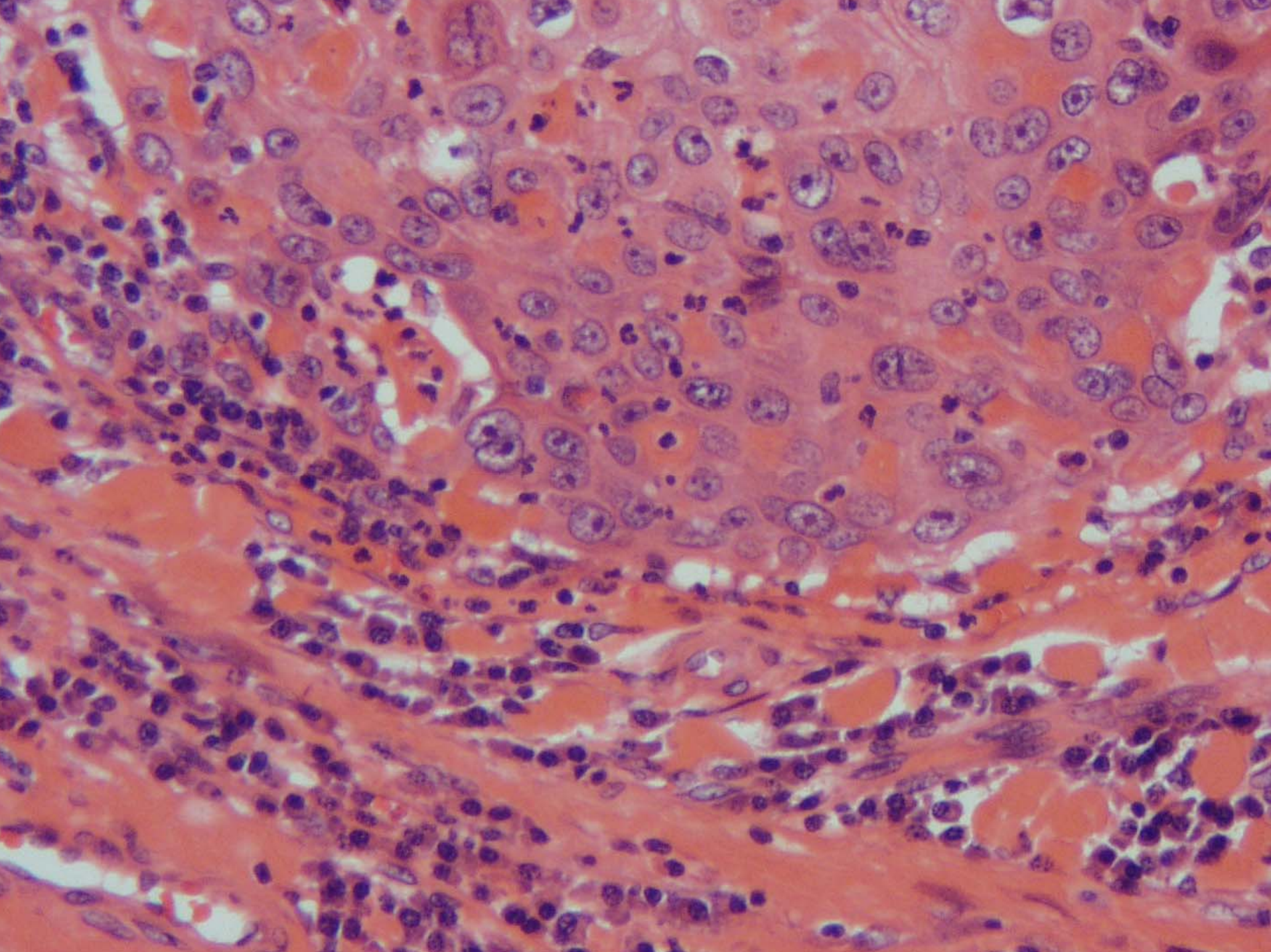


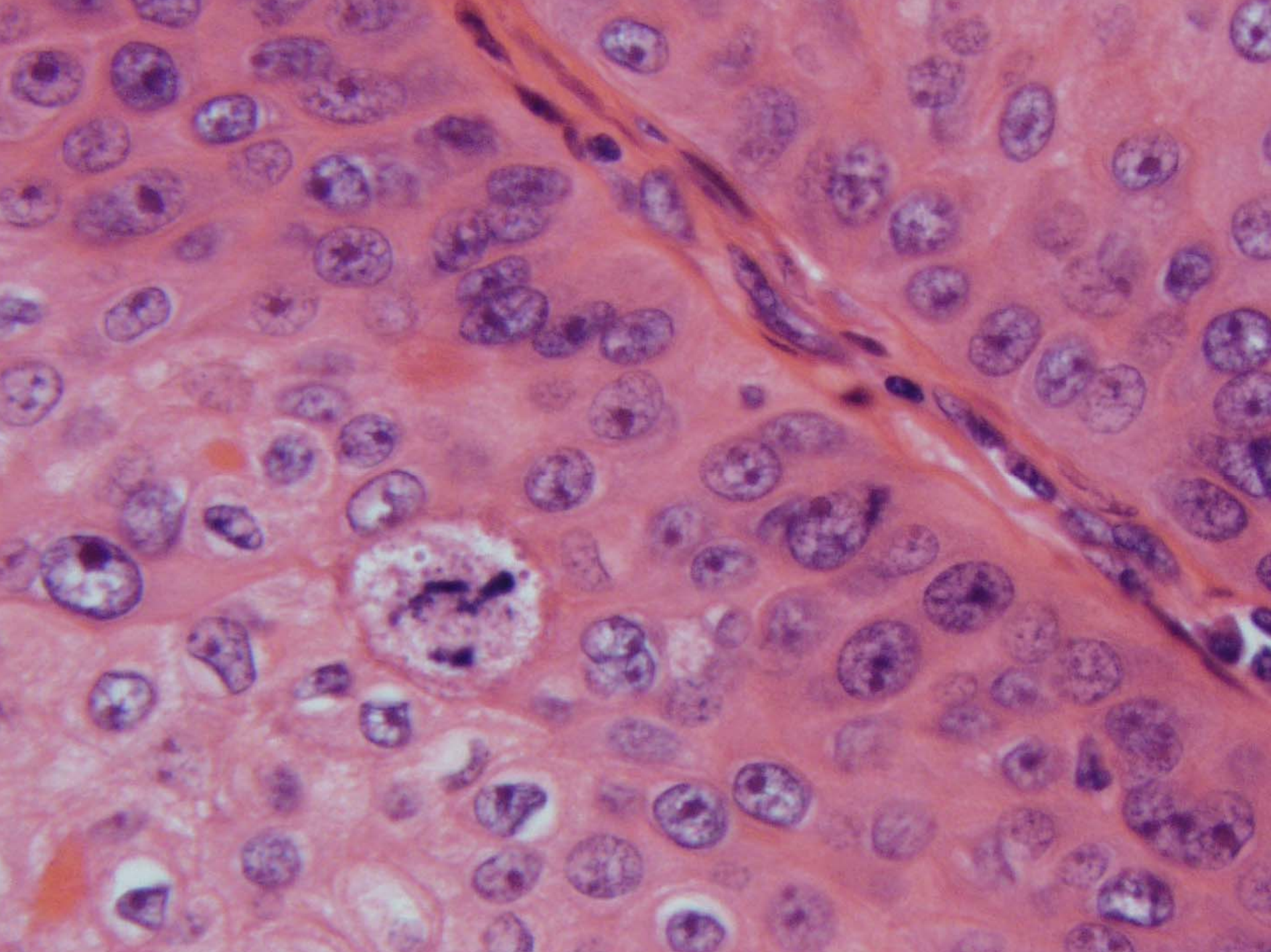
- Exo or endophytic tumors often growing at sites of chronic irritation
- Pushing border
- Minimal cytologic atypia
- Numerous dyskeratotic cells
- Classified based upon location
  - Oral
  - Plantar
  - Buschke-Lowenstein tumors





