# 2003 PIP-B Cases

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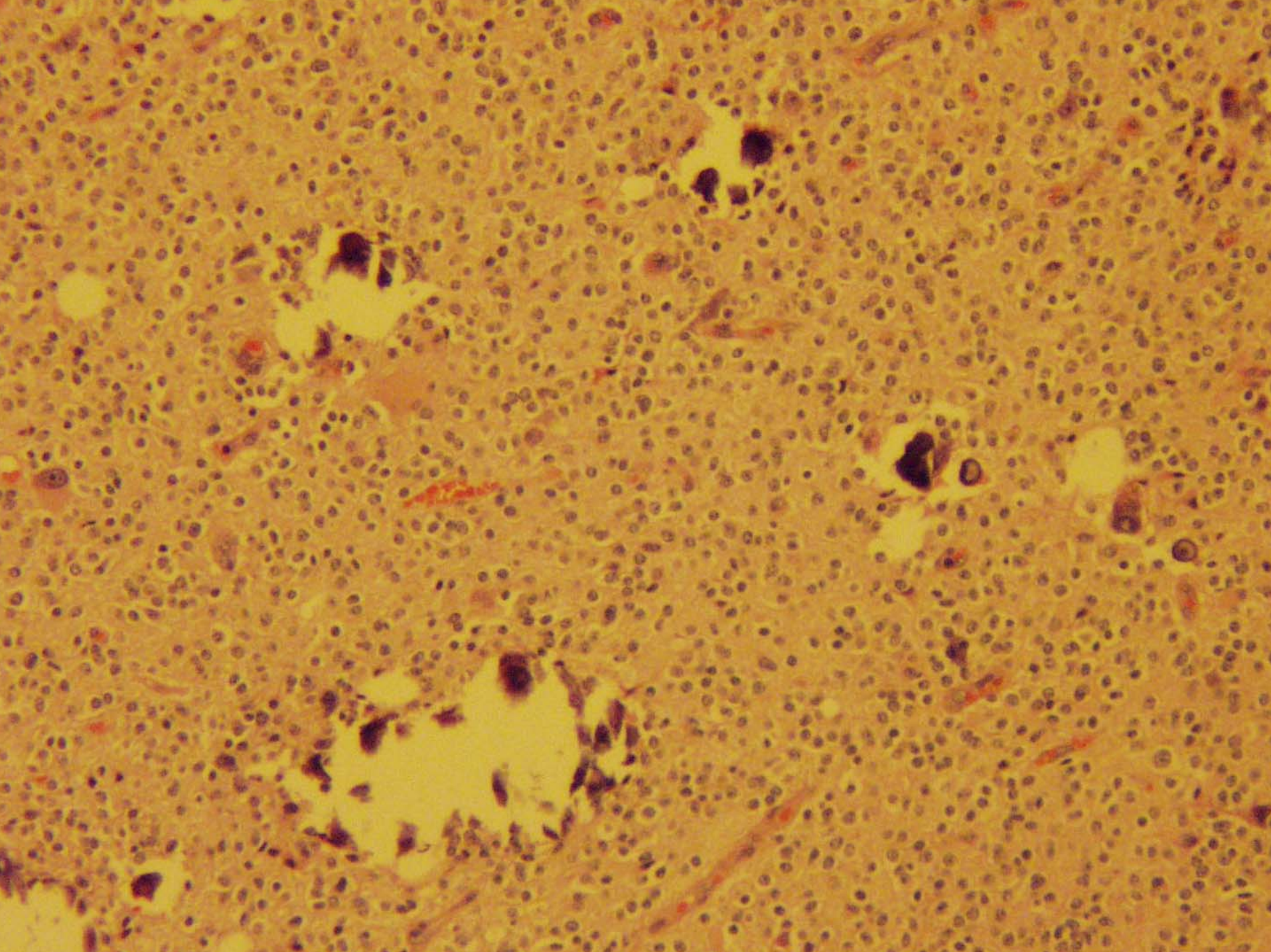
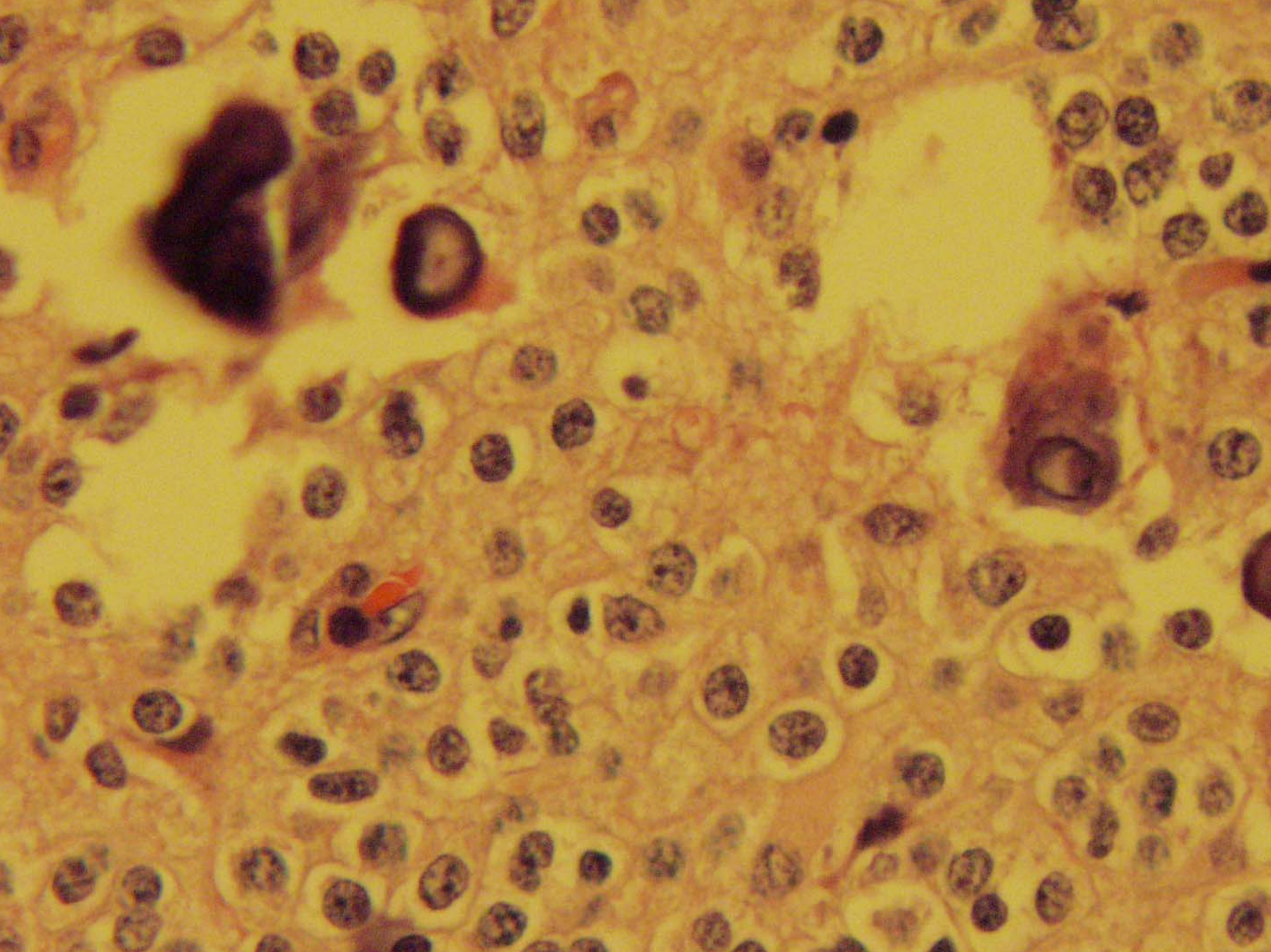
# Case 11

- 29M, 2mo hx HA and new onset Sz
- MRI with 7.2 cm hypointense non-enhancing mass in left frontal lobe
- Frontal lobectomy





# Oligodendroglioma, WHO Grade II

| WHO GRADE | Histopathology |
|---|---|
| I | Deleted |
| II | Low cellularity, round uniform nuclei, absent or scant mitotic figures |
| III | Anaplastic<br>High cellularity with nuclear variation and hyperchromasia, brisk mitotic rate, endothelial proliferation or necrosis |
| IV | Highly anaplastic=GBM |

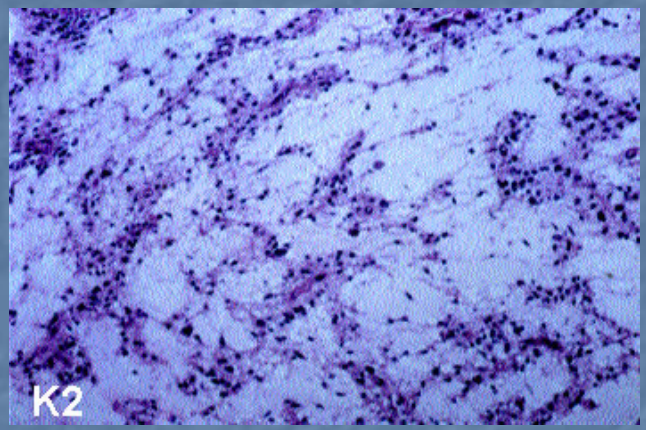
# Oligodendroglioma

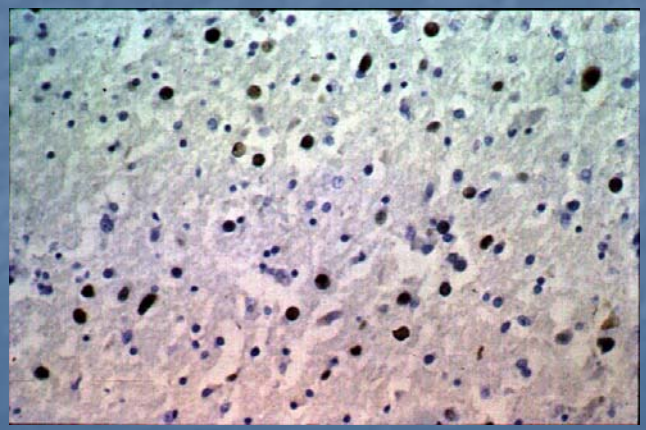
- Perinuclear halos are artifact of delayed fixation
- Occasional minigemistocytes with plumper eosinophilic cytoplasm
- Chicken wire vasculature
- Nodular growth pattern on background of a diffusely infiltrating tumor

# Oligodendroglioma

- >5mf/10hpf associated with decreased survival
- Ki-67 labeling index variable, suggestion of 5% for low vs. high risk
- Highly anaplastic oligos do not correspond to GBM
- Allelic loss of 1p and 19q associated with chemosensitivity (40-70% of cases)
  - Correlates best with with classical morphology

