Disclosures
July 11, 2016

Dr. Jeff Simko has disclosed that he receives travel reimbursements and that his institution (UCSF) receives cash and/or equity for his role as consultant, advisor and/or speaker for the following commercial interests: Genomic Health, Inc.; GenomeDX; 3D Biopsy, Inc. and 3 SCan, Inc. The planners have determined that these financial relationships are not relevant to the case being presented and does not present a conflict of interest.

The following planners and faculty had no financial relationships with commercial interests to disclose:

Presenters:

Greg Rumore, MD
Mahendra Ranchod, MD
Liz Treynor, MD
Vanessa Ma, MD
Richard Jordan, MD
Chieh-Yu Lin, MD, PhD
Megan Troxell, MD, PhD
Nabeen Nayak, MD
Nupoor Gajjar, MD
David Bingham, MD (Moderator)

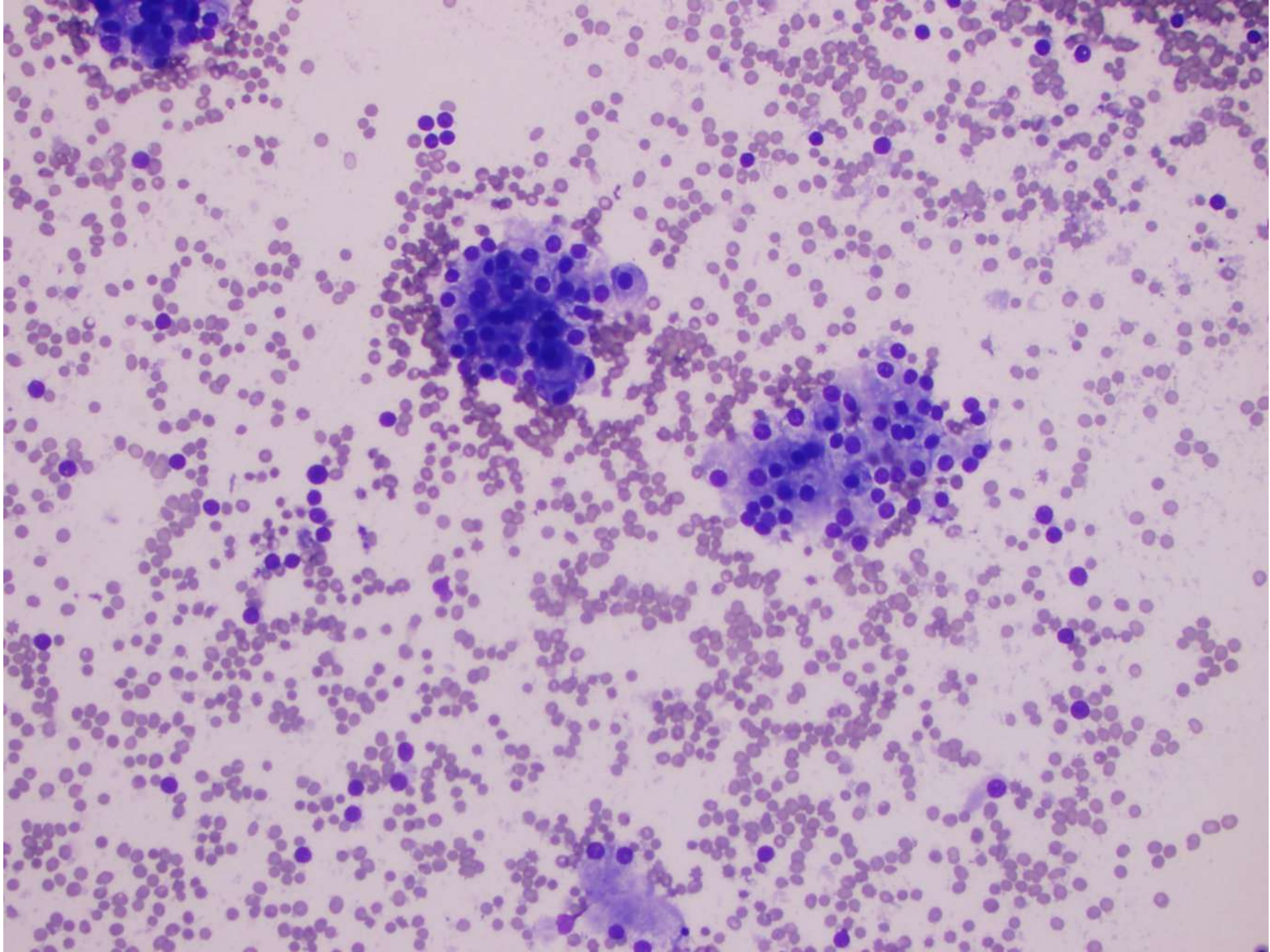
Activity Planners:

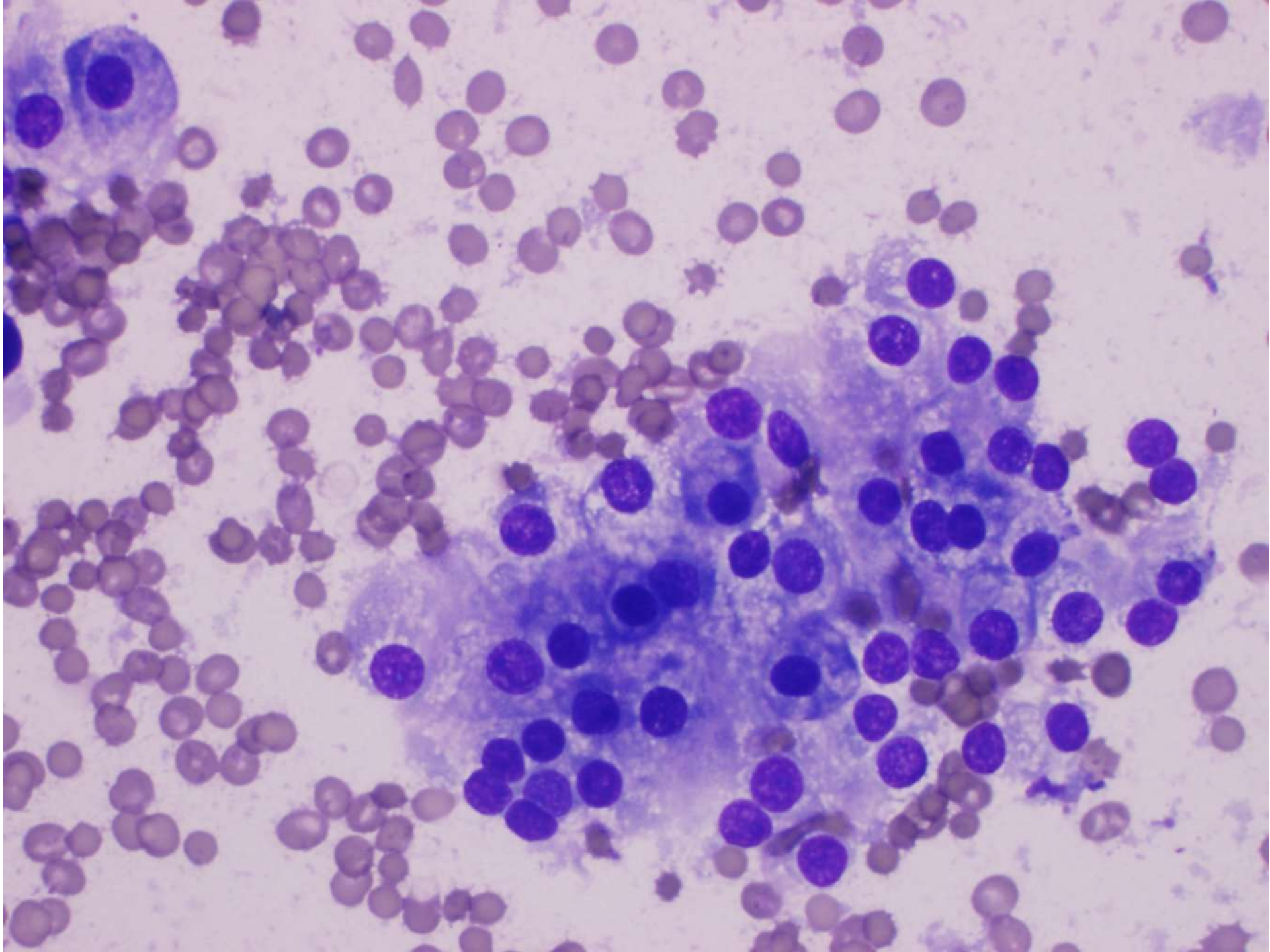
Kristin Jensen, MD
Ankur Sangoi, MD

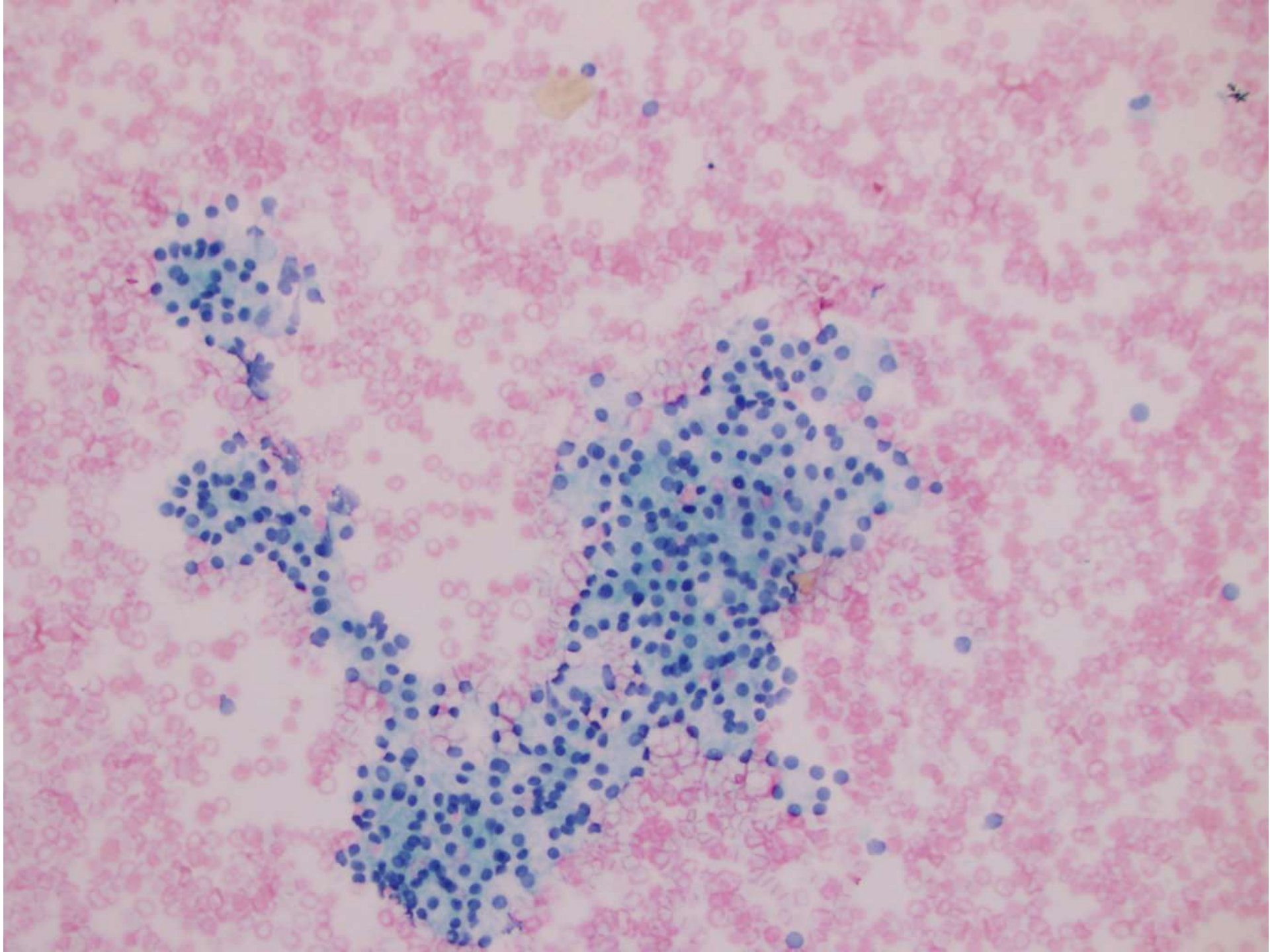
SB 6061

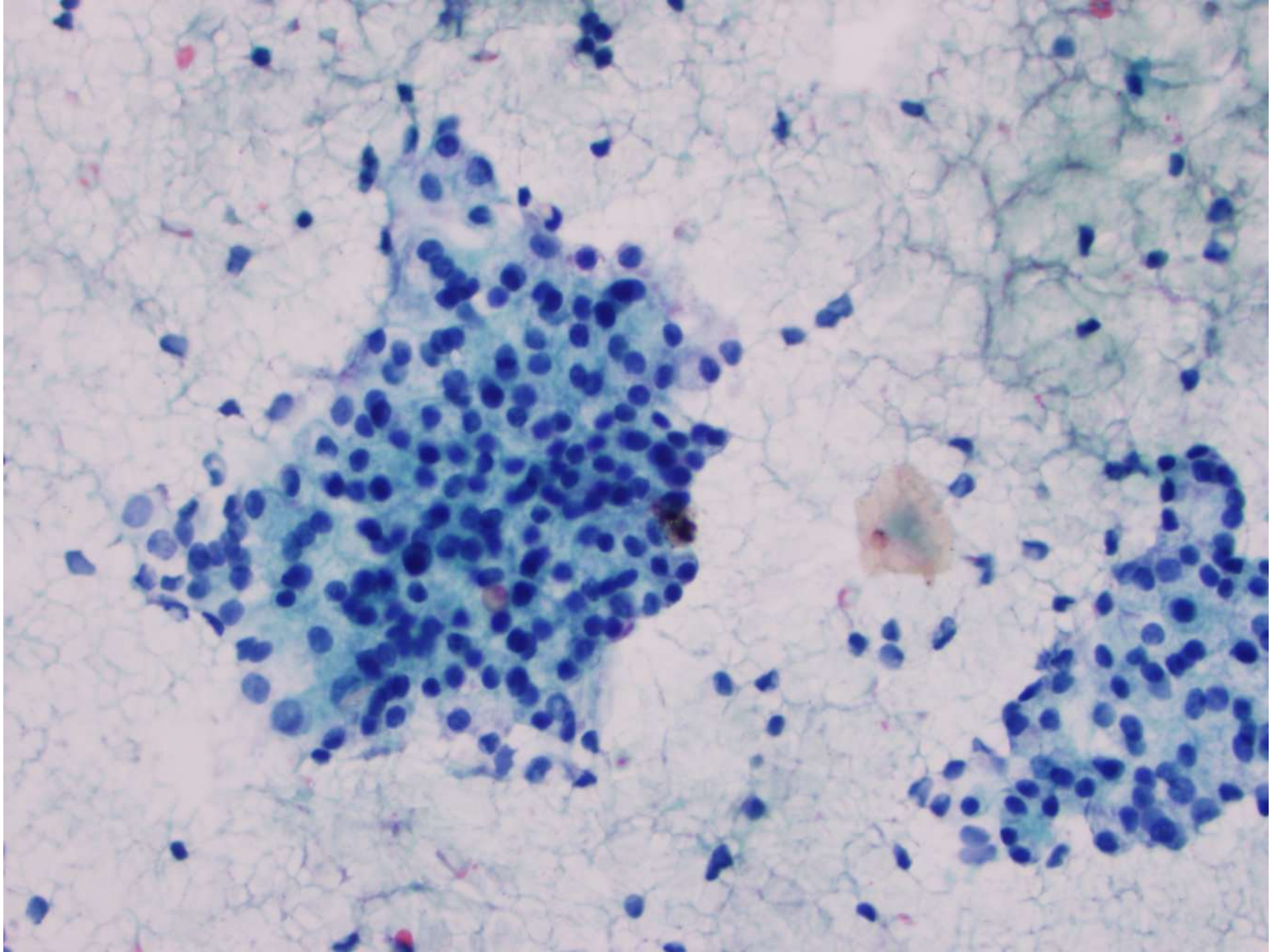
Greg Rumore; Kaiser Walnut Creek

48-year-old woman with history of Hashimoto's thyroiditis and papillary thyroid carcinoma, discovered left parotid mass 1 month ago. Asymptomatic.



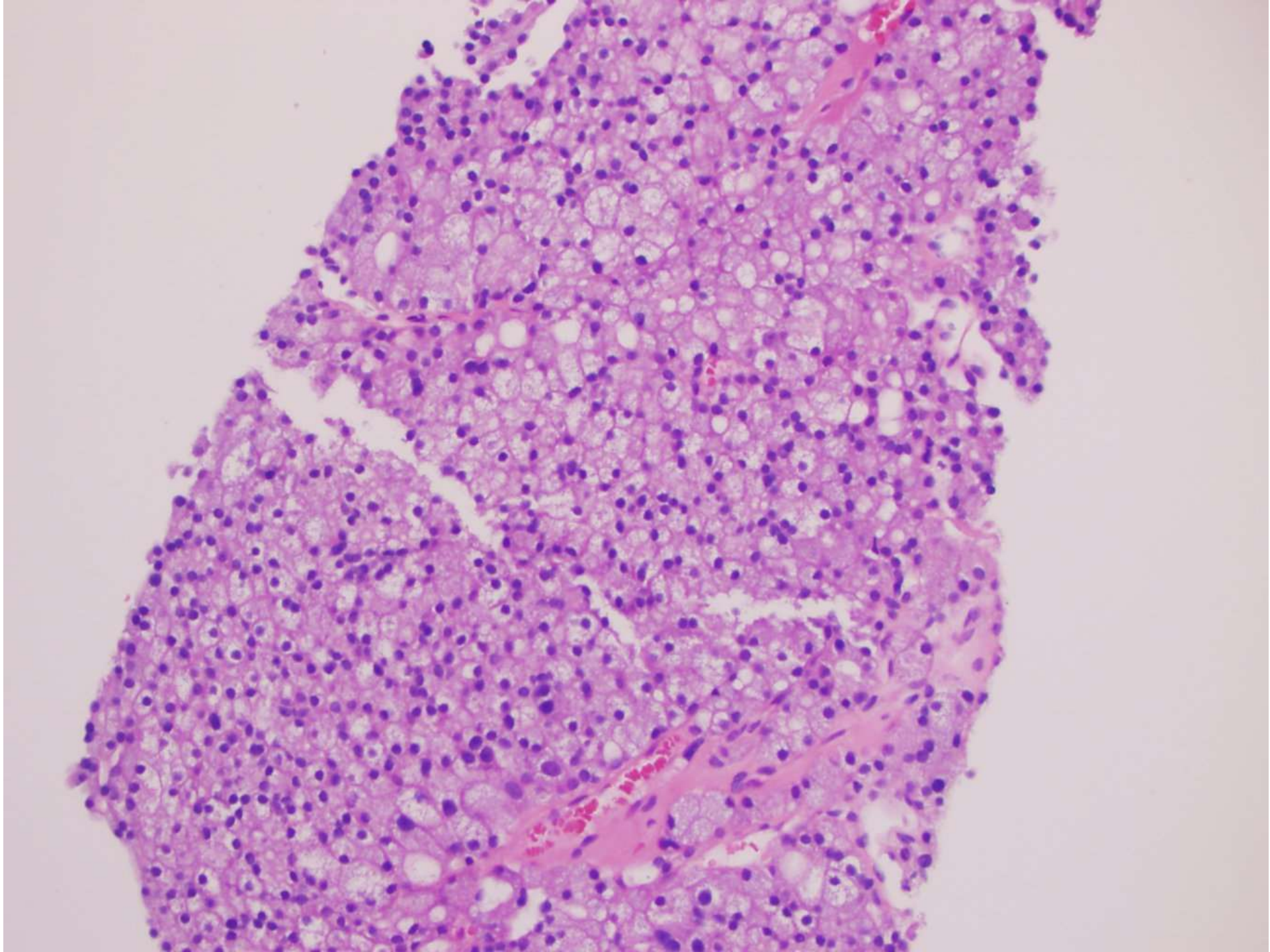


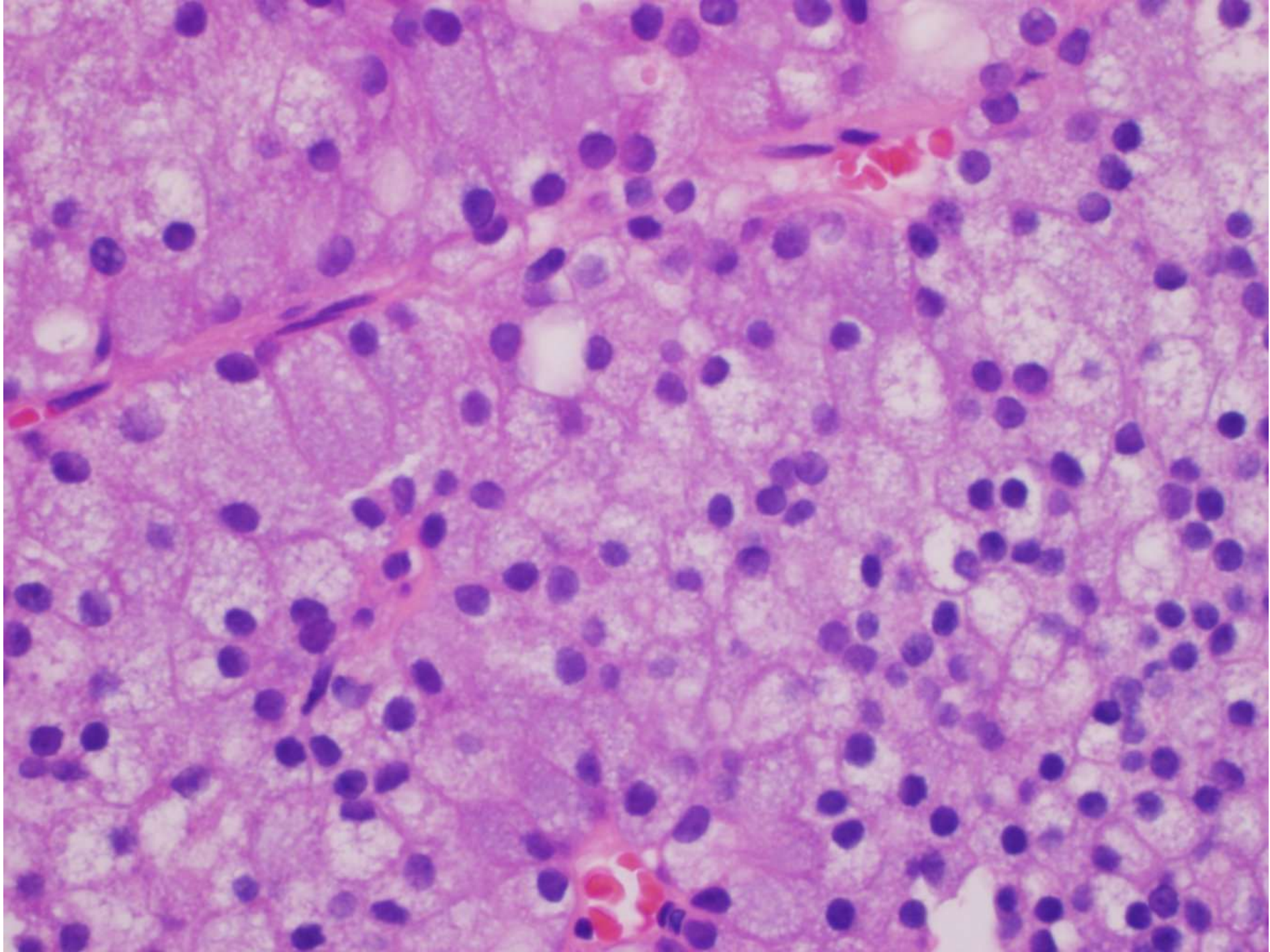


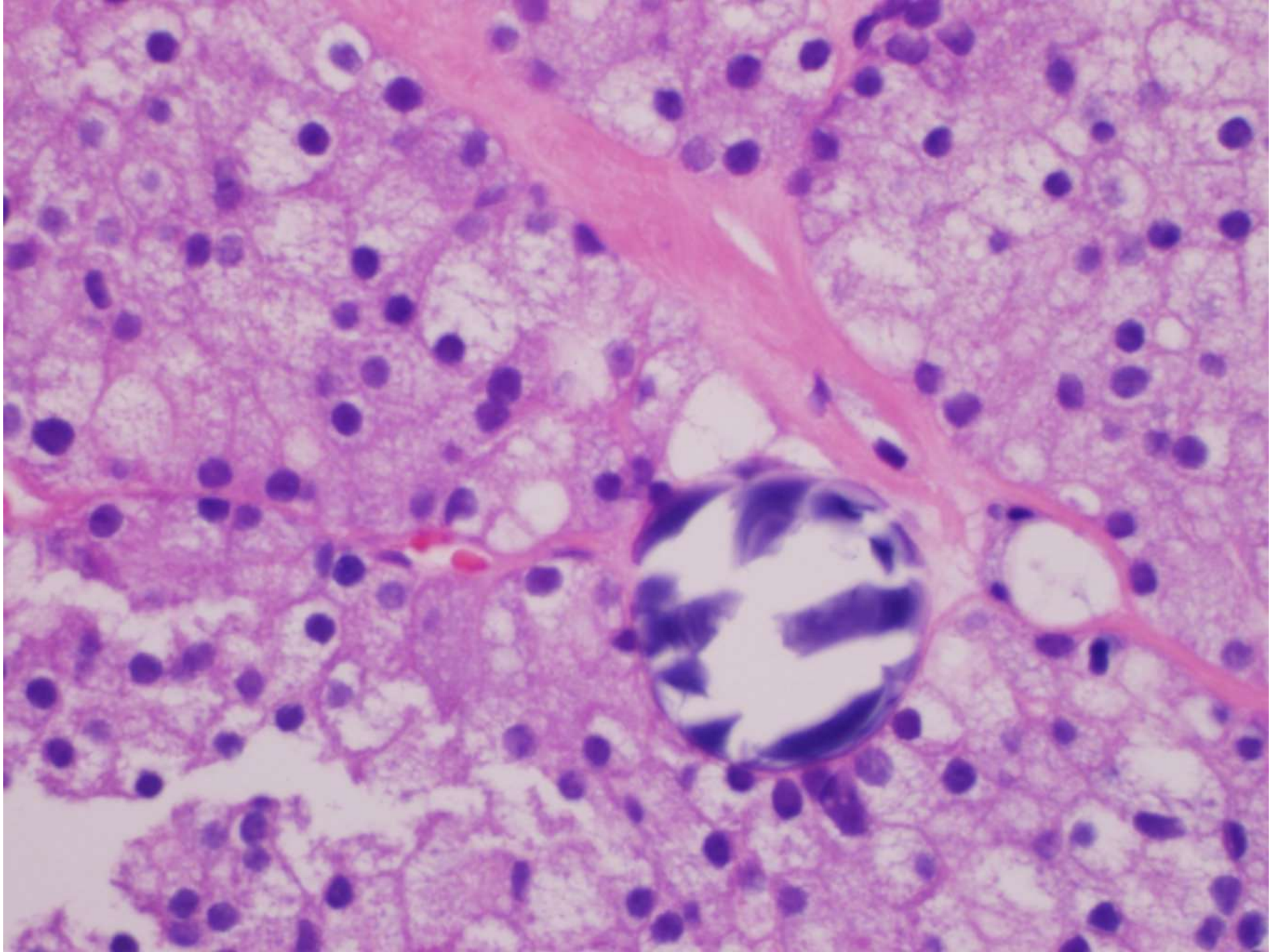


DIAGNOSIS?

Acinic Cell Adenocarcinoma







Acinic Cell Adenocarcinoma

- Malignant neoplasm demonstrating serous acinar differentiation
- 2nd most common salivary gland carcinoma (17%)
- Most frequent bilateral carcinoma
- 80% parotid, 17% minor, 4% submandibular, <1% sublingual
- Women slightly > men

Micro

- Solid, microcystic, papillary-cystic, and follicular patterns
- Large cells with granular, lightly basophilic cytoplasm
- Intercalated duct cells, vacuolated cells may also be seen

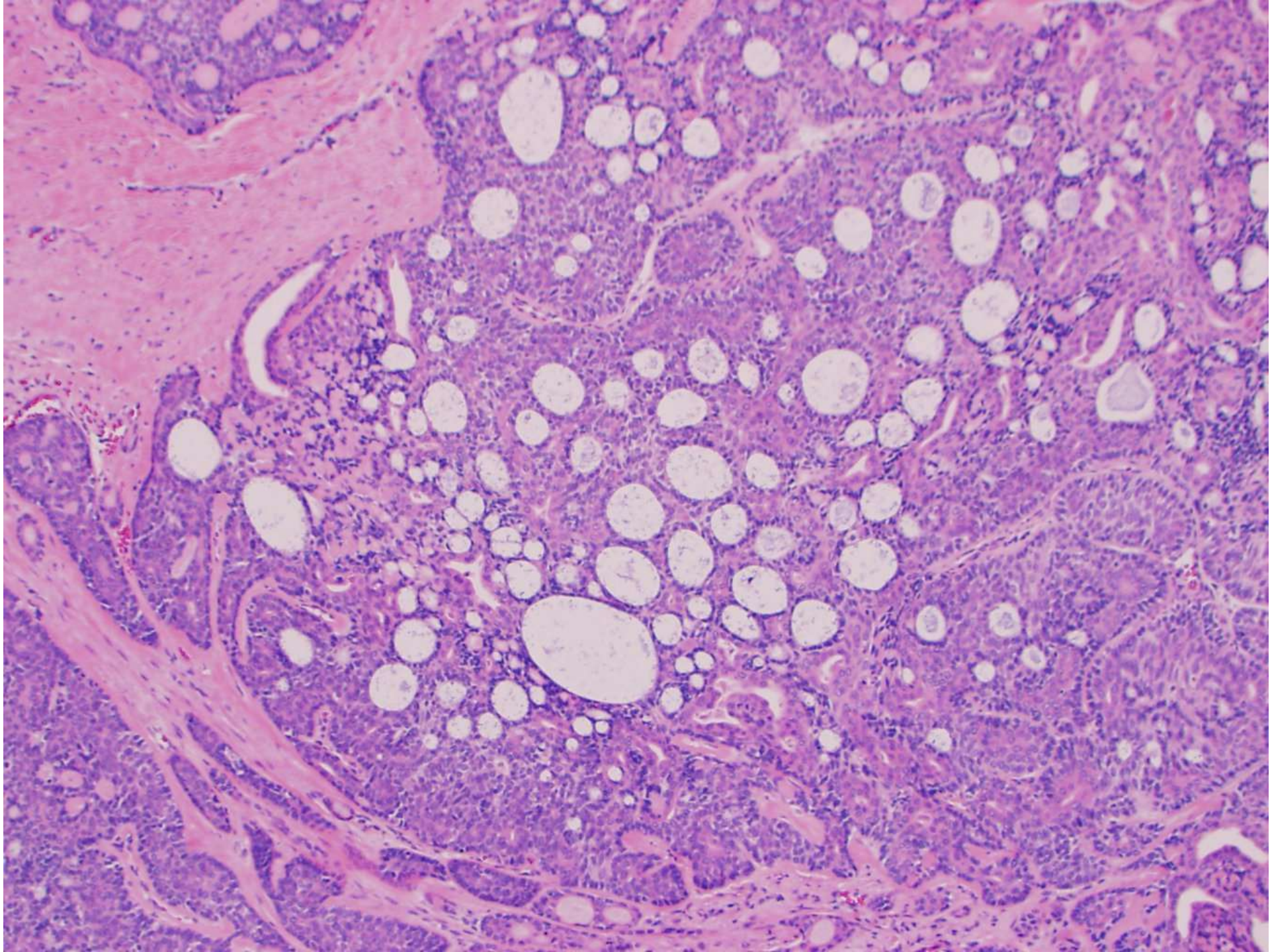
Cytology

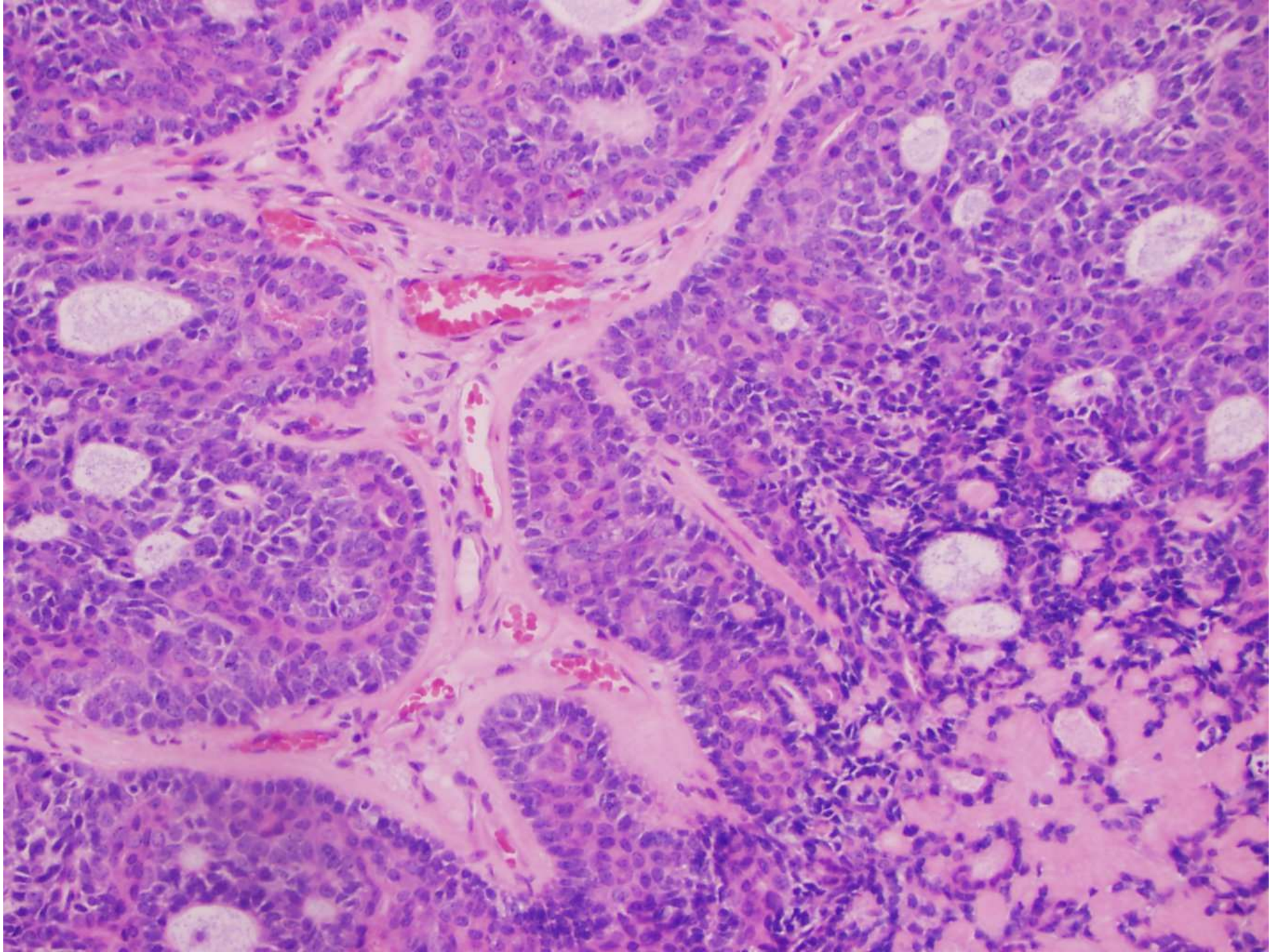
- Typically cellular smears-large cells with granular cytoplasm resembling normal acini
- Absence of ductal cells or fat
- Nuclei centrally located, usually bland
- Naked nuclei may be confused with lymphocytes

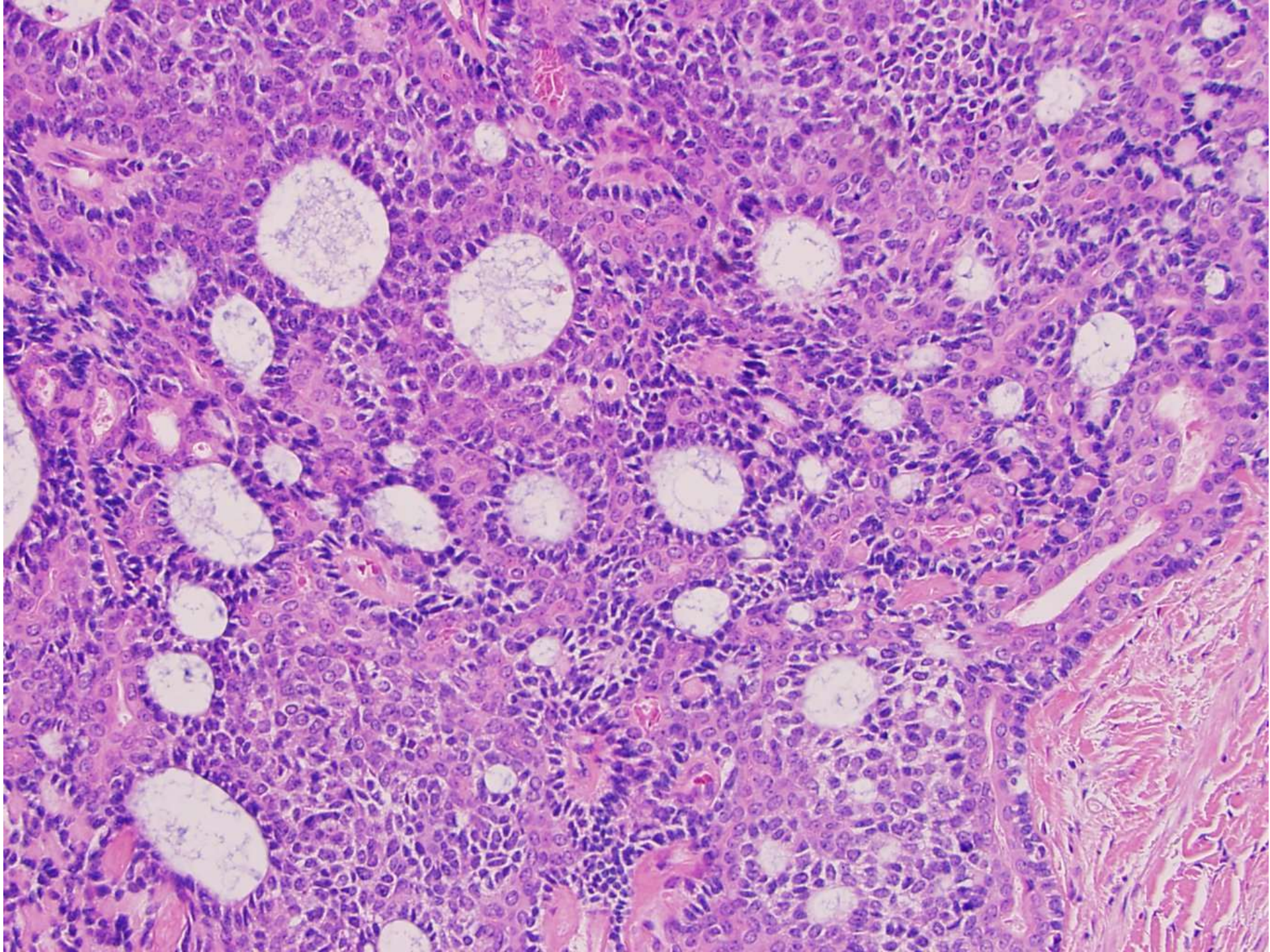
SB 6062

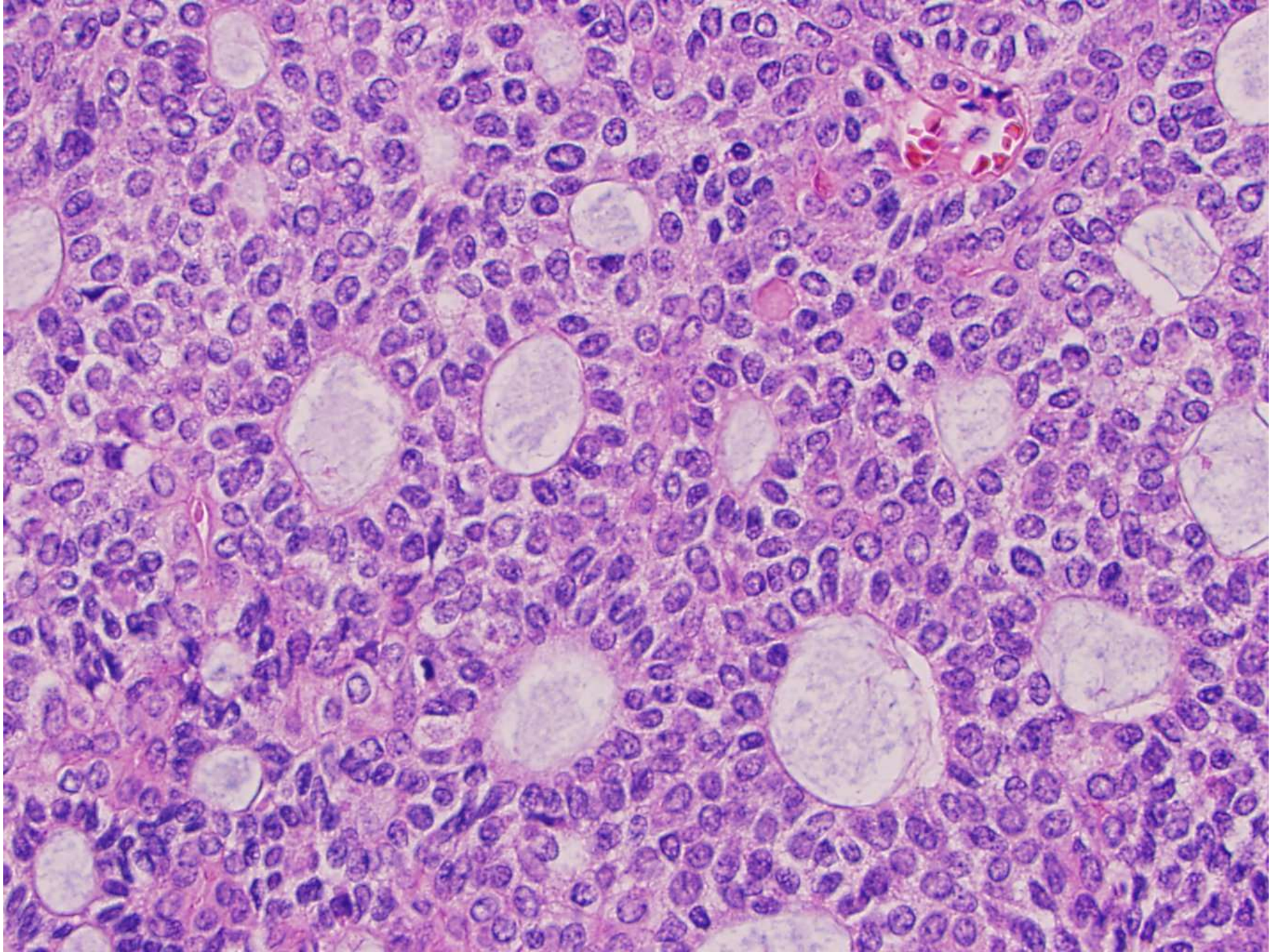
Greg Rumore; Kaiser Walnut Creek

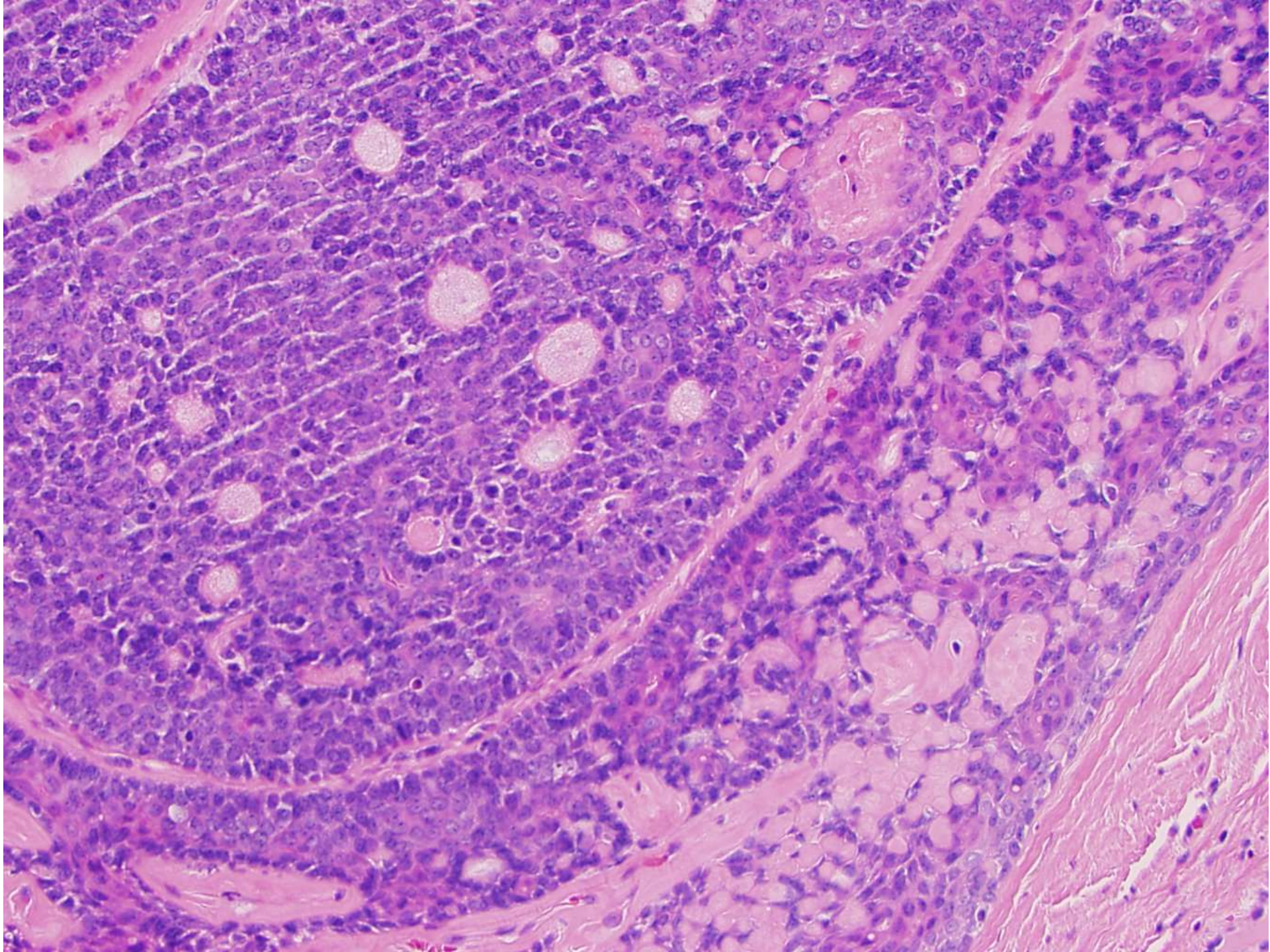
90-year-old female with slow growing left parotid mass for many years.

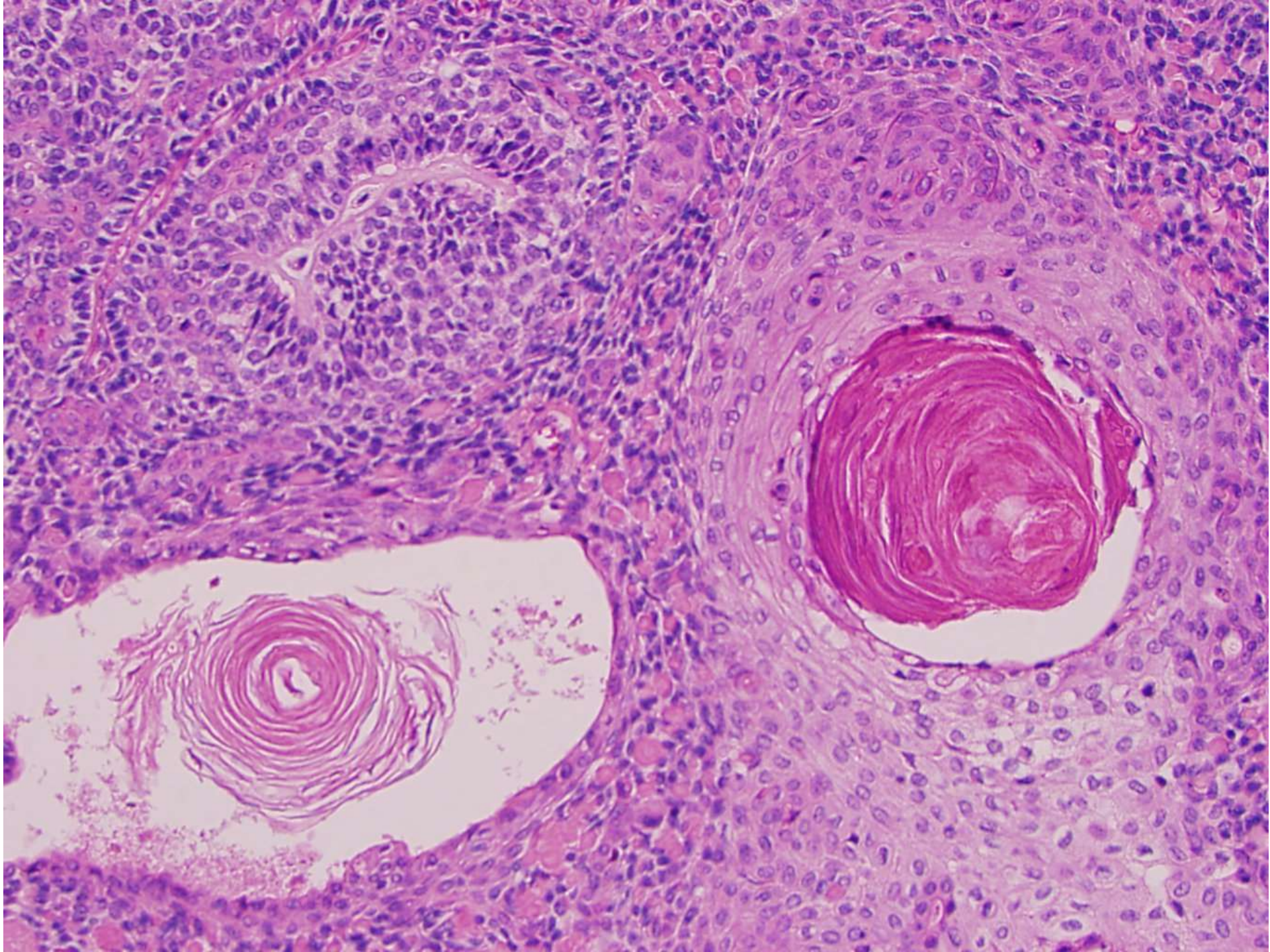


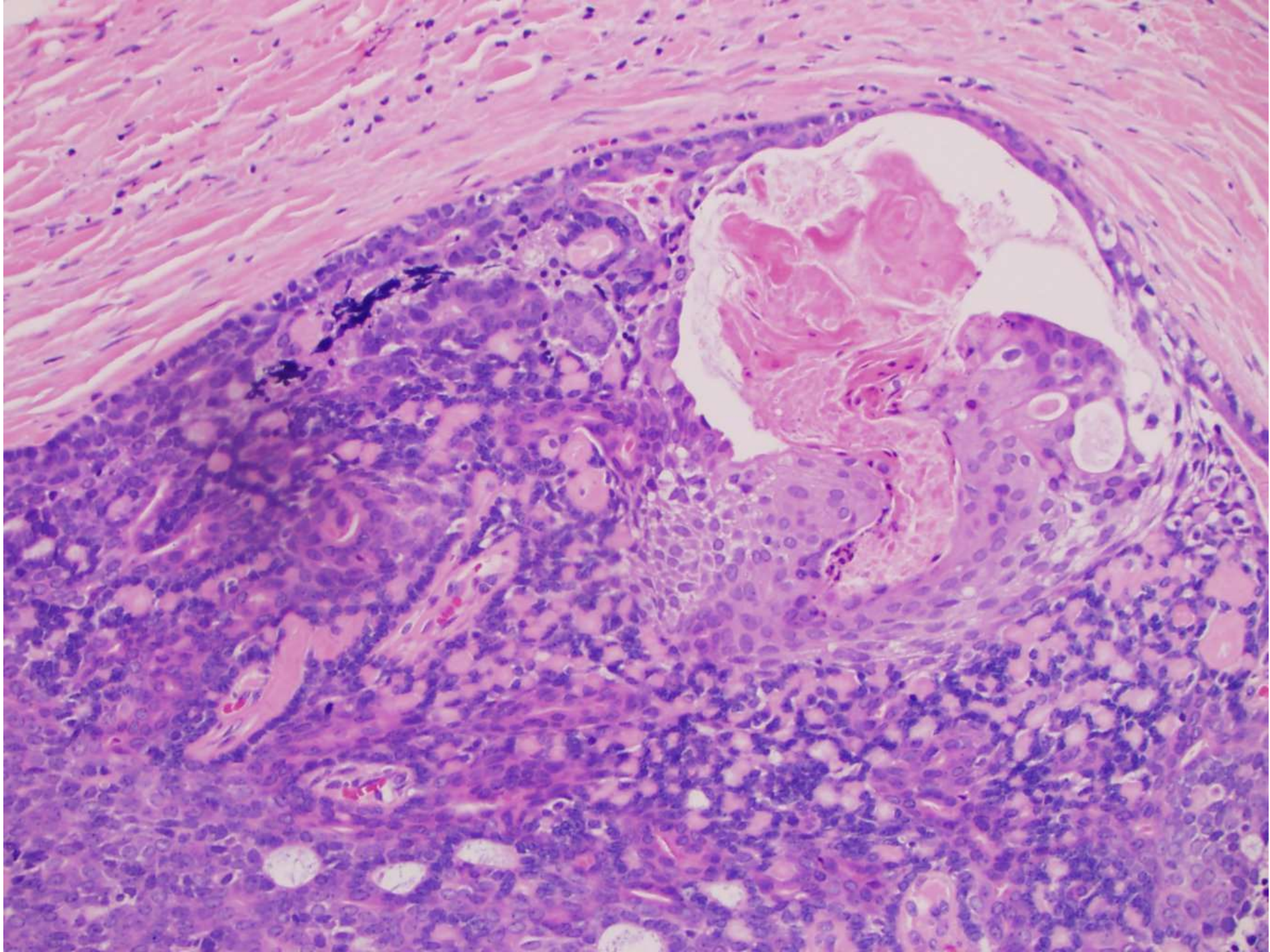


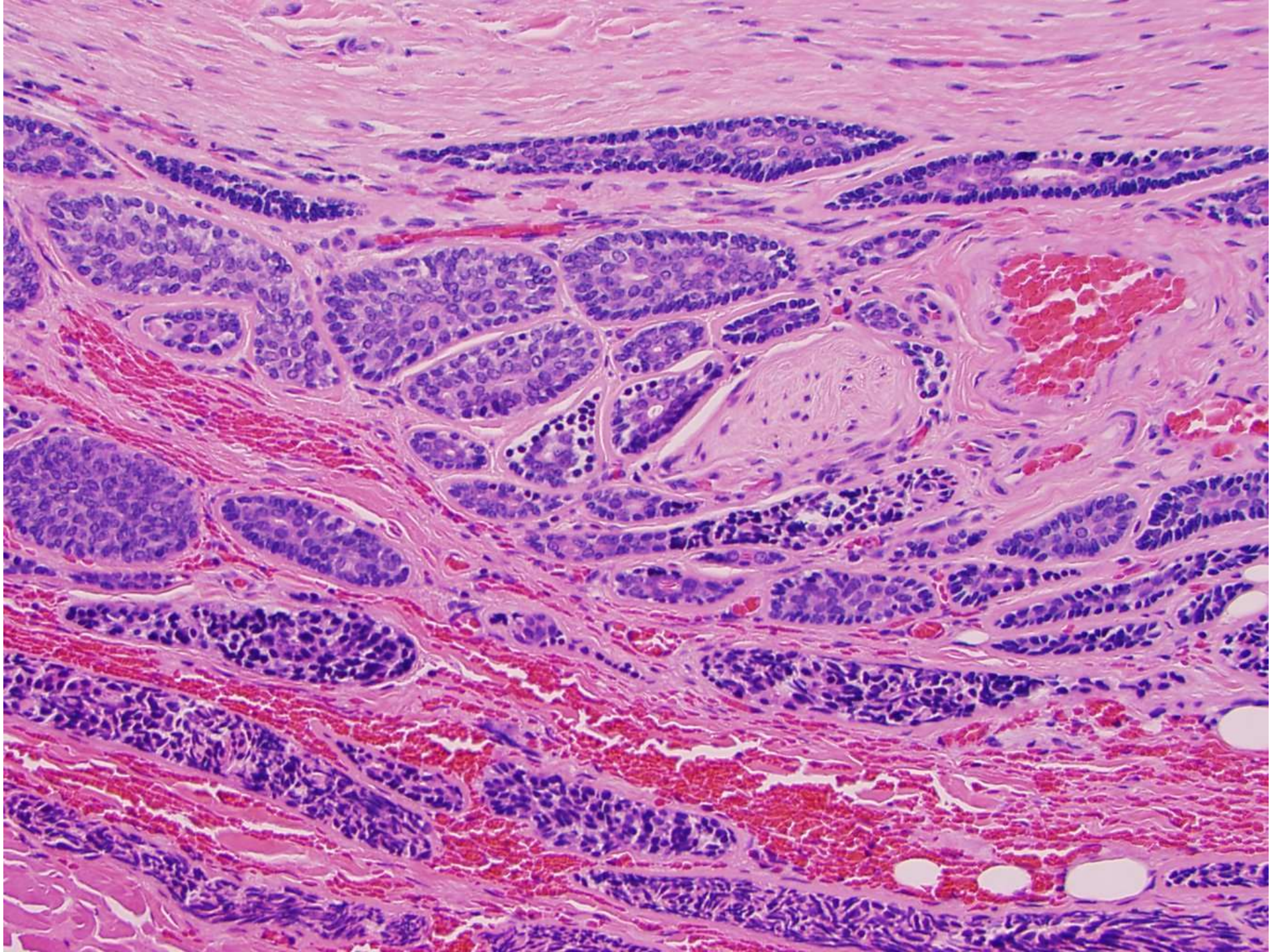


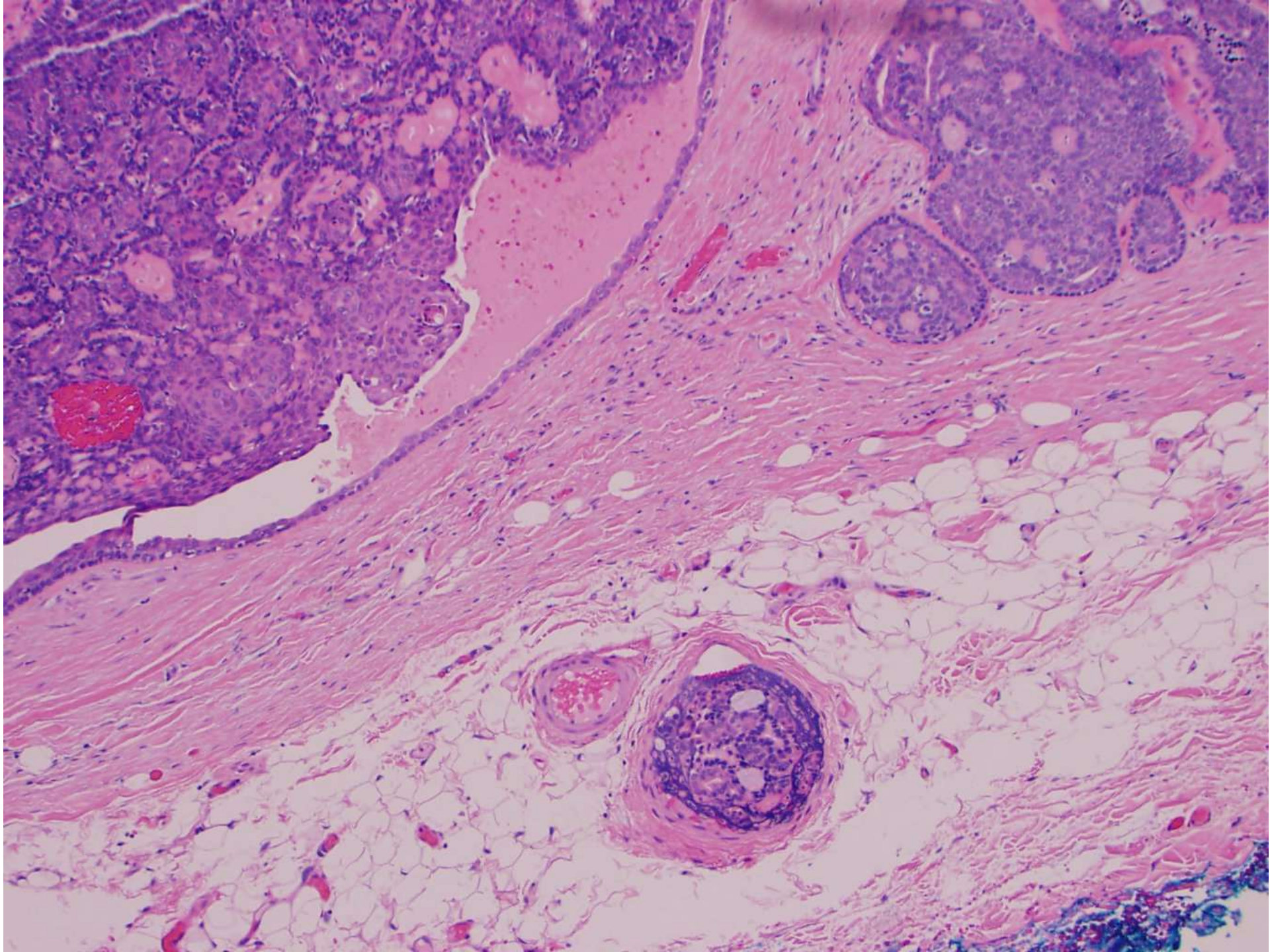












DIAGNOSIS?

Dx: Basal Cell Adenocarcinoma, Parotid

Basal Cell Adenocarcinoma

- Malignant counterpart of Basal Cell Adenoma
- Separated by infiltrative growth pattern
- 80% parotid gland
- 2 cell types- larger eosinophilic cells with pale nuclei and smaller cells (peripheral) with darker nuclei
- Solid, membranous, trabecular and tubular(rare) patterns
- Squamous differentiation focally

Differential Diagnosis

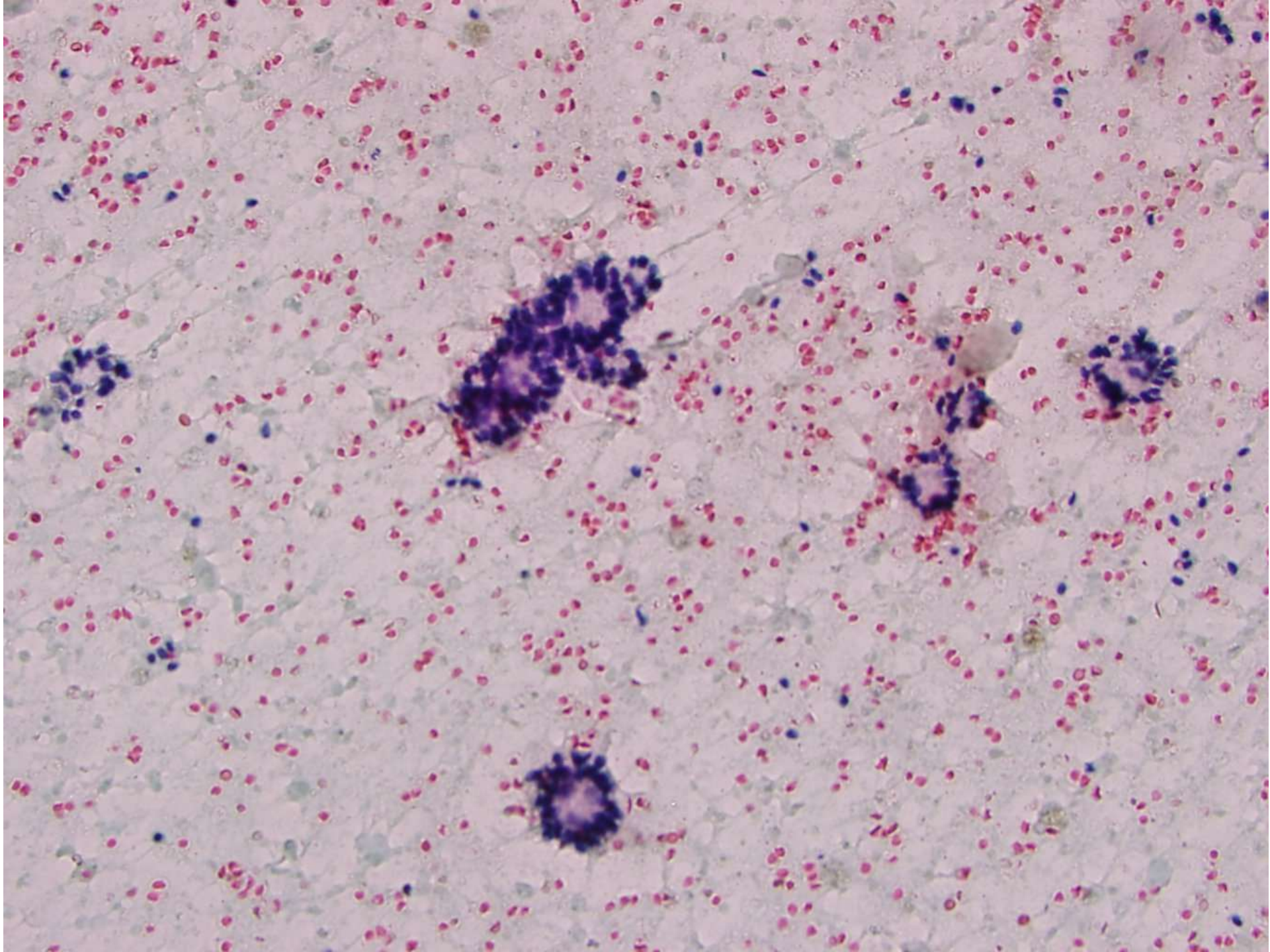
- Basal Cell Adenoma
- Adenoid Cystic Carcinoma (especially solid type)
- Basaloid Squamous Cell Ca.