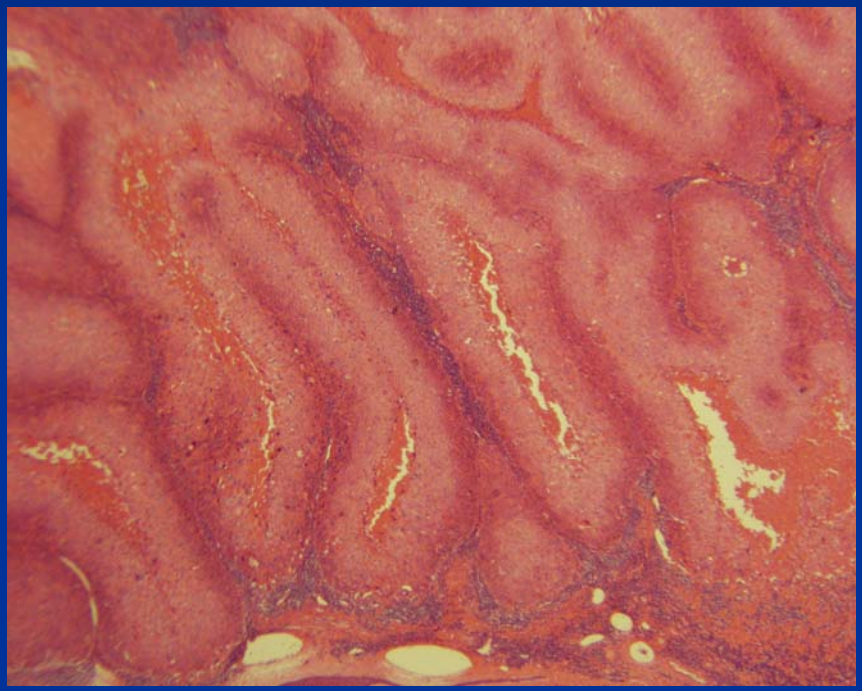






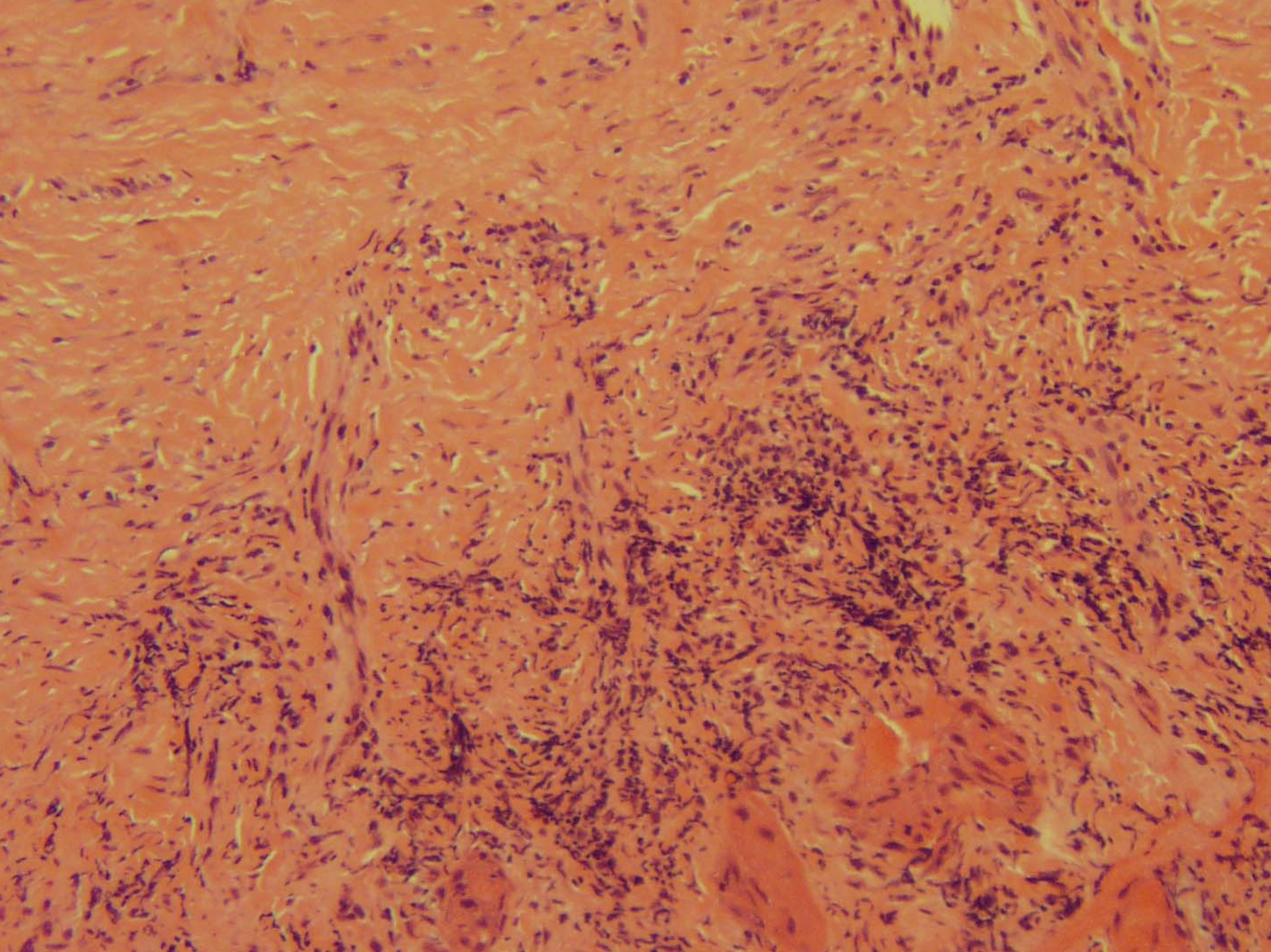
Papillary Squamous Cell Carcinoma

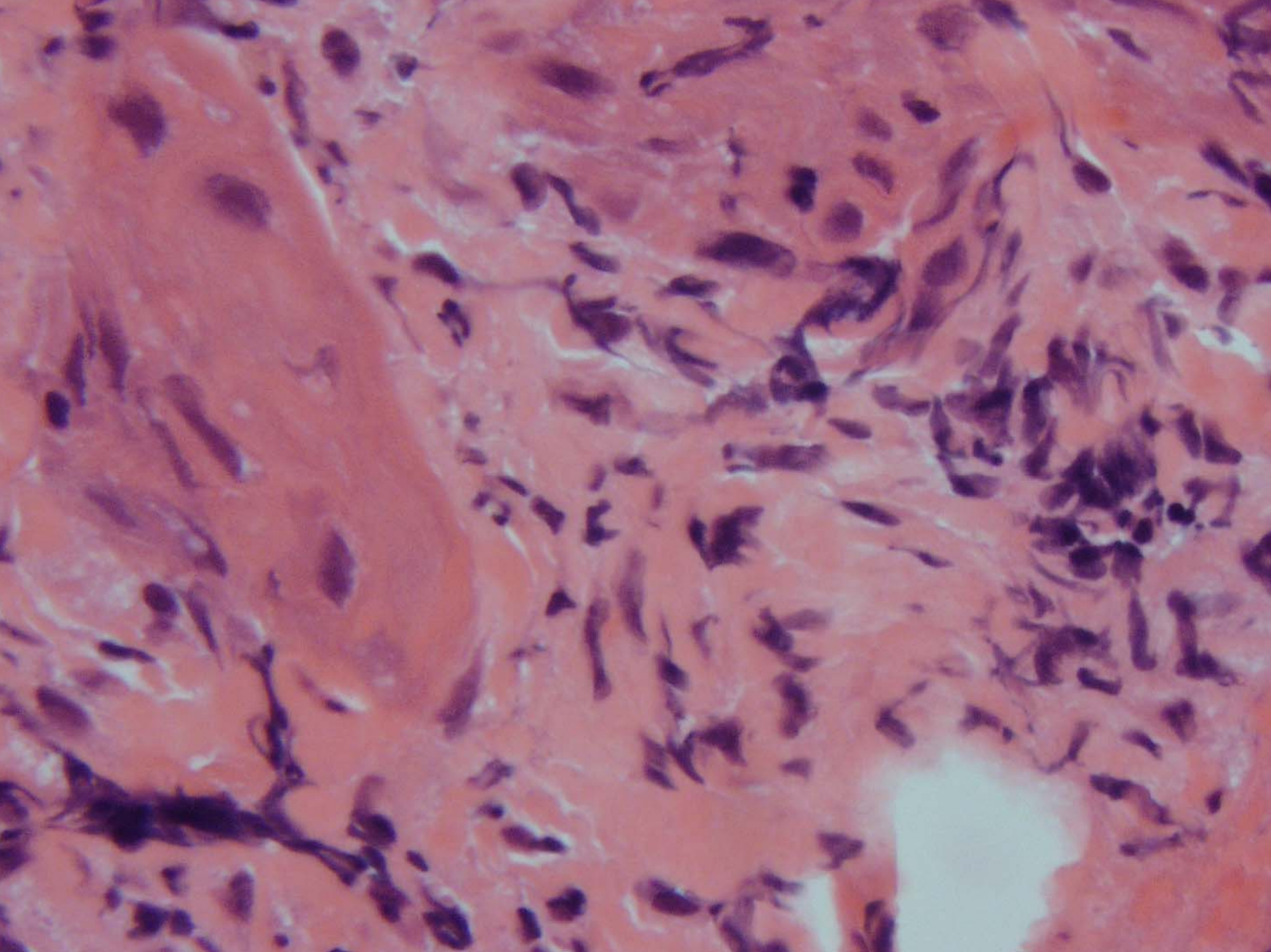
Histopathology



- Exophytic verrucous growth
- High grade nuclear changes
- Prominent papillary growth pattern with several layers of notably atypical squamous epithelium overlying a fibro-vascular core in
- Mitoses frequent
- Lack deep invasion although focal invasion of the stalk may occur
- No local recurrence or metastatic disease after 18 months follow-up
- Low-grade malignancy

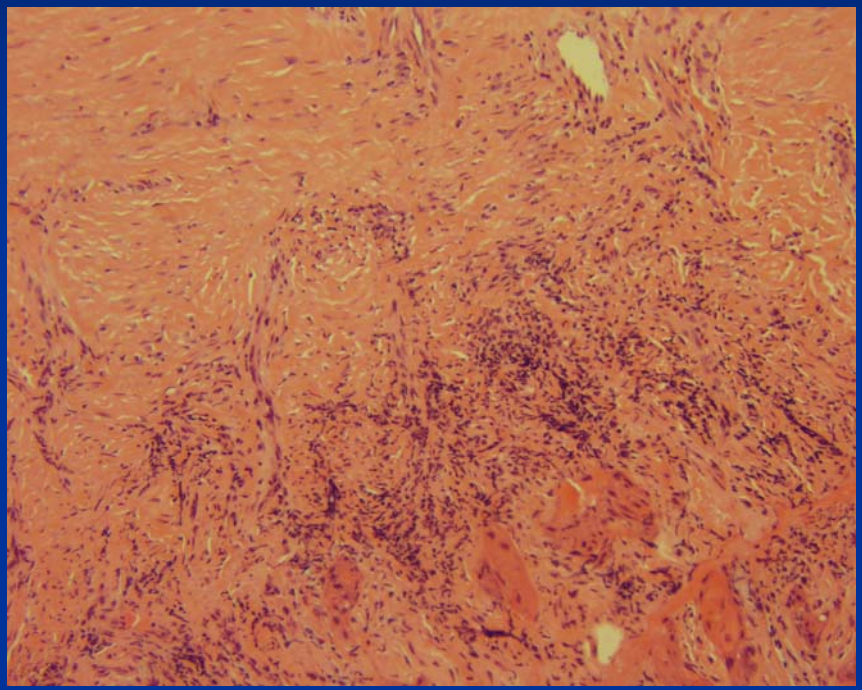
Aggressive Variants



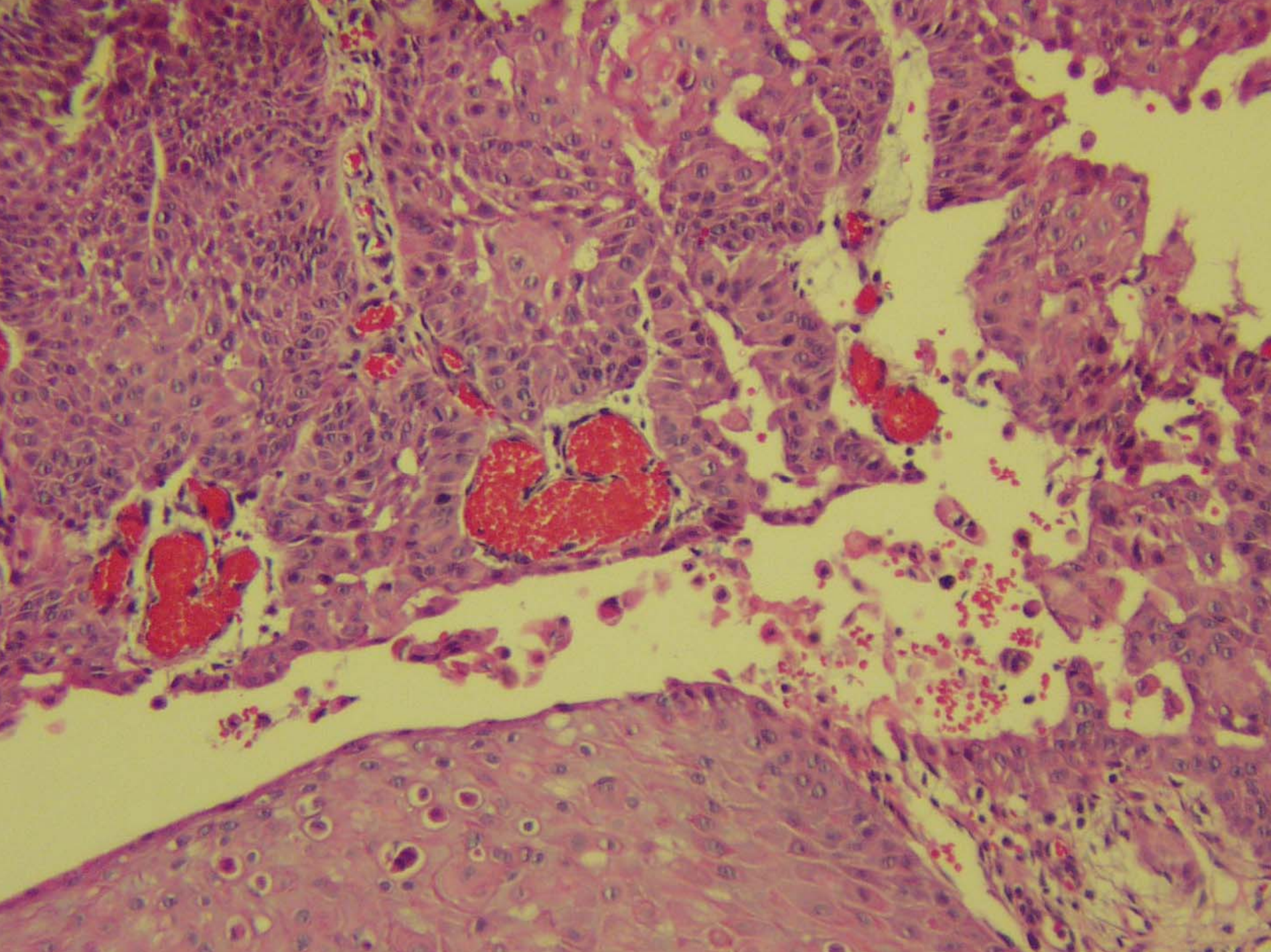


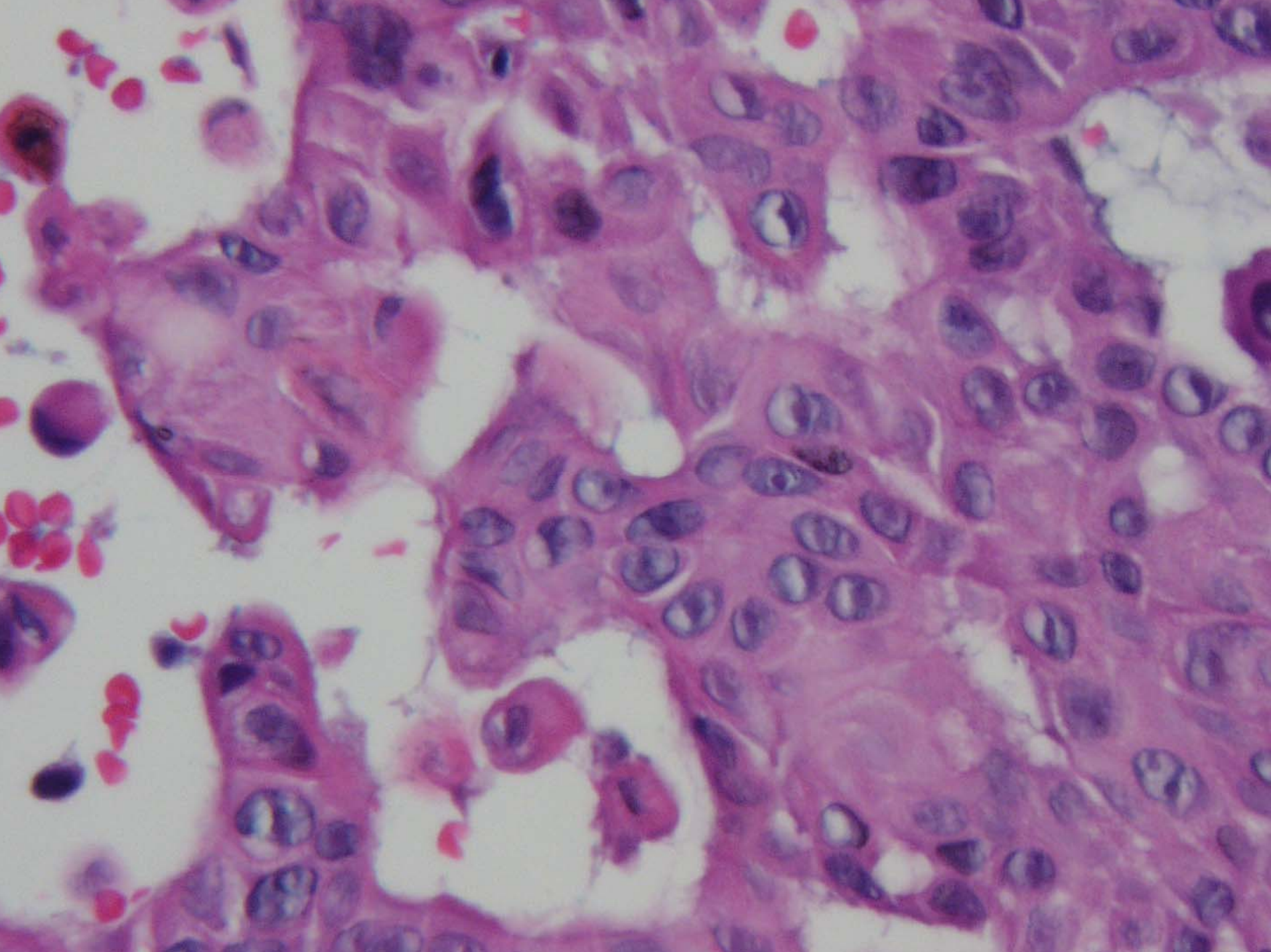
Marjolin's Ulcer

Histopathology



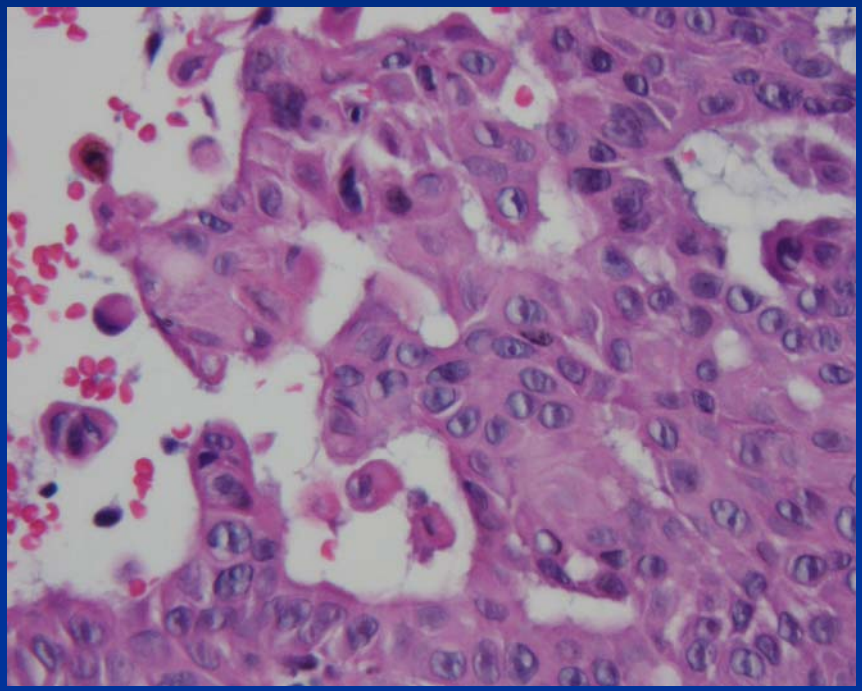
- Aggressive form of squamous cell carcinoma that arises from sites of chronic injury, scars, burns, or irradiation sites
- Usually conventional histopathology





