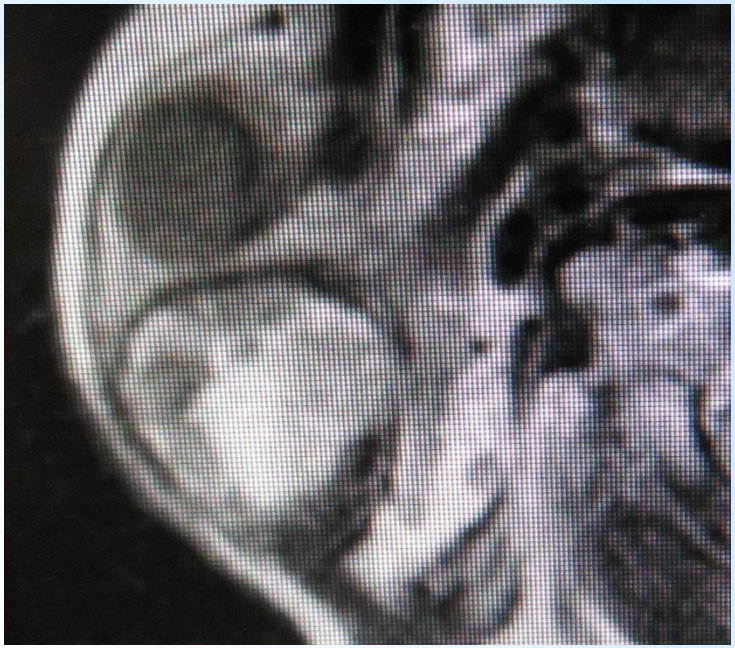
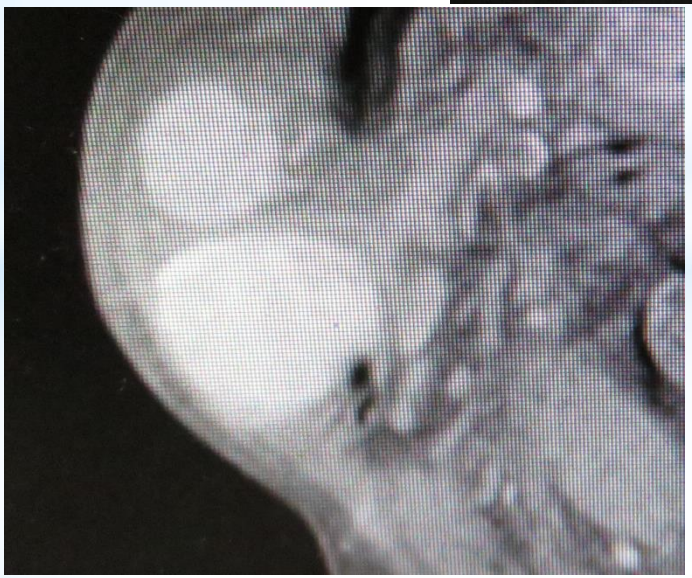
MRI画像

T1



T2



T1(Fat Sat)

放射線科の診断

腹側の病変は腫瘍

背側の病変は出血、感染を疑う


8
9
1
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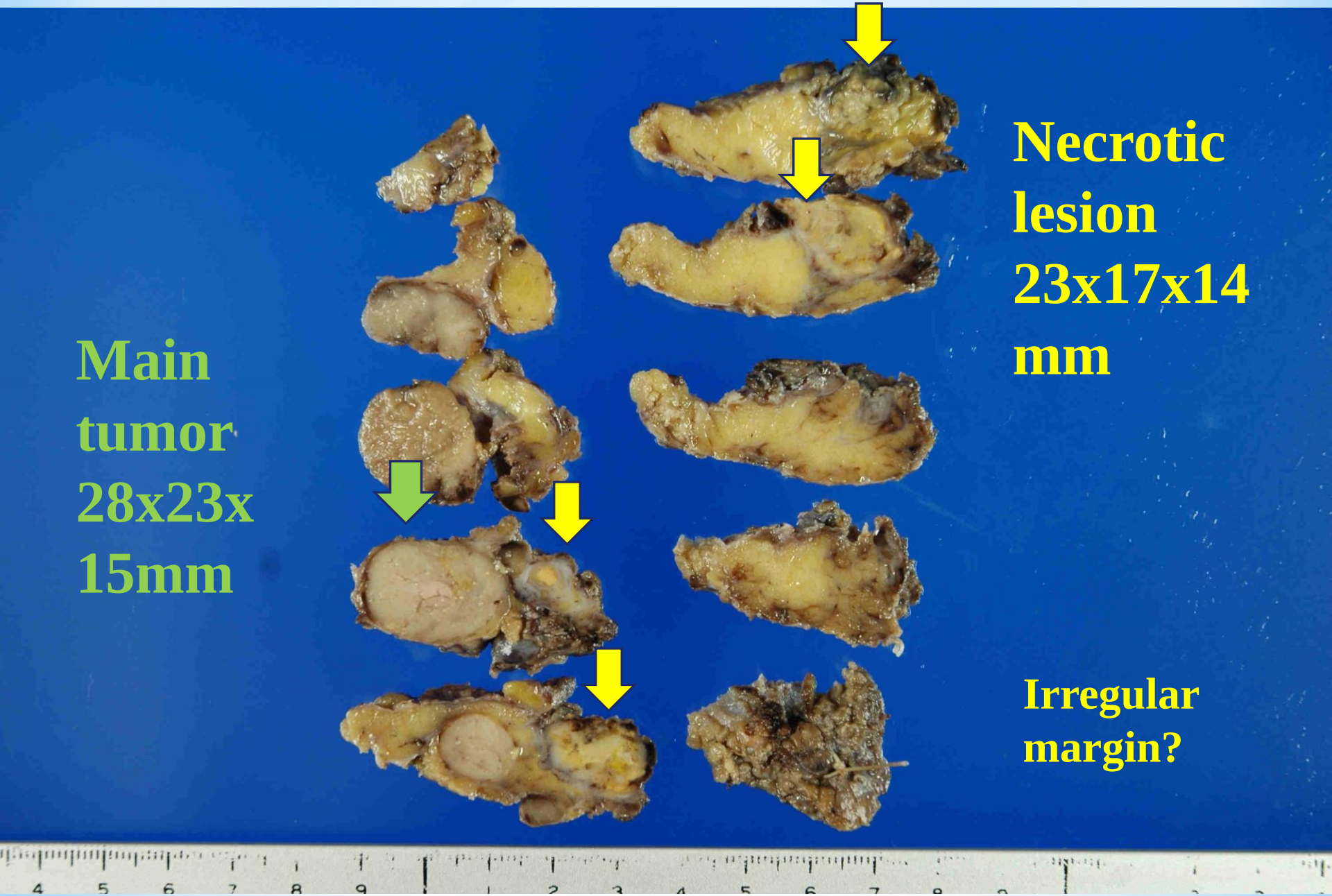
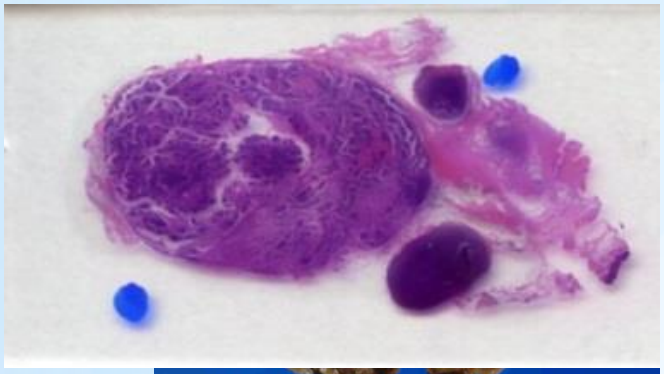
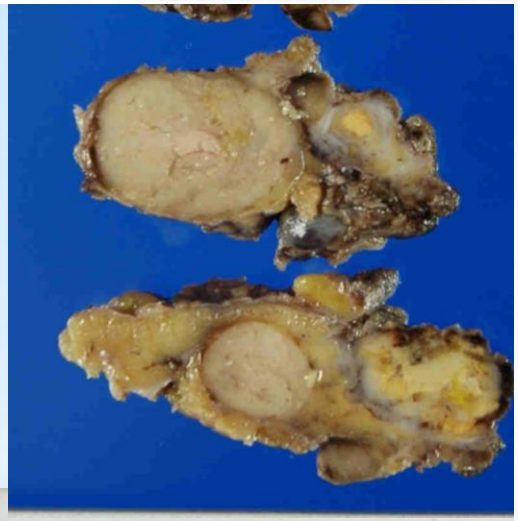
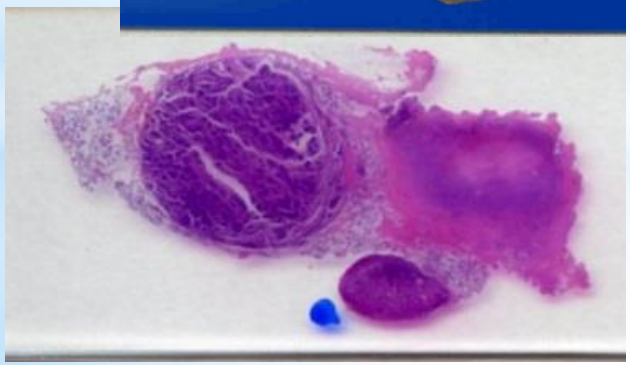
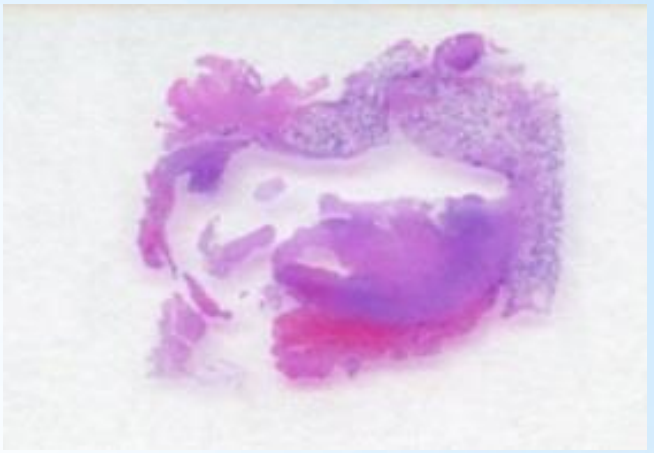

Main tumor 28x23x 15mm
Necrotic lesion 23x17x14 mm
Irregular margin?