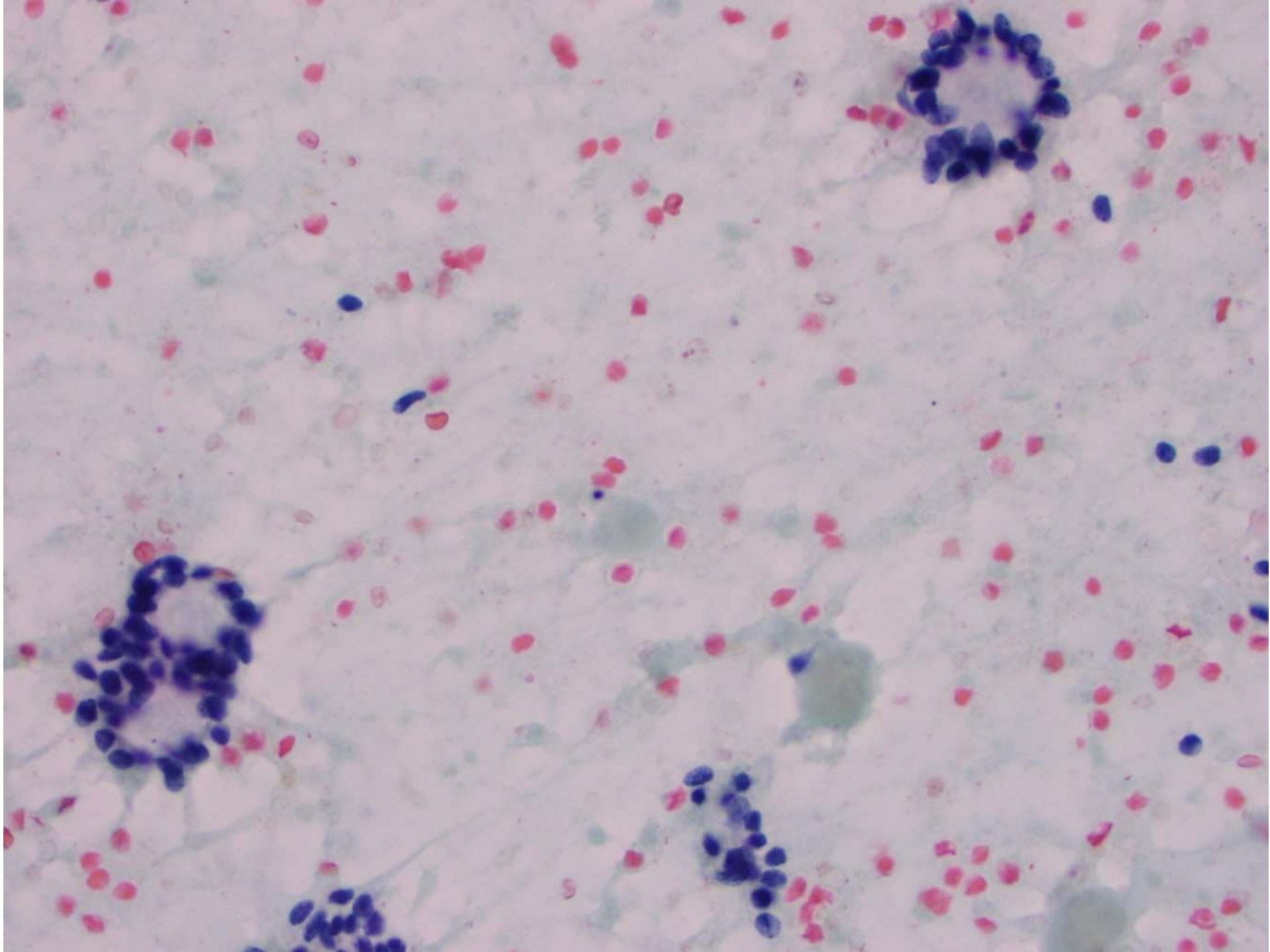
DDX of Basaloid Neoplasms

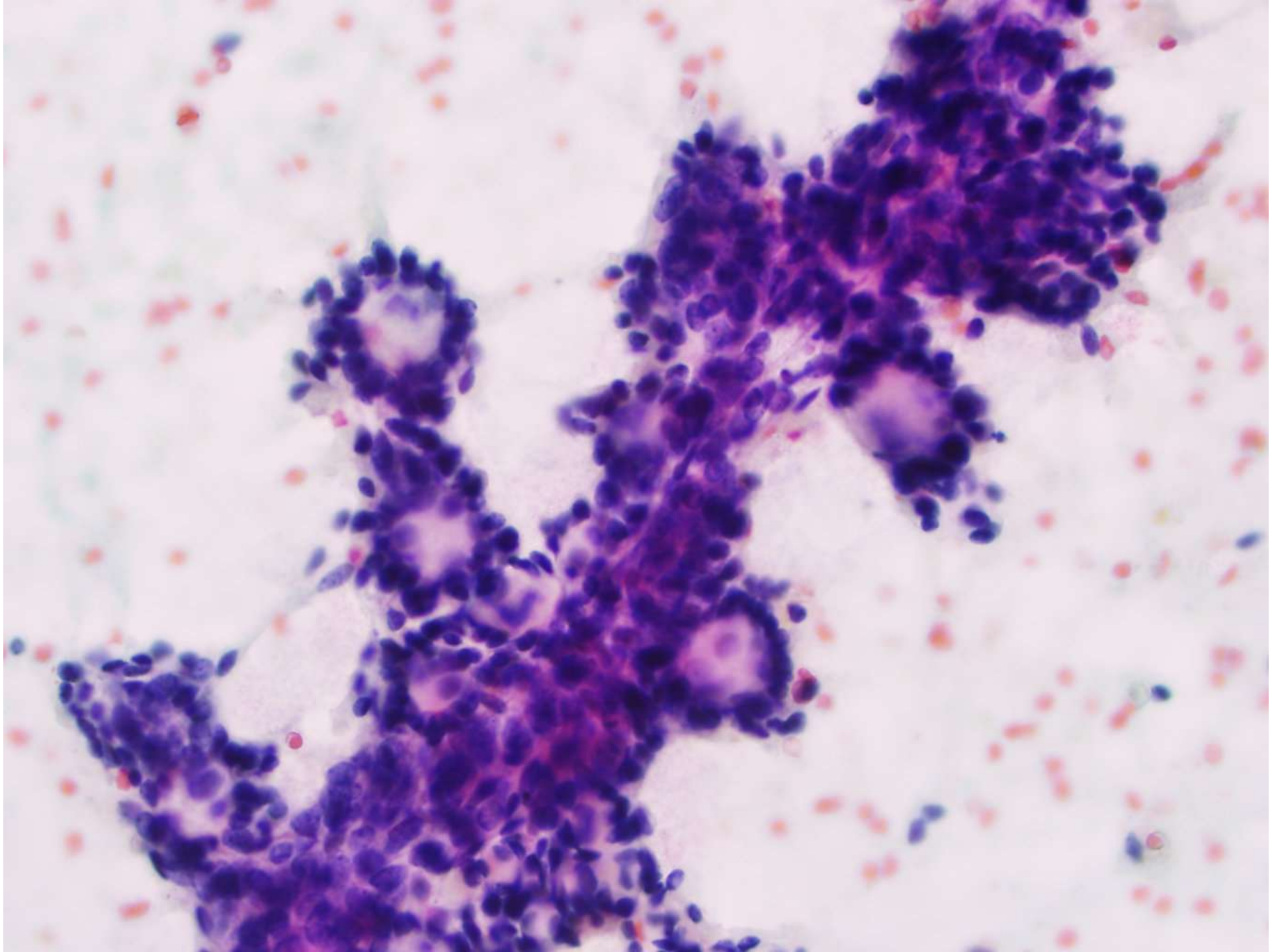
	Basal Cell Adenoma	Basal Cell Adenoca	Adenoid Cystic Ca. (solid type)	Basaloid SCCa
Mitoses (>3/10hpf)	-	+/-	+	+
Necrosis	-	-/+	+	++
Invasion	-	+	++	++
Angular Nuclei	-	-	++	-
Peripheral Palisading of Nuclei	++	+	-	+/-
Squamous Differentiation	-/+	-/+	-	++
Surface Epithelial Location	-	-	-	++

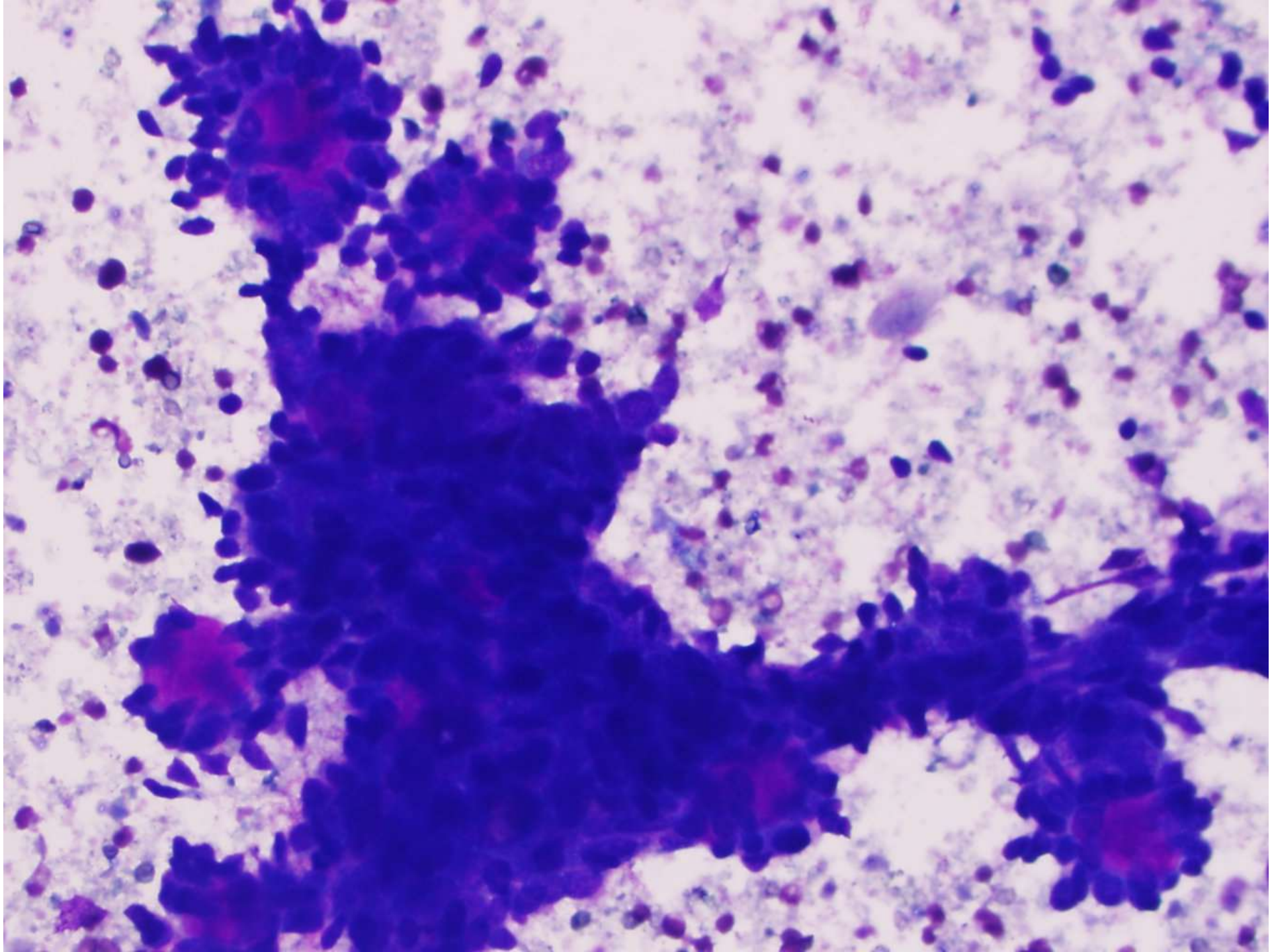
Cytologic Features

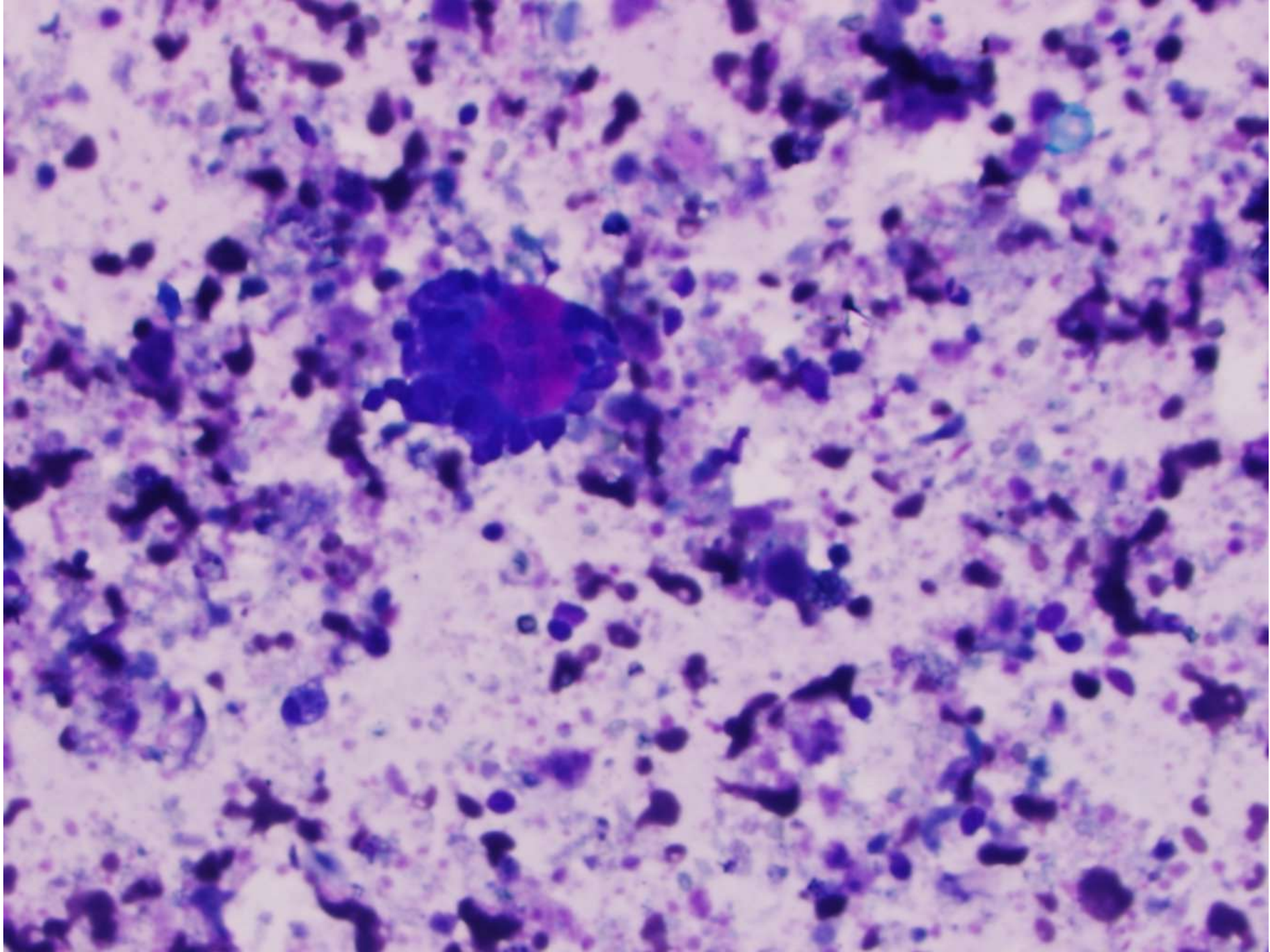
- Small cells with scant cytoplasm and round to ovoid nuclei
- Sheets, branching structures, tubules
- Peripheral palisading of nuclei
- Spherical globules surrounded by tumor cells
- Overlap with adenoid cystic carcinoma

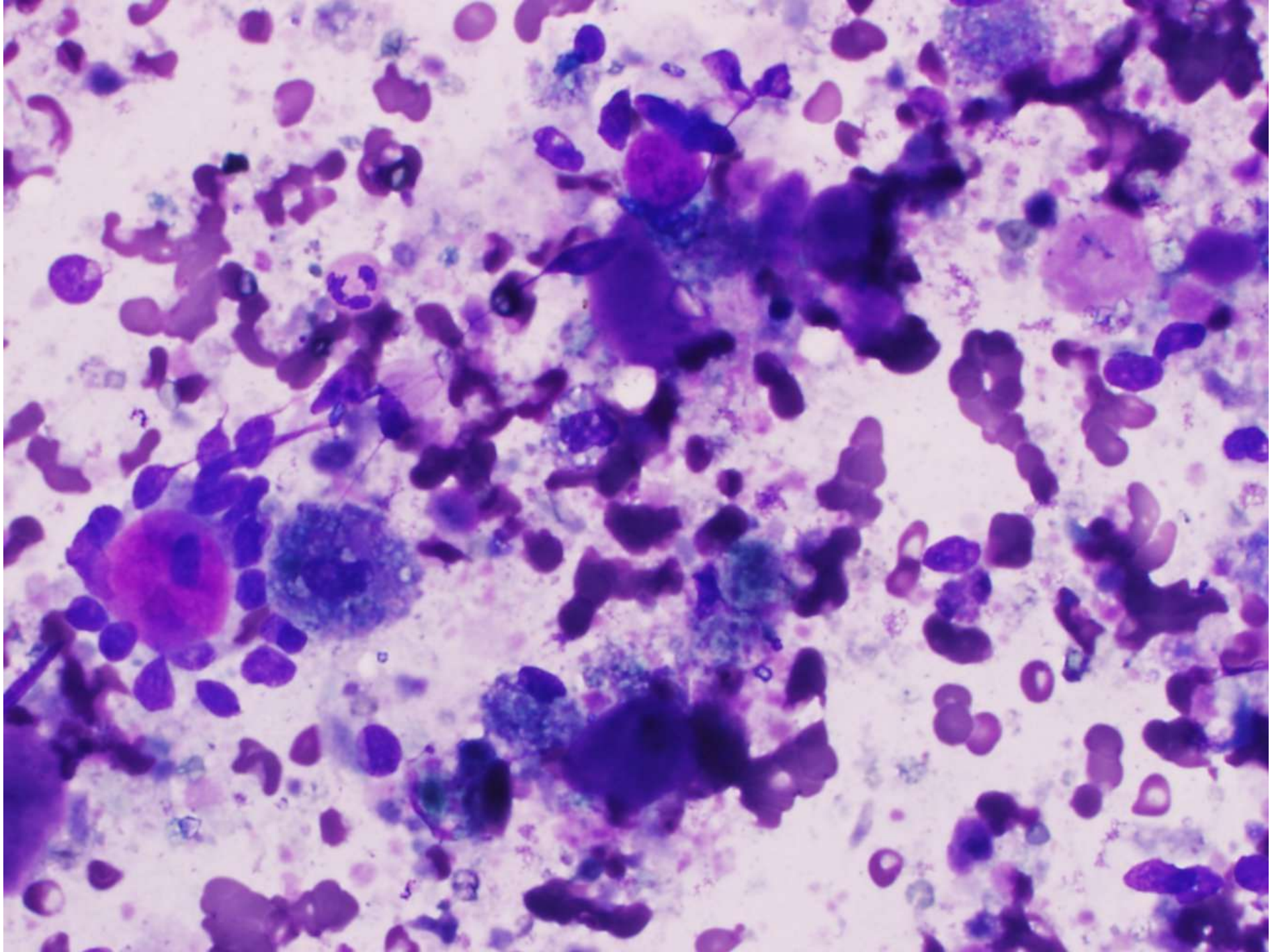


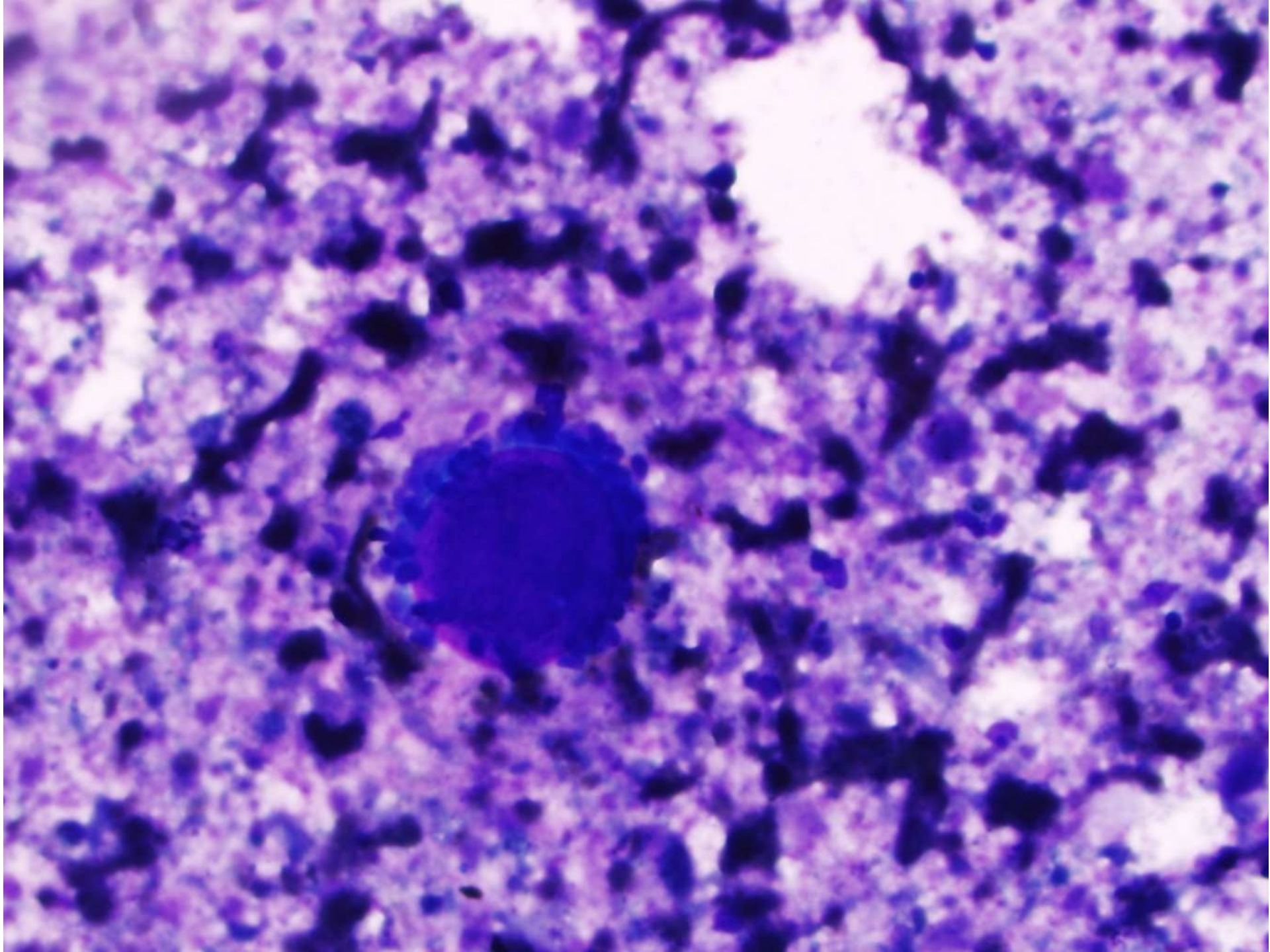








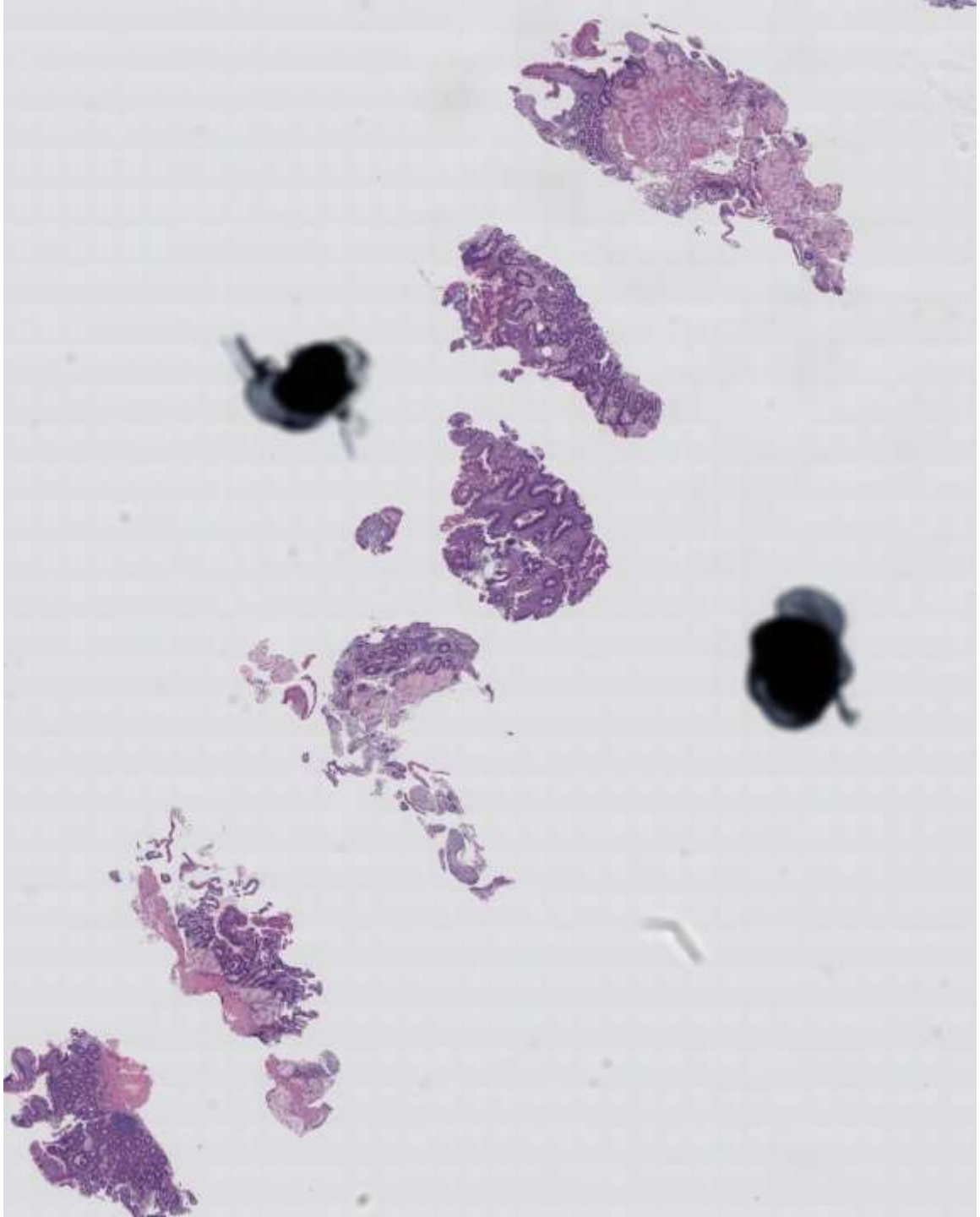


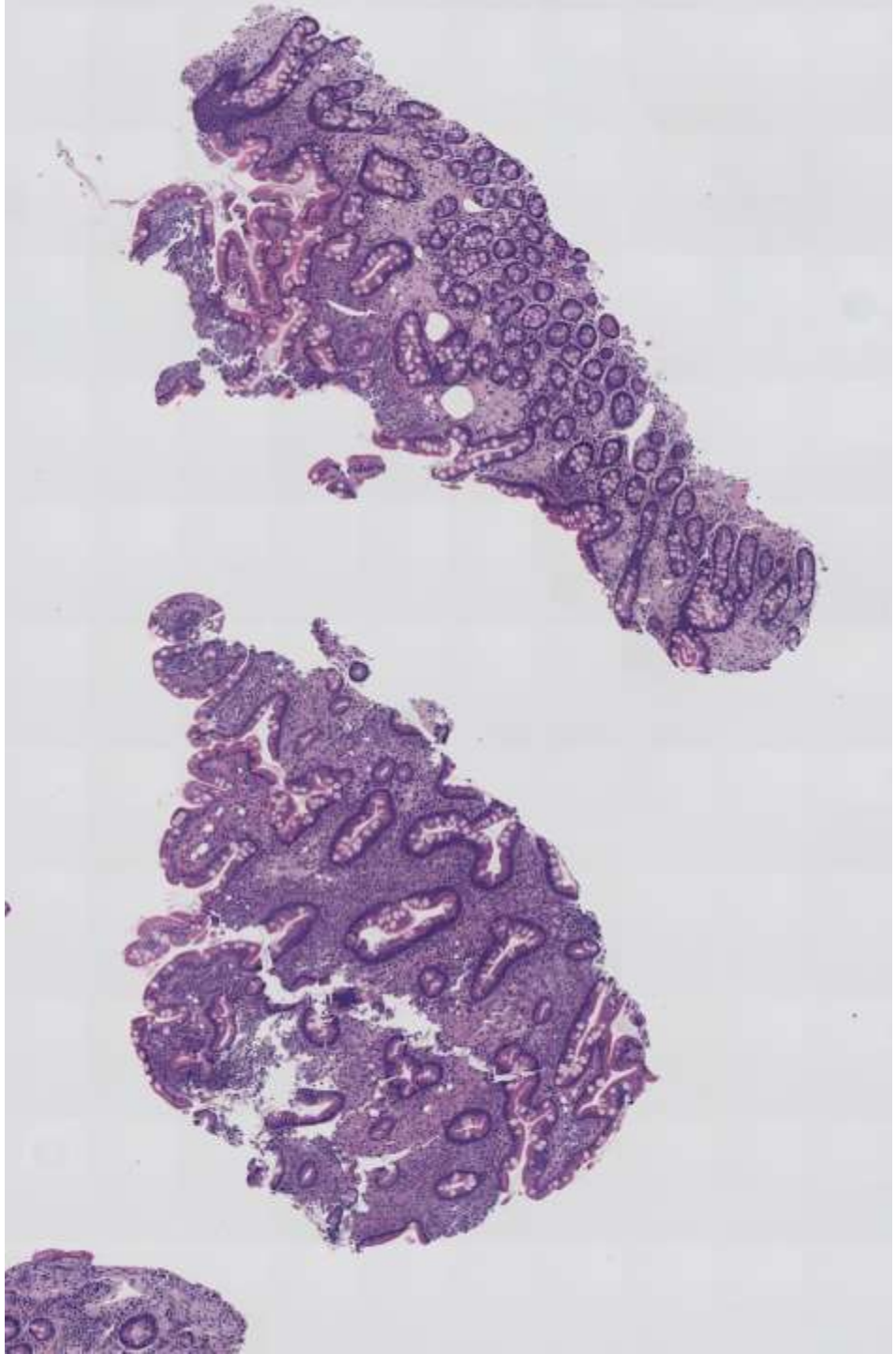


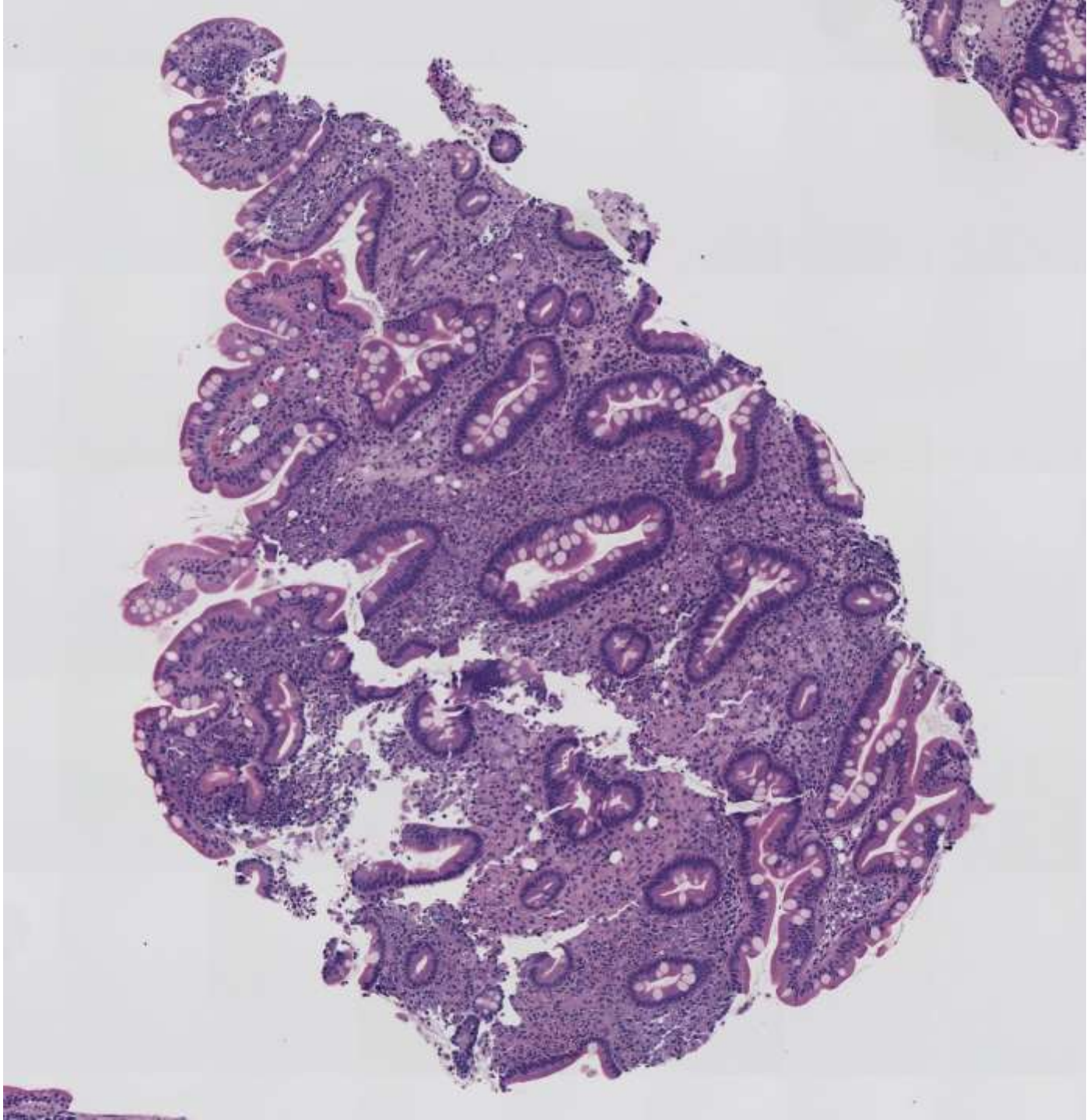
SB 6063

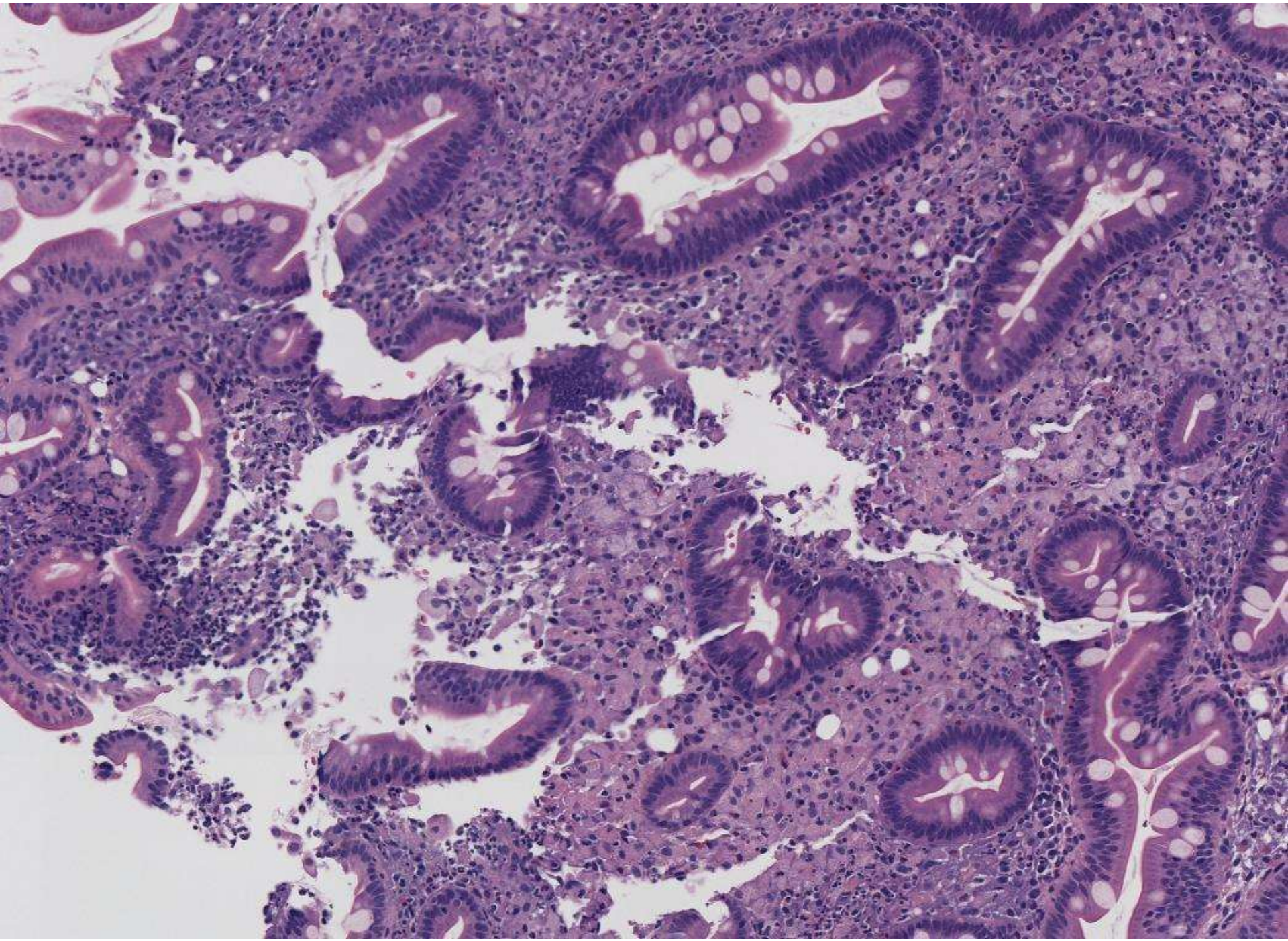
Mahendra Ranchod; Good Samaritan Hospital

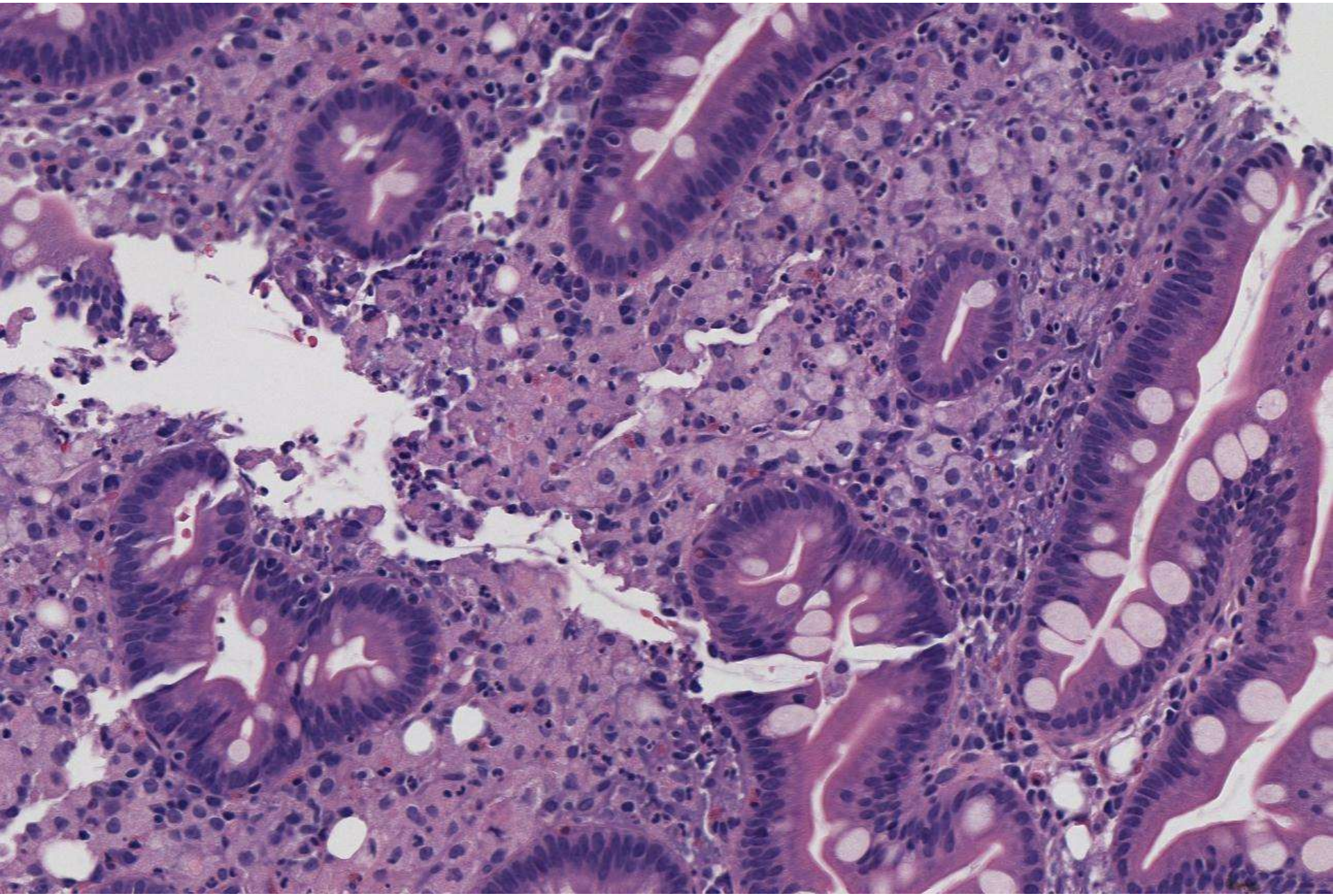
63-year-old man with cachexia and vague abdominal symptoms. Upper GI performed to r/o malignancy.

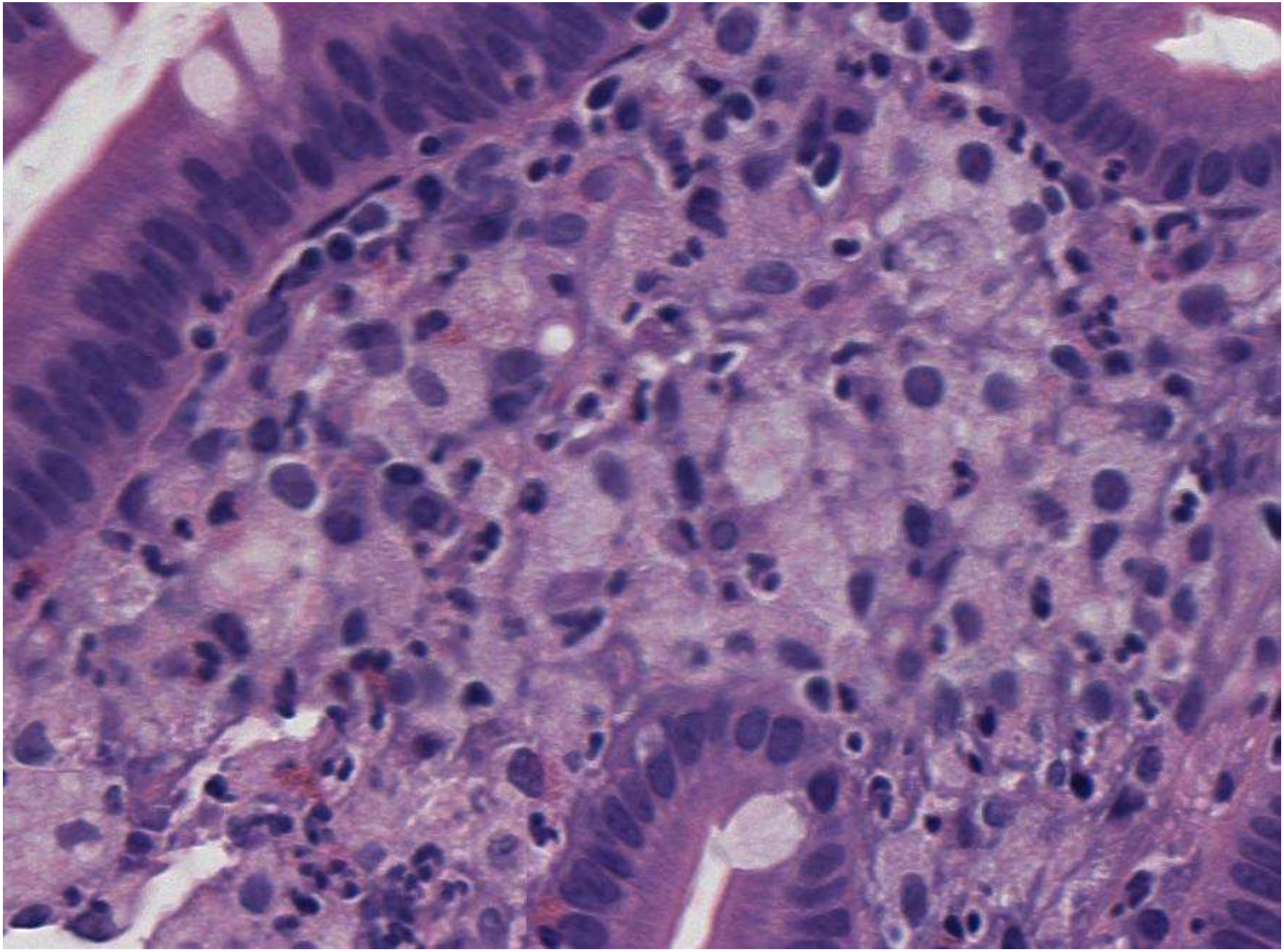


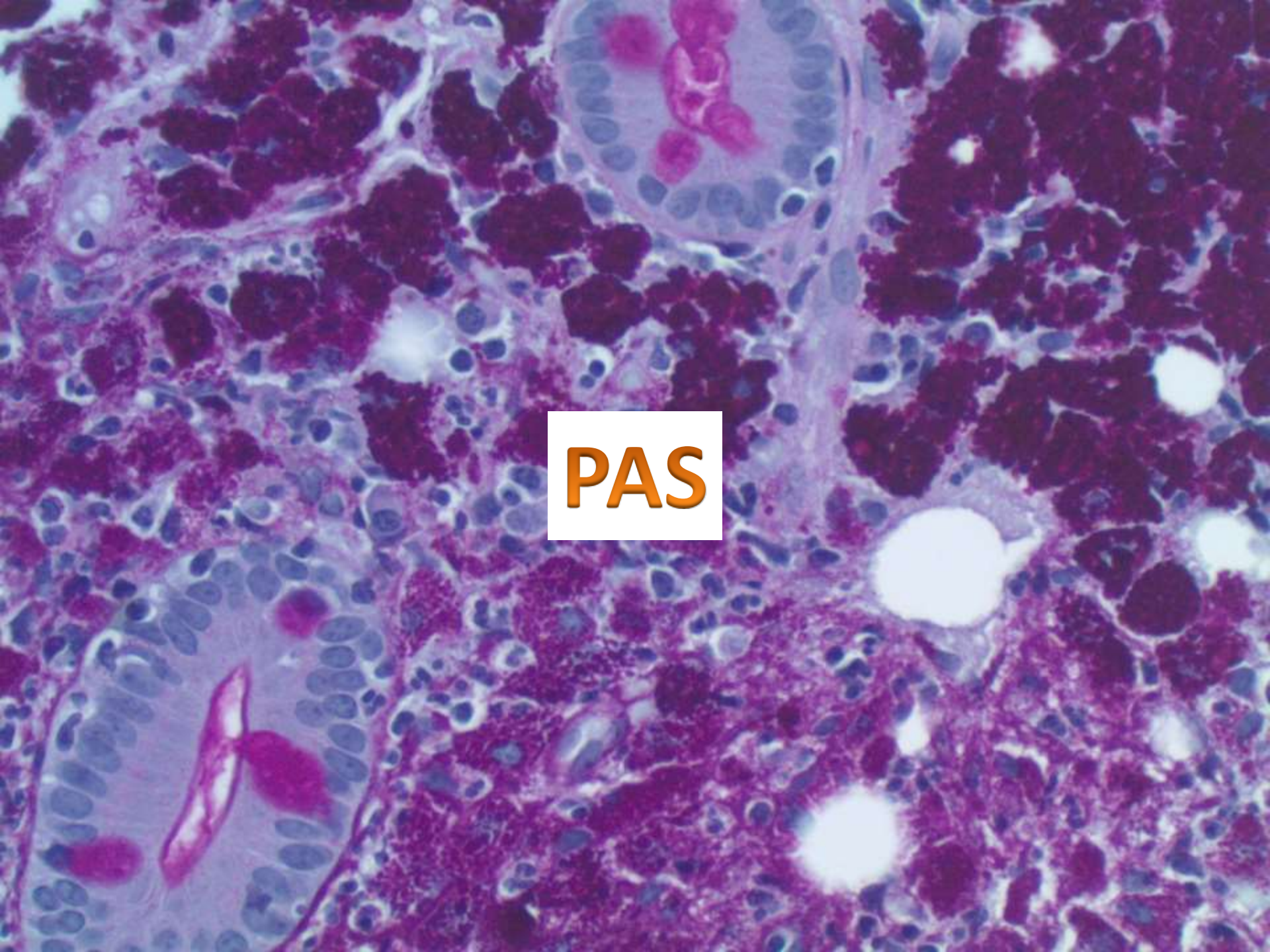











PAS

DIAGNOSIS?

Why share this case?

- Classical example of a rare disease
- Diagnosis can be made with simple conventional histochemical stains (H&E and PAS-D)
- We can confirm the diagnosis with PCR
- Important to recognize Whipple's disease and treat promptly

How we made the diagnosis

PAS-positive macrophages in L.P. of duodenum

Clear spaces in L.P.

Stains negative for fungi and AFB

PCR positive for Tropheryma whipplii

Whipple's disease

- Systemic infection by Gram + coccobacillus
- Major symptoms related to:
    - Small intestine
    - Synovium
    - Heart
    - Brain

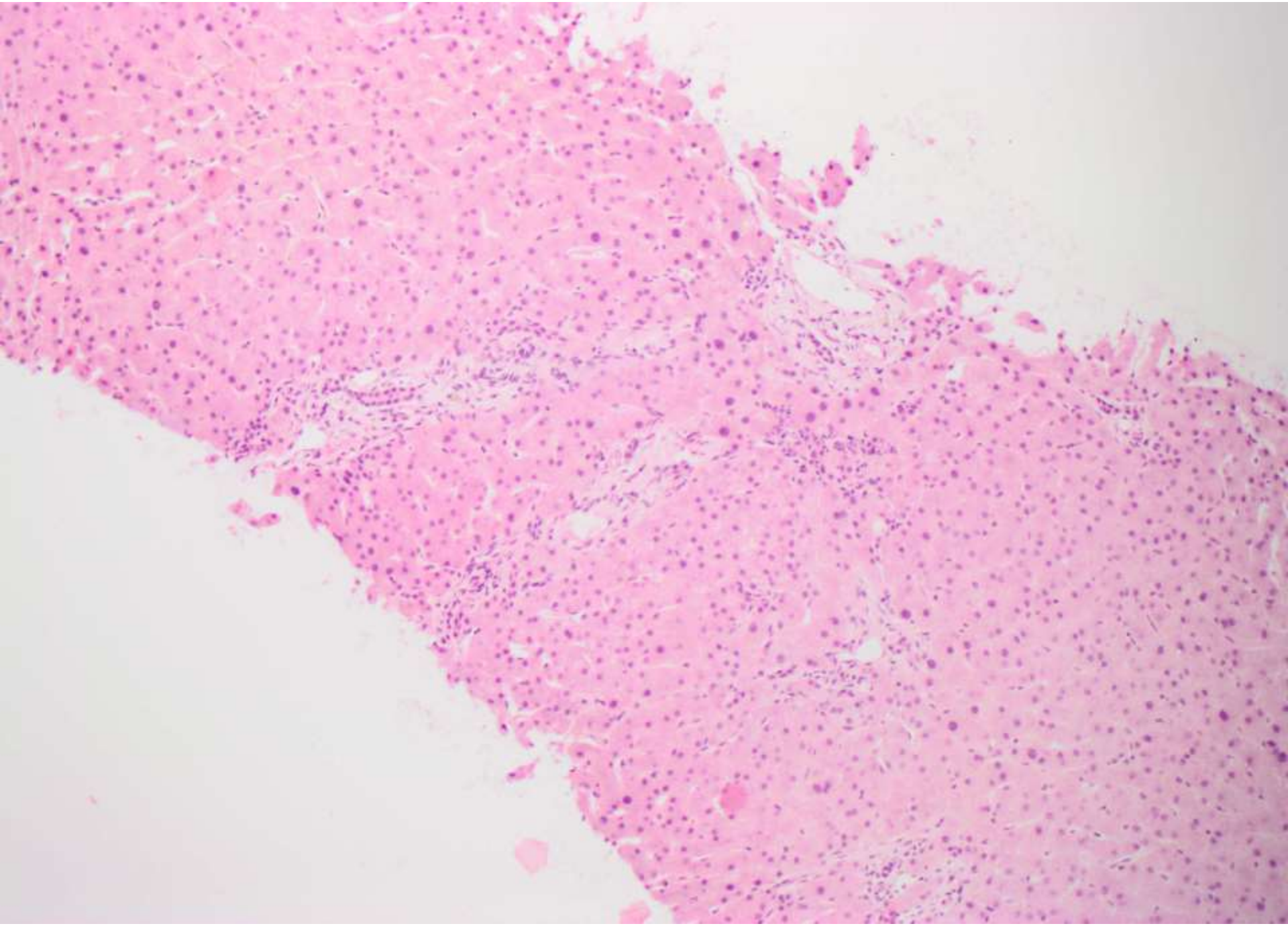
Whipple's disease

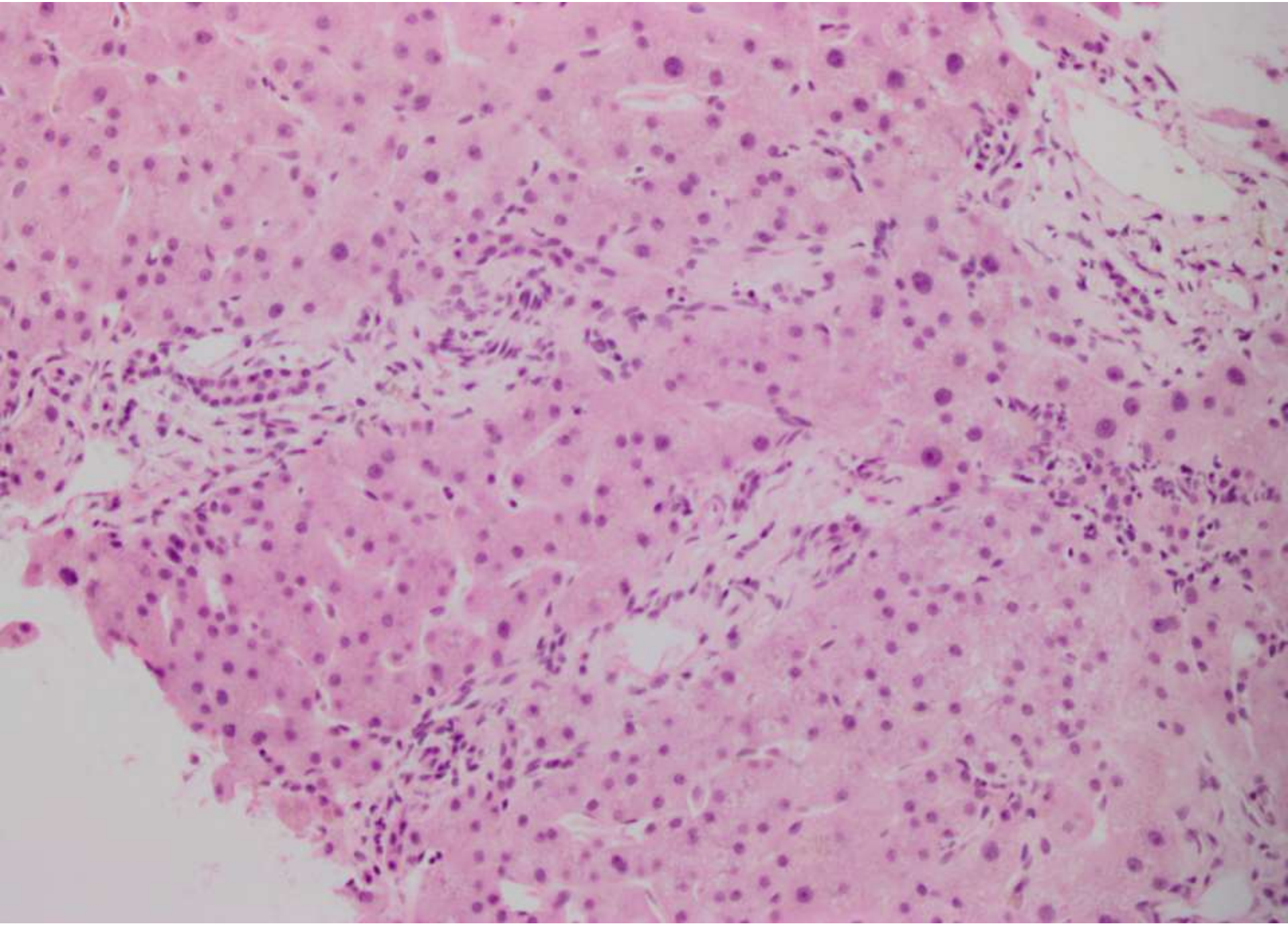
- Impaired host reaction to bacterial infection but not reported in HIV patients
- 35% of healthy adults have T. whipplii in saliva
- Predilection for males >40 yrs. M:F ratio 8:1.
- High mortality when diagnosis delayed
- 2-4 wks I.V antibiotics followed by oral antibiotics for 1 year.
- High relapse rate with short courses of treatment

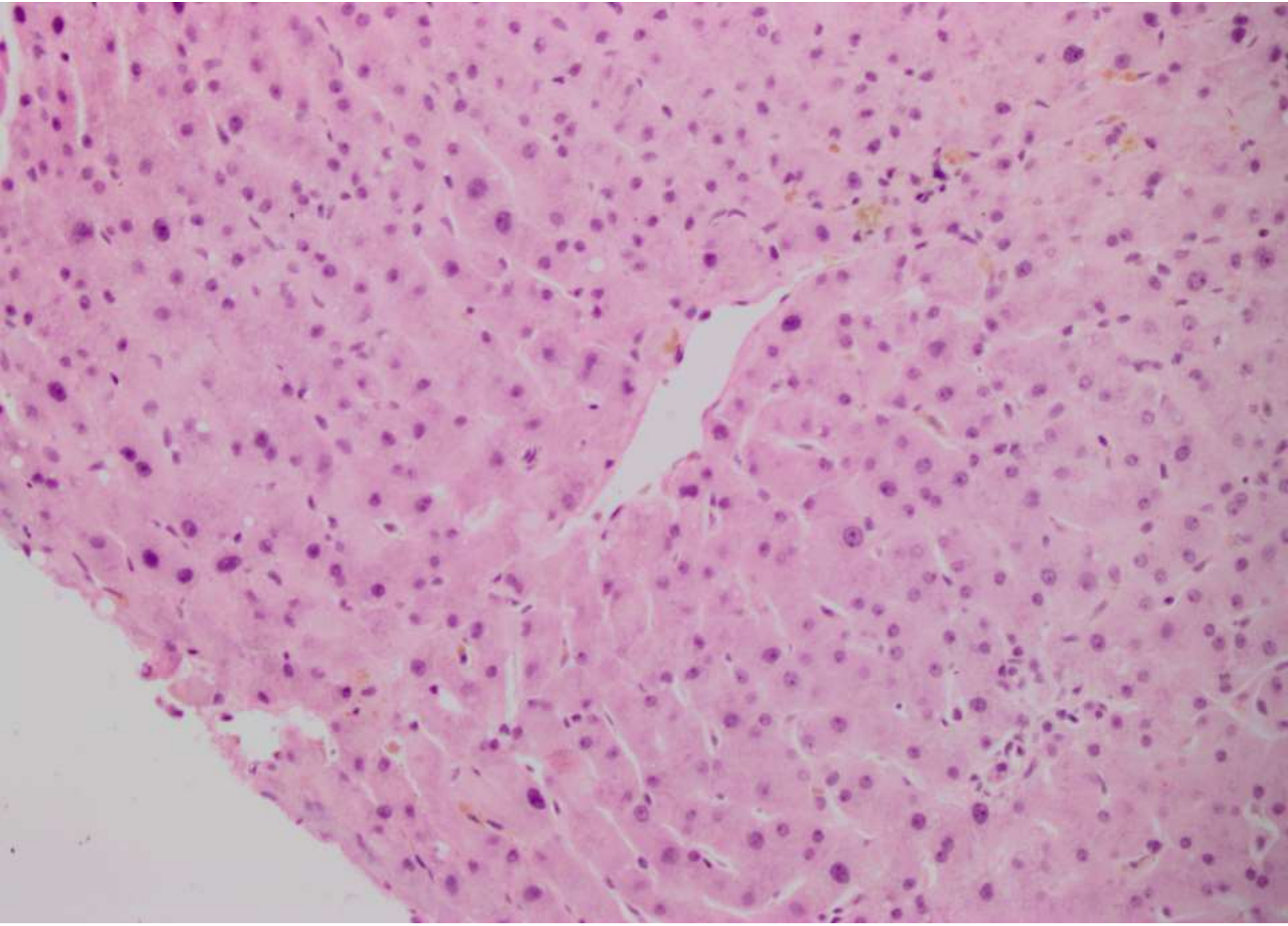
SB 6064

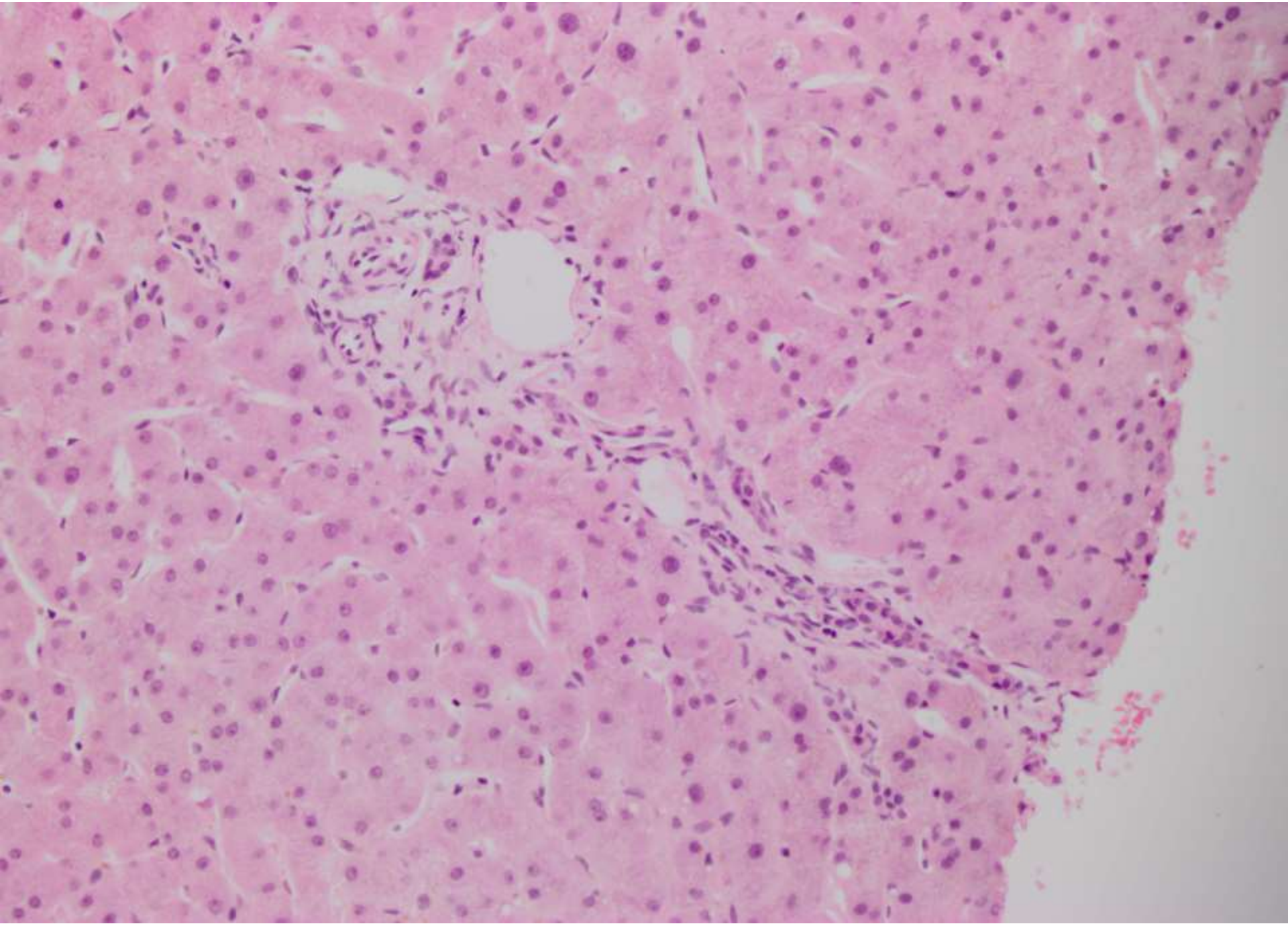
Liz Treynor; Washington Hospital

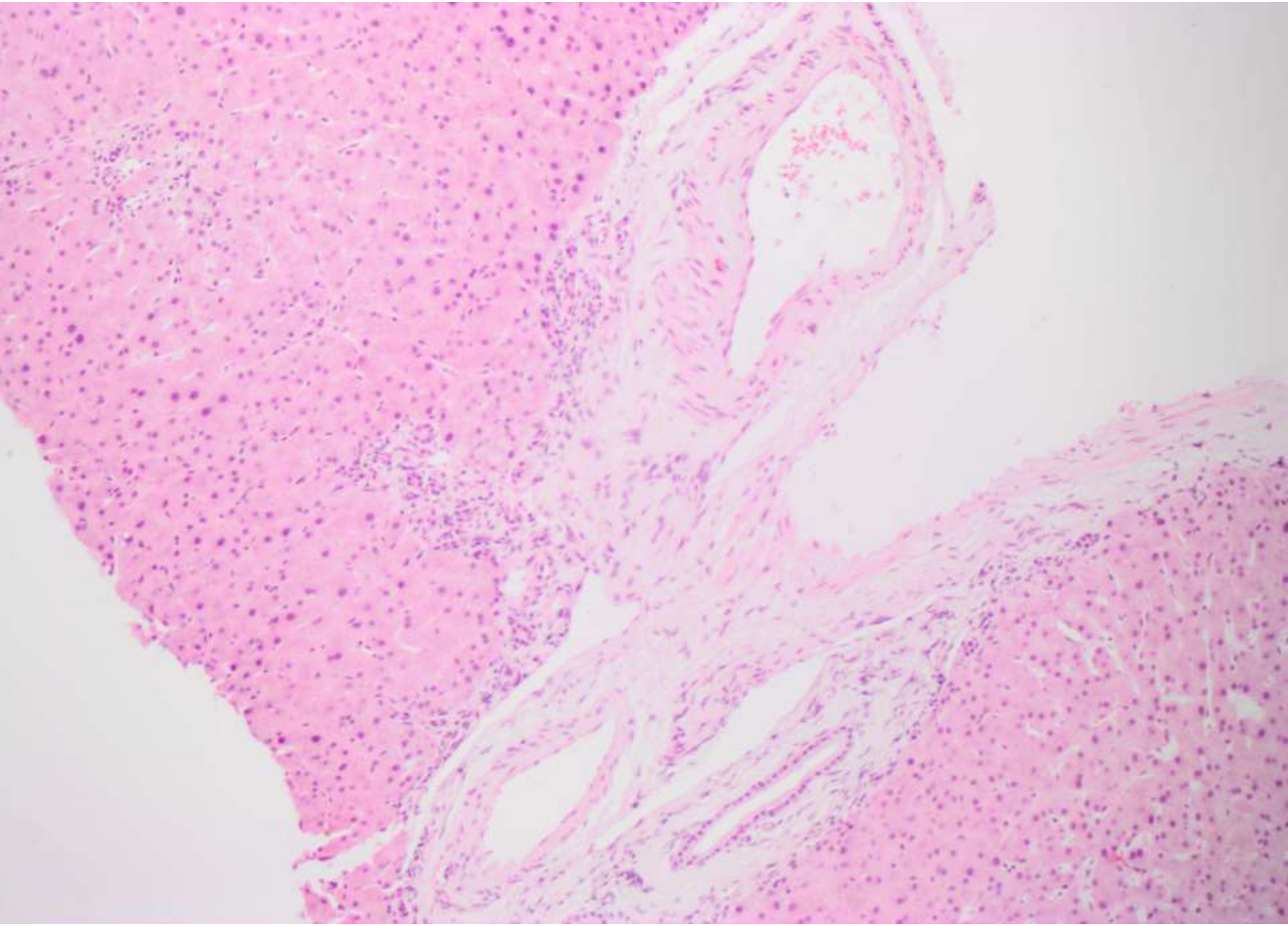
55-year-old deceased male with h/o HTN, ESRD, MSSA endocarditis s/p valve replacement, Mycoplasma pneumonia, and C. Difficile colitis in months prior to demise from intracranial bleed. After declared brain dead and donation authorized, Donor Network on screening found Hep B core + Hep C + serology, but Hep B and Hep C PCR negative, and requested frozen section prior to organ recovery.