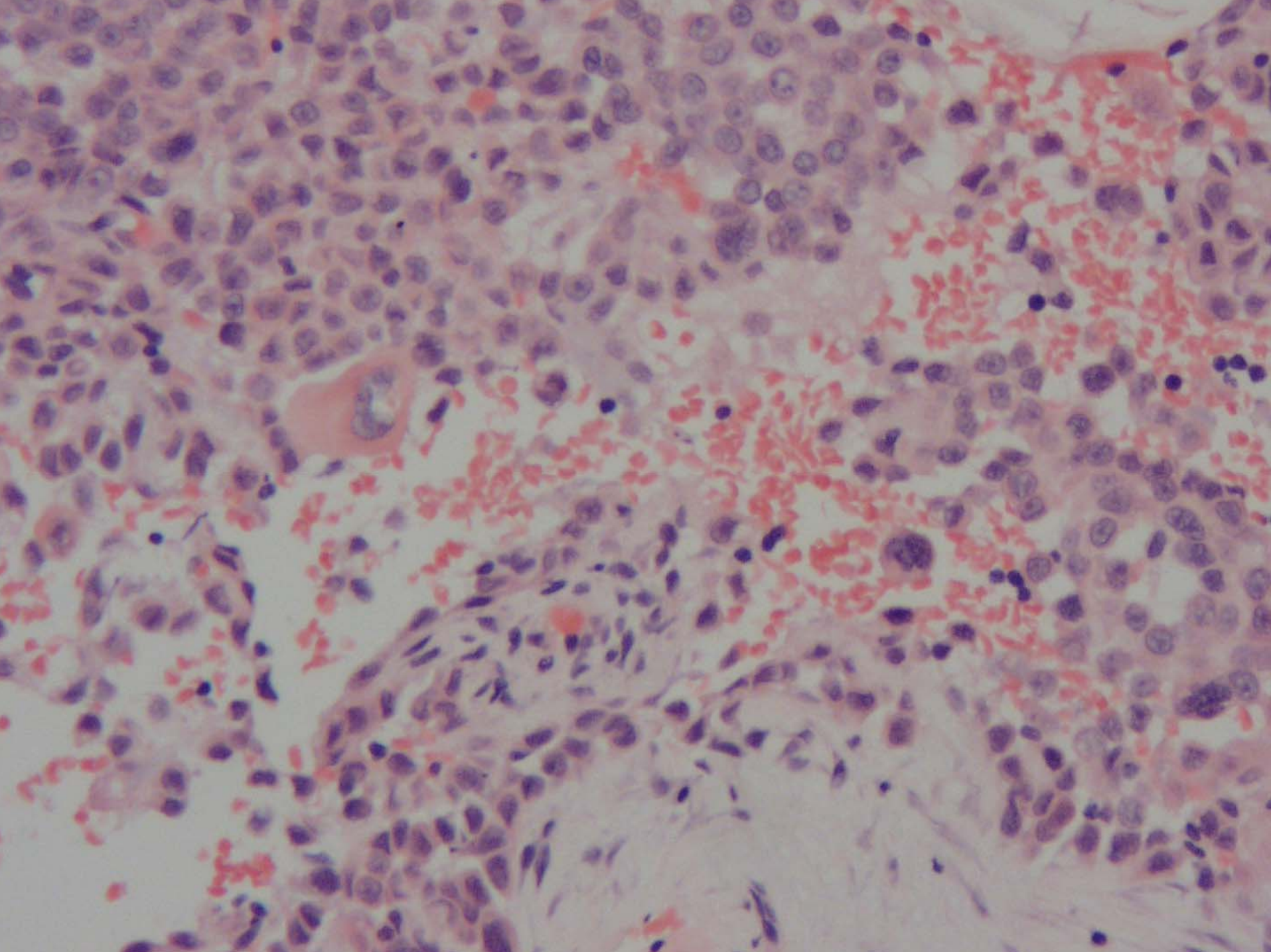
Acantholytic Squamous Cell Carcinoma (Pseudovascular)

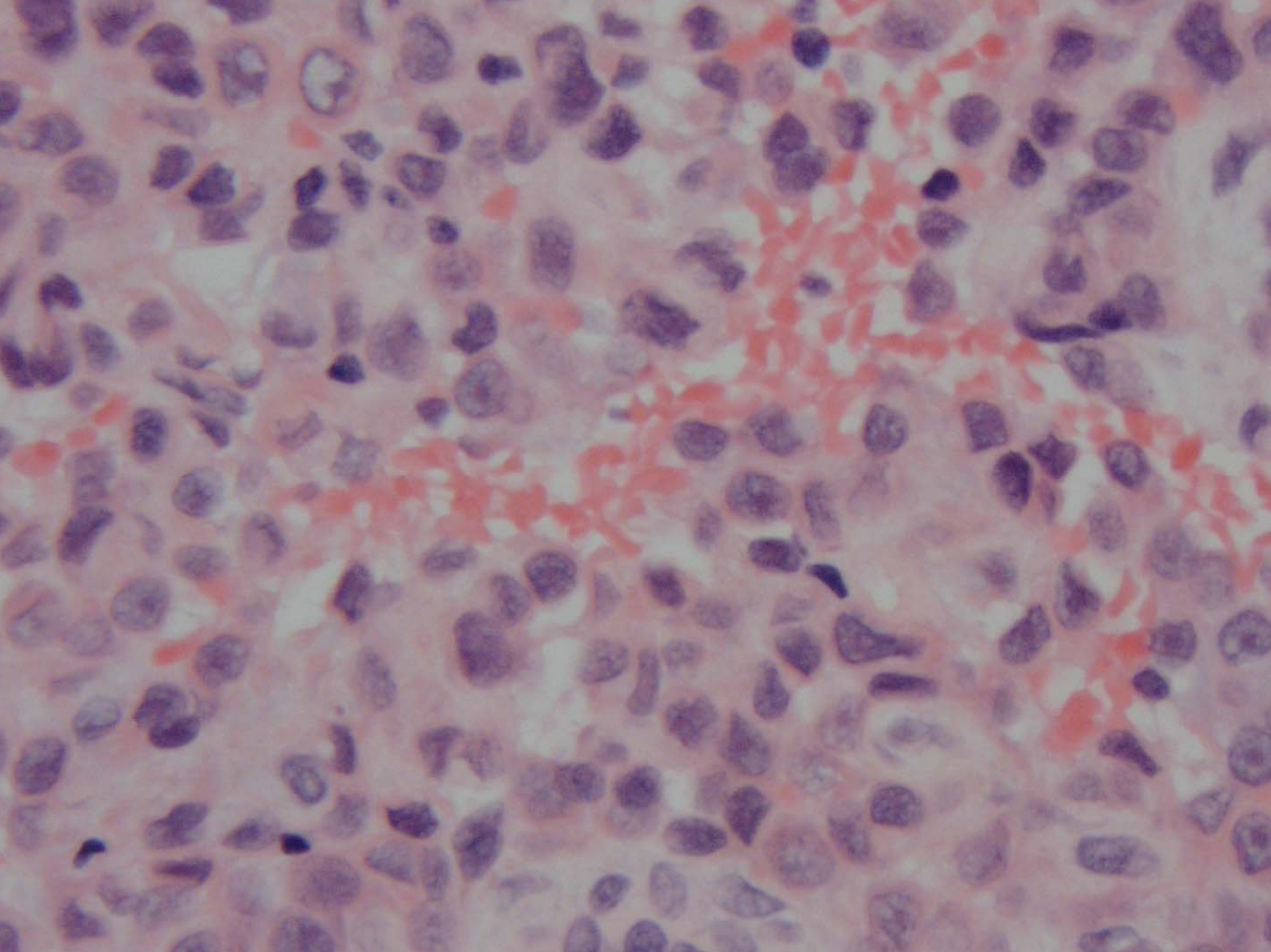
Histopathology



- Associated with recurrences following radiation therapy
- Pseudoglandular acantholytic changes
  - Interanastomosing cordlike arrays of polygonal or flattened tumor cells, with internal pseudolumina that contained detached tumor cells
  - Connection between the dermal neoplasm and the epidermis was apparent in three cases, but it was focal
  - Erythrocytes were seen in pseudovascular spaces
- IPOX
  - Positive for CK and EMA
  - Negative for FVIII and CD34