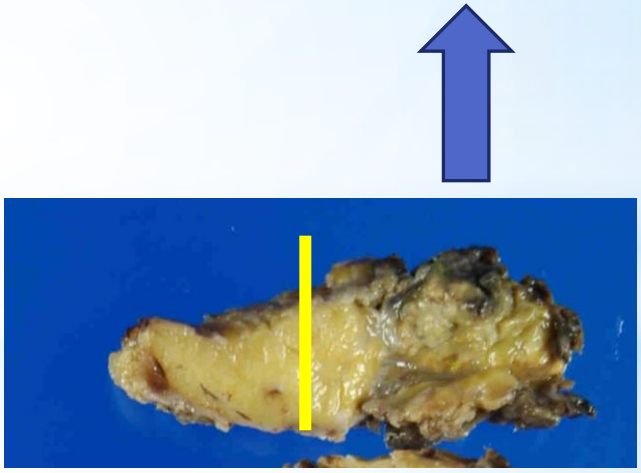
配布標本



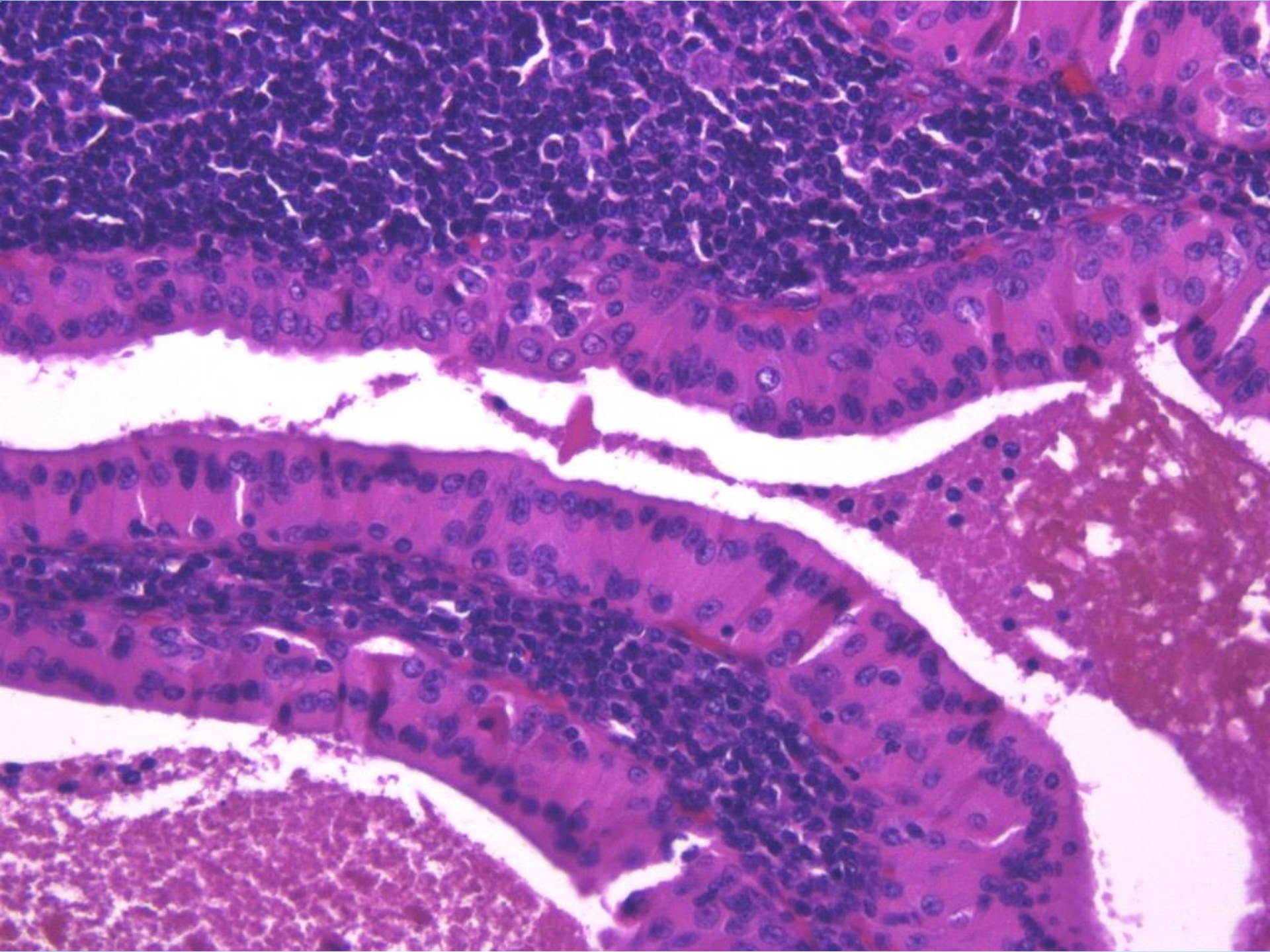


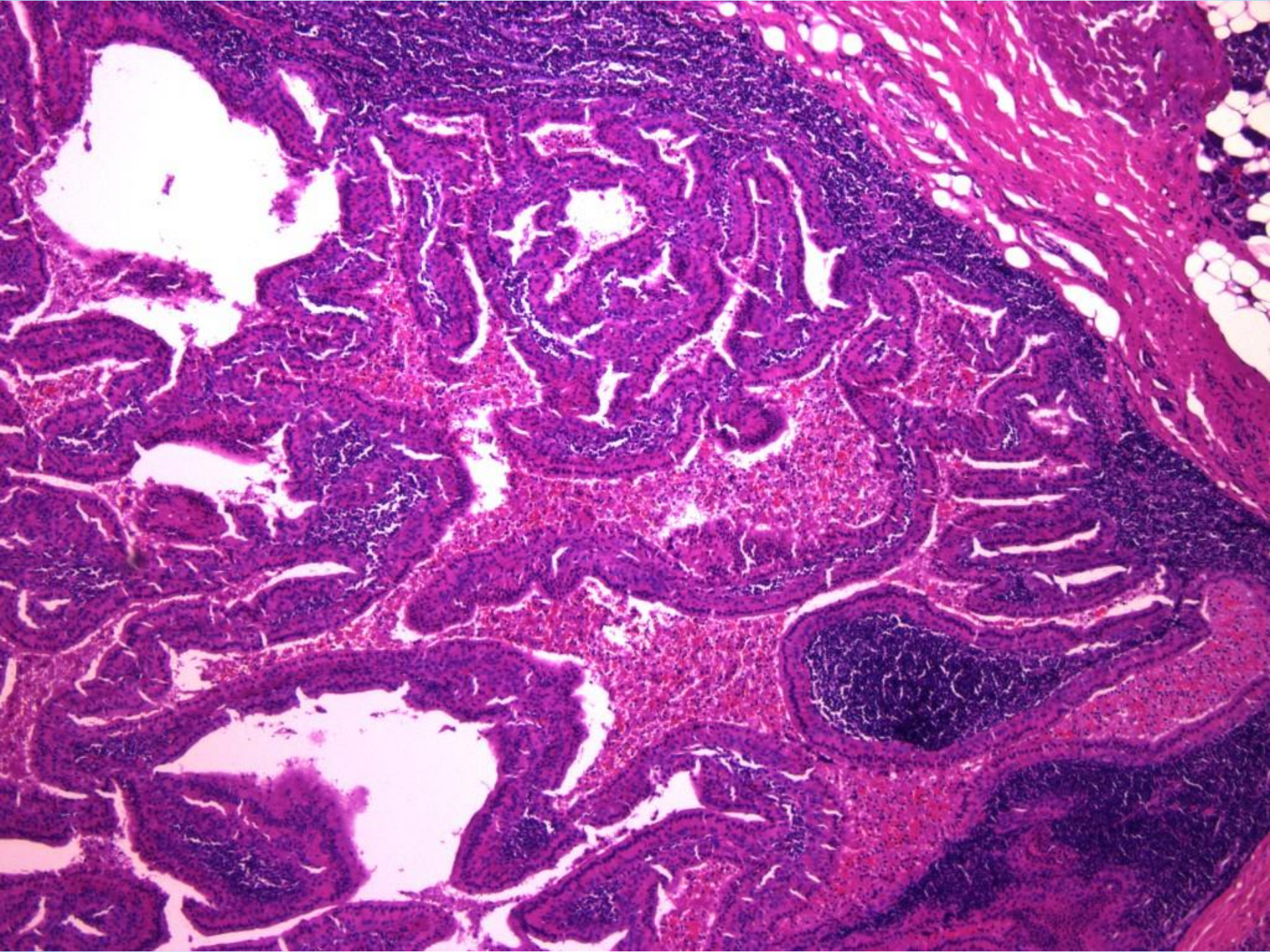


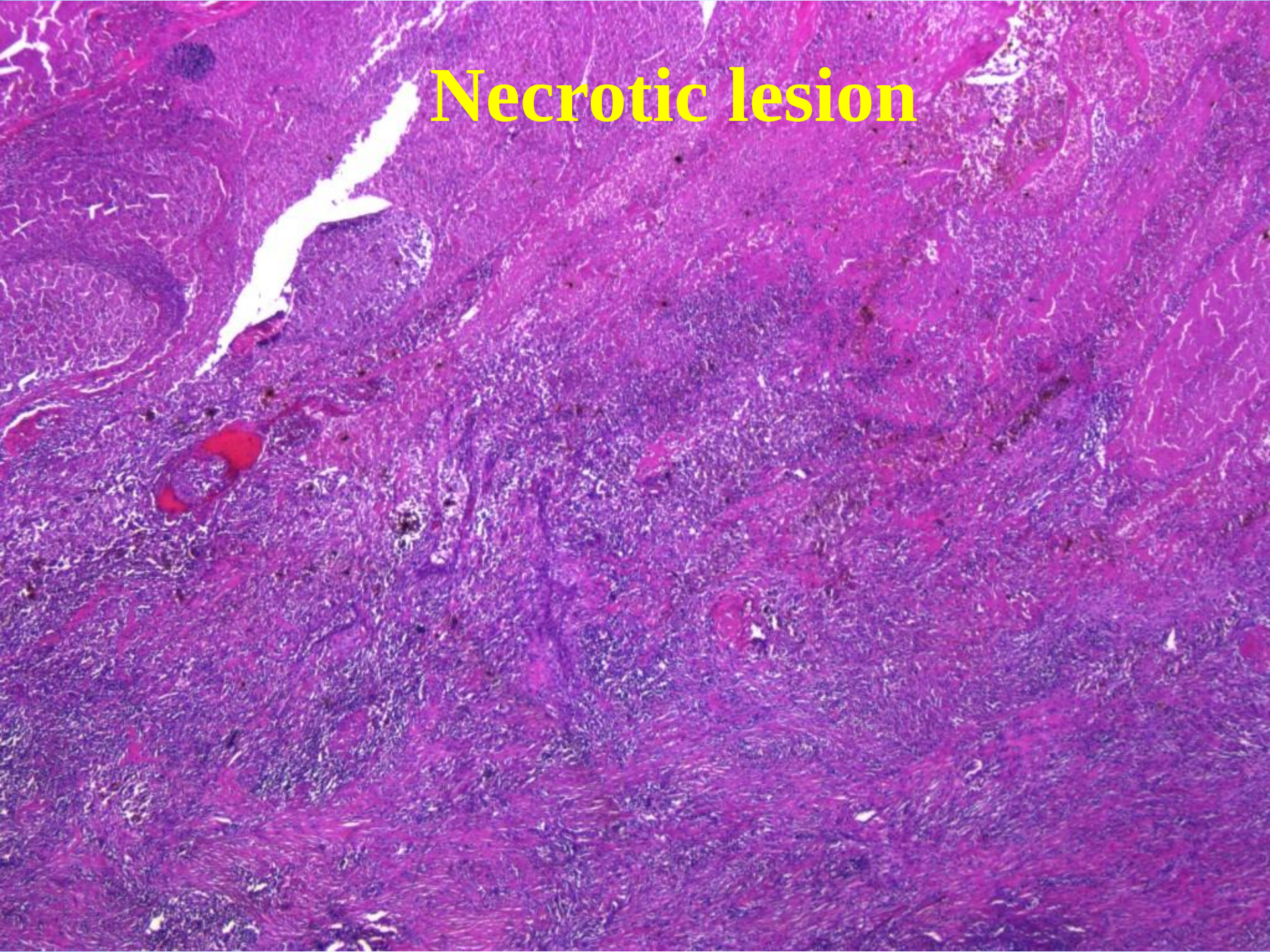


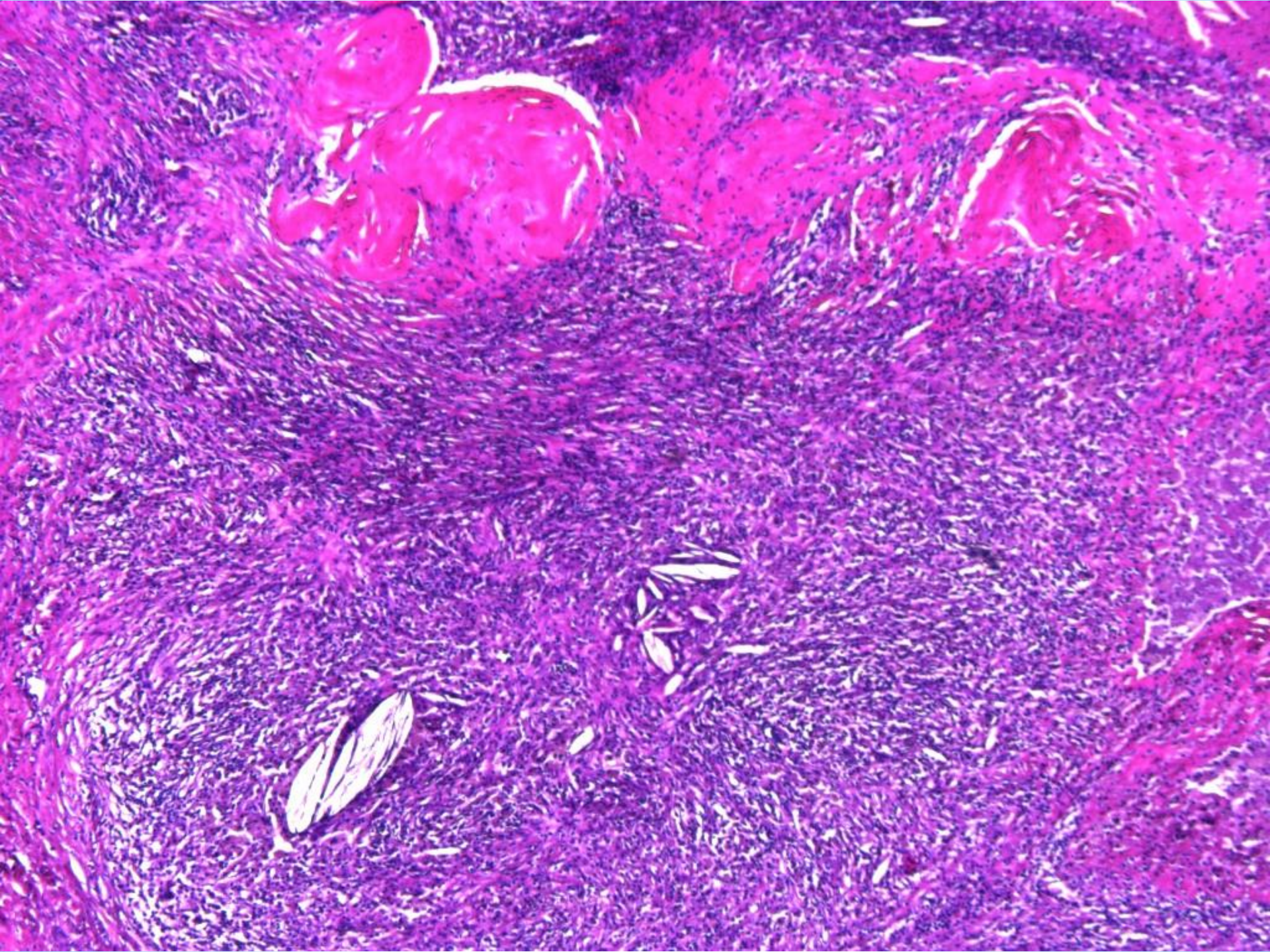