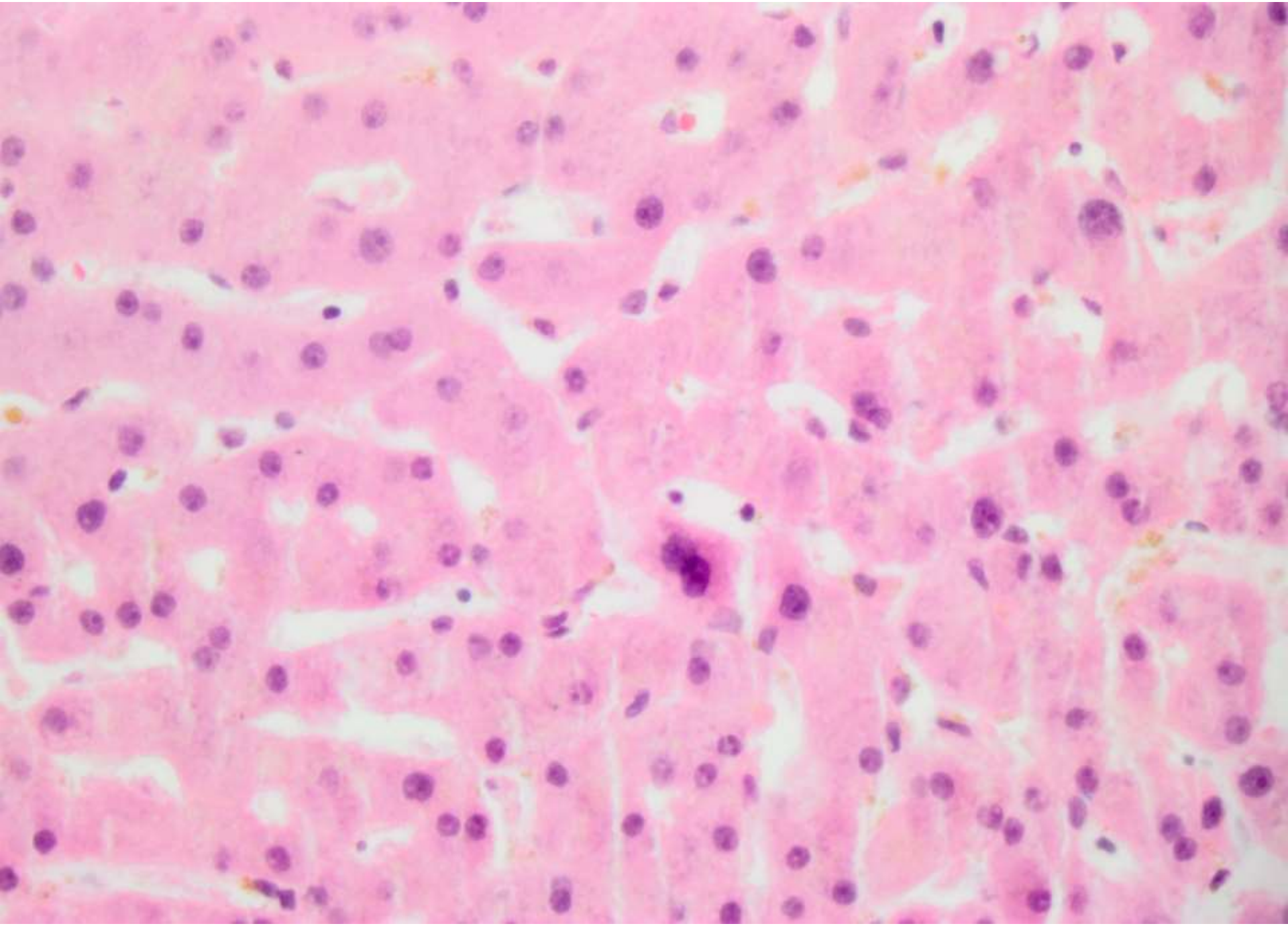




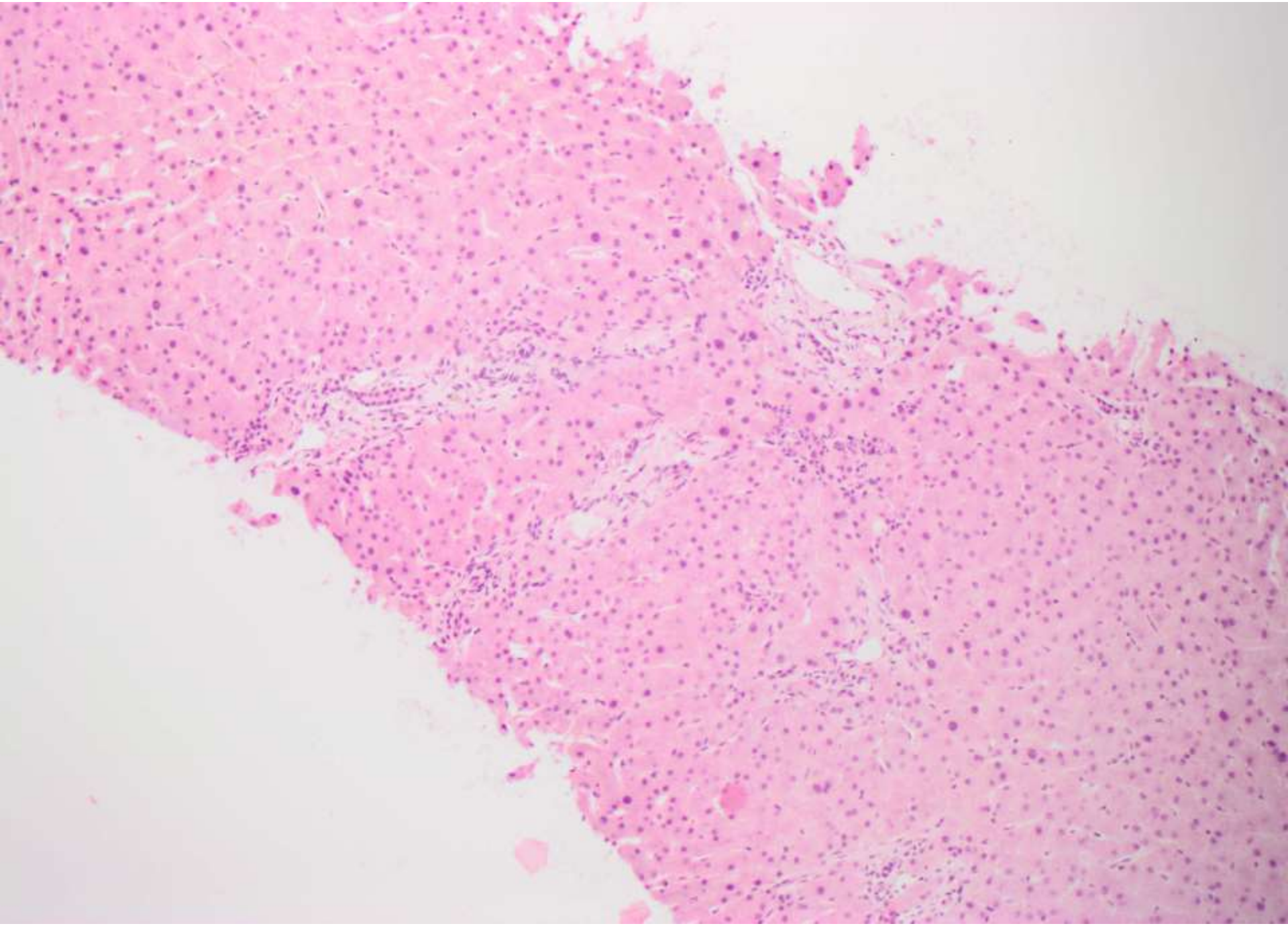


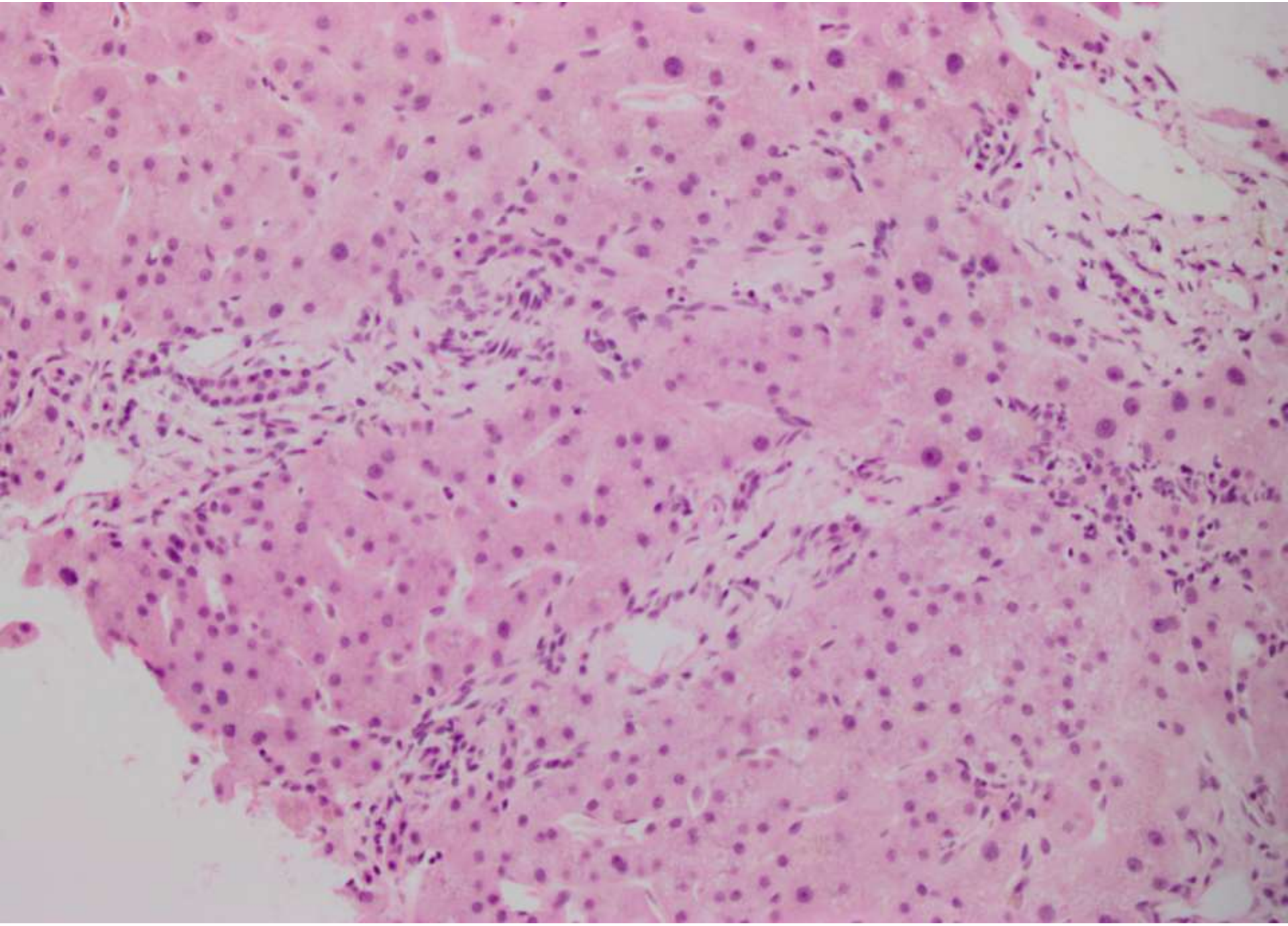


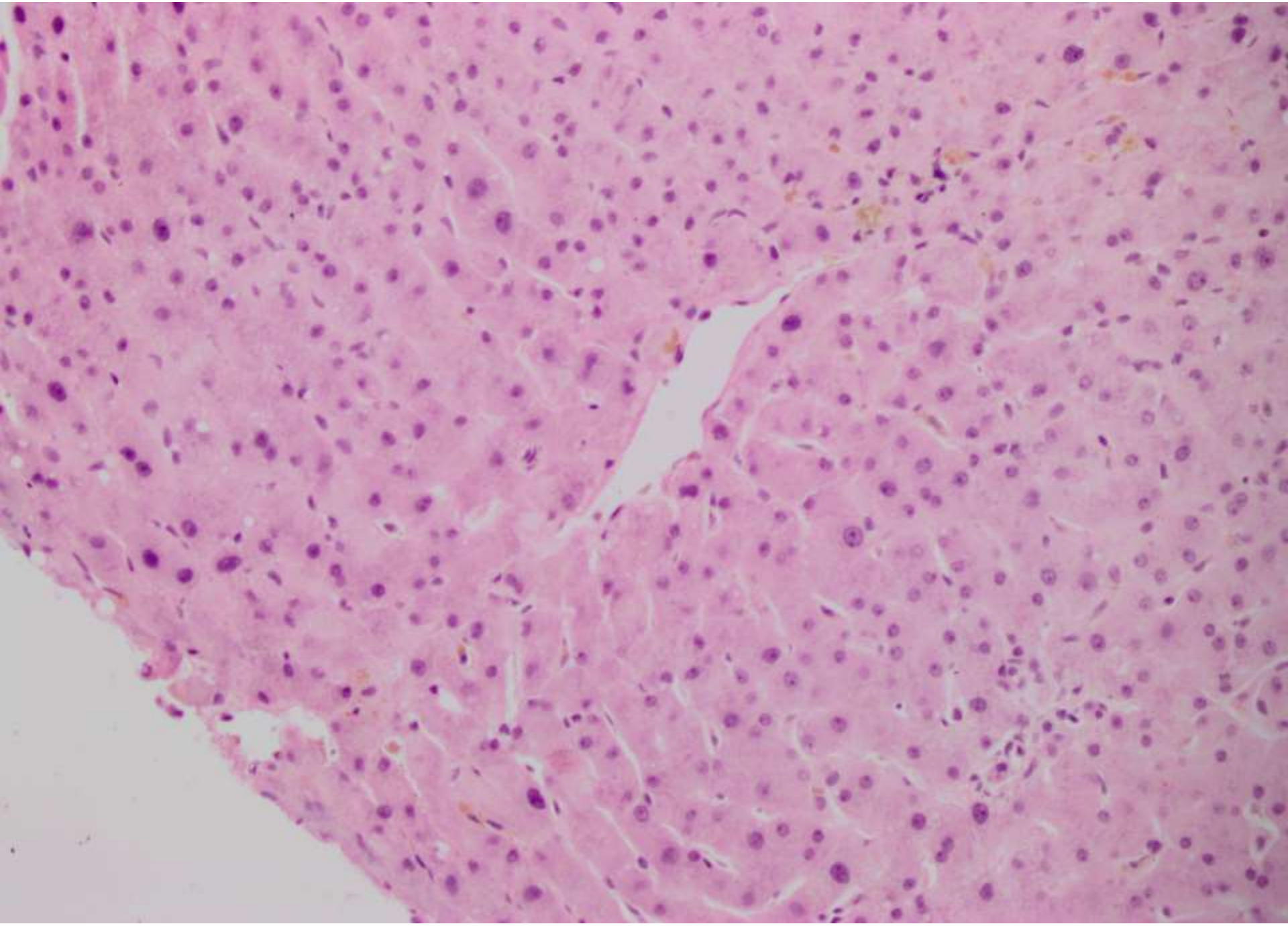


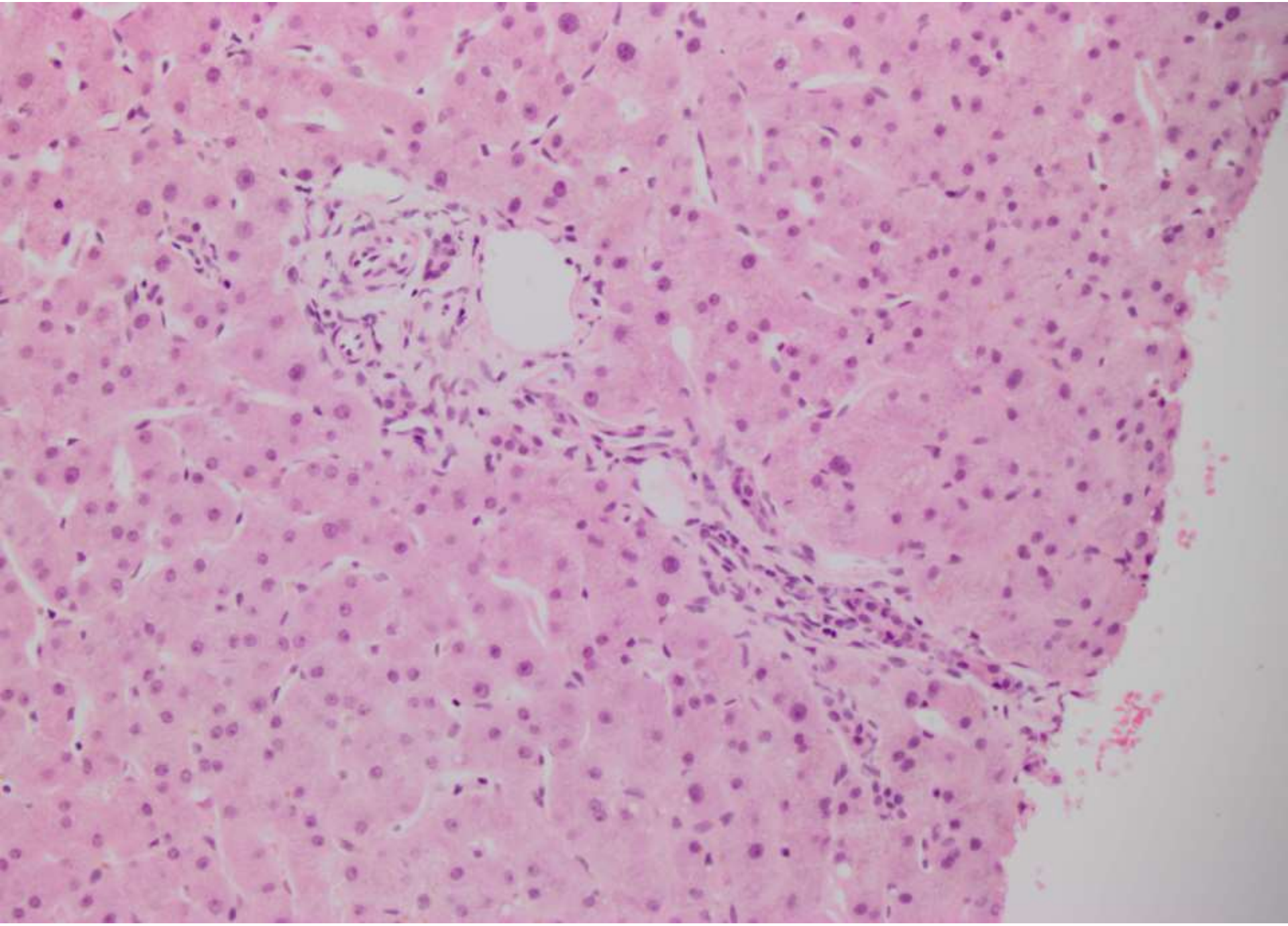


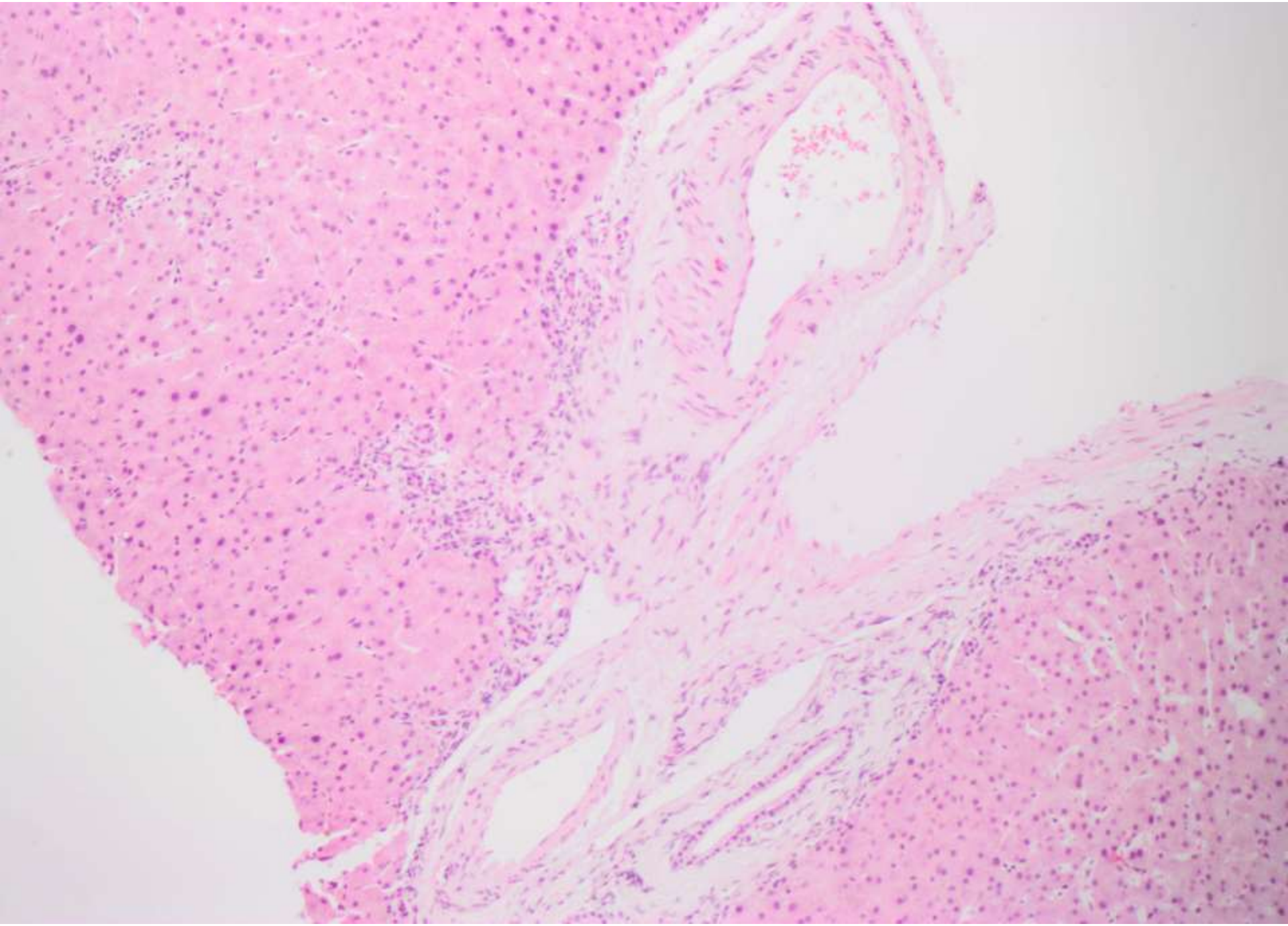
DIAGNOSIS?

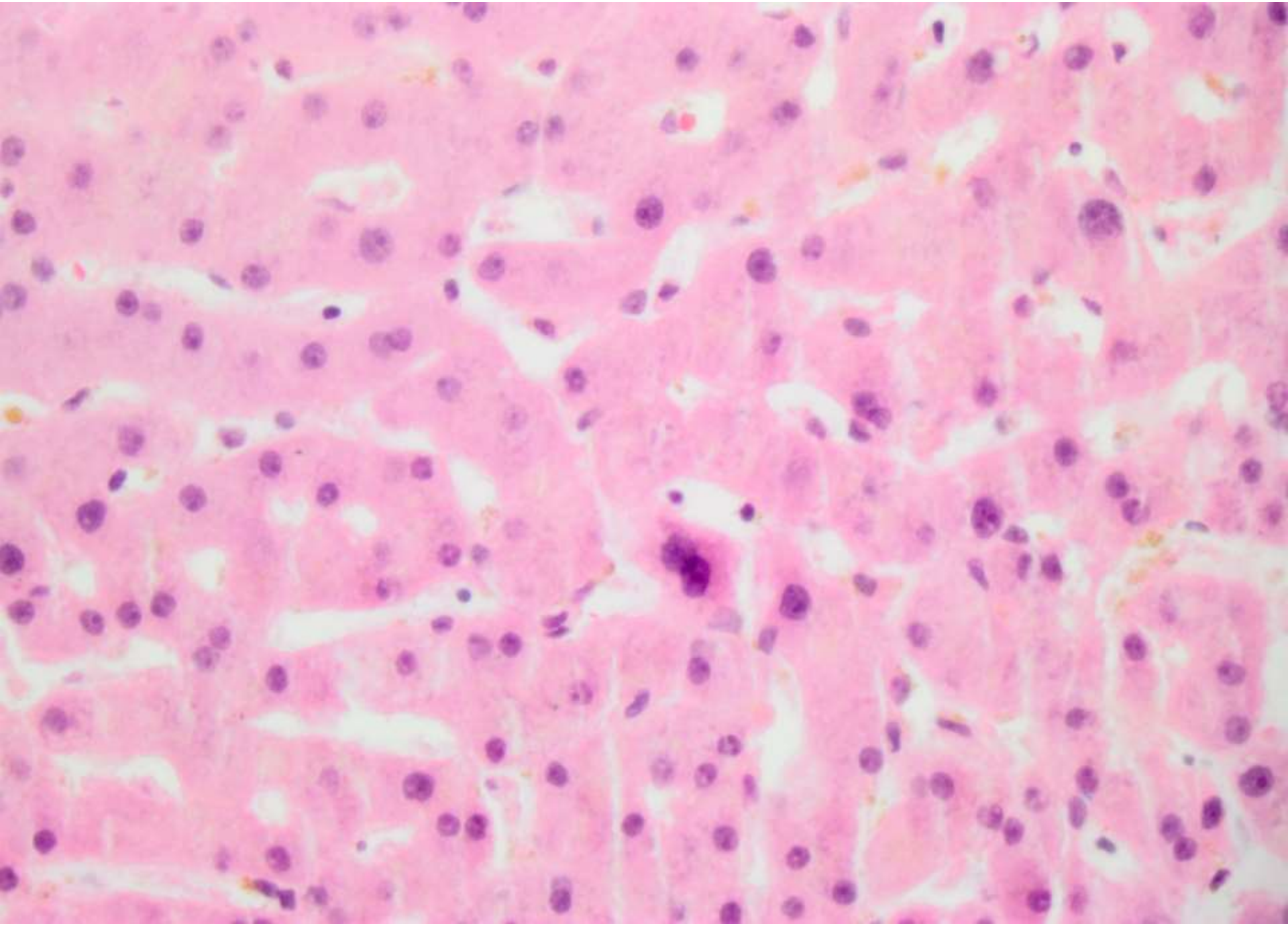












Dx:

ing:
Mild ☐ Moderate ☐ Severe

is:
Mild ☐ Moderate ☐ Severe

☐ <10% ☐ 10-40% ☐ 40-60% ☐
☐ <10% ☐ 10-40% ☐ 40-60% ☐
☐ <10% ☐ 10-40% ☐ 40-60% ☐

Arterial intimal thickening:
☐ Absent ☐ Mild ☐ Moderate ☐ Severe

Hyline arteriolosclerosis:
☐ Absent ☐ Mild ☐ Moderate ☐ Severe

Tubulointerstitial area:

Atrophy	Absent ☐	<10% ☐	10-40% ☐	40-60% ☐
Inflammation	Absent ☐	<10% ☐	10-40% ☐	40-60% ☐
Fibrosis	Absent ☐	<10% ☐	10-40% ☐	40-60% ☐

Additional Findings:

e fat droplet filling >1/2 of the cell and/or displaces nucleus, recommendation to estimate % volume on 4 or 10x.
Small droplet fat--single to several fat droplets each <1/2 of the cell, doesn't displace nucleus

Liver Section

% volume) 0 % Est. small droplet fat (% of cells) 0 % Estimated total fat 0 %

Thick band has large vessels no septum not periportal fibrosis in my opinion

eriportal fibrosis ☐2=septal/periportal fibrosis ☐ 3=bridging fibrosis ☐ 4=cirrhosis/prob.cirrhosis

activity 0 1 (2) 3 4

tion? Yes ☐ No ☐ Is this a frozen section? Yes ☒ No ☐

Our Role in Organ Donation

Harvest Frozen is critical, given time constraints:

- Lung expires in 4 hours; liver in 8 hours
- Proper patient allocation takes several hours
- Mismatched organ-- and potentially patient-- may be lost

As hospital-contracted physicians, we are legally obligated to help the Donor Network, as well as protected legally

Donor Pathologist does not determine suitability; only describes findings

Donor Liver Frozens

Most healthy donors do not need frozen section

Request gross appearance & history

Request background liver if biopsy is a lesion (FNH vs. cirrhosis)

Request fresh, no-gauze, un-soaked tissue to avoid artifacts:

Gauze/Air Drying:

Underestimate fat

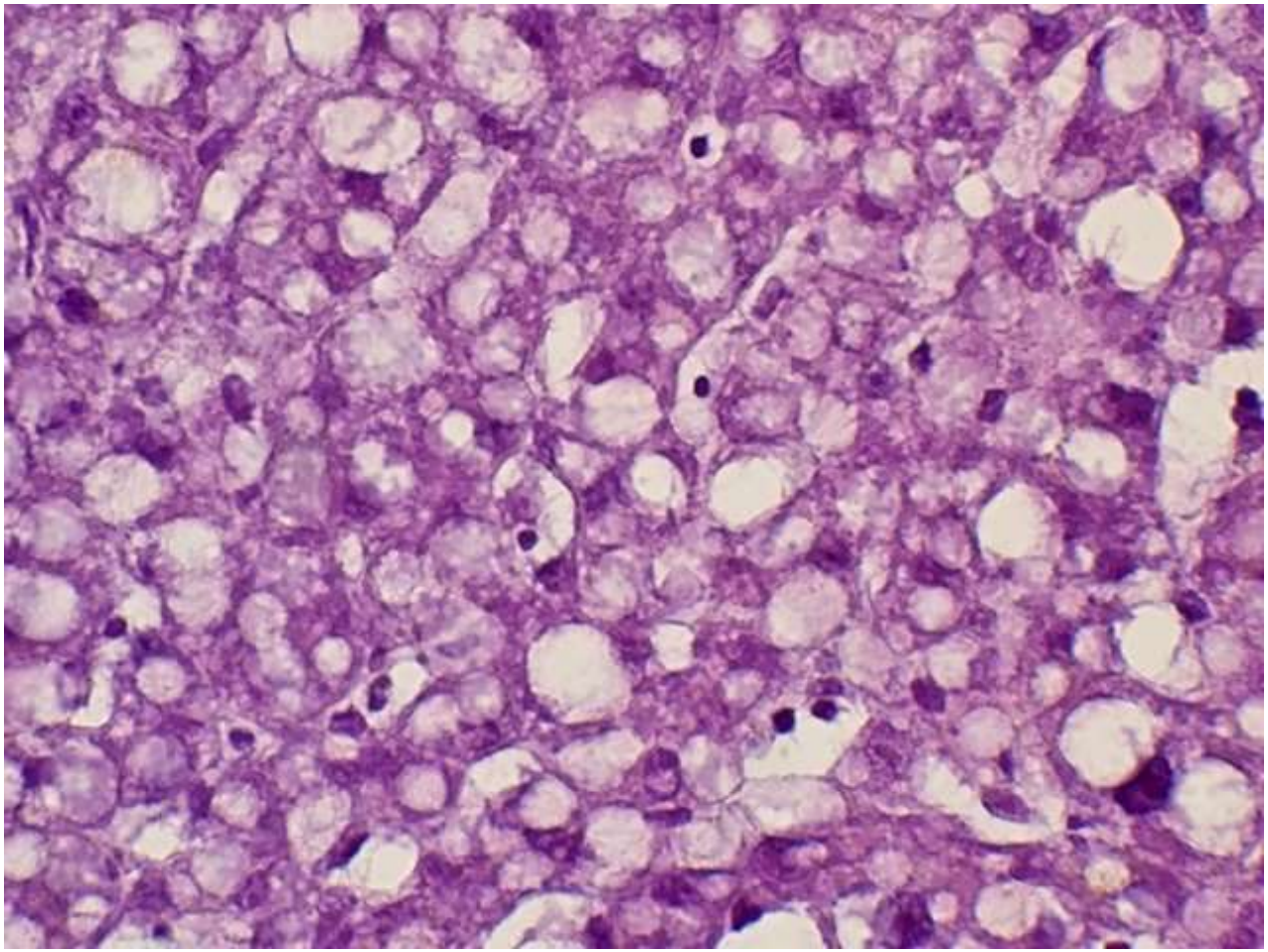
Saline droplets in tissue:

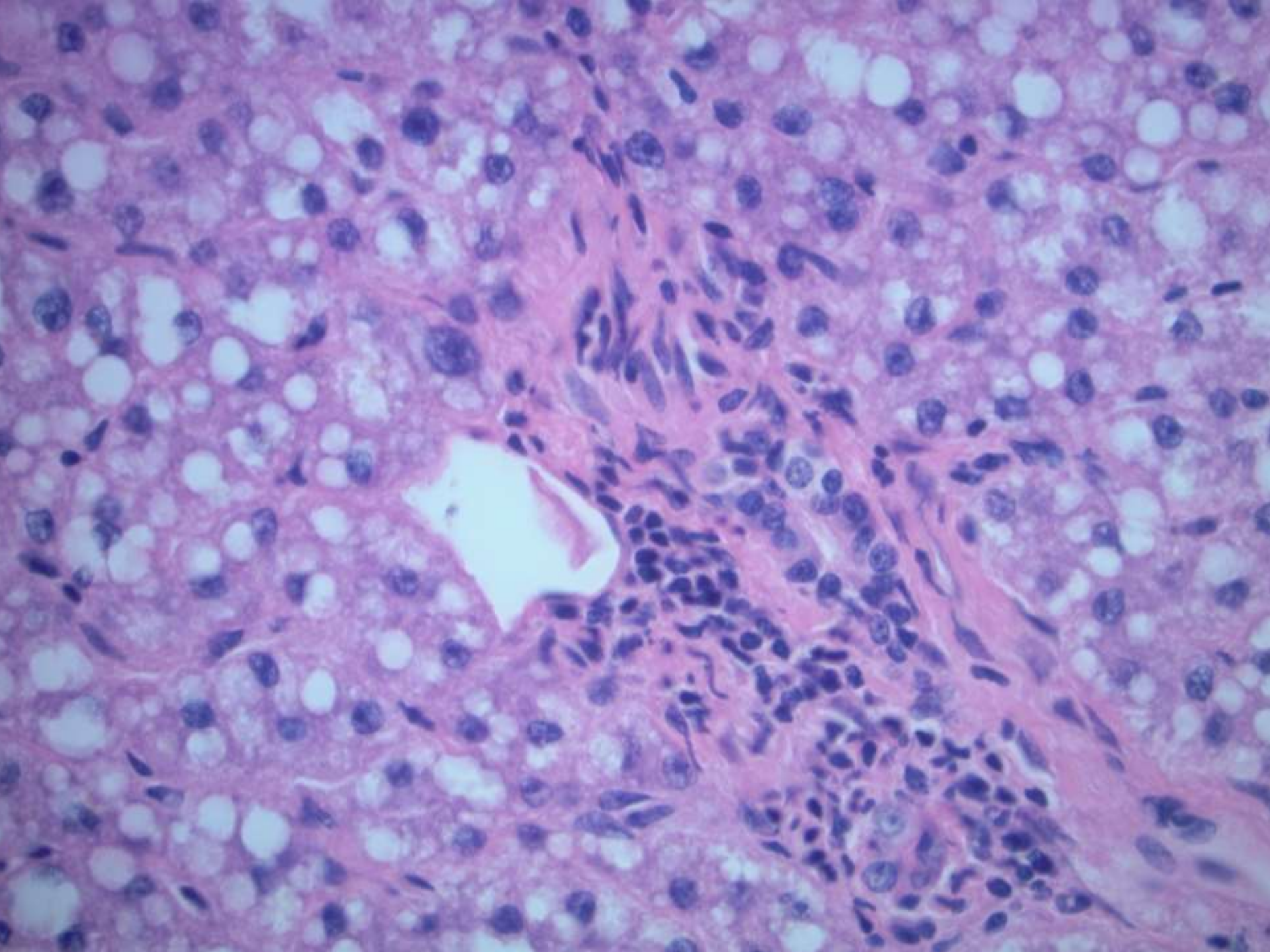
Overestimate fat

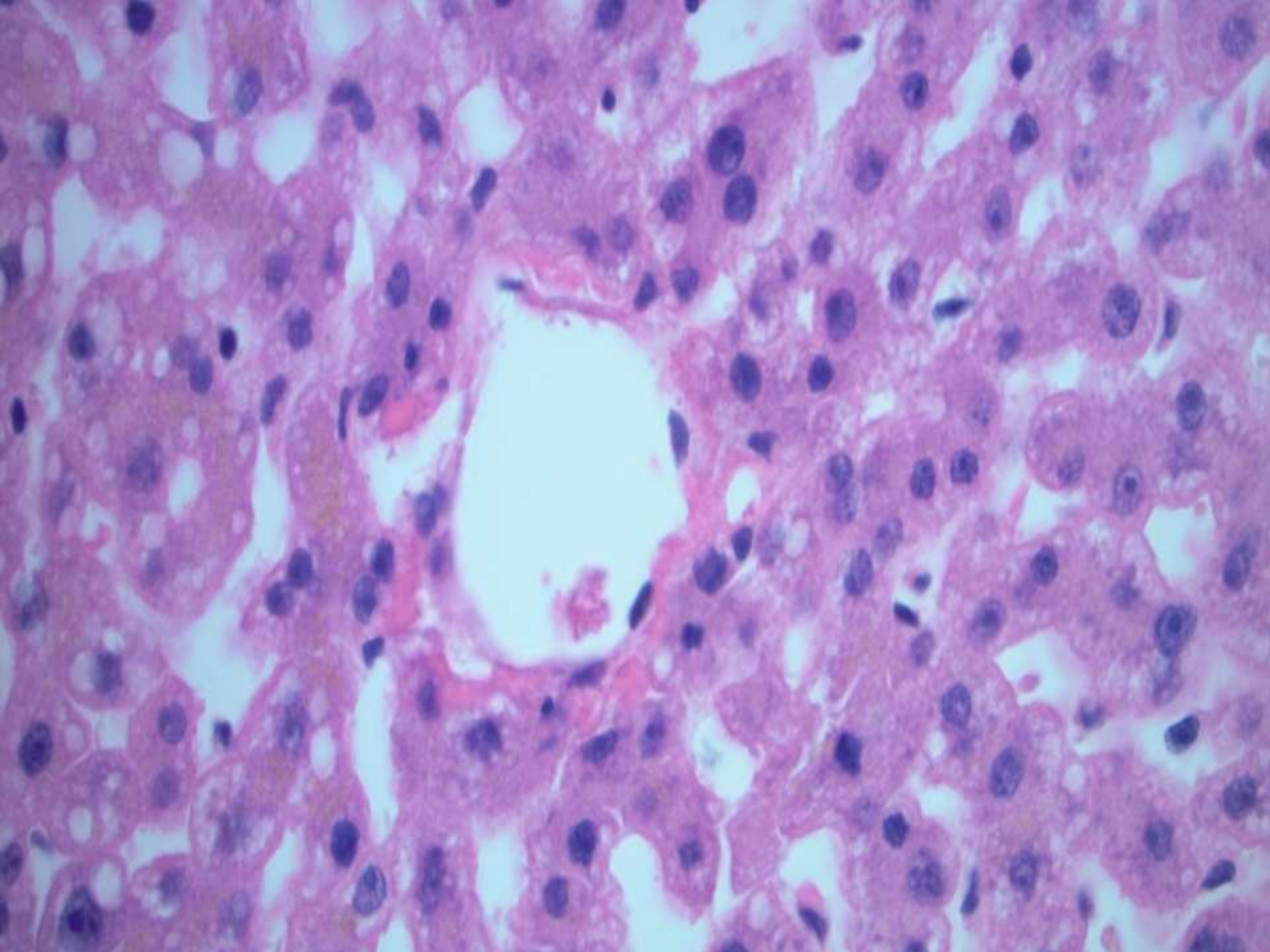
Hide necrosis

Reference: Melin et al, Approach to Intraoperative Consultation for Donor Liver Biopsies, Arch Path Lab Med-- Vol 137, Feb 2103, p. 270-275.

Frozen Last Week







Macrovesicular Steatosis

Single fat droplet filling > half of cell and/or displacing nucleus

Usually centrilobular (unless >60%)

*Microvesicular: OK

**Mild <30% : OK

****Moderate 30-60%: ????? (13% primary non-function in one study)

******Severe >60%: Contraindicated for transplant**

High risk of ischemic/reperfusion injury

Lysed fat blocks hepatic microcirculation

Reference: Melin et al, Approach to Intraoperative Consultation for Donor Liver Biopsies, Arch Path Lab Med-- Vol 137, Feb 2103, p. 270-275.

MMM--Other Causes for Organ Deferral

- **M**alignancy (but CNS malignancies are ok!)

- **M**ore than **M**ild:
  - Necrosis >10%
  - Fibrosis > or = stage 2
  - Activity > or = grade 2

I-OK for Transplant

- M**I**crovesicular Steatosis (common warm ischemic change)
- **I**ron (recipient can metabolize excess)
- Mononuclear Portal **I**nflammation, if viral tests neg (common ICU change)

Take Home Message

Harvest Frozen is important, given time constraints

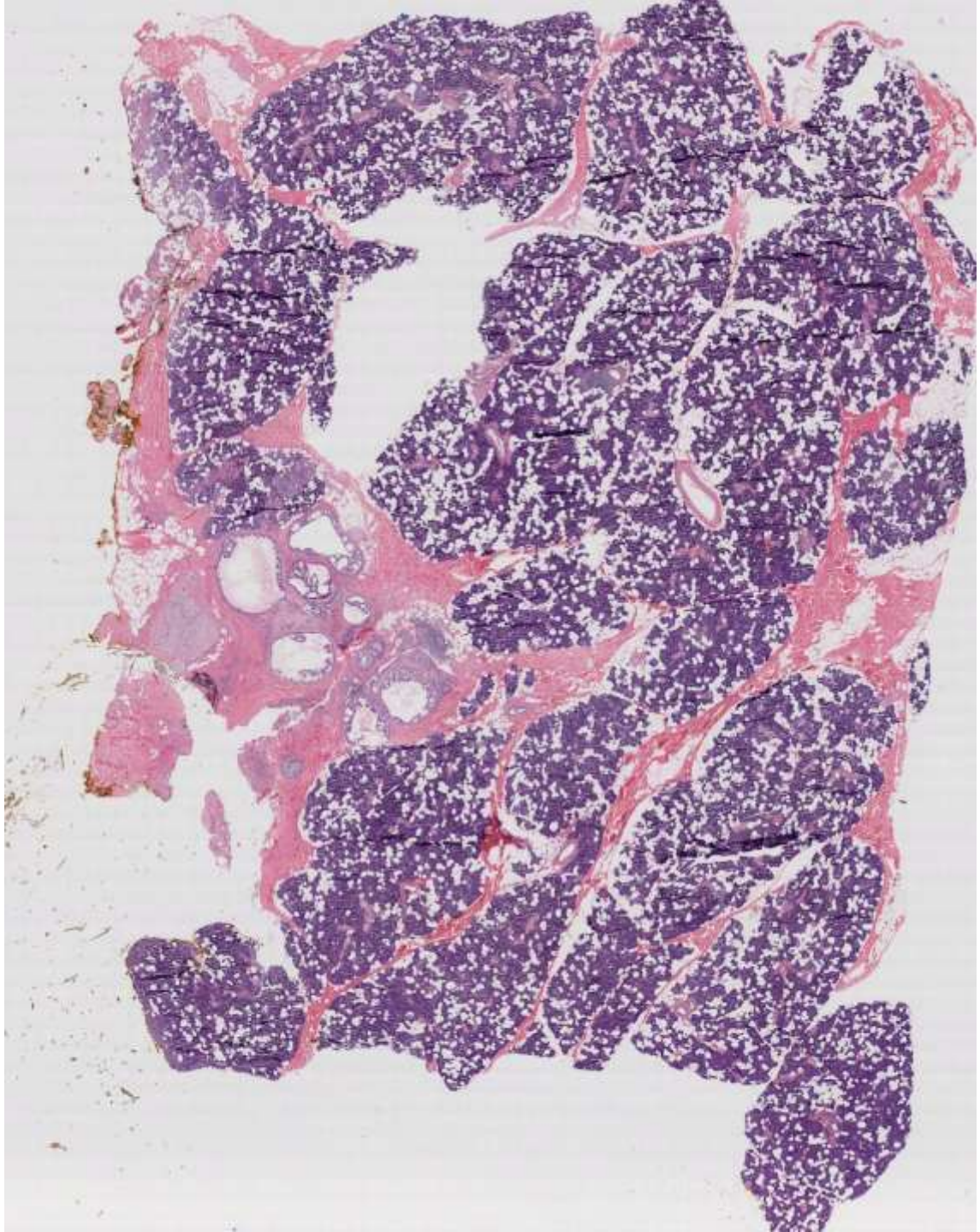
As hospital-contracted physicians, we are legally obligated to help the Donor Network, as well as protected legally

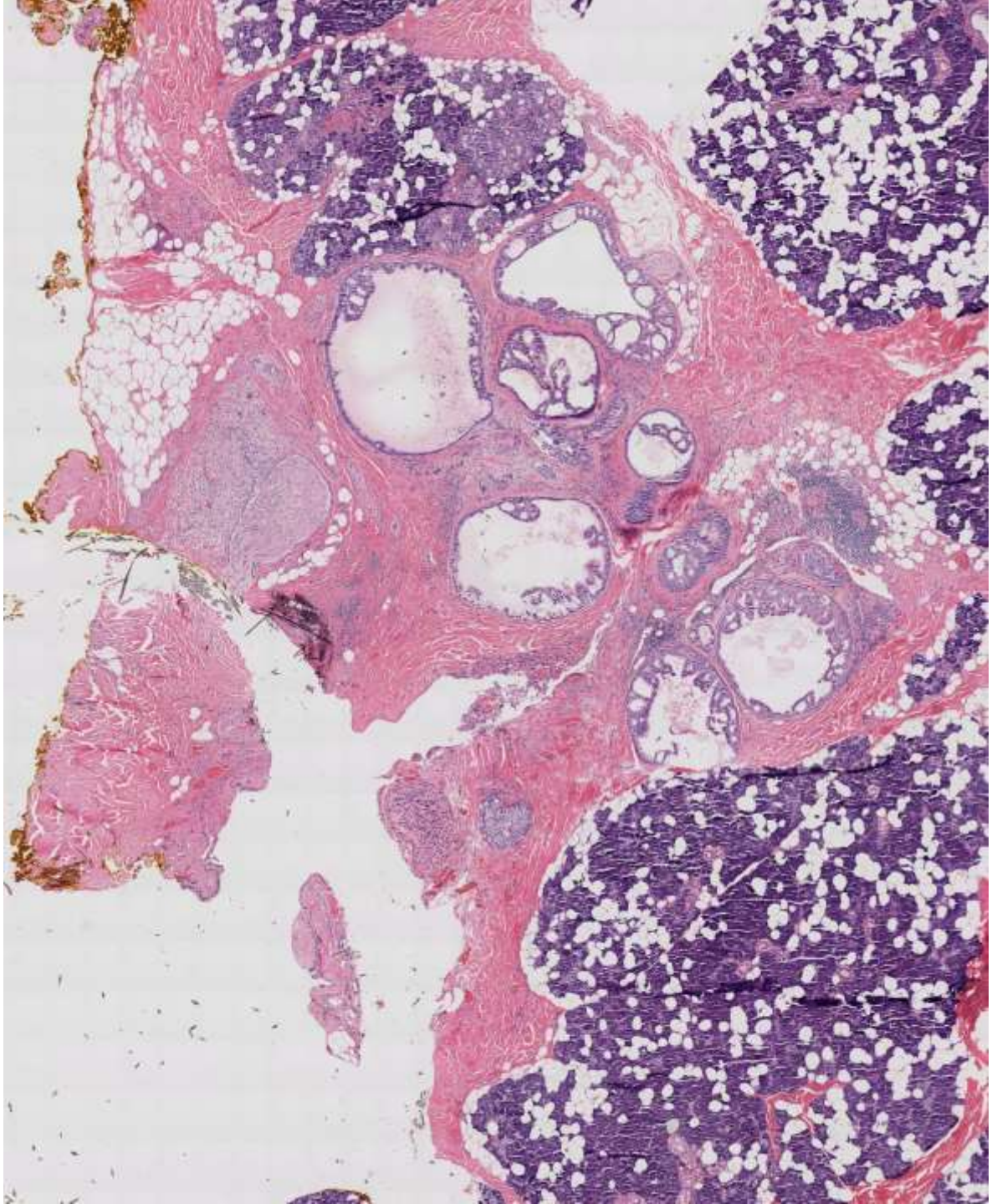
Donor Pathologist does not determine suitability; only describes findings

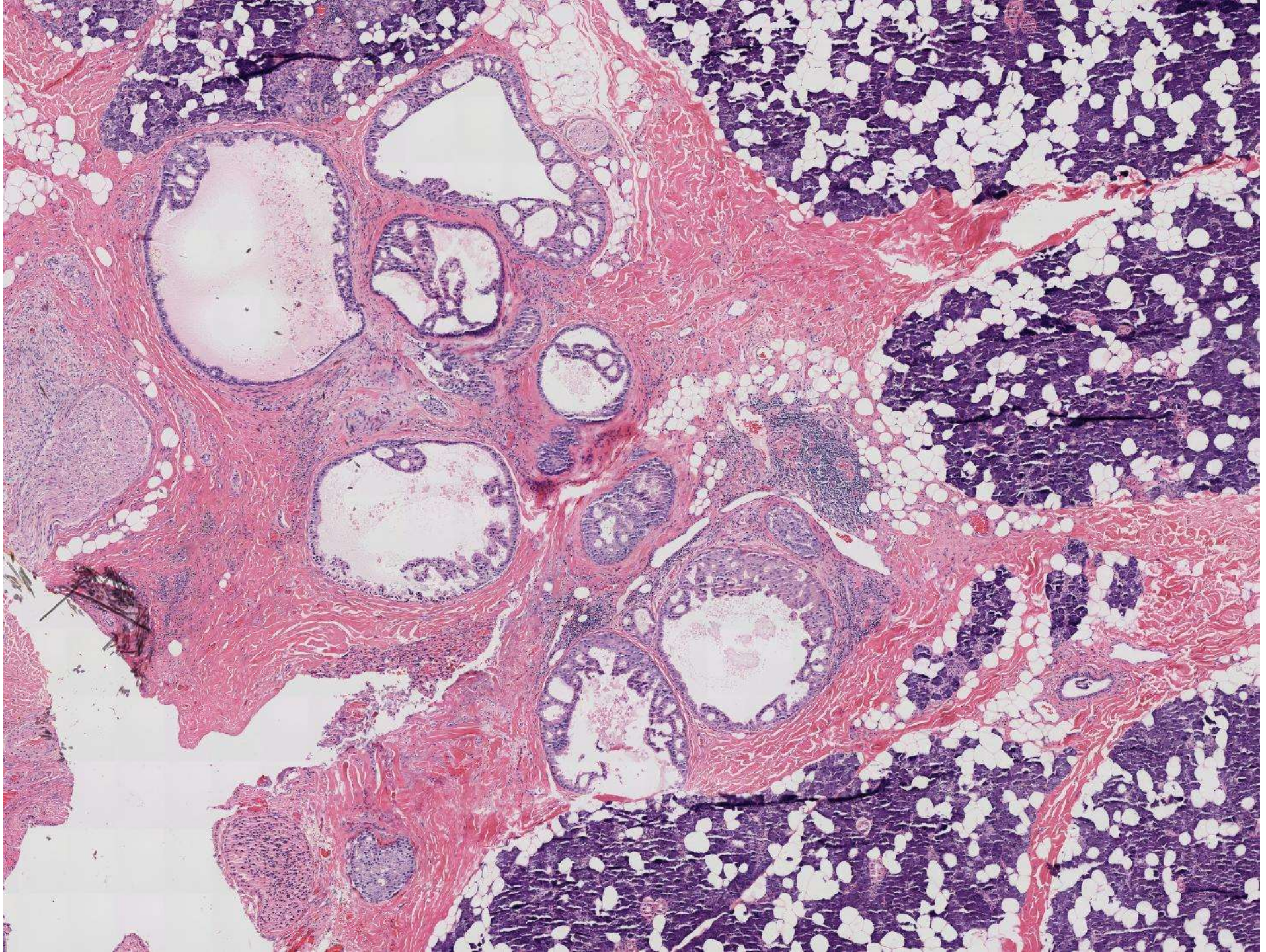
SB 6065

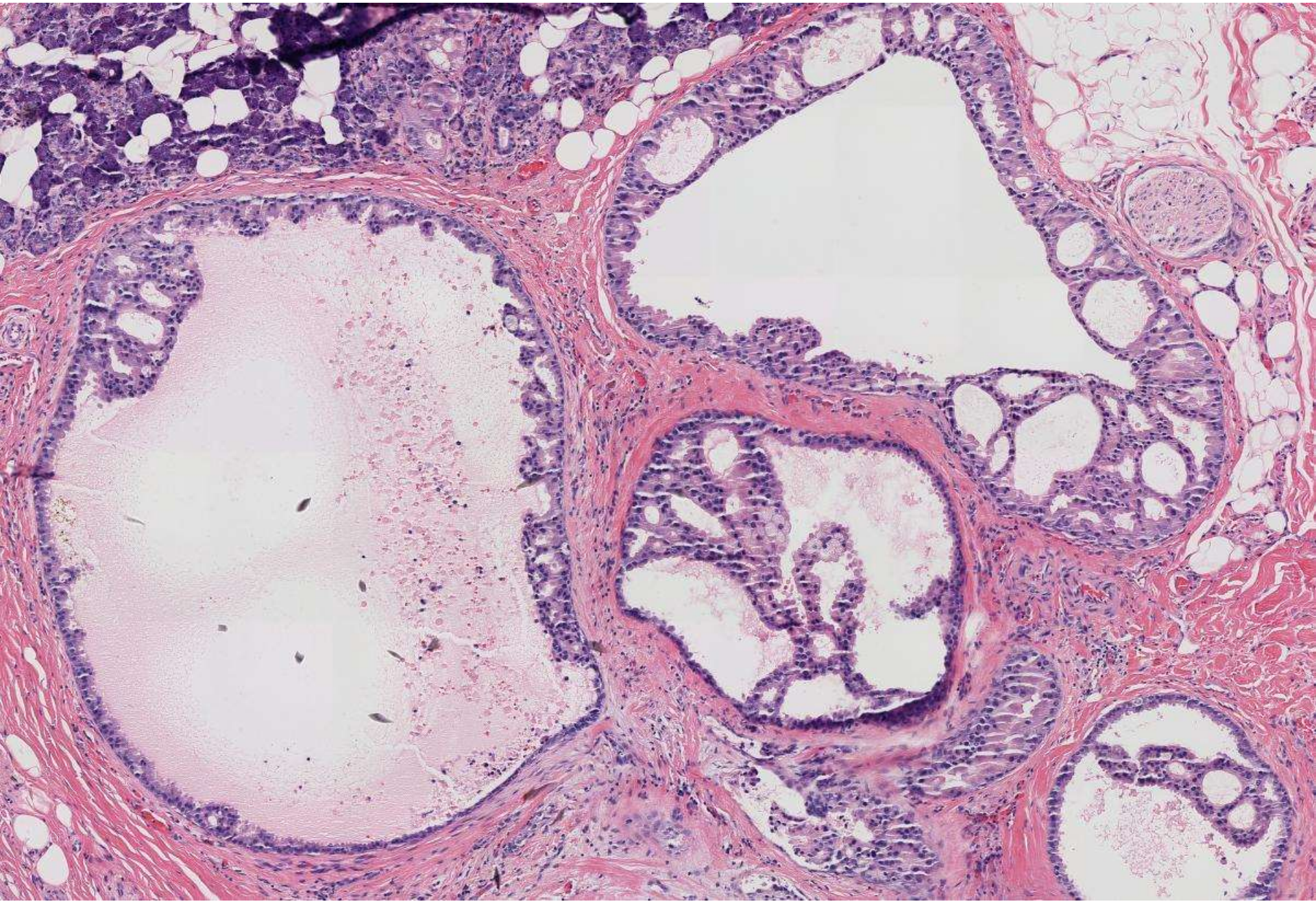
Vanessa Ma/Jeffry Simko; UCSF

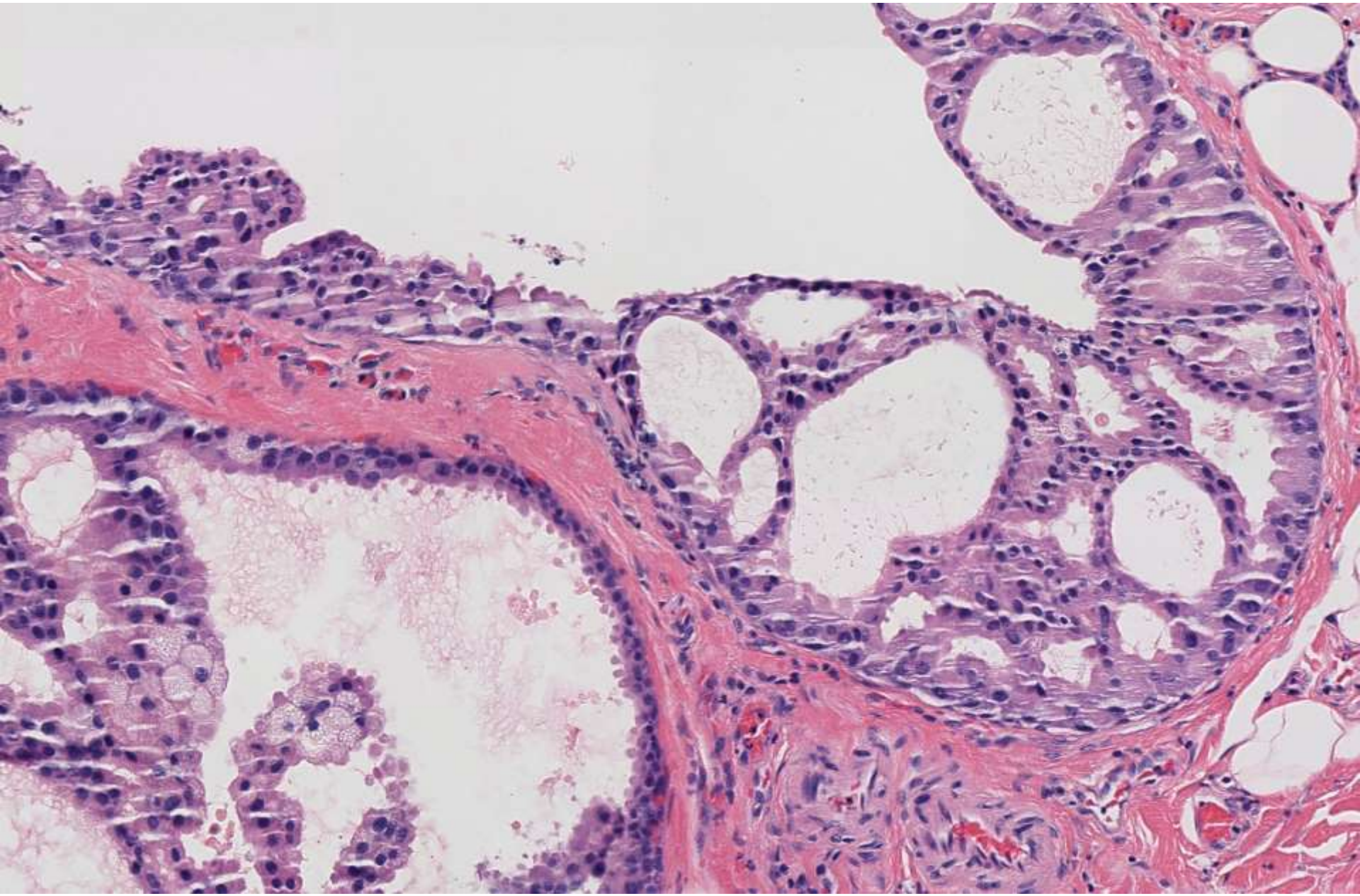
57-year-old male with a 0.6cm left parotid mass for 6 months.