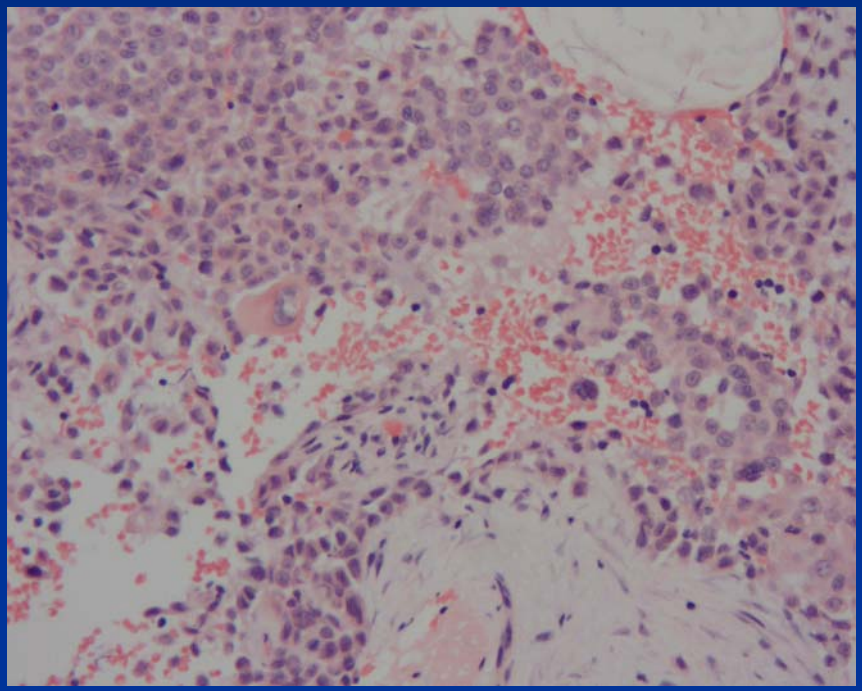
Am J Surg Pathol 1992 May;16(5):429-38



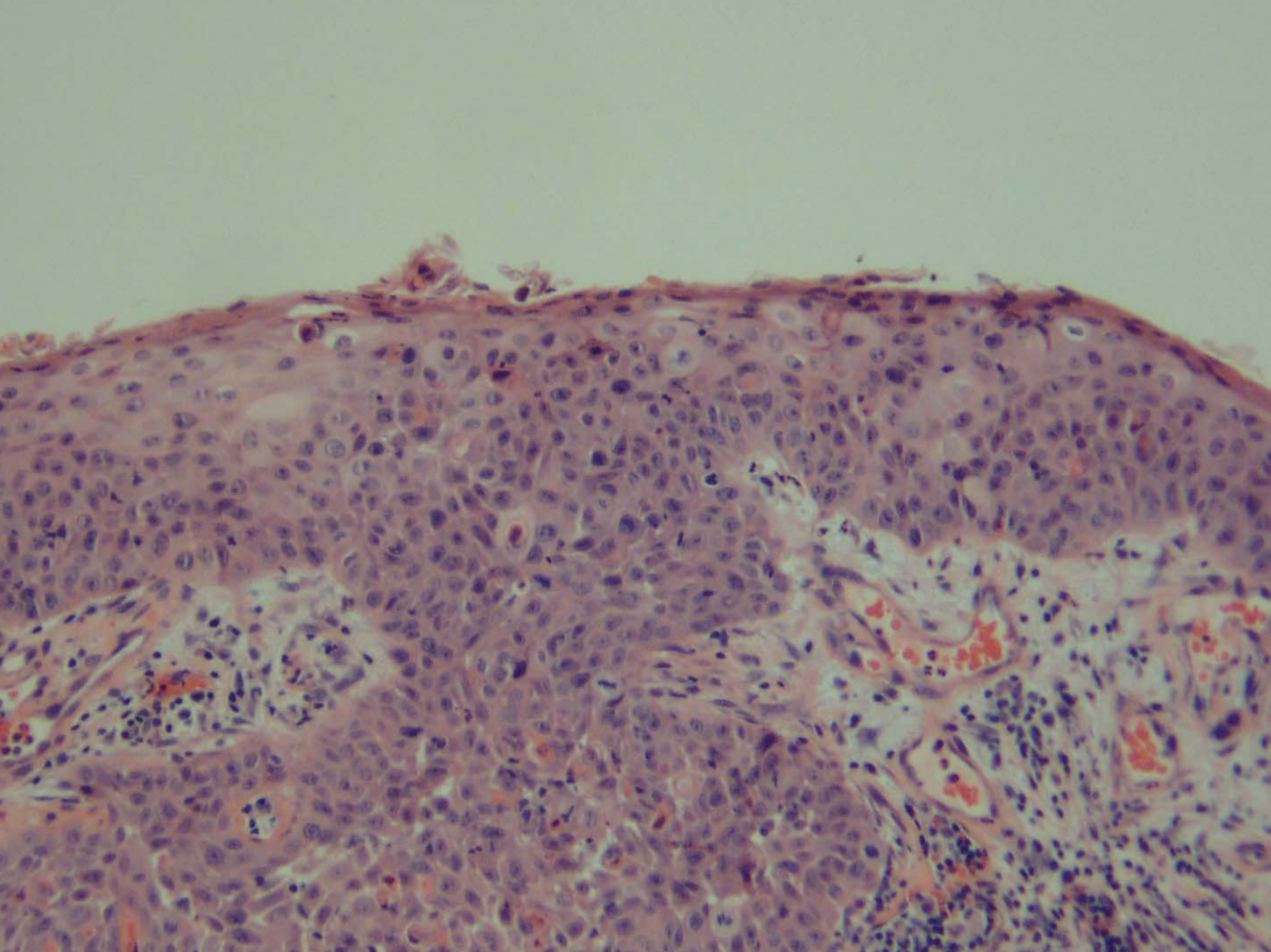


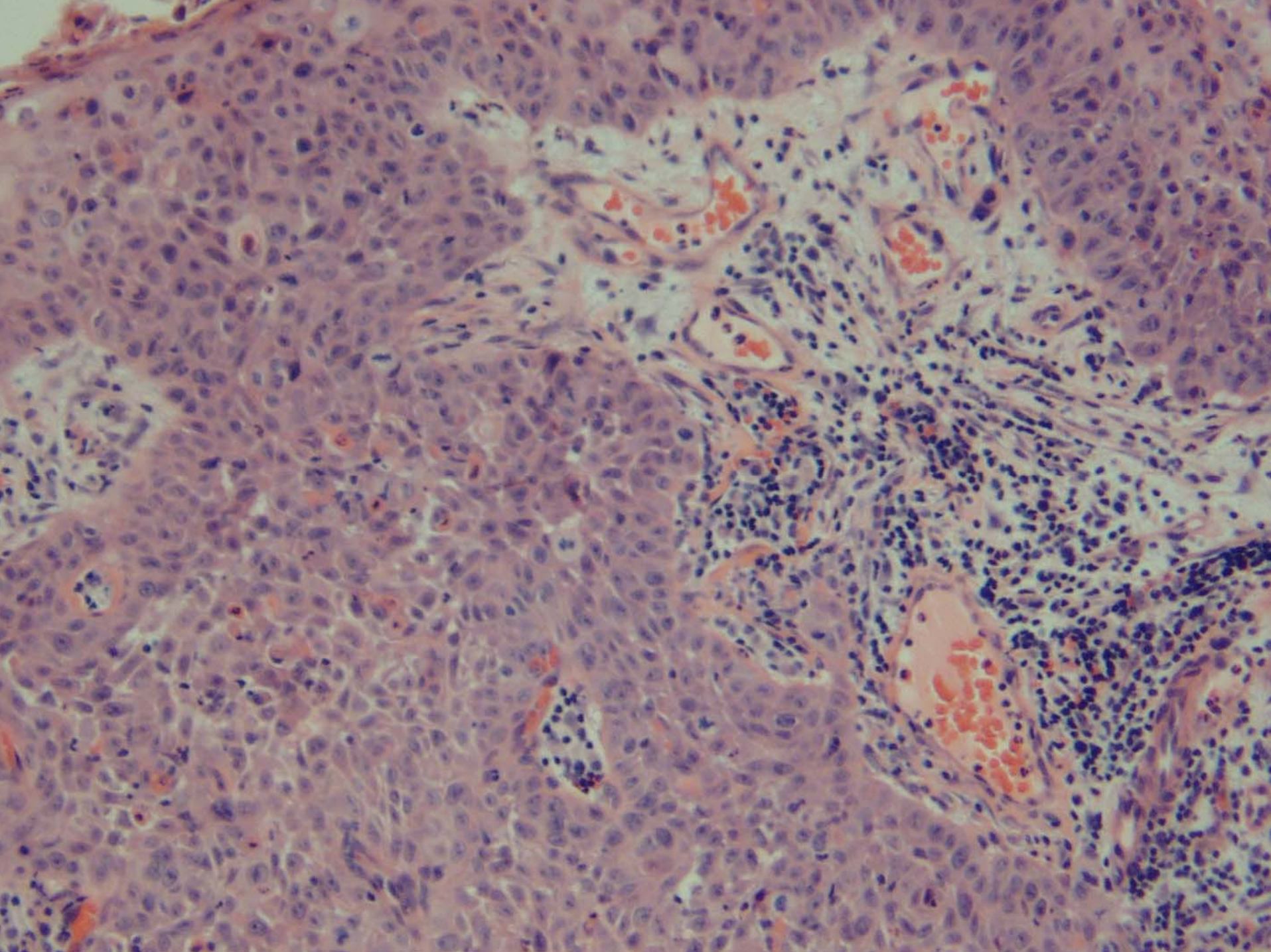
Poorly Differentiated/ Sarcomatoid SCCA

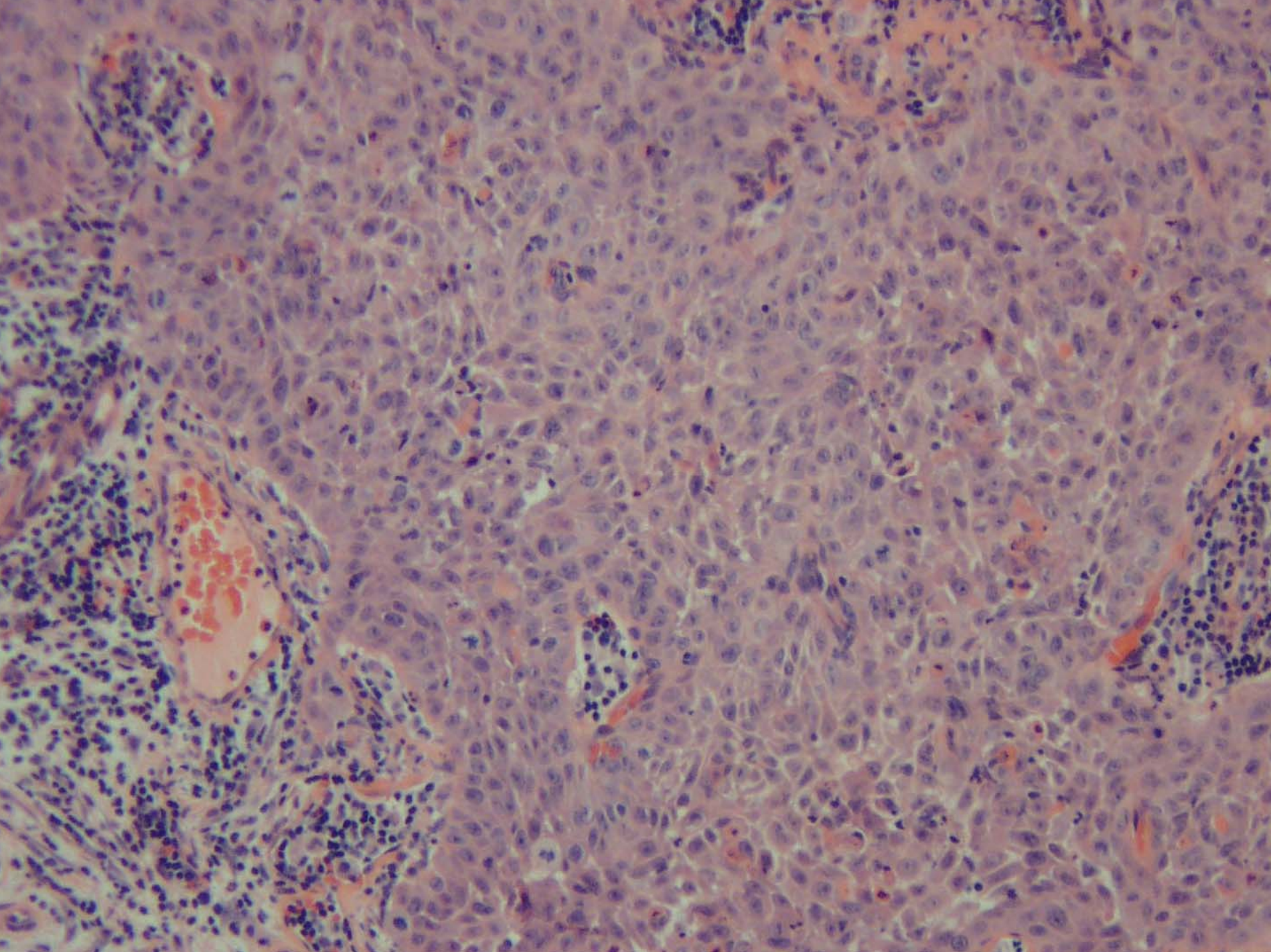
Histopathology

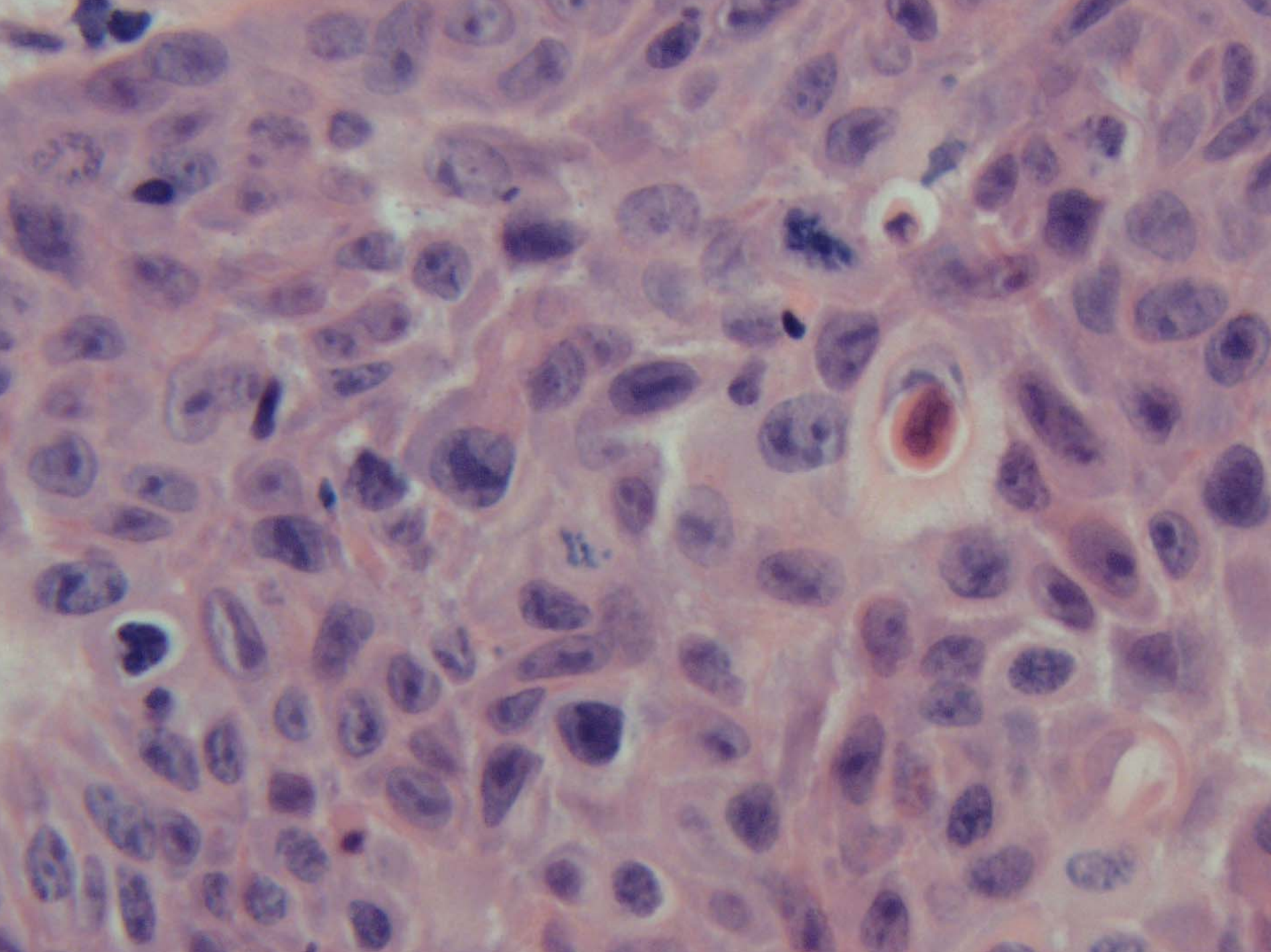


- Variety of synonyms
  - Spindle cell
  - Desmoplastic
  - Carcinosarcoma
- Minimal keratinization
- Marked pleomorphism
- Increased MF