# Oligodendroglioma, WHO Grade II DDX

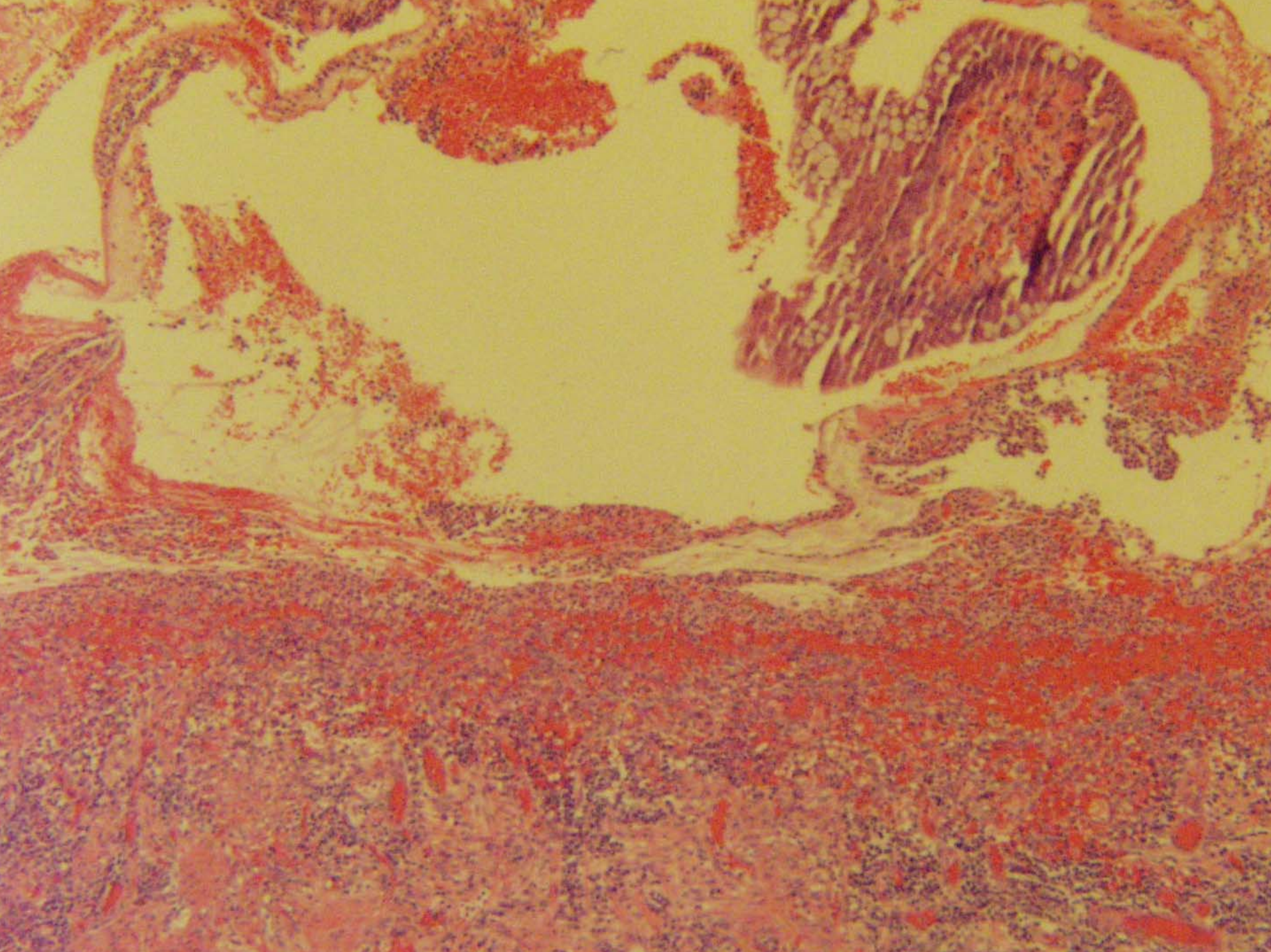


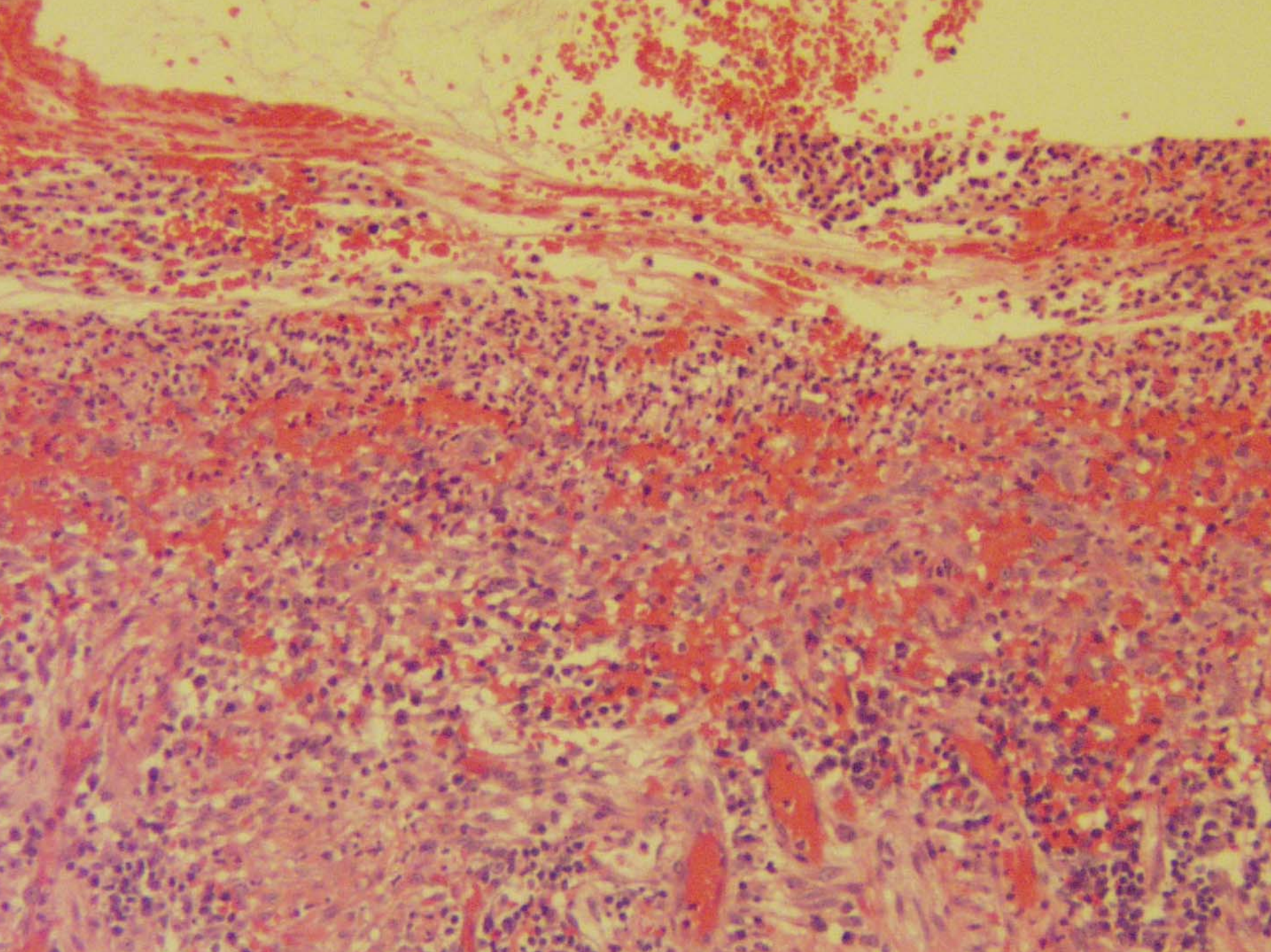



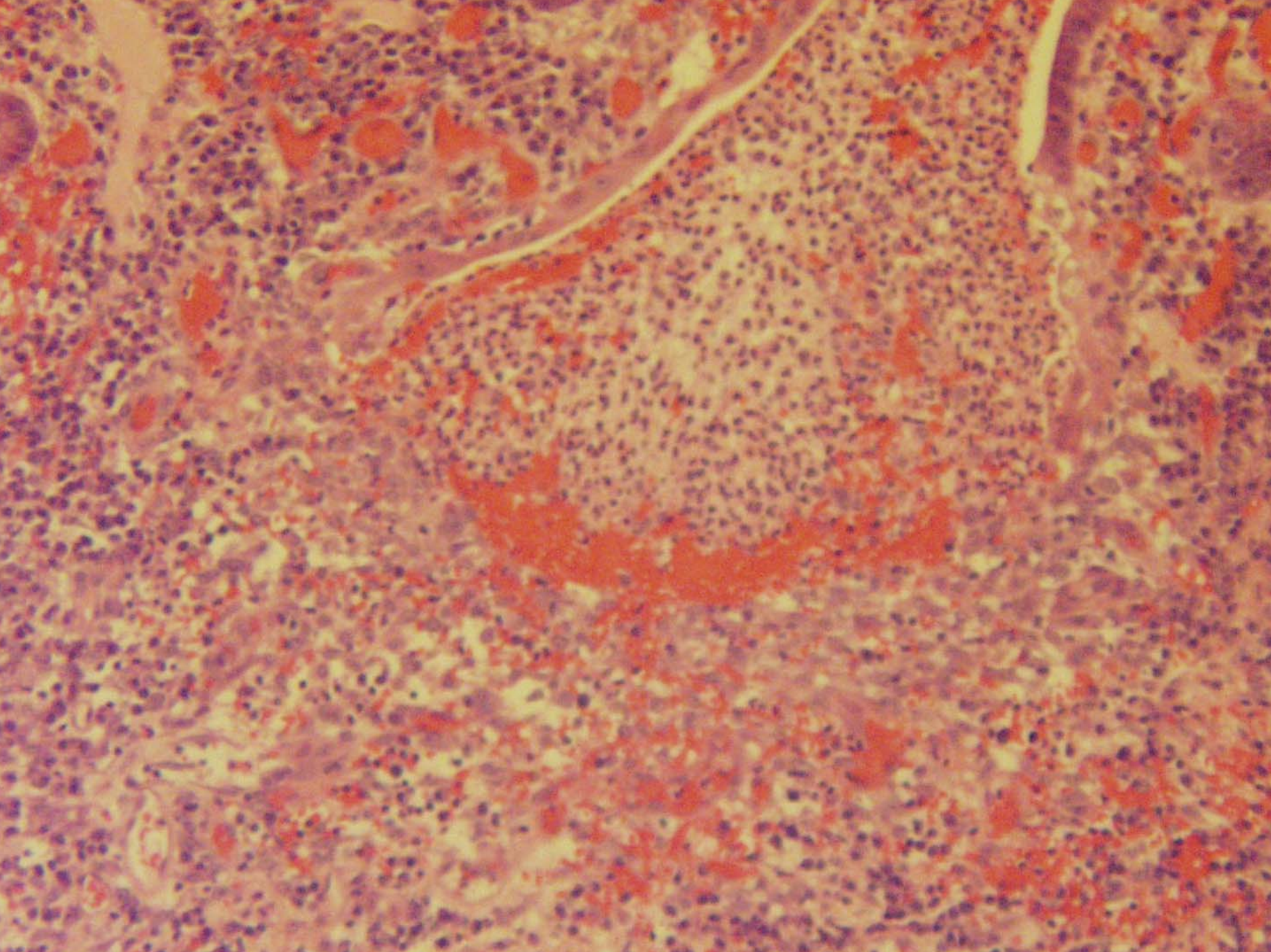
- Dysembryoplastic neuroepithelial tumor
  - Small round cells with delicate fibrillary processes and fine capillaries with pools of mucin and floating neurons
  - Midline region of the septum pellucidum
- Progressive multifocal leukoencephalopathy-JC virus infection

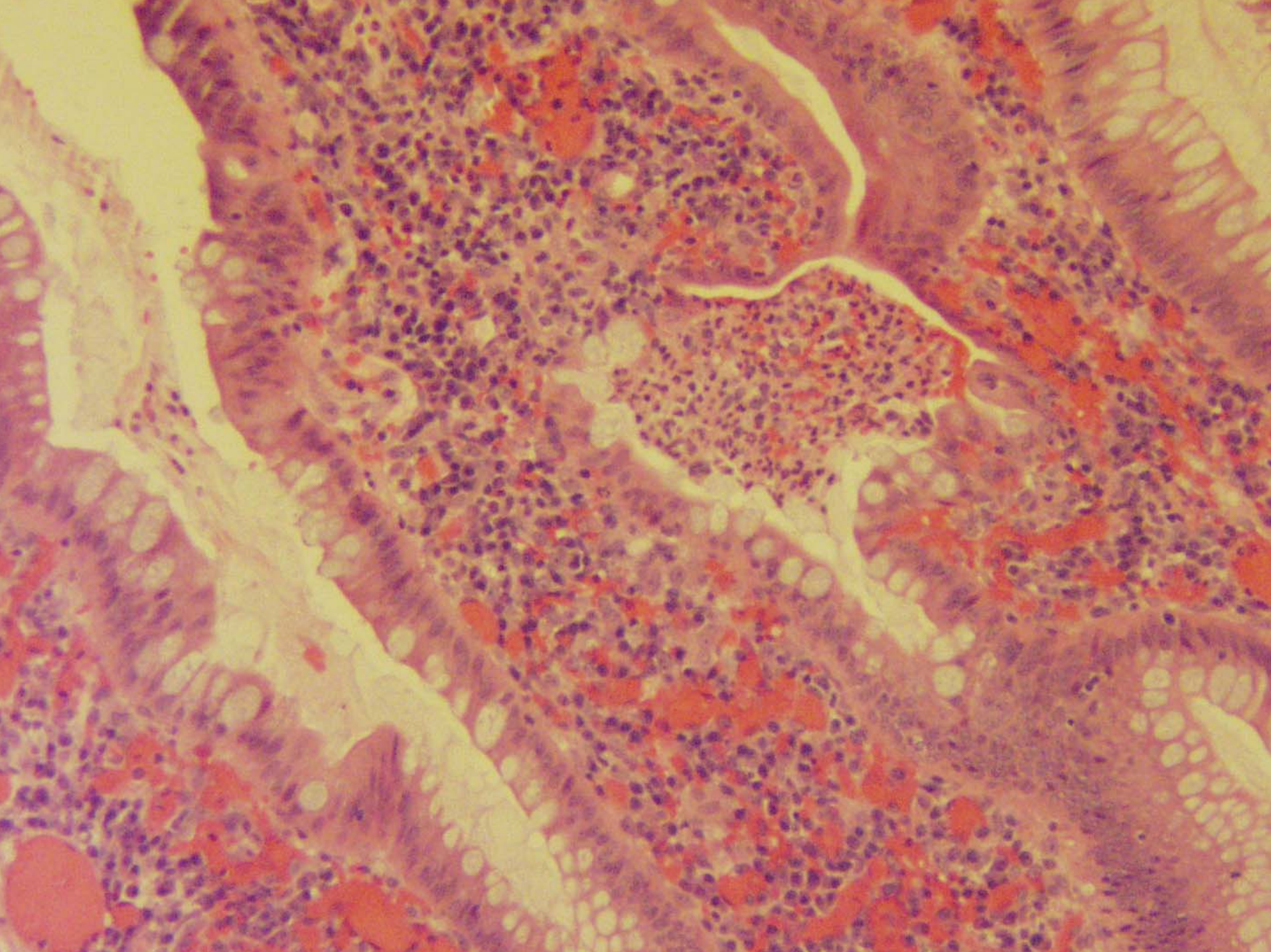
# Case 12

- 54M, 24 hr hx fever, abdominal cramping, severe bloody diarrhea
- Recent travel history
- Steroid and Abx tx with progressive deterioration over 3 days
- Subtotal colectomy with patchy hyperemia and granularity in cecum and 15 cm beyond ileocecal valve to distal resection margin
- Multiple fissures and granularity









# Fulminant Phase of Chronic Ulcerative Colitis

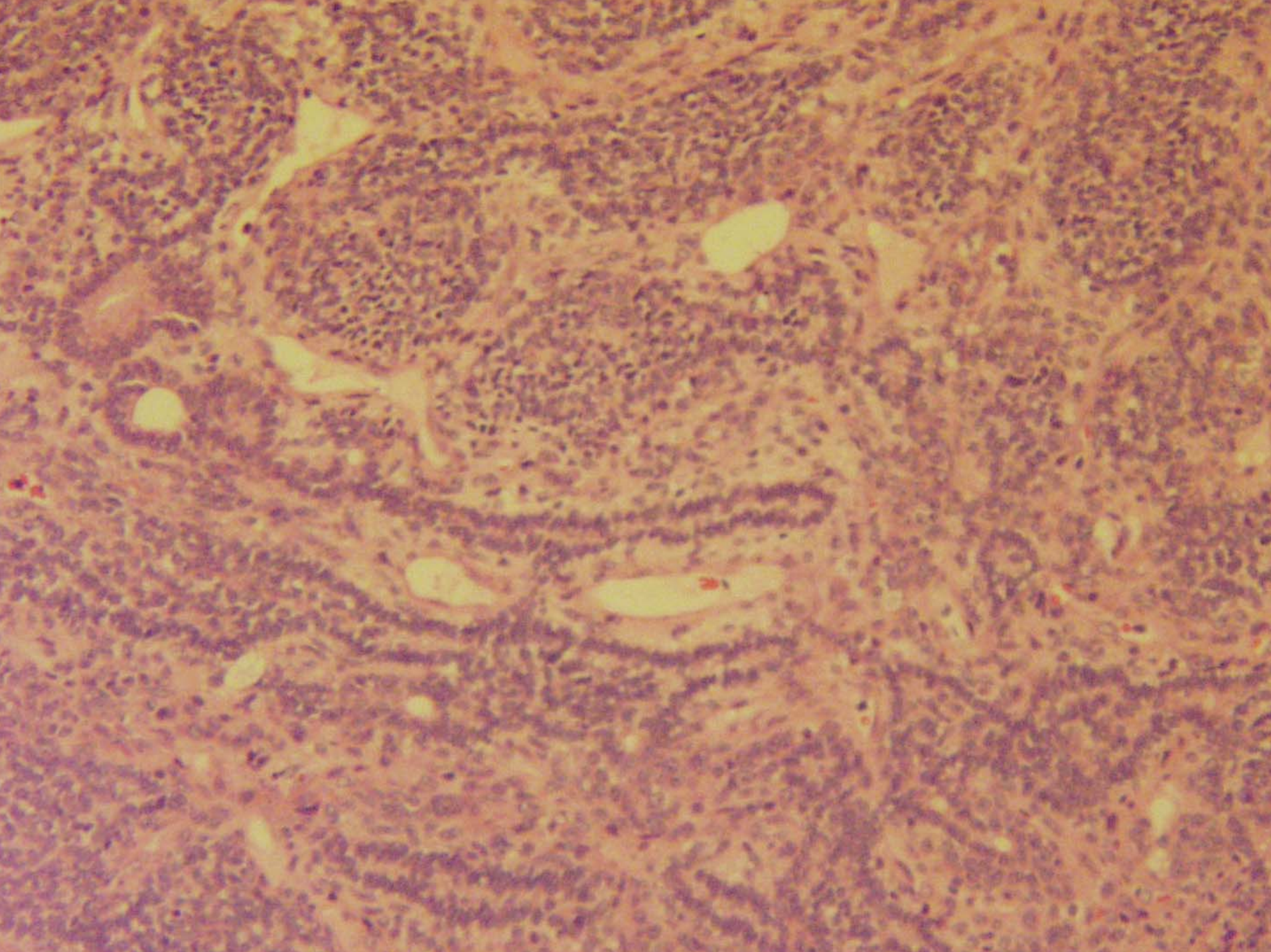
- May be associated with fissuring ulceration of colon
- Not usually associated with:
  - Granulomas, segmental jejunal involvement, skip lesions, or dense lymphoid aggregates in submucosa

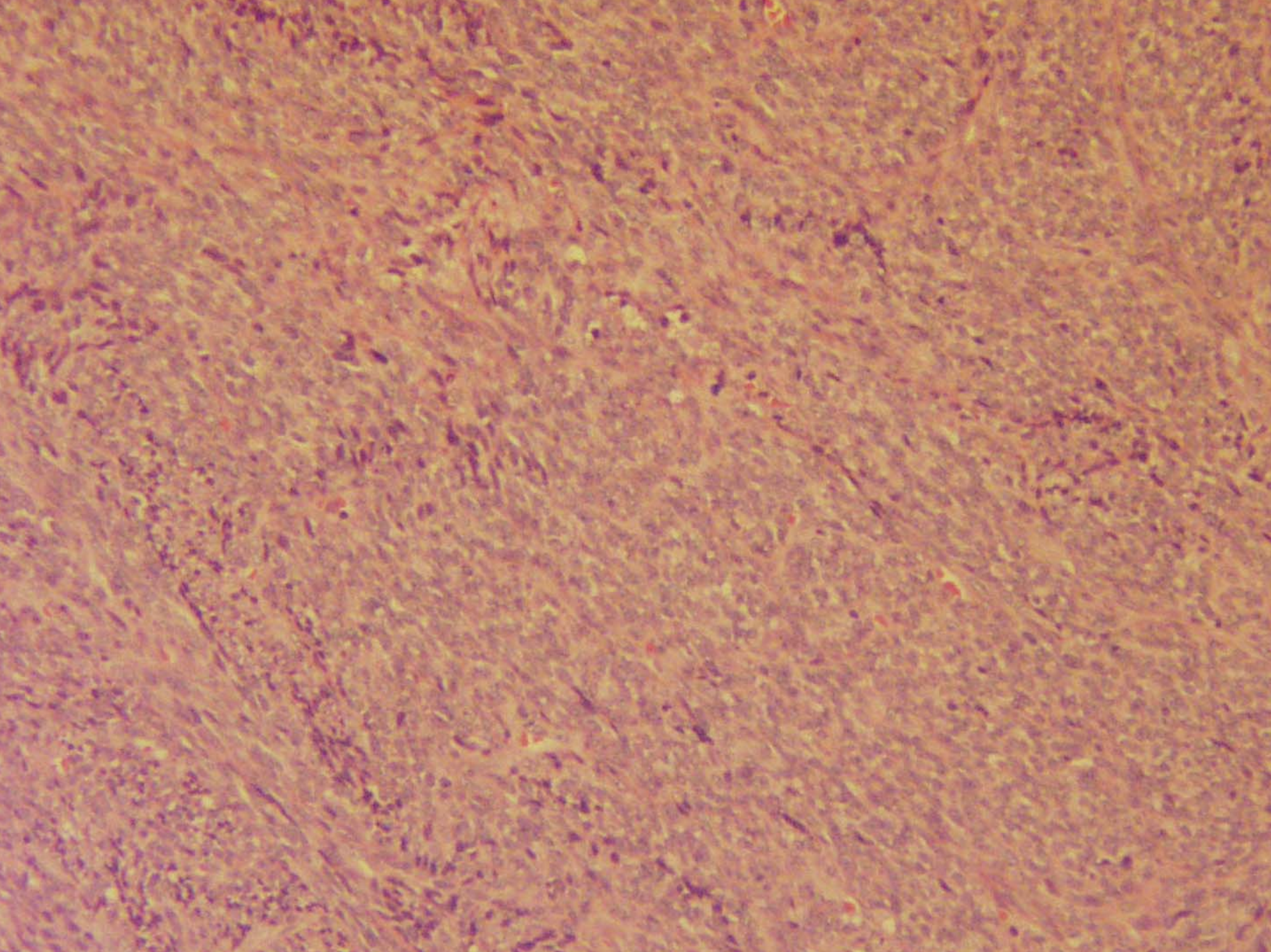
# Fulminant Phase of Chronic Ulcerative Colitis

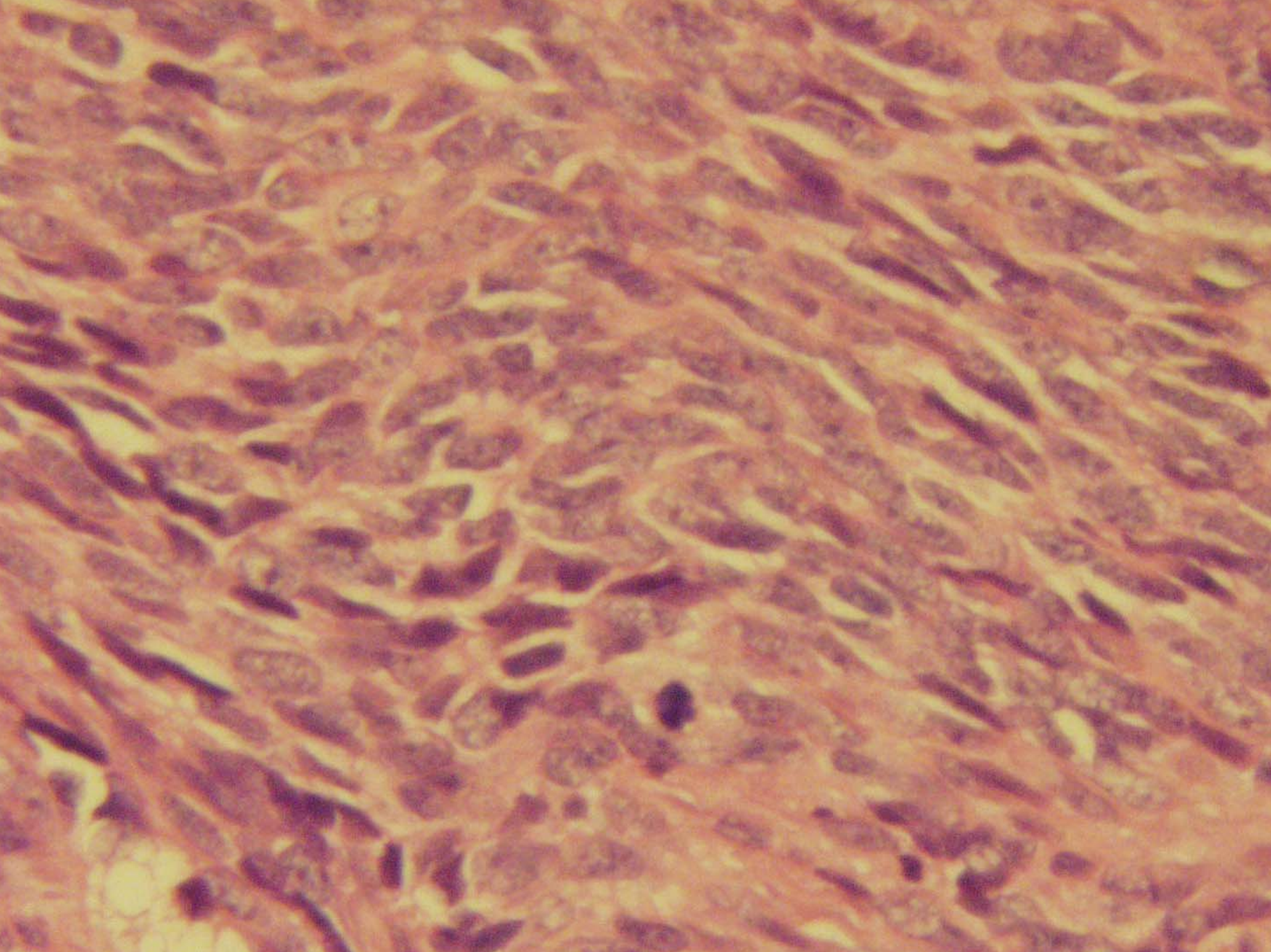
- Distinction from Crohn's colitis important for selection of appropriate surgical resection
  - Reconstructive pouch procedure contraindicated in Crohn's due to high recurrence and complication rate
- DDX:
  - Ischemic colitis
    - Acute and segmental with superficial mucosal necrosis
  - Diverticular disease-associated colitis
    - May be indistinguishable
  - NSAIDs
    - May exacerbate IBD and by itself produce similar findings
    - Disease exacerbation common in poor responders to salicylate treatment