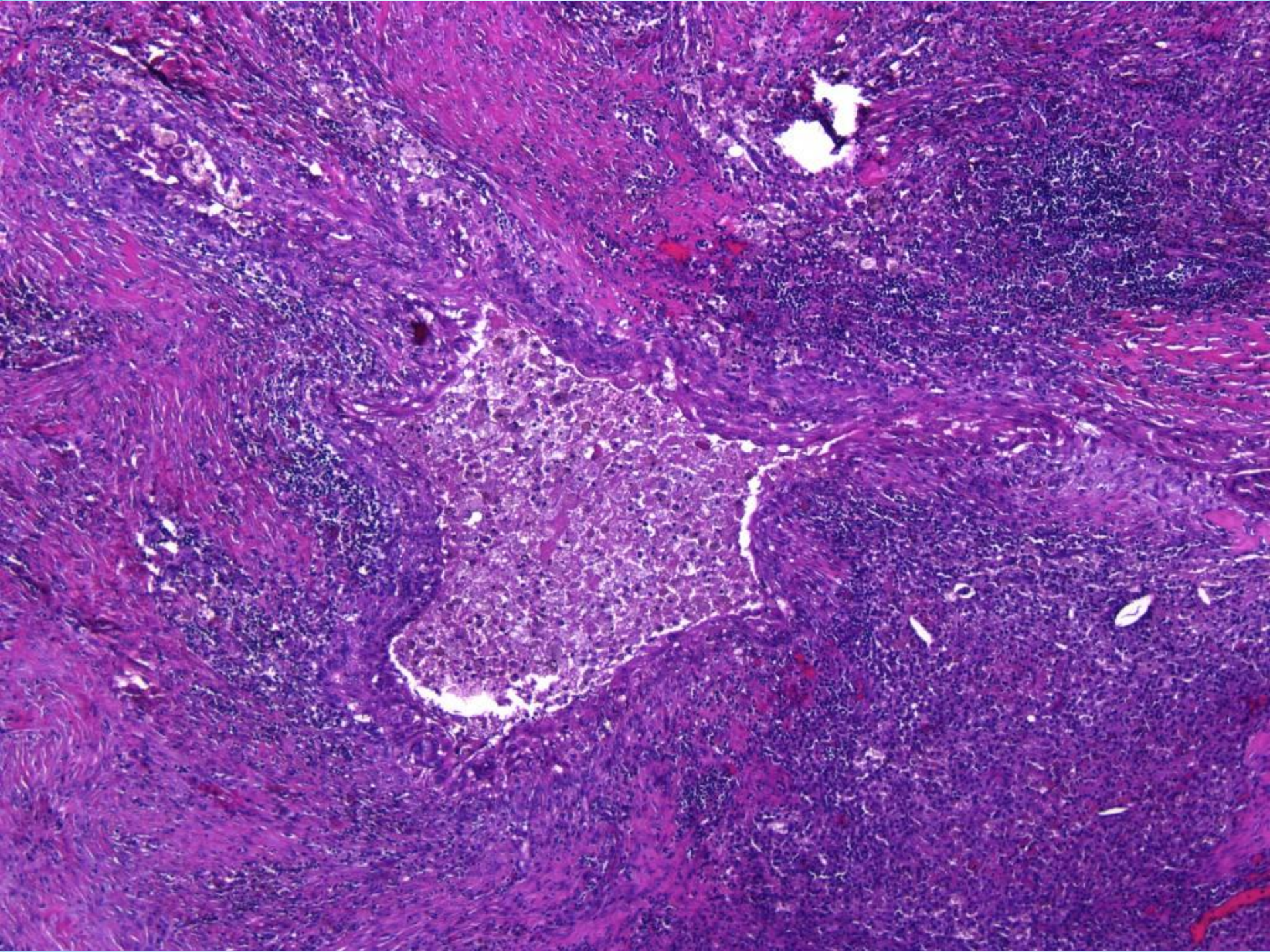

Main tumor

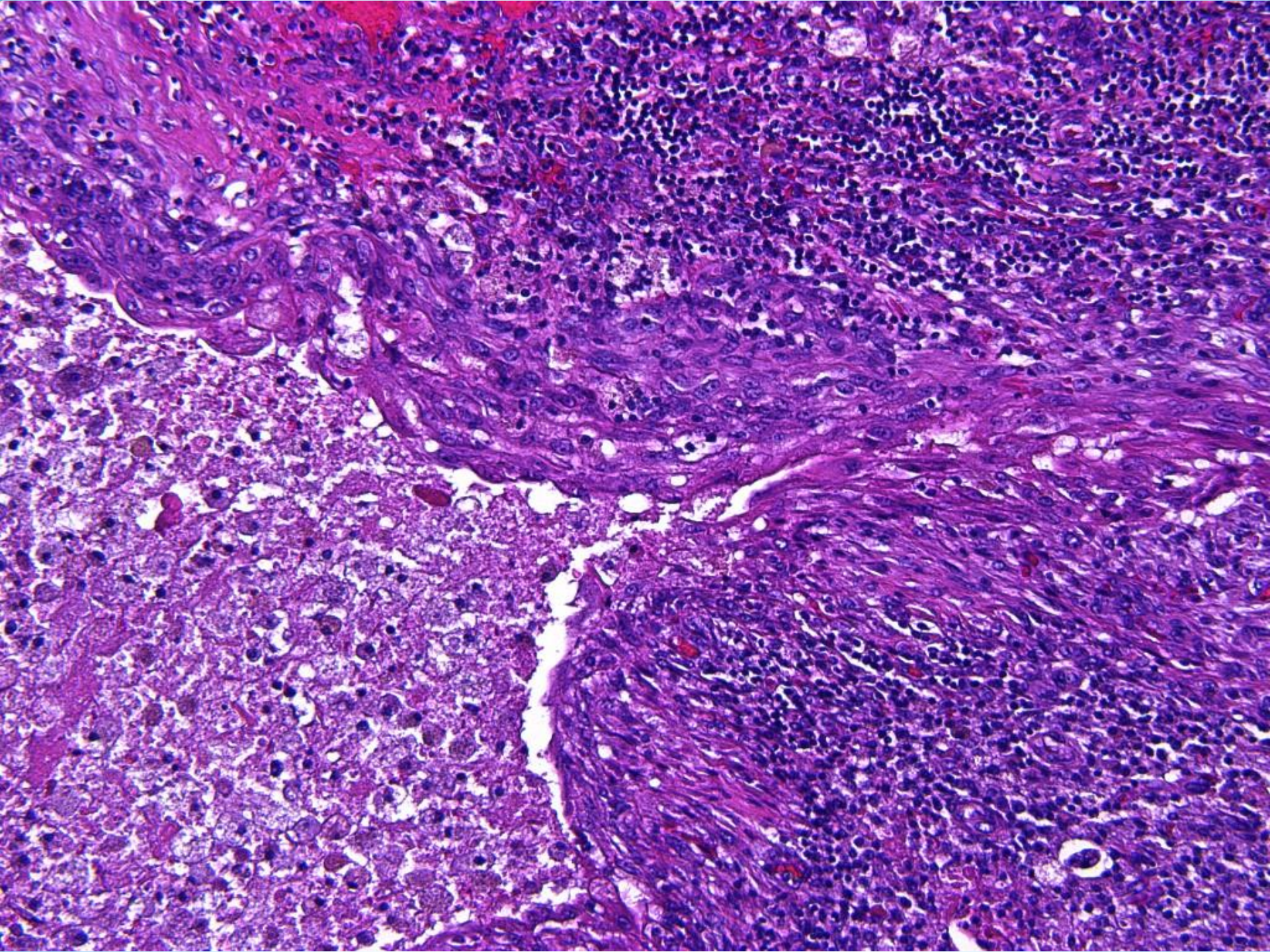


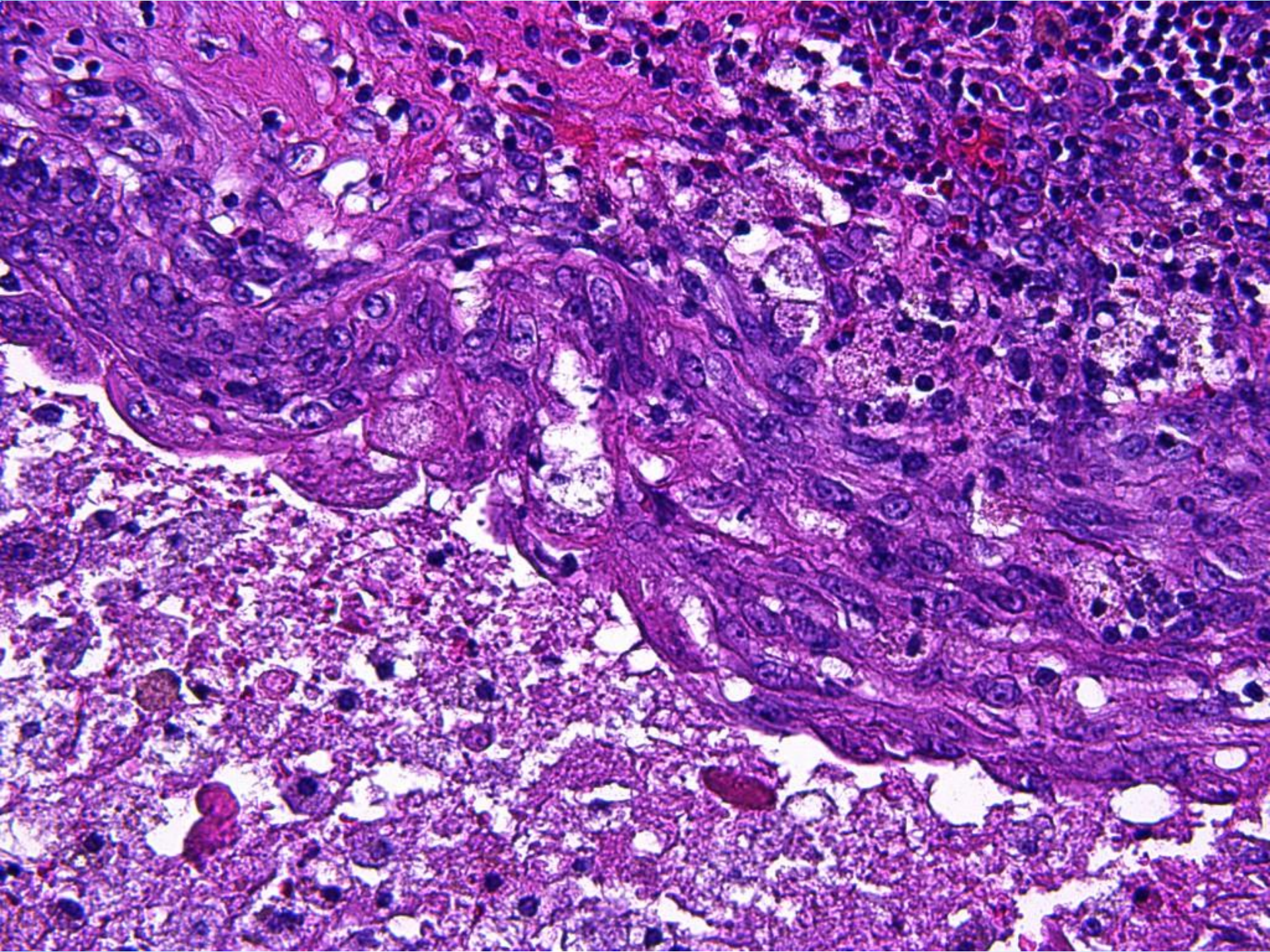


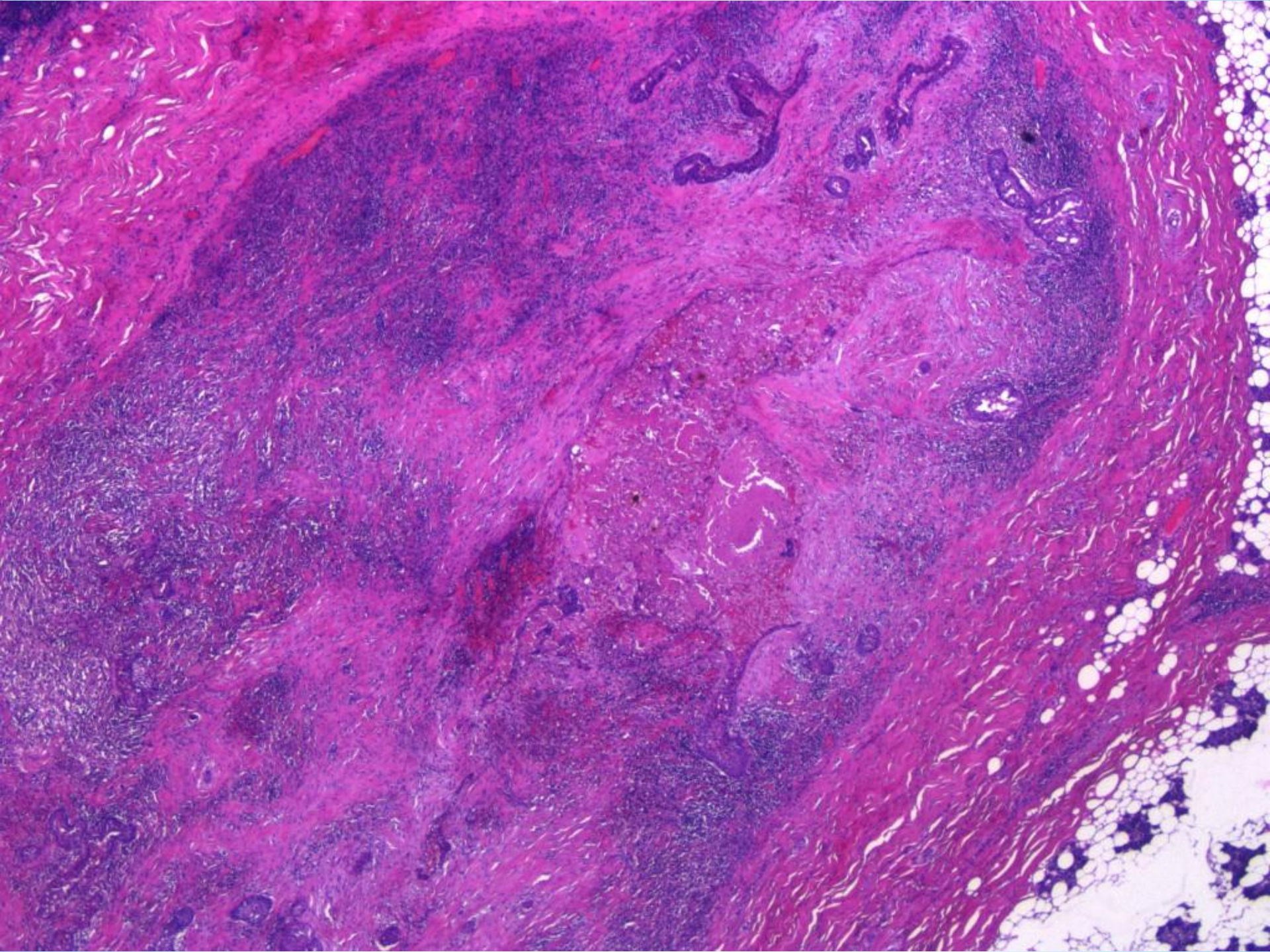

Necrotic lesion