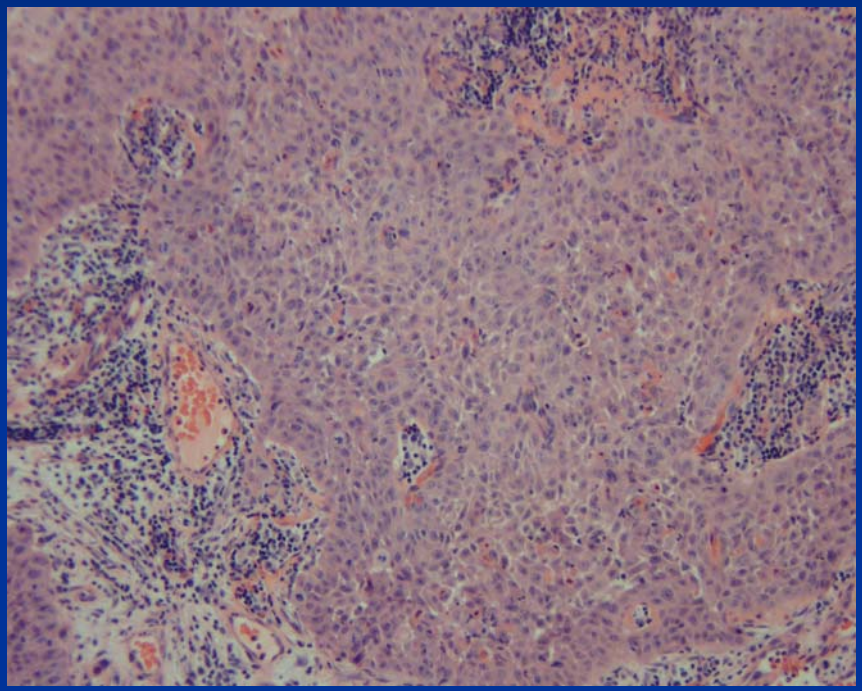






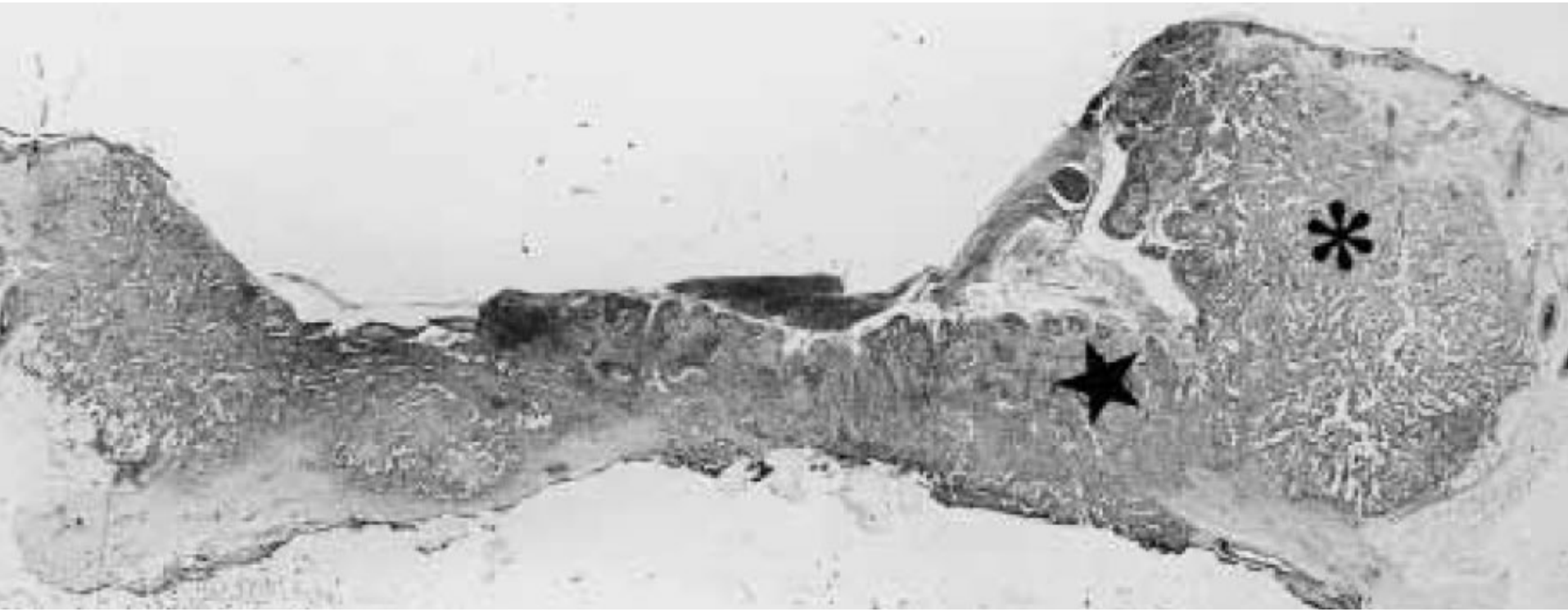
Invasive Bowenoid SCCA

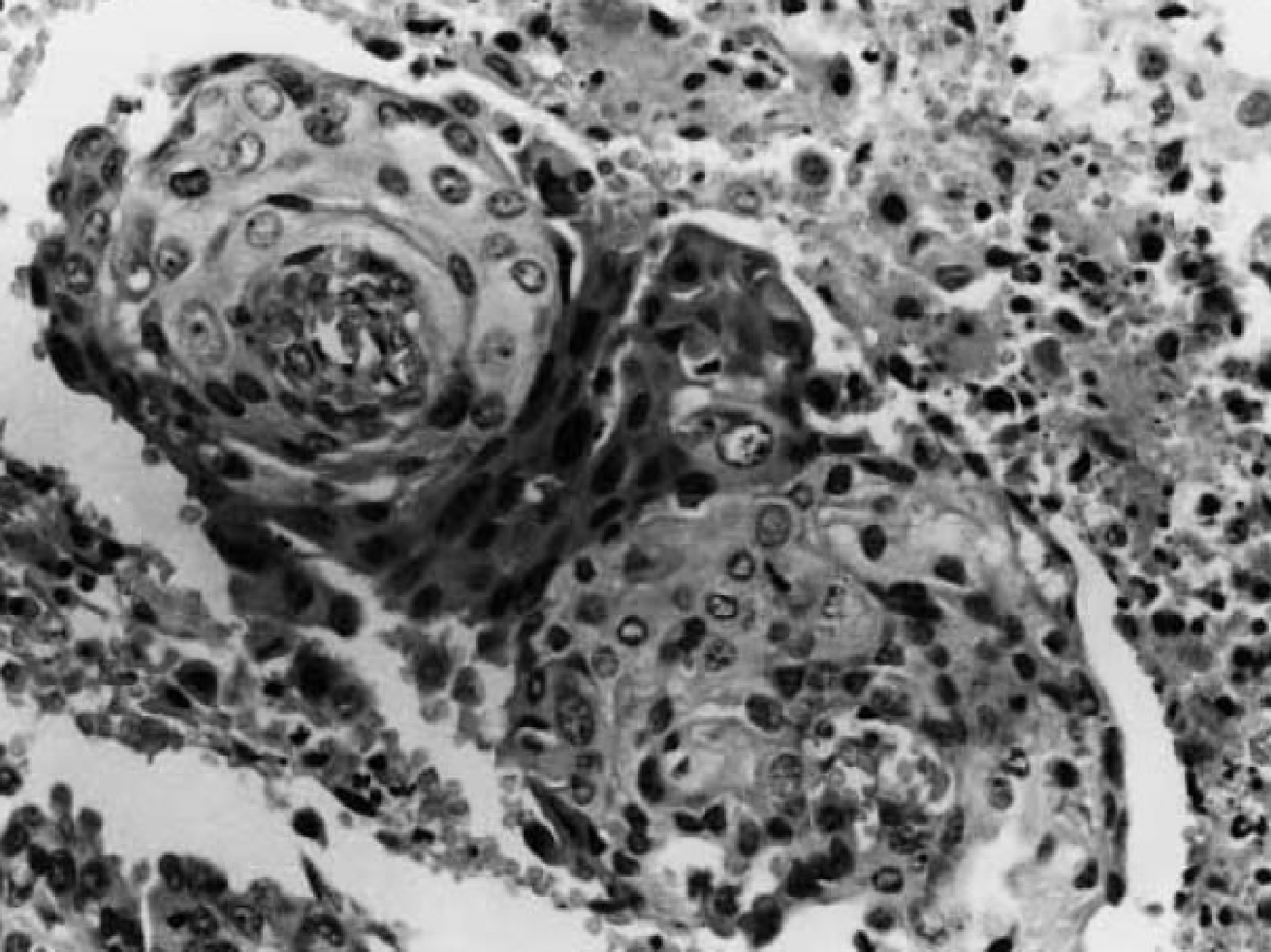
Histopathology

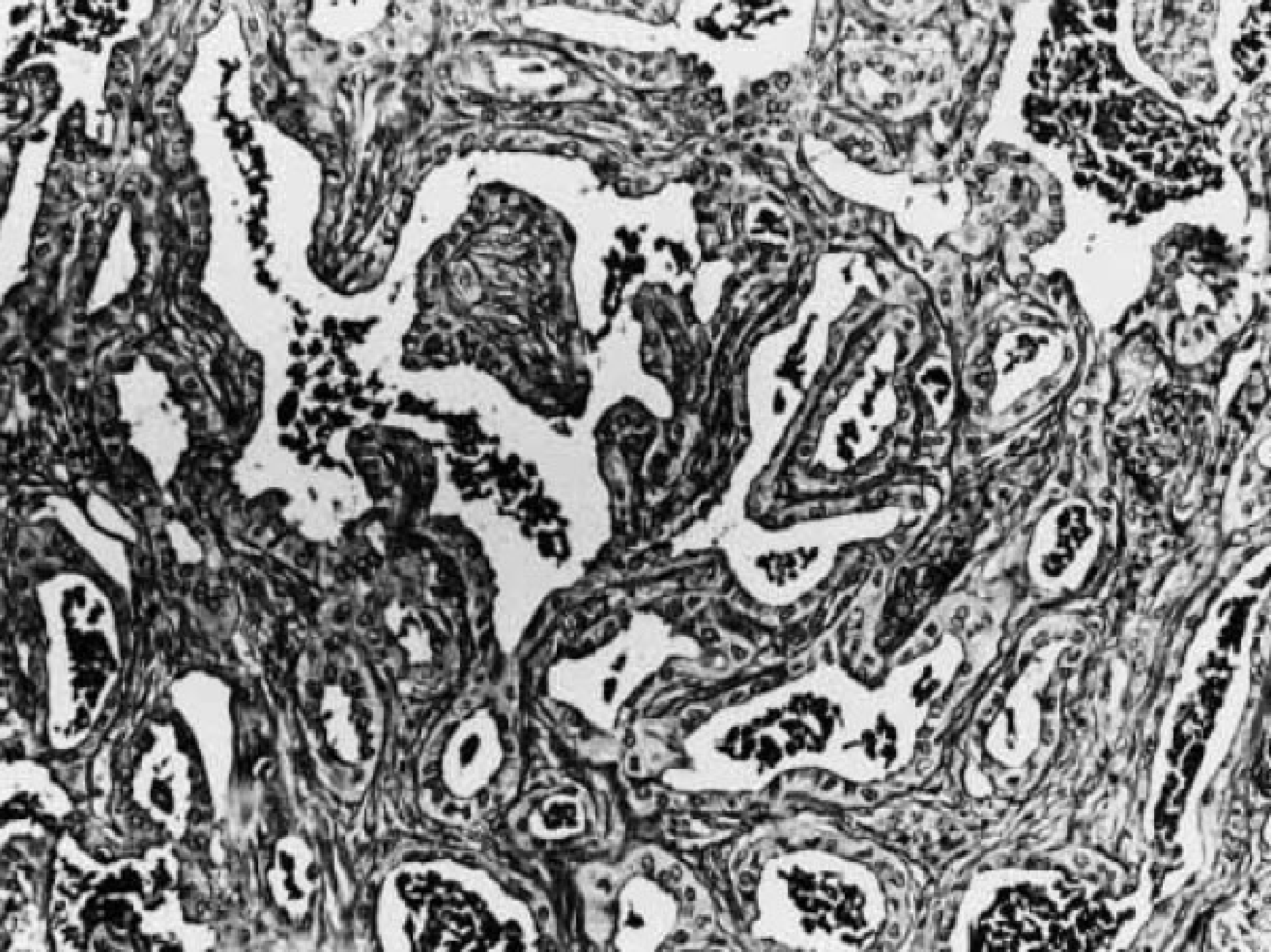


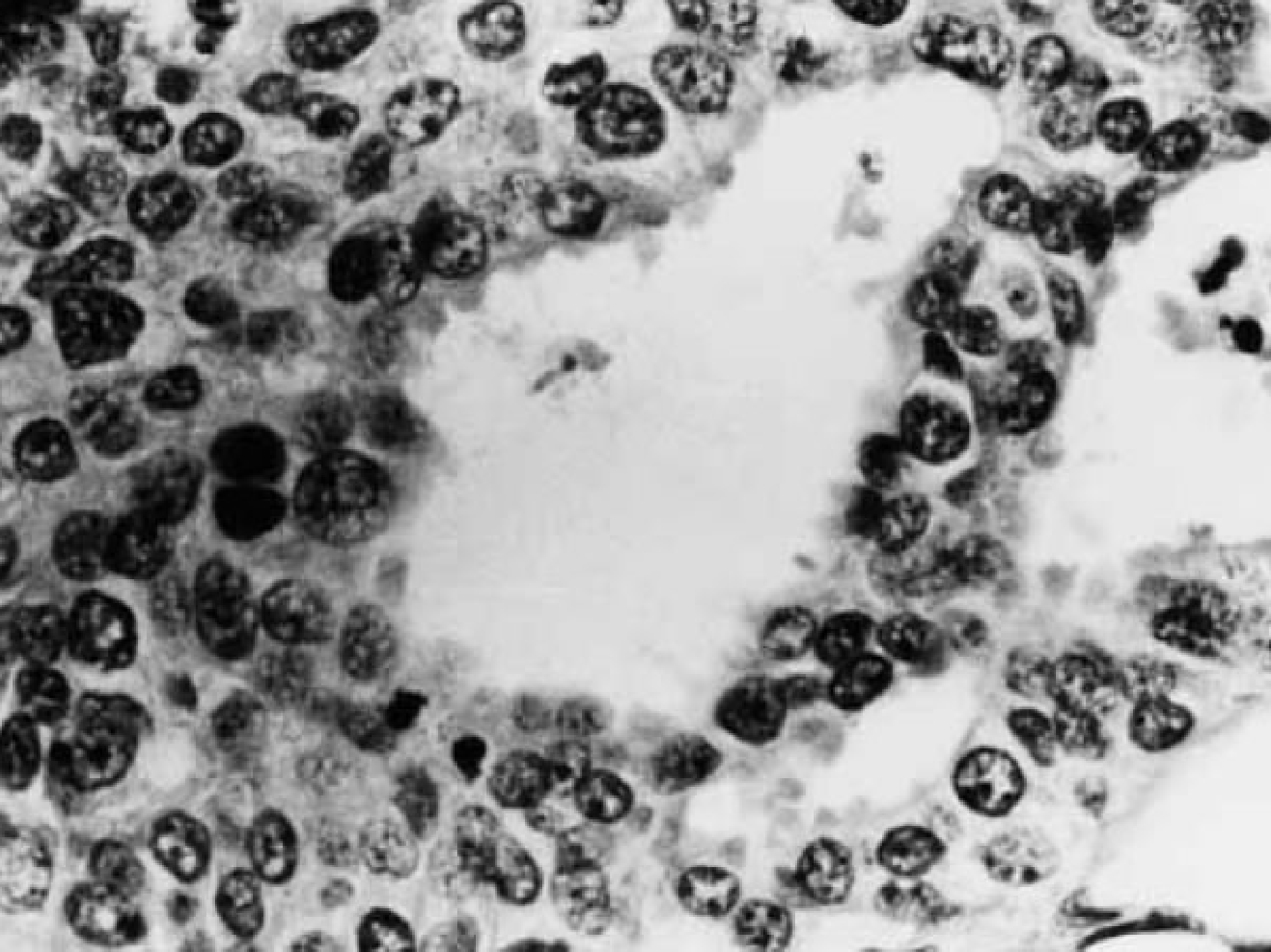
- In situ carcinoma with neoplastic keratinocytes invade the dermis
- HPV 2 associated in extragenital lesions
- HPV 16 most common in genital lesions