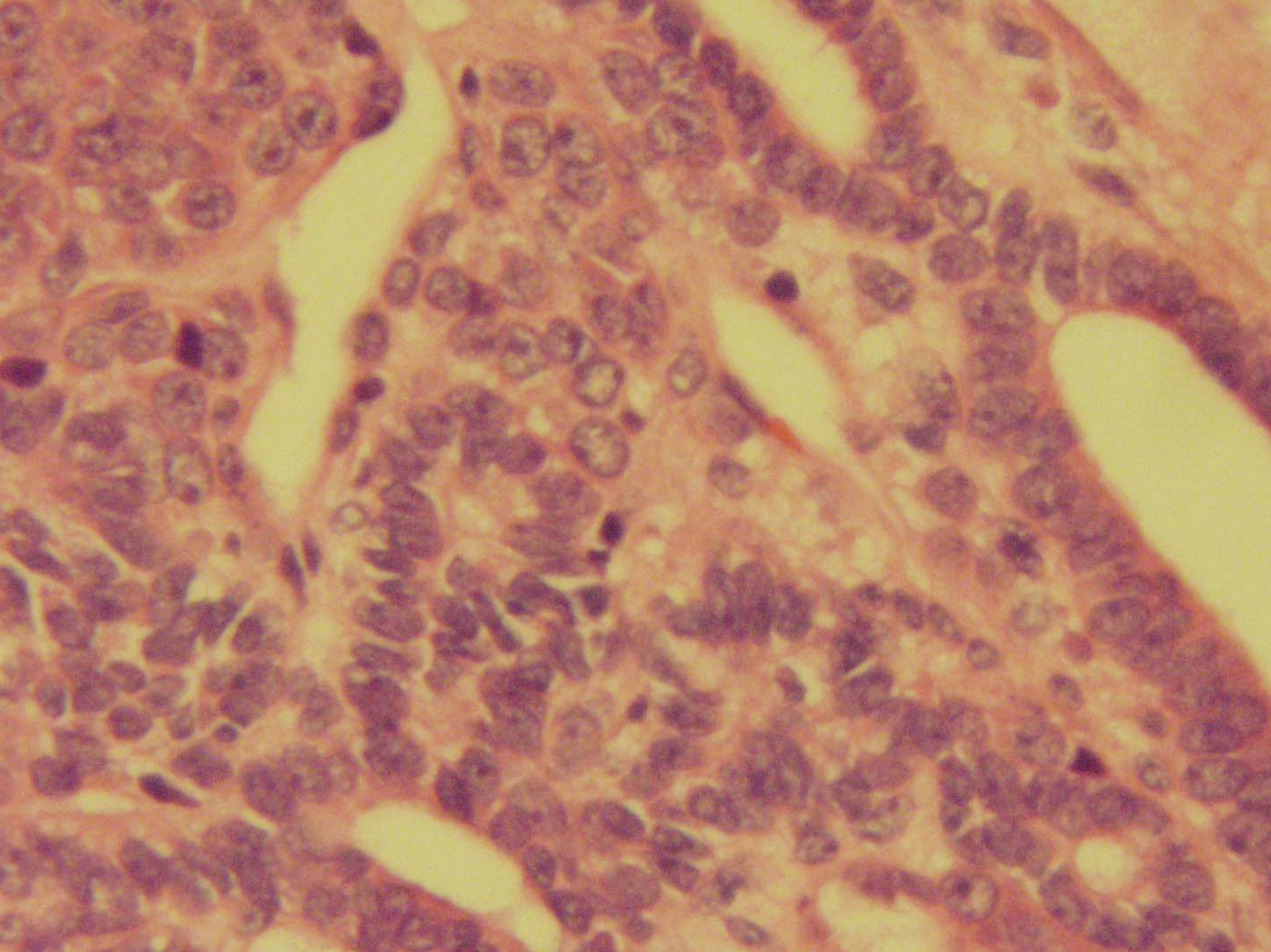
# Case 13

- 53F, asymptomatic with firm pelvic mass extending midway to umbilicus
- TAH-BSO
- Right ovary replaced by firm 14.5 cm 770 gram mass
- Solid yellow-tan cut surface with scattered cysts and focal necrosis









# Sertoli-Leydig Cell Tumor

- 0.5% of all ovarian tumors
- 2nd-3rd decades (mean 25 yrs)
- Virilization in 1/3 of cases
  - May have excess estrogen production
  - 50% without endocrine changes
- Majority unilateral
- Range 1-20 cm

# Sertoli-Leydig Cell Tumor

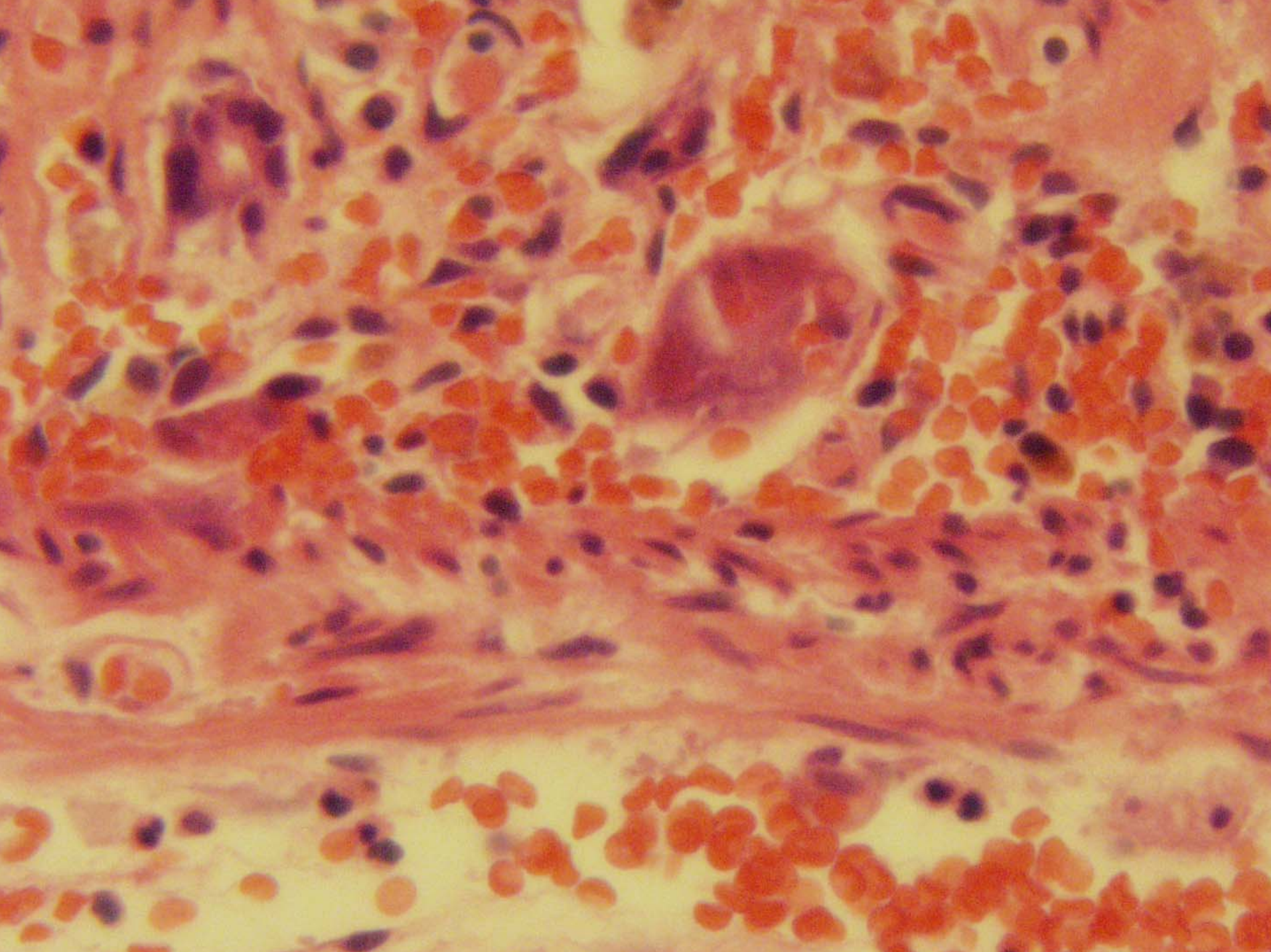
- Well differentiated tumors
  - Well formed hollow tubules with fibrous or edematous stroma
- Poorly differentiated tumor
  - Lobulated, ranging from ribbons and solid tubules to diffuse spindle cell sheets
  - Sarcomatoid with numerous MF
- Heterologous elements in 20%
- Inhibin positive

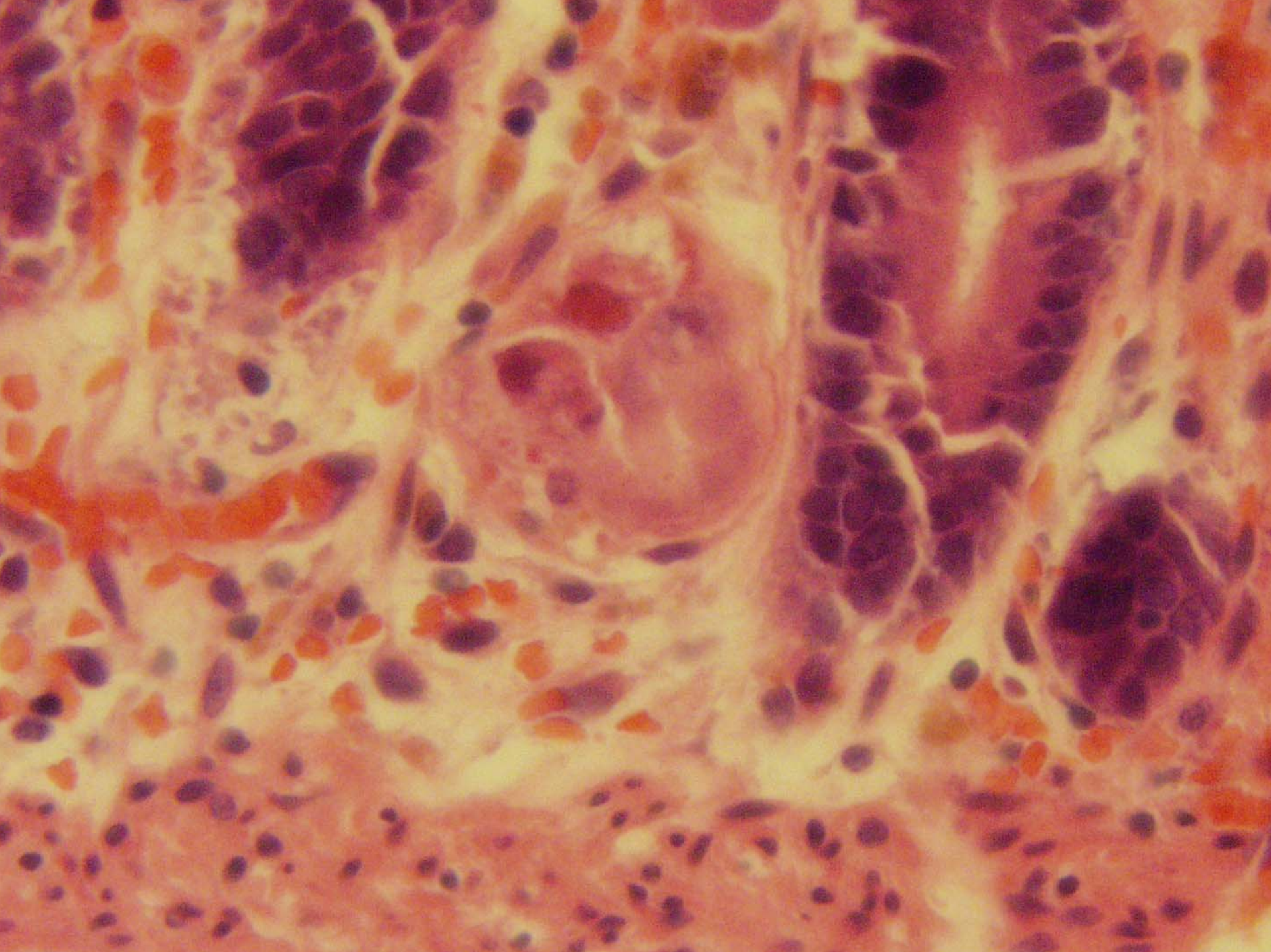
# Sertoli-Leydig Cell Tumor

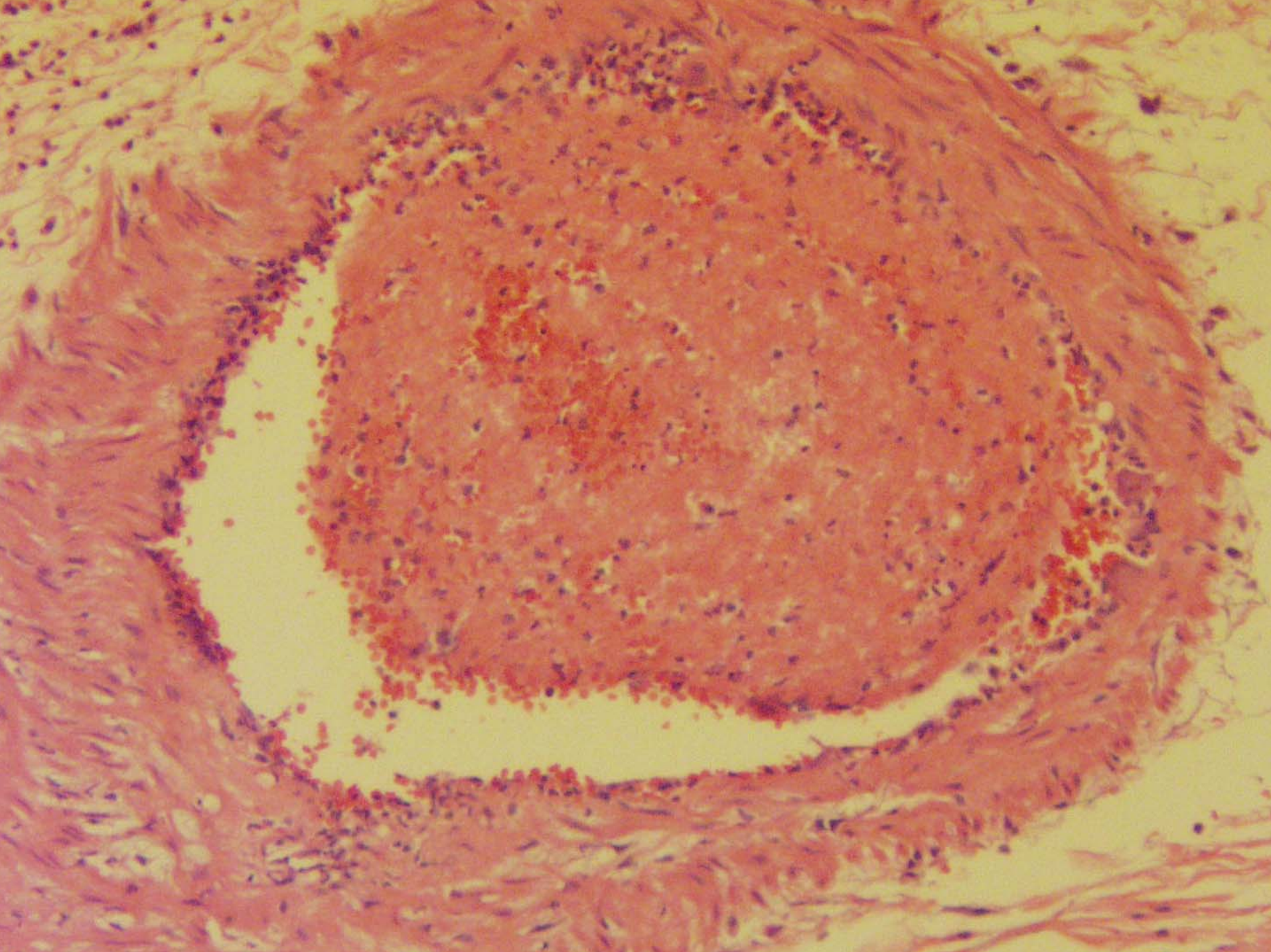
- DDX:
  - Adult granulosa cell tumor-inhibin+
  - Endometrioid carcinoma-squamous nests
  - Metastatic carcinoma-usually bilateral
- PGX and TX
  - Majority stage IA, excellent prognosis with 10YRS 92%
  - Unilateral SPO
  - TAH/BSO for older patients, high tumor state, or malignant heterologous elements