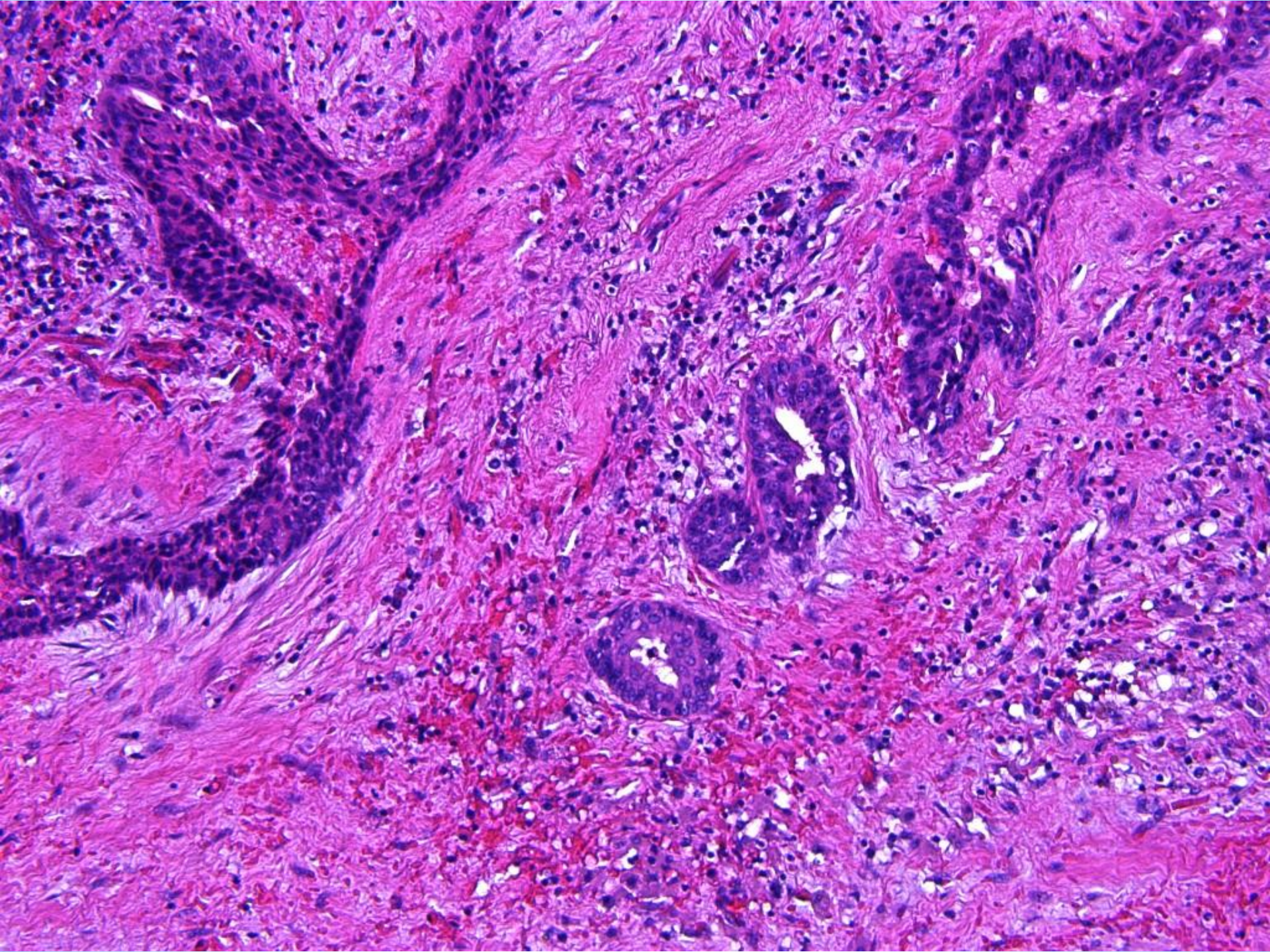


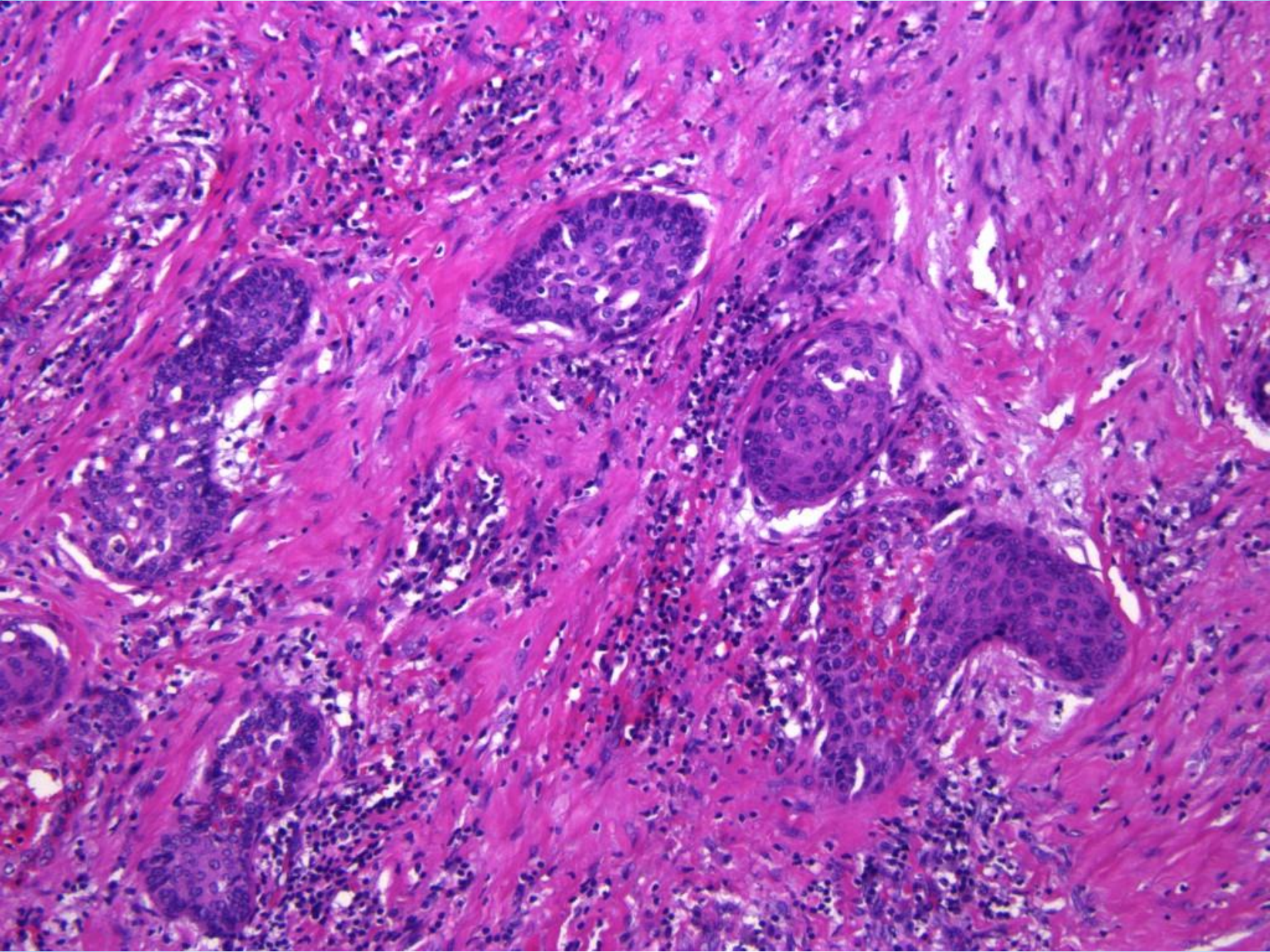


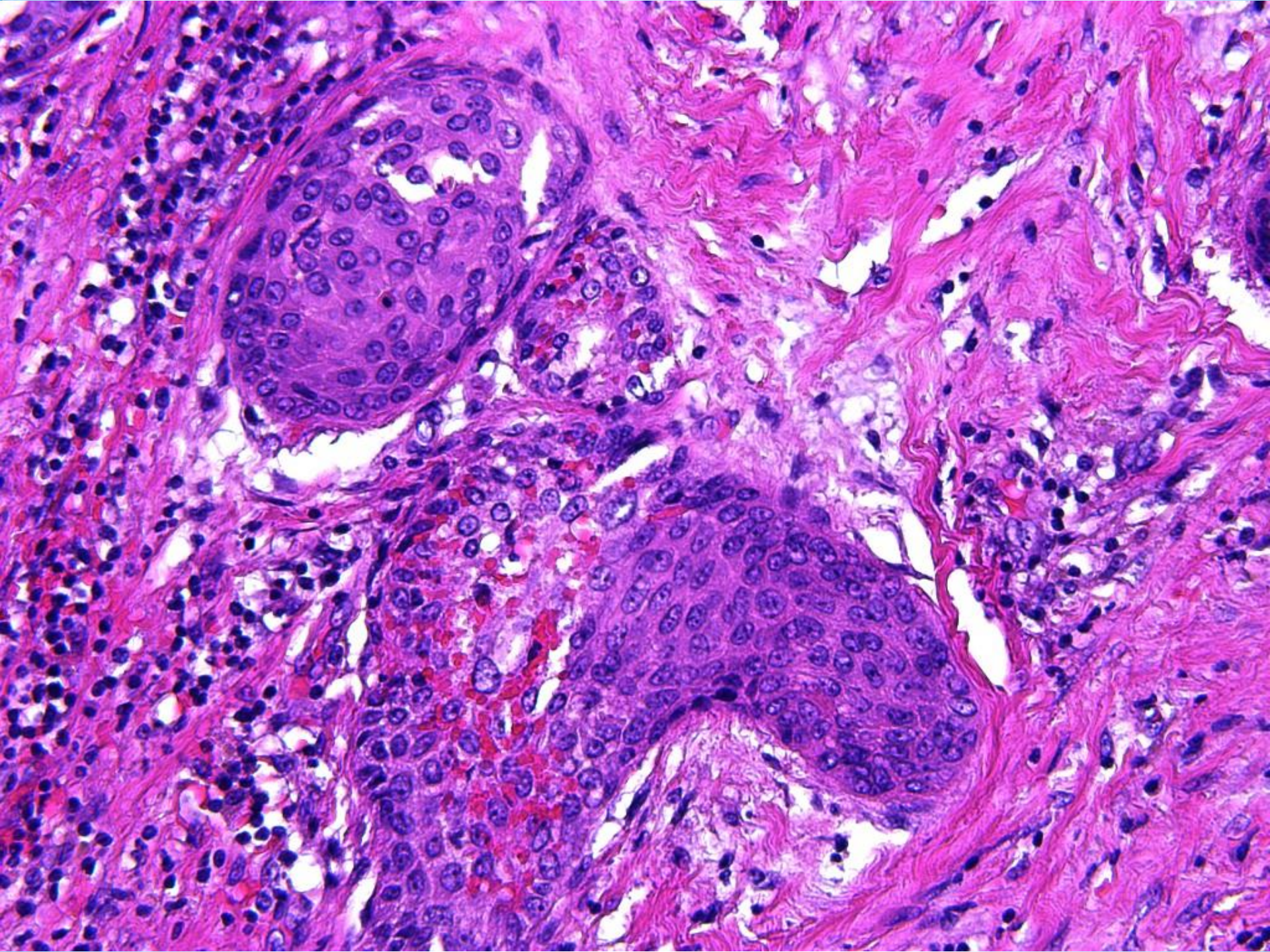


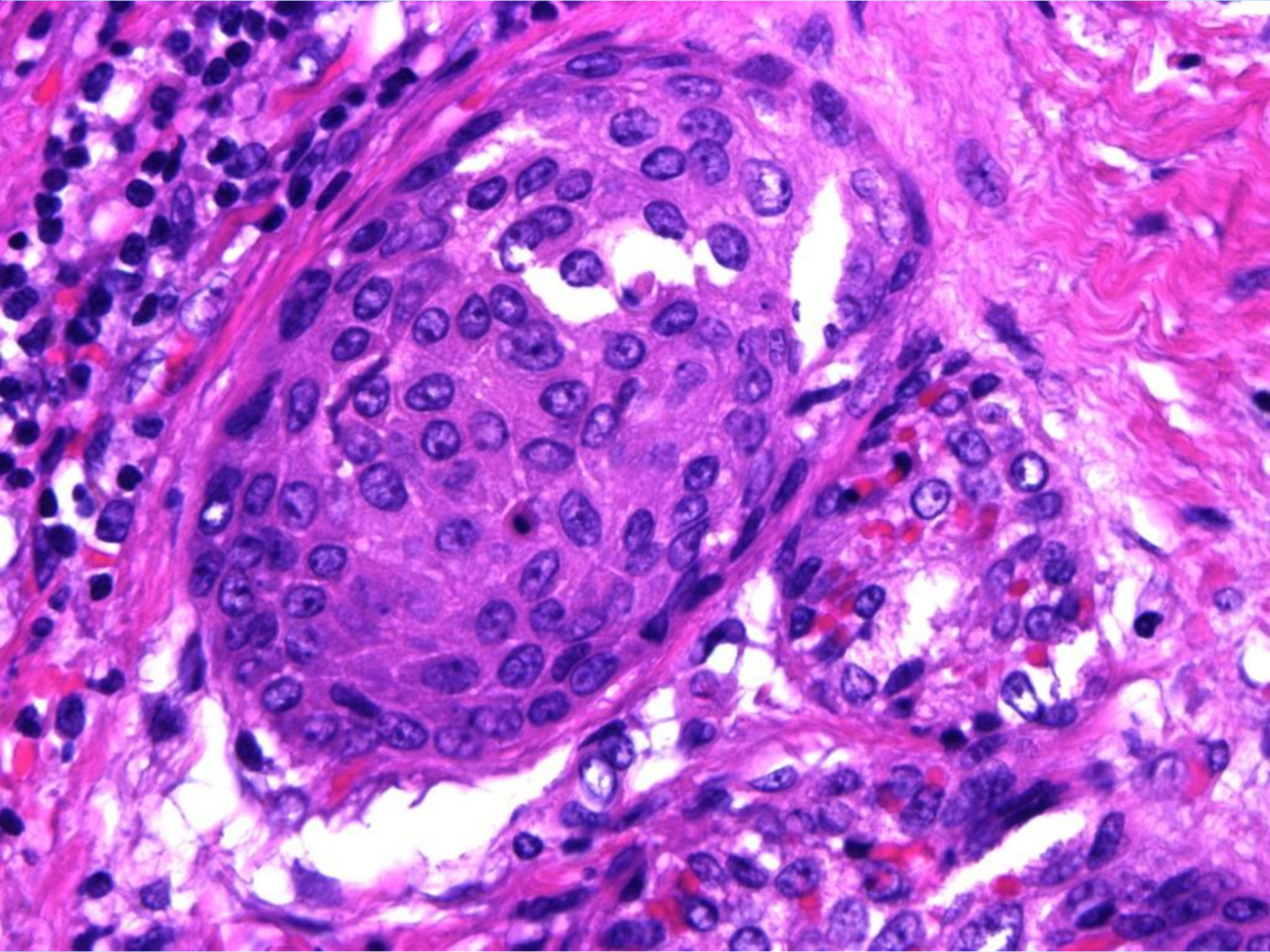


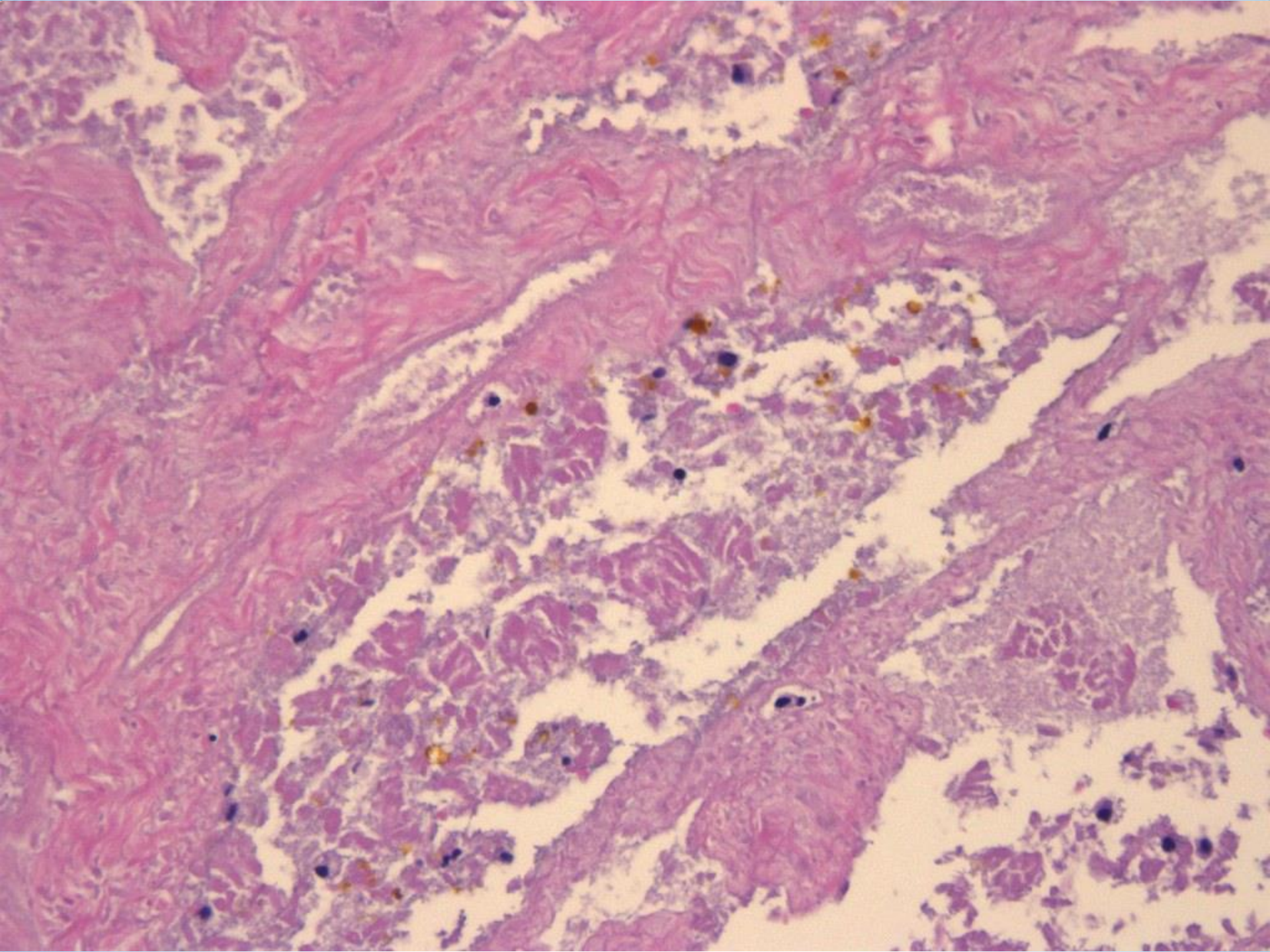