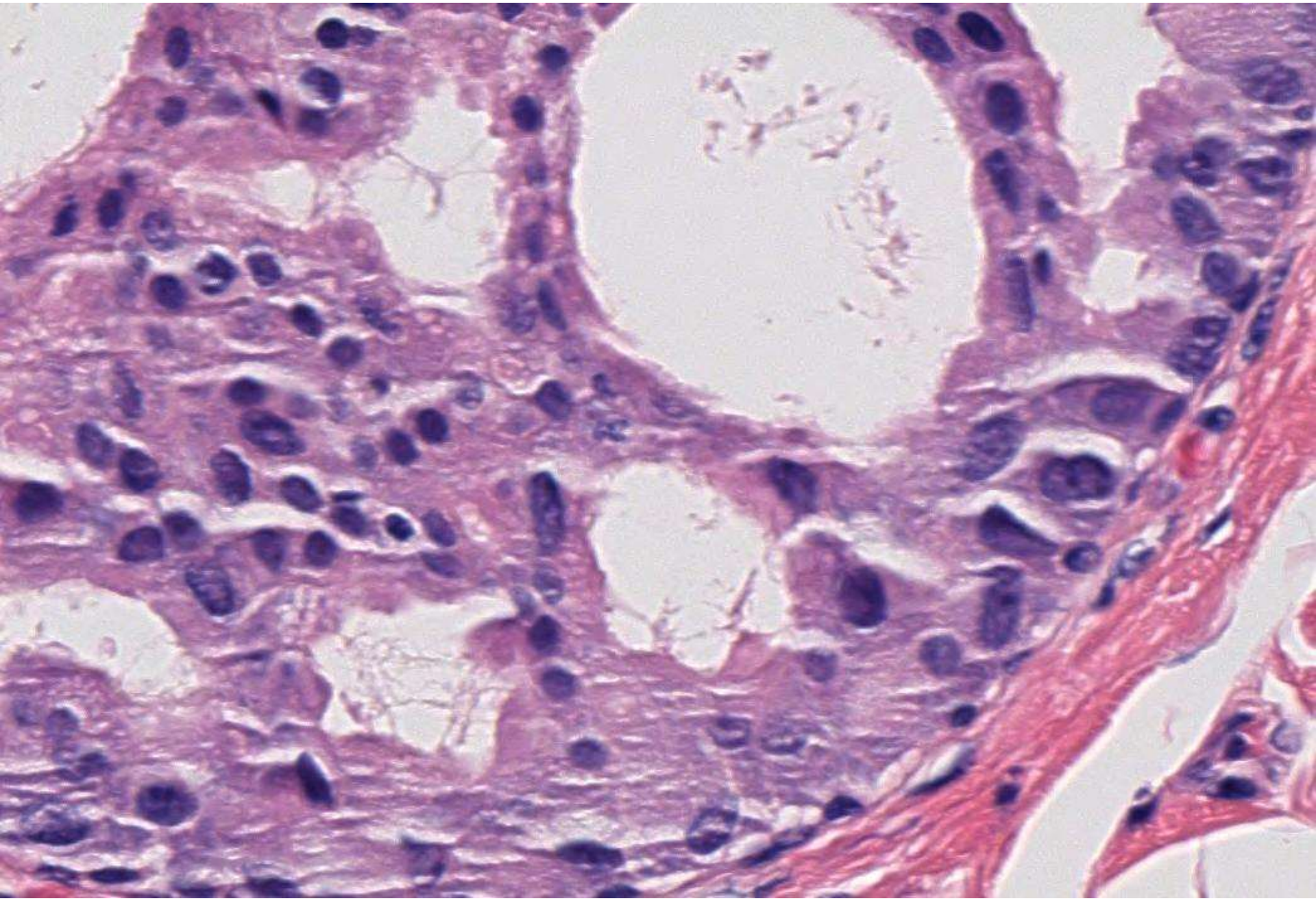












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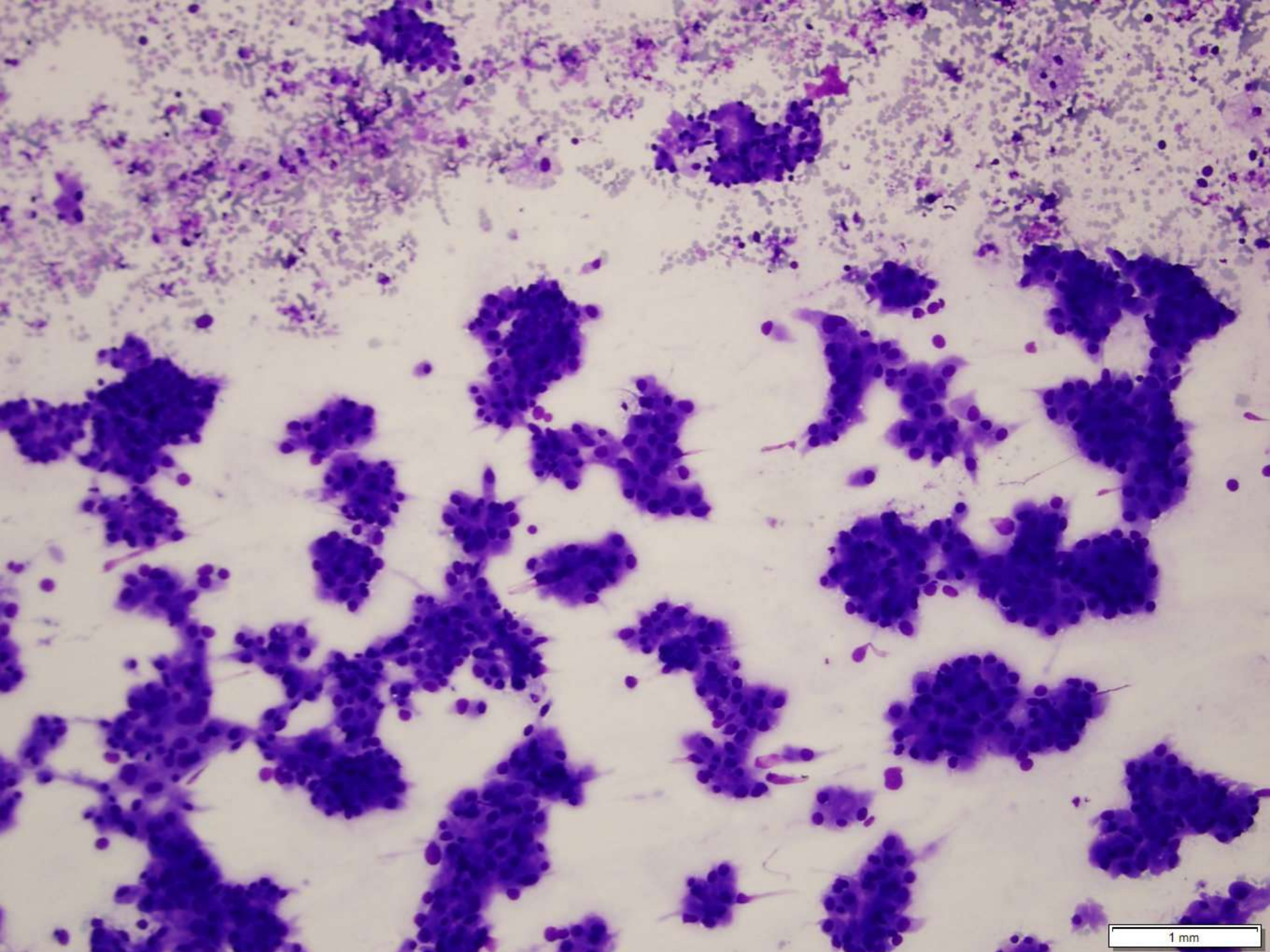
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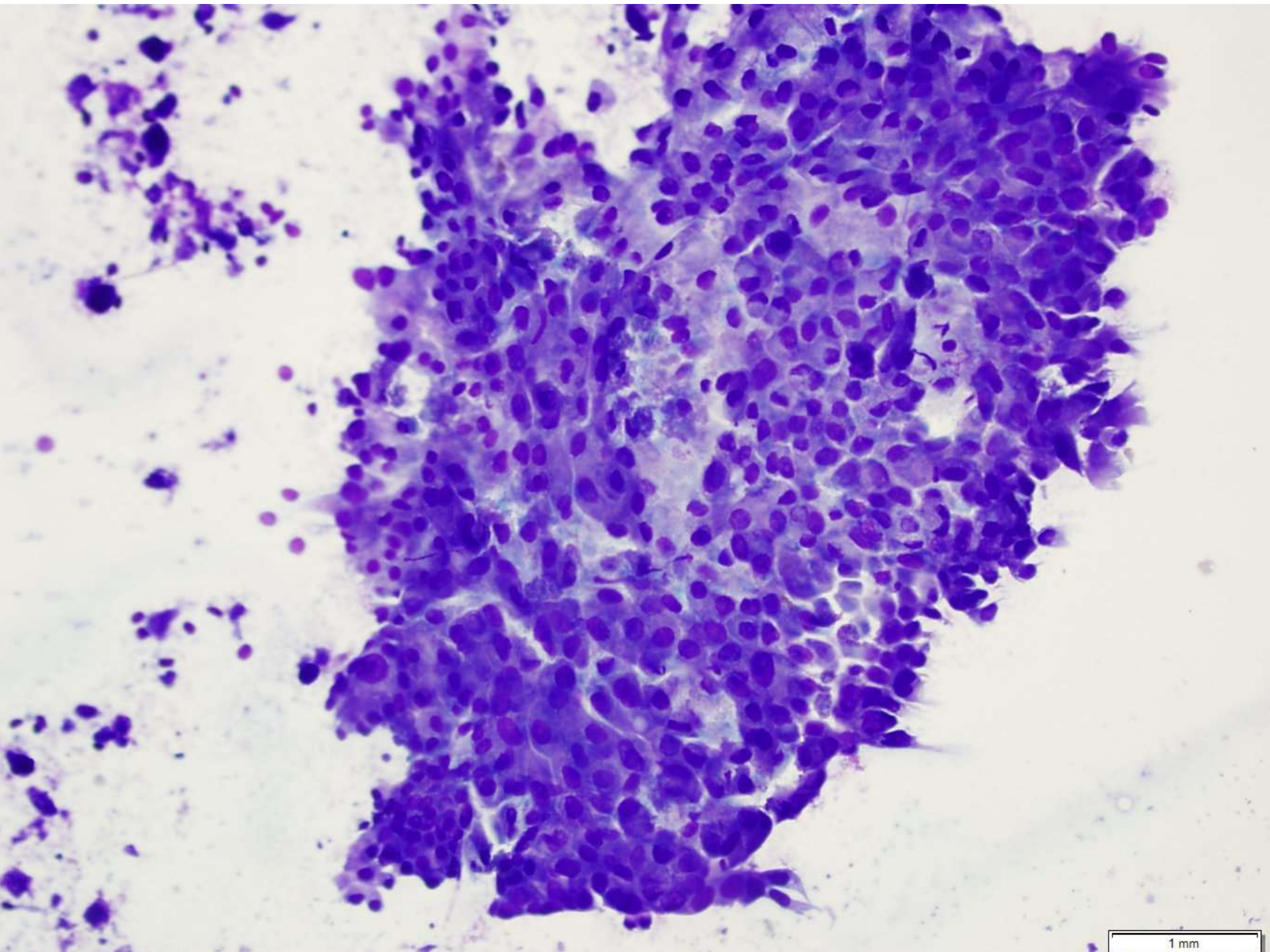
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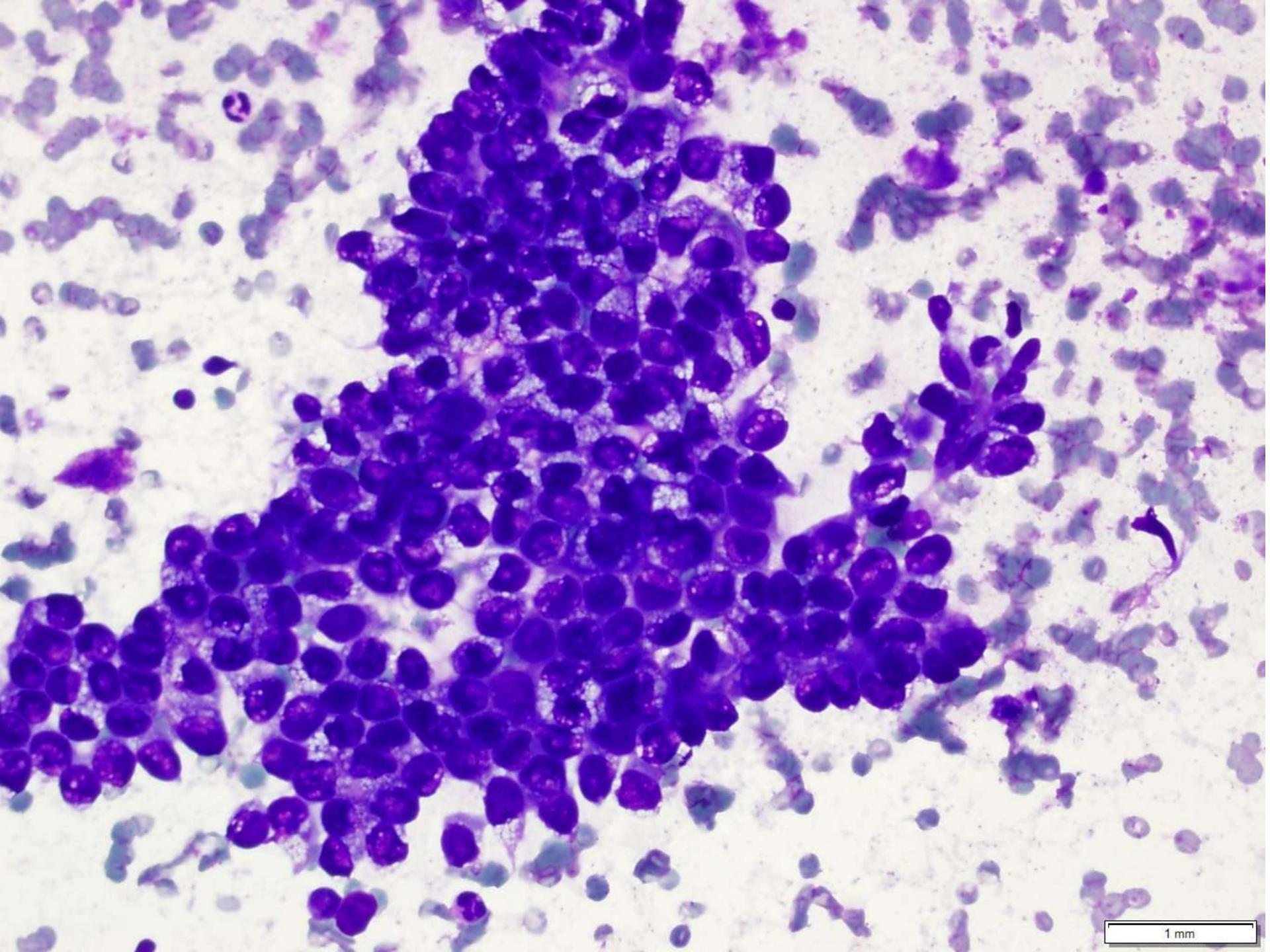
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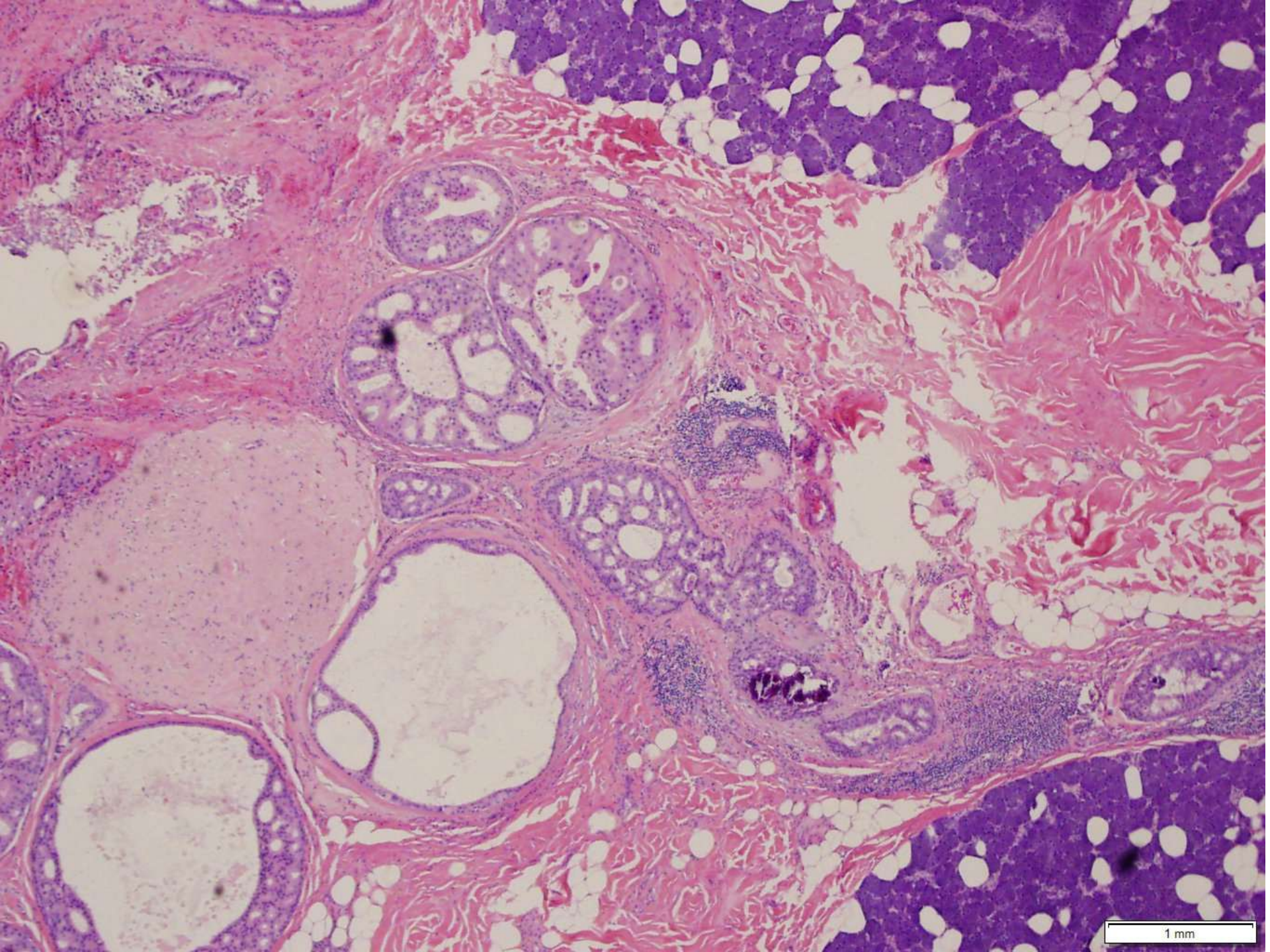
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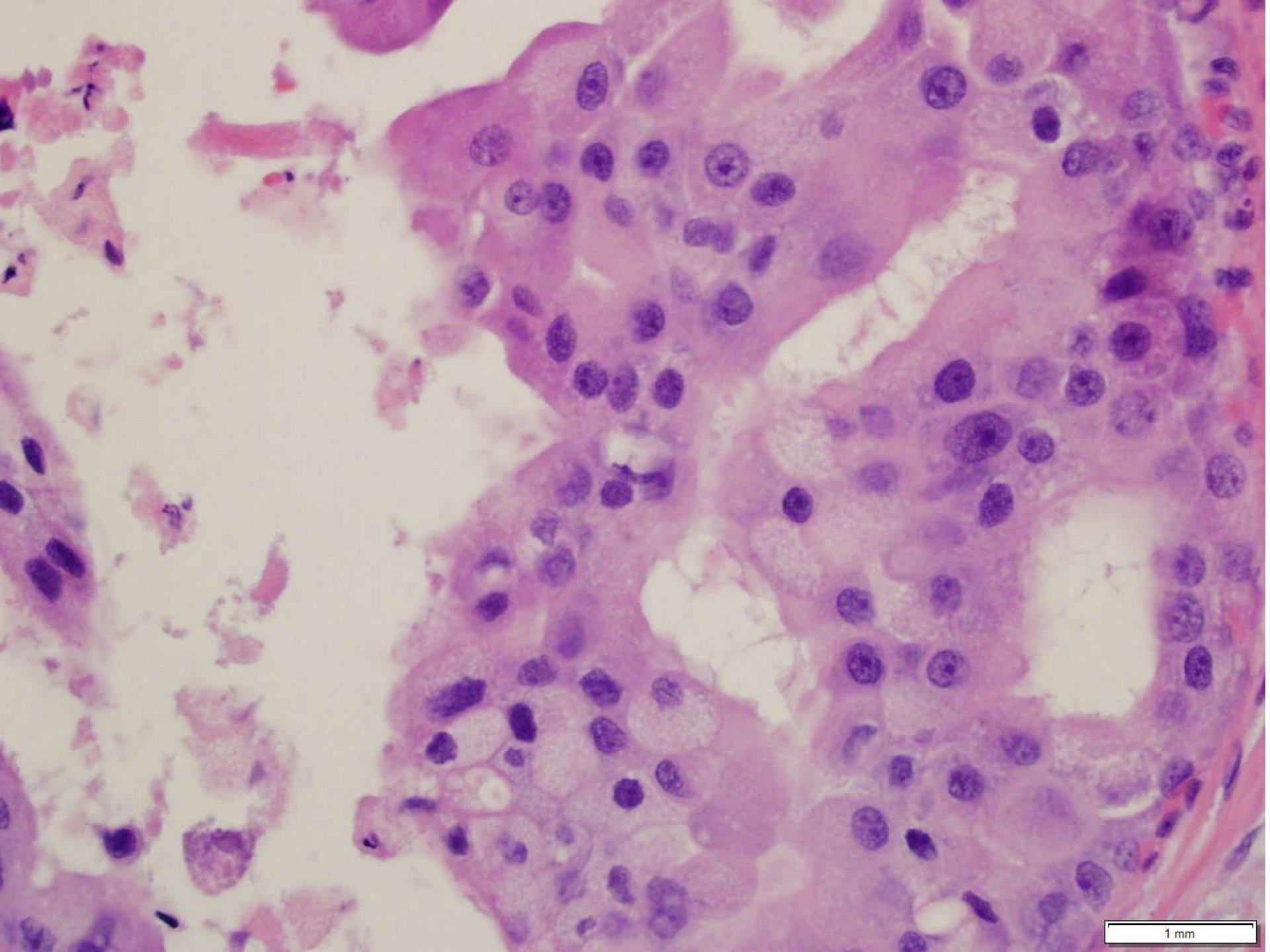
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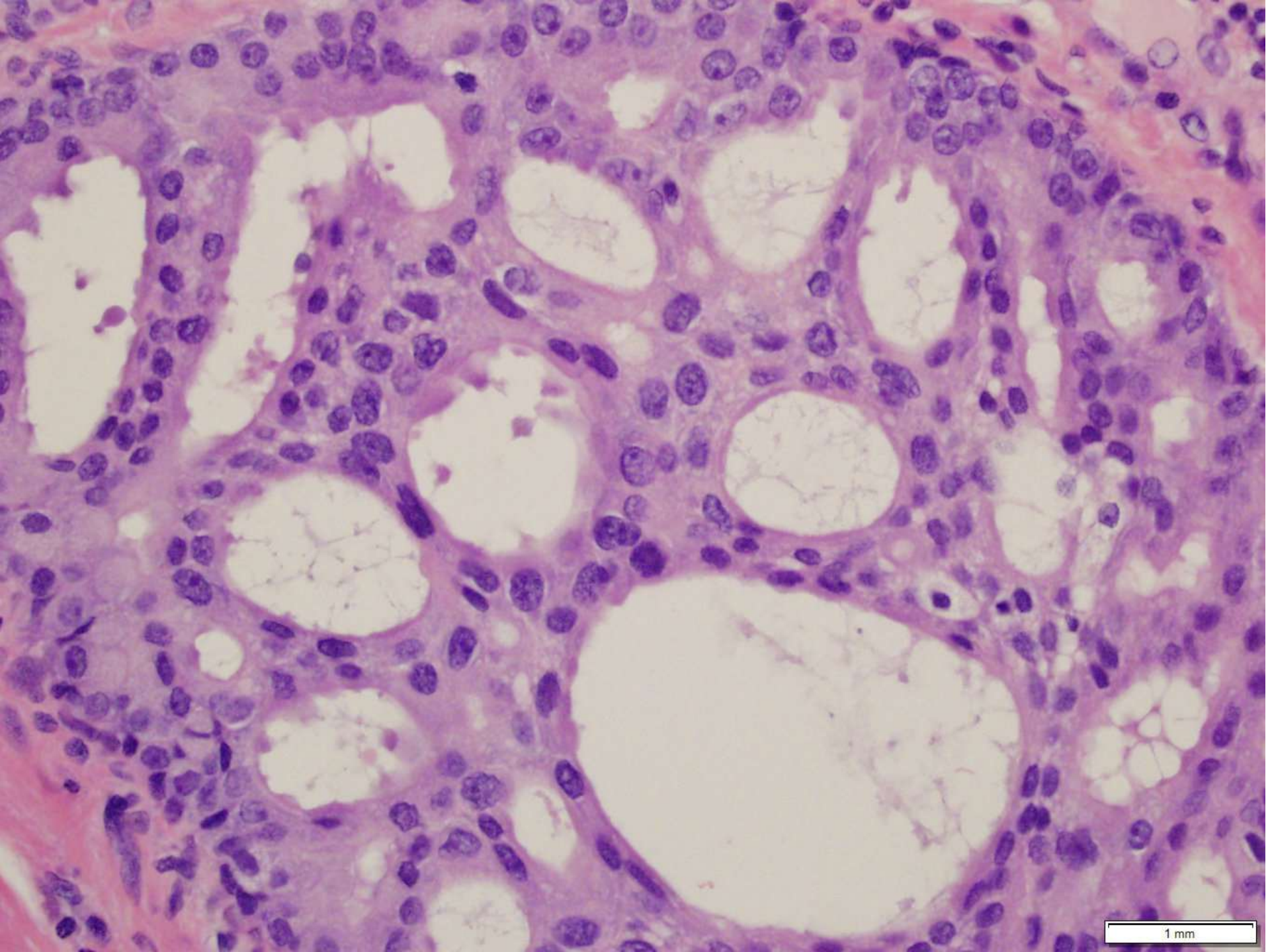
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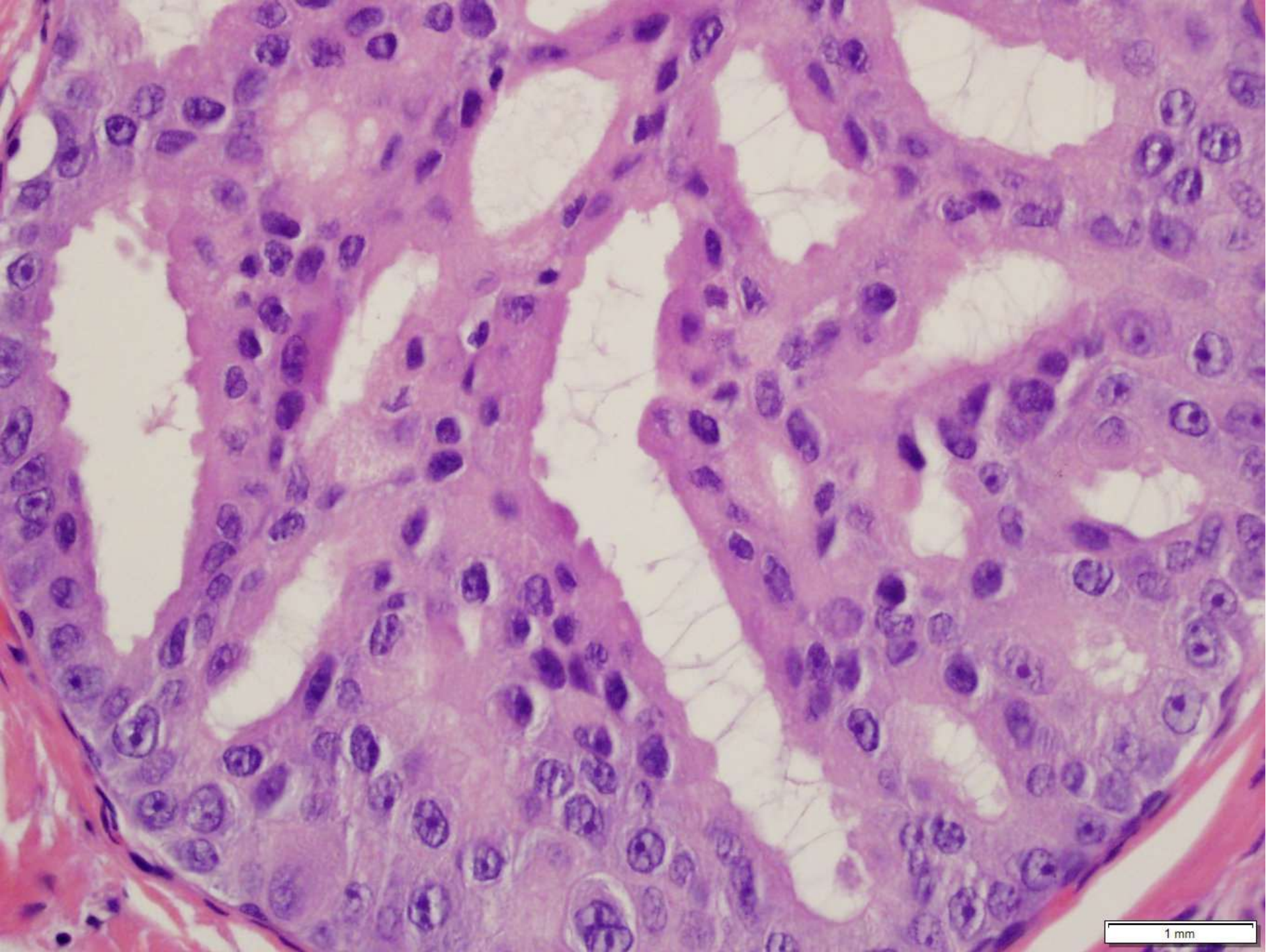
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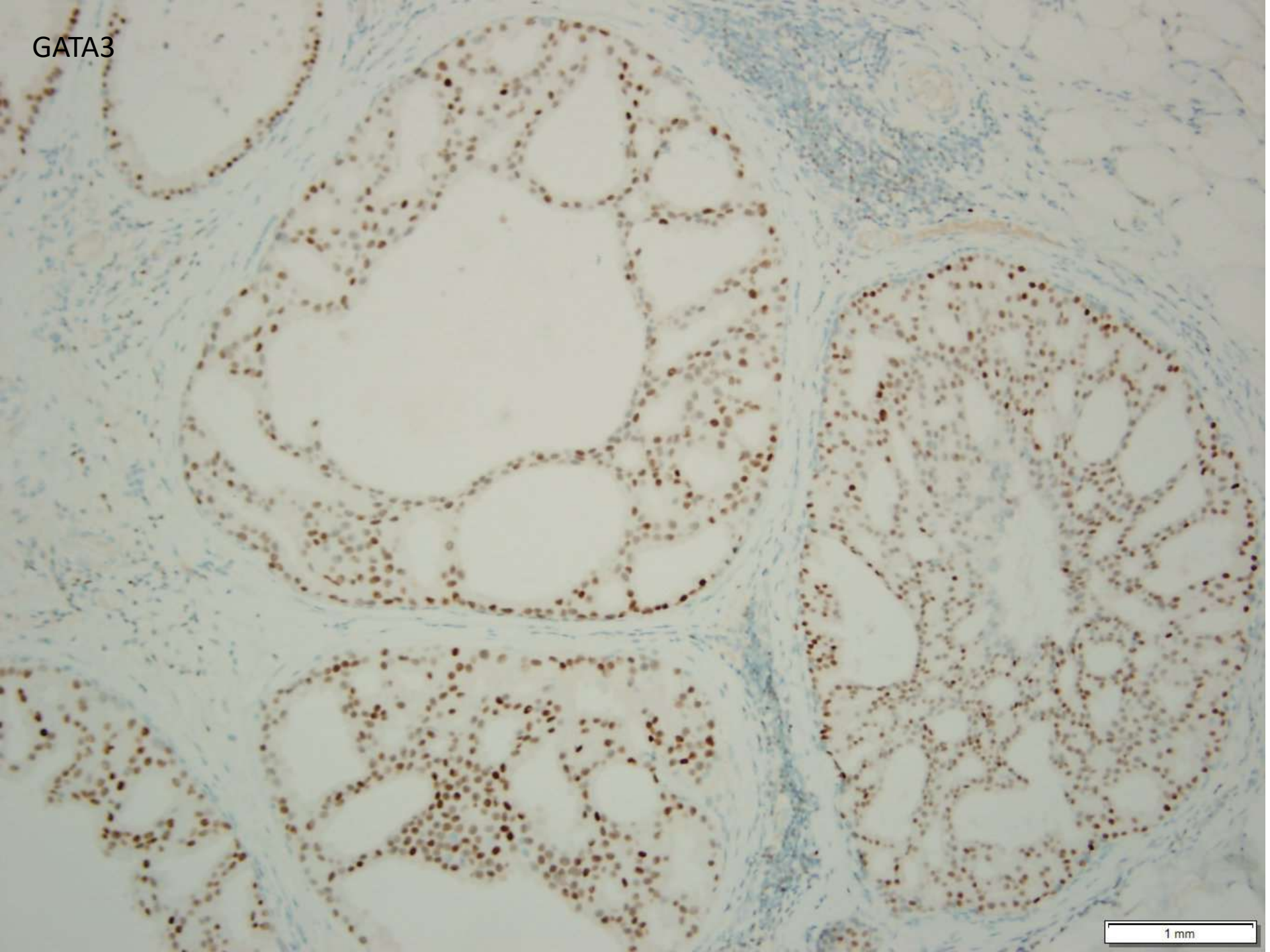
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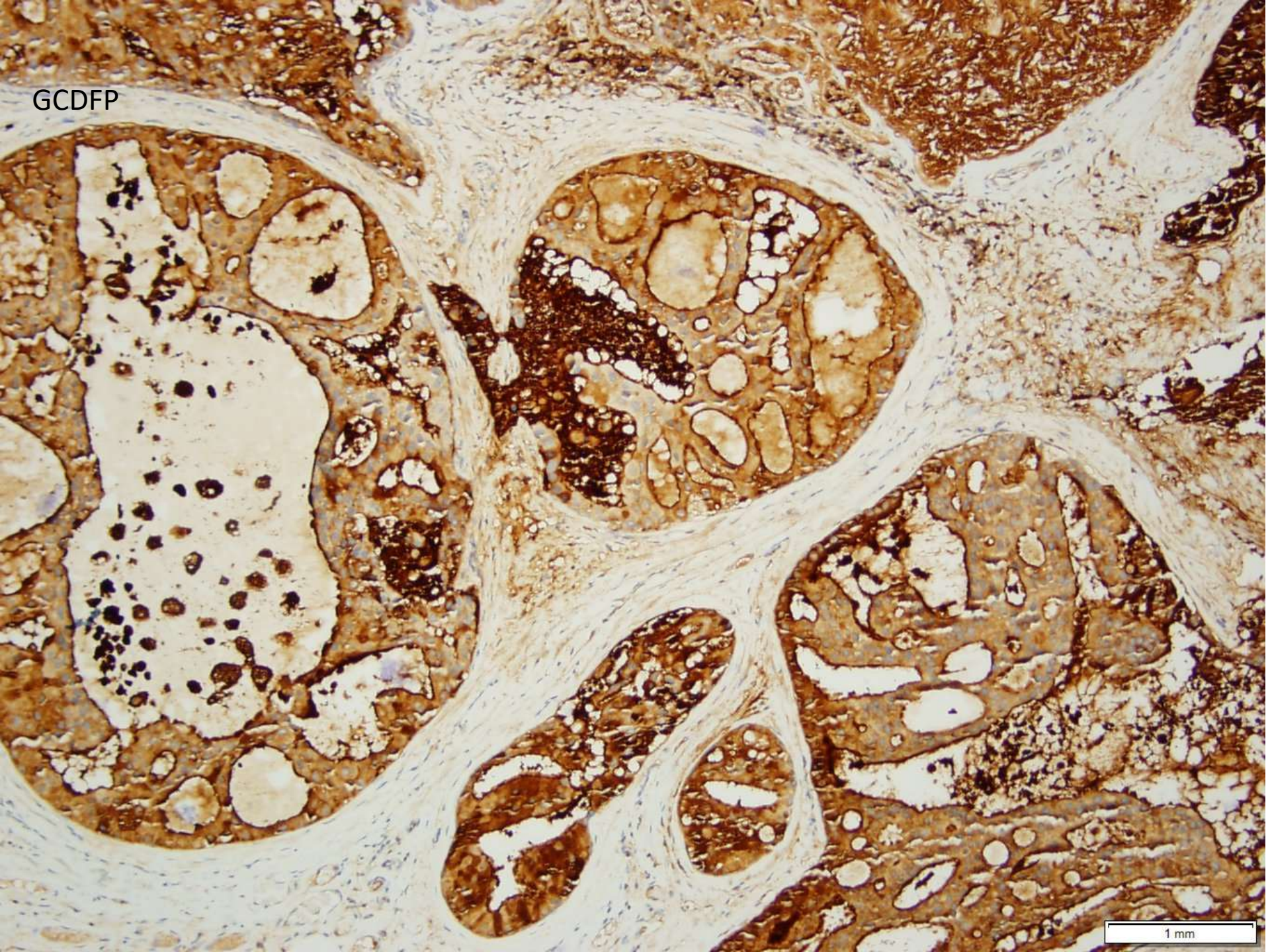
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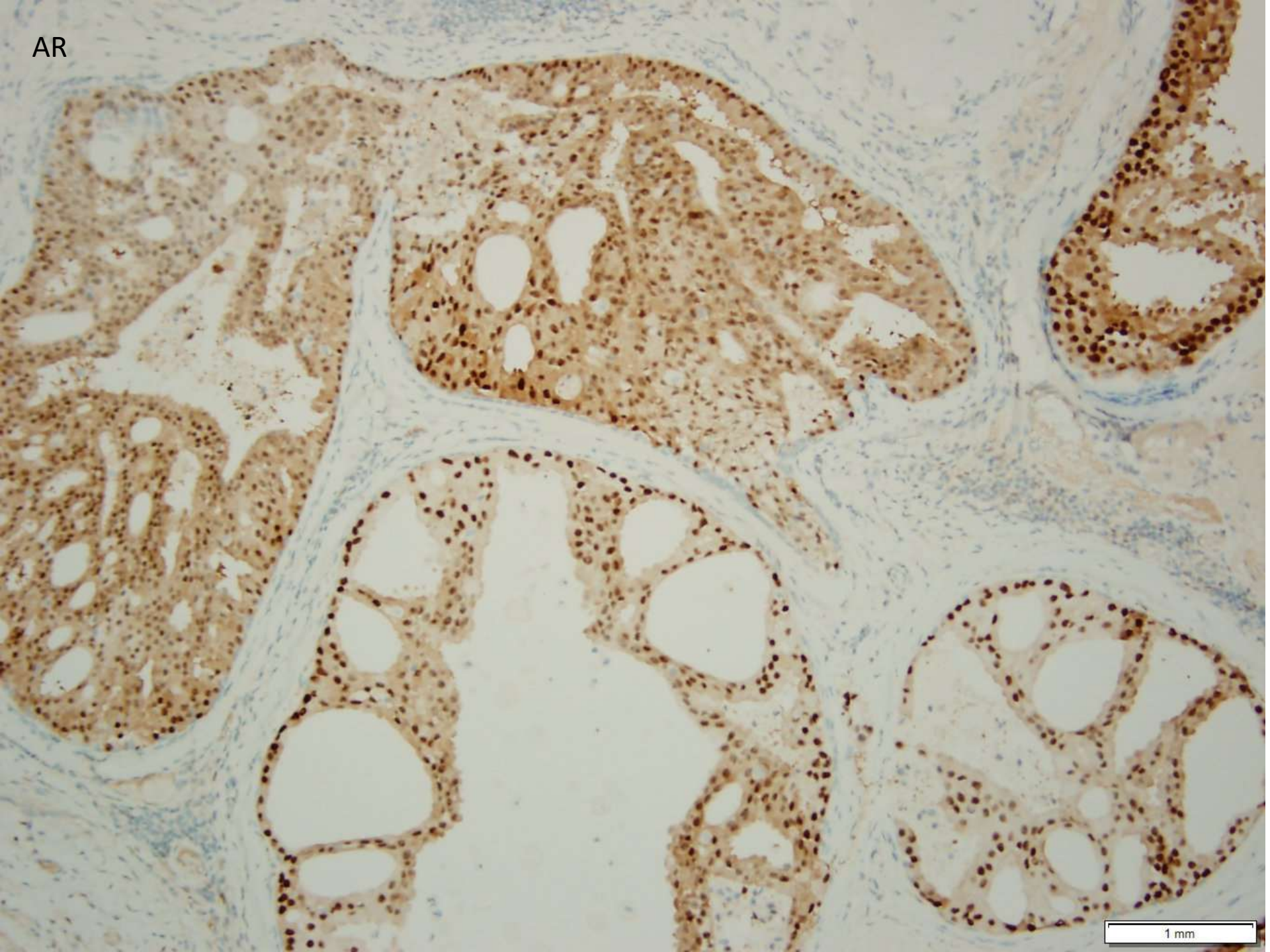
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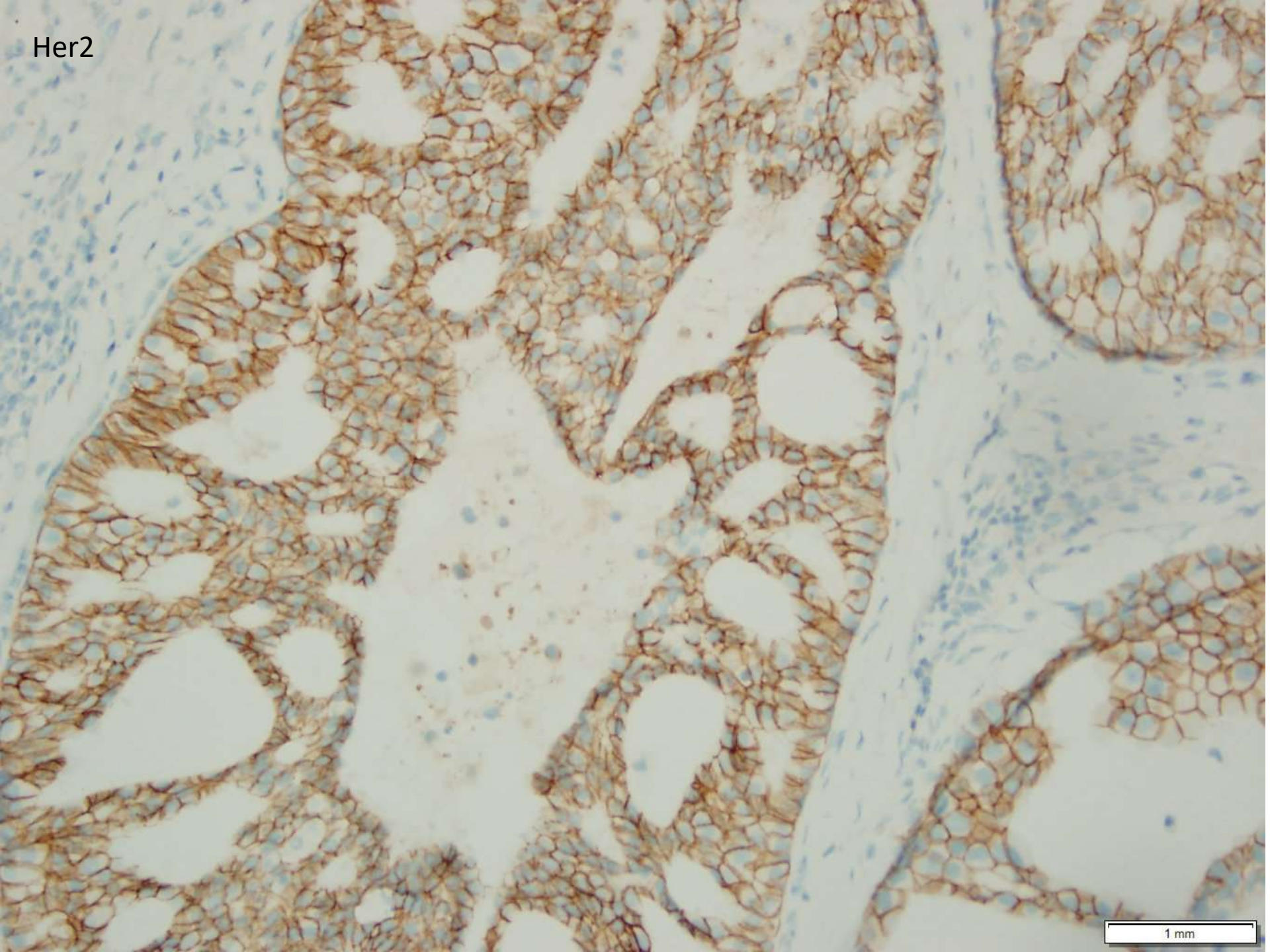
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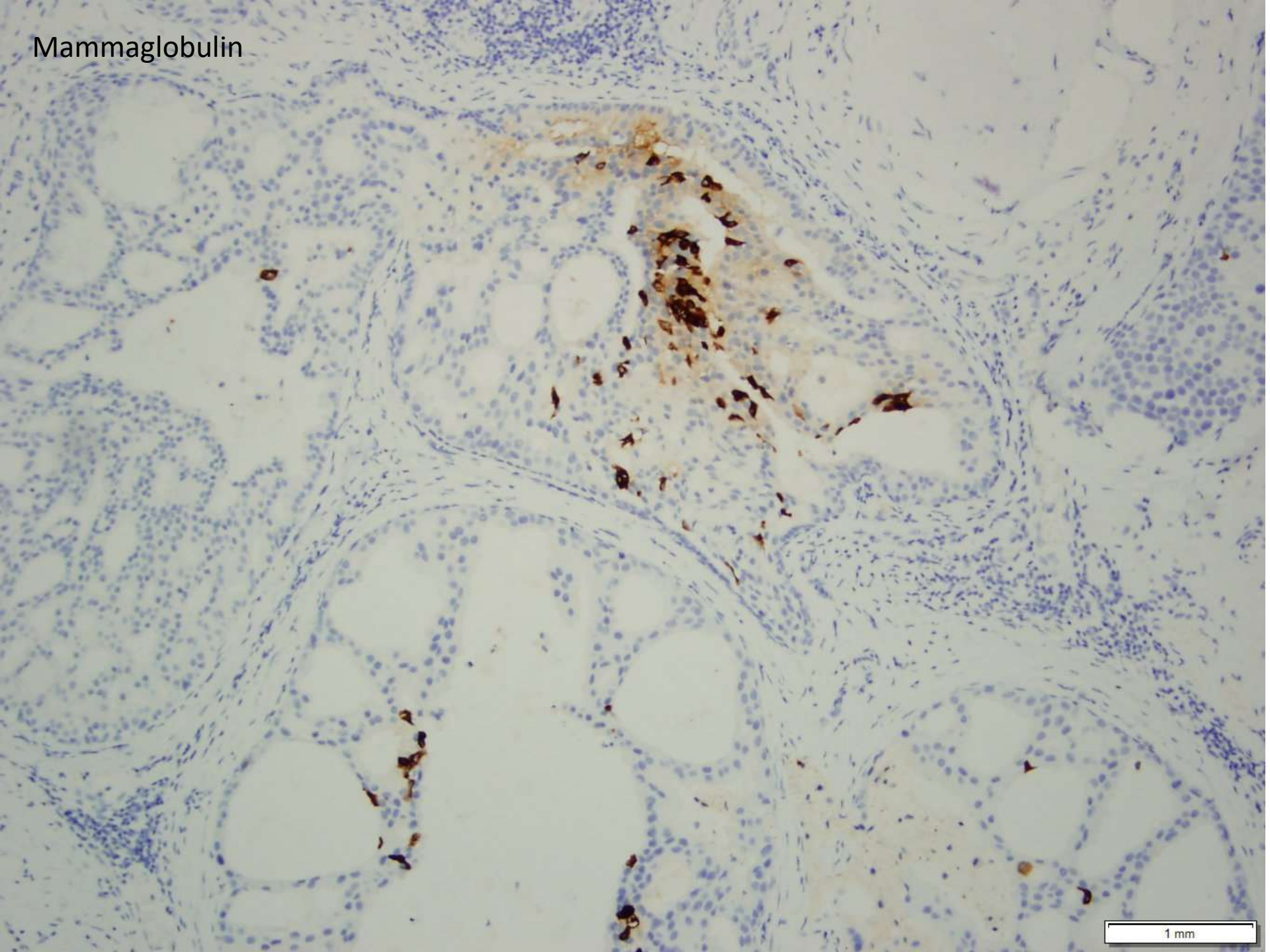
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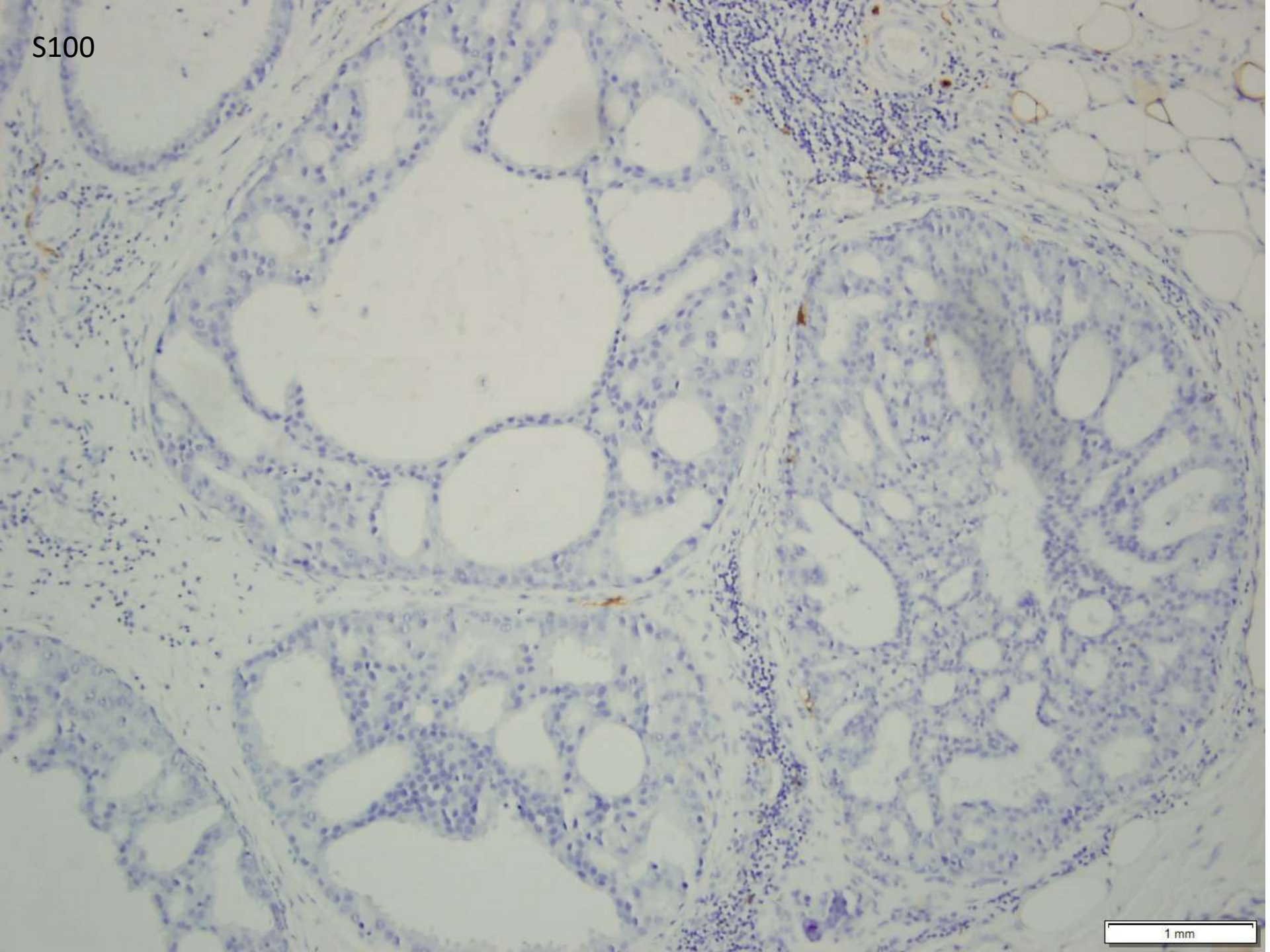
S100
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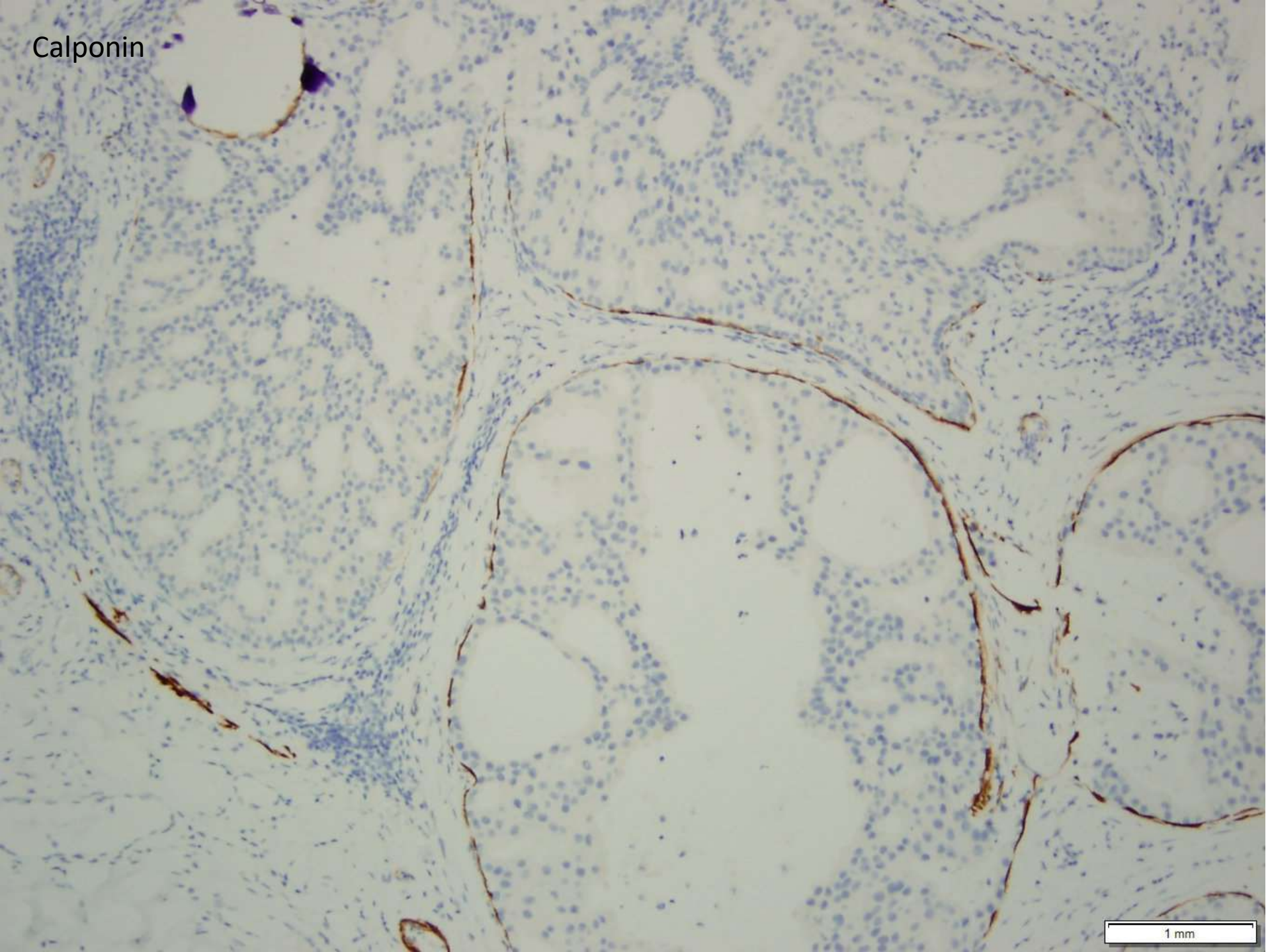
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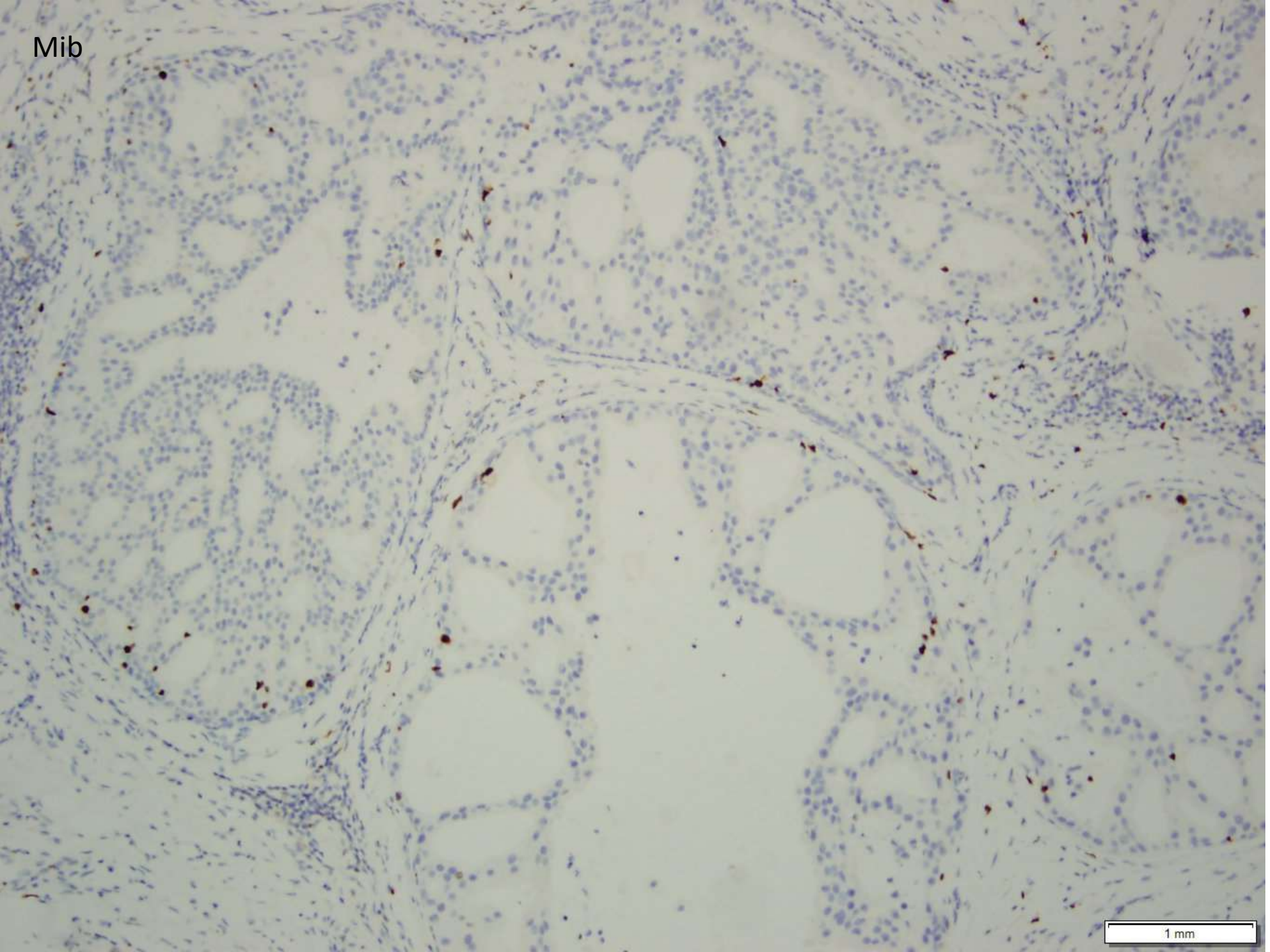
Mib
1 mm

Intra-ductal carcinoma (IDC), low grade

- First described by Chen 1983
- Pure ductal carcinoma in situ in salivary glands
- May exhibit low, intermediate, or high cytologic grade
- Criteria
  - A tumor resembling mammary intraductal carcinoma with cribriform, micropapillary, solid, comedo, or clinging patterns
- A complete myoepithelial layer around tumor cells
  - Specific to IDC

Low grade cribriform cystadenocarcinoma (LG-CCC)

- Low grade salivary gland carcinoma (LG-SDC), first described by Delgado in 1996
- A variant of cystadenocarcinoma
- Cystic predominant intraductal proliferation and low grade histology
  - Resemble breast from ADH and DCIS
- Architecture
  - Cystically dilated ducts
  - Pseudocribriform /cribriform architecture with "Roman Bridges“
  - Solid areas
- Ductal epithelium
  - Bland with heterogeneous morphology
  - Apocrine-type cytoplasmic microvacuoles
  - Golden brown pigment, PAS+, resemble lipofuscin
- Complete myoepithelial layer around tumor cells
- Ductal phenotype: keratins (+), S100 (+), Her2(-)

Low grade cribriform cystadenocarcinoma (LG-CCC)

- Older patients (mean = 62 yr), F:M=2:1
- Parotid predominantly
  - Superficial and deep lobes
- Other site
  - Palate, submandibular gland, intraparotoid LN, accessory parotid gland
- Slow growing cystic mass
- Tumor size: 0.9 to 4 cm
- Clinical indolent
  - ~20% cases with invasion
  - No perineural or vascular invasion
  - Surgical resection w/o radiation

Table 1 Summary of low-grade cribriform cystadenocarcinoma

No.	Author	Year	Age	Sex	Anatomic location	Size (cm)	Histological type (single cyst / multiple cysts)	Treatment
1	Delgado et al.	1996	58	M	Parotid gland (superficial lobe)	1		Superficial parotidectomy
2			62	F	Parotid gland	0.7		Parotidectomy
3			32	F	Parotid gland (superficial lobe)	1.1		Parotidectomy, radiotherapy
4			63	M	Parotid gland (superficial lobe)	1.3		Parotidectomy
5			74	M	Parotid gland	1.8	Not mentioned	Parotidectomy
6			56	F	Parotid gland	1		Parotidectomy
7			42	M	Parotid gland (superficial lobe)	1.2		Parotidectomy
8			69	F	Intraparotid lymph node	4		Parotidectomy
9			69	M	Parotid gland	0.9		Parotidectomy
10			52	F	Parotid gland (deep lobe)	0.8		Parotidectomy, radiotherapy
11	Tatemoto et al.	1996	58	F	Hard palate	1	Multiple	Resection of the tumor
12	Chen et al.	2000	83	F	Parotid gland (superficial lobe)	2	Multiple	Superficial parotidectomy
13	Brandwein-	2004	62	F				
14	Gensler et al.		82	M				
15			78	F				
16			72	F				
17			93	F				
18			Unknown	F				
19			Unknown	Unknown	Parotid gland 14 cases			
20			64	F	Intraparotid lymph node 1 case	Not mentioned	Not mentioned	Not mentioned
21			66	M	Submandibular gland 1 case			
22			57	F				
23			63	F				
24			64	M				
25			62	M				
26			72	M				
27			76	M				
28			54	M				
29	Ide et al.	2004	58	M	Palate	3	Multiple	Simple excision
30	Weinreb et al.	2006	50	F	Parotid gland (superficial lobe)	2		Superficial parotidectomy
31			73	M	Parotid gland (superficial lobe)	1.8		Superficial parotidectomy / supraomohyoid neck dissection
32			67	F	Parotid gland	2.5		Parotidectomy / chemotherapy / radiation therapy
33	Arai et al.	2009	32	F	Parotid gland (superficial lobe)	2.9 and 2.6 (two lesion)	Multiple	Parotidectomy
34	Laco et al.	2010	50	F	Parotid gland	1.4	Multiple	Enucleation
35	Kusafuka et al.	2010	38	F	Parotid gland	3	Multiple	Superficial parotidectomy
36	Nakatsuka et al.	2011	27	M	Accessory parotid gland	1.5	Multiple	Resection of the tumor
37	Nakazawa et al.	2011	56	F	Parotid gland	3	Multiple	Parotidectomy
38	Weinreb et al.	2011	59	F	Intraparotid lymph node	3.5	Multiple	Not mentioned
39	Wang et al.	2013	48	M	Parotid gland	2	Multiple	Parotidectomy
40			59	F	Parotid gland	3	Multiple	Parotidectomy
41	Ko et al.	2013	57	M	Parotid gland	0.7	Multiple	Resection of the tumor
42	Jeong et al.	2013	90	M	Parotid gland	5.3	Multiple	Parotidectomy
43	Obokata et al.	2013	65	M	Submandibular gland	4.2	Multiple	Resection of the tumor / regional lymph node dissection
44	Present case	2016	72	M	Minor salivary gland in the buccal mucosa	0.8	Single	Resection of the tumor

- Given that most LG-SDC are non-invasive neoplasms; the terms "cribriform cystadenocarcinoma" and LG-SDC should be replaced by “low-grade intraductal carcinoma" (LG-IDC) of salivary gland” or "low-grade intraductal carcinoma with areas of invasive carcinoma" in those cases with evidence of invasive carcinoma.

Kuo YJ, Weinreb I, Perez-Ordonez B. Low-grade salivary duct carcinoma or low-grade intraductal carcinoma? Review of the literature. Head Neck Pathol. 2013 Jul;7 Suppl 1:S59-67

Cytology of LGCCC

- Pseudopapillary clusters comprising mucus-producing cells
- Arranged in irregular overlapping clusters
- Inconspicuous nuclear atypia
- Variable-sized and irregular shaped cytoplasmic vacuoles
- MGG stain smears
  - Fine metachromatic cytoplasmic granules
- Background
  - Cystic changes
  - No necrosis or mucin
- DD
  - Acinic cell carcinoma
    - Cytoplasmic vacuoles tend to be uniform
  - Mucoepidermoid carcinoma
    - Squamoid cells and mucous-like vacuolated cytoplasm

Acinic carcinoma

- Esp. papillary cystic variant
- More common microcystic growth pattern
  - No predominant intraductal component
  - No cribriform
- Zymogen granules
  - PAS +/PASD +
- Expressed DOG1 diffusely in a canalicular pattern
- S100 negative

Mammary analog secretory carcinoma (MASC)

- Predominantly an extraductal neoplasm
- Bubbly pink cytoplasm
- Robust expression of mammaglobin and S100
  - MUC-4 +
- Molecular
  - t(12;15) *ETV6-NTRK3* fusion gene
  - ETV6 rearrangement

Take home message

- LG-CCC/LD-SDC/LG-IDC
- Intraductal proliferation
- Bland ductal cells in cribriform
  - Resemble Low grade breast
  - Focal invasion
- Indolent clinical behavior
- No association with conventional SDC
- DD
  - Acinic carcinoma
  - MASC

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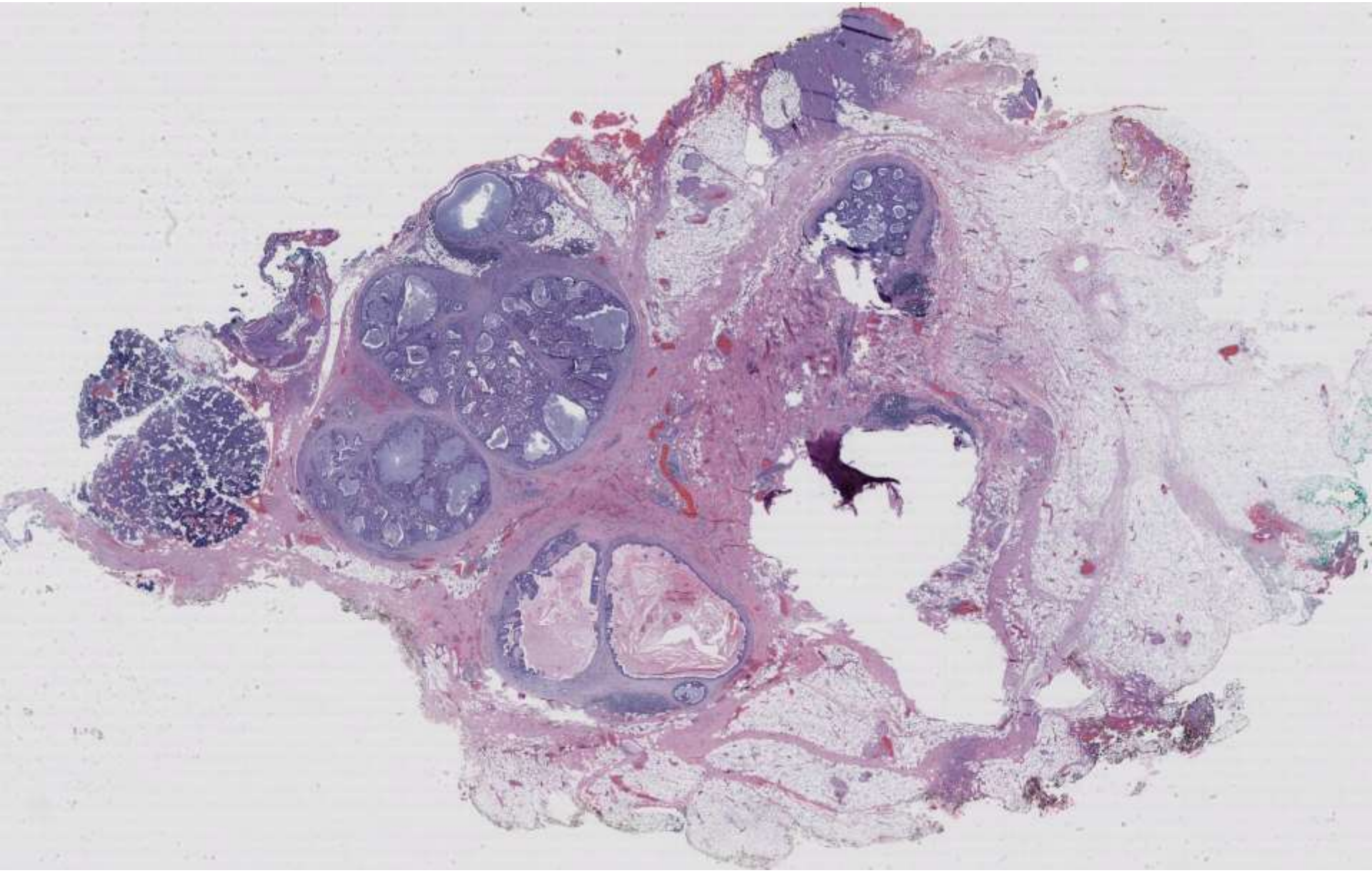
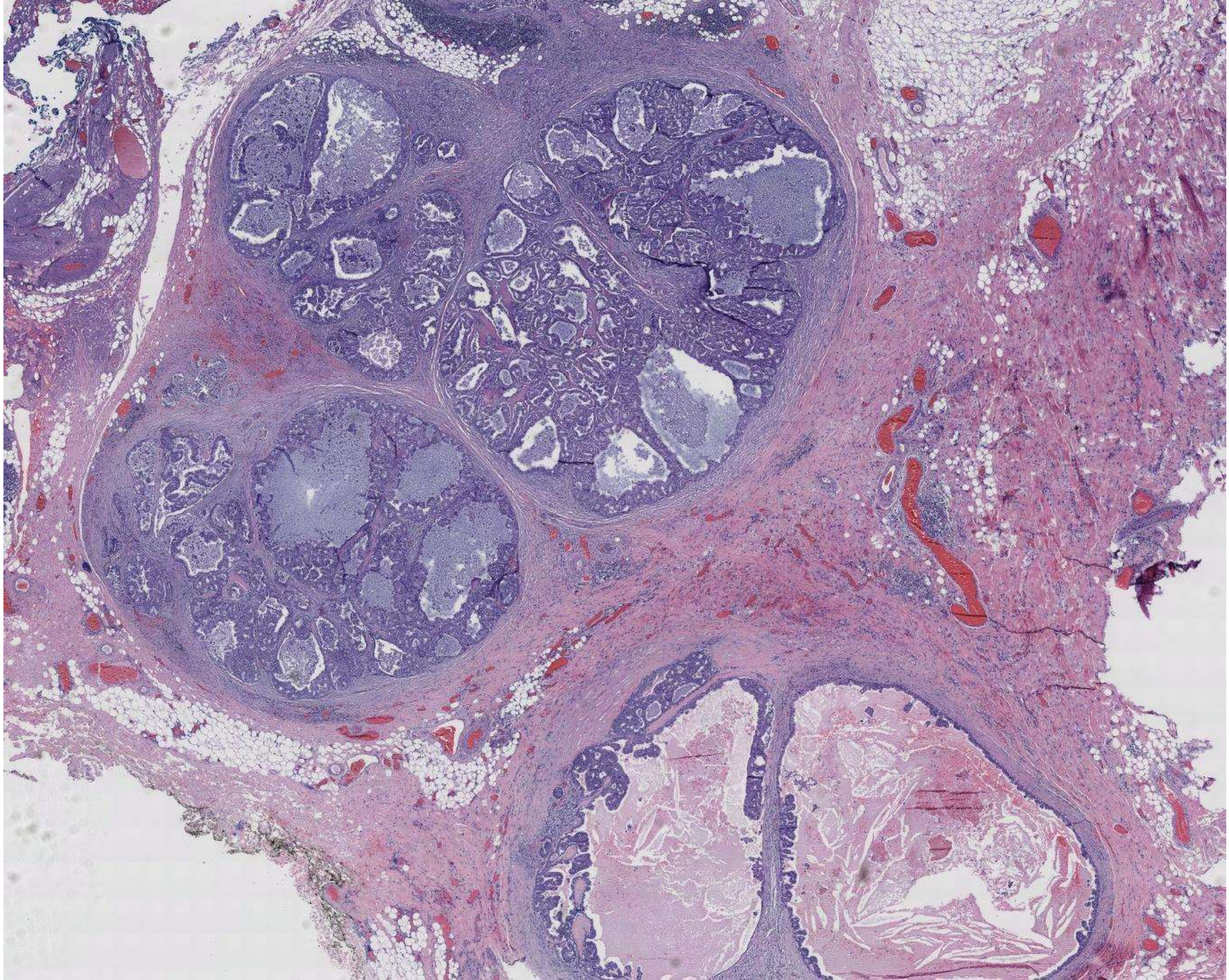
9. Ohta Y, Hirota Y, Kohno Y, Kishimoto K, Norose T, Ohike N, Takimoto M, Shiokawa A, Ota H. Cytology of low-grade cribriform cystadenocarcinoma in salivary glands: Cytological and immunohistochemical distinctions from other salivary gland neoplasms. Diagn Cytopathol. 2016 Mar;44(3):241-5.