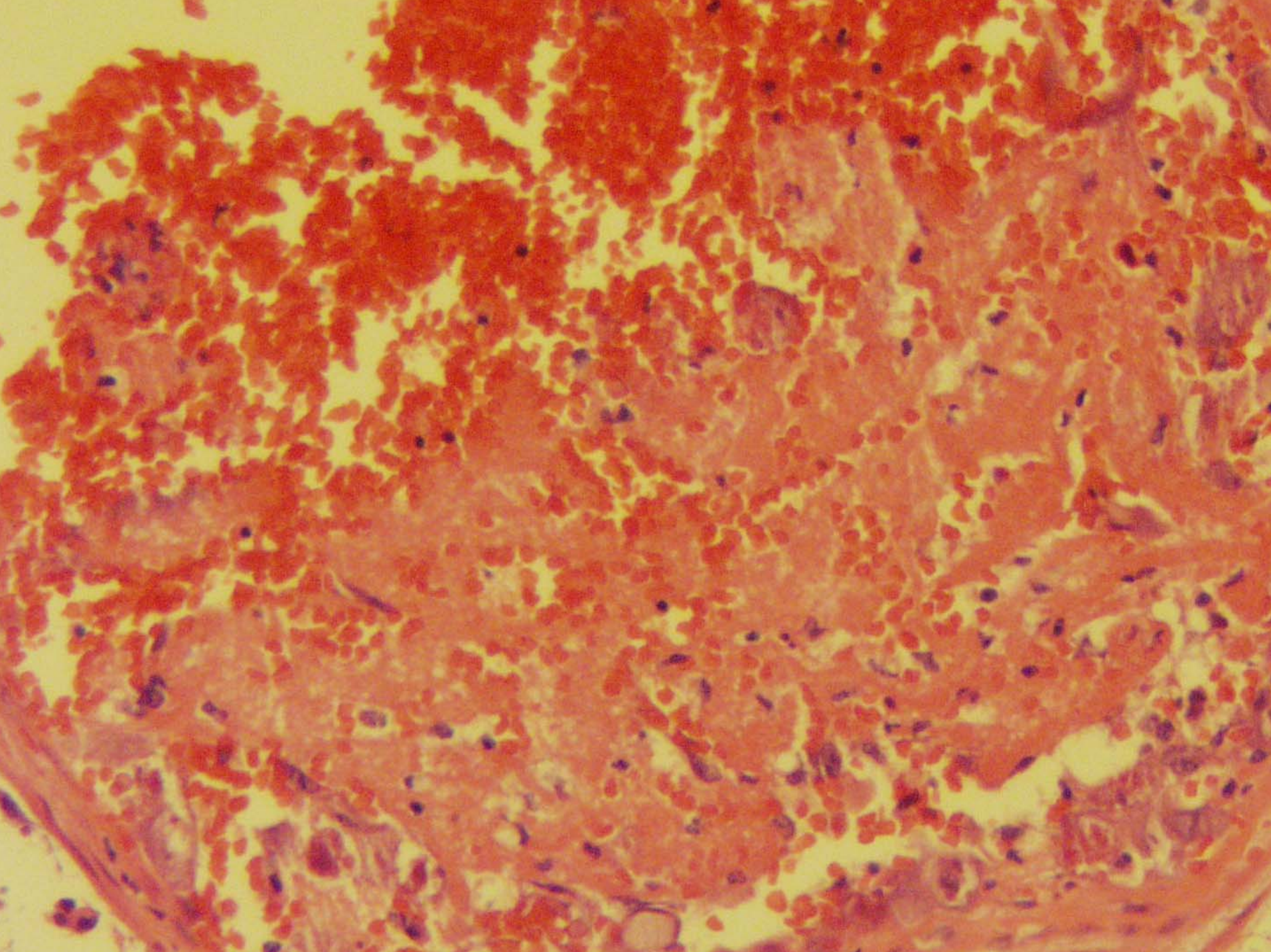
# Case 14

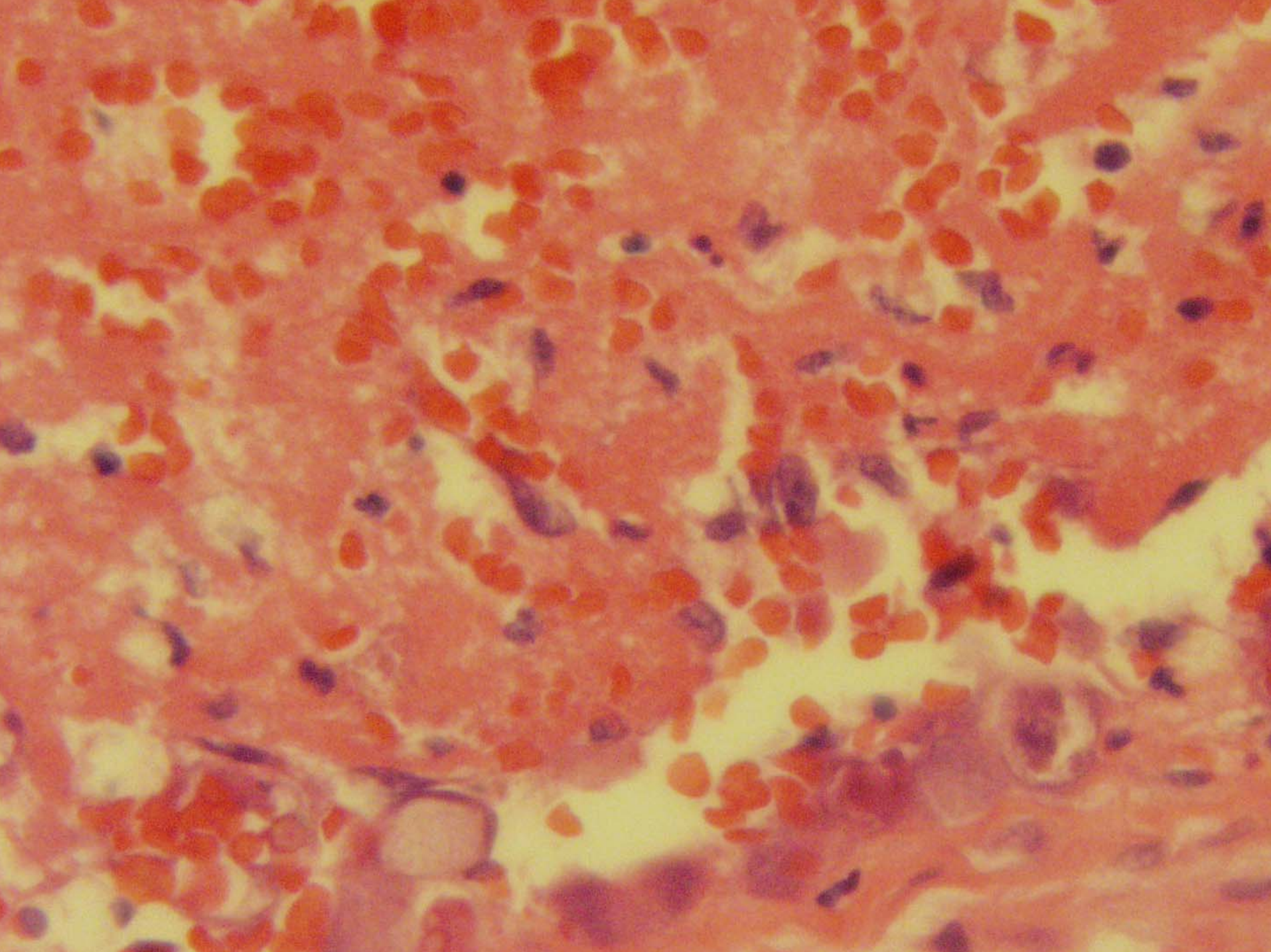
- 64M, s/p cadaveric renal transplant 6 months prior
- 2 wk hx. Malaise and 3 d hx fever and diarrhea
- After admission, sudden onset of diffuse abdominal pain, nausea, bloody diarrhea
- Extensive mucosal ulceration and edema from sigmoid colon to cecum
- Total colectomy











# Cytomegalovirus Colitis

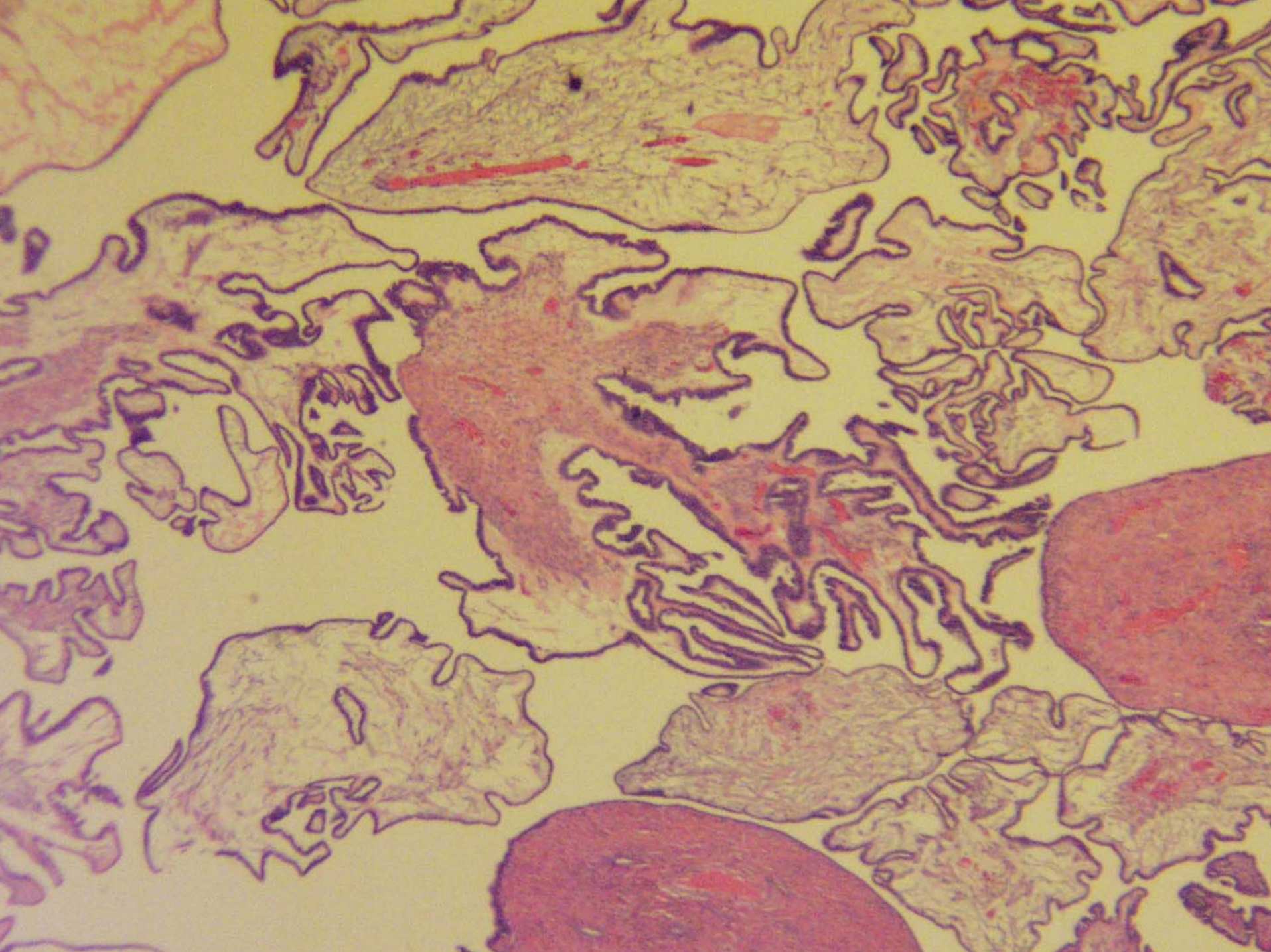
- Ulceration of upper GI tract and colitis
- Patchy and right sided
- May have pseudomembranes
- Exuberant granulation tissue may rarely mimic a neoplastic mass

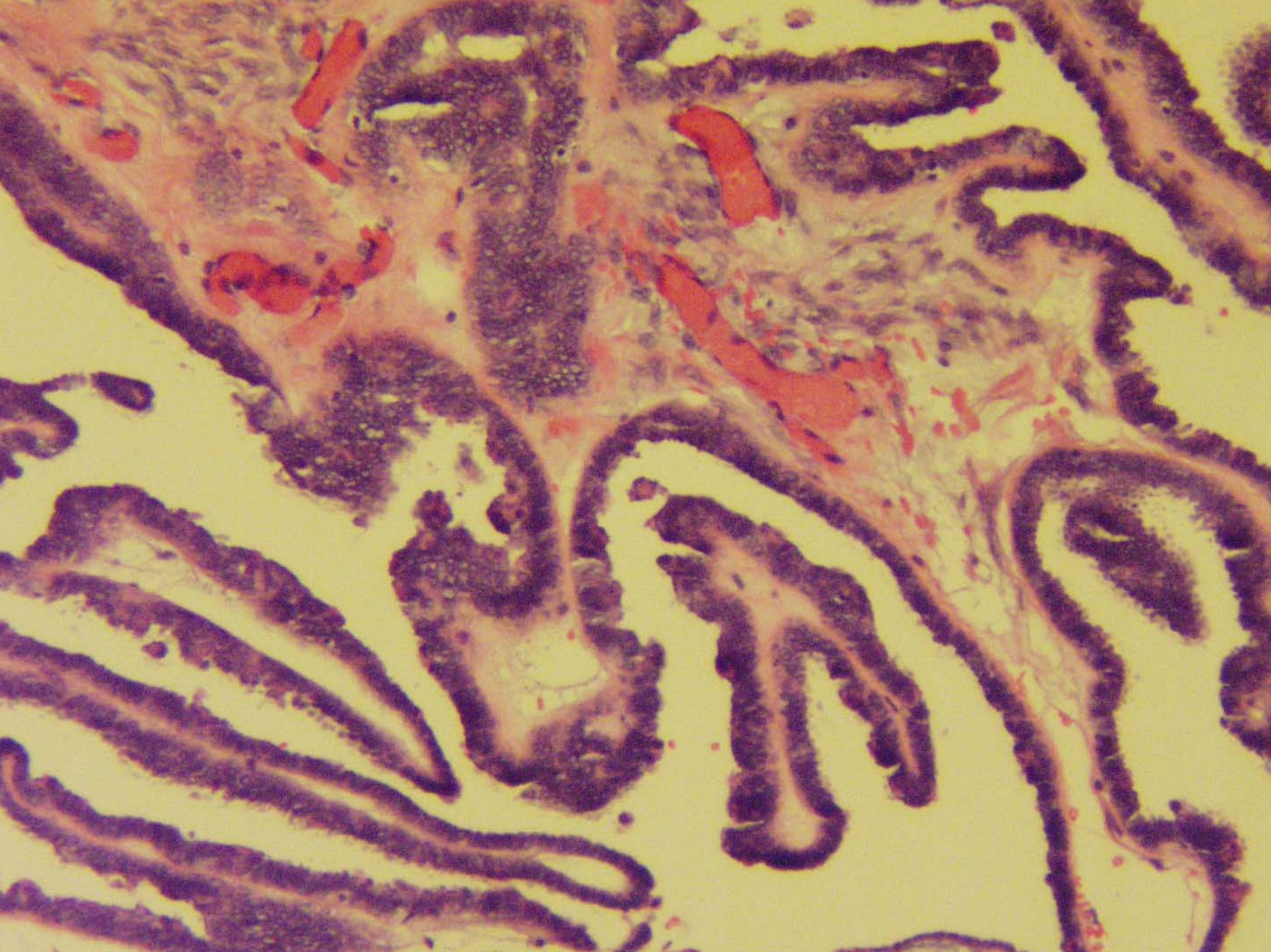
# Cytomegalovirus Colitis

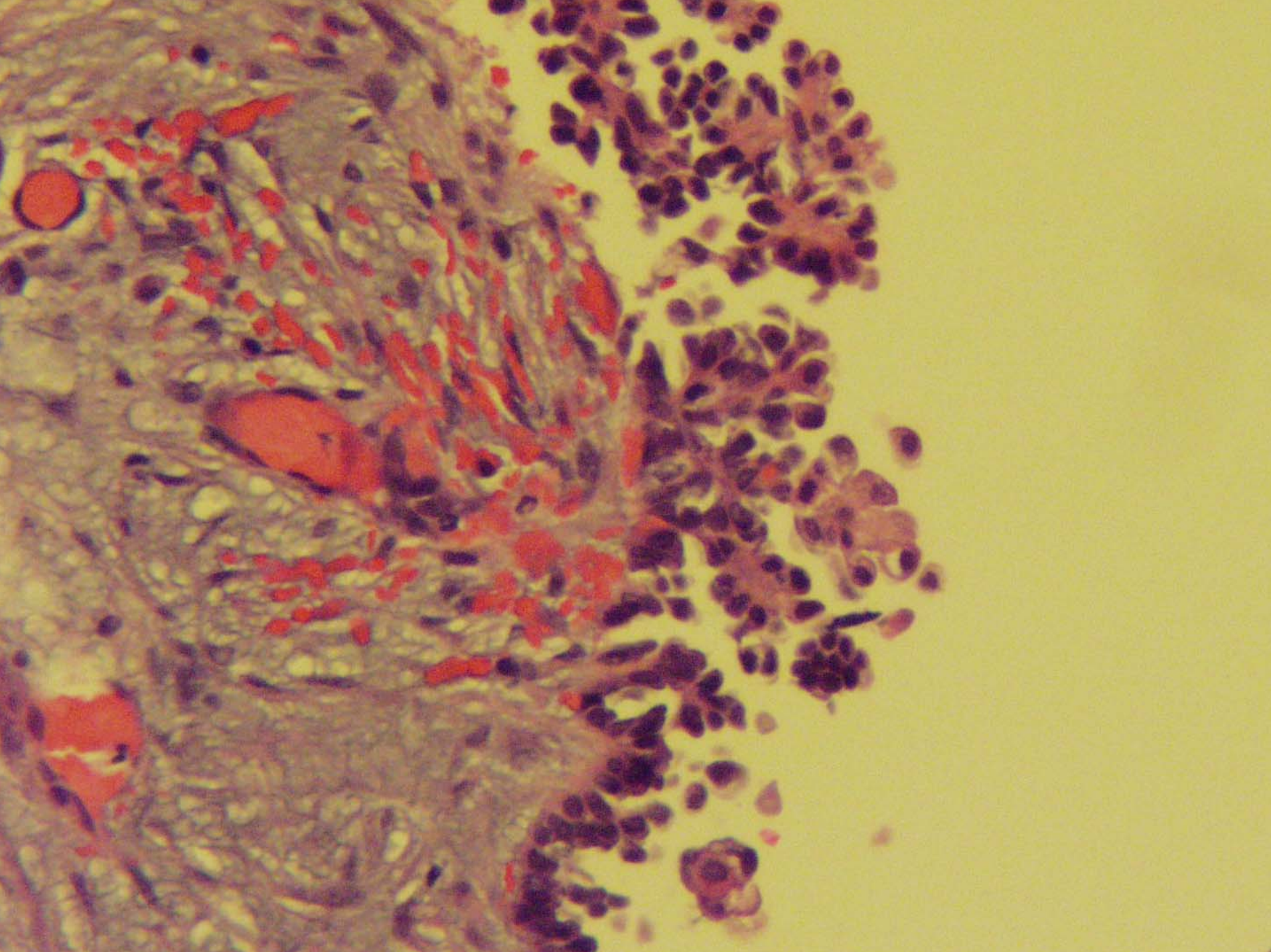
- Confirmatory tests:
  - Viral culture of fresh tissue
  - CMV on biopsy sections
  - IPOX
  - In-situ hybridization
  - Stool viral culture not helpful
- DDX:
  - Hemorrhagic colitis E. coli 0157:H7-hemolytic uremic syndrome
  - Adenovirus-amphophilic crescent or targetoid nuclear inclusions
  - Ischemic colitis-long distance running, contraceptives, pseudo-ephedrine, danazol
  - C. difficile

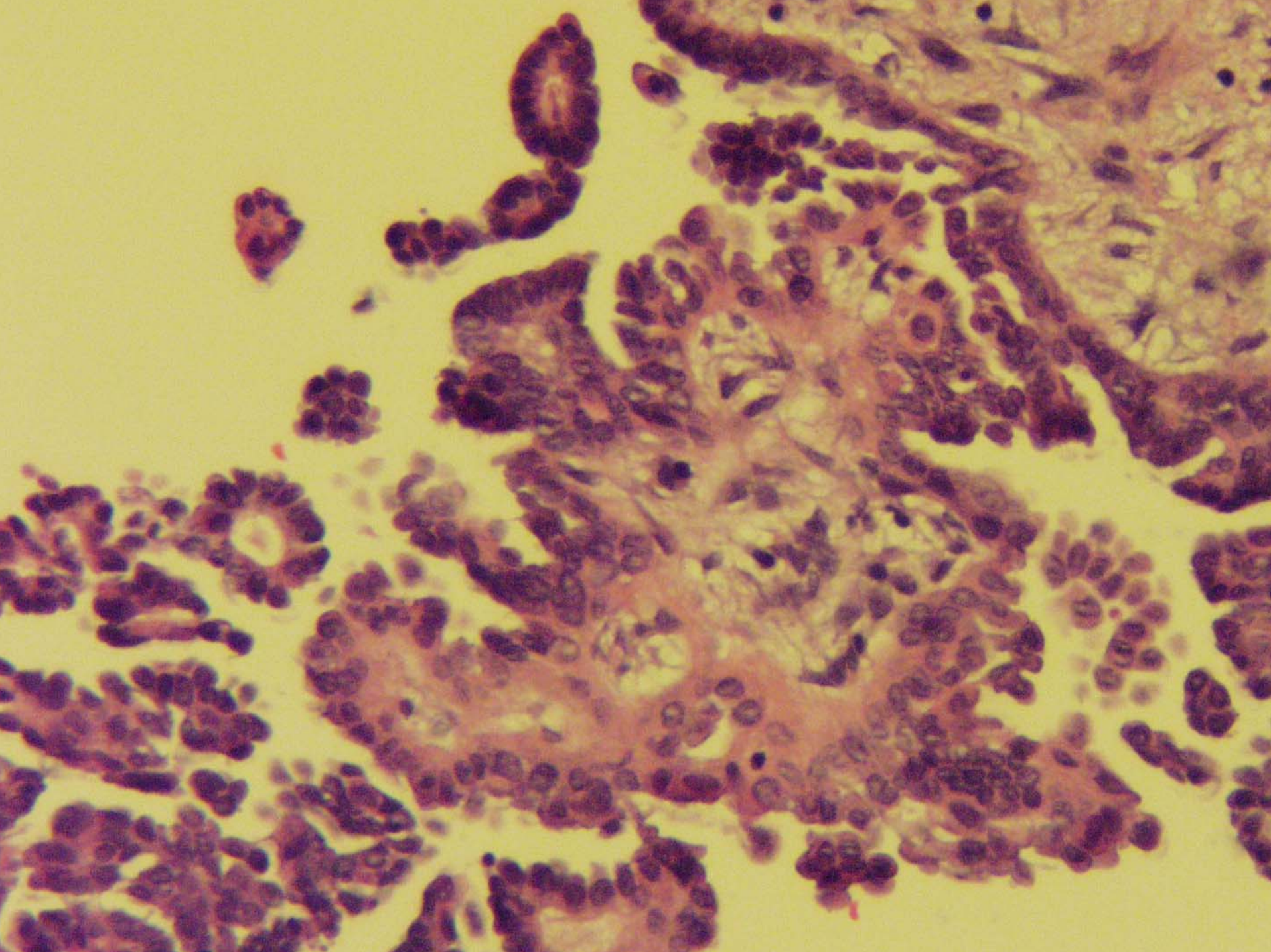
# Case 15

- 51F, vague abdominal pain
- Pelvic mass with laparotomy
  - 205 gram, 10.5 cm unilocular cystic mass replacing right ovary
  - Left ovary, abdominal and pelvic surfaces WNL