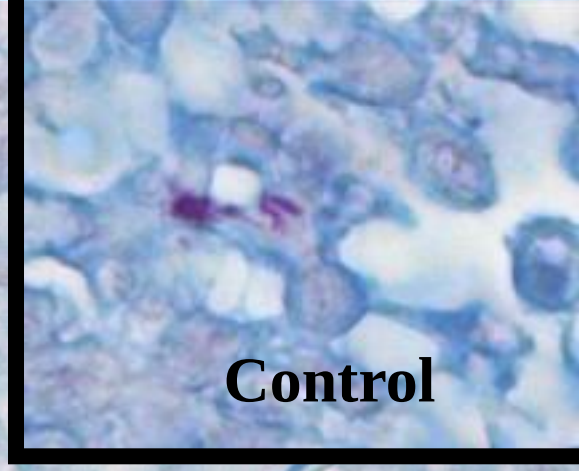




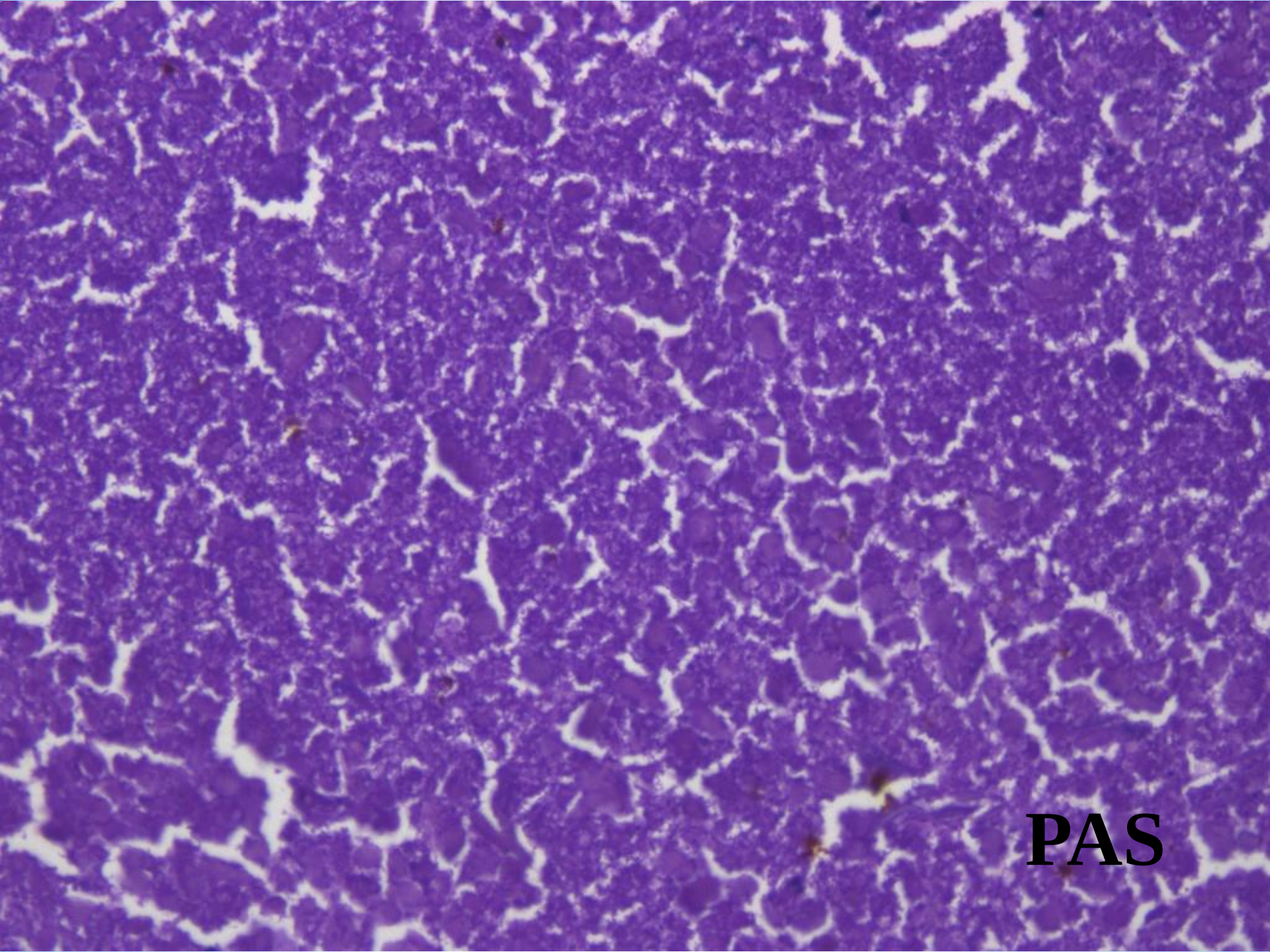


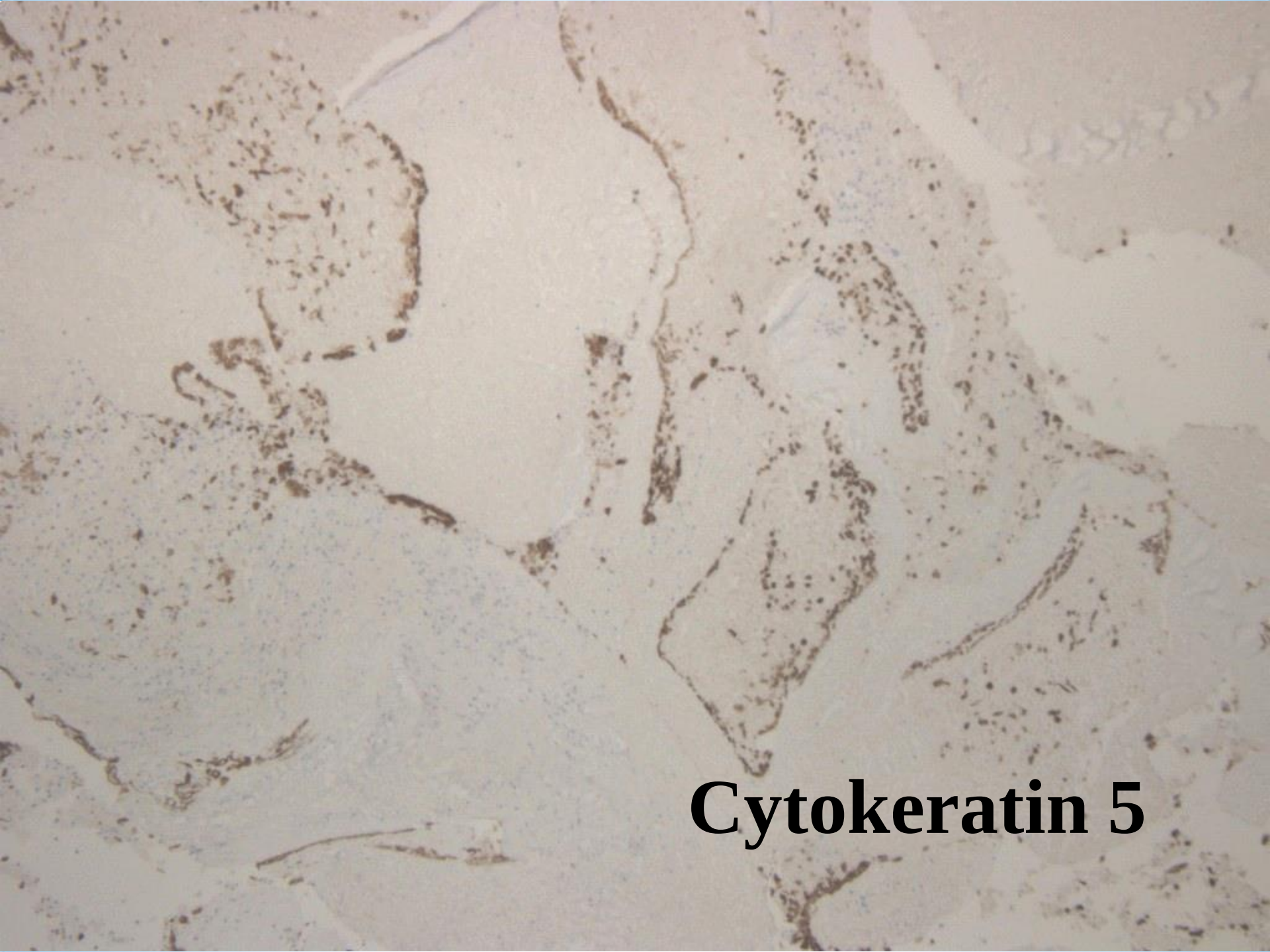


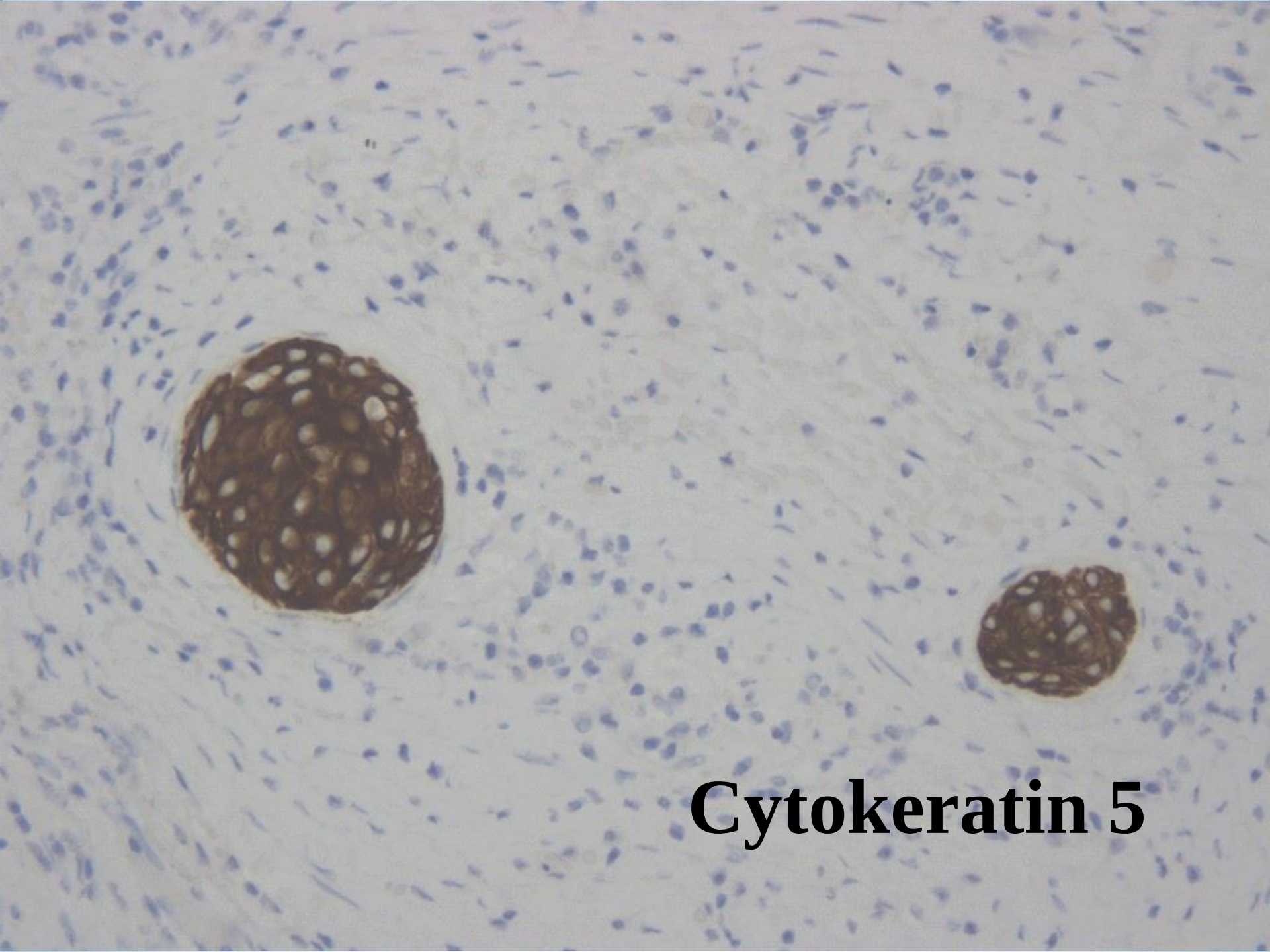

Are you Warthin
or other one?
Neither. I am “ghost shadow”.