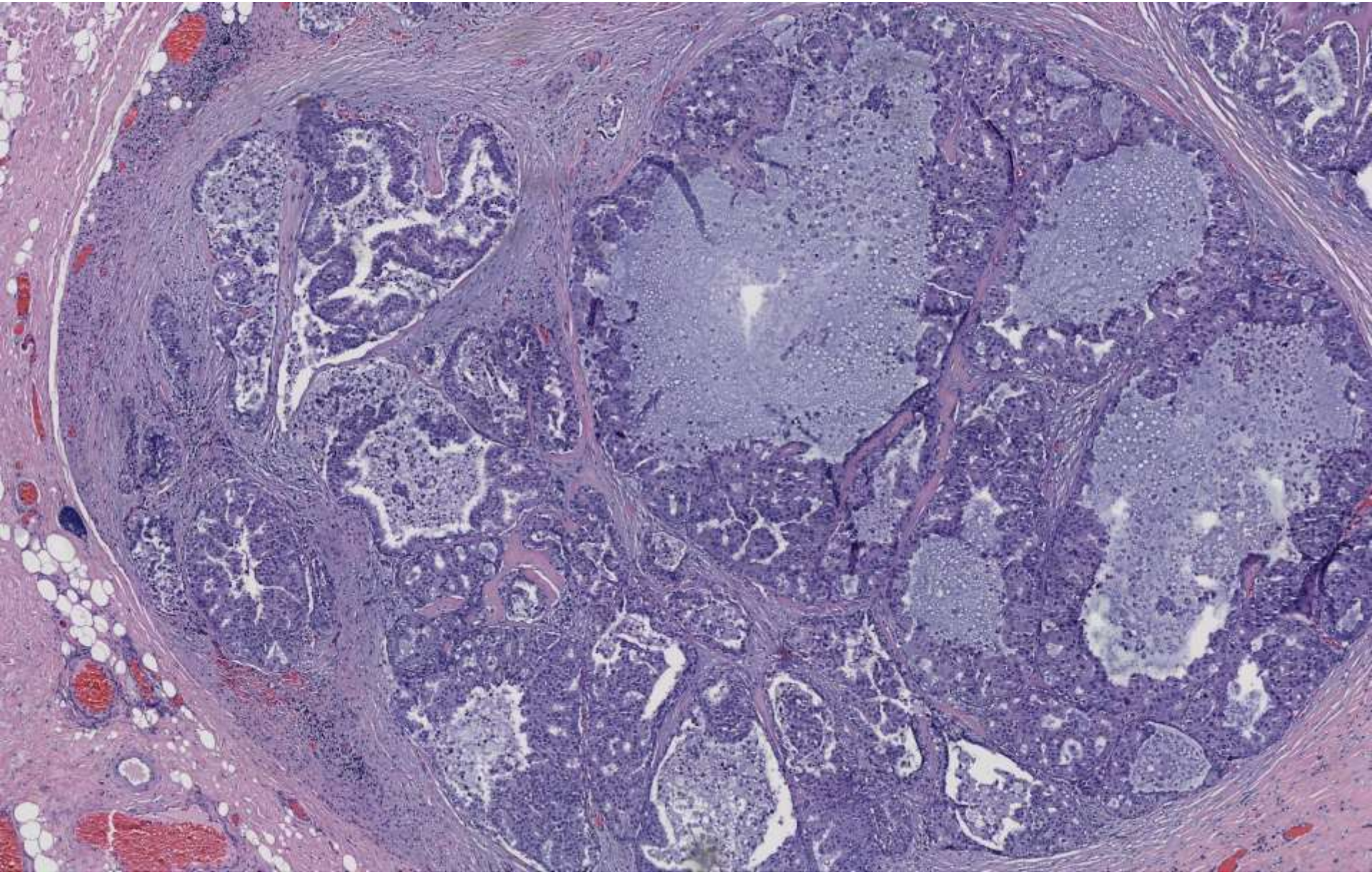
SB 6066

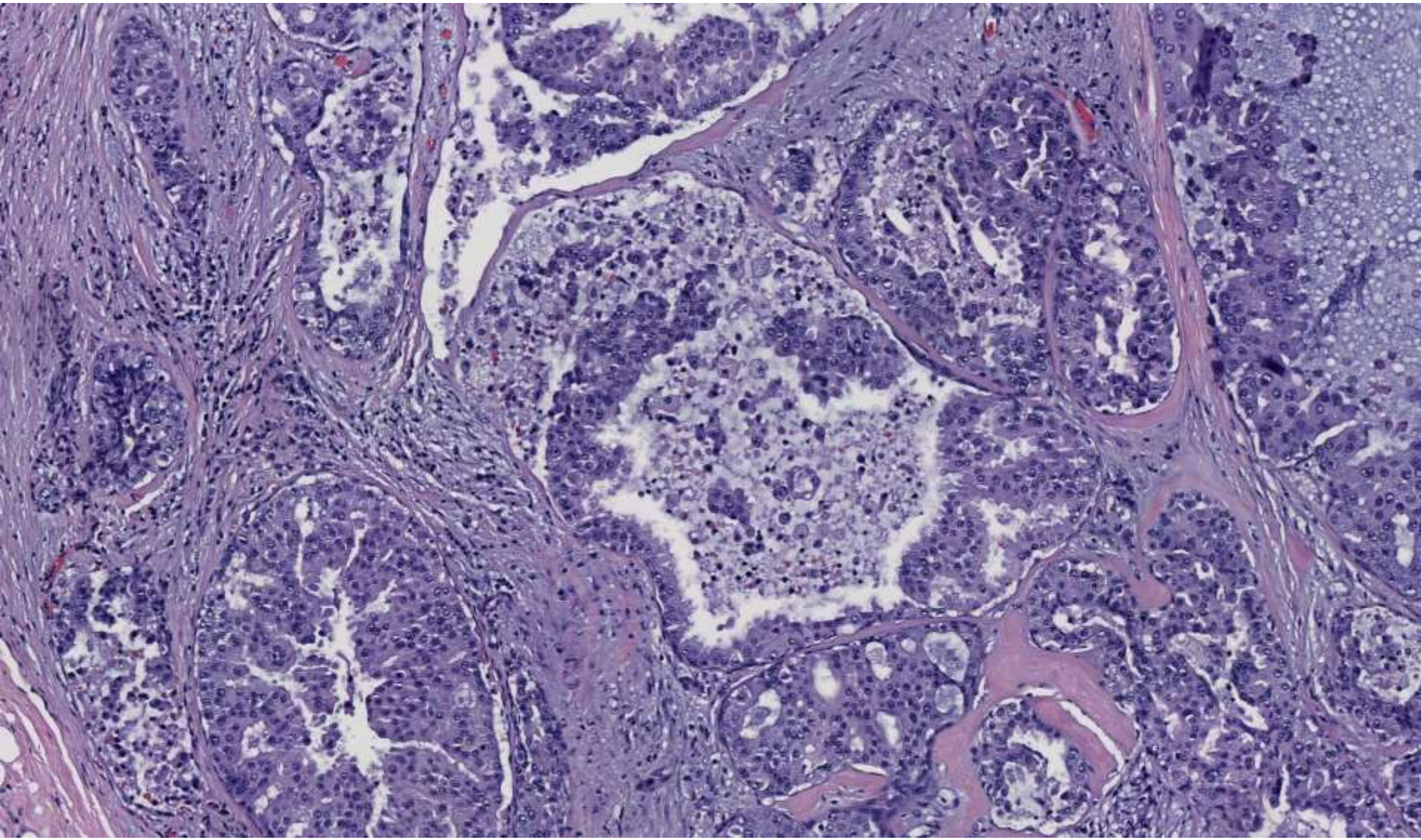
Vanessa Ma/Richard Jordan; UCSF

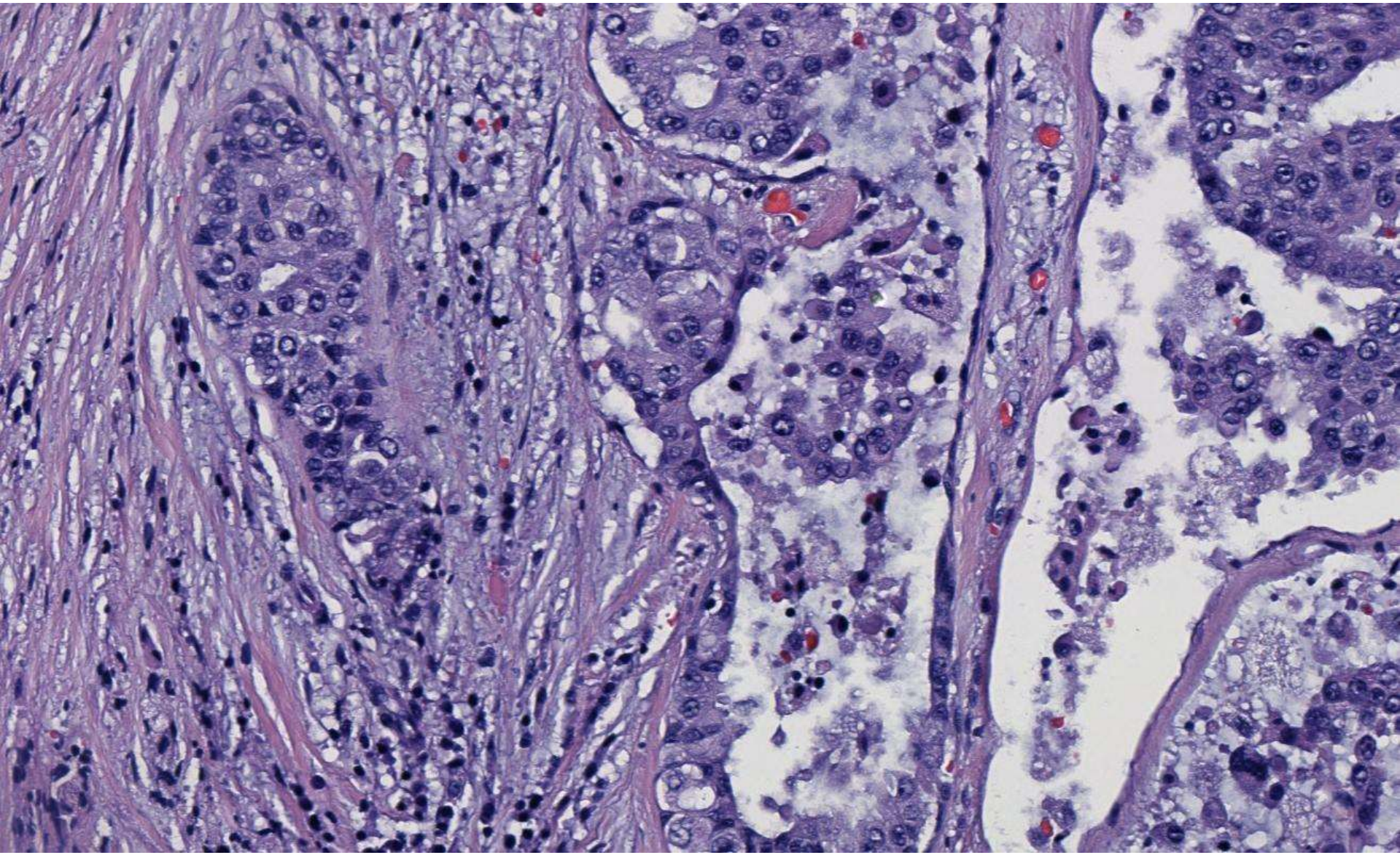
45-year-old male with a 2.3cm left parotid mass for 3-4 months.

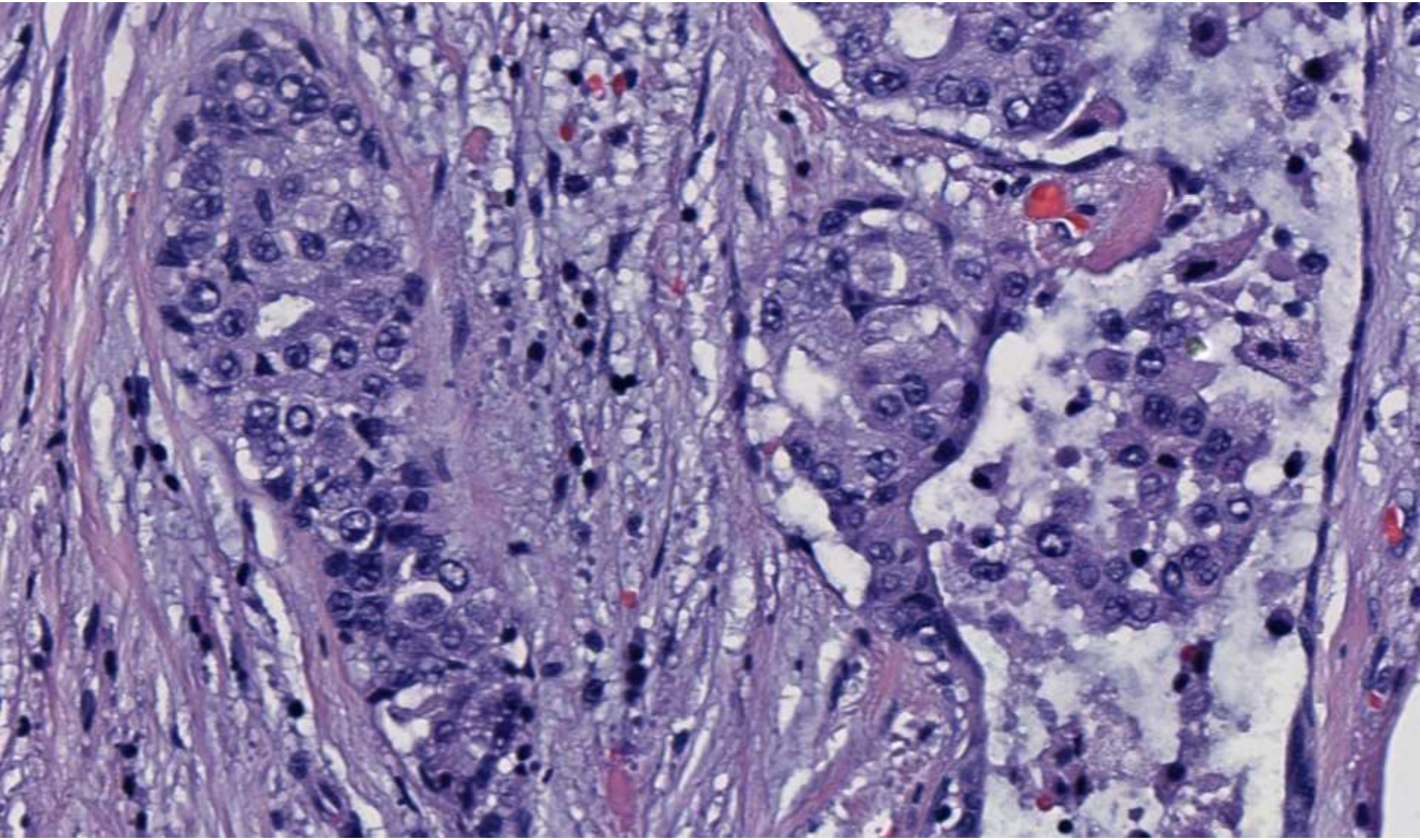


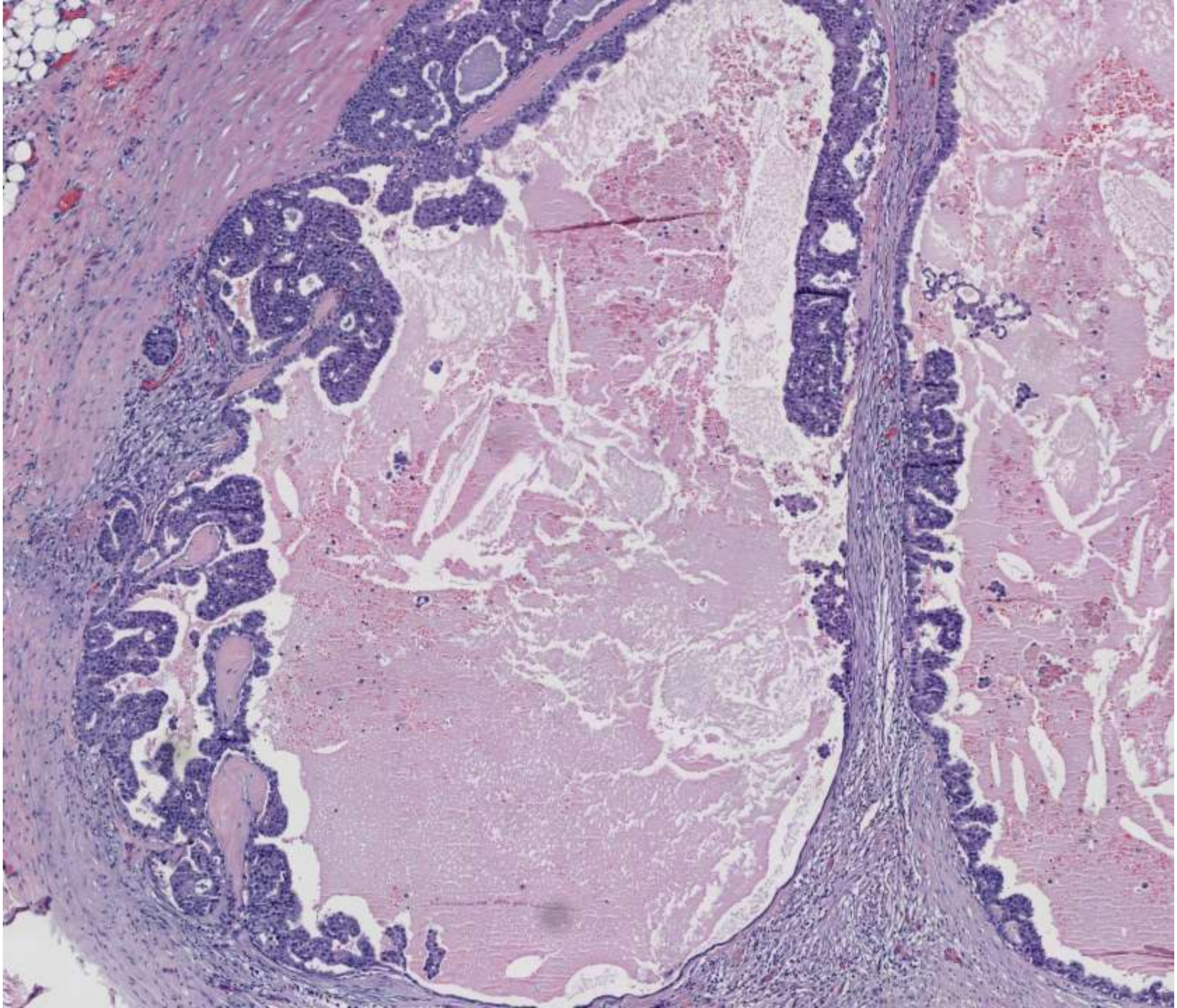


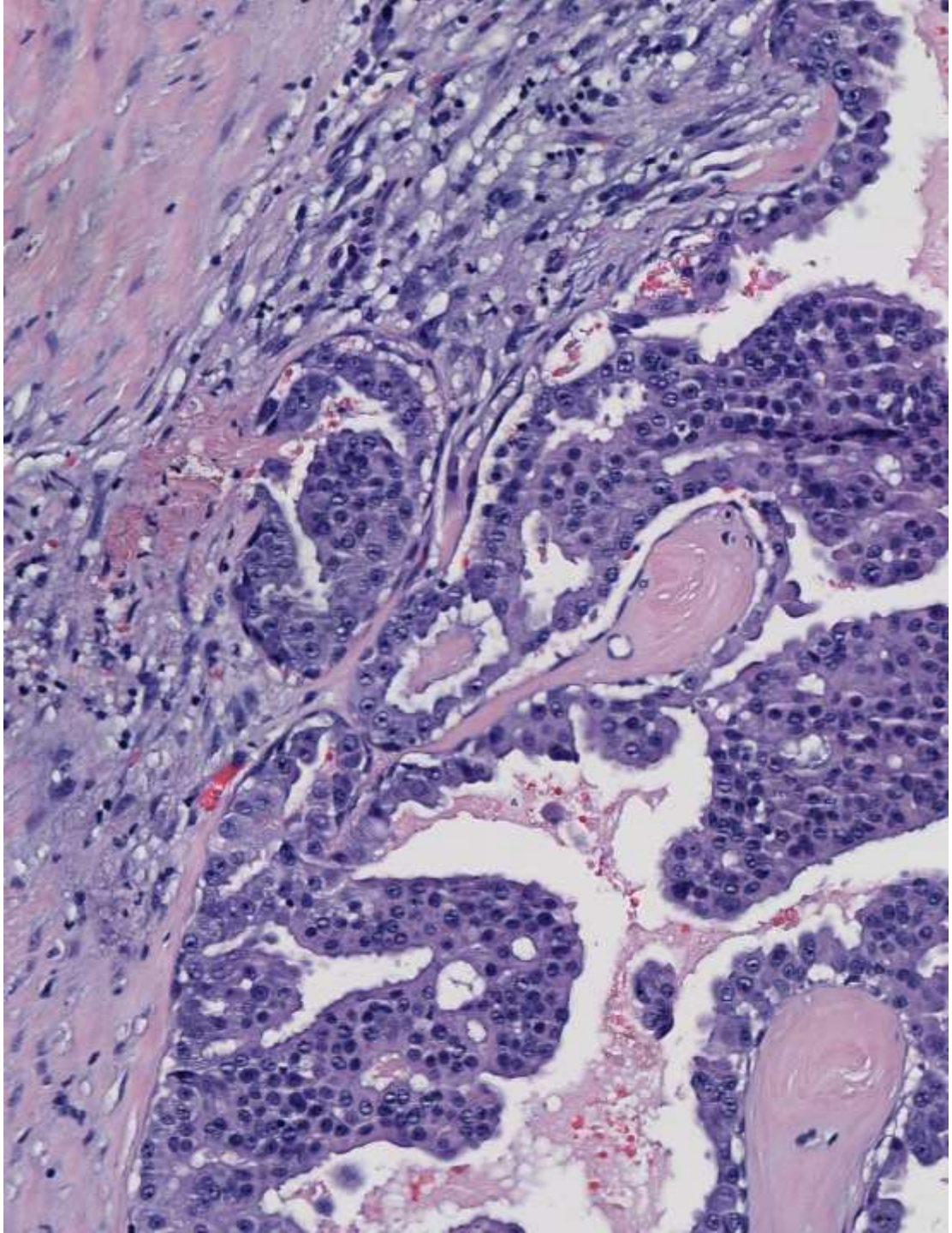












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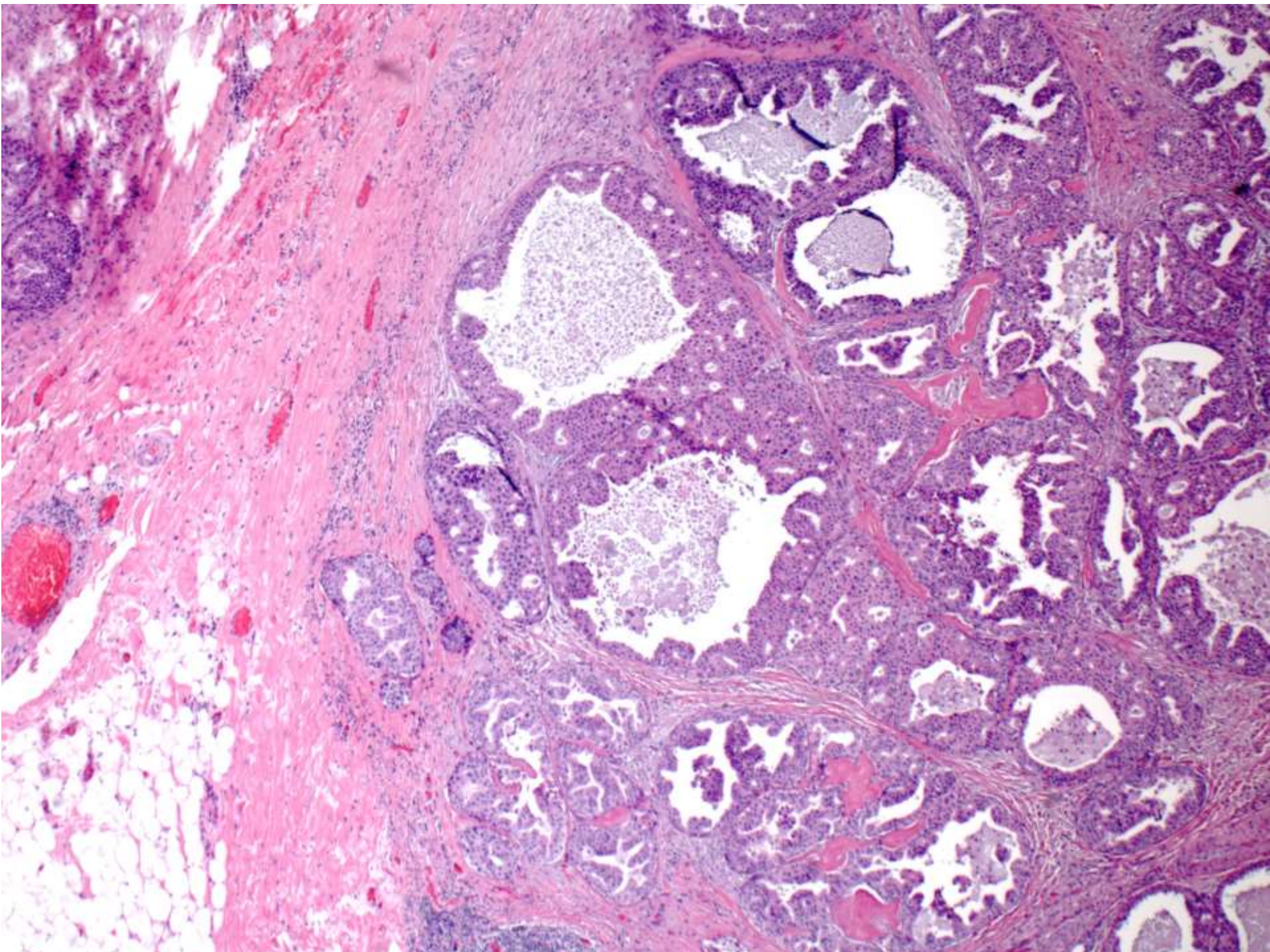

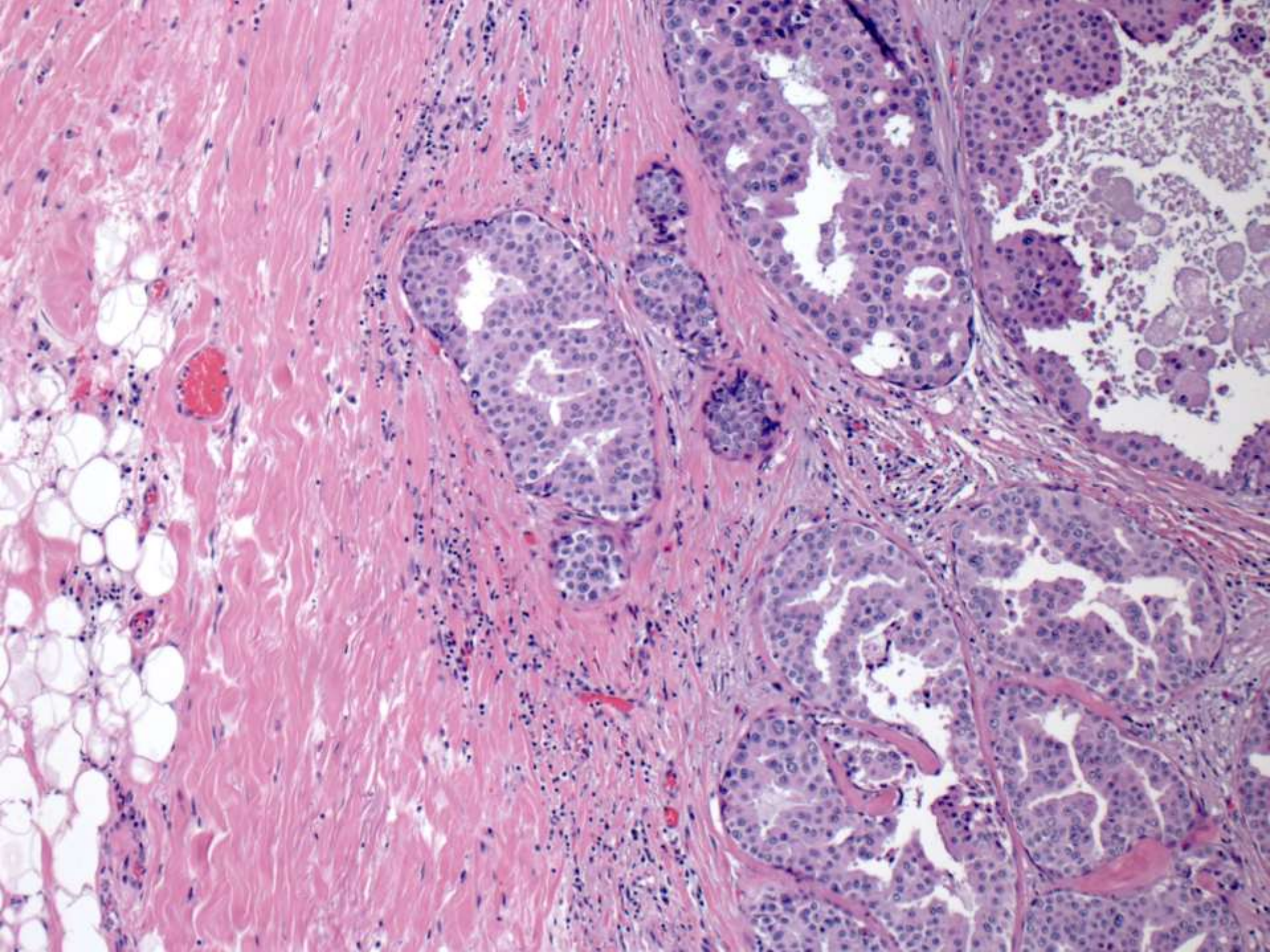

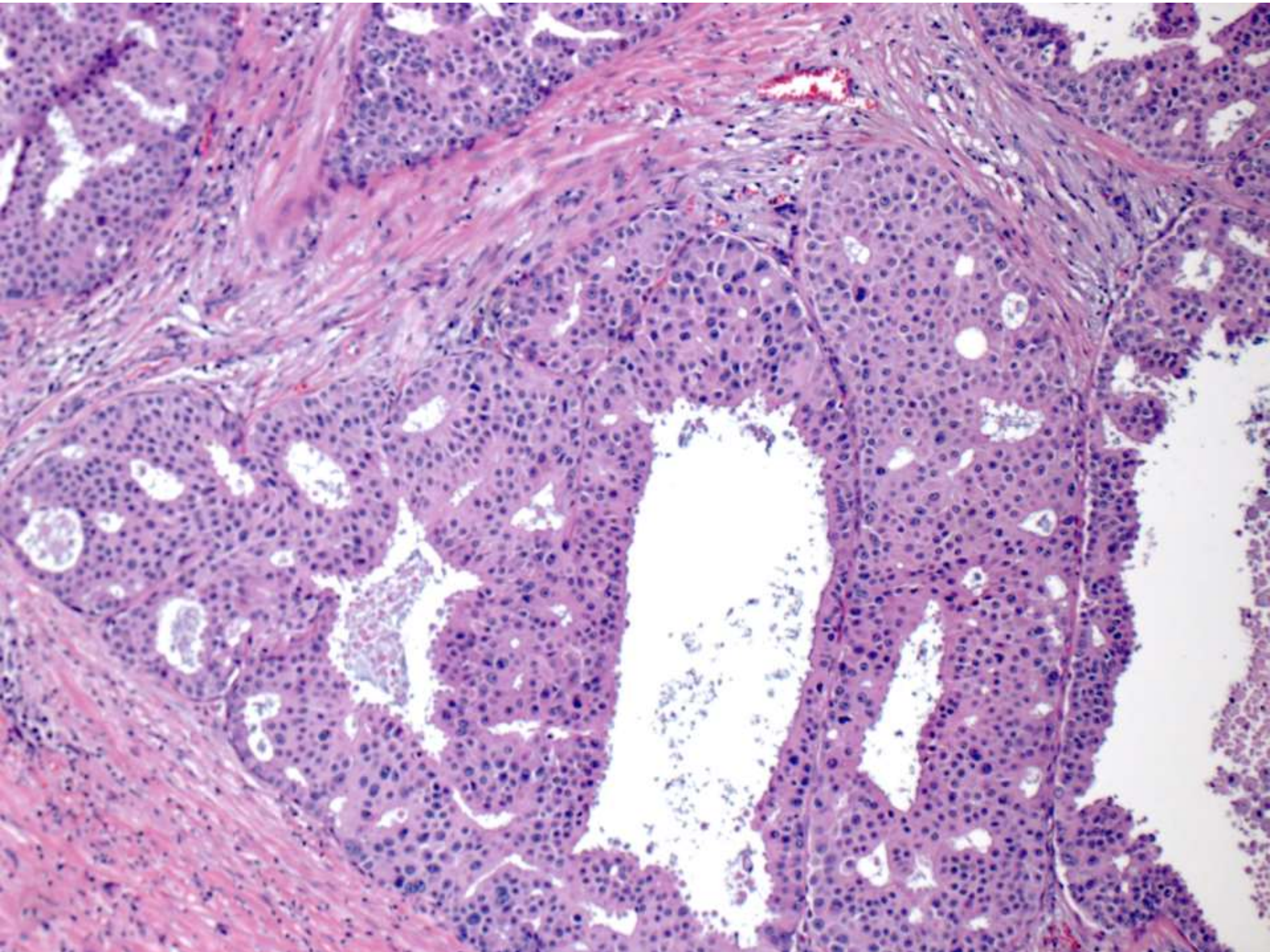

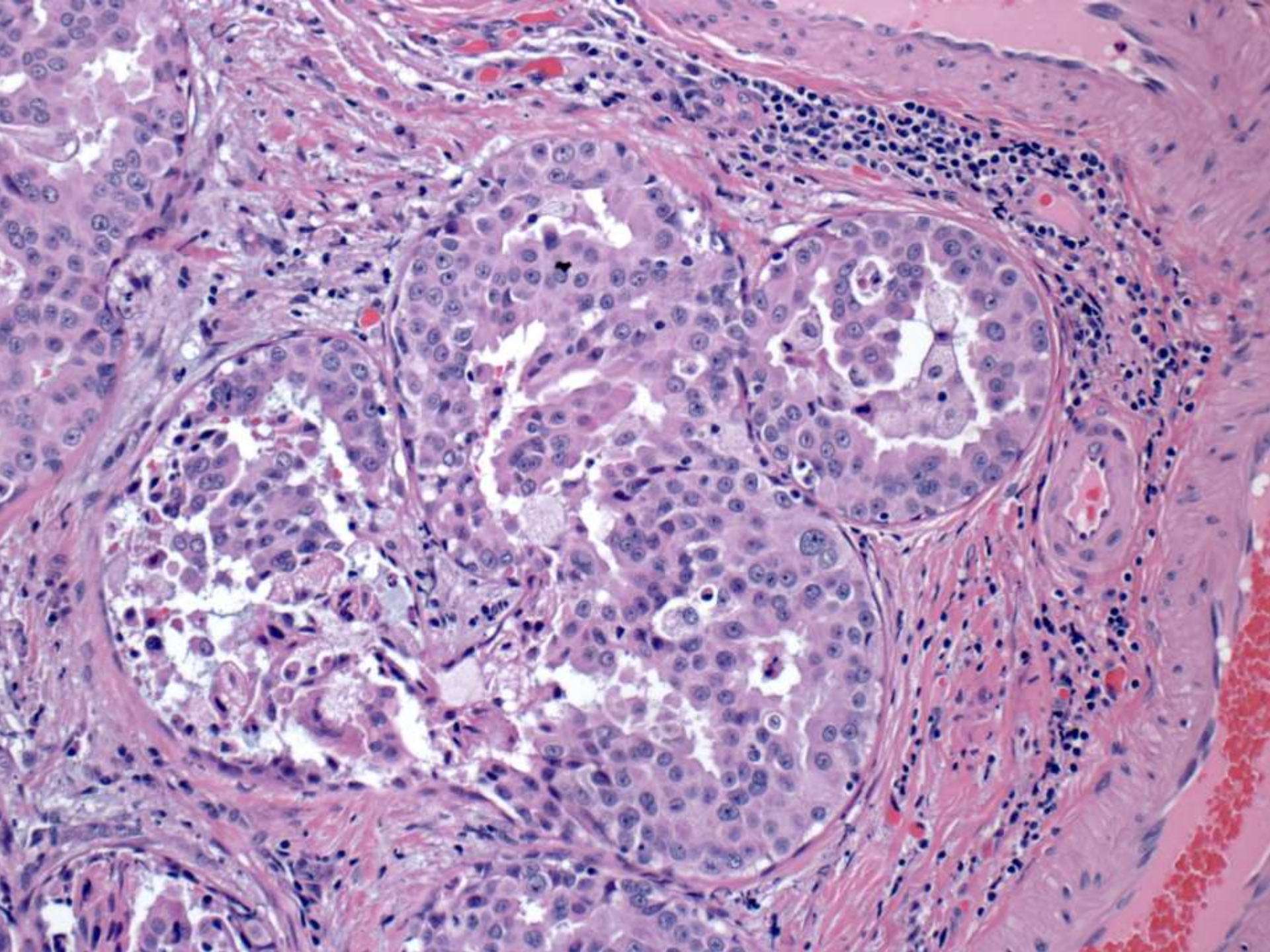

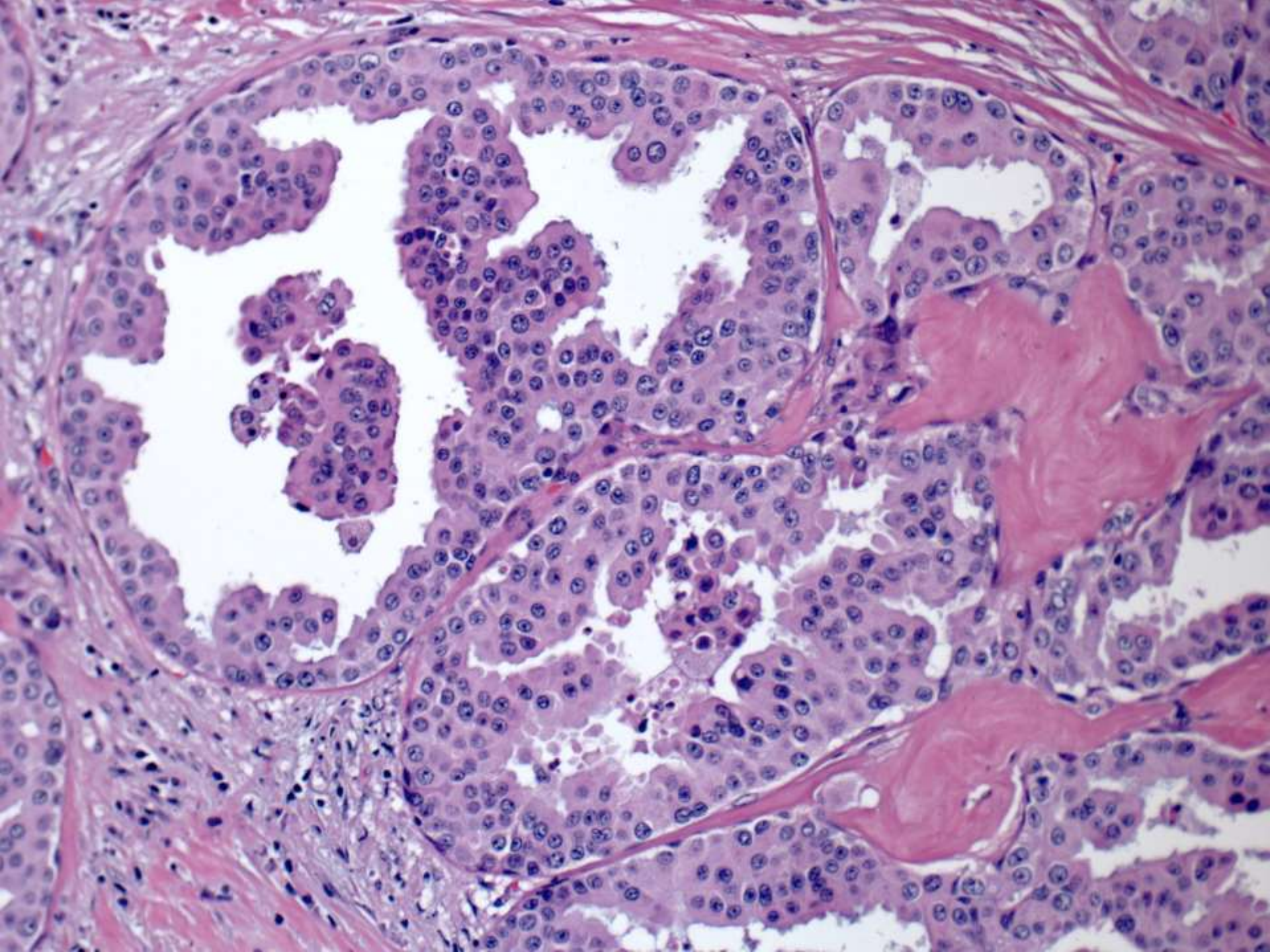

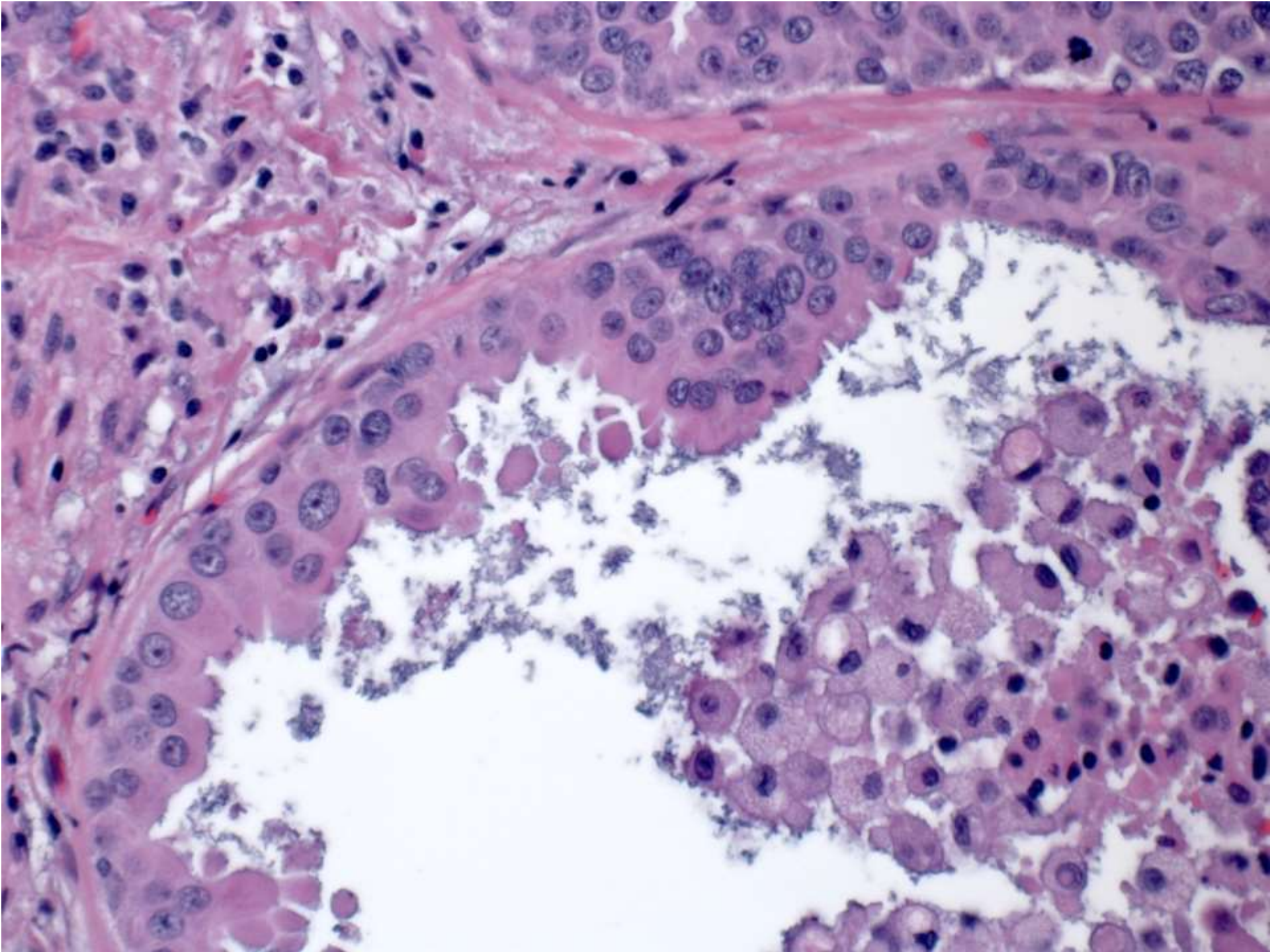

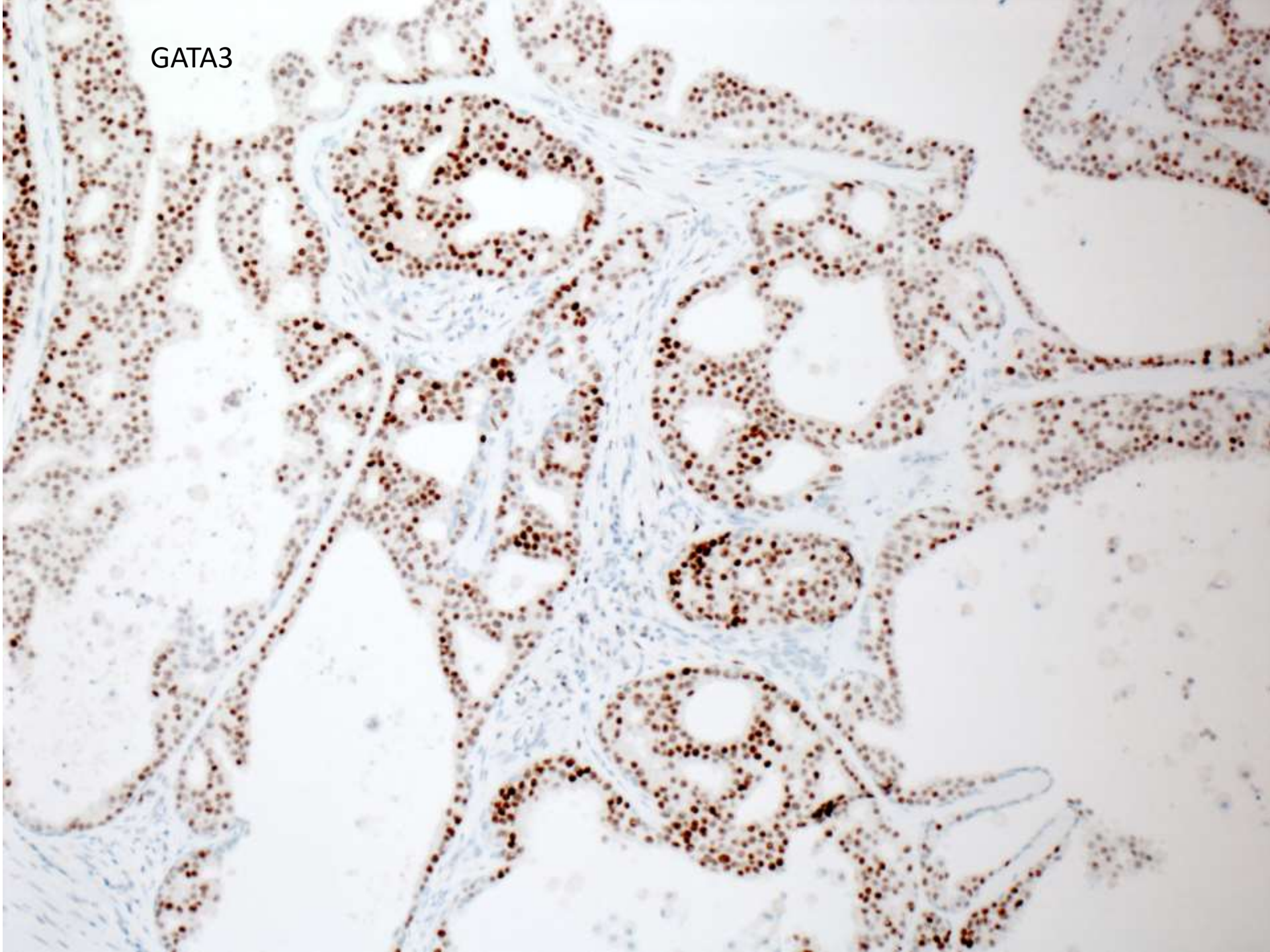
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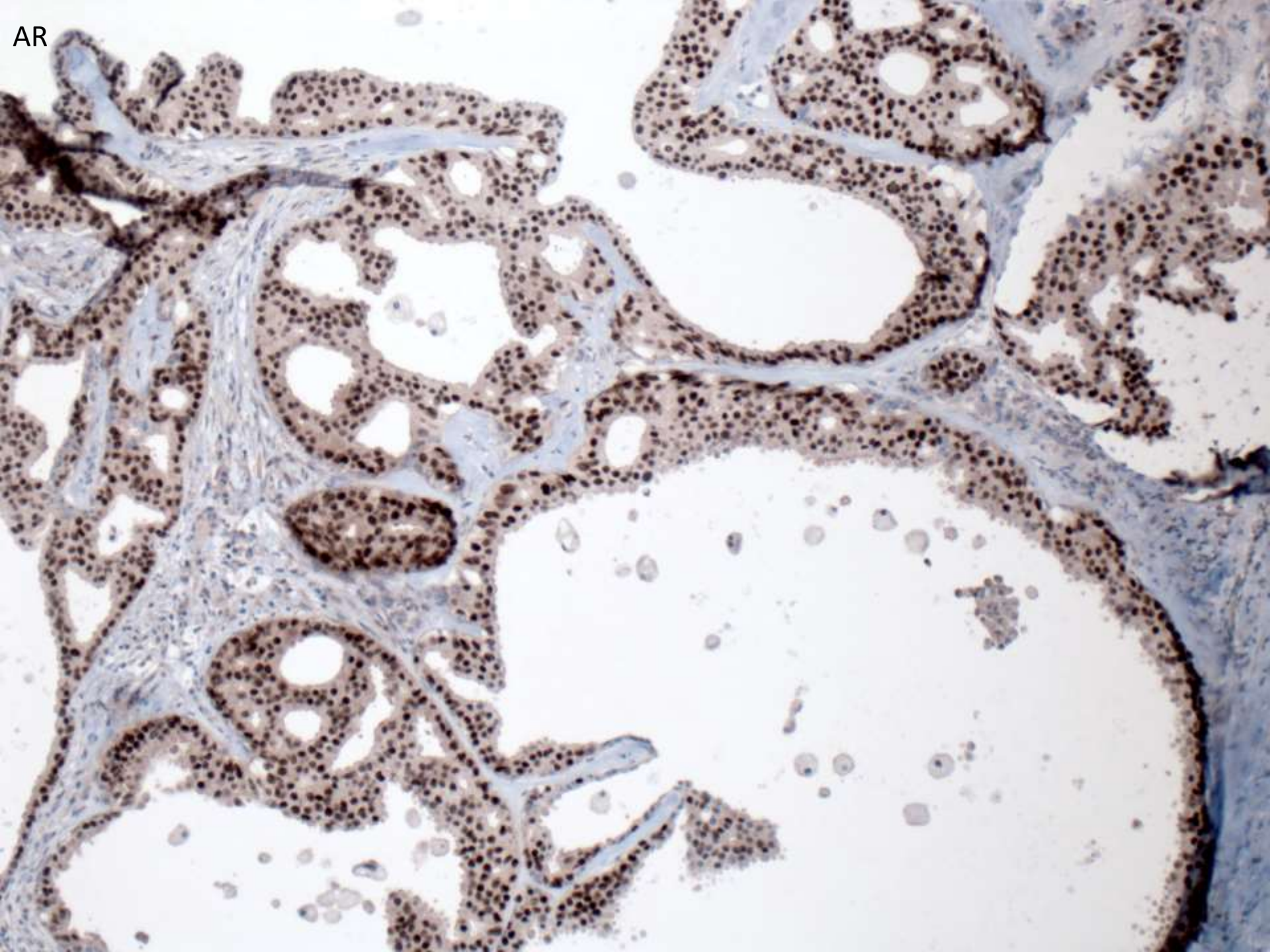
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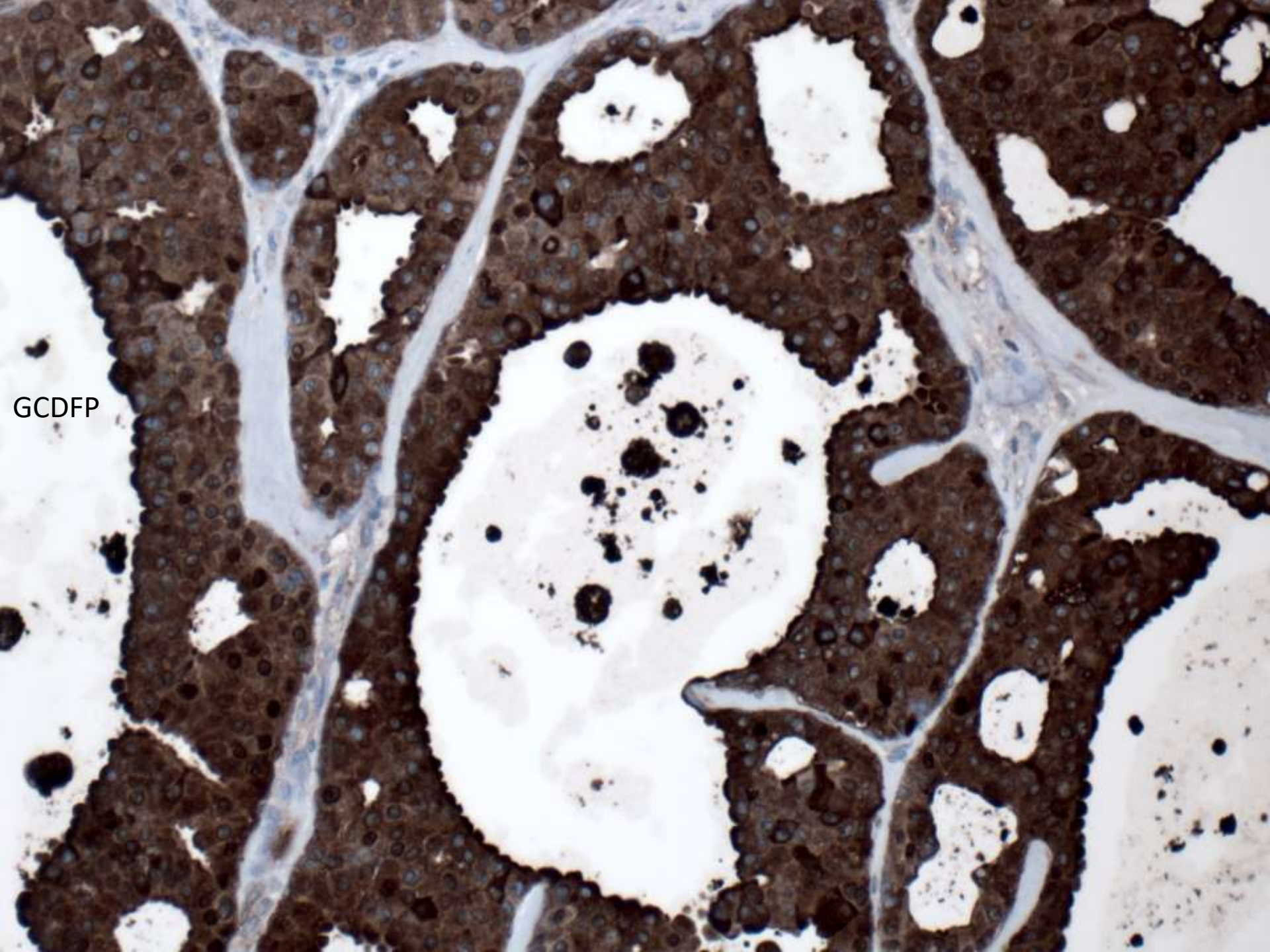
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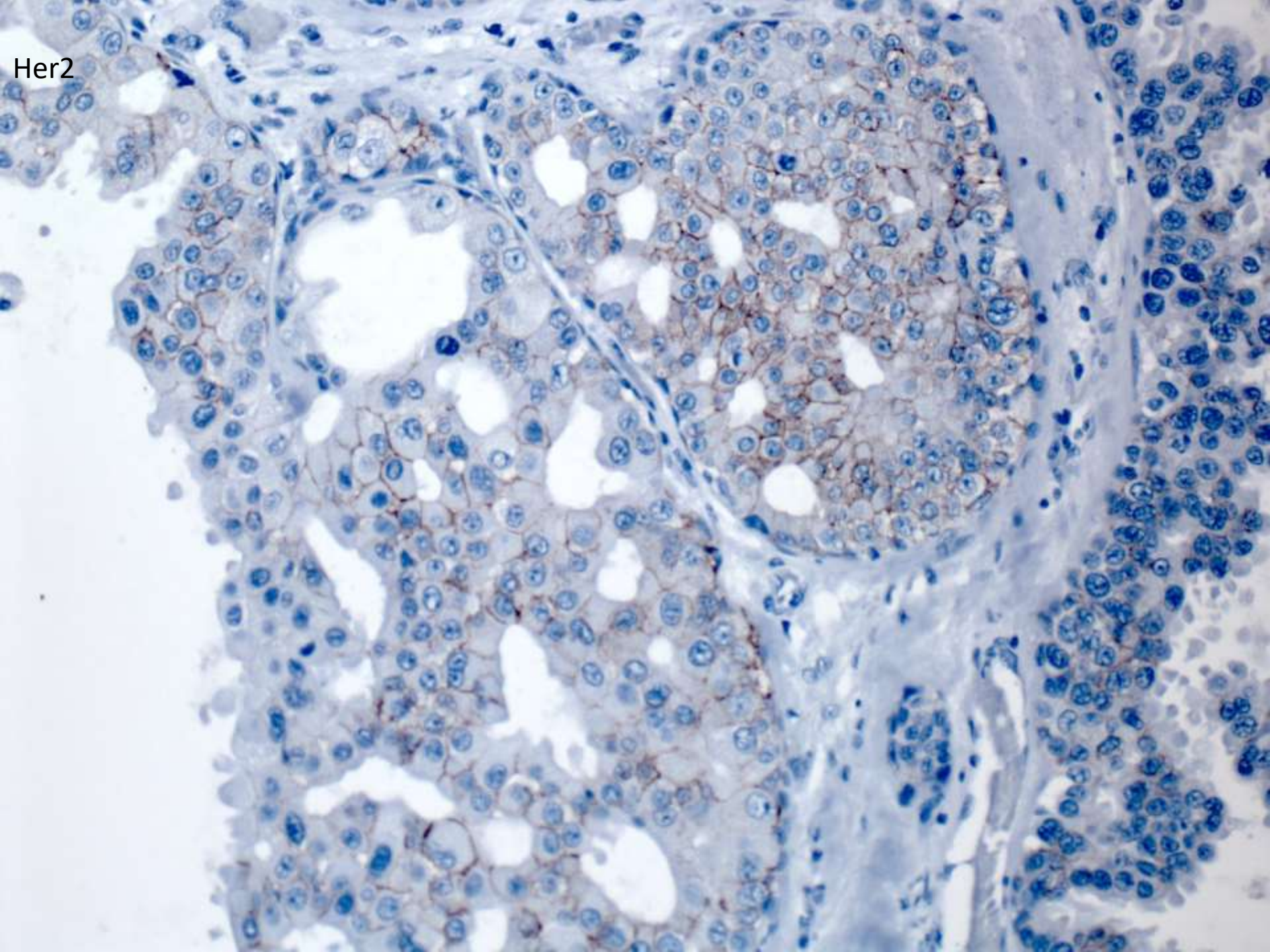
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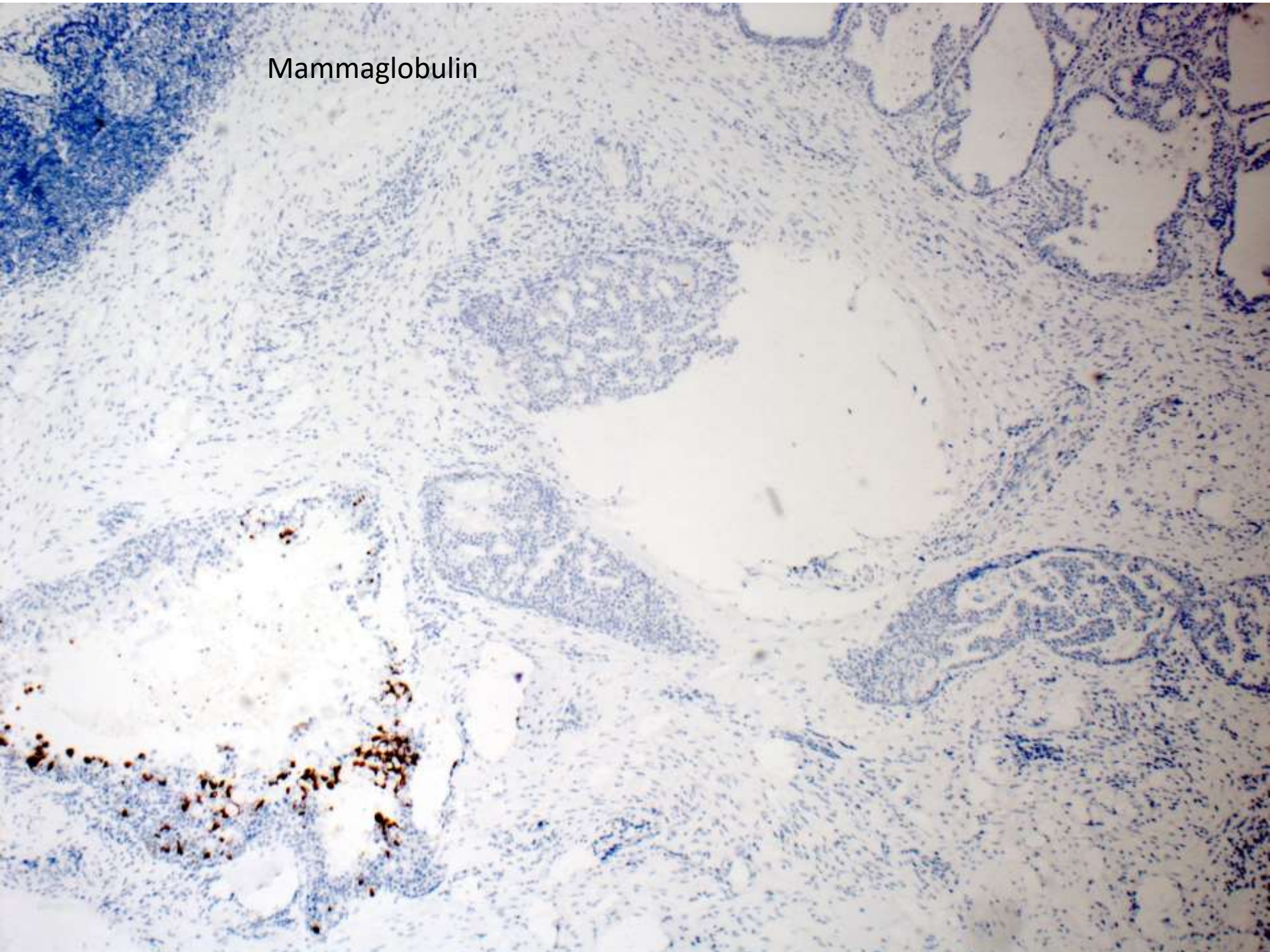
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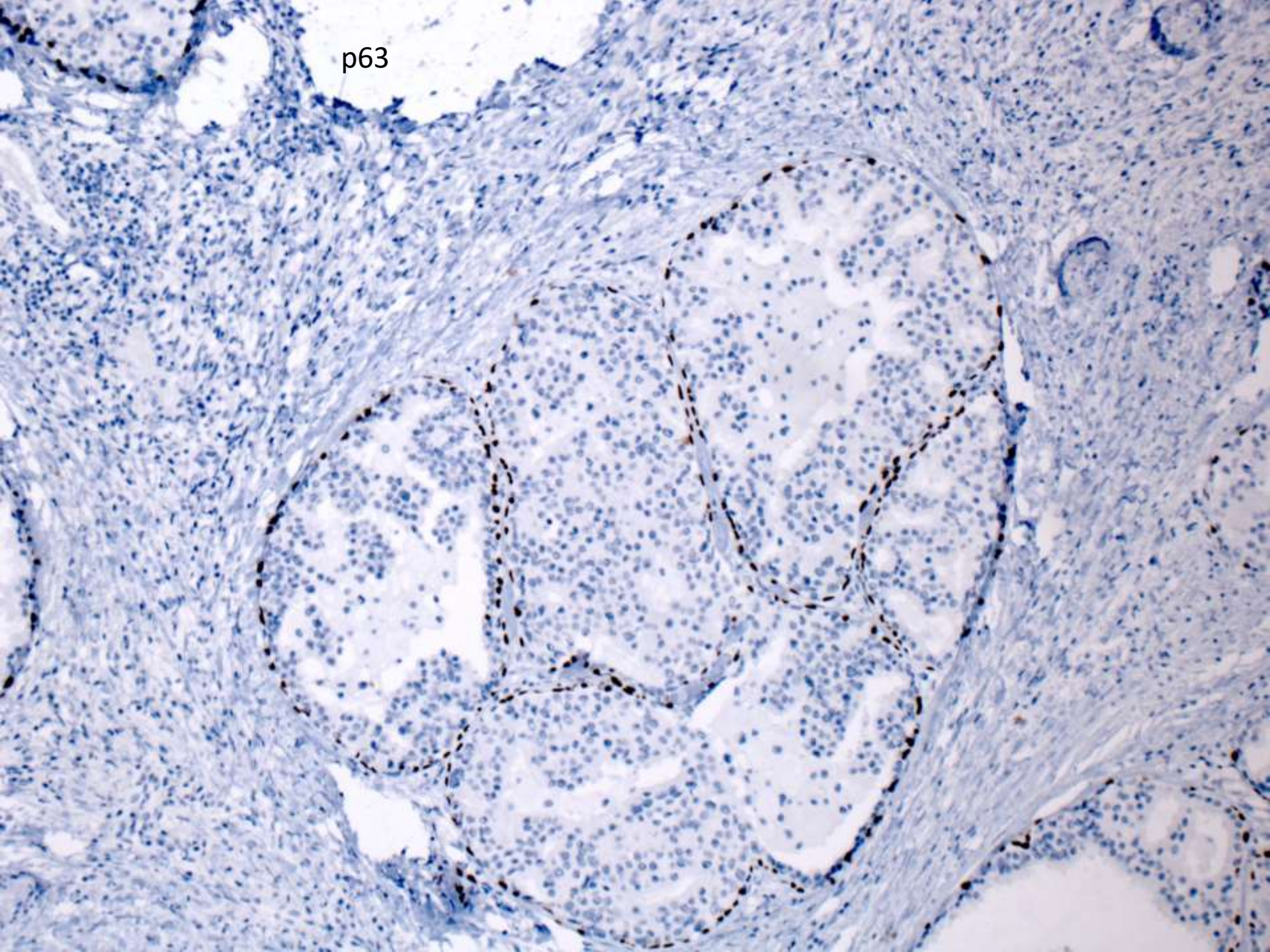
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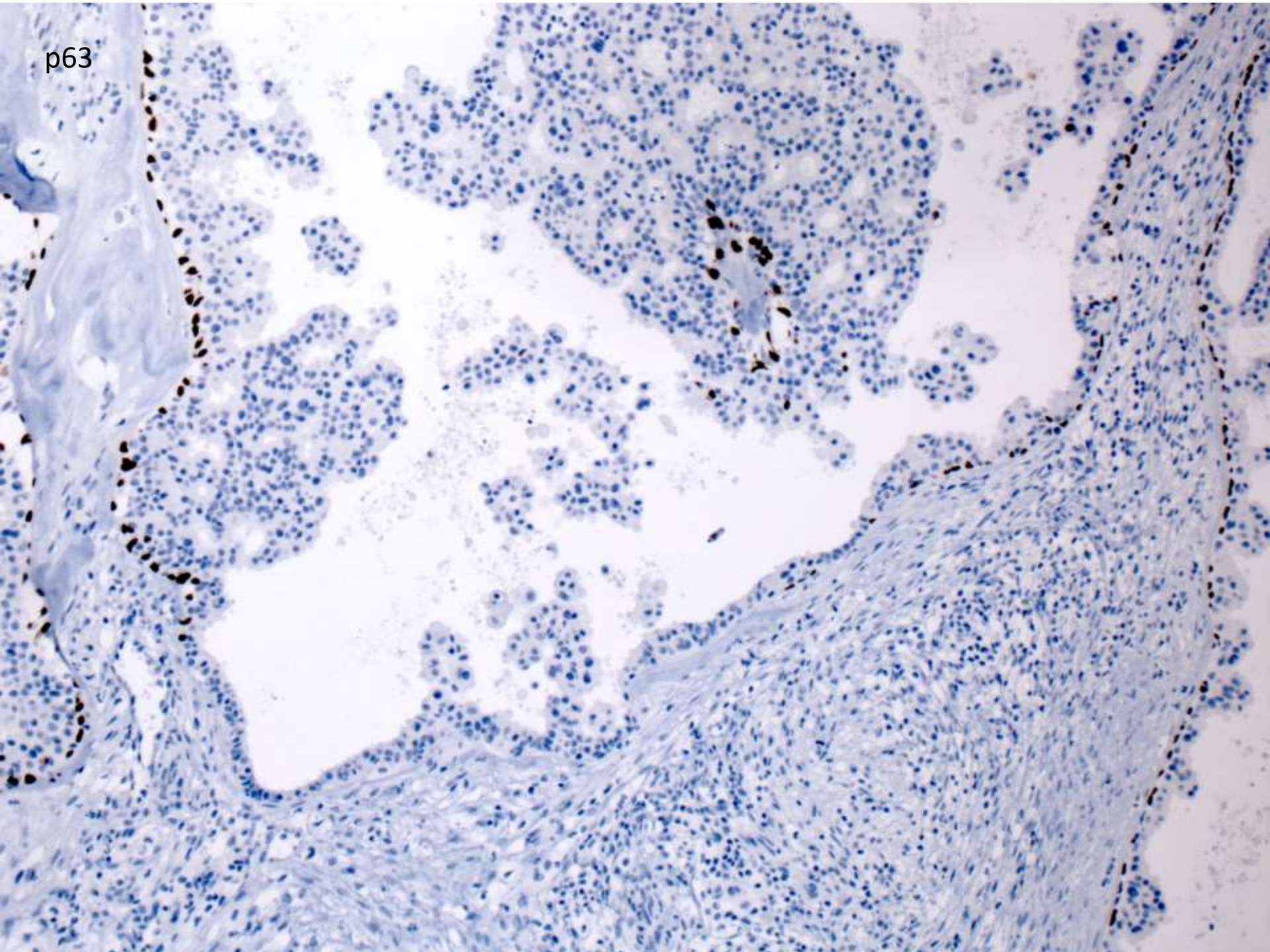
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Salivary duct carcinoma, in situ (SDCIS) (high grade intraductal carcinoma of salivary gland, (HG-IDC) with focal invasion