# Serous Borderline Cystadenofibroma

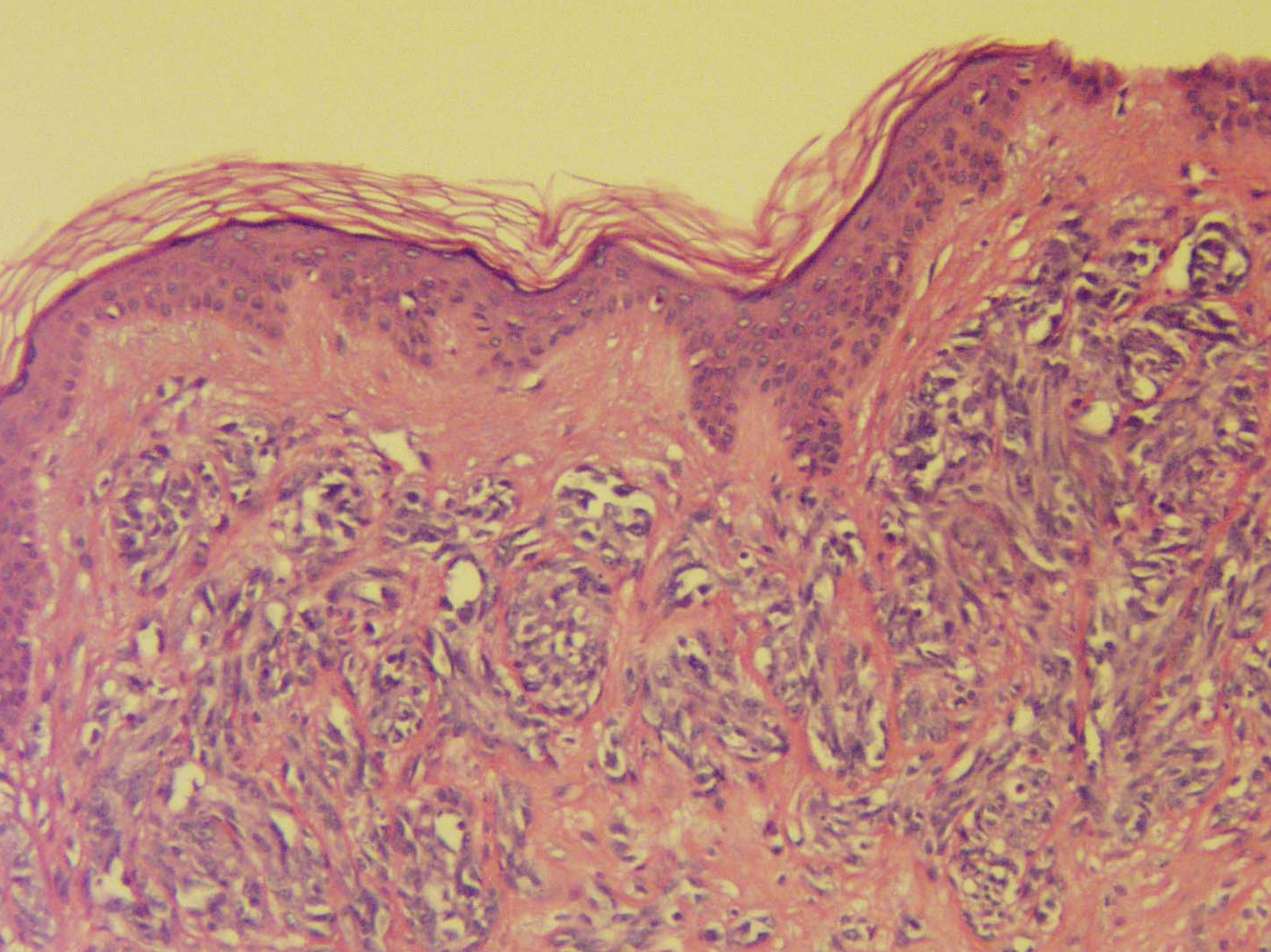
- Extensive epithelial stratification
  - Some suggest at least 10% of tumor should show stratification and budding to be correctly diagnosed
- Usually < 5mm of confluent micropapillary or cribriform growth
- Detachment of epithelial cell clusters
- Epithelial cell atypia
- MF usually <4/10 hpf
- Microinvasion
  - Defined as focus of stromal invasion occupying <10mm2 with no single focus exceeding 3 mm in greatest dimension
  - Occurs in 2-10% of tumors
  - Commonly overlooked
- Epithelial peritoneal implants
  - Noninvasive implants seen in 1/3 of cases
  - Current thought that invasive implants may represent inadequate sampling of a micropapillary serous carcinoma or serous carcinoma

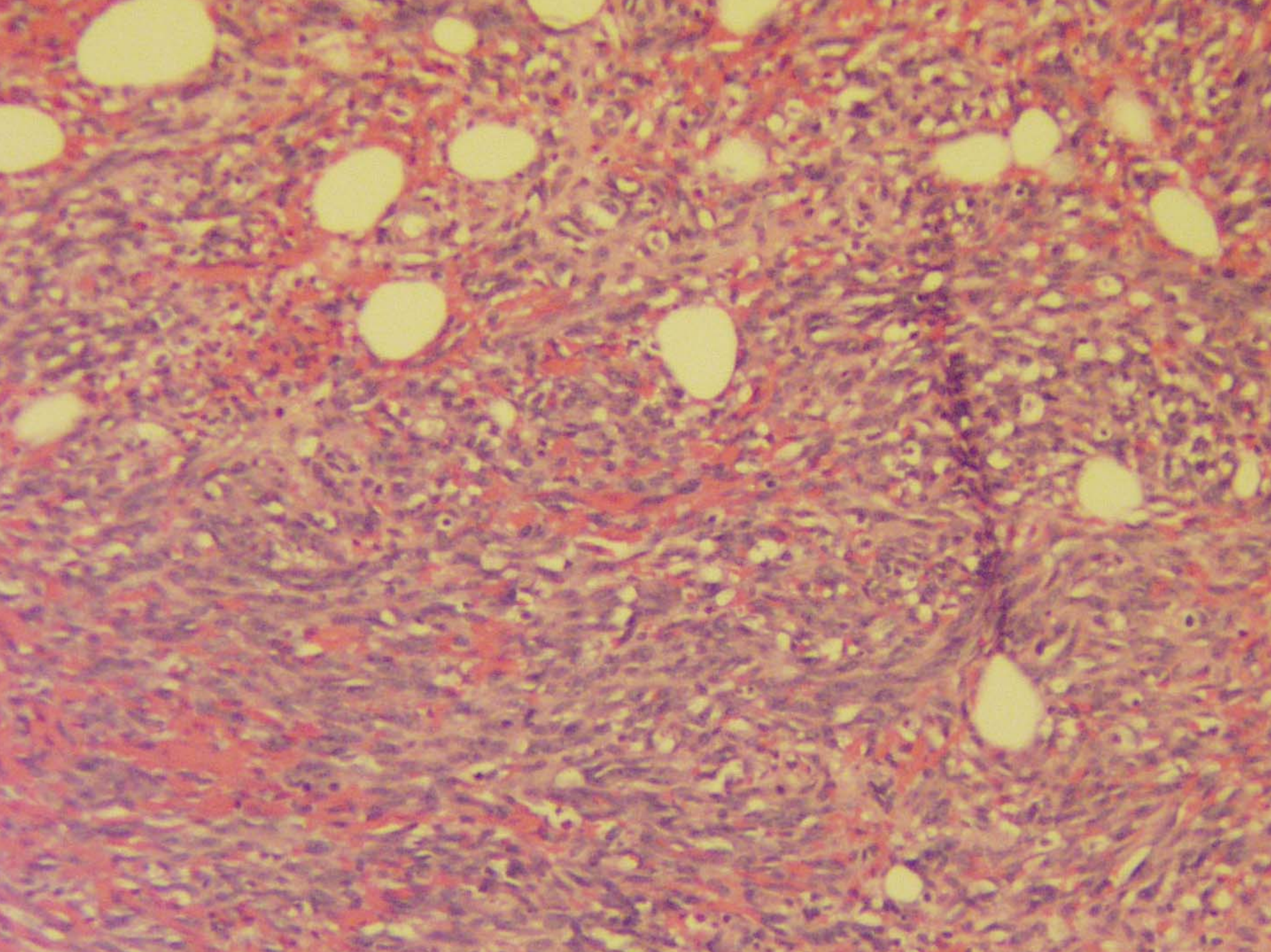
# Serous Borderline Cystadenofibroma

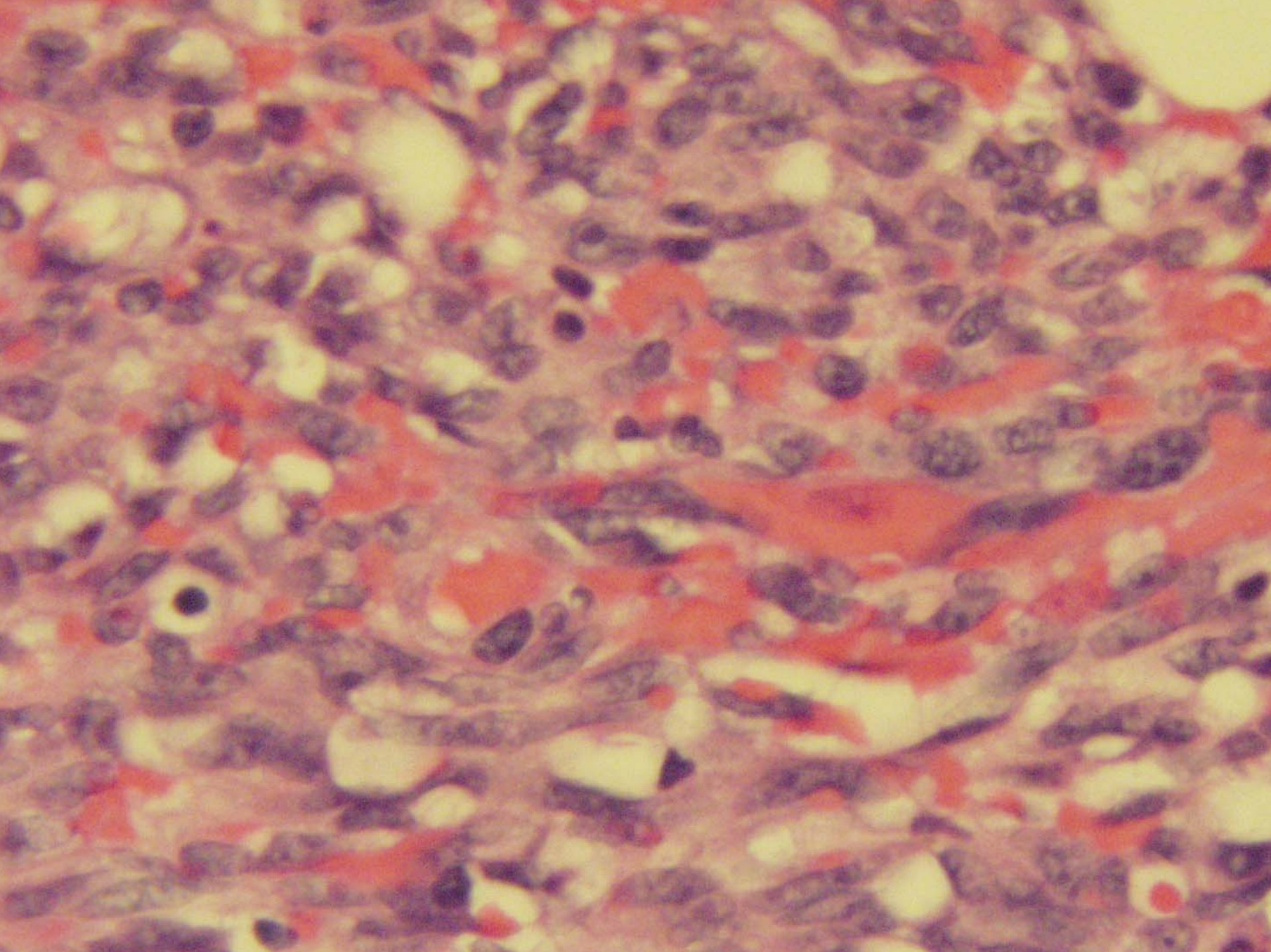
- IPOX
  - Most surface epithelial tumors are CK7+, EMA+ and ER/PR +
- DDX:
  - Serous cystadenoma-most common surface epithelial tumor
  - Micropapillary serous carcinoma
    - More cytologic atypia and higher degree of epithelial stratification
    - Small delicate papillae with a filigree pattern instead of hierarchihcal branching
    - Micropapillary and cribriform areas >5 mm.

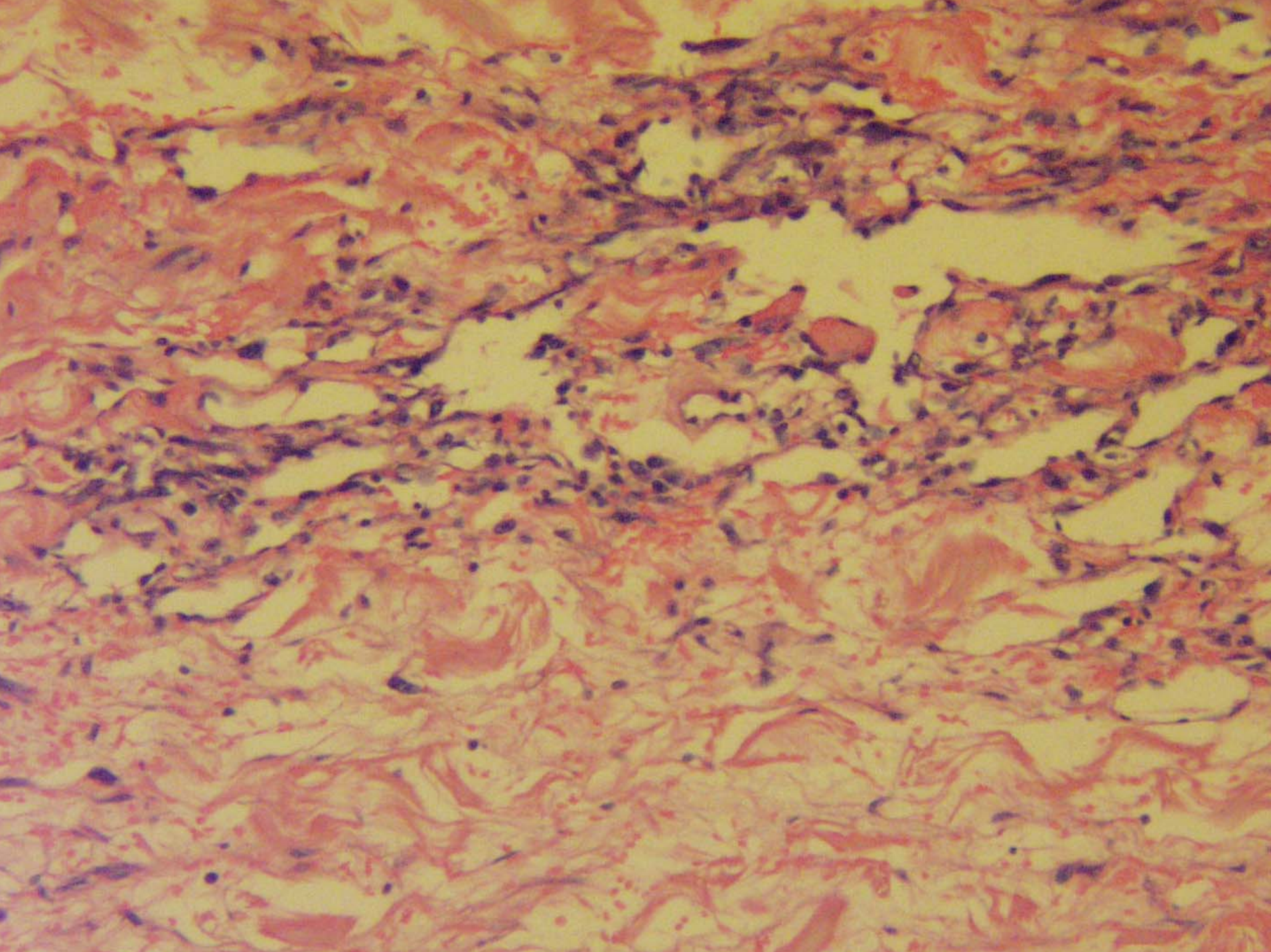
# Case 16

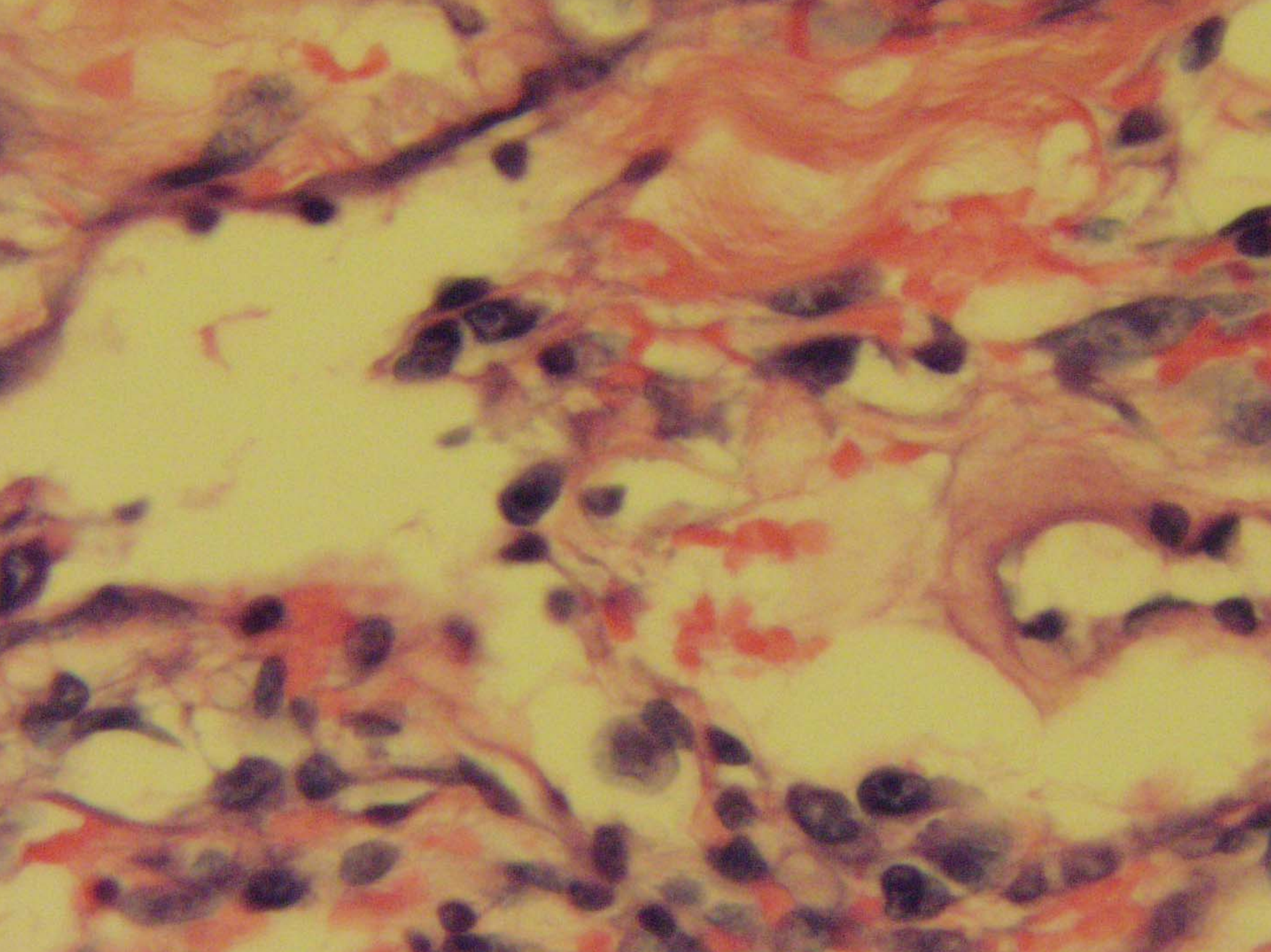
- 77F, multiple gray-purple areas over left breast
- Total mastectomy with multiple hemorrhagic lesions with most of skin surface