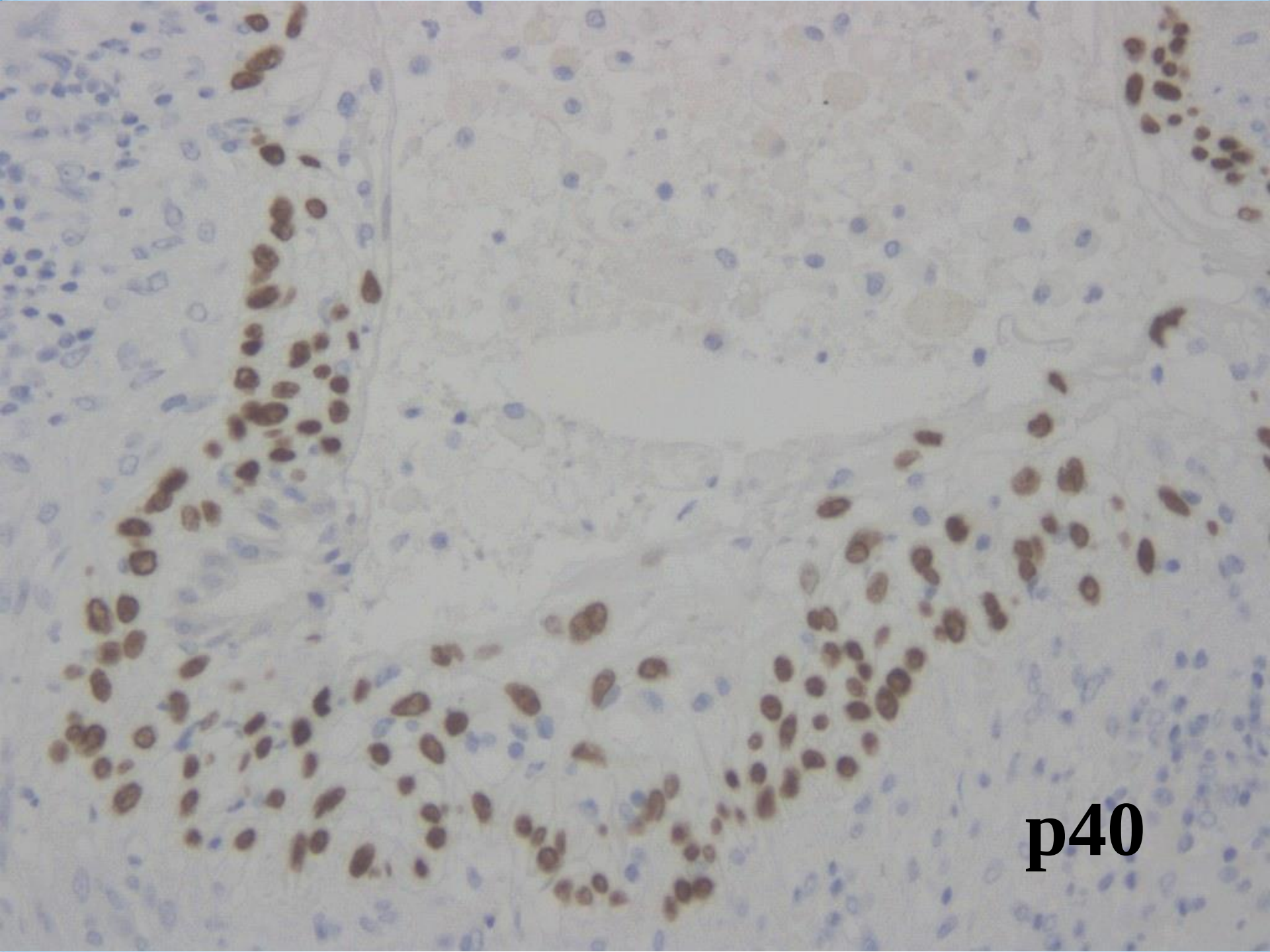


Ziehl-Neelsen


PAS


Cytokeratin 5


Cytokeratin 5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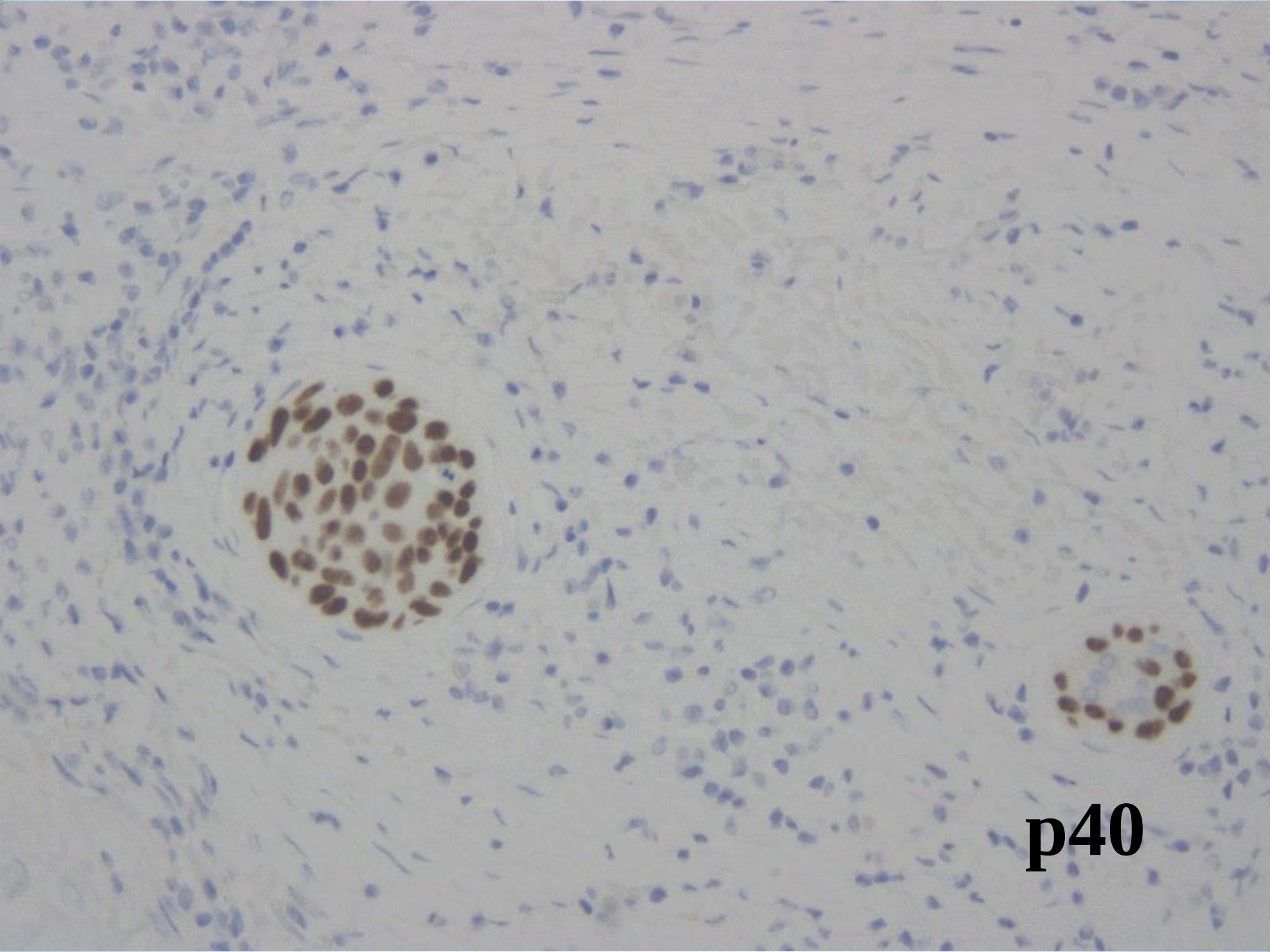
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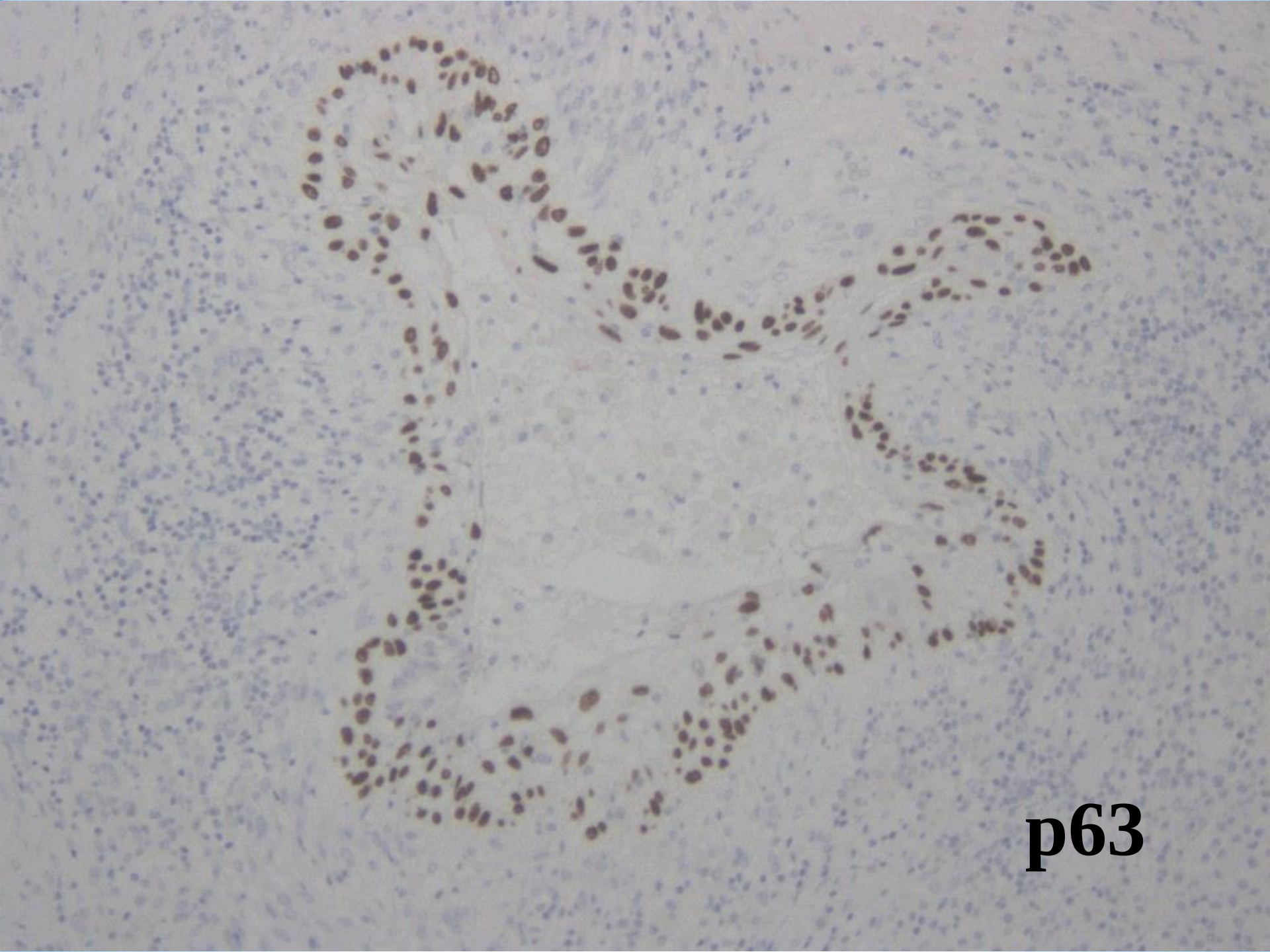
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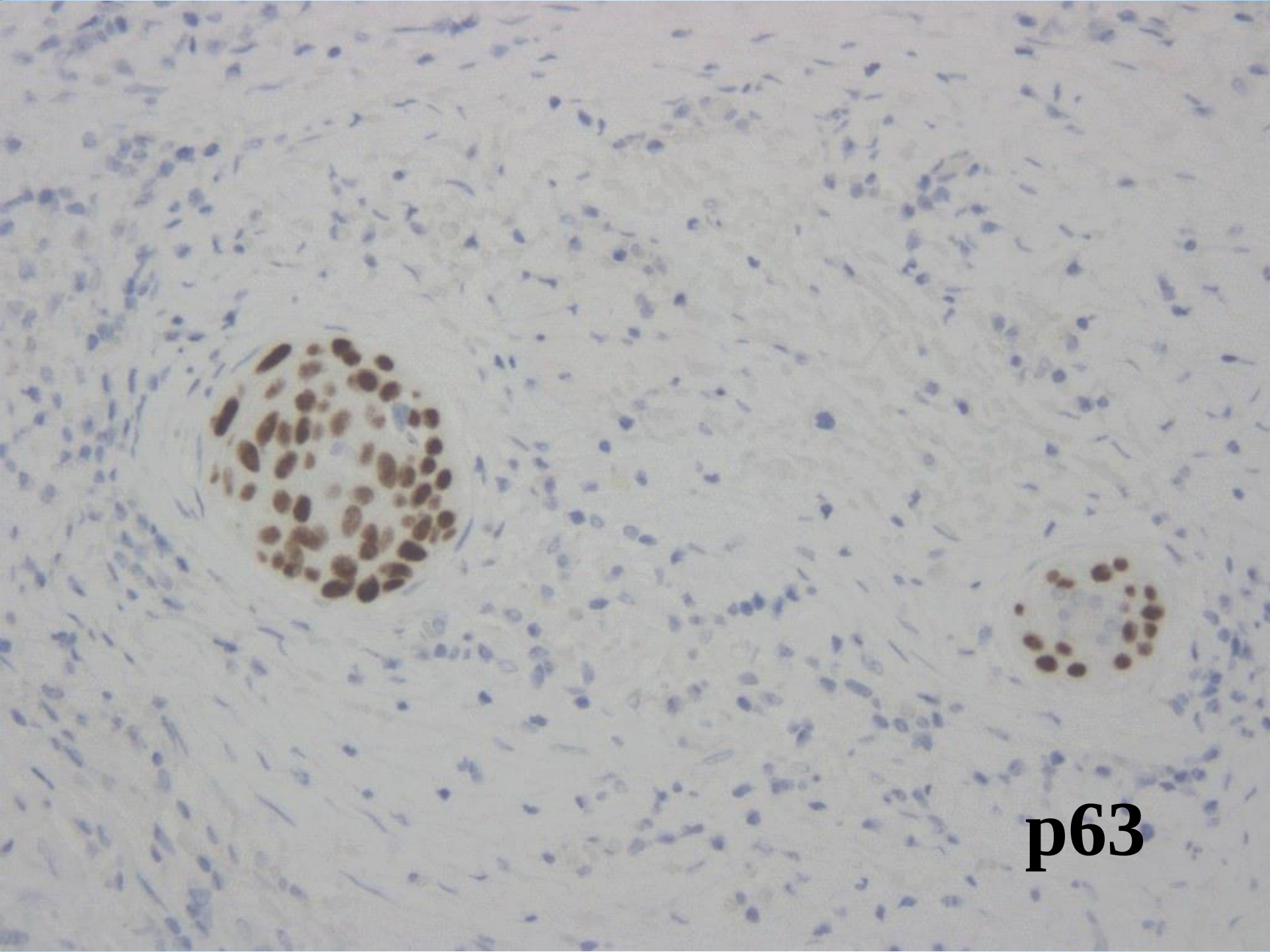
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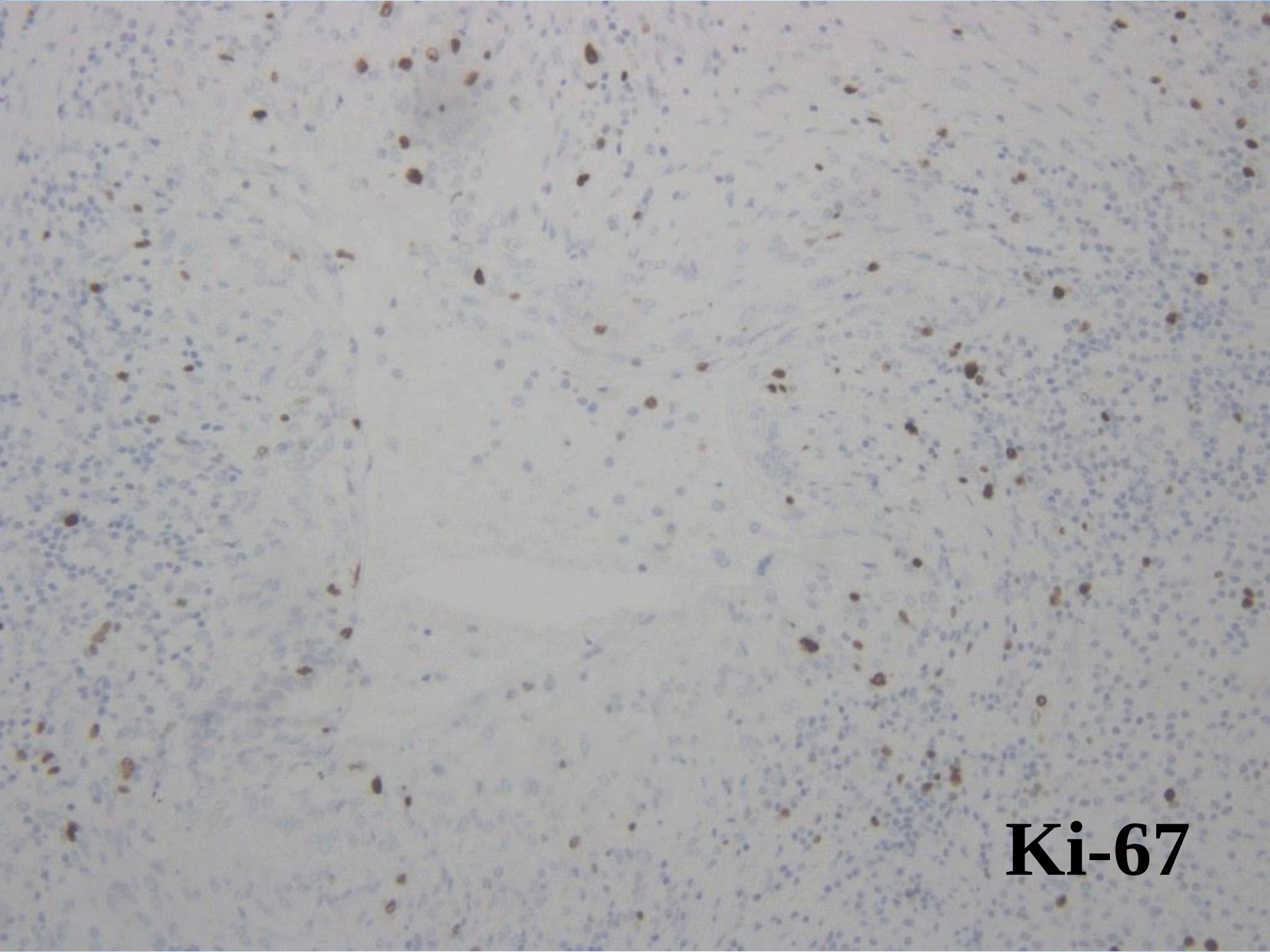
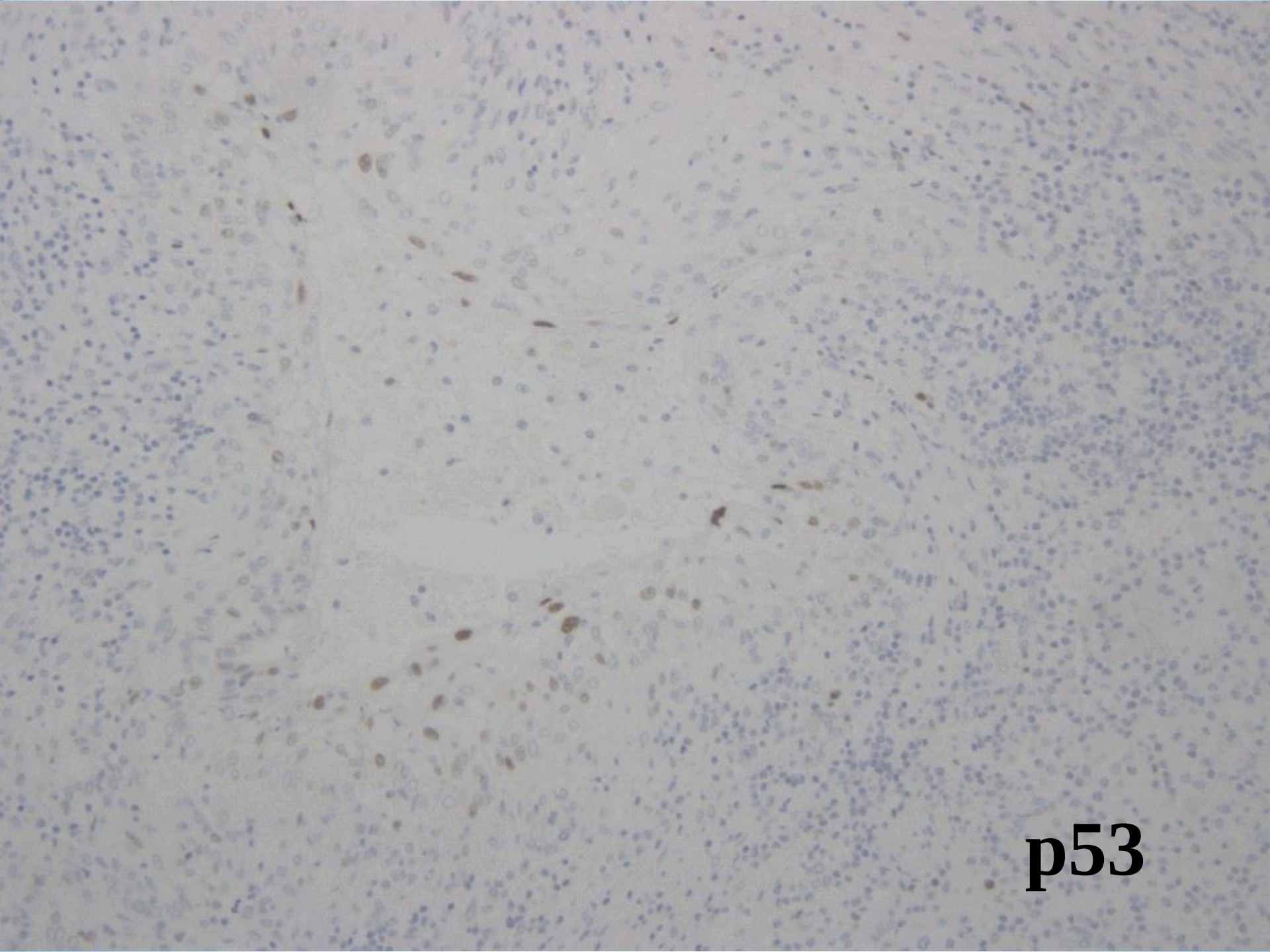