- Duct proliferative architecture
- High nuclear grade
- Presence of necrosis
- AR, HER2, GCDFP positive
- S100 either negative or partial positive

Salivary duct carcinoma (SDC)

- De novo or ex-PA
- Older people over 50 year-old
- M:F =4:1
- High grade
  - Resemble intraductal and infiltrating mammary duct carcinoma
- Comedo necrosis and cribriform proliferation
- Variant
  - Micropapillary, sarcomatoid, mucin-rich and basal-like
- Apocrine morphology
  - AR (+) and GCDFP-15 (+)
  - S100 (-)
- High Ki-67
- Early lymph node metastasis, local recurrence and high mortality
- Surgical resection
  - radiotherapy and/or chemotherapy
  - Anti-ERBB2 antibodies and androgen deprivation therapy

TABLE 2. Distinctions Between High-Grade Salivary Duct Carcinoma, Low-Grade Salivary Duct Carcinoma, and Papillocystic Acinic Cell Carcinoma

	High-Grade Salivary Duct Carcinoma	Low Grade Salivary Duct Carcinoma	Papillocystic Acinic Cell Carcinoma
Architecture	Cribriforming, with round "stiff" spaces, solid, papillary with psammoma bodies	Pseudocribriform spaces with "floppy" or fenestrated slit-like, solid intraductal sheets of cells, or intraductal papillae with fibrovascular cores	Cystic, with fine papillae also follicular and microcystic
Necrosis	Yes	Rare	No
Calicification	Yes	Yes	Occasional
Mitosis	Frequent	Rare	Variable
Cellular composition	Monomorphous, epithelioid, squamoid, oncocytoid	Heterogeneous ductal, apocrine, vacuolated; myoepithelial cells at periphery	Heterogeneous serous, intercalated ductal, oncocytoid, myoepithelial
Nuclei	Moderate to high grade, round to oval	Oval, low-grade, condensed chromatin	Peripheral, condensed chromatin, low to moderate grade
Cytoplasm	Powdery to bright eosinophilic, usually abundant	Pale to bright eosinophilic	"Bubbly," variable from basophilic to clear to eosinophilic

Am J Surg Pathol. 2004 Aug;28(8):1040-4. **Low-grade salivary duct carcinoma: description of 16 cases.** Brandwein-Gensler M, Hille J, Wang BY, Urken M, Gordon R, Wang LJ, Simpson JR, Simpson RH, Gnepp DR.

The next WHO classification should abandon ‘‘salivary duct carcinoma’’

Conventional salivary duct carcinoma should be classified as ‘‘high-grade salivary duct carcinoma’’

Low-grade salivary duct carcinoma should replace the current nosology of ‘‘low-grade cribriform cystadenocarcinoma’’

Cystadenocarcinoma should be classified with the descriptor ‘‘Not Otherwise Specified’’ and should be considered an exclusionary diagnostic category

Brandwein-Gensler M, Wei S. Envisioning the next WHO head and neck classification. Head Neck Pathol. 2014 Mar;8(1):1-15

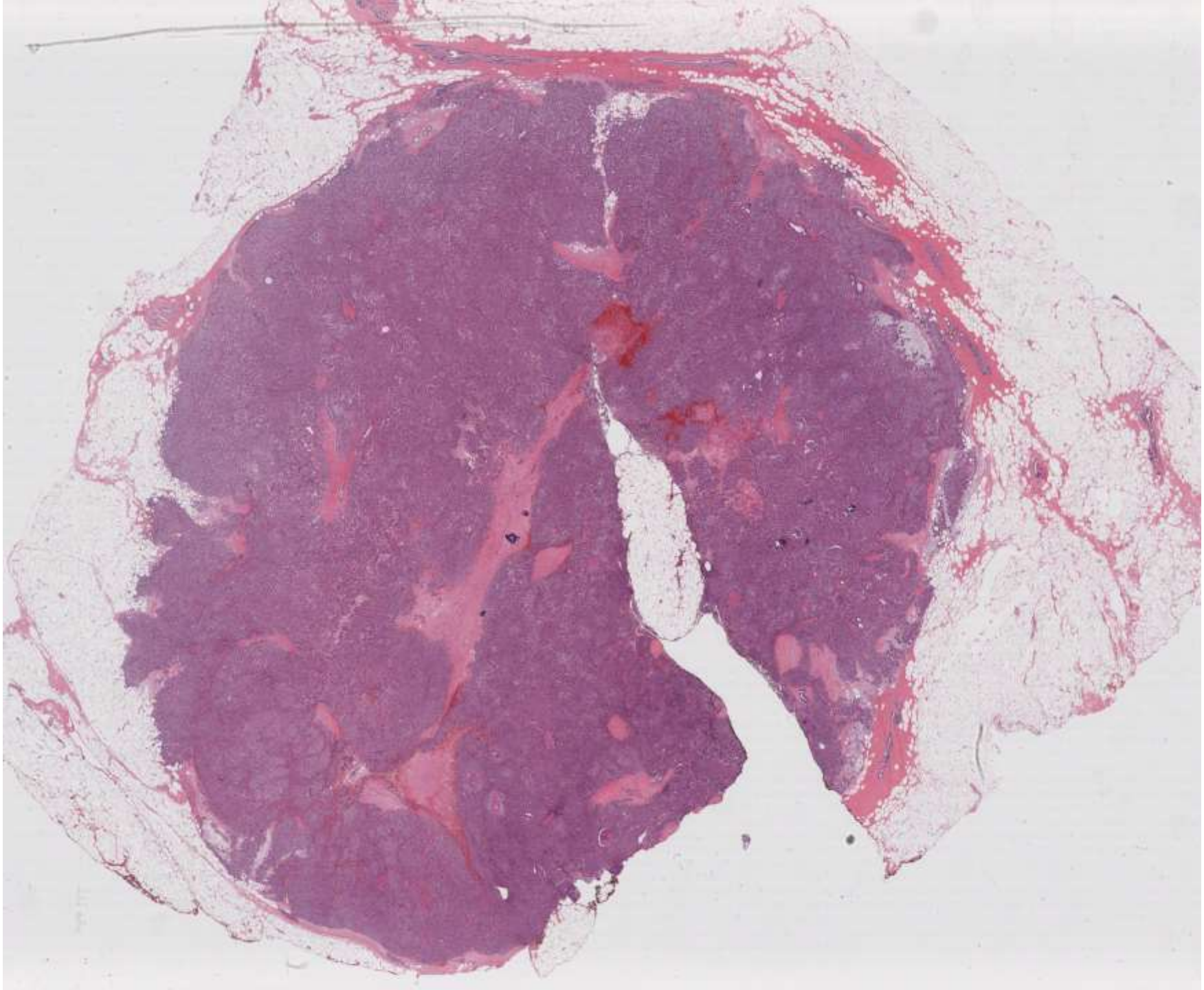
Reference

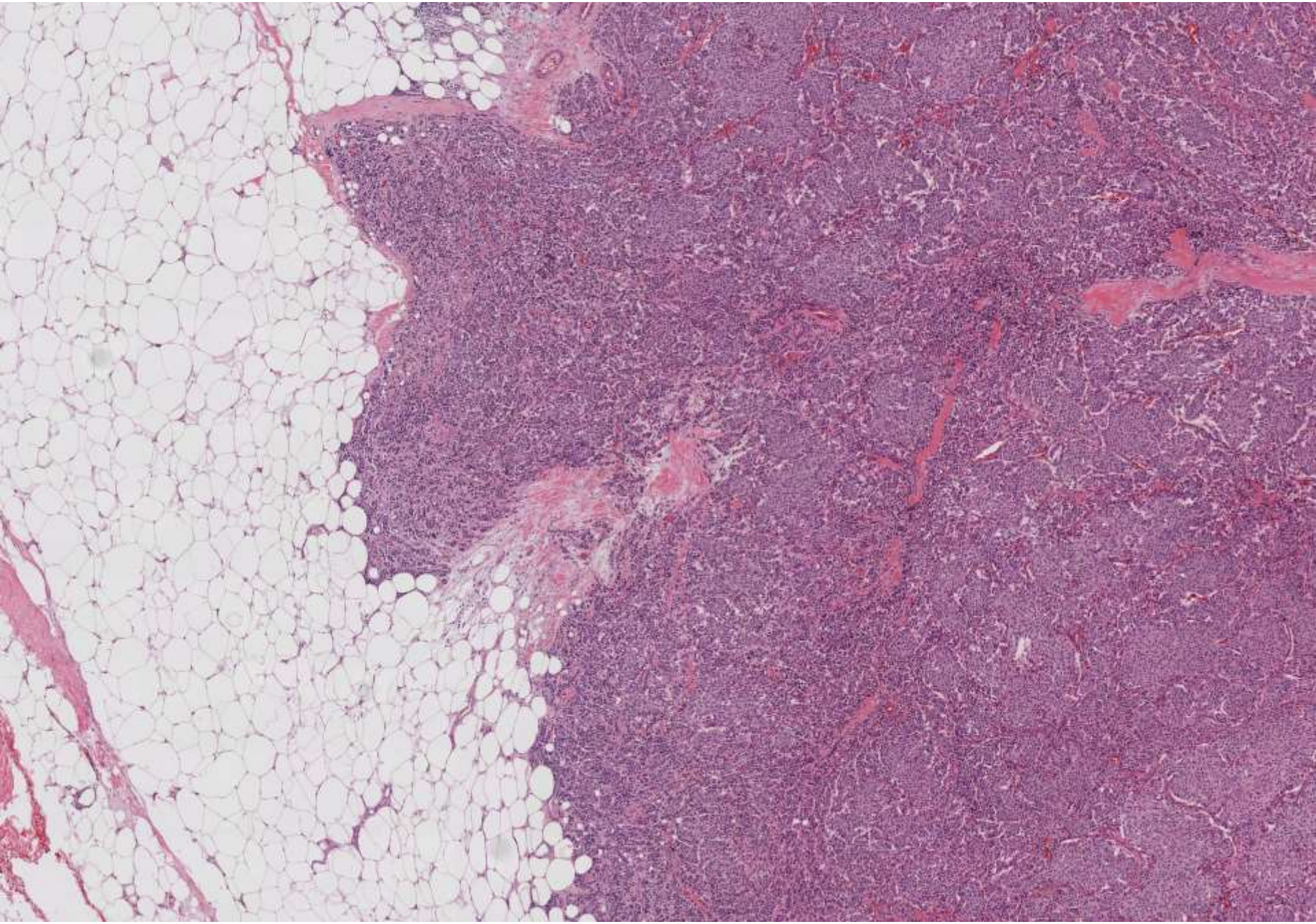
1. Kapadia SB, Barnes L. Expression of androgen receptor, gross cystic disease fluid protein, and CD44 in salivary duct carcinoma. Mod Pathol.1998 Nov;11(11):1033-8.
2. Brandwein-Gensler M, Hille J, Wang BY, Urken M, Gordon R, Wang LJ, Simpson JR, Simpson RH, Gnepp DR. Low-grade salivary duct carcinoma: description of 16 cases. Am J Surg Pathol. 2004 Aug;28(8):1040-4.
3. Stevens TM, Kovalovsky AO, Velosa C, Shi Q, Dai Q, Owen RP, Bell WC, Wei S, Althof PA, Sanmann JN, Sweeny L, Carroll WR, Siegal GP, Bullock MJ, Brandwein-Gensler M. Mammary analog secretory carcinoma, low-grade salivary duct carcinoma, and mimickers: a comparative study. Mod Pathol. 2015 Aug;28(8):1084-100.
4. Williams L, Thompson LD, Seethala RR, Weinreb I, Assaad AM, Tuluc M, Ud Din N, Purgina B, Lai C, Griffith CC, Chiosea SI. Salivary duct carcinoma: the predominance of apocrine morphology, prevalence of histologic variants, and androgen receptor expression. Am J Surg Pathol. 2015 May;39(5):705-13.

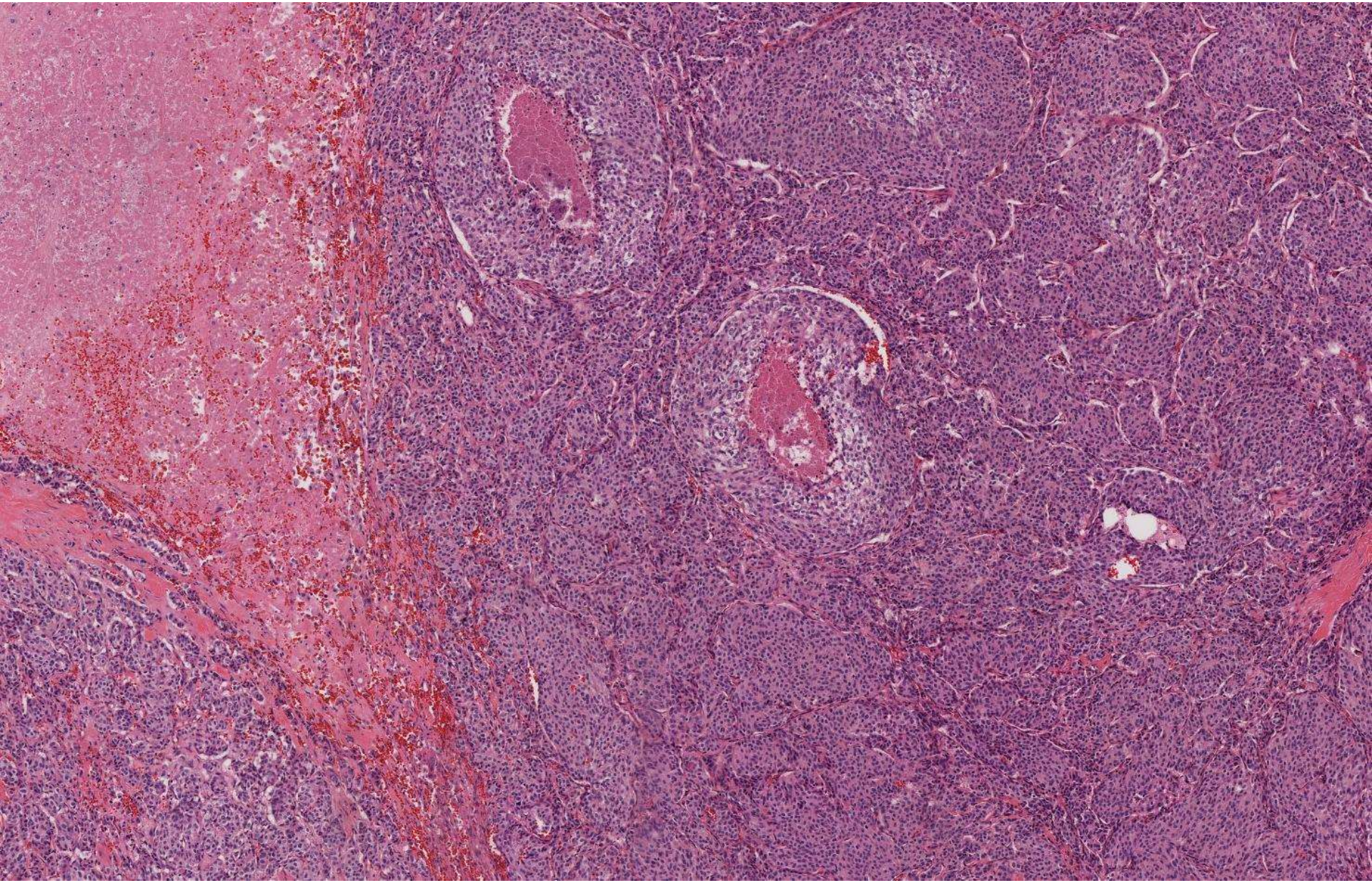
SB 6067

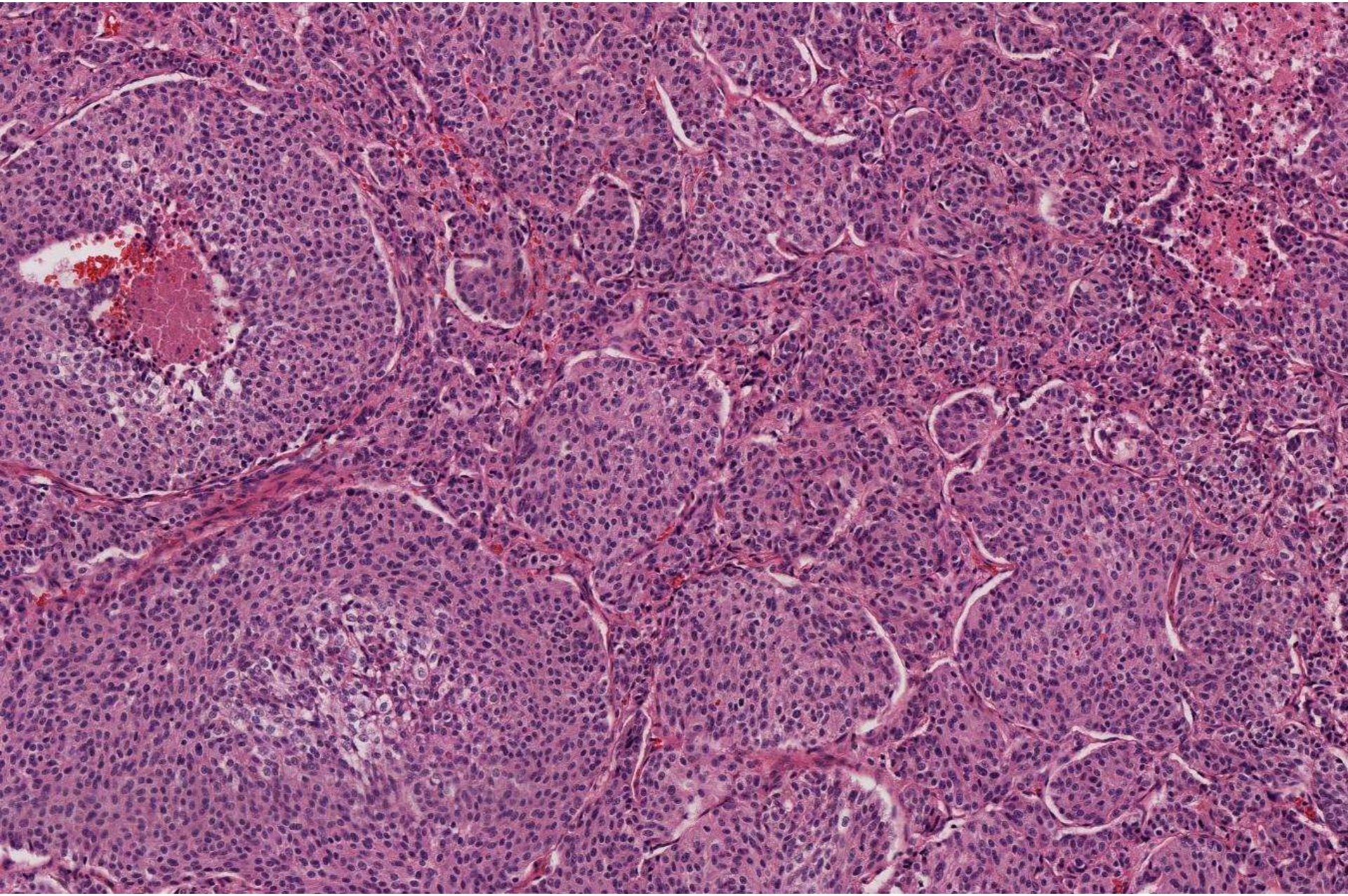
Chieh-Yu Lin/Megan Troxell; Stanford

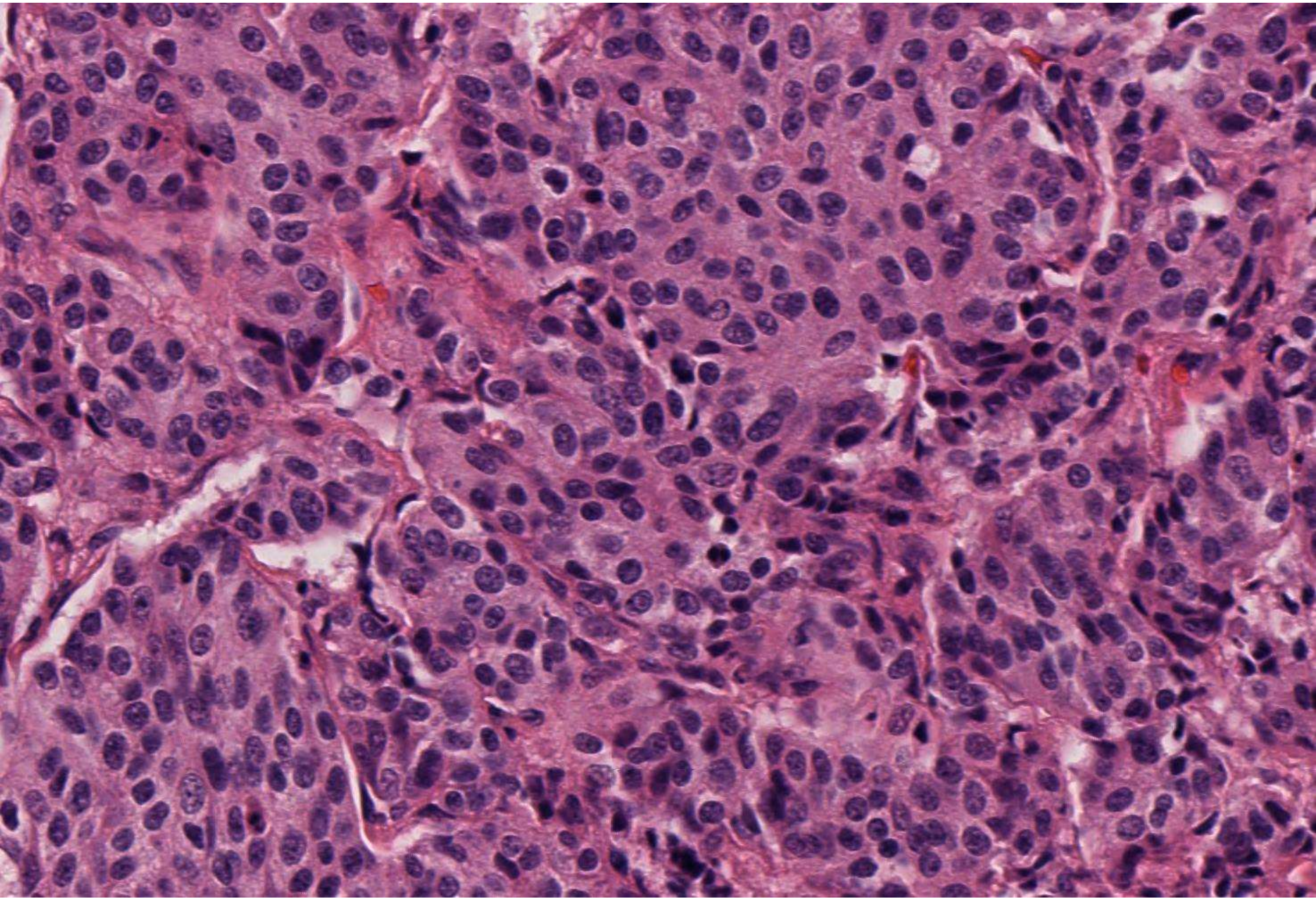
47-year-old woman with breast breast mass.

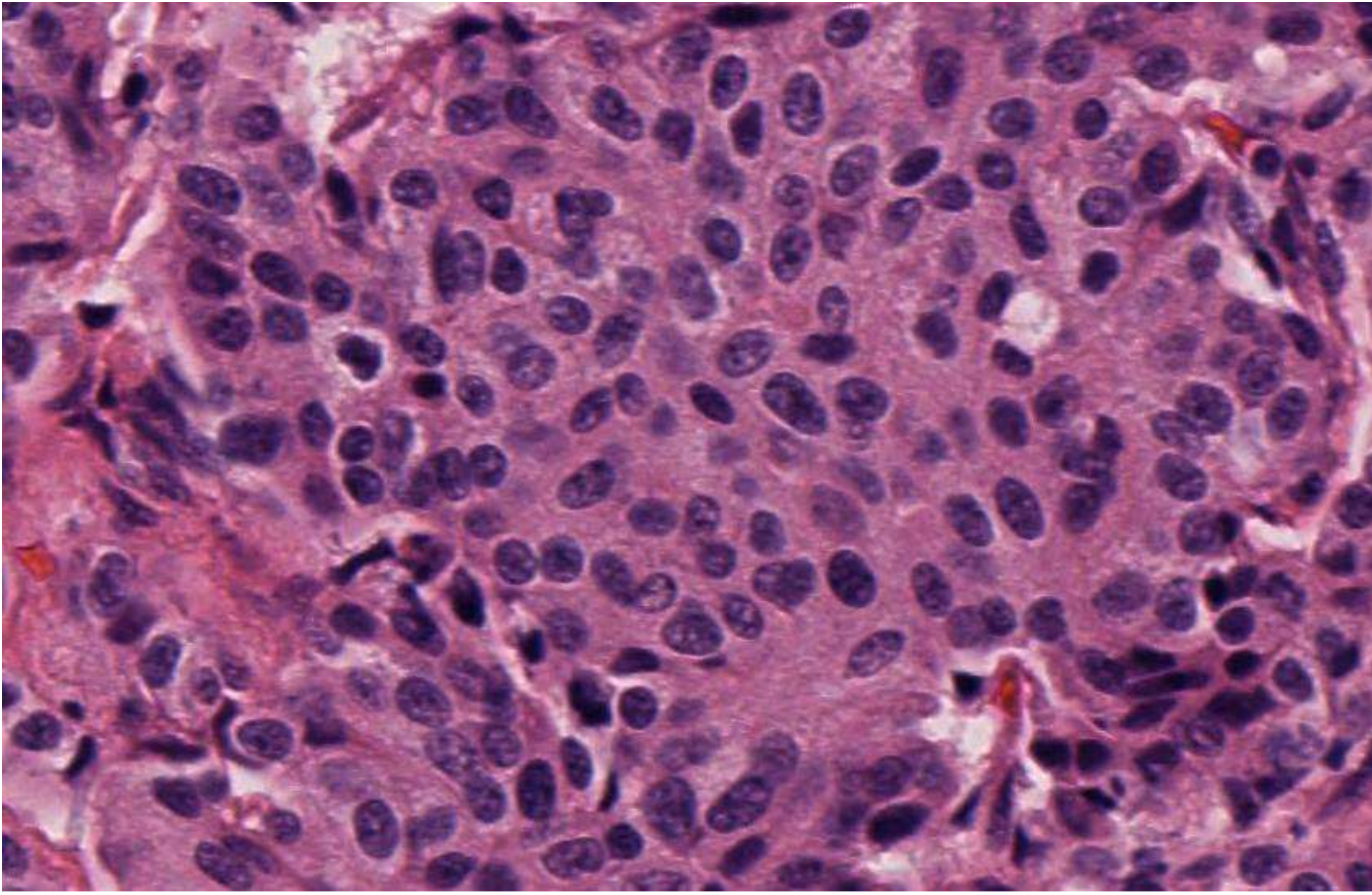




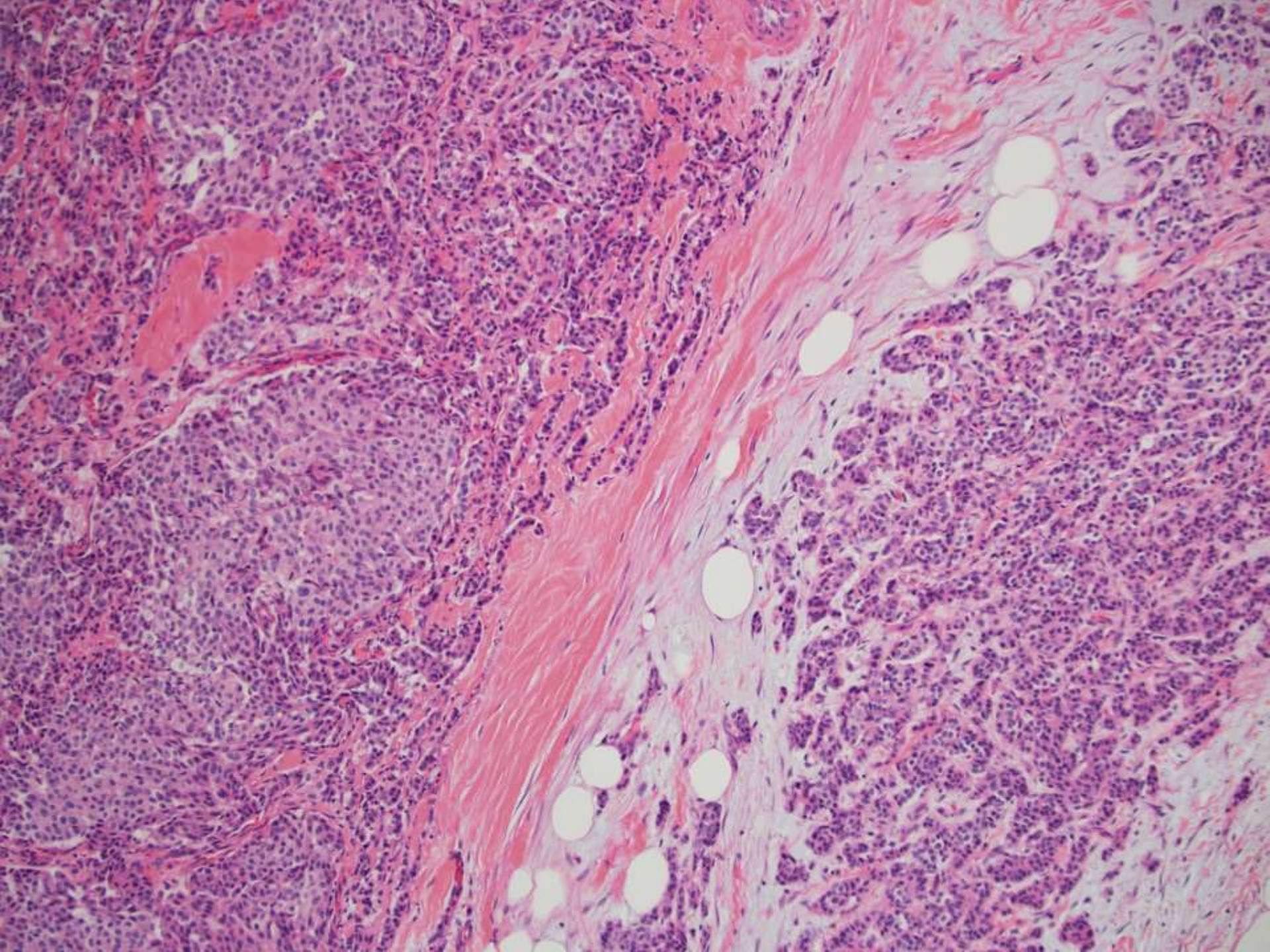


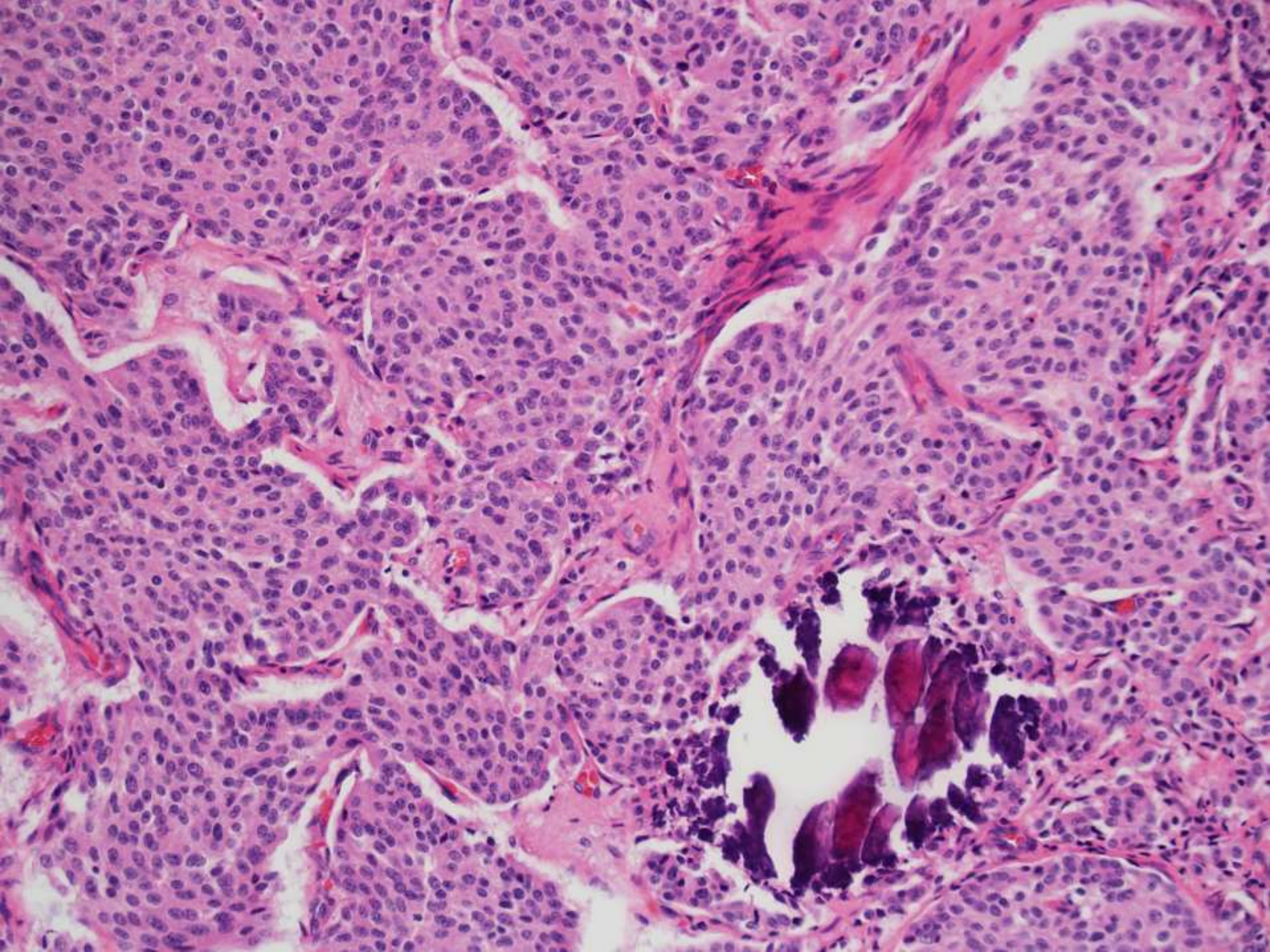






DIAGNOSIS?





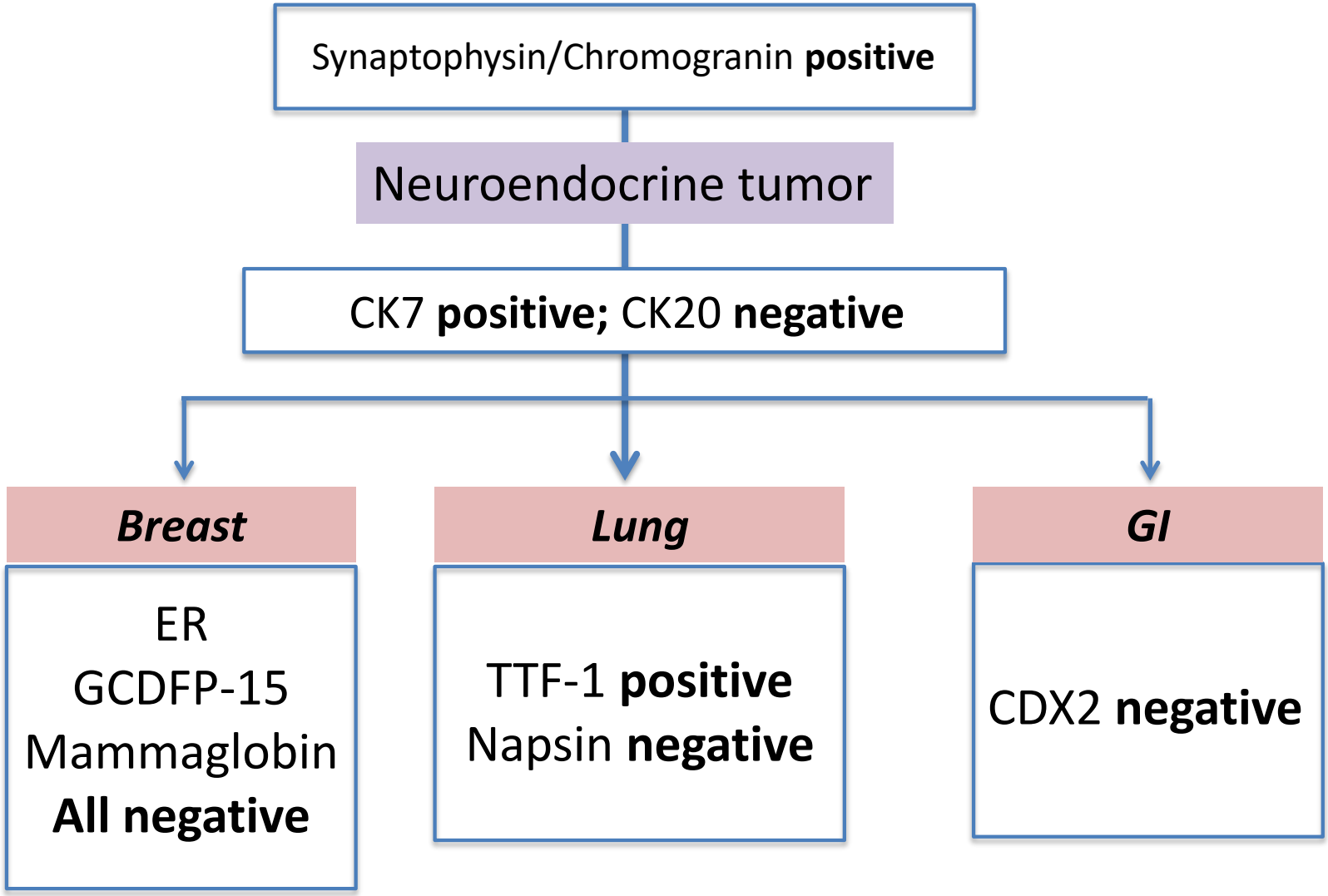
Additional history

- The patient has a lung mass and a positive OctreoScan in the right lower quadrant of the abdomen.
- There are two separate right breast masses, with similar histological features.

Differential diagnosis

- Primary breast neuroendocrine tumor?
- Metastatic neuroendocrine tumor? From lung? From GI tract?

Immunohistochemical stains



Neuroendocrine: Breast vs. Met

Stain	Breast	GI (met)	LUNG (met)
ER	54/56 (96%)	1/11 (9%) weak	1/5 (20%) weak
PR	49/56 (88%)	0/11 (0%)	0/5 (0%)
GCDFP	24/56 (43%)	0/10 (0%)	0/4 (0%)
Mamma	26/56 (46%)	0/10 (0%)	0/4 (0%)
CDX2	0/40 (0%)	11/11 (100%)	0/4 (0%)
TTF-1^^	0/47(0%)	0/10 (0%)	3/5^(60%)
CK7	37/49 (92%)	0/10 (0%)	3/5 (60%)
CK20	0/40 (0%)	0/10 (0%)	0/5 (0%)

Lopez-Bonet et al. Breast Cancer Res Treat. 2011; 126: 241-5
Richter-Ehrenstein et al. Breast Cancer Res Treat. 2010;124:413-7

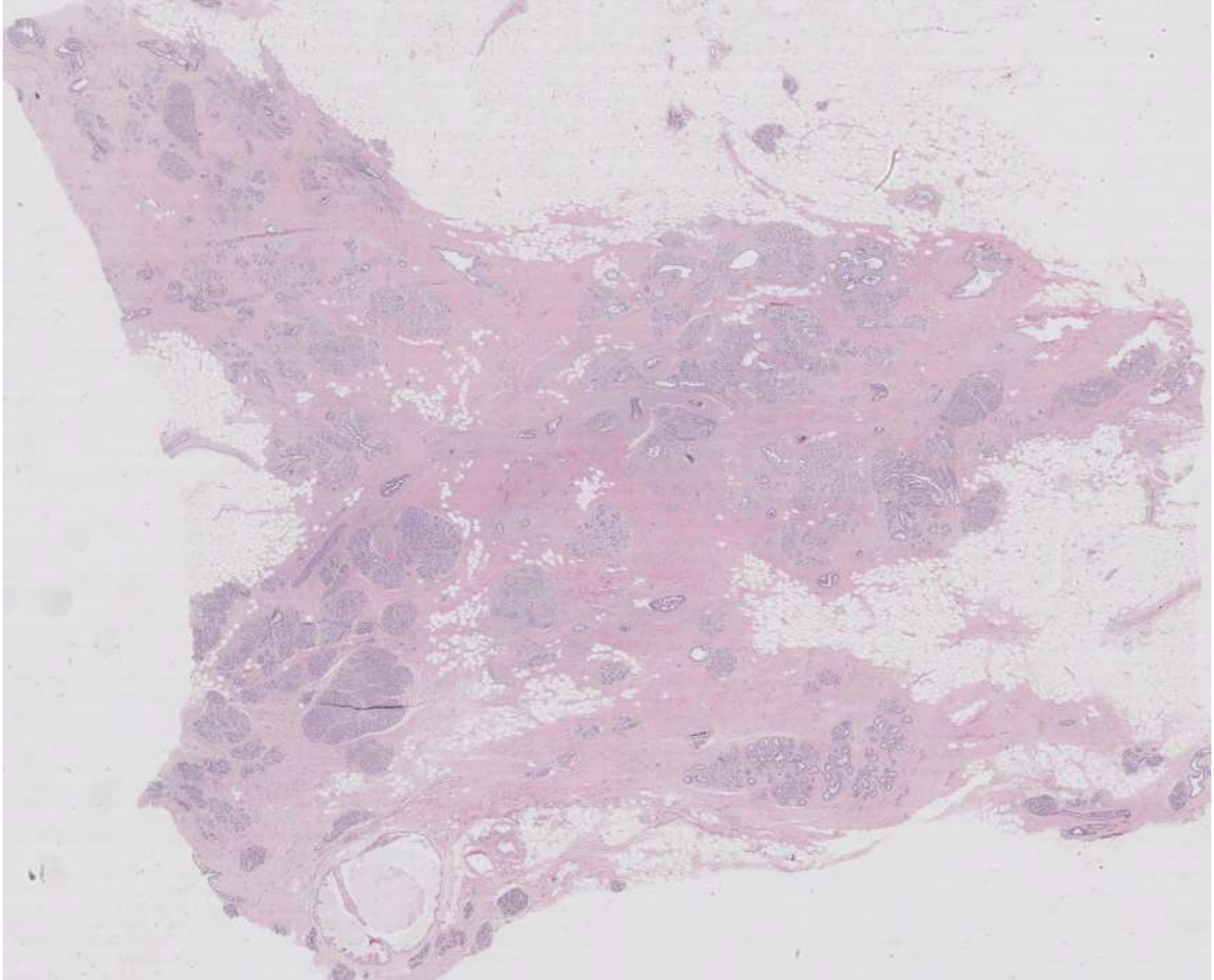
Take Home message

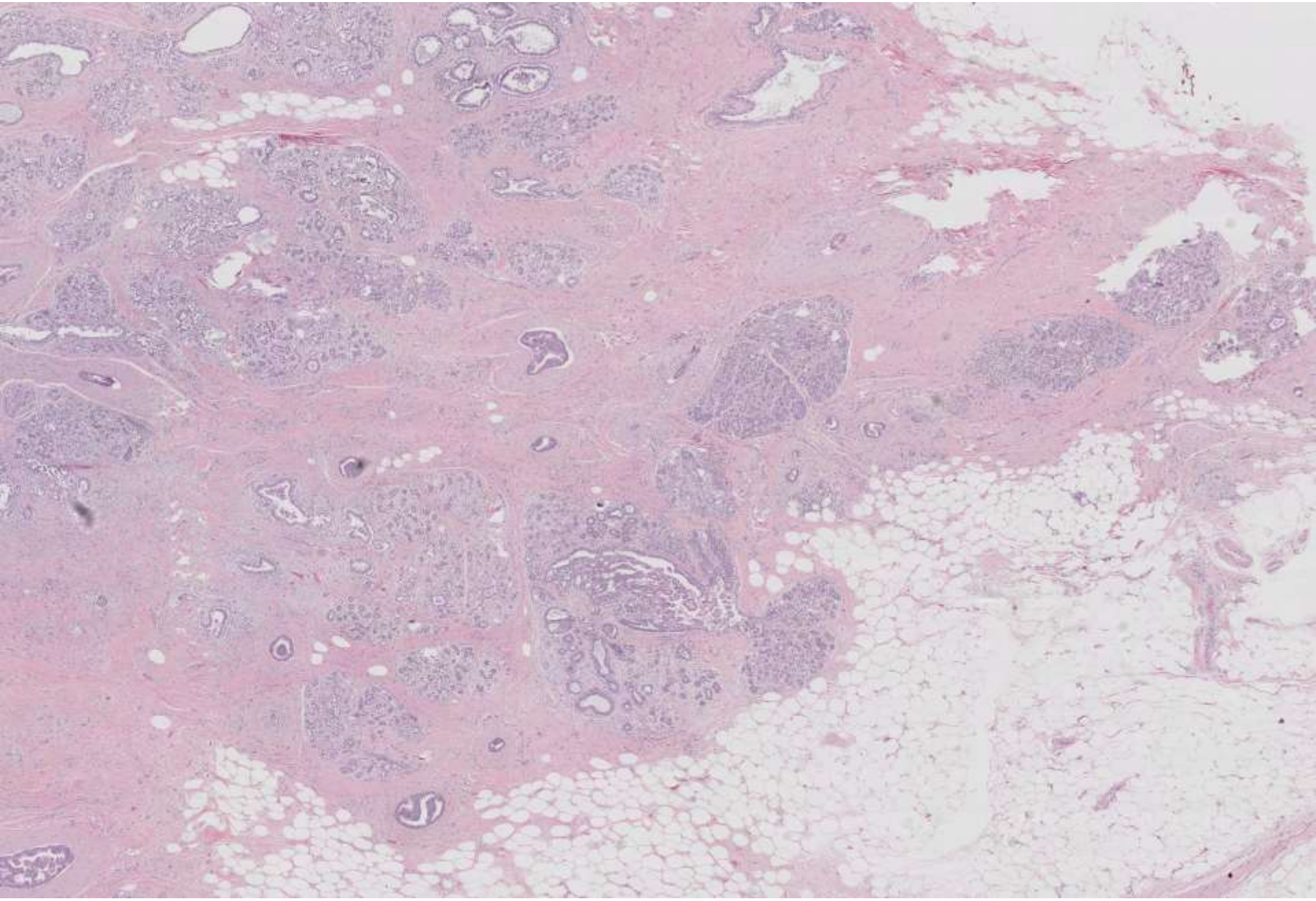
- Panels of immunohistochemical stains to distinguish breast primary vs metastatic neuroendocrine tumor
- History, history, history

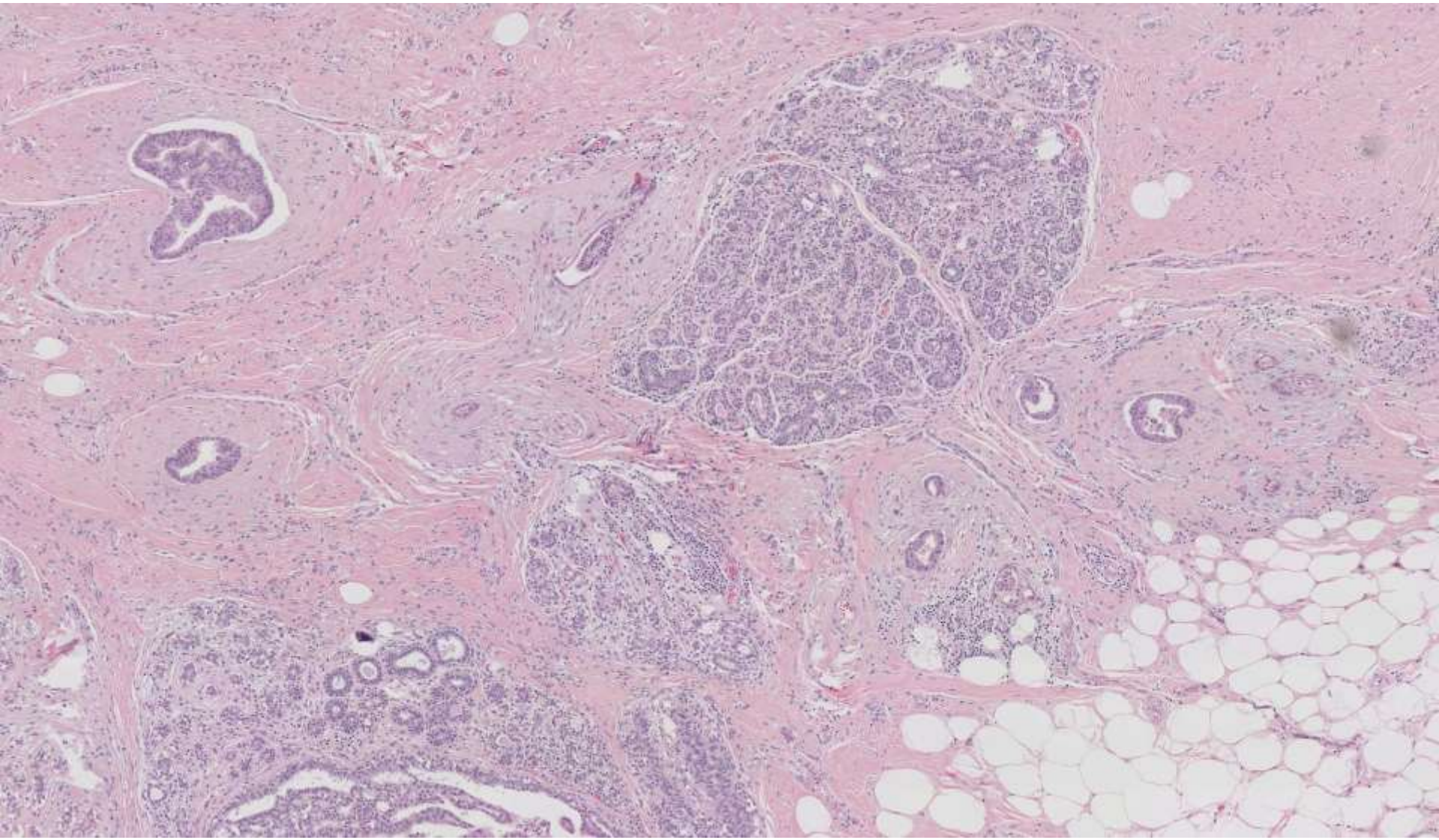
SB 6068

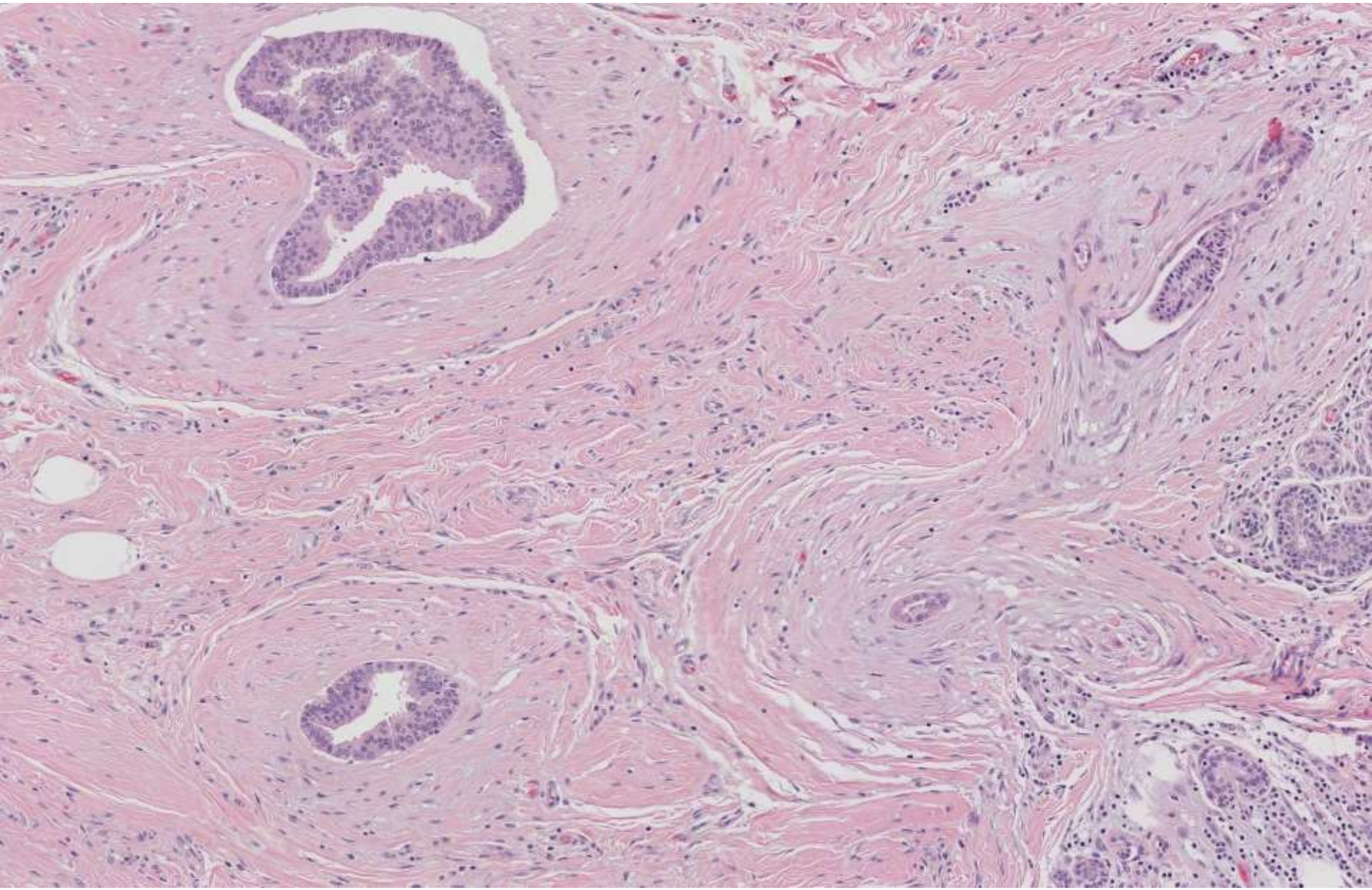
Chieh-Yu Lin/Megan Troxell; Stanford

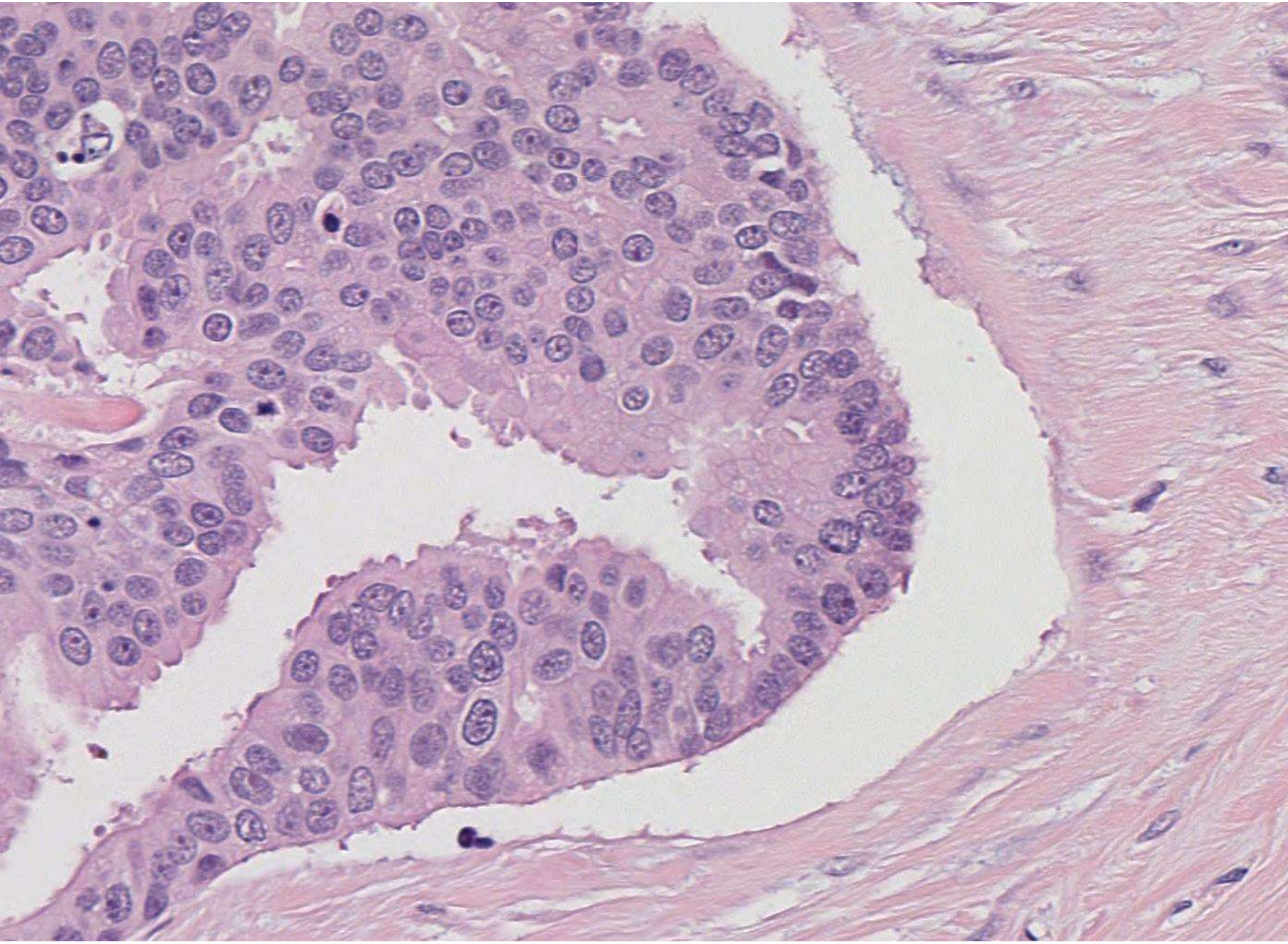
44-year-old woman with biopsy-proven HG DCIS undergoes mastectomy.