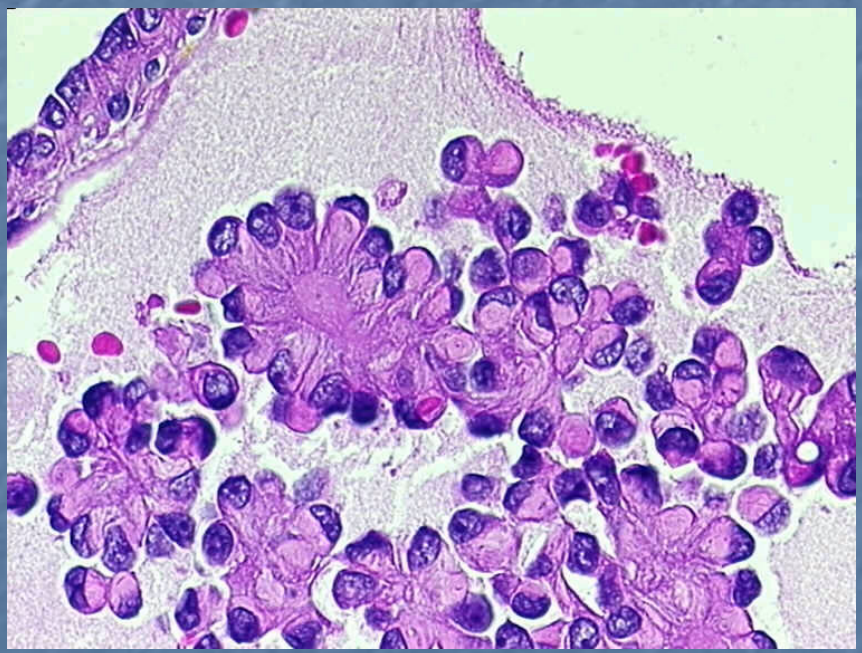




# Angiosarcoma

- Stewart-Treves syndrome
  - Associated with chronic lymphedema in post mastectomy patients
- Sites of defunctionalized AV fistulas in renal transplant patients
- Foreign materials
- Post-radiation

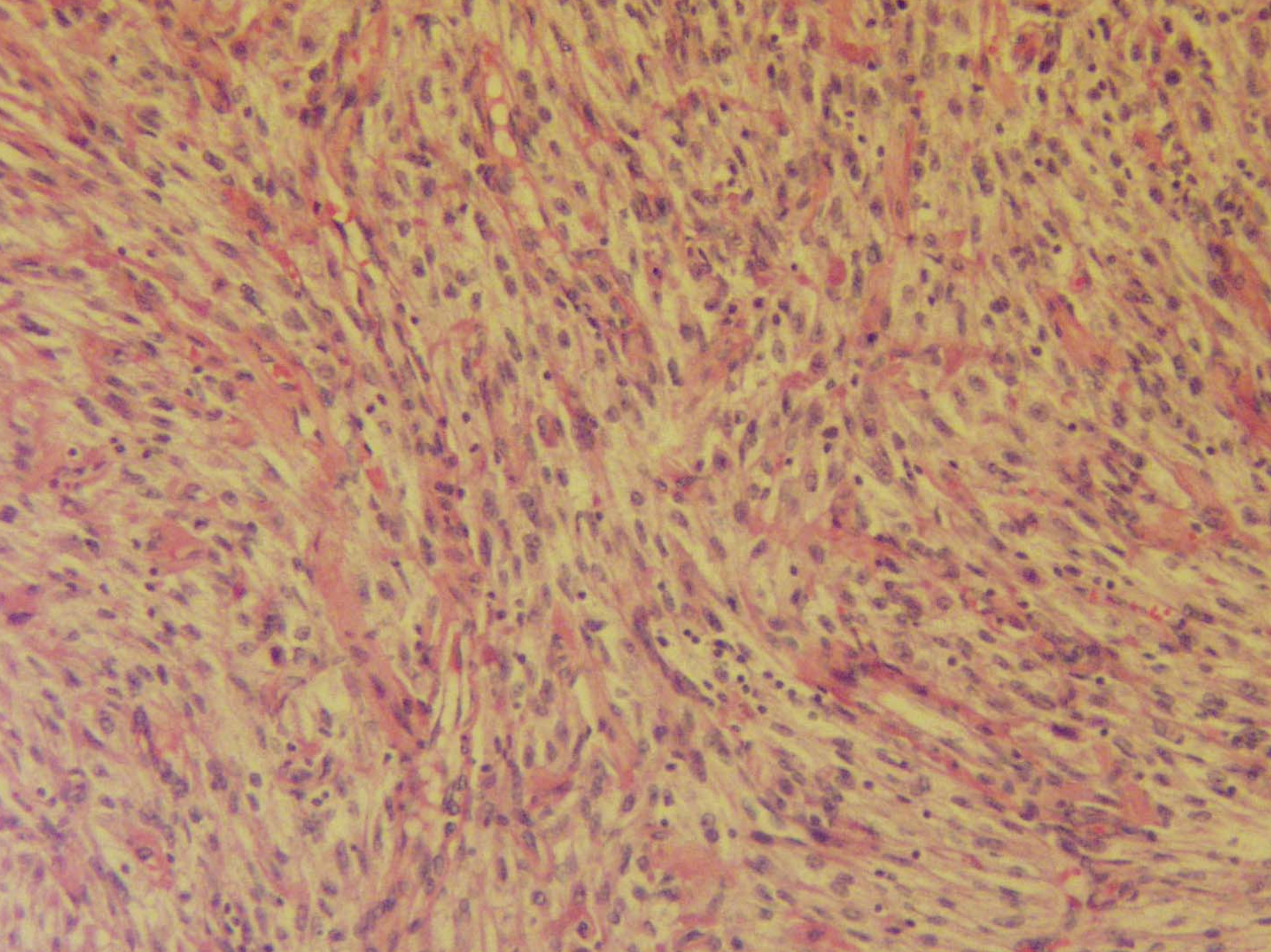
# Angiosarcoma DDX

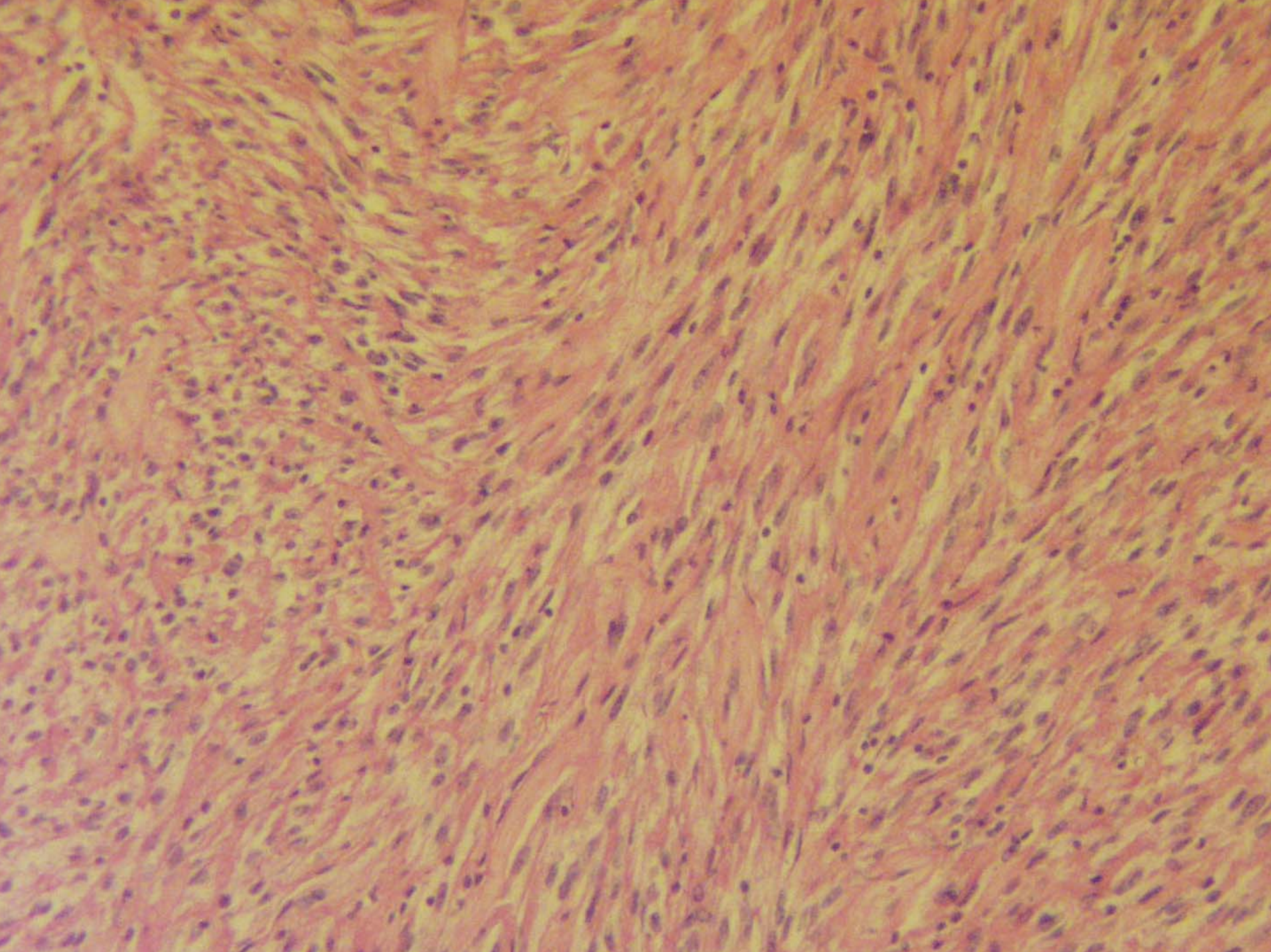


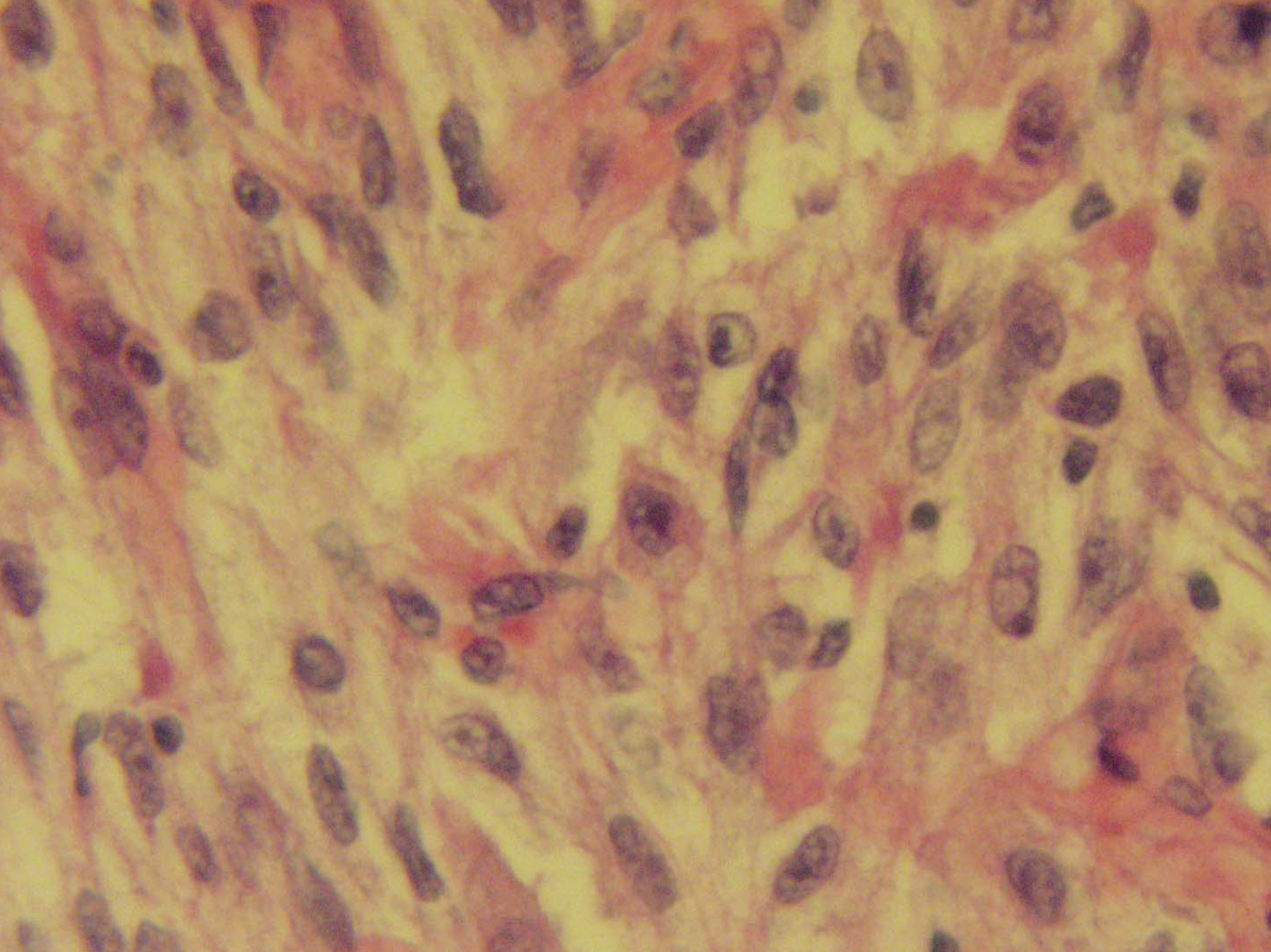
- Kaposi's sarcoma-HHV8+
- Dabska's tumor
  - Intermediate grade malignant cutaneous neoplasm presenting as diffuse swelling or intradermal tumor in children
- Spindle cell hemangioma
  - Distal extremities of children/young adults
  - Dilated thing walled cavernous spaces with solid cellular areas

# Case 17

- 18M, 6 cm mass from hepatic ligamentum teres
- 190 gm, 6 cm firm mass
- No hemorrhage or necrosis