Ki-67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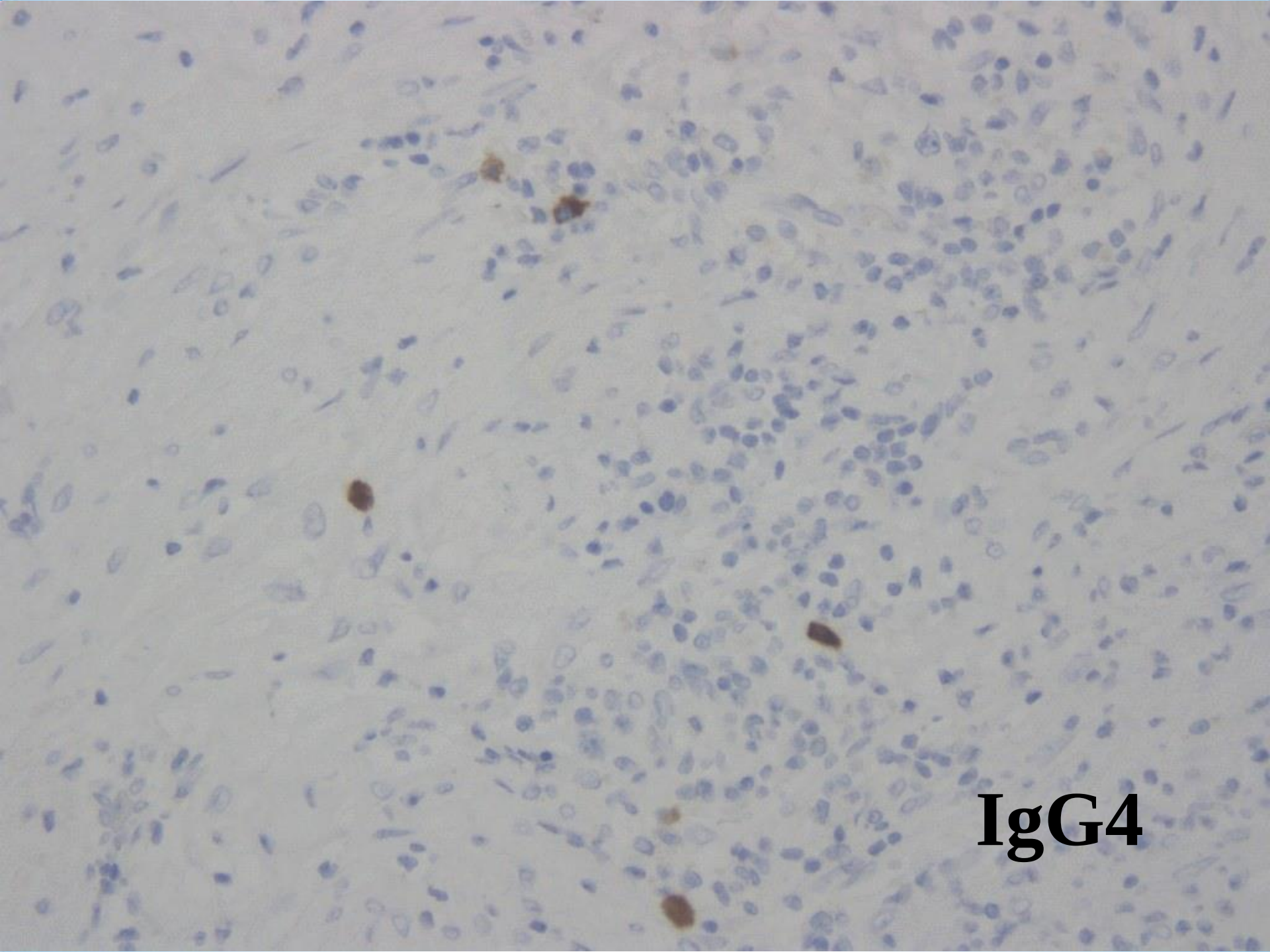
IgG4

Dentomaxillofacial Radiology (2014) 43, 20140127

birpublications.org/dmfr

CASE REPORT

Imaging findings of necrotizing sialometaplasia of the parotid gland: case report and literature review

[1,2]T Tsuji, [3]Y Nishide, [4]H Nakano, [1]K Kida and [2]K Satoh

[1]First Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Osaka University, Suita, Osaka, Japan; [2]Department of Oral and Maxillofacial Surgery, Saiseikai Matsusaka General Hospital, Matsusaka, Mie, Japan; [3]Department of Radiology, Saiseikai Matsusaka General Hospital, Matsusaka, Mie, Japan; [4]Department of Pathology, Saiseikai Matsusaka General Hospital, Matsusaka, Mie, Japan

Although necrotizing sialometaplasia (NS) of the parotid gland is rare and occasionally presents as a lesion that mimics a malignant tumour, imaging findings in cases of NS have been rarely reported. We describe here a case of NS in which there was an increasing lesion manifesting overnight on the parotid gland in an 83-year-old male. We also investigated the use of pre-operative imaging based on previous reports and discuss the importance of these images in helping to guard against overzealous treatment. It is critically important to closely examine whether there are aspects of NS, such as the present case, in pre-operative MRI findings that can be useful in proper diagnosis and treatment.
Dentomaxillofacial Radiology (2014) **43**, 20140127. doi: 10.1259/dmfr.20140127

術前の MRIが診断に役立つ。

Table 1 Characteristics of the reported cases of necrotizing sialometaplasia arising in the parotid gland

Case	*Year*	*Author*	*Age (years)/sex*	*Cause*	*Size (cm)*	*Clinical presentation*	*Pre-operative examination*
1–6, 7–13	1979, 1987	Donath[5] Batsakis and Manning[1]	Mean age of M: 54 Mean age of F: 49 Sex ratio: M:F = 1:2	Post-operative vascular injuries (11/13 cases)	0.6–1.0 (mean of six cases)	Post-operative salivary mass: 86% Sialadenitis: 14%	NM
14–19	1991	Brannon et al[3]	NM	Post-operative vascular injuries (5/6 cases)	NM	NM	NM
20	2002	Aydin et al[4]	17/F	Vascular injury	2	Pain Swelling of neck	Ultrasonography/CT/ FNAB
21	2006	Prabhakaran et al[7]	32/M	Pressure-induced ischaemia	NM	Swelling of neck Pus discharge from the parotid duct	CT
22	2010	Yoshioka et al[8]	66/M	Malignant lymphoma	NM	Swelling of neck Swelling of pharynx Vocal cord paralysis Neck lymphadenopathy	FNAB
23	2013	Kim et al[9]	69/F	Vascular injury owing to heavy smoking	3 × 2, 1.5 × 1.5	Swelling of neck	CT/FNAB
24	2014	Current report	83/M	Pressure-induced ischaemia	4 × 5	Swelling of neck	Ultrasonography/CT/ MRI/Ga scintigraphy

F, female; FNAB, fine needle aspiration biopsy; Ga, gallium; M, male; NM, not mentioned.

頸部の腫脹が主体、小さいものが多い？

Jpn J Radiol (2012) 30:354–357
DOI 10.1007/s11604-012-0056-9

CASE REPORT

Spontaneous infarction of Warthin's tumor: imaging findings simulating malignancy

Hiroki Kato · Masayuki Kanematsu · Keisuke Mizuta · Mitsuhiro Aoki · Yoshinobu Hirose

Received: 6 November 2011 / Accepted: 31 January 2012 / Published online: 17 February 2012

Abstract The authors present a rare case of spontaneous infarcted Warthin's tumor of the parotid gland mimicking malignancies. CT and MR images demonstrated the presence of extensive necrosis and rim enhancement with ill-demarcated margins. Although the differentiation of infarcted Warthin's tumors and primary salivary gland malignancies is challenging, radiologists should recognize this uncommon pathological condition.

portion over the mandibular angle. It also occurs in the periparotid lymph nodes, but involvement of other salivary glands is uncommon. Multiplicity or bilateral involvement occurs in up to 15%, and it is considered to have a male predominance and is known to be related to smoking and radiation exposure [1]. Warthin's tumor frequently occurs between the 4th and 7th decades of life. Although MR imaging findings of Warthin's tumor have been reported [2, 3], those of infarcted Warthin's tumor following fine-nee-

ワルチン腫瘍自然壊死の画像は悪性腫瘍に類似する。

Dentomaxillofacial Radiology (2015) 44, 20140392

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LETTER TO THE EDITOR

Parotid necrotizing sialometaplasia *vs* infarcted Warthin tumour

Dentomaxillofacial Radiology (2015) **44**, 20140392. doi: 10.1259/dmfr.20140392

Cite this article as: Slater LJ. Parotid necrotizing sialometaplasia *vs* infarcted Warthin tumour. *Dentomaxillofac Radiol* 2015; **44**: 20140392.

Tsuji et al[1] recently reported an extremely well-documented case of an unusual parotid tumour demonstrating necrosis and squamous metaplasia. They interpreted it as necrotizing sialometaplasia, but they considered infarcted Warthin tumour in their differential diagnosis.

The definitive diagnosis rests on histopathological evaluation. In figure 6b, Tsuji et al[1] provide a photomicrograph exhibiting a cystic lumen containing eosinophilic necrotic cellular material (lower left) and a granulation tissue wall showing a papillary intraluminal process and a lining of metaplastic stratified squamous epithelium. These histological findings are fully consistent with a metaplastic Warthin tumour and are similar to features depicted in cases reported by Kato et al[2] (figure 1f), Yerli et al[3] (figure 1f) and Di Palma et al[4] (figure 5a). Cystic change and intracystic necrotic debris are foreign to typical necrotizing sialometaplasia but characteristic of metaplastic Warthin tumour. Pathologists generally disregard such necrotic debris as devoid of diagnostic significance; however, it can occasionally contain fragments of palisaded eosinophilic columnar cells without nuclei (necrotic oncocytes) resembling a "stack of bricks", a finding supportive of infarcted Warthin tumour.

The parotid mass reported by Tsuji et al[1] additionally demonstrates CT and MRI features similar to those previously reported as metaplastic/infarcted Warthin tumour. For example, Tsuji et al[1] present a CT image of a poorly marginated mass (figure 3), which is similar to that of the altered Warthin tumour depicted in figure 1B of the Yerli et al[3] study. Similarly, MR images in reports by Tsuji et al[1] and Yerli et al[3] both illustrate an encapsulated mass showing intratumoral irregularly shaped hyperintense areas.

The hypothesis that a pre-existing encapsulated tumour underwent ischaemic necrosis (infarction) seems more tenable than the proposition that a parotid ischaemic event rapidly resulted in an encapsulated spherical mass. Oncocytic tumours (termed Hürthle cell tumours in the thyroid) have a recognized predisposition to undergo spontaneous ischaemic necrosis, and Warthin tumour (synonymously termed oncocytic papillary cystadenoma lymphomatosum, an oncocytic neoplasm) is the second most common parotid tumour (after pleomorphic adenoma). Approximately 10% of Warthin tumours infarct following fine-needle aspiration biopsy.[5] Therefore, the possibility that the lesion reported by Tsuji et al[1] could be an infarcted Warthin tumour deserves serious consideration.

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壊死性唾液腺化生と壊死性ワルチン腫瘍との鑑別は難しい？

Histopathology 1999, **35**, 432–438

Metaplastic (infarcted) Warthin's tumour of the parotid gland: a possible consequence of fine needle aspiration biopsy

S Di Palma, R H W Simpson,[1] A Skálová[2] & M Michal[2]

Divisione di Anatomia Patologica e Citopatologia, Istituto Nazionale per lo Studio e la Cura dei Tumori, Milan, Italy, [1]Histopathology Department, Postgraduate Medical School, University of Exeter and Royal Devon and Exeter Hospital, UK, and [2]Šikl's Pathology Department, Charles University, Pilsen, Czech Republic

Date of submission 18 February 1999
Accepted for publication 26 April 1999

Di Palma S, Simpson R H W, Skálová A & Michal M
(1999) *Histopathology* **35**, 432–438

Metaplastic (infarcted) Warthin's tumour of the parotid gland: a possible consequence of fine needle aspiration biopsy

Aims: The metaplastic (or infarcted) variant of Warthin's tumour is characterized by replacement of much of the original oncocytic epithelium by metaplastic squamous cells, along with areas of extensive necrosis, fibrosis and inflammatory change. The pathogenesis is unknown, but it is most likely to be vascular in origin. An association with a previous fine needle aspiration (FNA) has been suggested, and this is explored further.

Methods and results: Nine metaplastic Warthin's tumours were collected from several centres: all arose in the parotid gland, and all showed the characteristic histological features. Eight had previously undergone FNA some 1–4 months before surgery; the other case had had an incisional biopsy.

Conclusions: It is important to recognize metaplastic Warthin's tumour, because the differential diagnoses of this benign neoplasm include mucoepidermoid and squamous carcinoma, both primary and metastatic. The tumours in this study followed FNA or biopsy, and we believe this association is unlikely to be coincidental. Although many metaplastic Warthin's tumours clearly arise spontaneously, we conclude that the balance of probabilities favours the view that FNA is capable of causing metaplastic change in a Warthin's tumour, and may have done so in these cases. If so, this previously unusual subtype will become increasingly common, as FNA becomes more widely used (and its value appreciated) in the investigation of patients with a mass in the neck.

Keywords: biopsy, metaplasia, salivary gland, Warthin's tumour

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穿刺が原因でワルチン腫瘍の上皮に扁平上皮化生が起こりえる。

Table 1. Clinical findings

Case	Sex/age (years)	History	FNA	Needle	FNA findings	Pre-operative time (days)
1	M/57	Parotid mass, 50 mm diameter; 2 months	Yes	18, 22	Possible Warthin	41, 27
2	M/48	Firm parotid nodule 20 × 30 mm; 2 months	Yes	22	Warthin	14
3	M/66	Left parotid mass, 30 × 25 × 15 mm; (duration unknown)	Yes	22	Warthin	6
4	M/76	Right parotid nodule, 20 mm diameter; 2 months	Yes	Not known	Non diagnostic	97, 9
5	M/71	Right parotid swelling; 25 × 15 × 15 mm; 2 months	No	*	*	18
6	F/67	Parotid mass, 17 mm; (duration unknown)	Yes	22	Warthin	57
7	F/55	Left parotid mass, 16 mm; (duration unknown)	Yes, ×2	22	Nondiagnostic	101, 87
8	M/66	Right parotid mass, 18 mm; 2 months	Yes	22	Nondiagnostic	65
9	M/76	Left parotid mass, 16 mm; 2 years	Yes	22	Probable Warthin	46

*Incisional biopsy; no tissue or information available.

22Gの針が多い。

Table 2. Pathological findings

Case	Necrosis	Fibrosis/ (myo)fibroblast proliferation	Squamous metaplasia	Granuloma	Acute inflammation	Other findings
1	Almost total	+++	Peripheral	No	Focal	Moderate atypia
2	>50%	+++	Focal	Yes	Rare	Atypia
3	Almost total	+++	Peripheral focal hyalinization	No	Abundant mixed inflammatory cells	Atypia, cholesterol clefts, macrophages +
4	Almost total	+++	Peripheral	No	Focal inflammatory cells	Papillary ghosts ++
5	Almost total	+	Myofibroblast proliferation +; hyalinization	No	Focal	Cholesterol clefts, macrophages +
6	>50%	++	Peripheral	Yes	Focal	Goblet cells
7	>50%	++	Peripheral	No	Focal	Papillary ghosts ++
8	>50%	+++	Peripheral	Yes	Focal	Goblet cells
9	Almost total	+	Peripheral	Lipogran ++	Focal	Cholesterol clefts, macrophages +

壊死は多く、扁平上皮化生は病変の辺縁に多い。急性炎症は一部にあり。

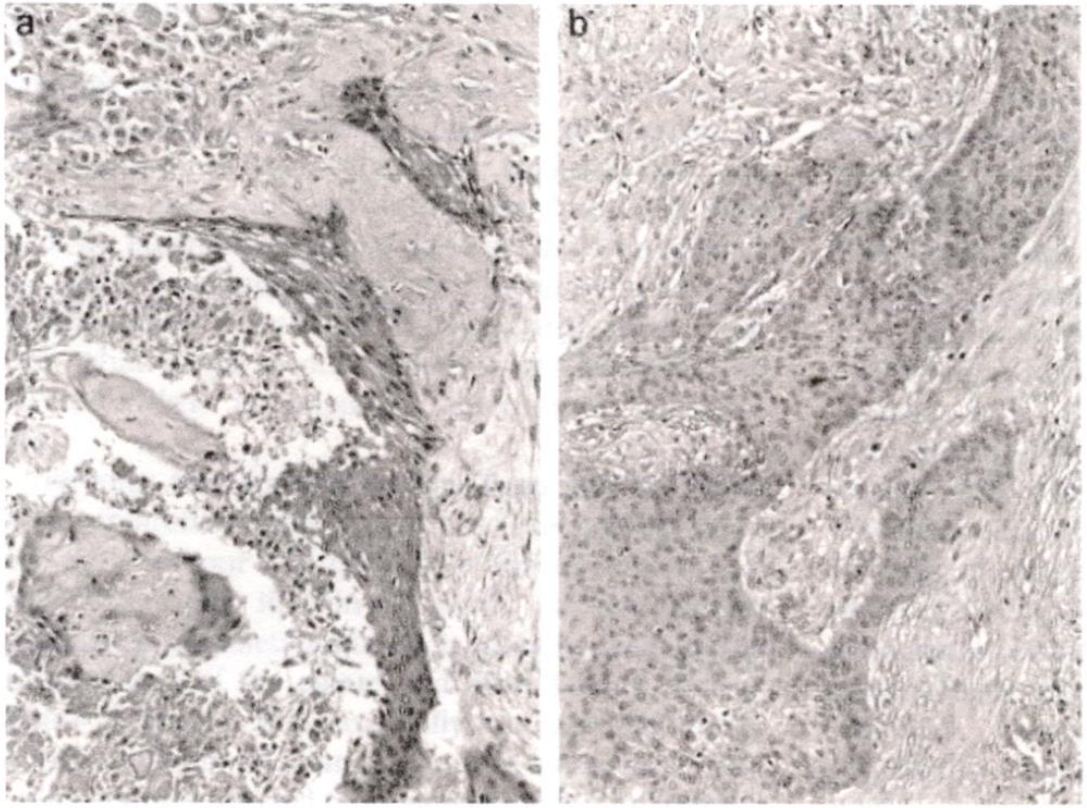

Figure 5. a and **b**, areas of squamous metaplasia showing a pseudo-infiltrative pattern and mild to moderate cytological atypia.