- Clin Dermatol 1993;11:43-46



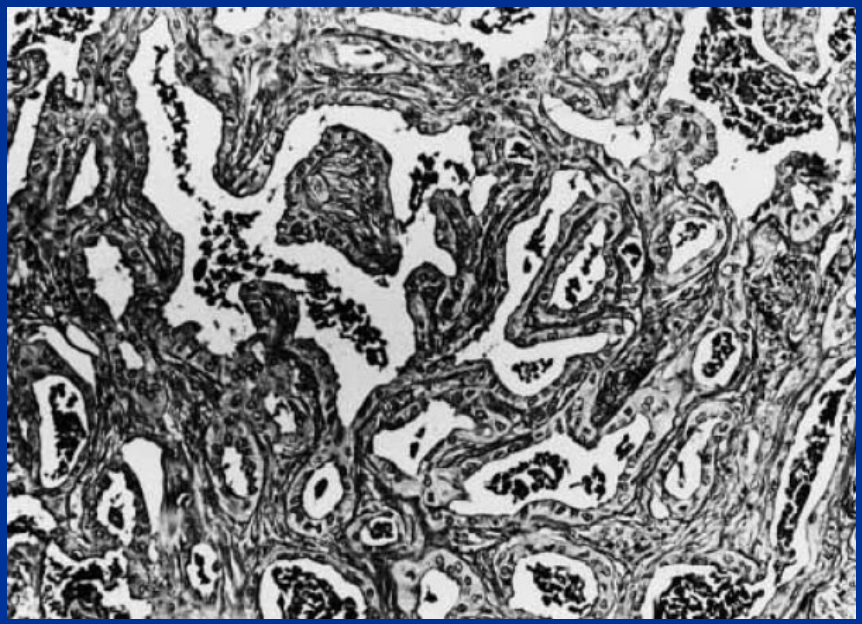






Adenosquamous Cell Carcinoma

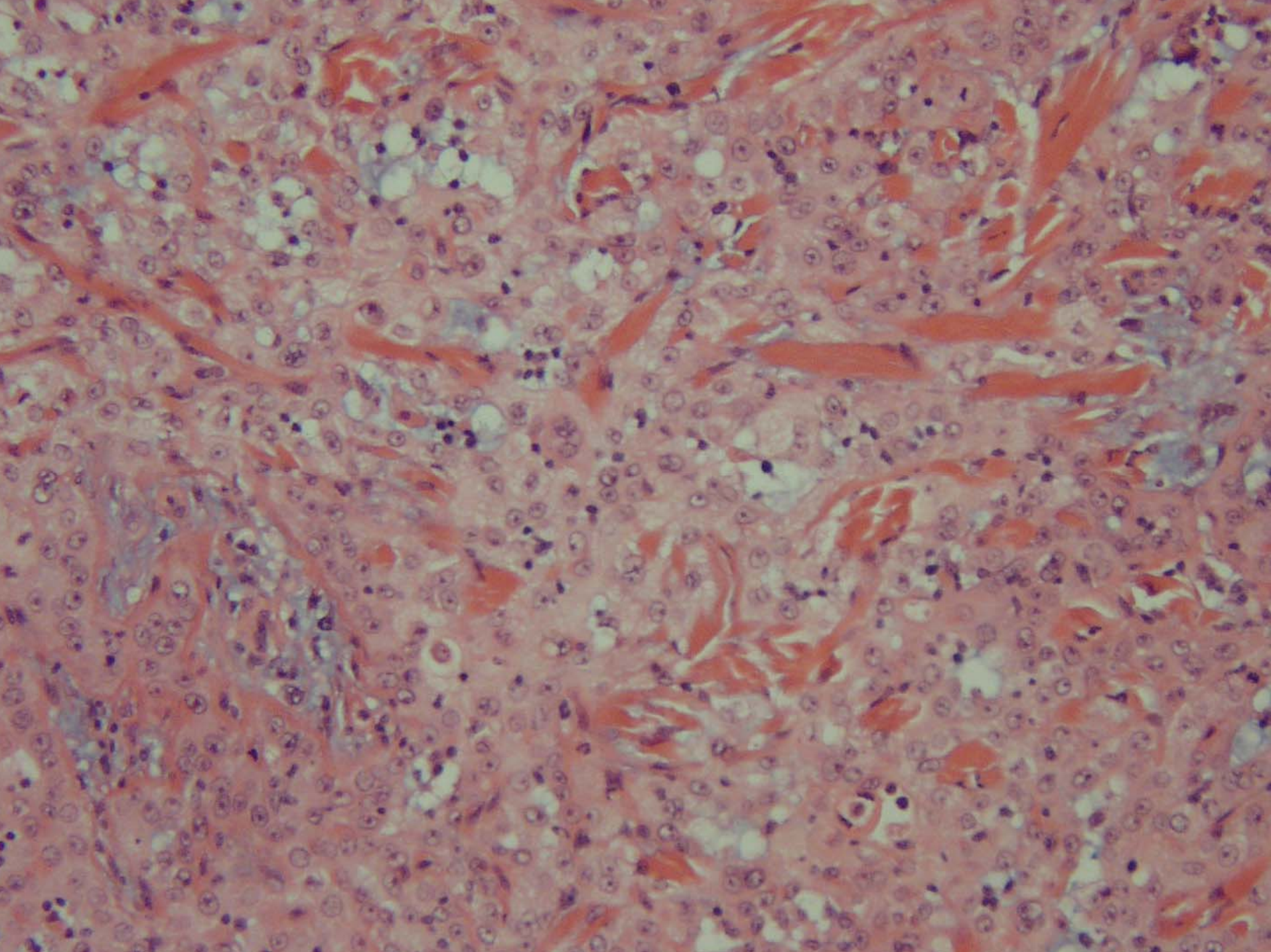
Histopathology

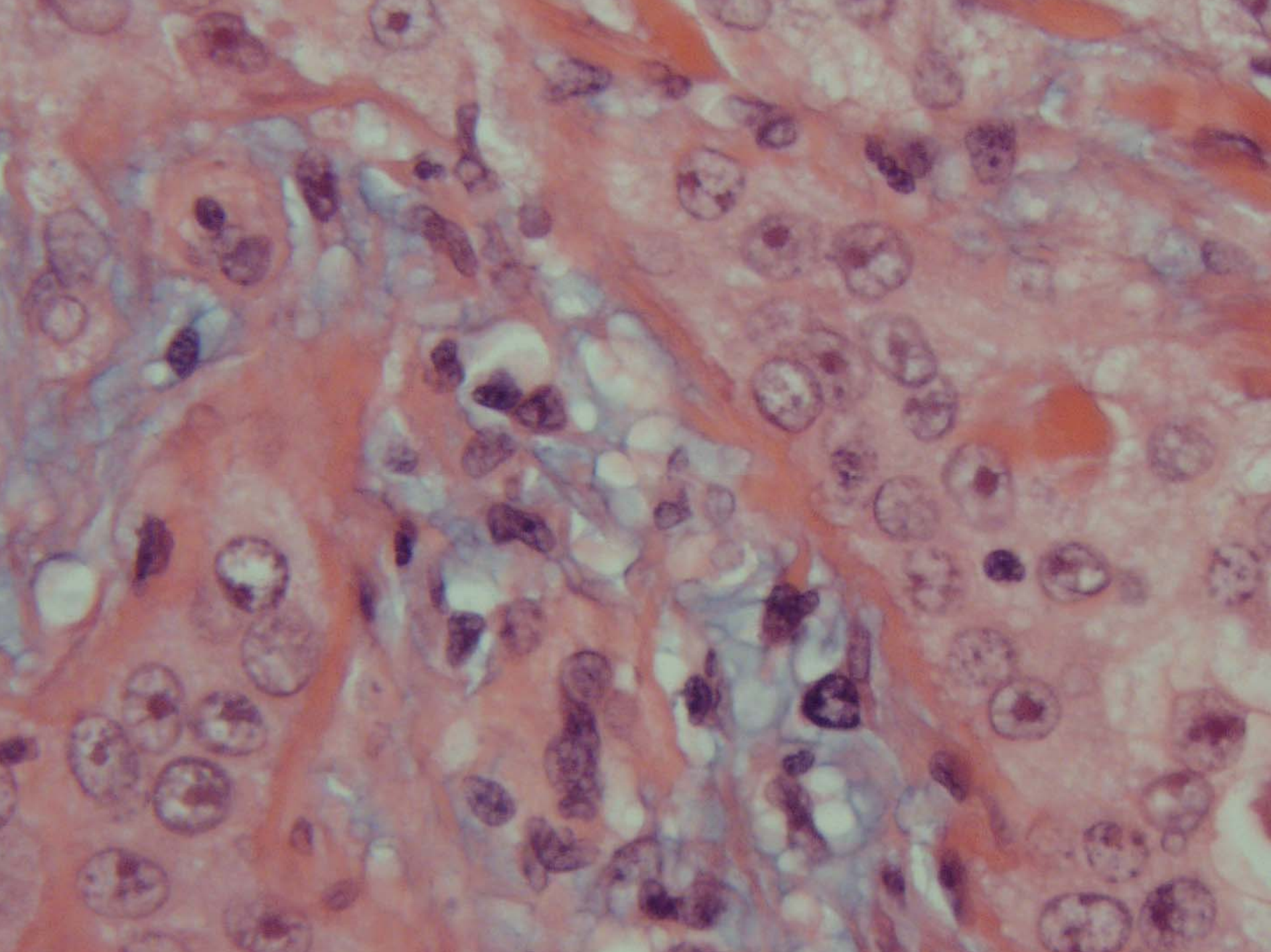


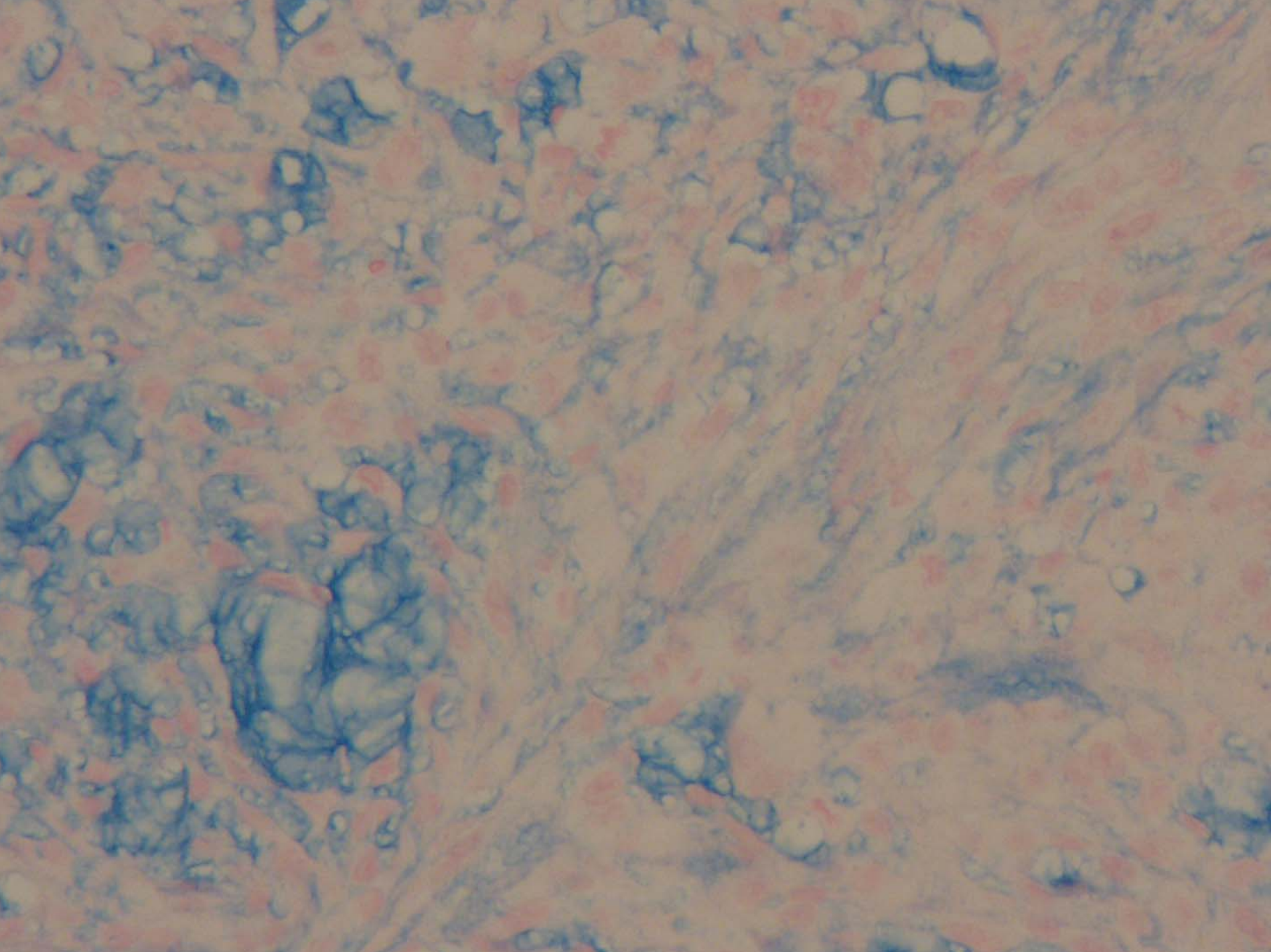
- Rare
  - Less than 15 well-documented
  - Term such as mucoepidermoid carcinomas and acantholytic squamous cell carcinomas used
- Two components
  - Conventional squamous cell carcinoma merging with adenocarcinoma
- Prognosis
  - Local recurrence with later lymph node metastases
  - No evidence of disease 8 months later
- Always exclude metastases to skin