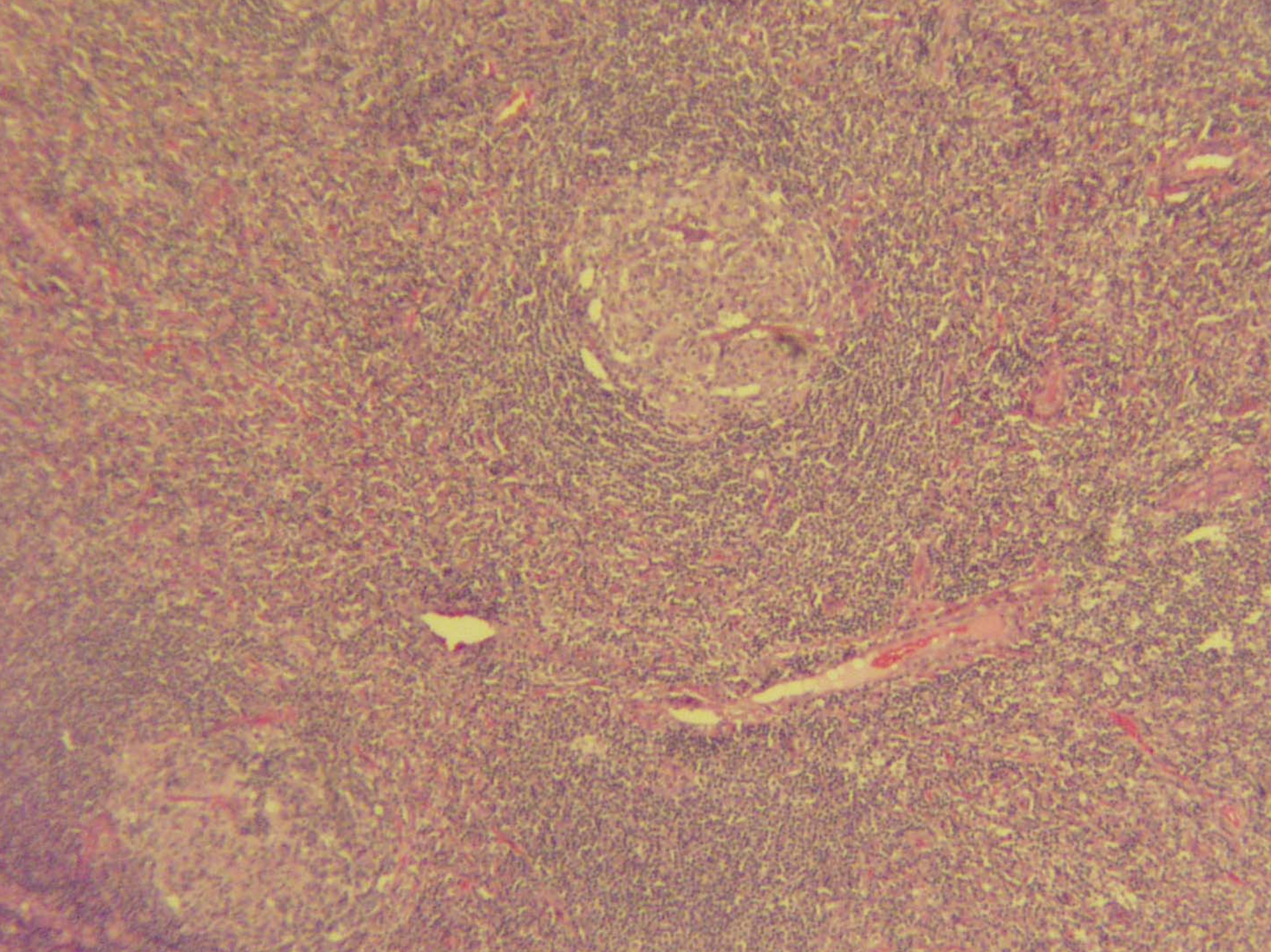


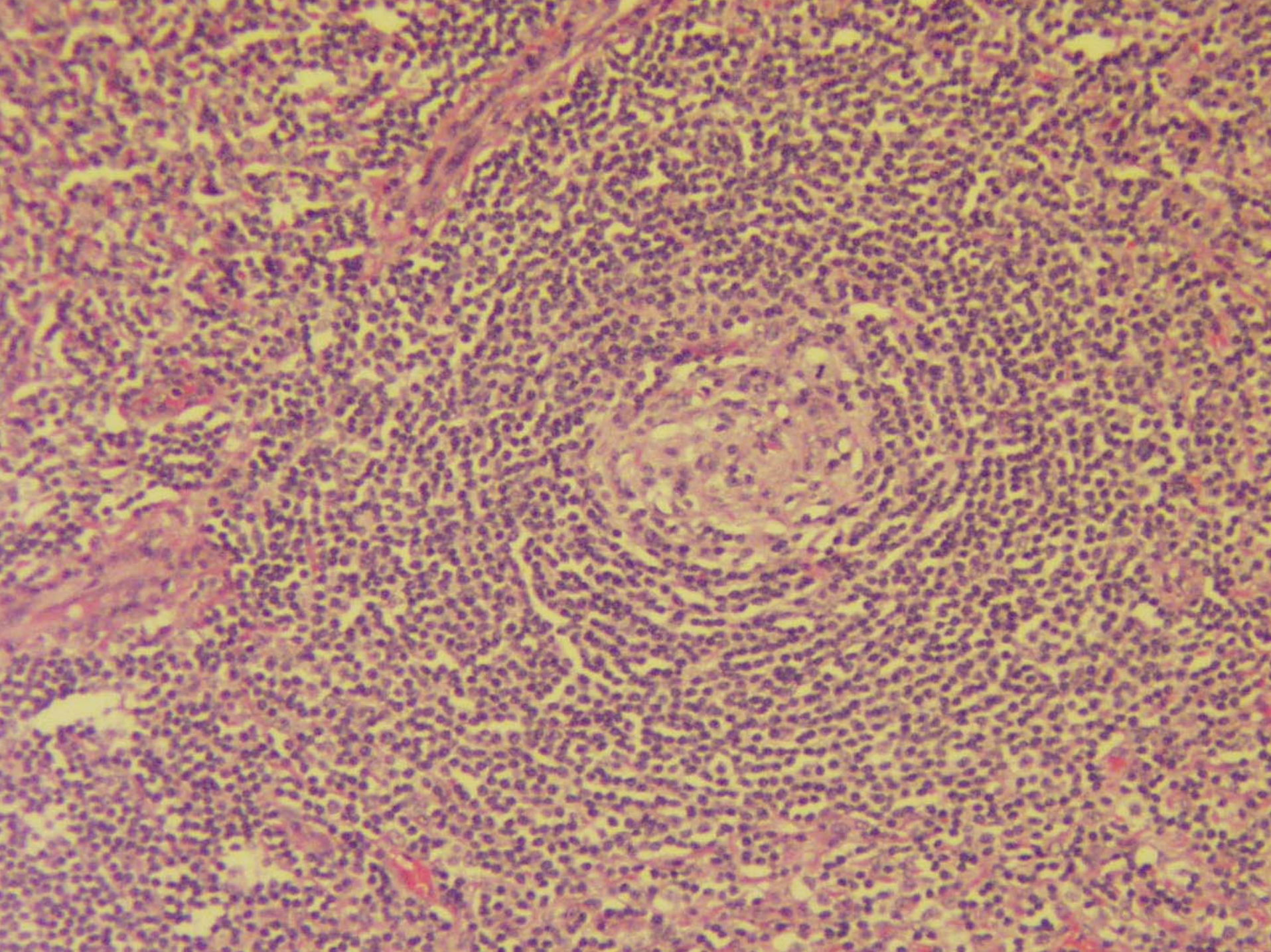
# Clear Cell Myomelanocytic Tumor of the Hepatic Falciform Ligament

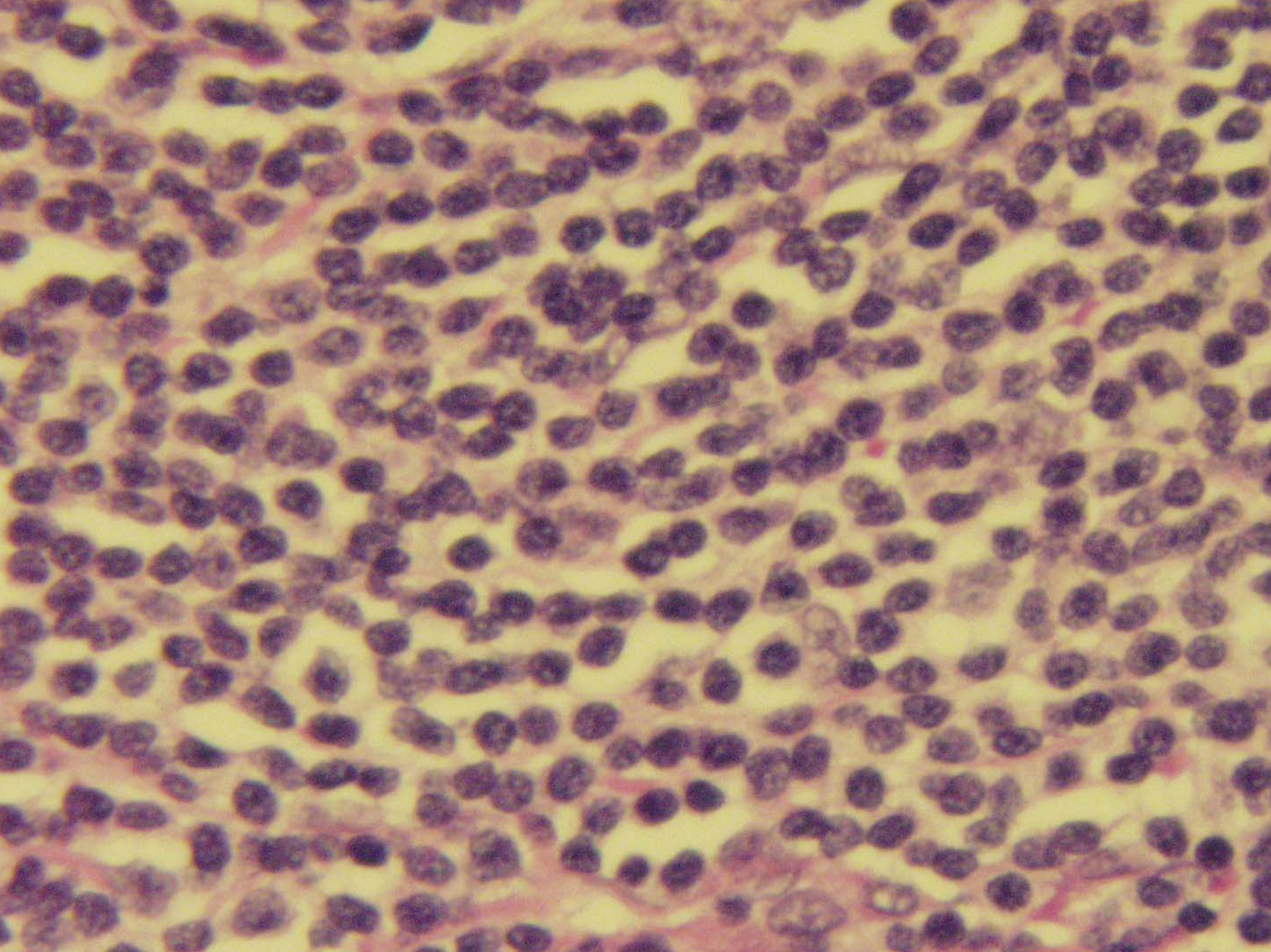
- PEComa (Perivascular epithelioid cell tumors)
  - Clear cell tumors with HMB-45 reactivity and premelanosomes
  - Co-expressed SMA and melanocytic markers
  - Most express tuberin but CCMMT lacks
- DDX:
  - Desmoplastic SRBCT-polyphenotypic but HMB45 negative
  - Clear cell sarcoma
    - Has epithelioid areas and S100 positive
  - GIST

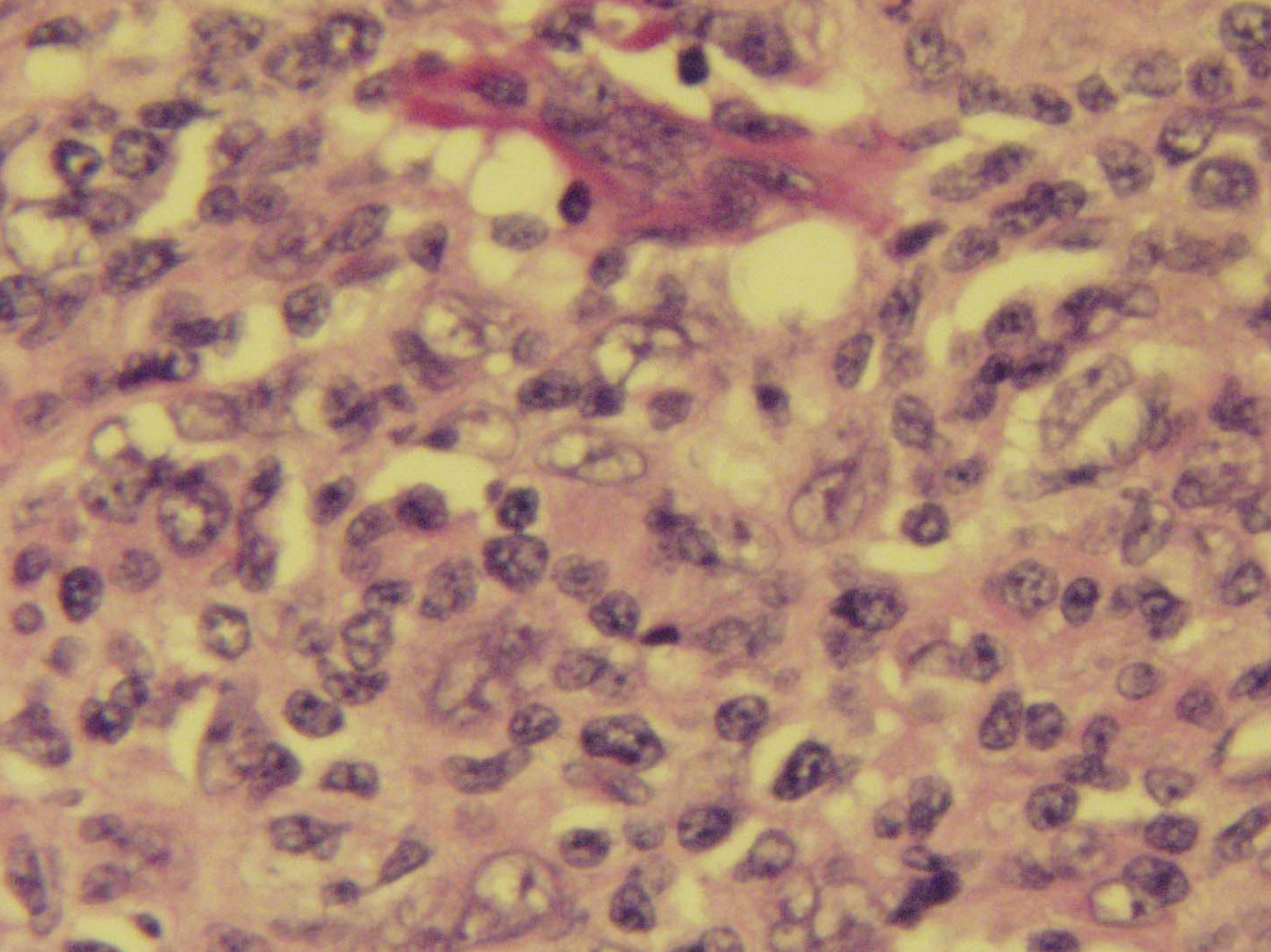
# Case 18

- 20F, asymptomatic with solitary anterior chest wall mass
- 8.5 cm circumscribed mass with red-tan cut surface









# Castleman Disease

- Prominent interfollicular proliferation of blood vessels and small lymphocytes
- Obliteration of lymph node sinuses, abnormal follicles with regressive germinal centers and onion-scaling lymphocytes

# Castleman Disease

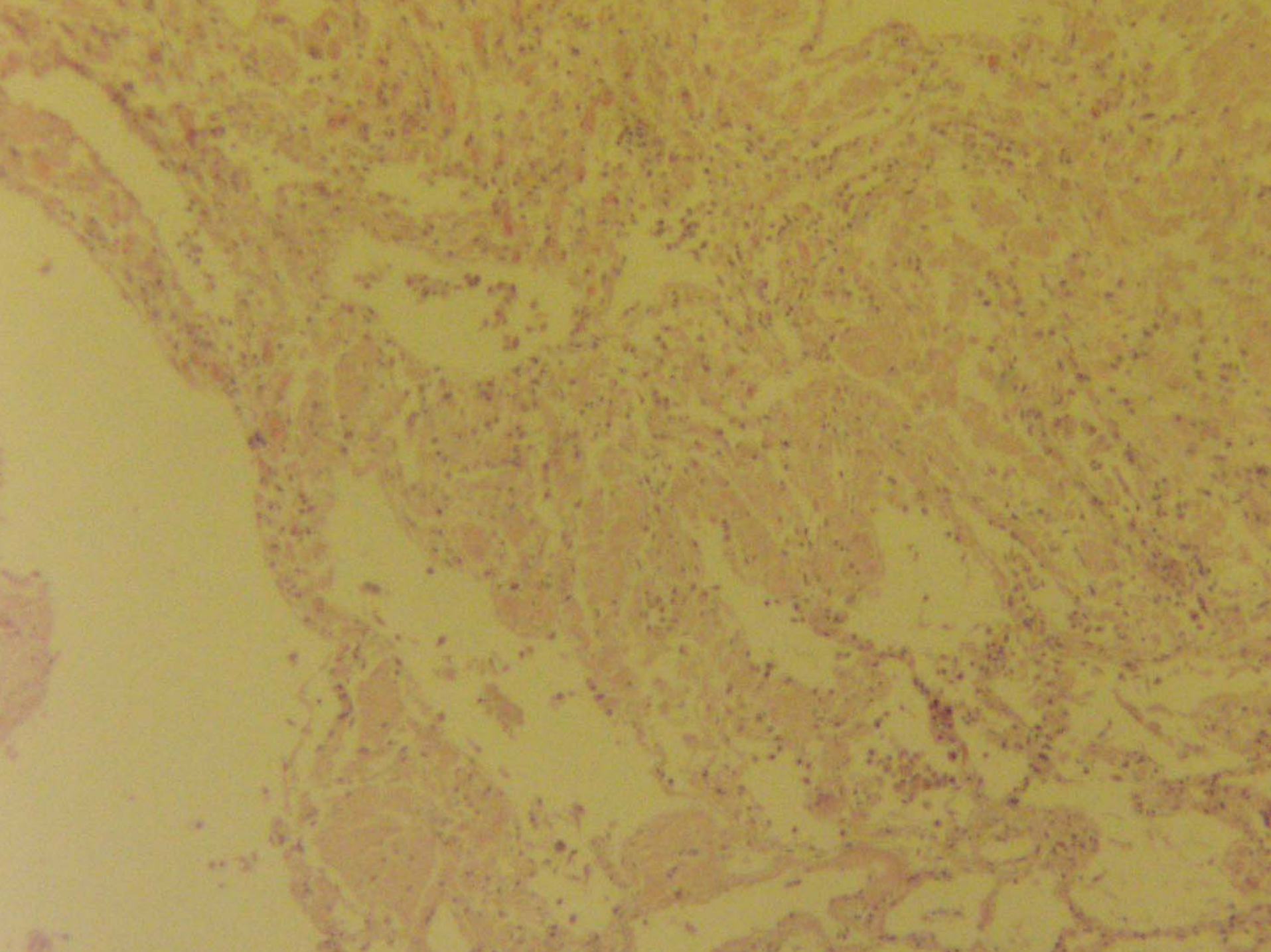
- Localized
  - Hyaline vascular
    - 80-90% of cases
    - Young adults, F>M
    - Mediastinum, cervical region, abdoment
    - Extranodal presentation common
  - Plasma cell variant
    - Systemic symptoms common
    - ESR elevated, anemia, polyclonal hyper IgG
    - Multiple and intrabdominal lymph nodes
- Systemic
  - Plasma cell variant
    - Thought to be due to IL-6 production
    - Grouped with atypical lymphoproliferative disorders