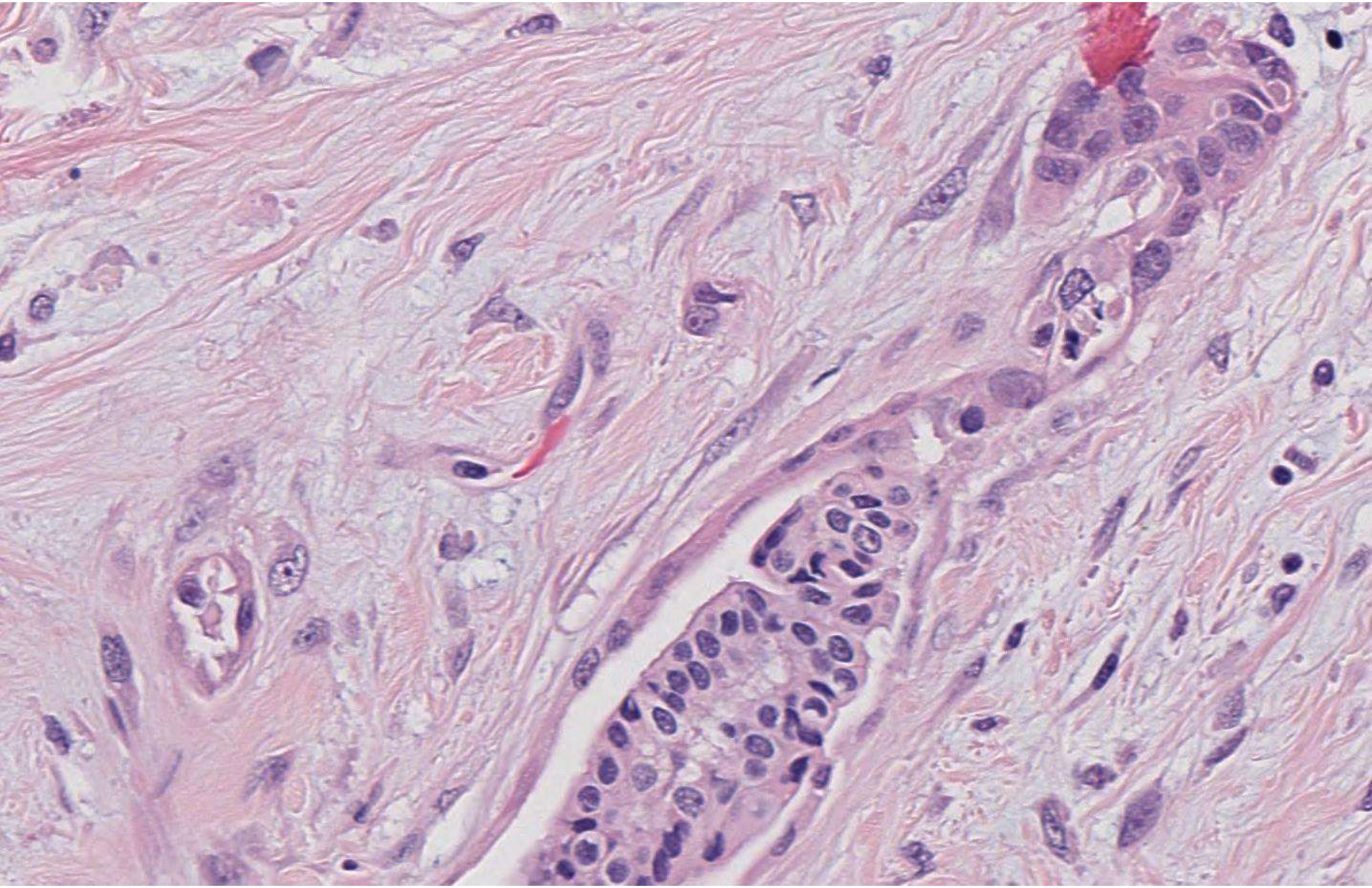


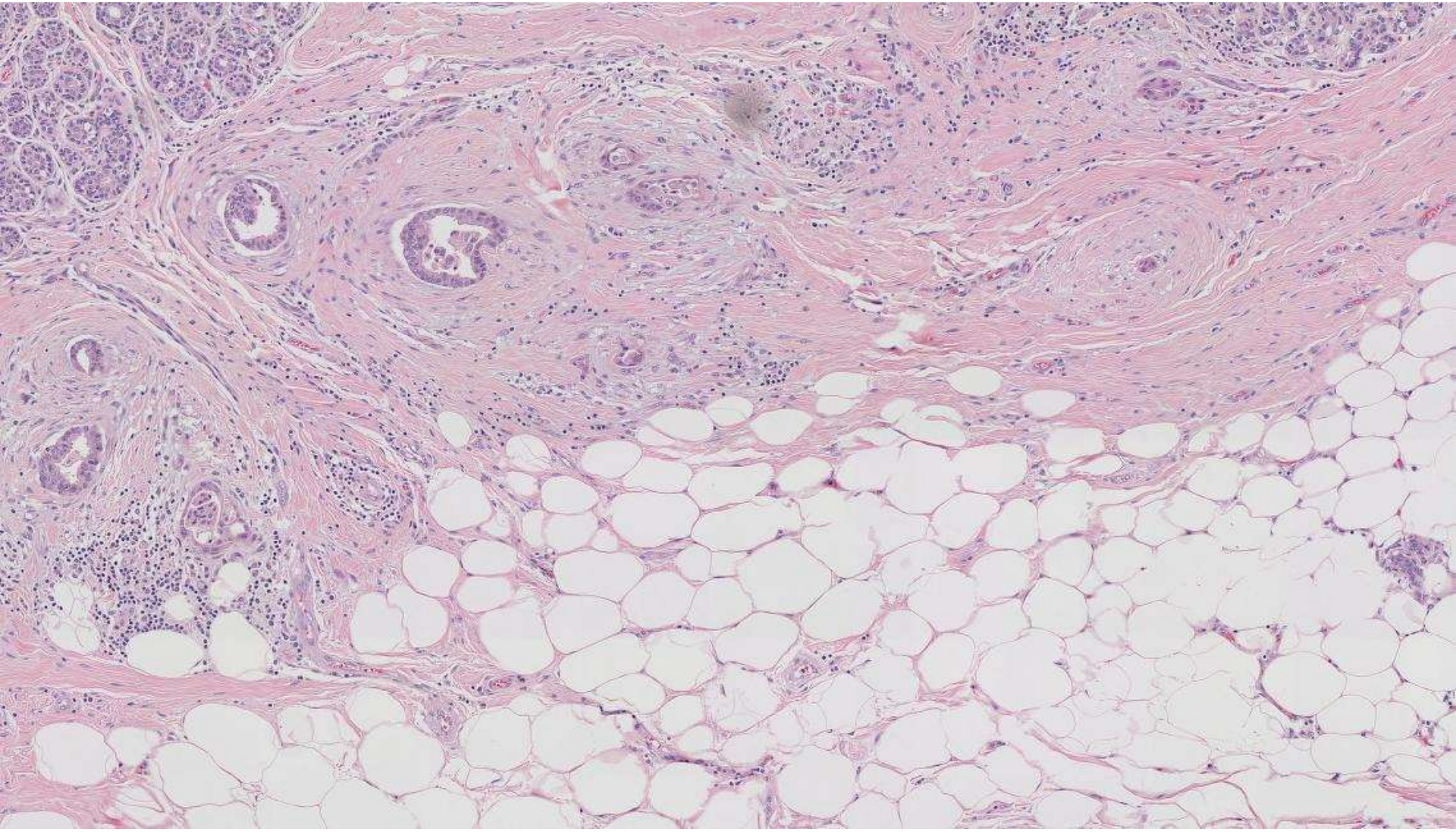


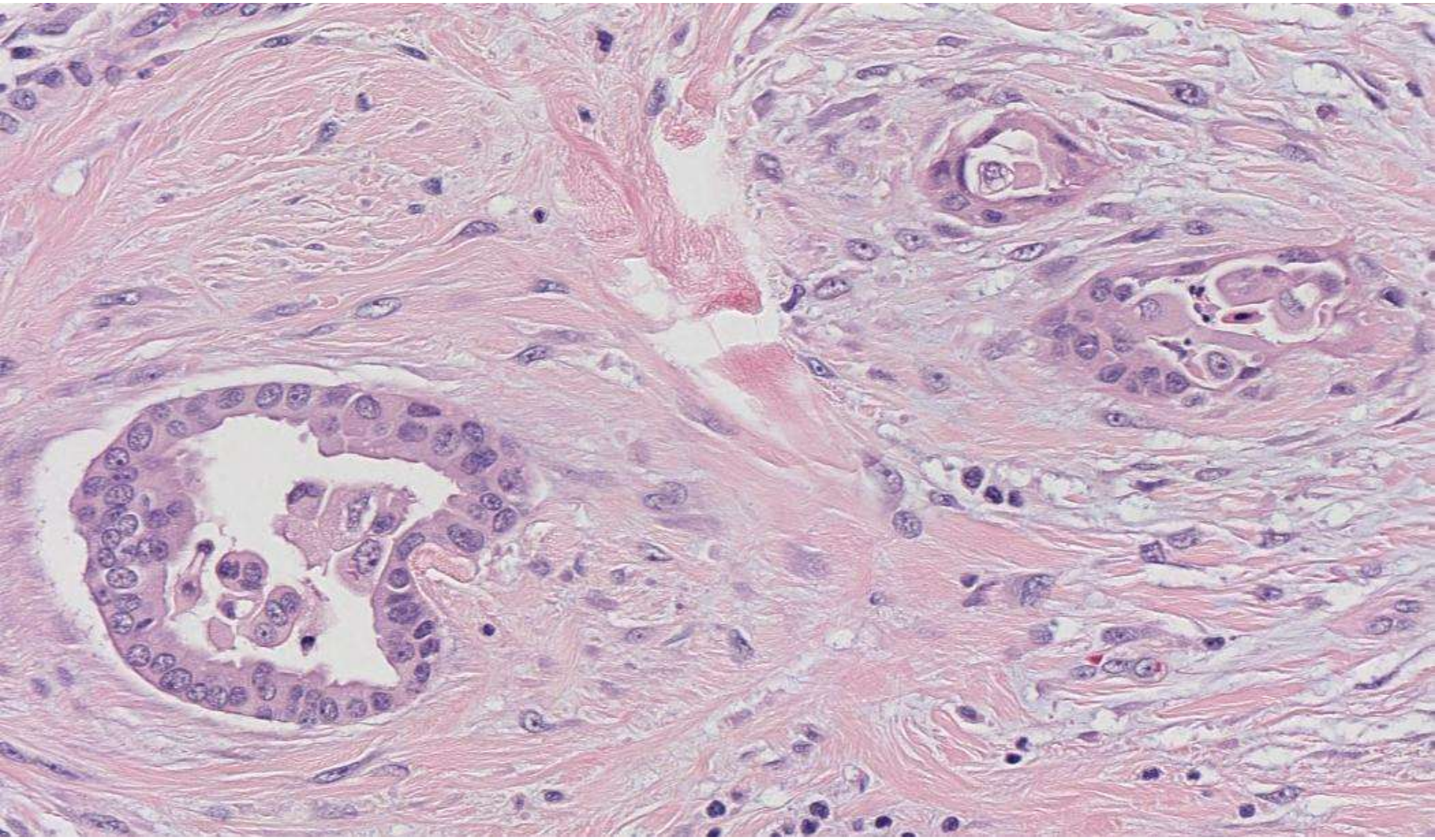


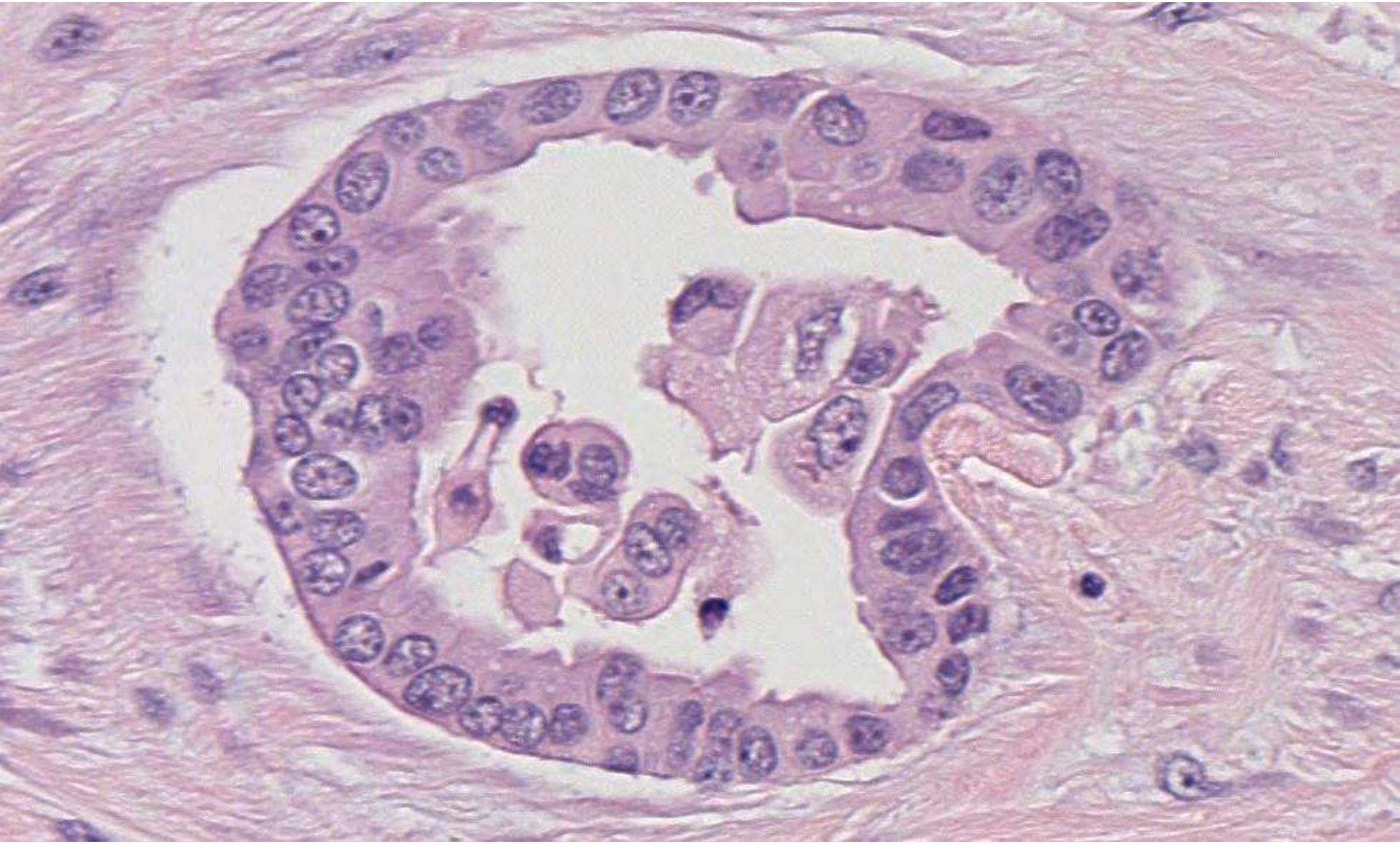


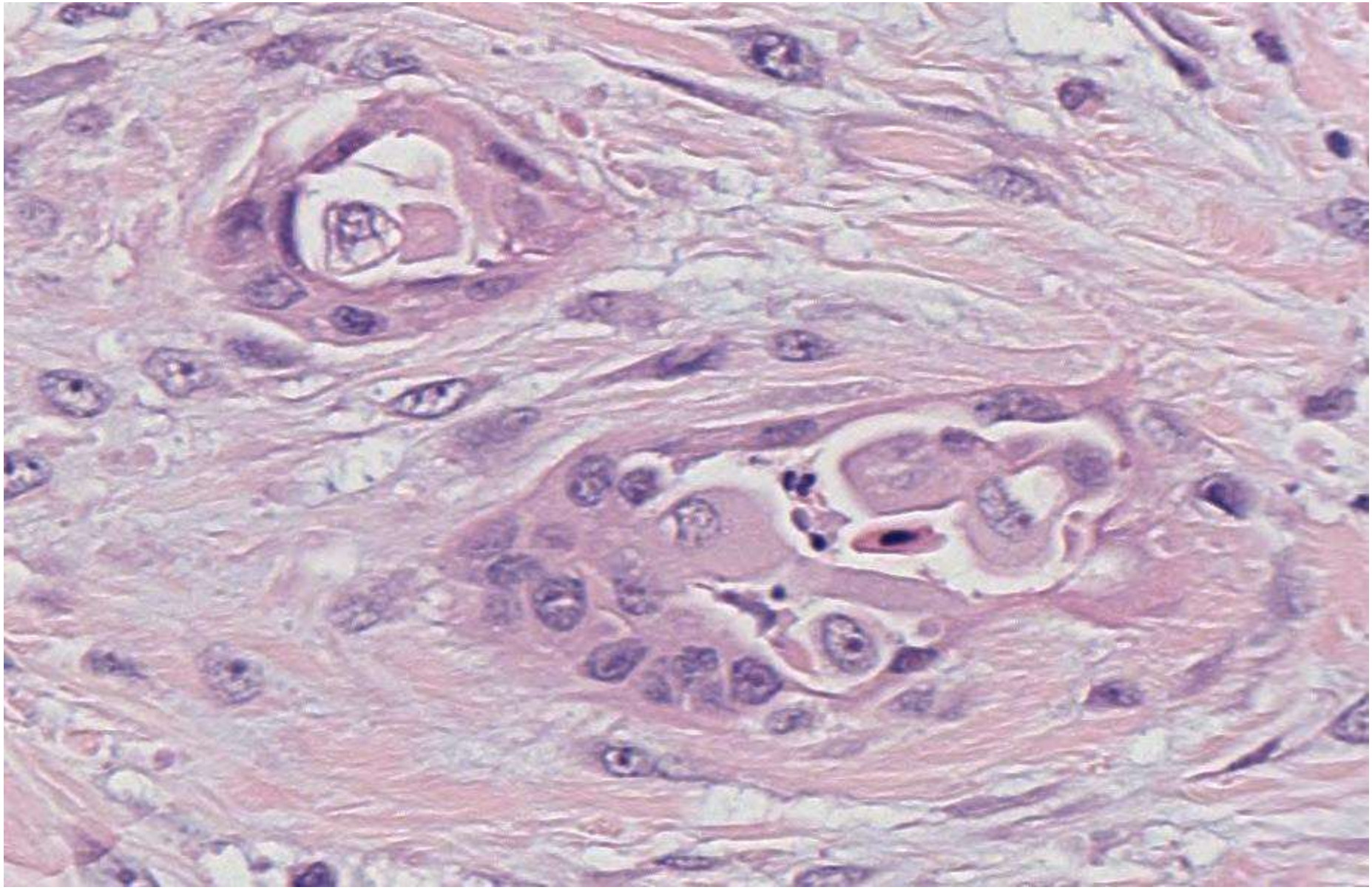




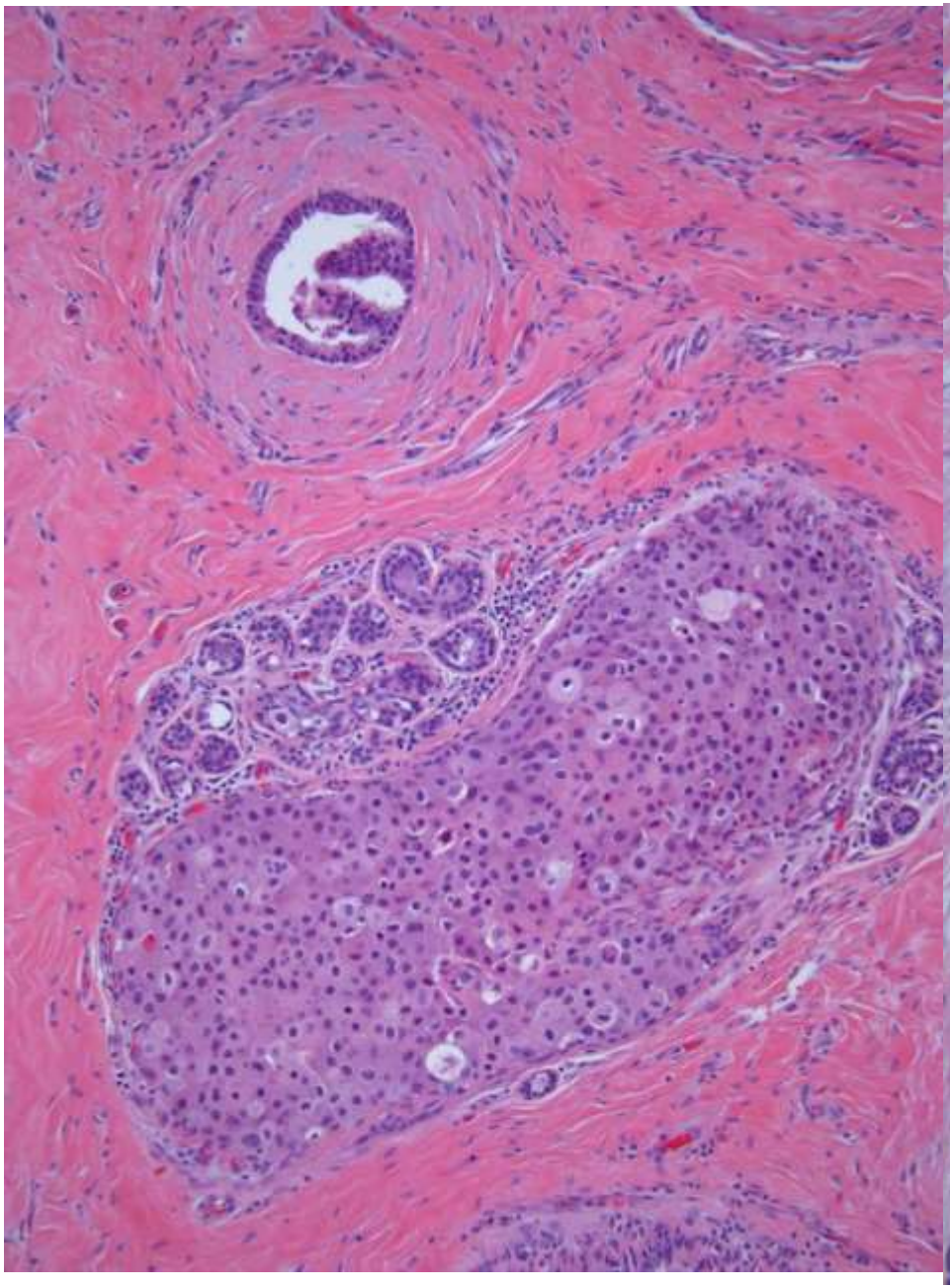


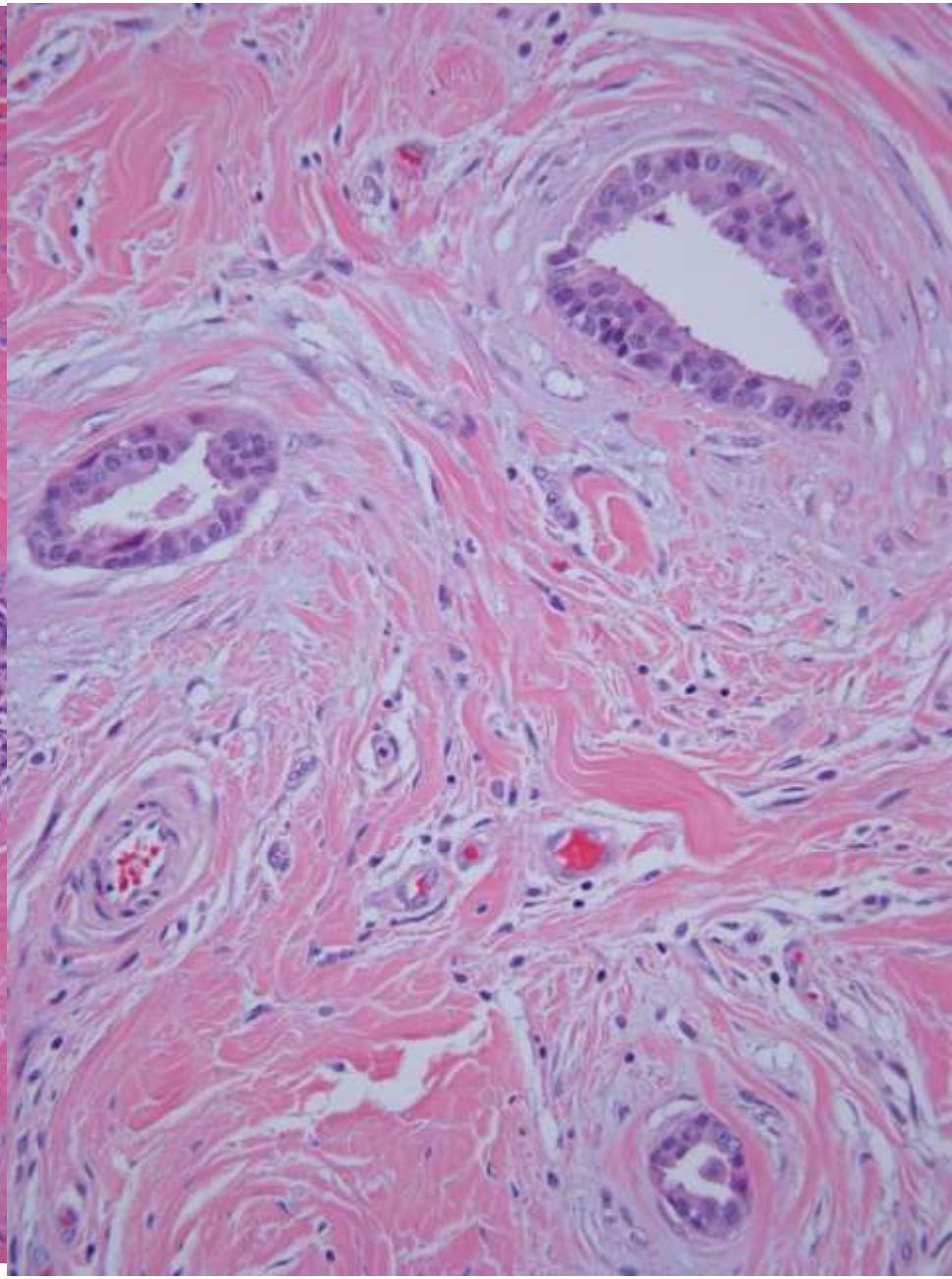




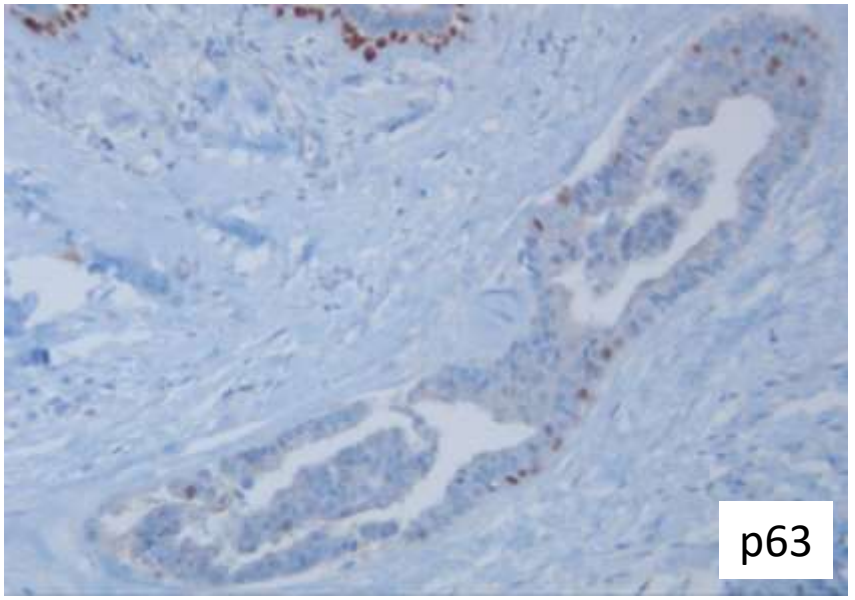


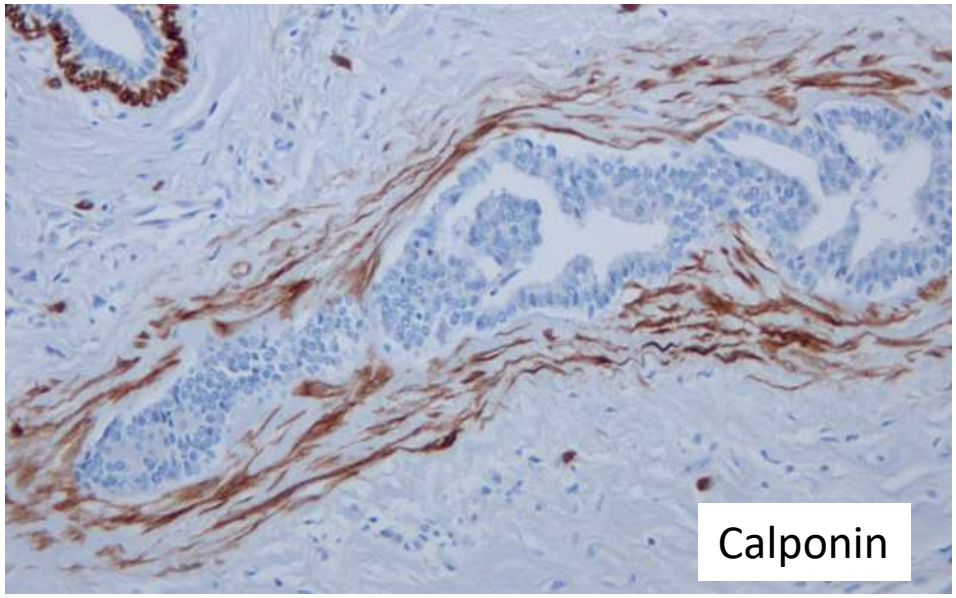
DIAGNOSIS?

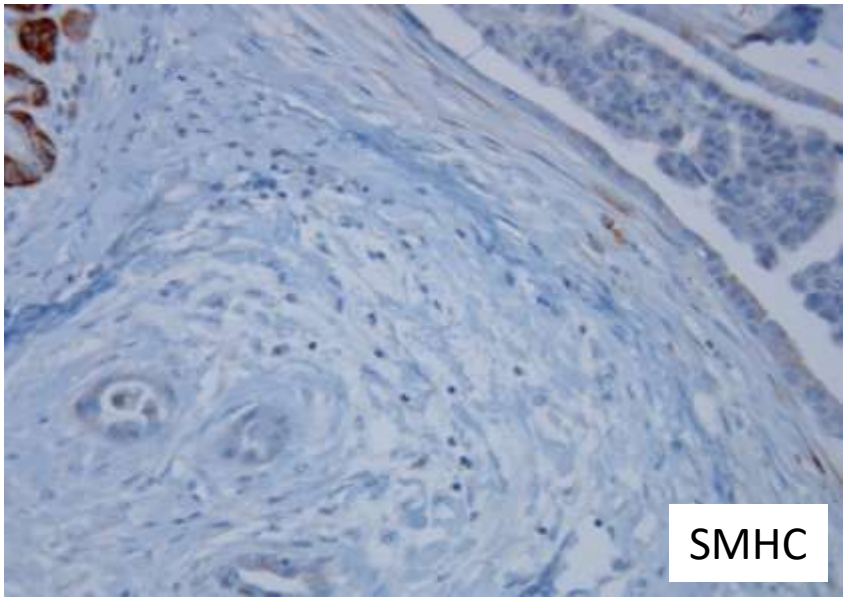




Myoepithelial markers







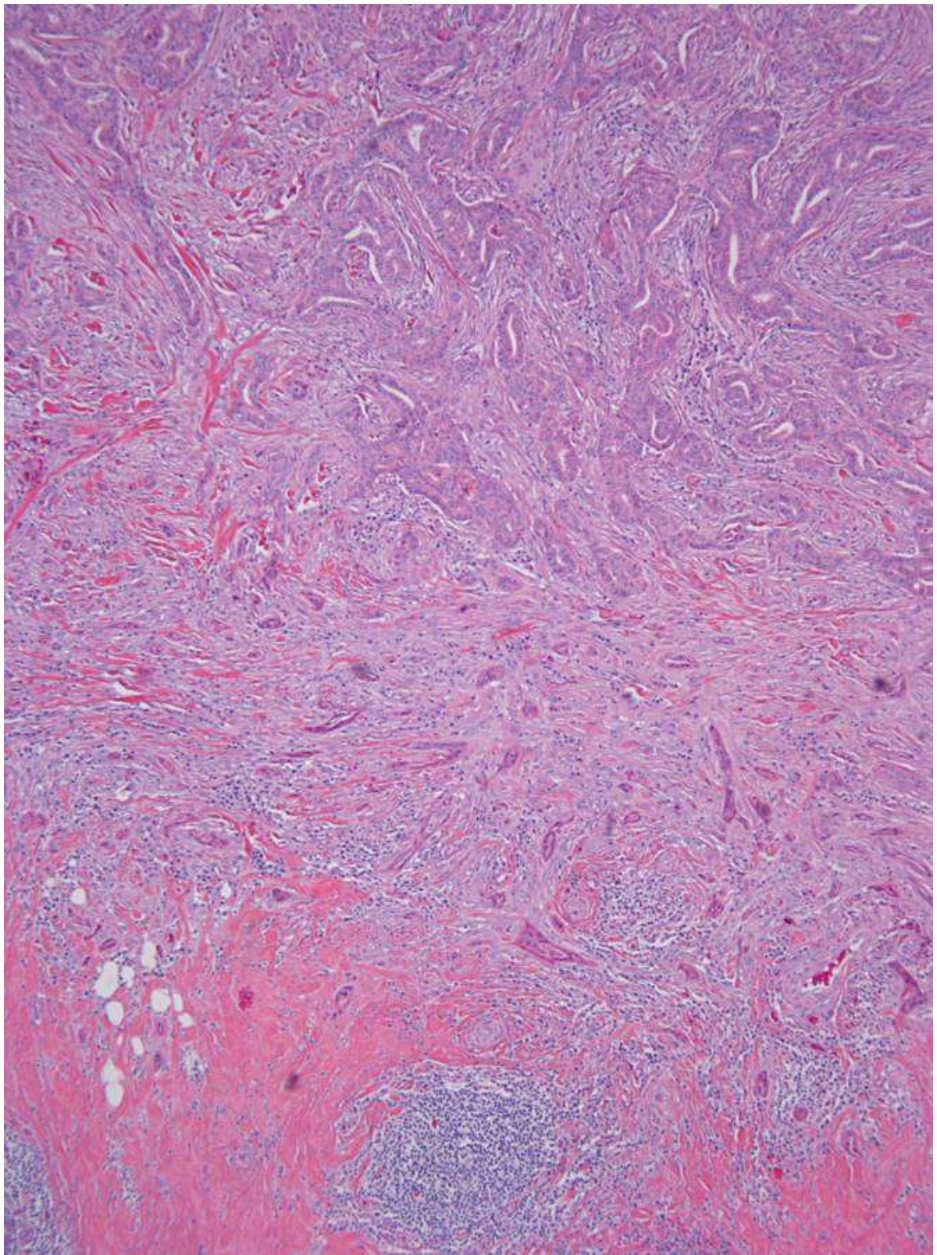
Diagnosis

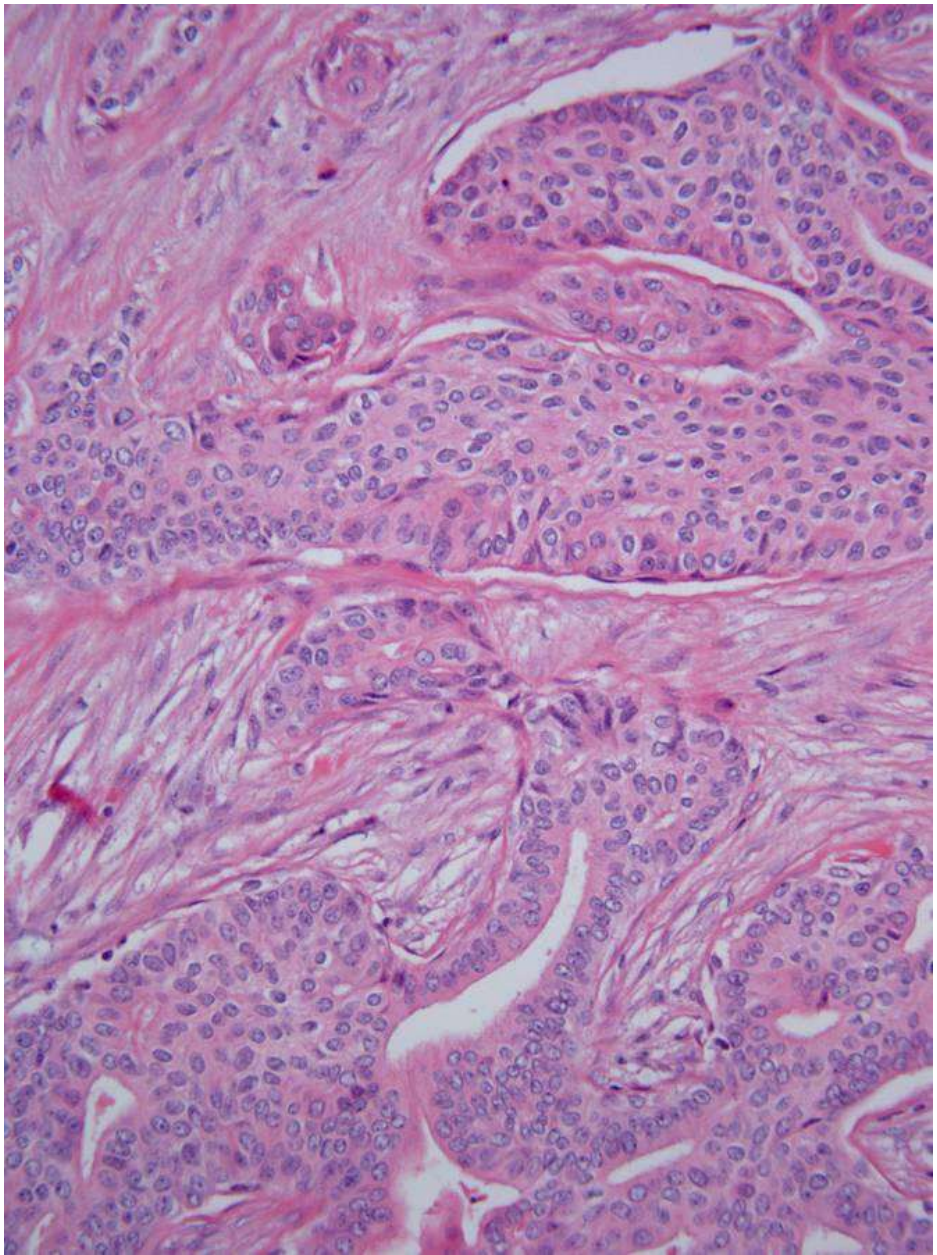
- Low grade adenosquamous carcinoma
- High-grade DCIS

Low Grade Adenosquamous CA

- Variant of metaplastic carcinoma
- Small round to comma shaped to compressed glands in dense collagenized stroma
  - Low grade cytology, rare mitosis
  - Varying degrees of squamous differentiation
  - May have lymphs/lymphoid aggregates at periphery
  - May infiltrate between normal structures
- May mimic benign sclerosing lesions on core biopsies
- Triple negative but with good prognosis

Low grade adenosquamous carcinoma

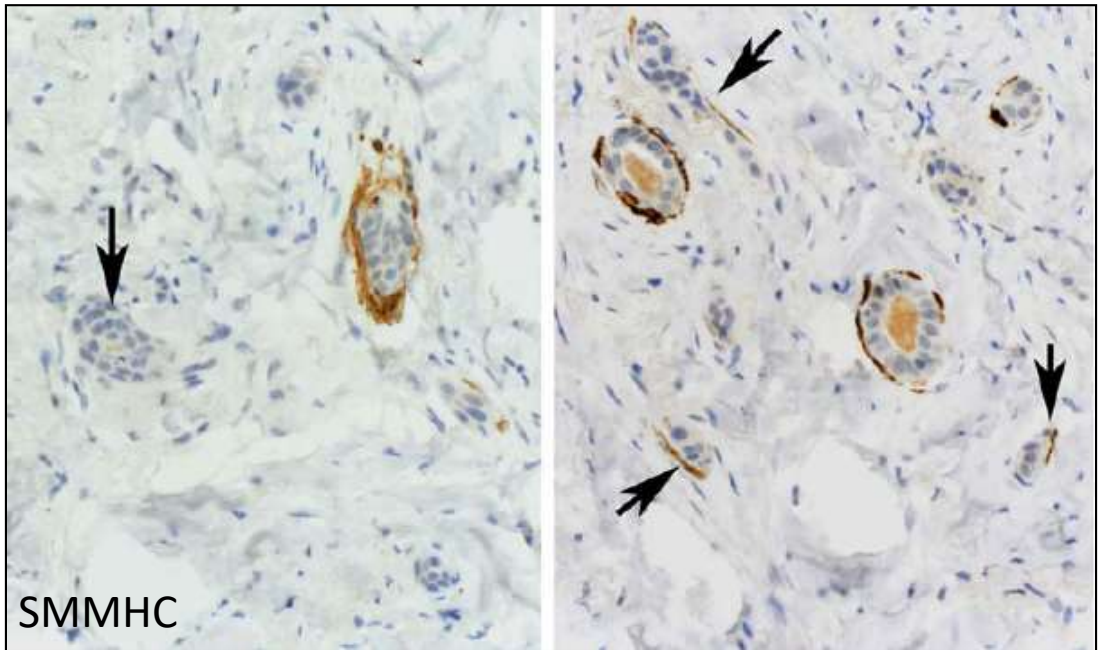


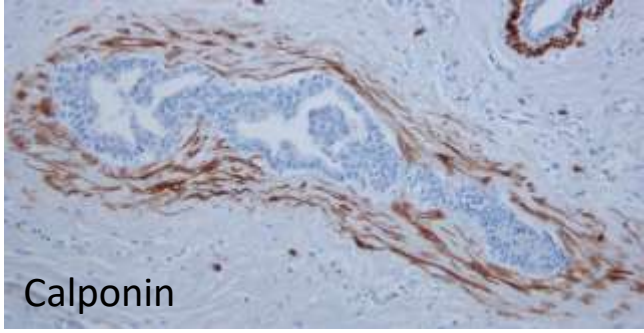


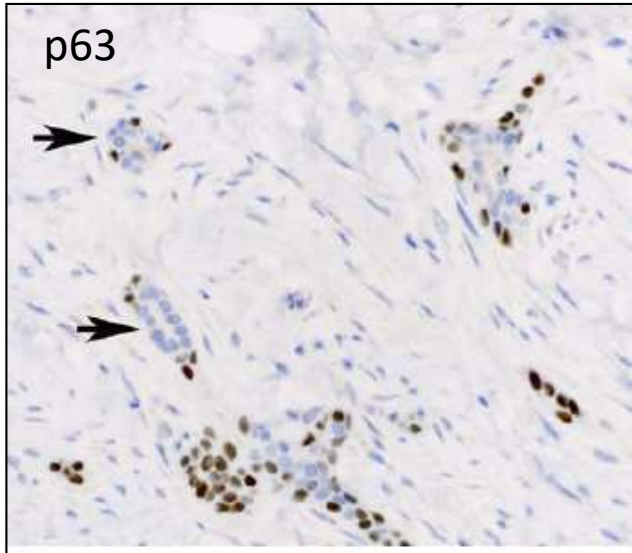
Variable myoepithelial staining

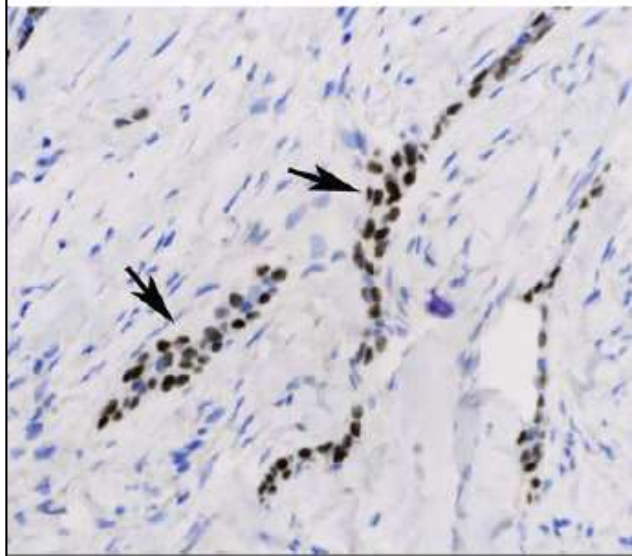
- 'Cuffing' or lamellar pattern
- Complete, discontinuous or absent around glands
- "Consistently inconsistent"
- Epithelial component may stain with p63 (squamoid, bottom R)

Kawaguchi and Shin. AJSP. 2012; 36:1009-20









Differential diagnosis

- Adenoid cystic carcinoma
- Malignant myoepithelioma
- Malignant adenomyoepithelioma
- Tubular carcinoma
- Radial scar/sclerosing adenosis
- Microglandular adenosis

Take home message

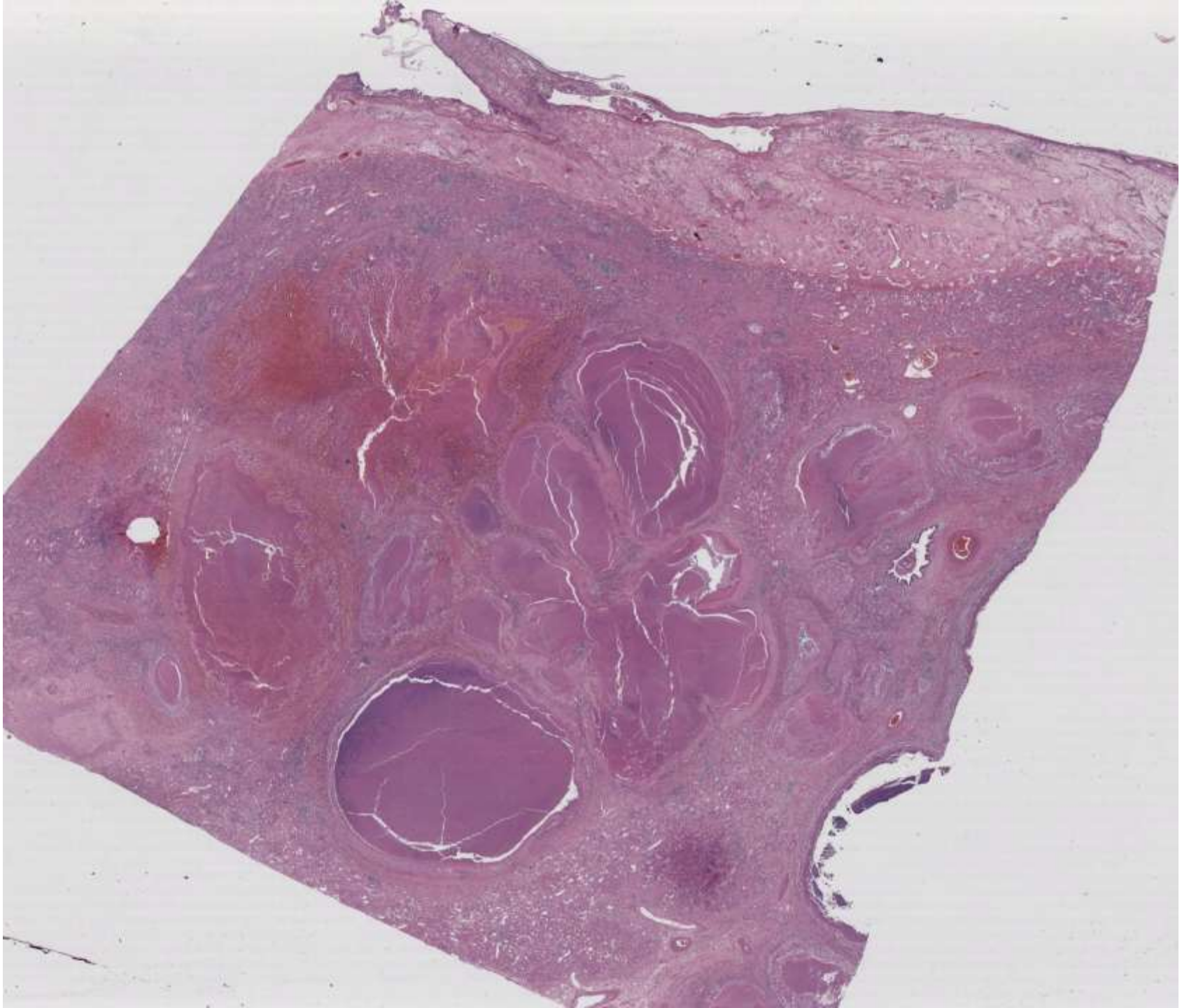
- Low-grade adenosquamous carcinoma, a variant of metaplastic carcinoma, exhibit indolent disease course.

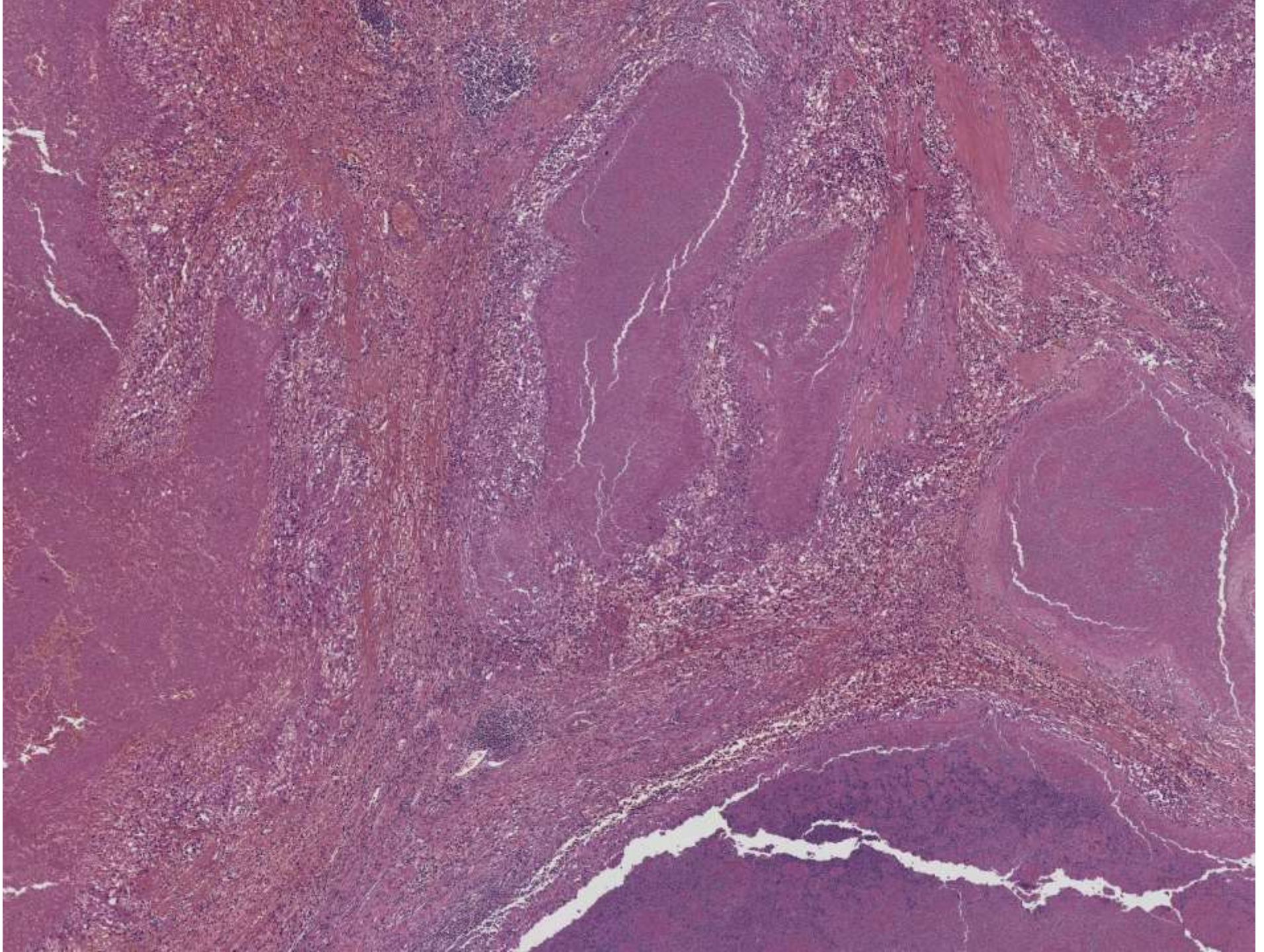
- Recognition of this rare but distinct entity is important for clinical management.

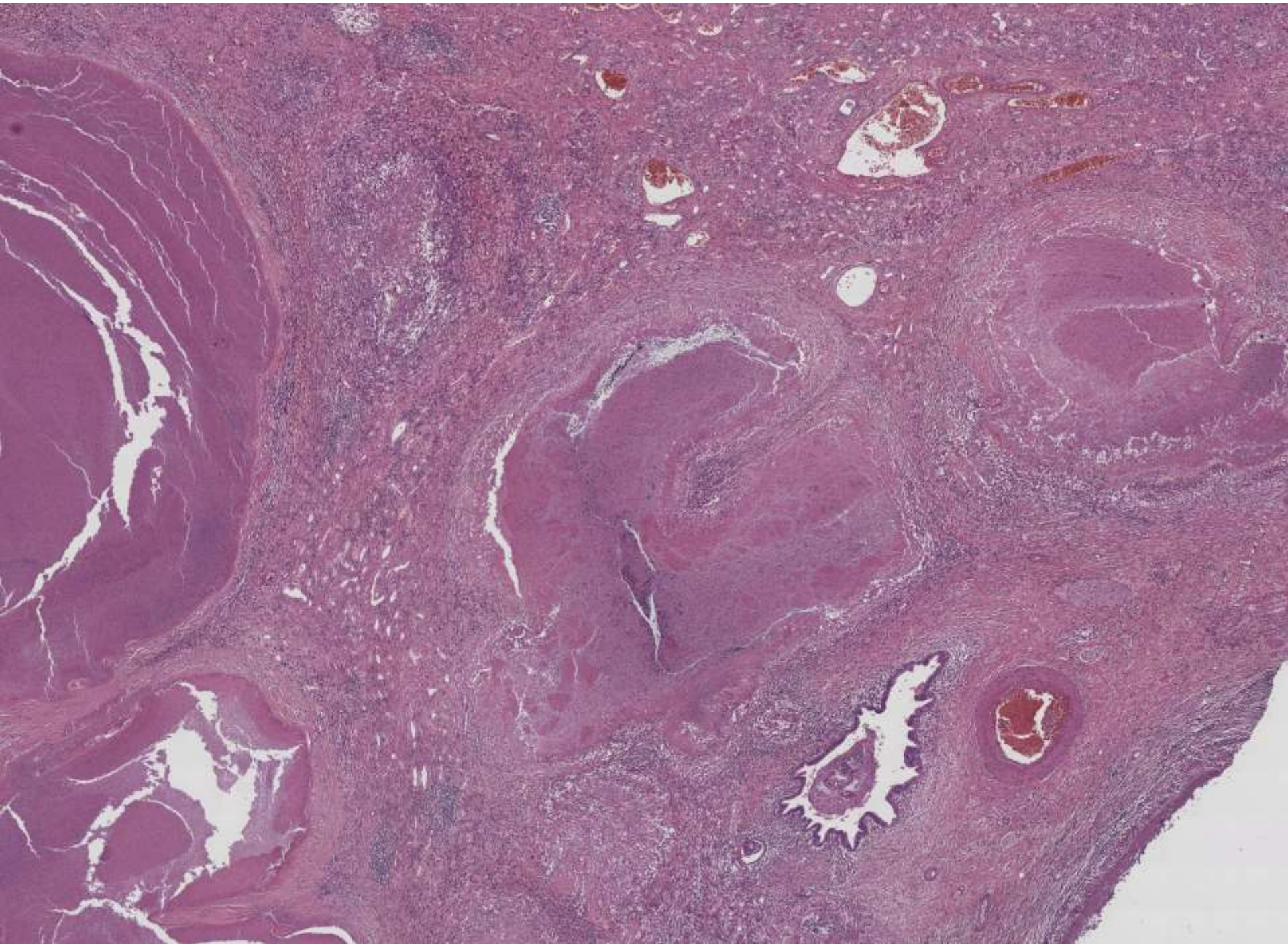
SB 6069

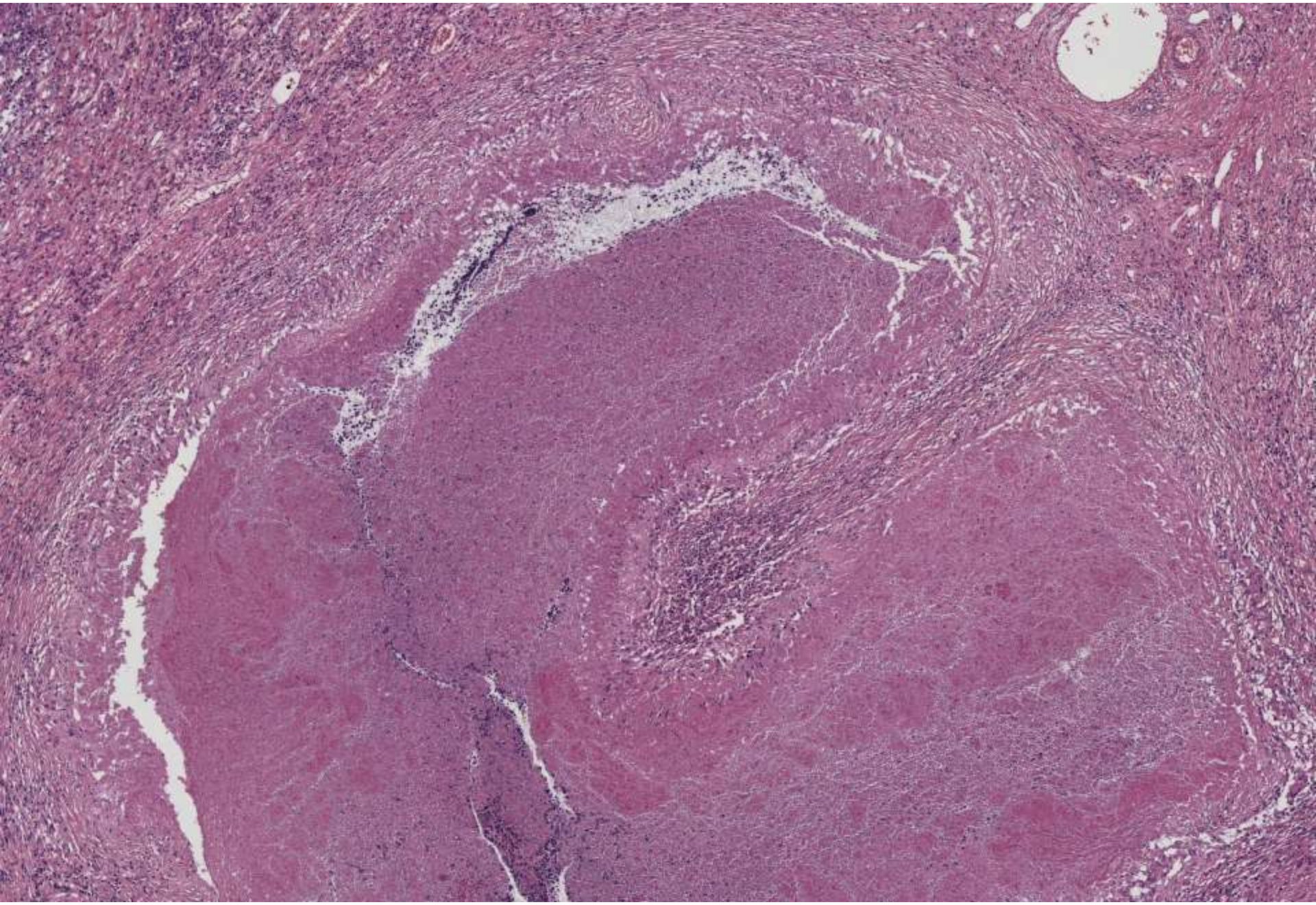
Nabeen Nayak; Sir Ganga Ram Hospital, New Dehli

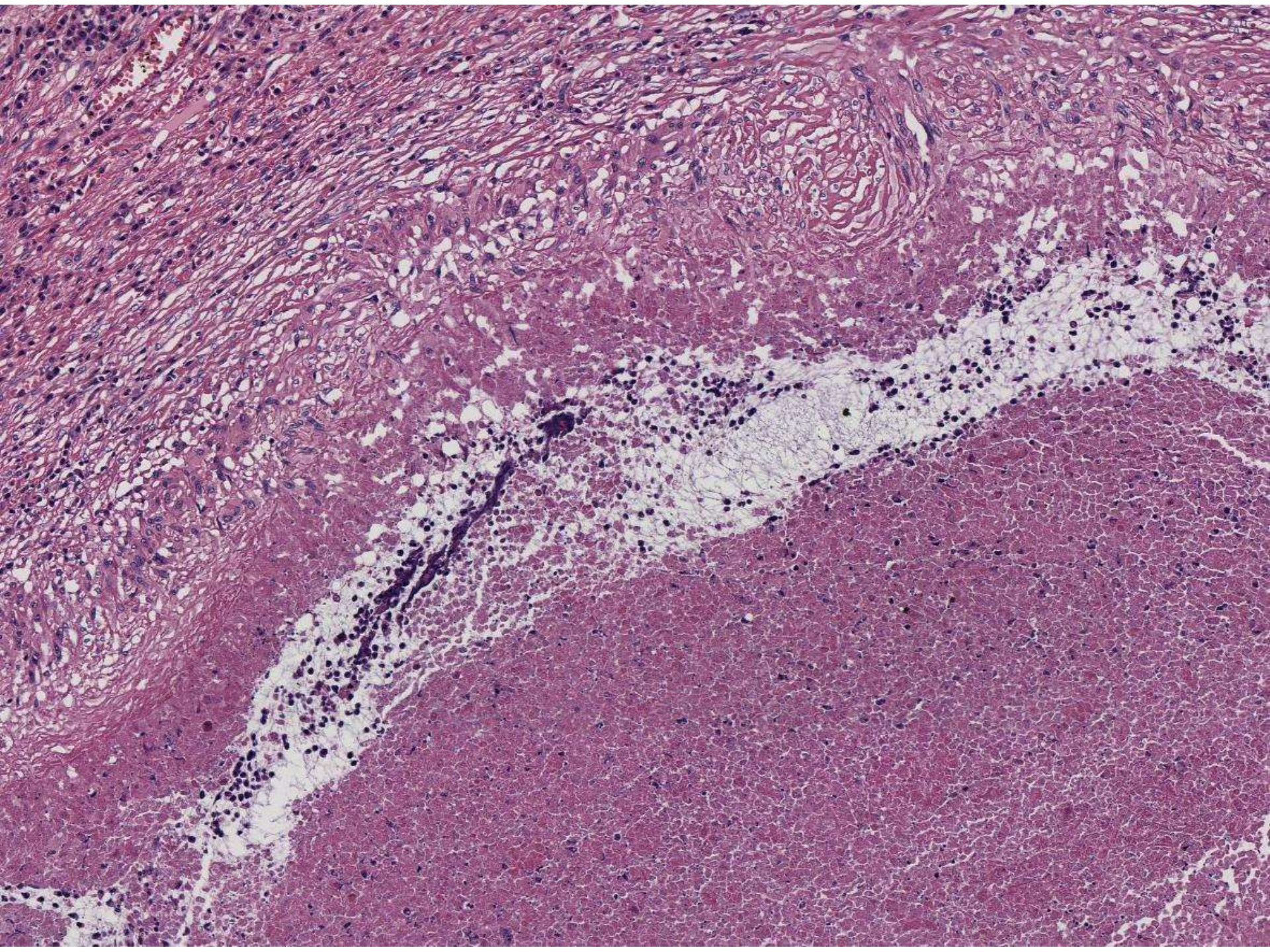
36-year-old man with abdominal pain and fever x 3 months, honeycomb cystic lesions identified in liver by CT scan. Left hepatectomy performed.