- Journal of Cutaneous Pathology 2001;28 (10), 542-545

Unusual Variants

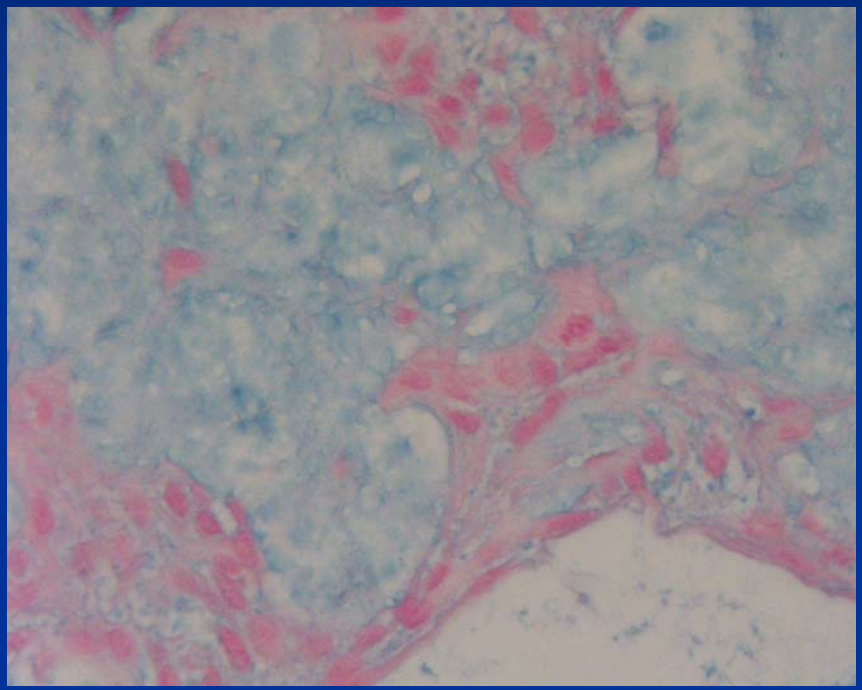




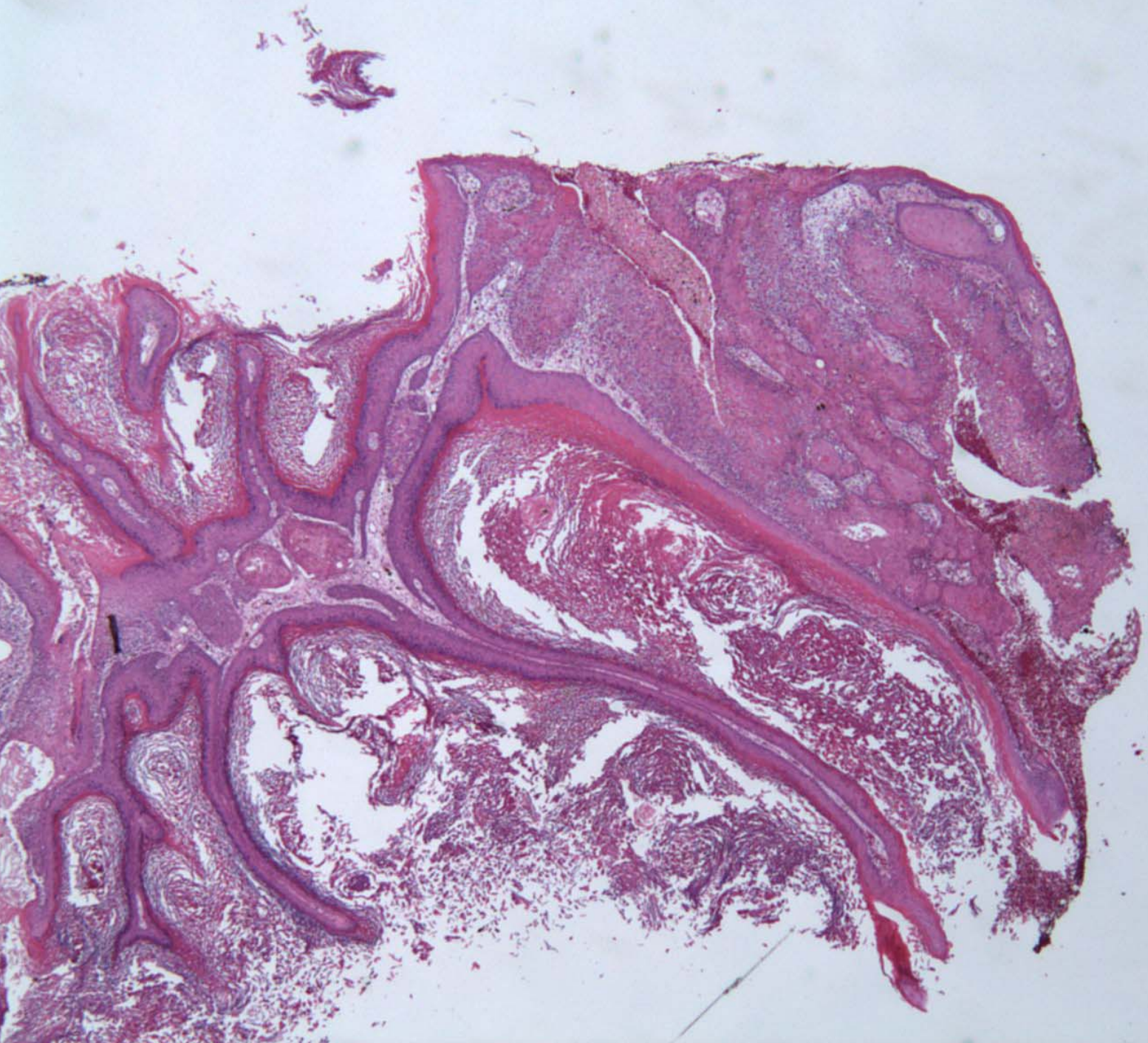


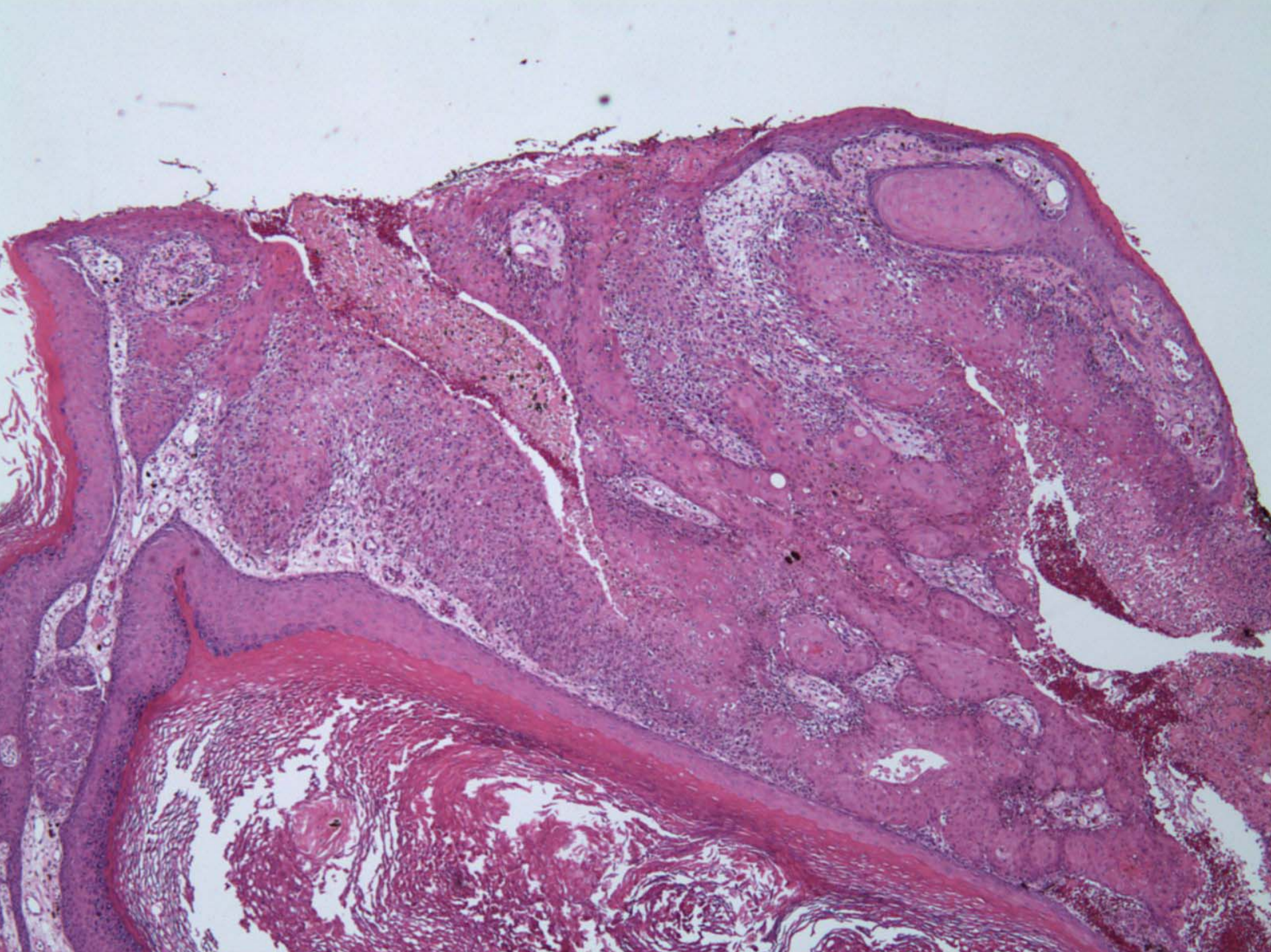
Mucinous Squamous Cell CA

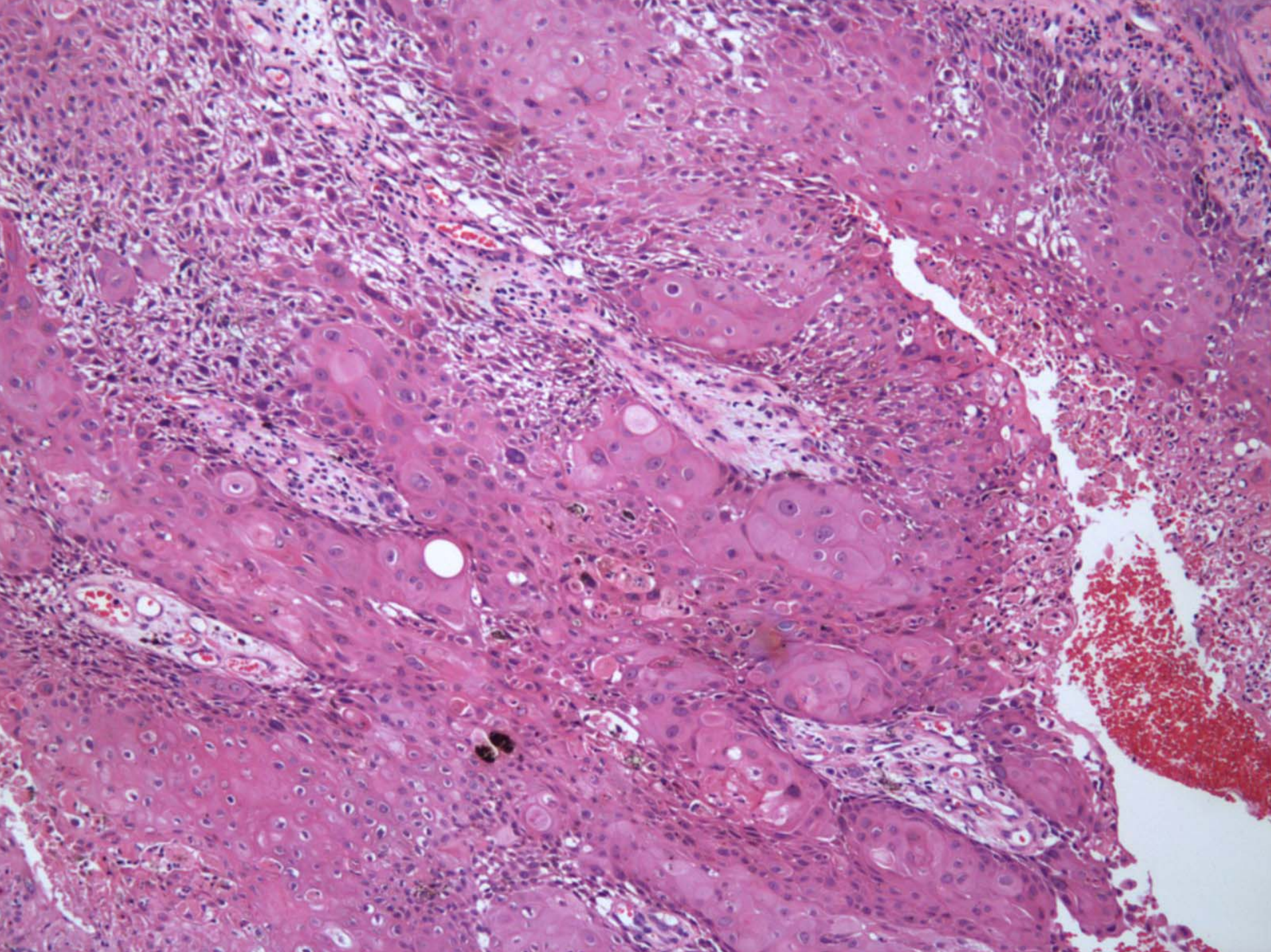
Histopathology

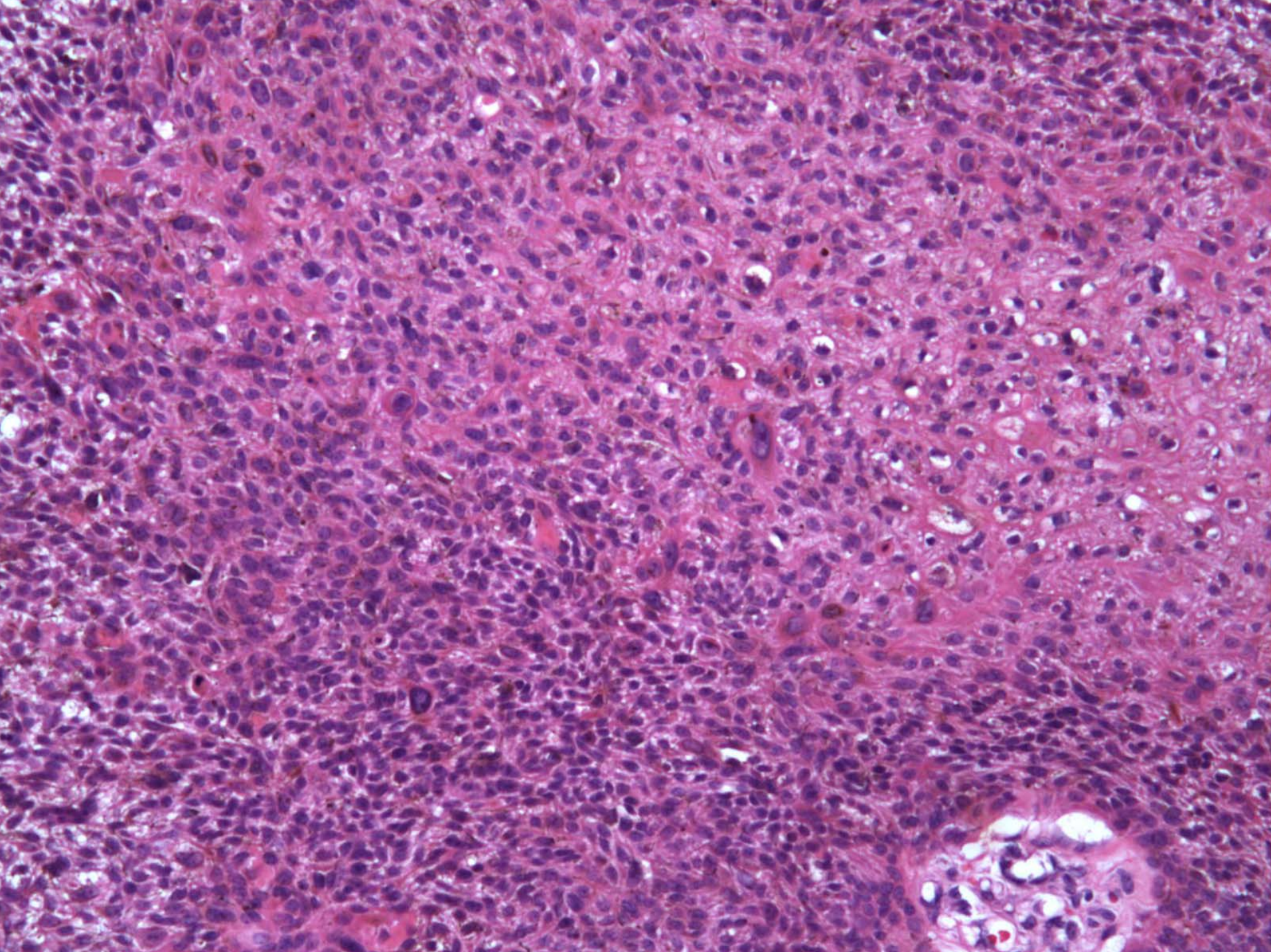


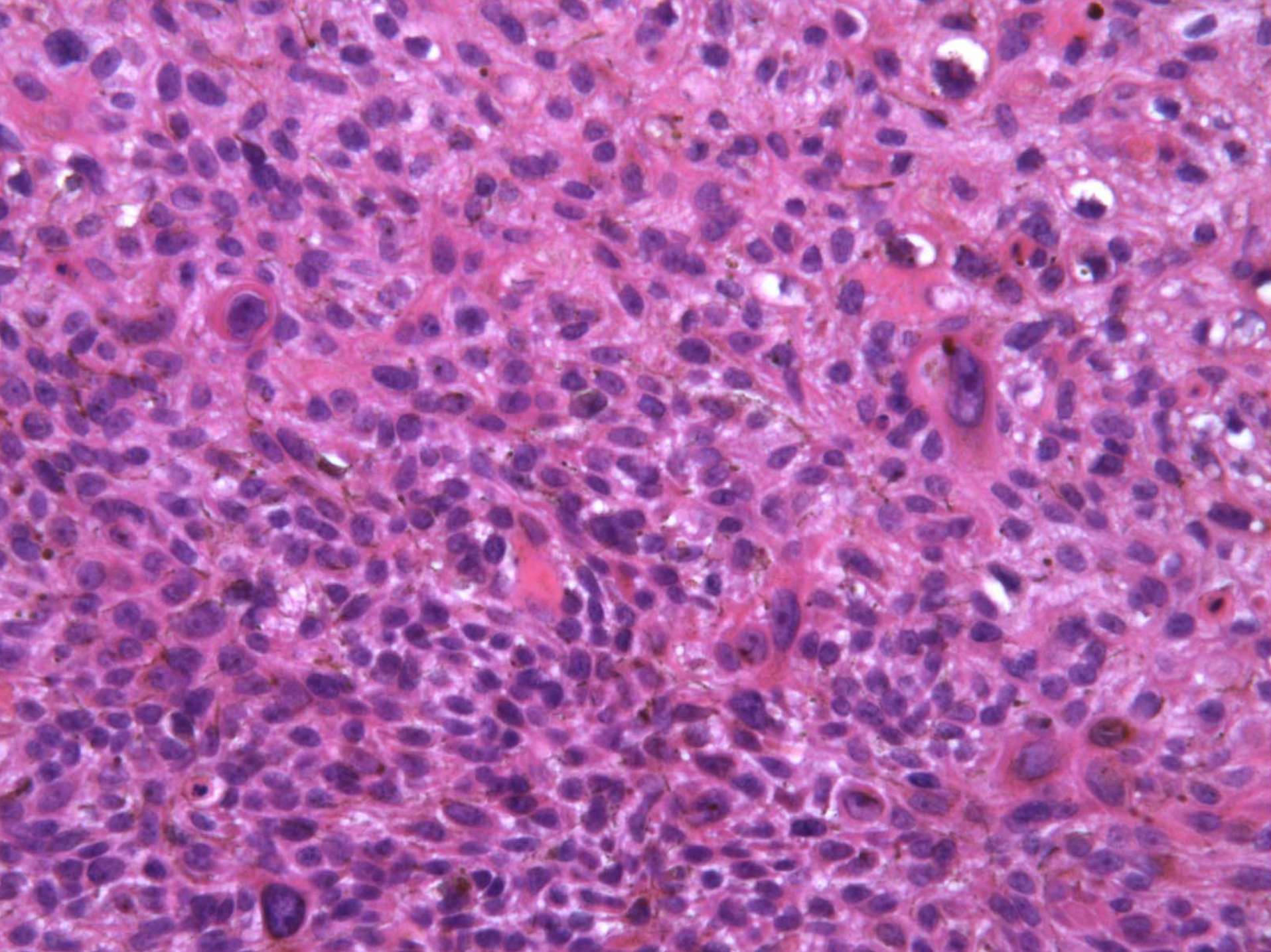
- Mucinous change
- Differentiate from basosquamous CA
- Rule out metastatic adenocarcinoma

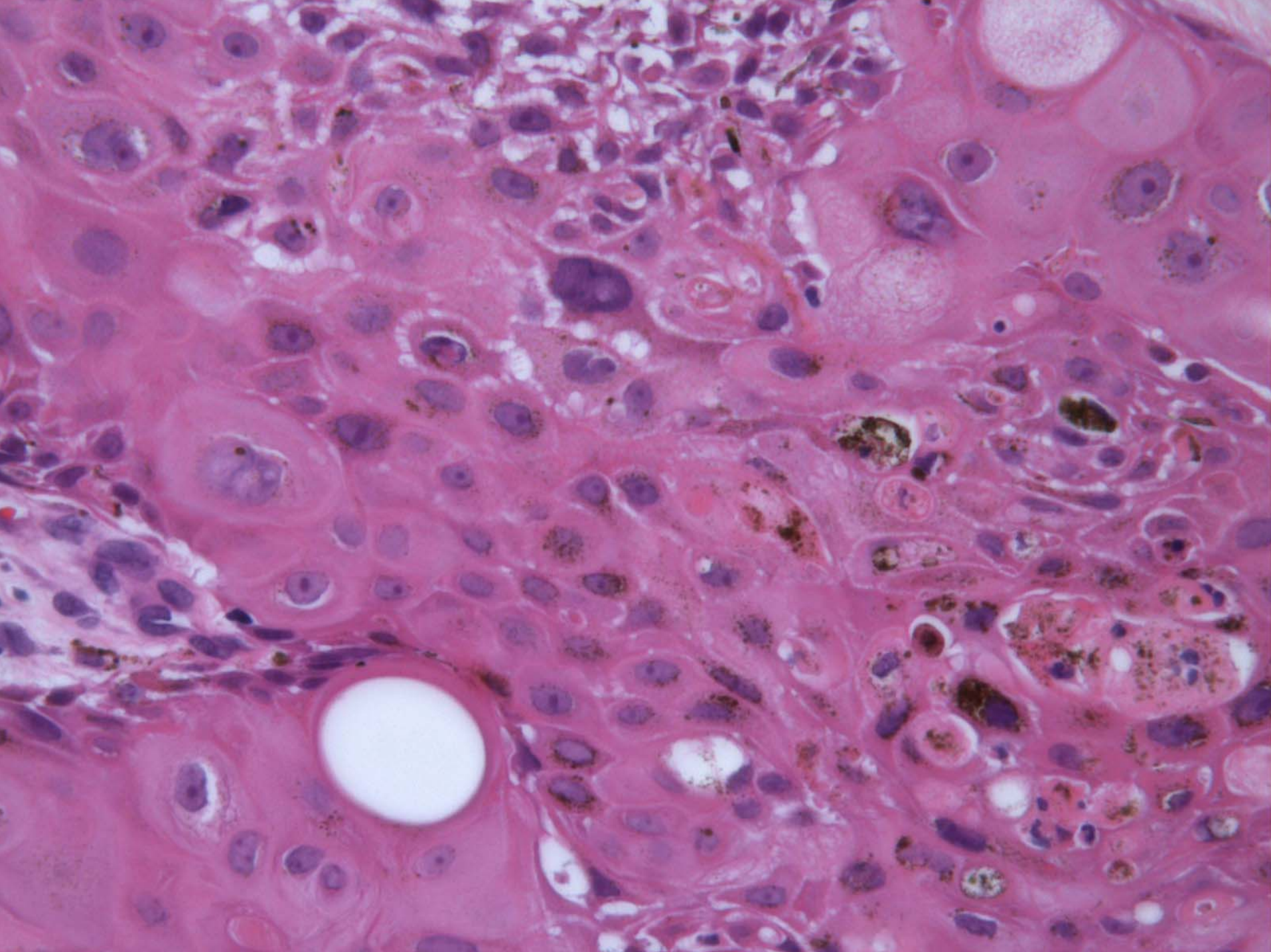






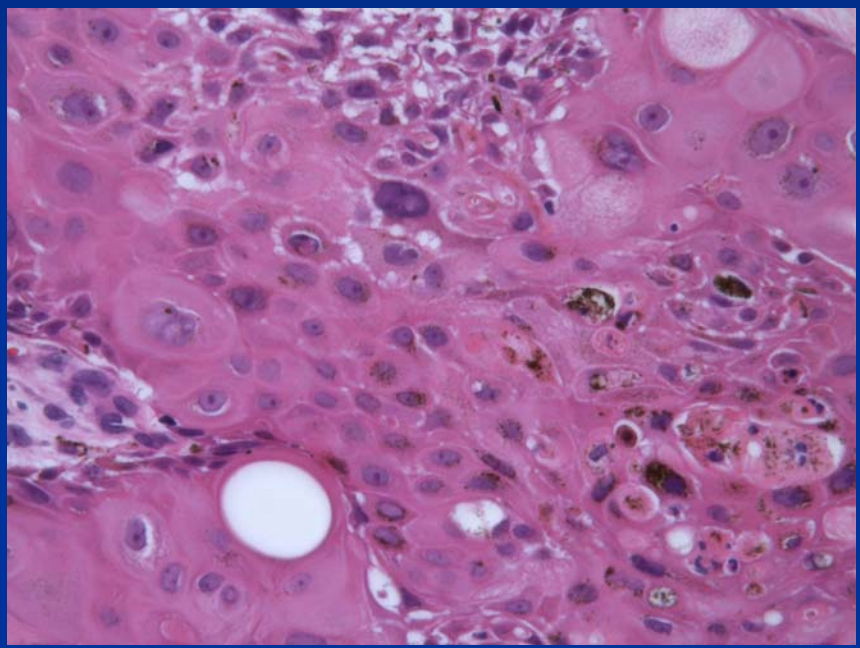






Pigmented Squamous Cell CA

Pigmented SCCA



- Rare
  - 5/46,791 archived cases
  - Relative frequency of approximately 0.01%
- Rapidly growing crusted papule on actinic damaged skin of the face
- Mixture of keratininized squamous cells and melanin-producing dendritic melanocytes.
- IPOX
  - Squamous cells stained for epithelial membrane antigen, low and high molecular keratins
  - Melanocytes stained for S-100 and HMB-45
  - Matched series of 31 SCCs failed to show intratumoral melanocytes.

J Cutan Pathol 2000 Sep;27(8):381-6

Squamous Cell Carcinoma…

Good Grades Are Not Enough!

References

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J Am Acad Dermatol 1992;26:976-990

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