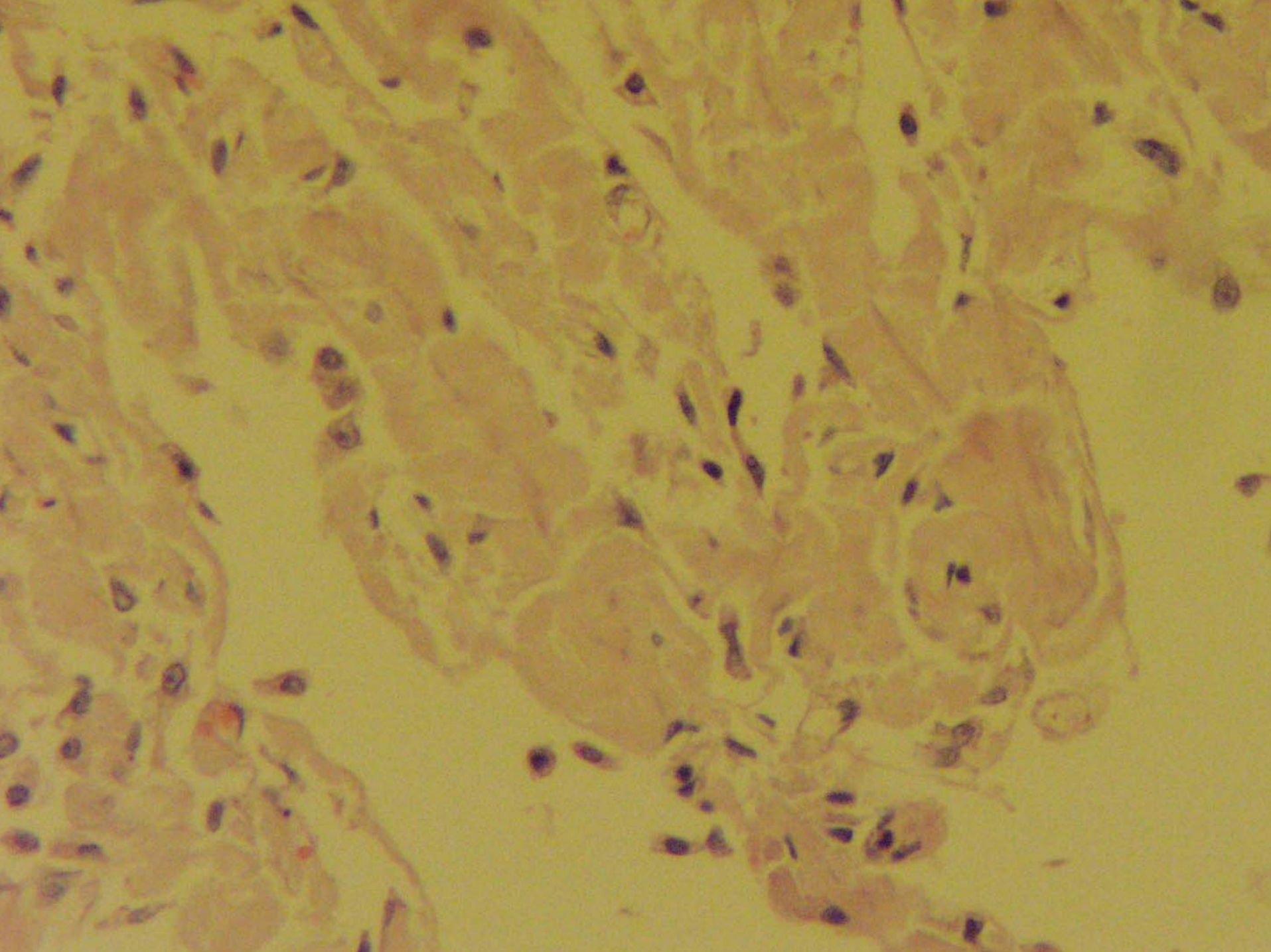
# Castleman Disease DDX

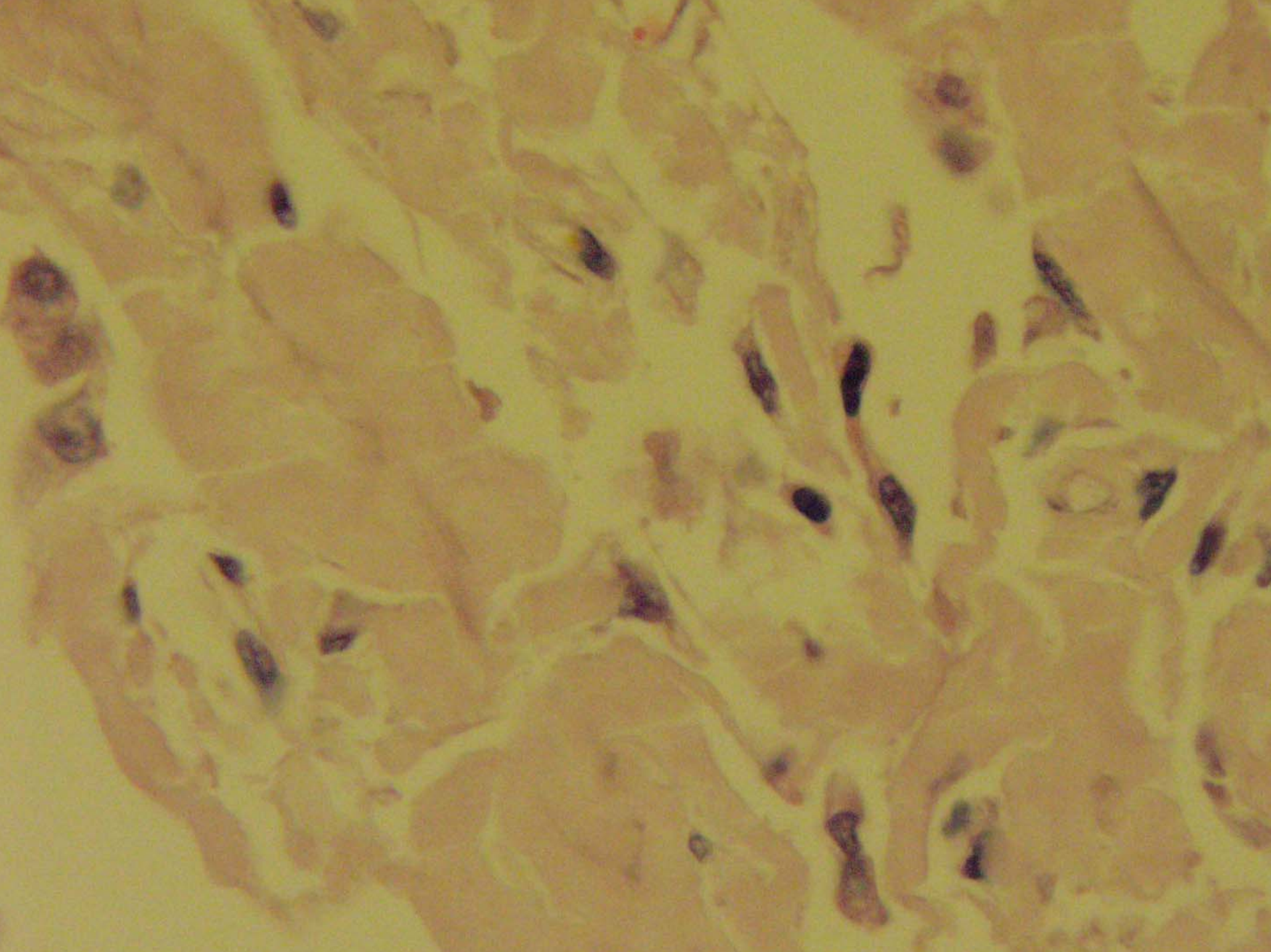
- Angioimmunoblastic T-cell lymphoma
  - Vascular proliferation and interfollicular or diffuse proliferation of intermediate size atypical T-lymphocytes with clear cytoplasm, increased MF
- Hodgkin lymphoma
- HIV associated lymphadenopathy
  - Sinuses are patent and distended
  - Polymorphous interfollicular proliferation
  - Diffuse lymphadenopathy
- Mantle cell lymphoma
  - Effacement of lymph node architecture
  - Cytologically atypical mantle cells

# Case 19

- 50M, malabsorption, anasarca, progressive dyspnea following heart transplant, s/p 1 year
- Death from respiratory failure
- Lungs at autopsy with scattered pinpoint nodules and firm







# Pulmonary Amyloidosis, Diffuse Parenchymal Type

- Usually associated with systemic amyloidosis or secondary to myeloma
- Usually does not cause severe respiratory impairment
- Most cases not familial and not associated with hemodialysis
- Histologic appearance indistinguishable from pulmonary involvement by systemic light chain disease

# Pulmonary Amyloidosis, Diffuse Parenchymal Type

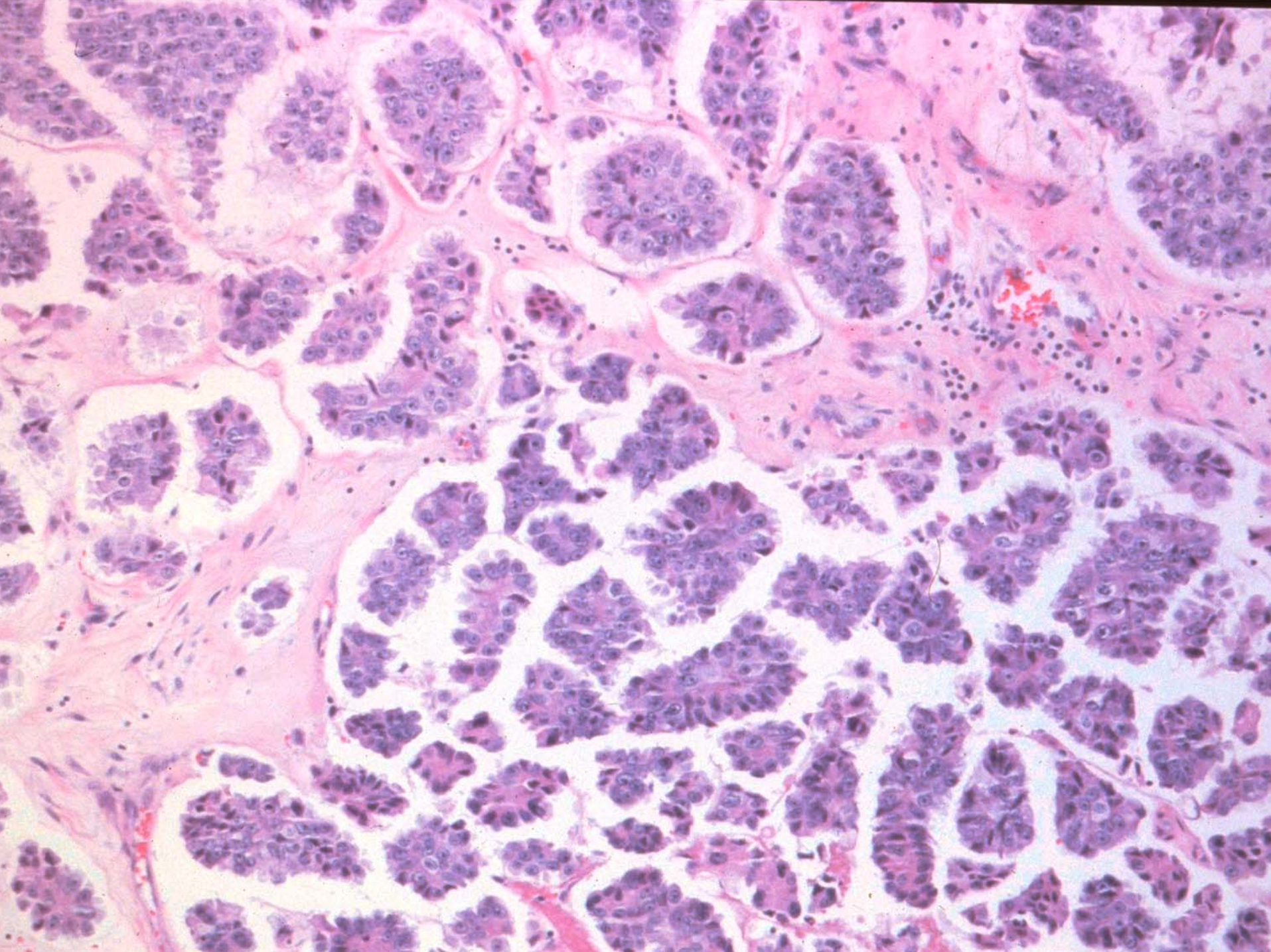
- Tracheobronchial
  - Rare, single or multiple
  - Mimic CA clinically
- Nodular (Amyloid tumor)
  - Single or multiple
  - May cavitate and present with hilar adenopathy
  - Calcification and ossification
  - Systemic amyloidosis usually not present

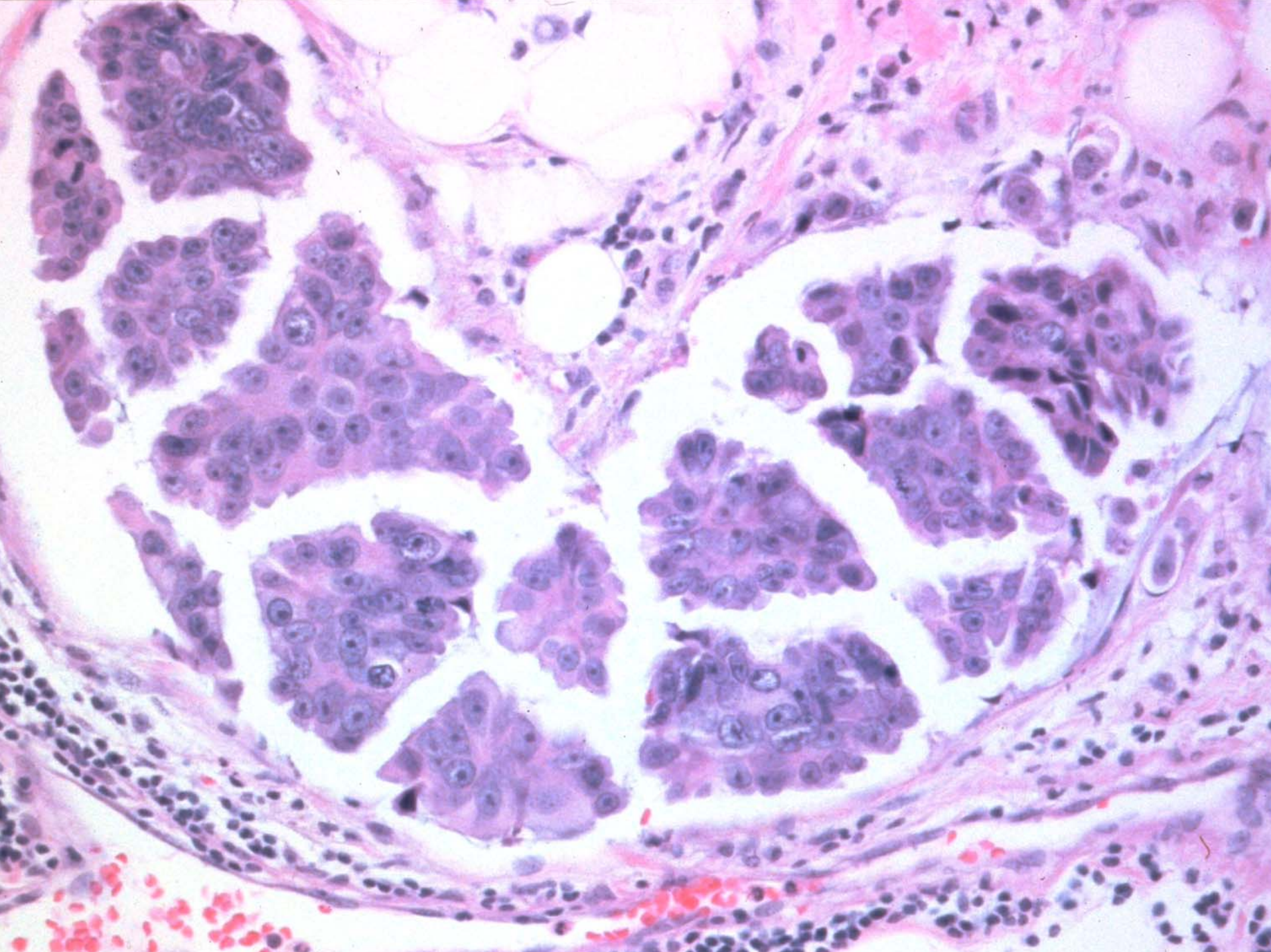
# Pulmonary Amyloidosis, Diffuse Parenchymal Type

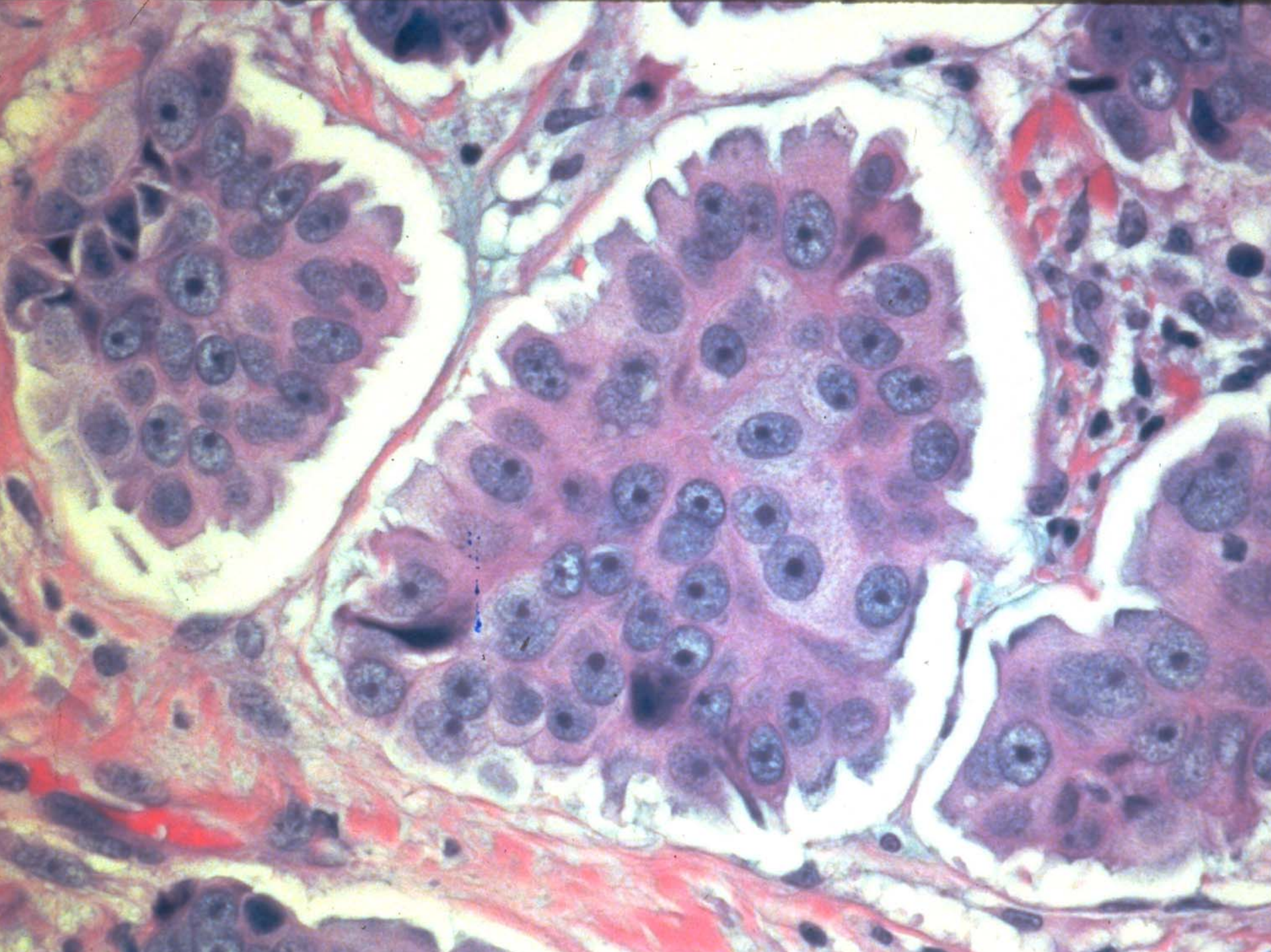
- DDX:
  - NSIP-diffuse pulmonary fibrosis without temporal heterogeneity or hyaline membrane formation
  - UIP-patchy interstitial fibrosis with temporal heterogeneity with fibroblastic foci
  - DAD-organizing hyaline membranes
  - PAP-no significant interstitial changes

# Case 20

- 44F, palpable mass in UOQ, left breast
- Lumpectomy with 4.5 cm hard stellate mass







# Invasive Micropapillary Carcinoma

- Frequently associated with lymph node mets (~100%)
  - May be in tumors <1.0 cm
- Distinctive histologic features:
  - Spaces surrounding micropapillary structures
  - Intermediate or high nuclear grade
  - Frequent tumor emboli
  - Numerous mitoses
  - No vascular papillary fronds
- IPOX
  - ER/PR+, Her2+

# Invasive Micropapillary Carcinoma

- Uniform 8p-
  - Only 13-33% of invasive ductal CA, NOS
- Poor outcome
  - High combined histologic grade
  - >2 cm.
  - High mitotic rate
  - Lack of estrogen receptors