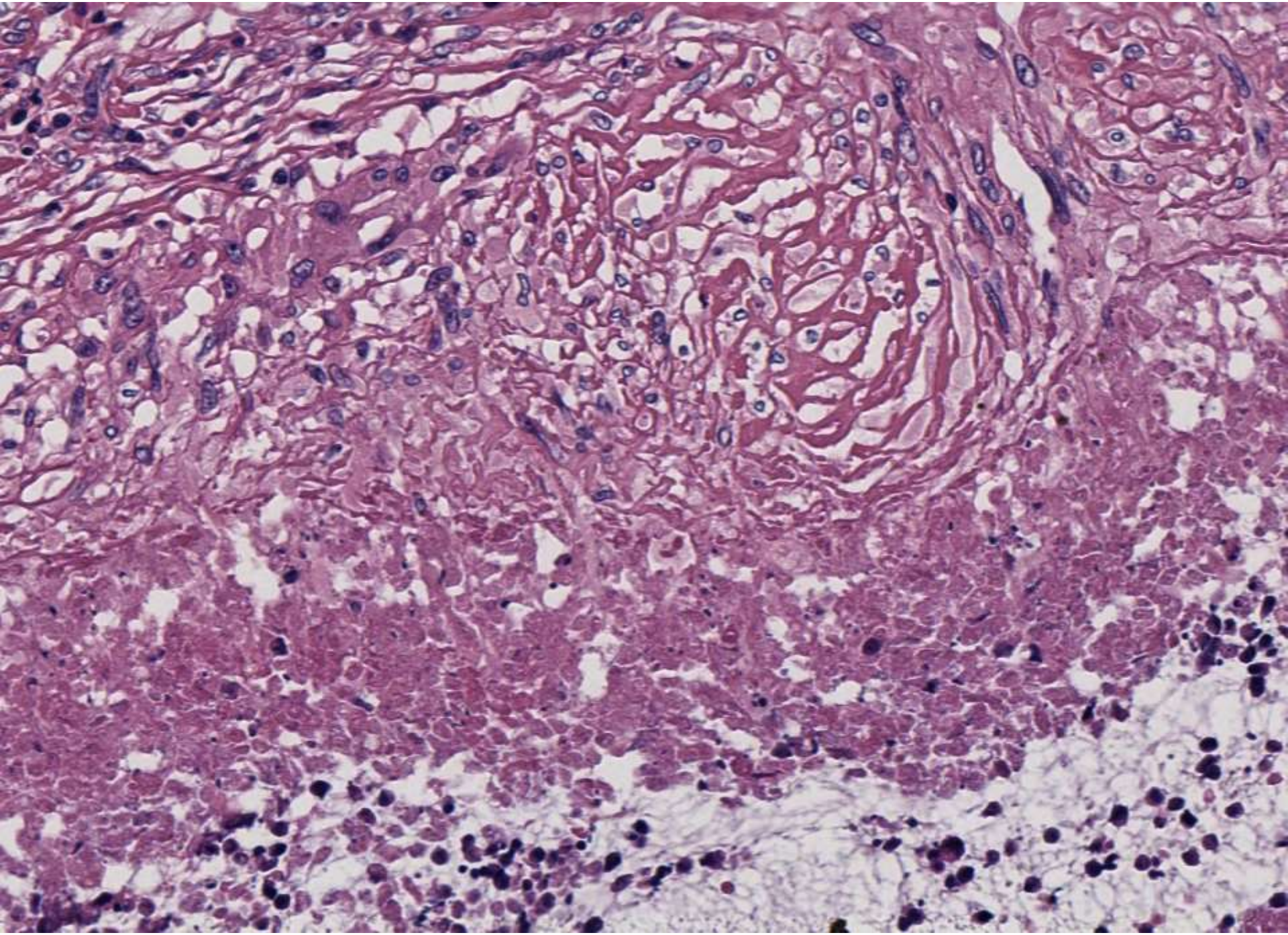












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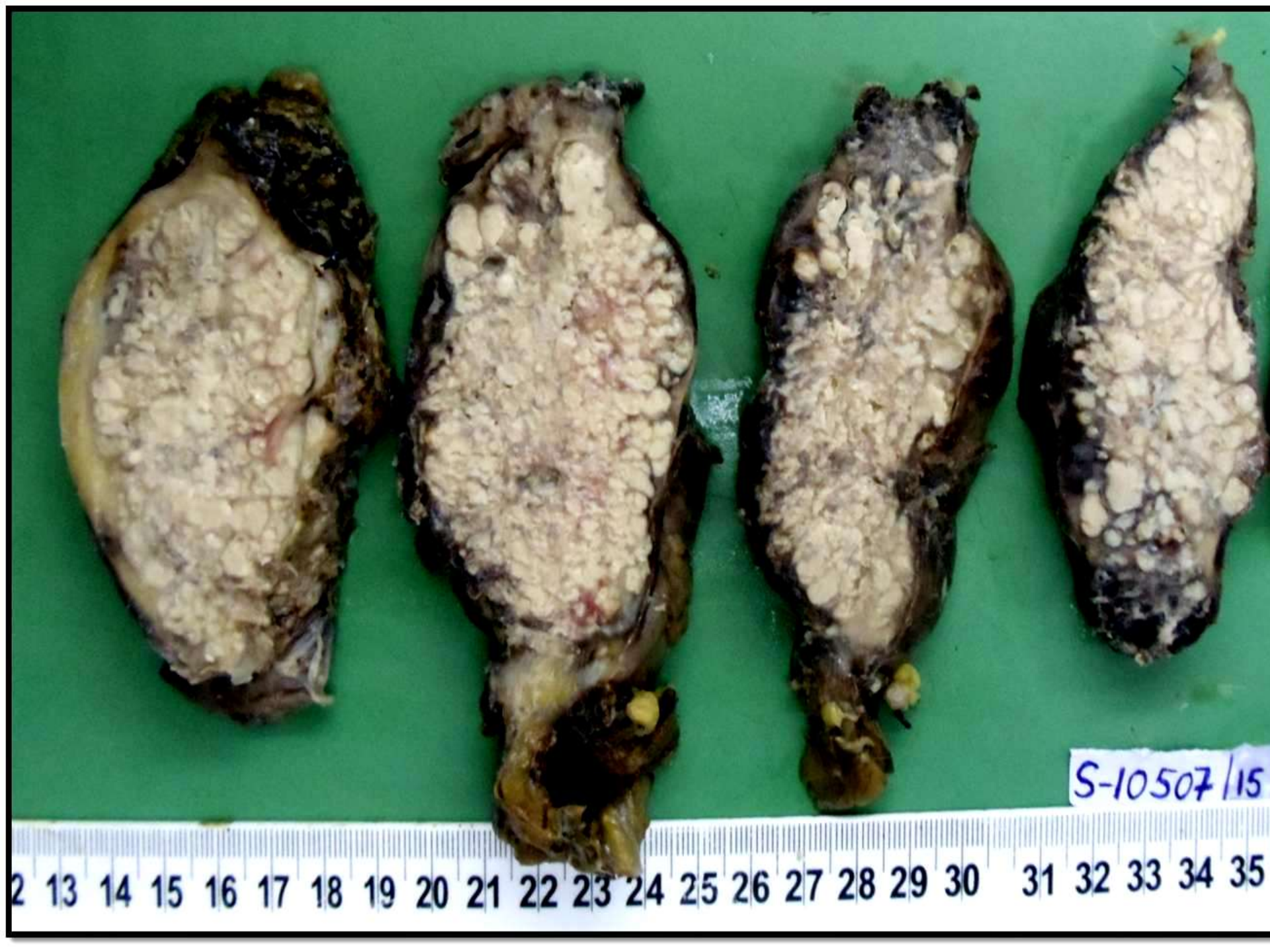
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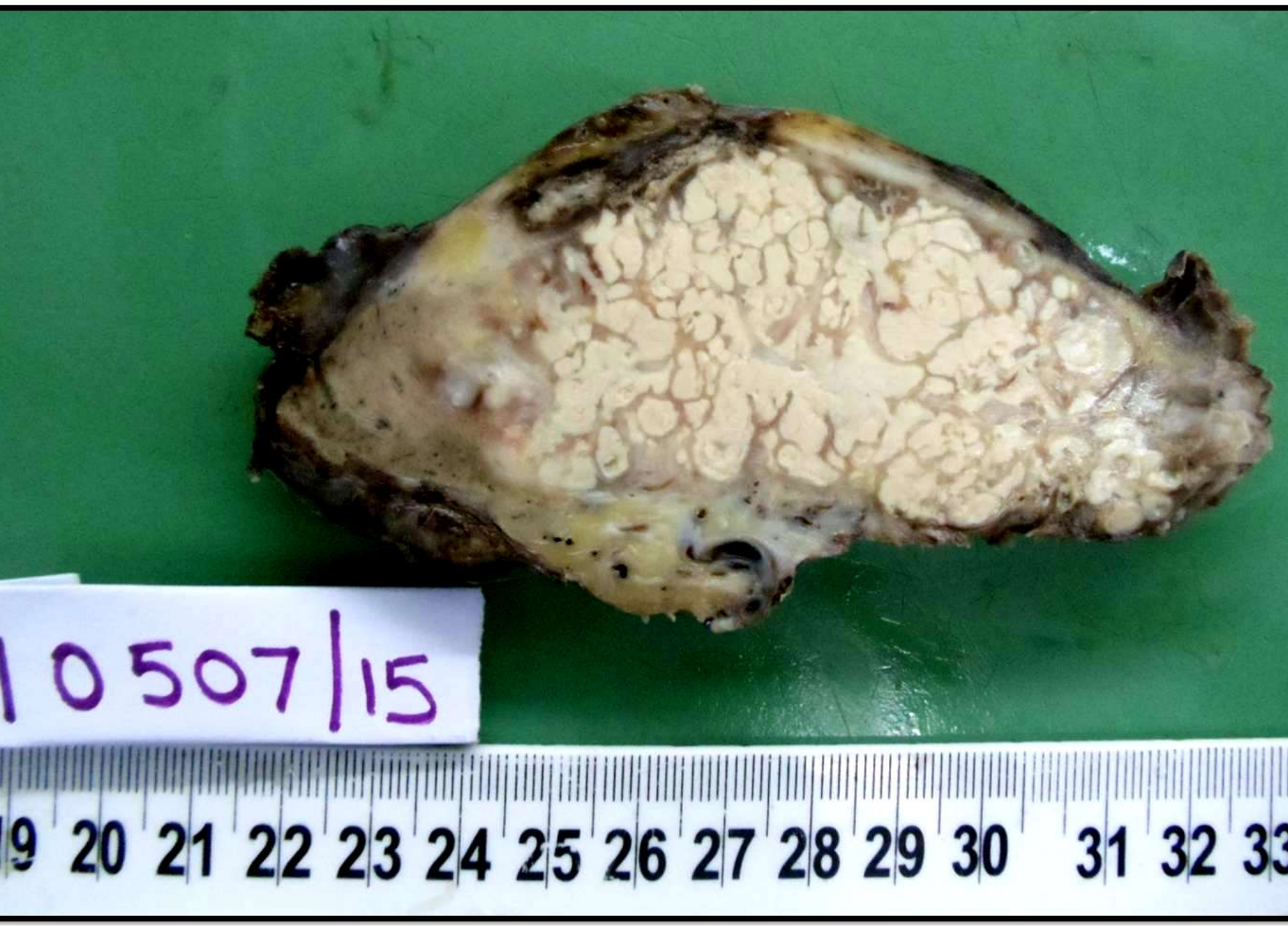
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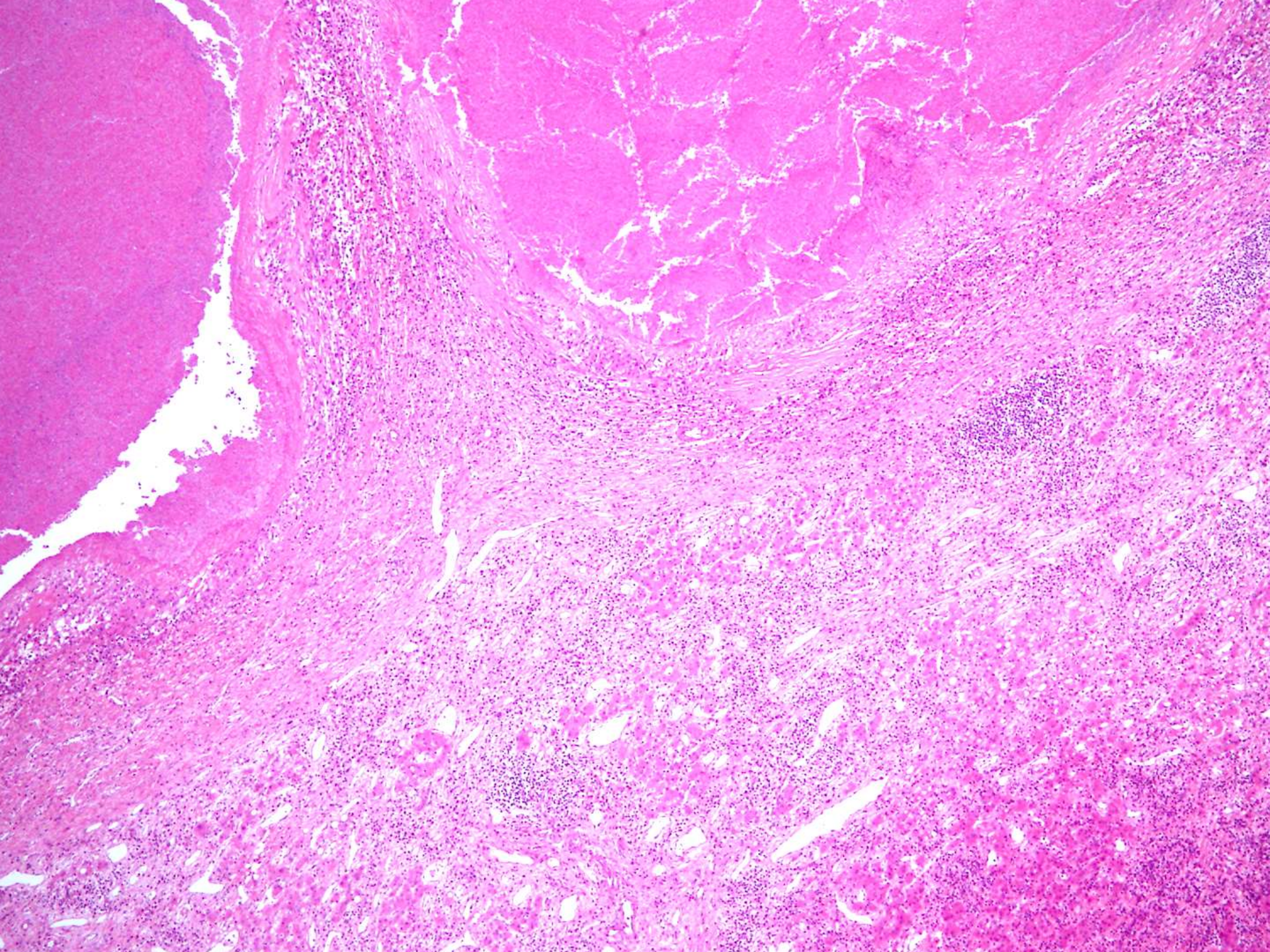
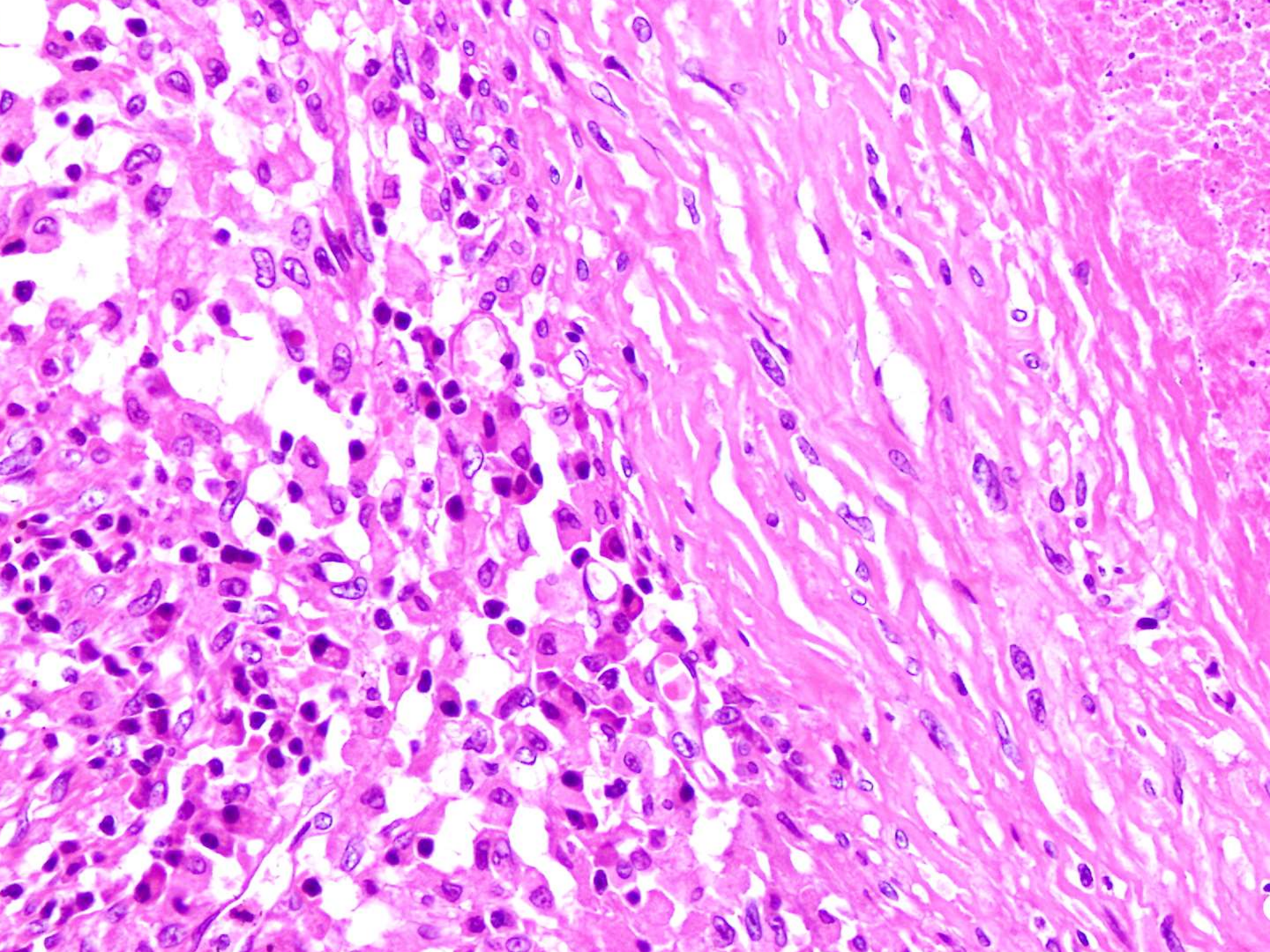
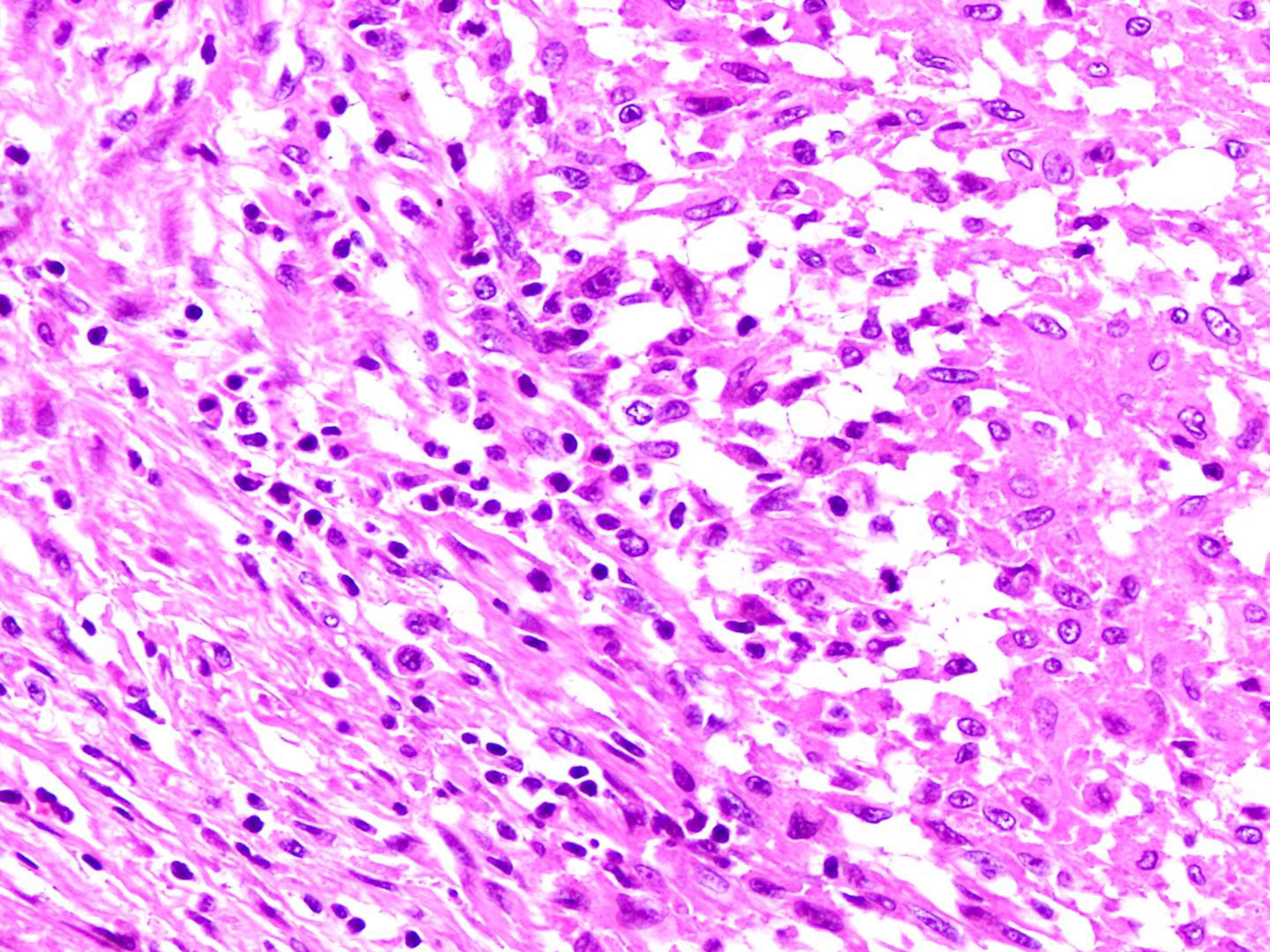
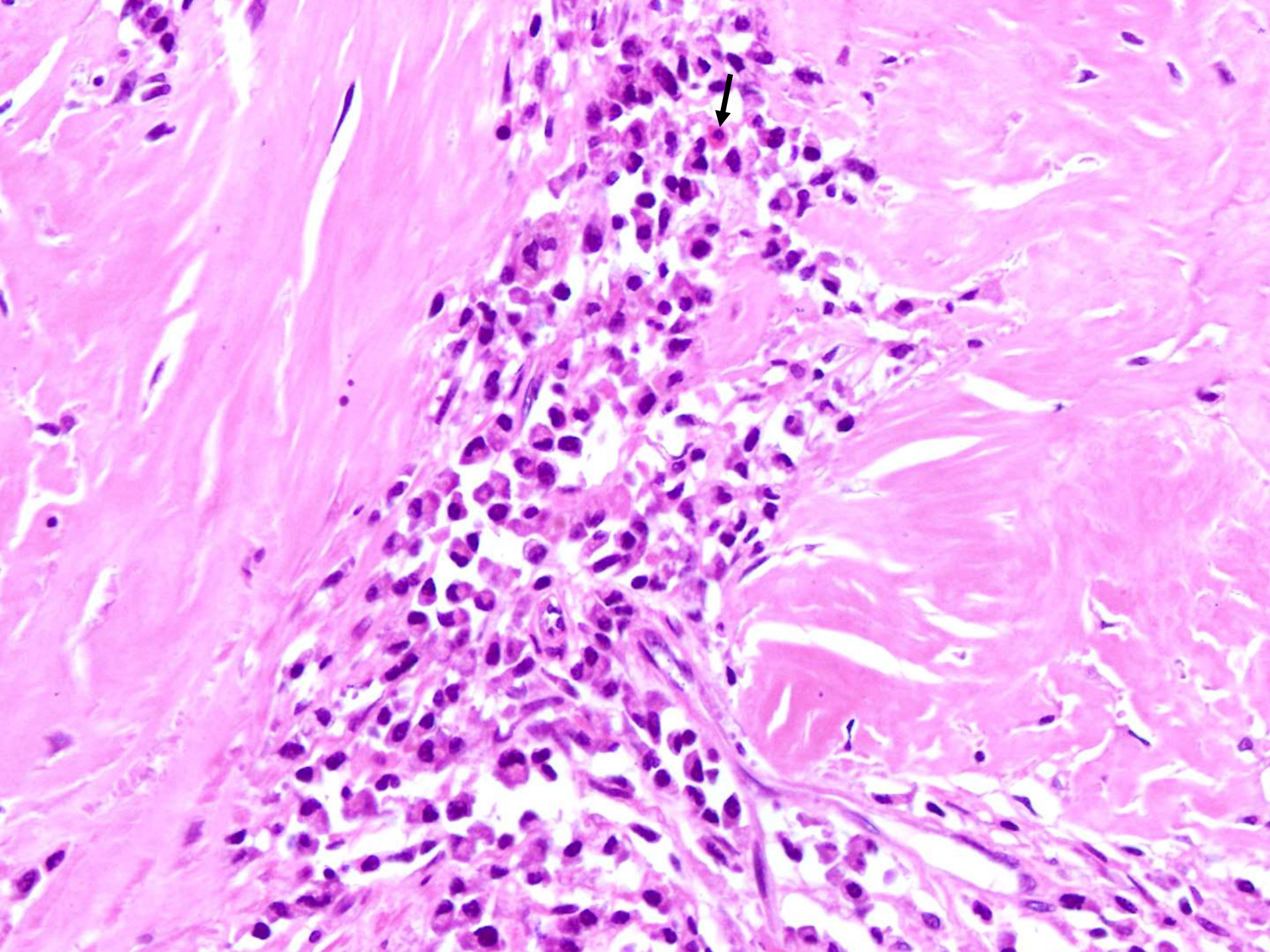




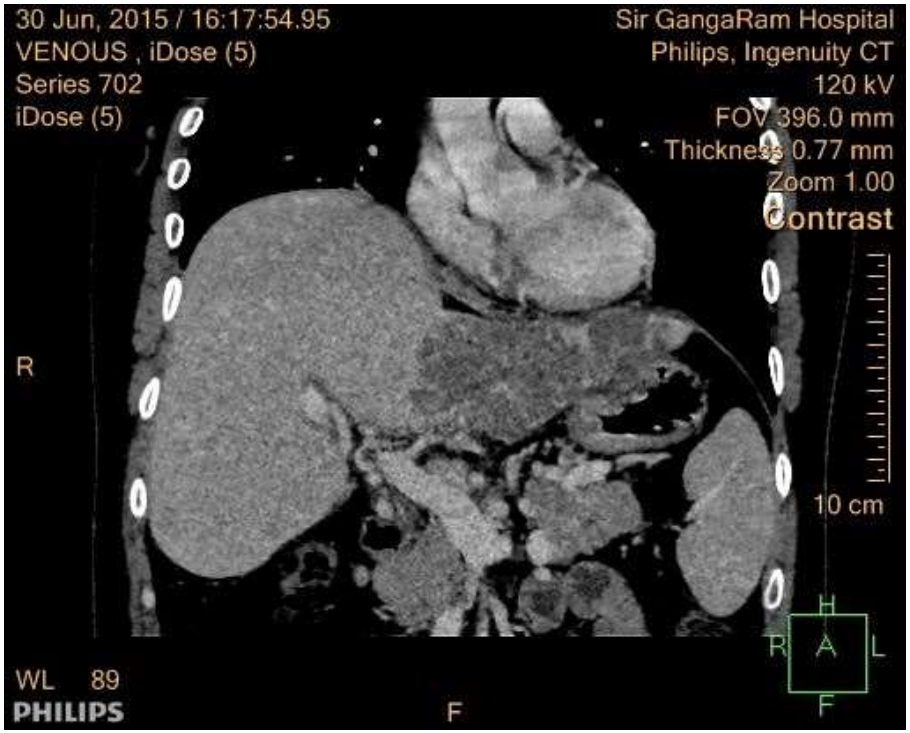


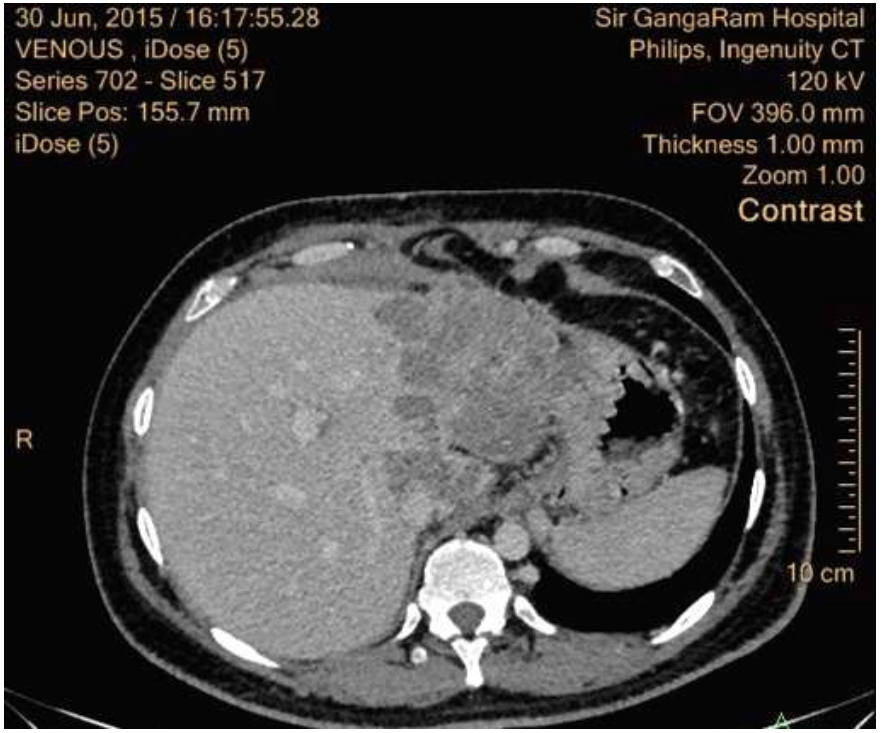


-- Multiple serial sections failed to reveal any additional findings as well as any infective agents including parasites.

-- Acid Fast Stain, stains for Fungi and for Microbes were all negative.

-- The CT images shown below along with the clinical data and the gross features of this necrotizing granulomatous lesion, however strongly suggested hepatic Visceral Larva Migrans (VLM) due to Toxocariasis,



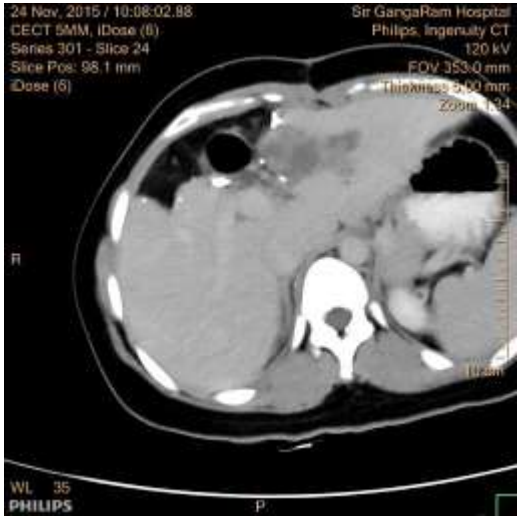


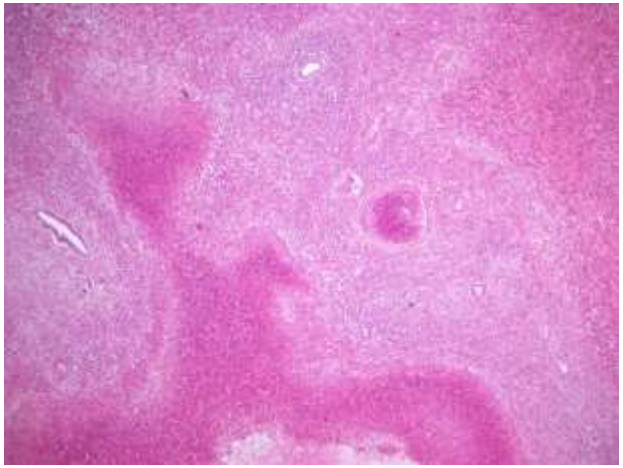
Diagnosis: Visceral Larva Migrans – Liver, left lobe

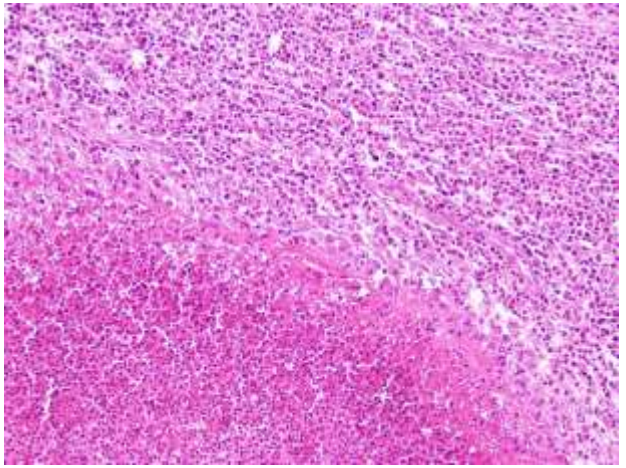
-- A serodiagnostic ELISA test for antibody against Toxocaris excretory/secretory antigen done subsequently showed fairly strong reacitivity.

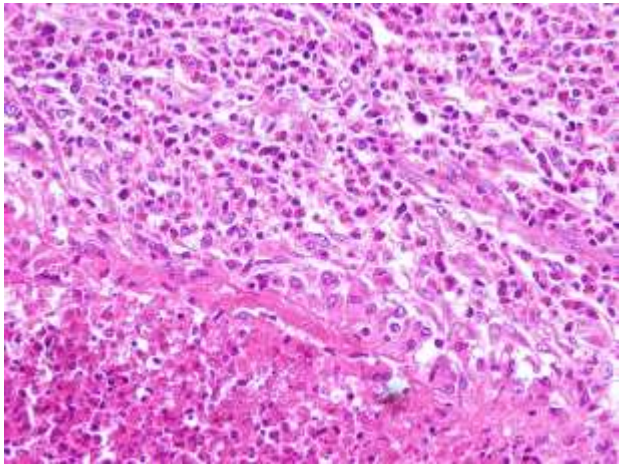
Confirmatory Western Blot test was however not carried out

-- This patient had no peripheral blood Eosinophilia, nor Eosinophilic Abscesses in the liver lesion which are common in VLM and helpful in a histologic diagnosis, as in a second case (16-yr-old girl had abdominal pain).









Visceral Larva Migrans (VML) is an inflammatory tissue lesion caused by migratory larvae of some animal Nemathelminths, humans being a dead end host. This zoonotic infection, mostly by the Toxocara species and generally acquired in early childhood, is globally prevalent with frequencies varying from low 2-16% in developed countries to high 40-80% in the developing countries.

Infection being generally mild to moderate and the host being a dead end one, more than 60% cases are asymptomatic and clinically inapparent. The disease therefore appears rare.

Detection is either incidental or when the infection is very heavy with large lesions causing significant symptoms.

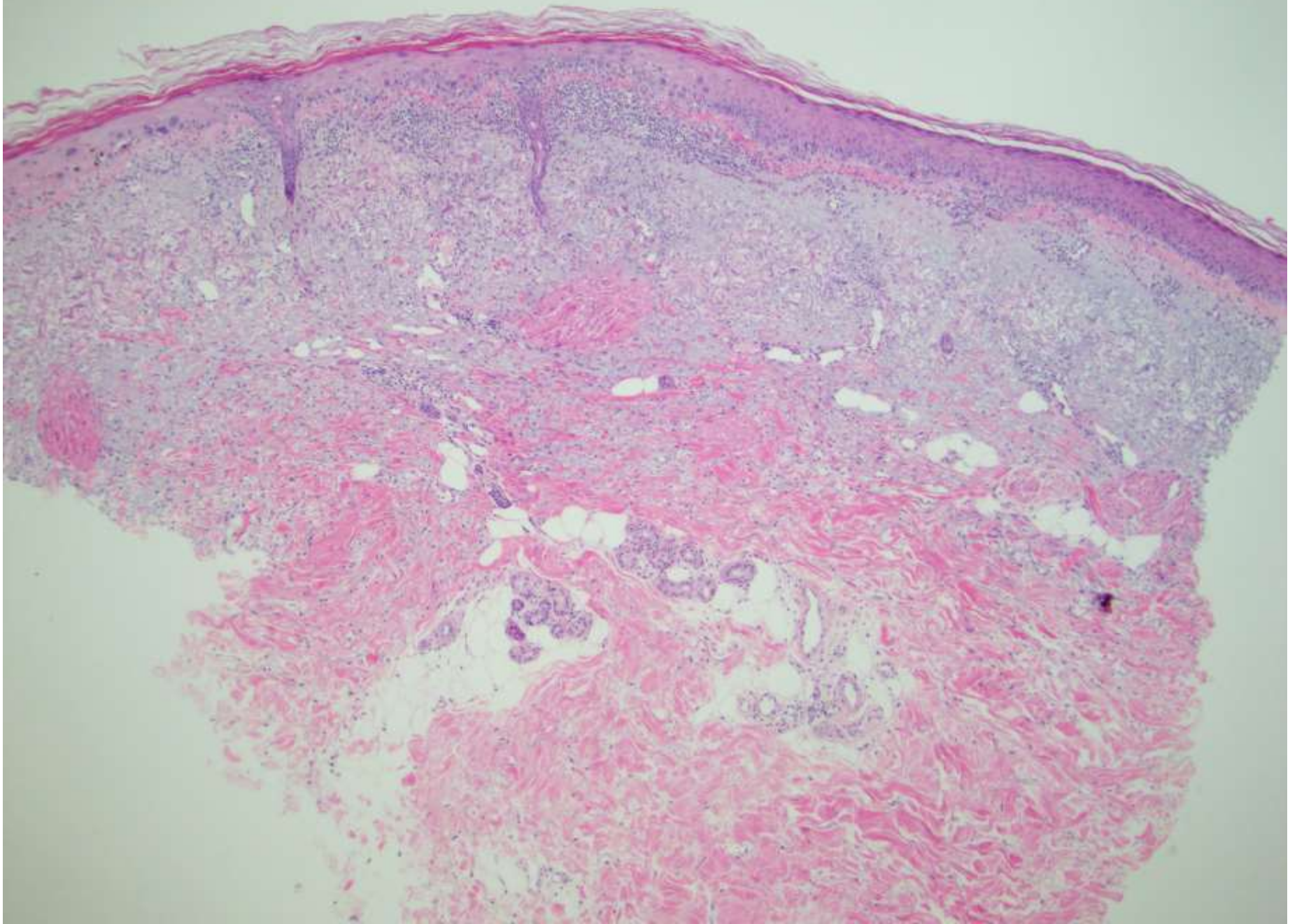
Imaging diagnosis accuracy is about 45% (Trop. Parasitol. 2016, Jan-June;6(1):56-68) – from a Tertiary Liver Center, New Delhi

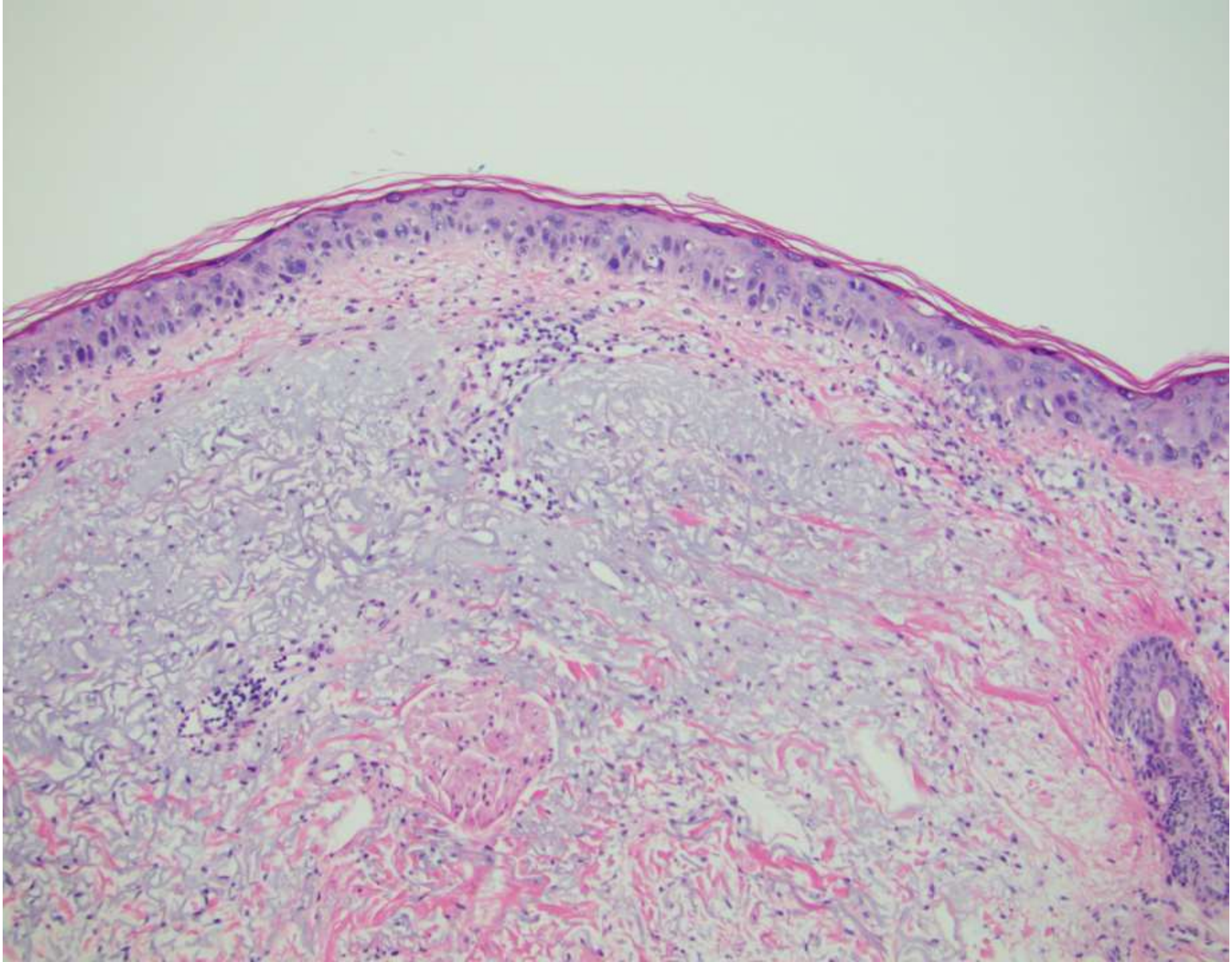
Histologic confirmation can be assisted by IHC for Toxocara Larval Antigen (TCLA) in lesional macrophages.

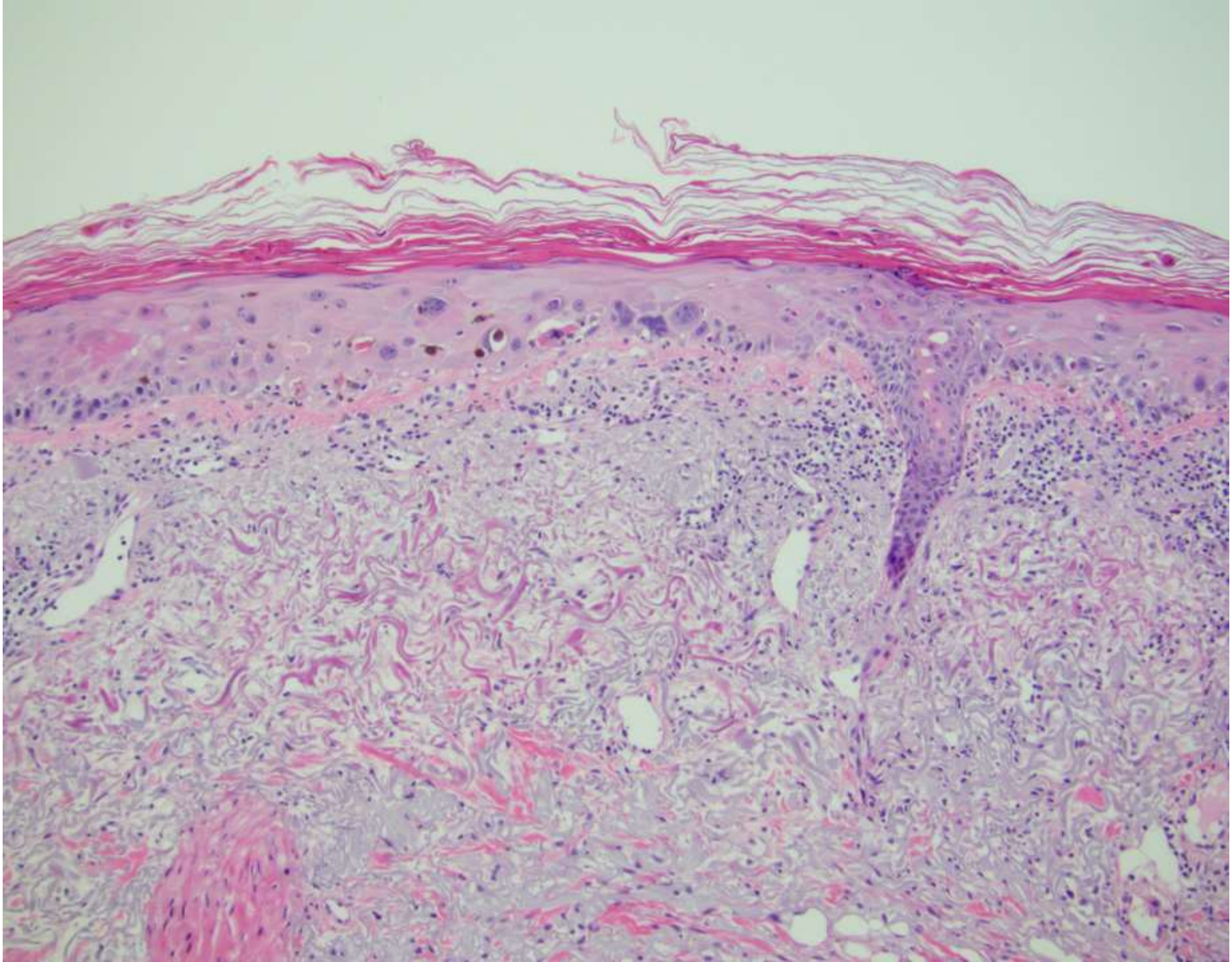
SB 6070

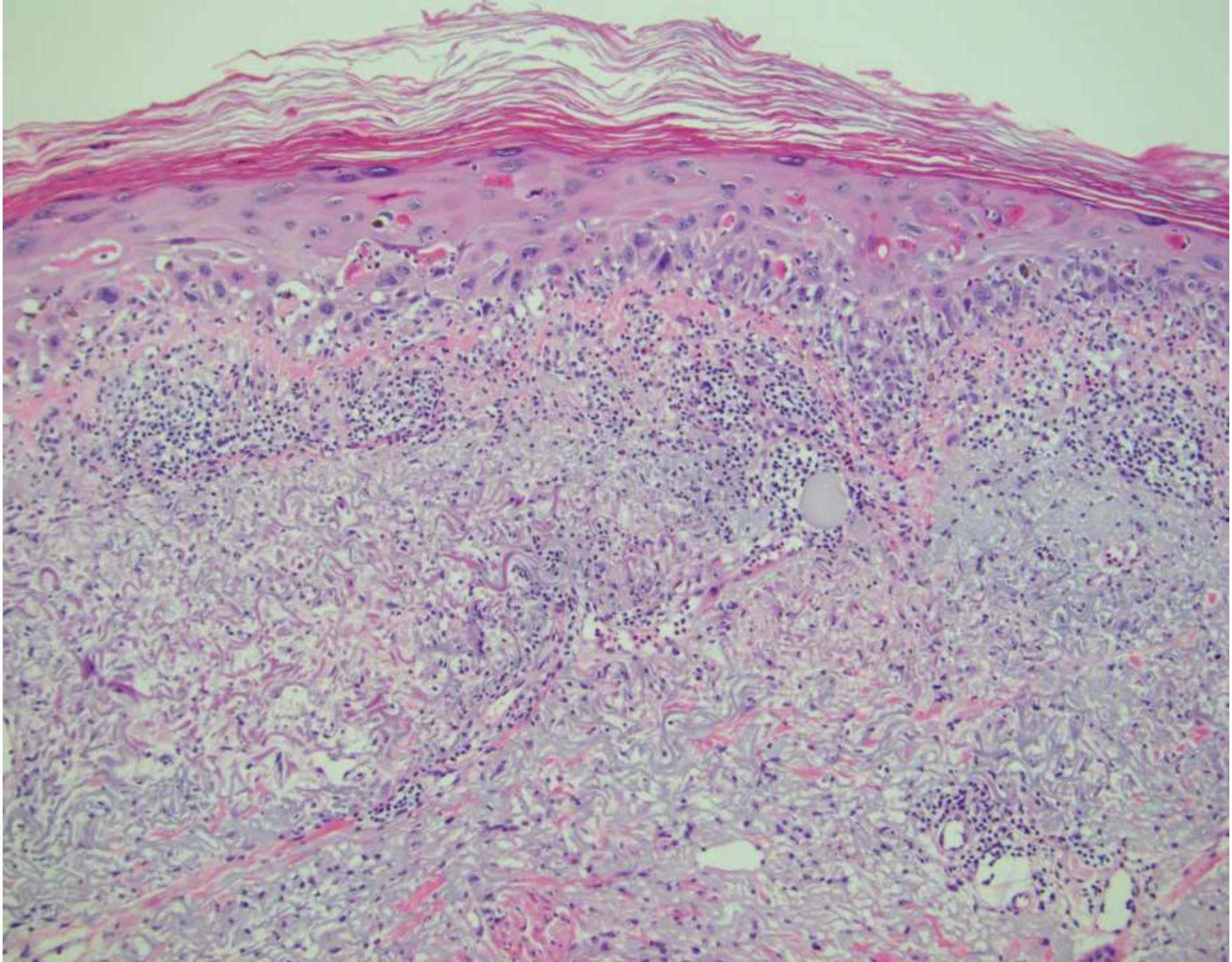
Nupoor Gajjar; Kaiser Walnut Creek

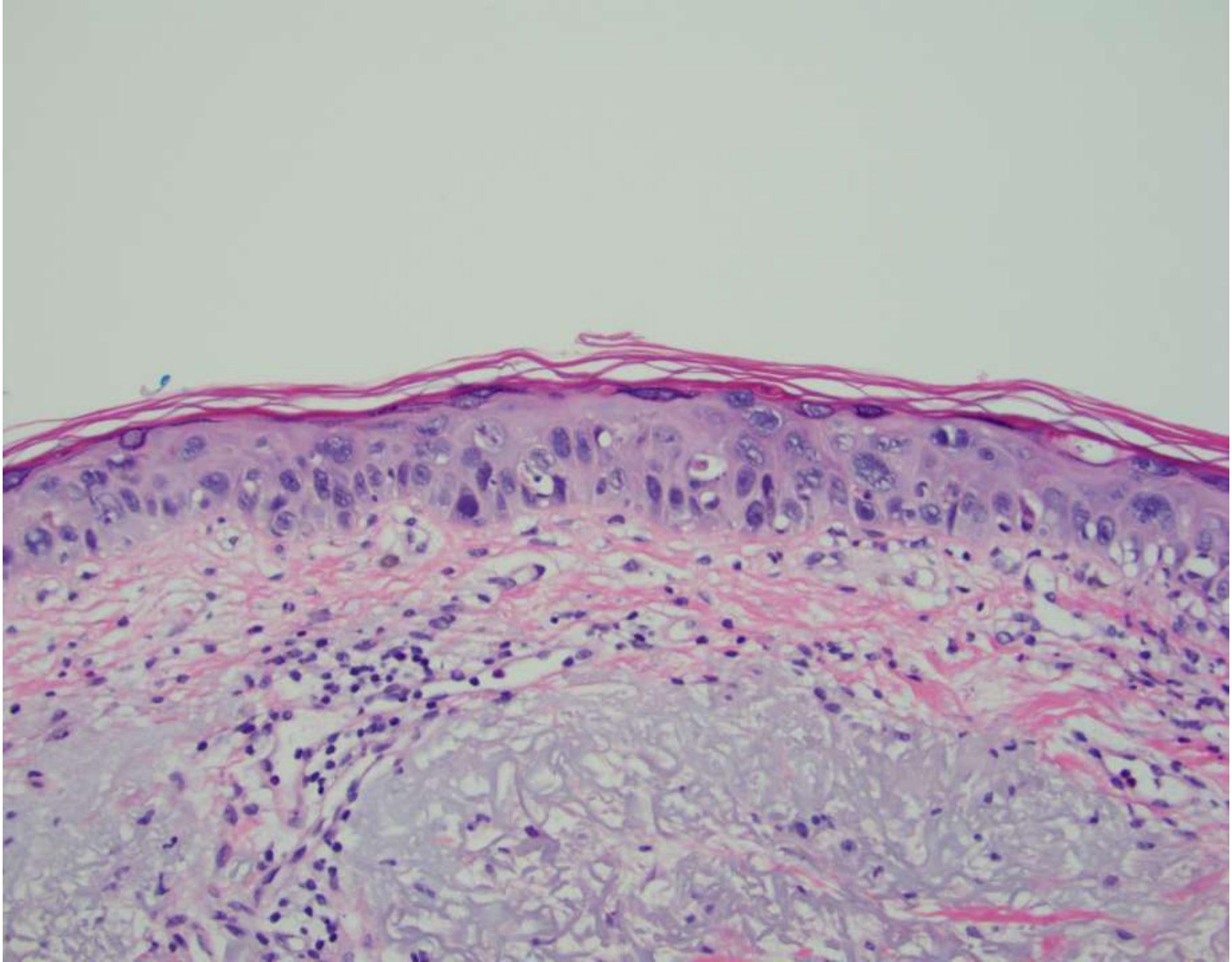
76-year-old female with new splotchy non-blanching erythema in patient on carboplatin and Taxol for ovarian cancer. Concern for leukocytoclastic vasculitis from chemotherapy versus inflammation of seborrheic keratosis or actinic keratosis with chemotherapy.

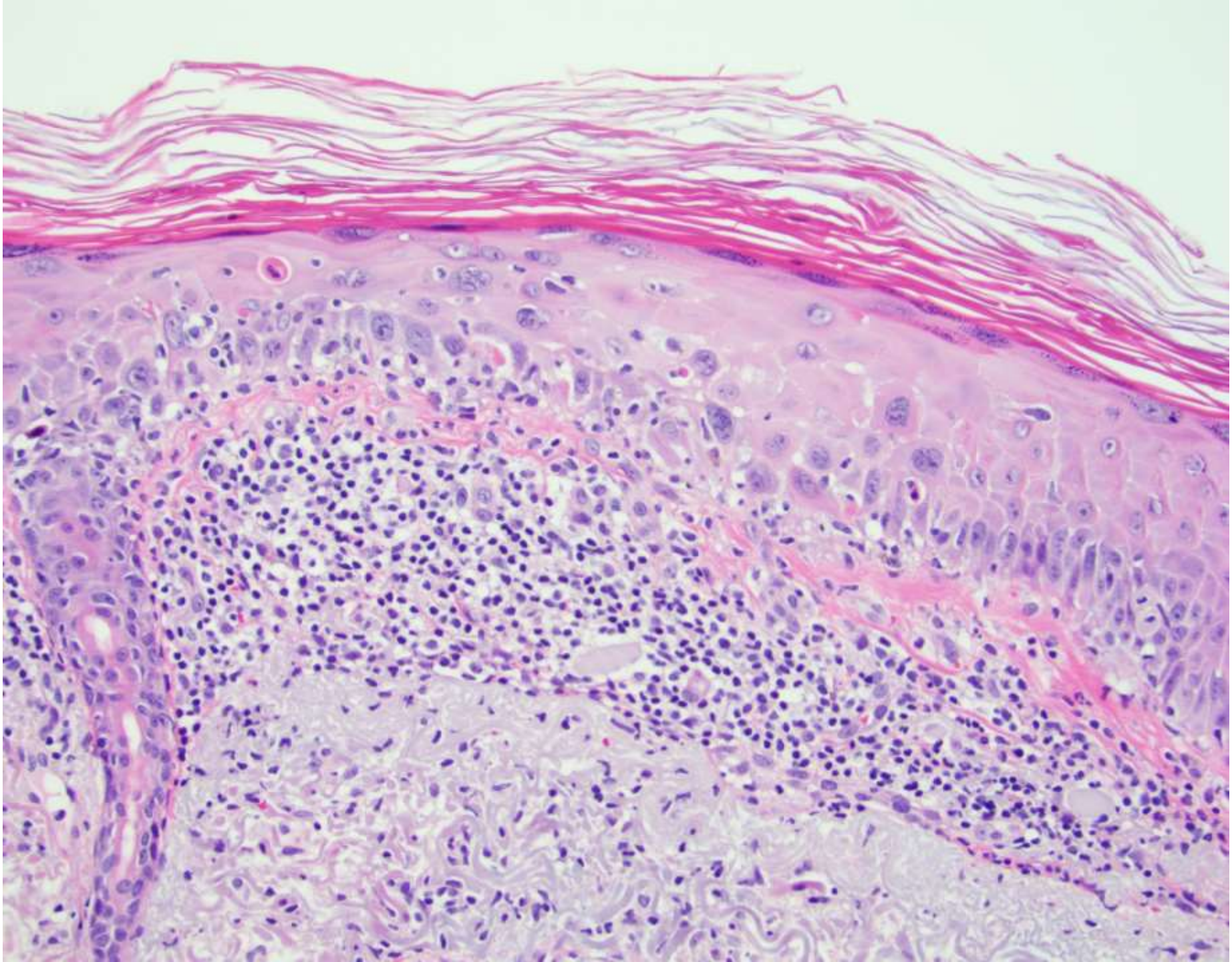


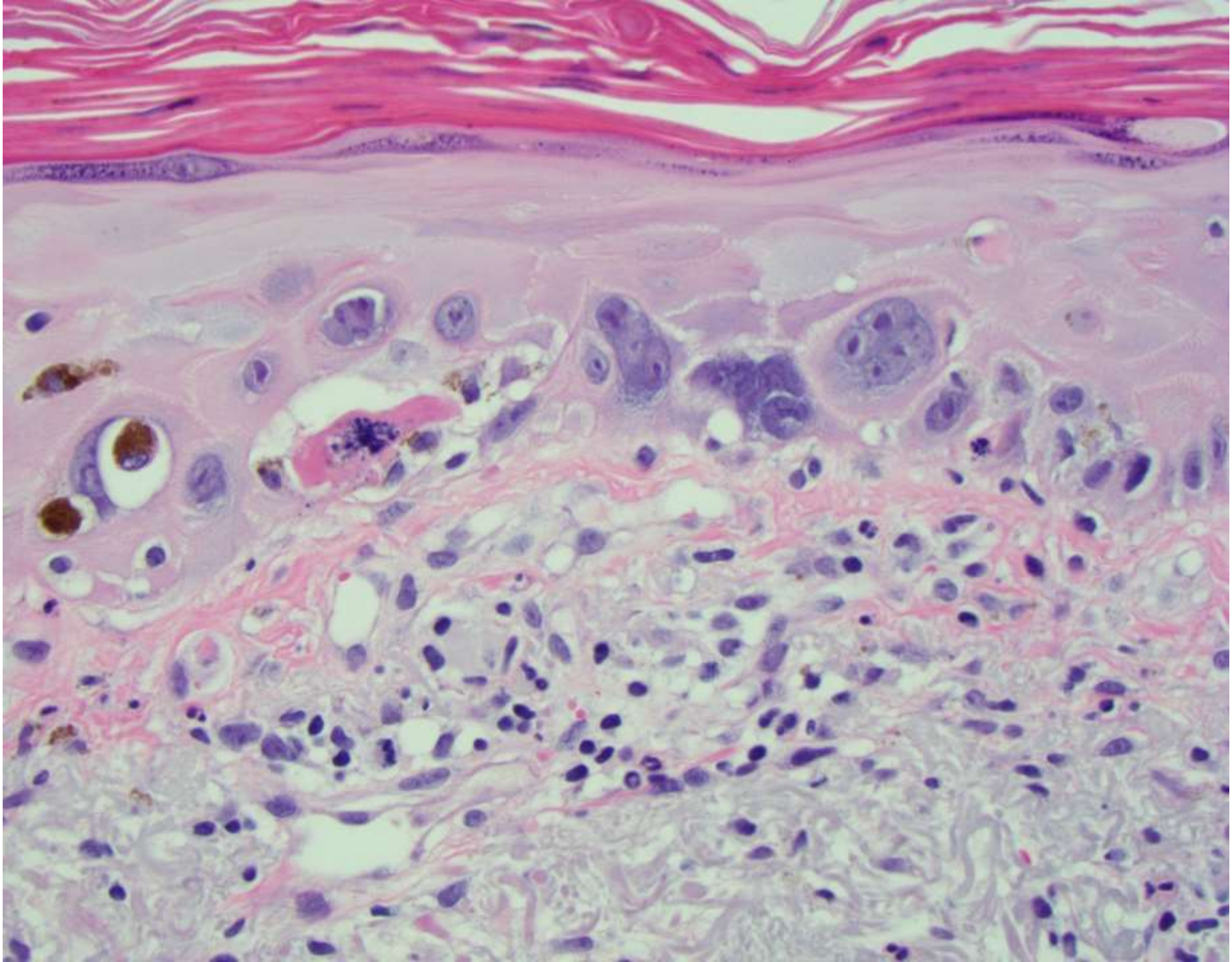












DIAGNOSIS?

Case 10

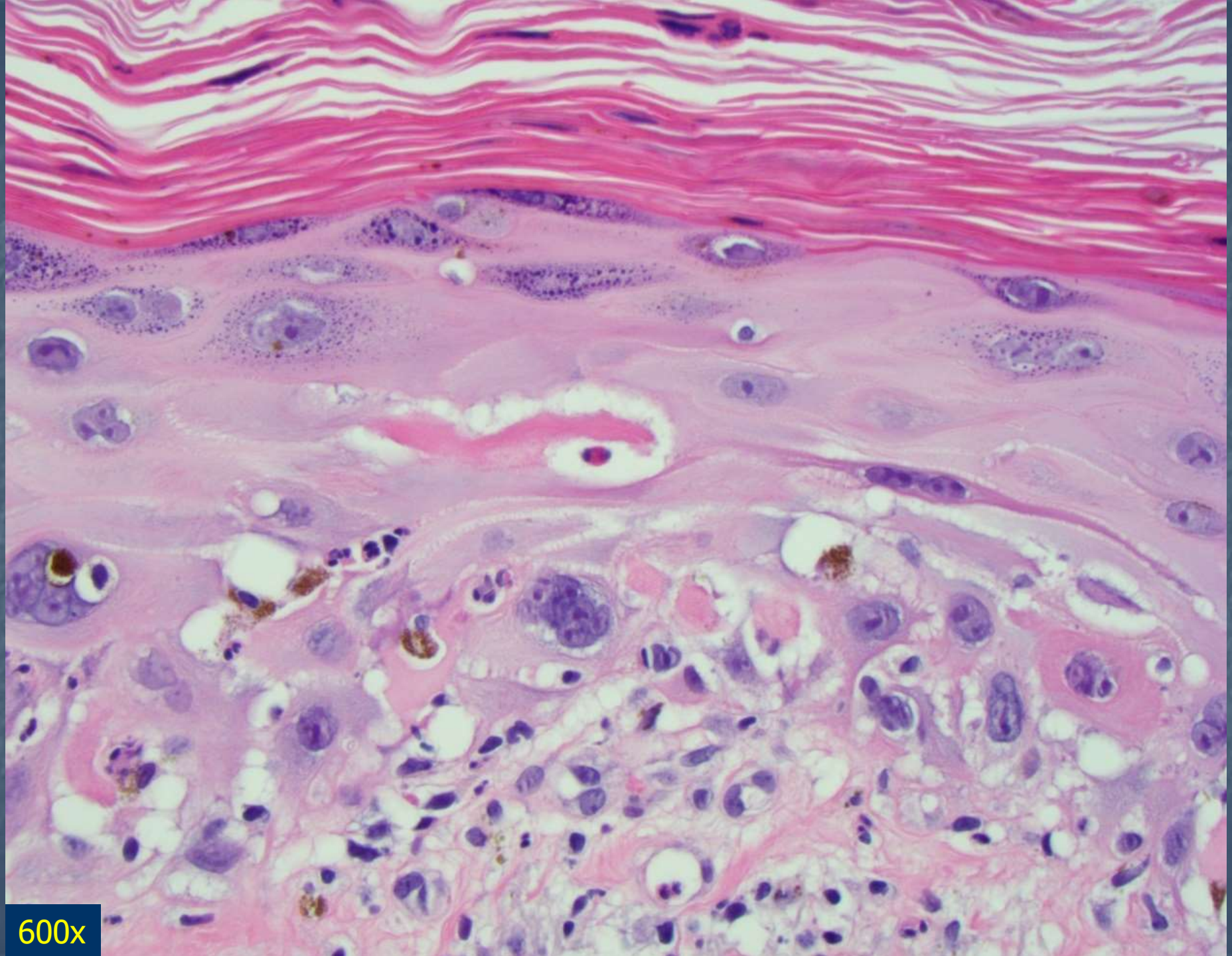
- Ovarian serous carcinoma with metastases to peritoneum, bone, and pleura
- Neoadjuvant chemotherapy carboplatin and paclitaxel
- Week 3 developed non-blanching erythematous macules on bilateral upper and lower extremities and torso

Acute cytotoxic interface dermatitis secondary to chemotherapy

- Histologic alteration caused by chemotherapy or radiation therapy
- Some manifestations can be dose dependent
- May primarily involve palms and soles—acral erythema—more likely dose dependent
- Dyskeratosis or ‘maturation arrest’

Acute cytotoxic interface dermatitis secondary to chemotherapy

- Interface dermatitis with vacuolar change
- Keratinocytes with abundant cytoplasm and enlarged or bizarre nuclei at all levels
- Mitotic arrest with ringed or starburst mitotic figures
- Lack of orderly maturation to granular layer
- Dyskeratotic keratinocytes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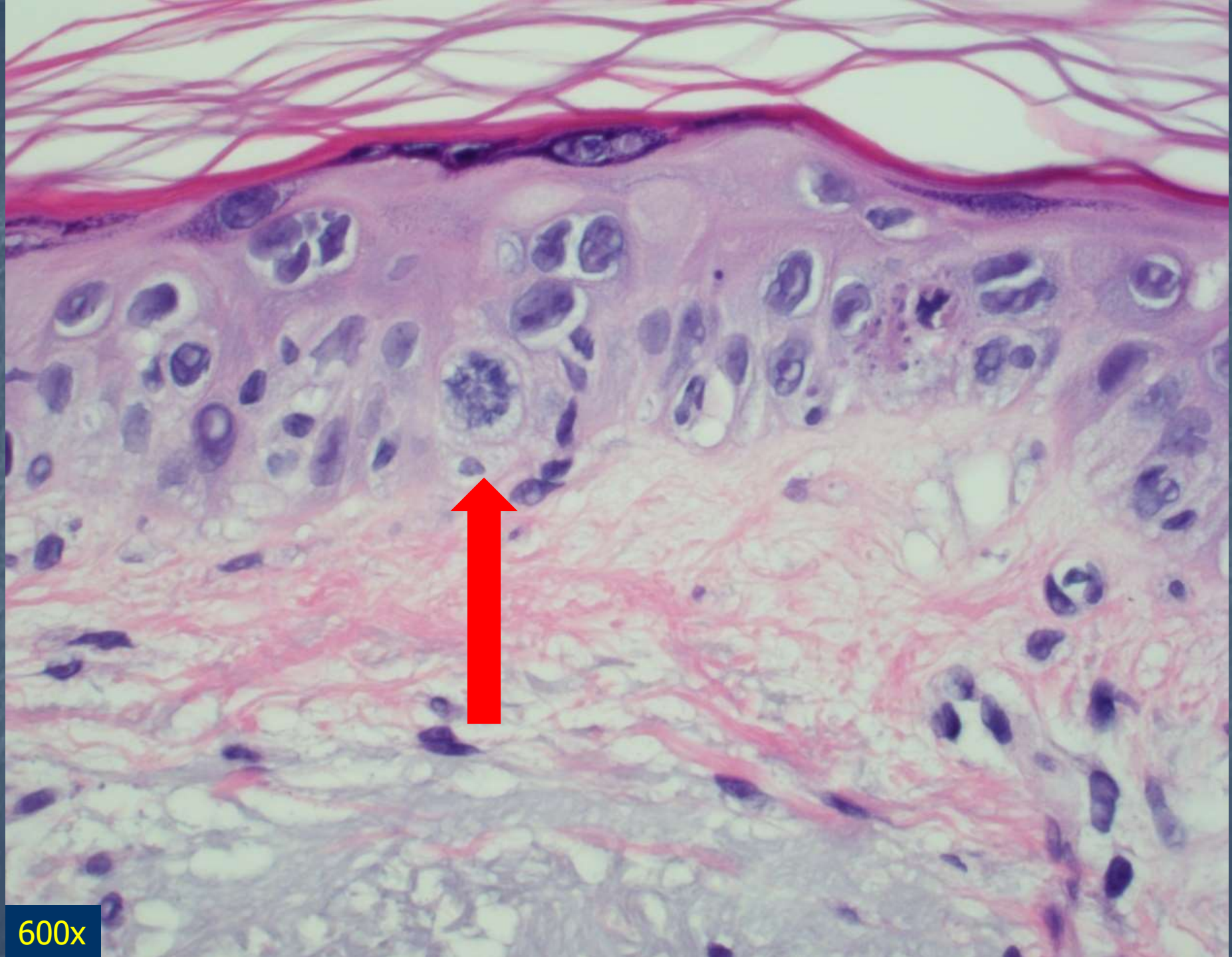
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Acute cytotoxic interface dermatitis secondary to chemotherapy

- GVHD
  - Lacks cytologic atypia
  - Keratinocytes mature

Acute cytotoxic interface dermatitis secondary to chemotherapy

- Paclitaxel was discontinued
- Patient switched to Carboplatin/Docetaxel
- No new rashes; older lesions resolved after two weeks