Virchows Arch [Pathol Anat] (1981) 391:267–273

Virchows Archiv A

ワルチン腫瘍と壊死性唾液腺化生が合併した報告もあり。

Warthin Tumor Exhibiting Sebaceous Differentiation and Necrotizing Sialometaplasia

Douglas R. Gnepp

Departments of Pathology and Oral Pathology, West Virginia University Medical and Dental Schools, Morgantown, West Virginia, USA

Summary. A case of a Warthin tumor exhibiting sebaceous differentiation and necrotizing sialometaplasia is presented. This case suggests a common histogenesis for the Warthin tumor and sebaceous lymphadenoma. It supports the theory that necrotizing sialometaplasia is caused by factors which compromise or obstruct the blood supply to salivary gland tissues. The literature on sebaceous differentiation in Warthin tumor and on necrotizing sialometaplasia is reviewed.

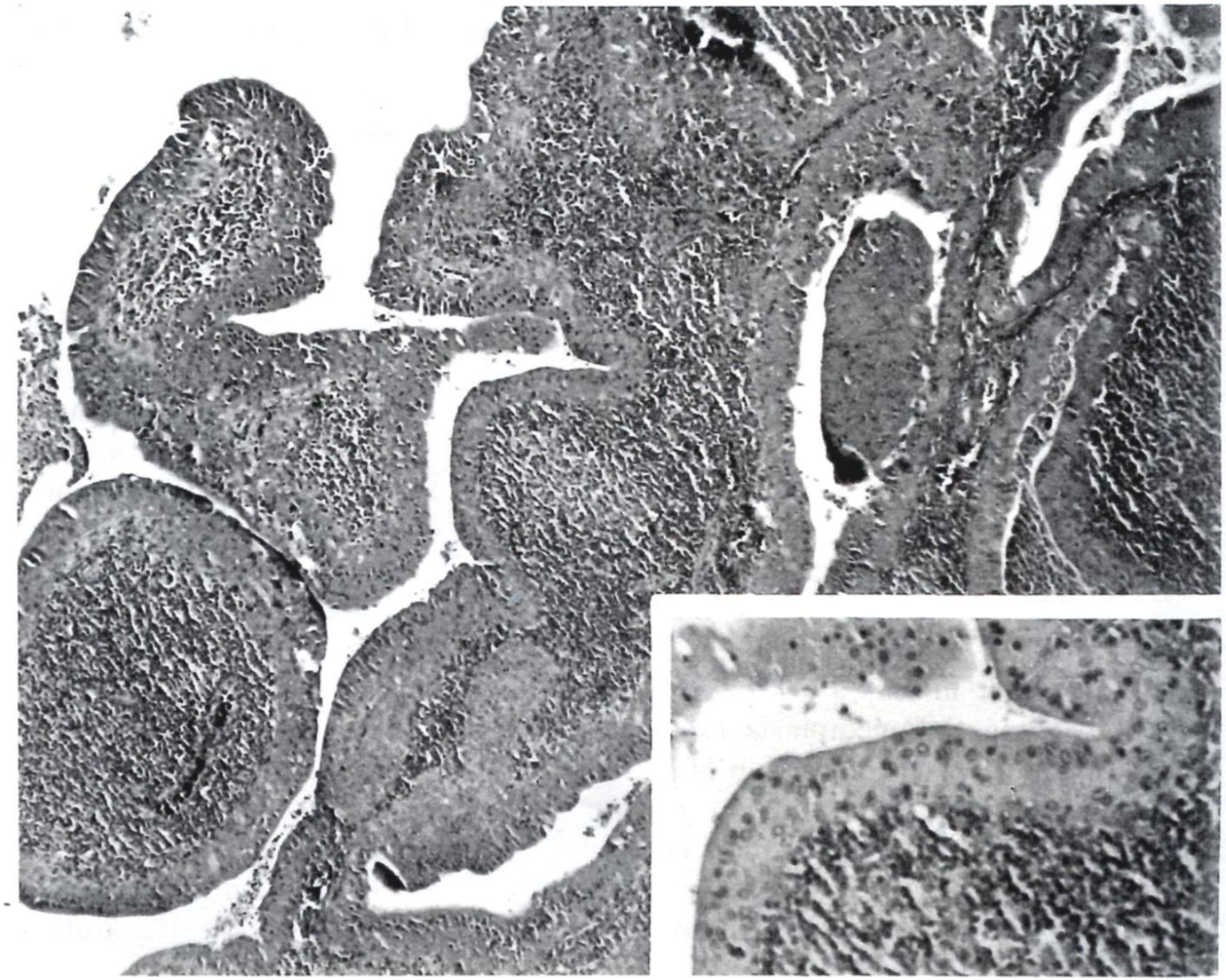

Fig. 1. Photomicrograph of the Warthin tumor demonstrating the papillary epithelial and lymphoid components of the tumor (Hematoxylin and eosin stain, original magnification ×125). *Insert:* Detail of oncocytic columnar epithelium of Warthin tumor (Hematoxylin and eosin stain, original magnification ×350)

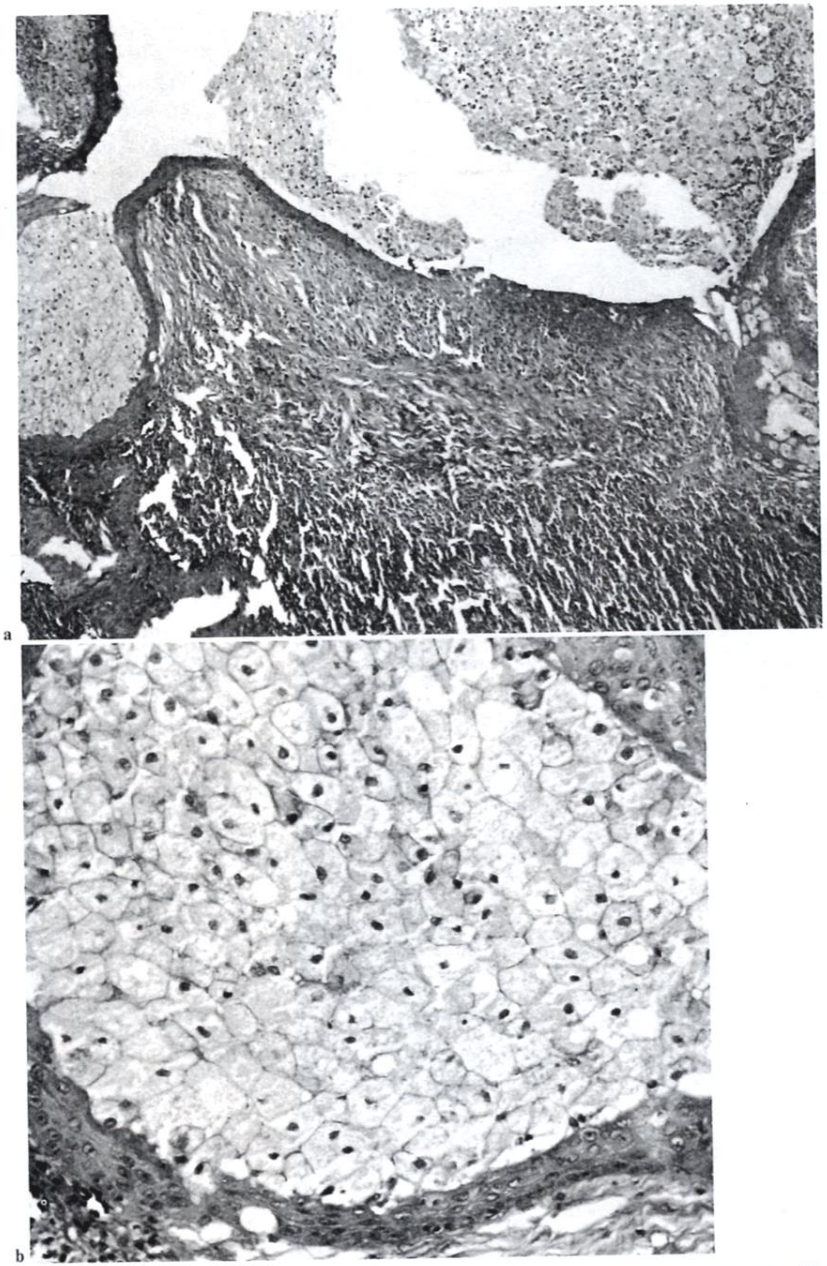

Fig. 2. a Photomicrograph of midportion of the Warthin tumor demonstrating a cystic space filled with sebum and lined by a stratified squamous epithelium. Two foci of sebaceous differentiation are evident. (Hematoxylin and eosin stain, original magnification ×125). **b** Detail of sebaceous gland from 2a demonstrating the stratified squamous basilar epithelium with typical sebaceous cells in the center. (Hematoxylin and eosin stain, original magnification ×400)

Necrotizing Squamous/Mucinous Metaplasia in Oncocytic Salivary Gland Tumors

A Potential Diagnostic Problem

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Tumor necrosis and squamous and/or mucinous metaplasia was found in 4 of 26 oncocytic salivary gland tumors (24 Warthin's tumors and 2 oncocytomas). The necrosis was extensive in two cases, producing architectural and cytologic atypia sufficient to simulate a squamous carcinoma. In a third tumor, necrotic and inflammatory debris occurred within dilated tumor spaces exhibiting squamous and mucinous foci, suggesting low-grade mucoepidermoid carcinoma. Adequate sampling revealed Warthin's tumors in all four cases. An additional 13 tumors showed incidental foci of squamous metaplasia, often accompanied by stromal scarring but without necrosis. Four of these tumors also had focal mucinous metaplasia. In the adjacent non-neoplastic salivary gland, oncocytic metaplasia of ducts was seen in 22 glands; there were 7 oncocytic cysts and 3 oncocytic nodules. The tumor necrosis and metaplasia are reminiscent of necrotizing sialometaplasia of the minor salivary gland, thought to be ischemic in origin. The etiology of necrotizing squamous/mucinous metaplasia described here and the extent to which oncocytosis contributes to these changes is unknown. Possibly the extravasation of oncocytic and/or mucinous secretions or cyst contents may result in the reactive changes observed. Necrotizing sialometaplasia and squamous/mucinous metaplasia of oncocytic tumors appear to be related only morphologically, but the shared histologic features may be useful in excluding the diagnosis of salivary gland carcinoma. (Key words: Squamous metaplasia; Necrosis; Warthin's tumor; Oncocyte) Am J Clin Pathol 1992;97: 40–45

ワルチン腫瘍と壊死性唾液腺化生との強い関連を示唆する論文

TABLE 1. ONCOCYTIC TUMORS: CLINICAL SUMMARY

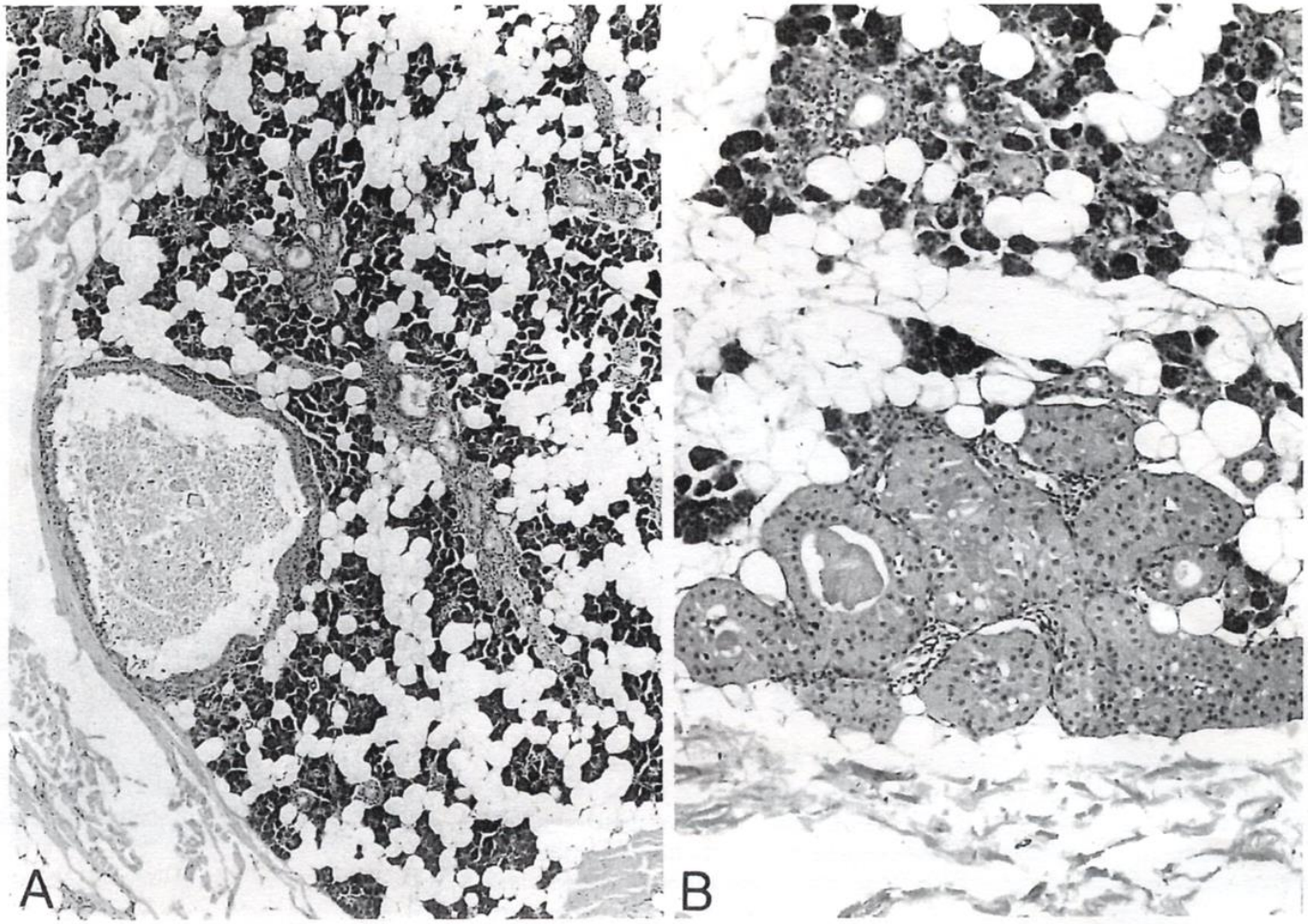
Clinical Data	*Number*
Number of tumors	
Warthin's	24
Oncocytomas	2
Number of patients/sex	
Men	12
Women	12
Age (years)	44–74 (average, 64)
Tumor location	
Parotid gland	24 (1 bilateral)
Sublingual	1
Neck (NOS)	1
Tumor size (cm)	1–7 (average, 2.78)

NOS = not otherwise specified.

TABLE 2. ONCOCYTIC TUMORS: MICROSCOPIC FEATURES

Feature	*Number/Grade*
Adjacent non-neoplastic gland	
Oncocytic metaplasia	7++
	15+++
Cysts	7
Nodules*	3
Within tumor	
Squamous metaplasia	11+
	2++
Mucinous metaplasia	4++
Necrotizing metaplasia	3++
	1+

* Includes two tumors with concurrent cysts.



FIGS. 1A and B. (*A*) Parotid gland adjacent to a Warthin's tumor with oncocytic metaplasia of ducts and small peripheral oncocytic cyst. Hematoxylin and eosin, ×40. (*B*) Parotid gland adjacent to a Warthin's tumor with a microscopic oncocytic nodule. Note oncocytic metaplasia of other small ducts. Hematoxylin and eosin, ×160.

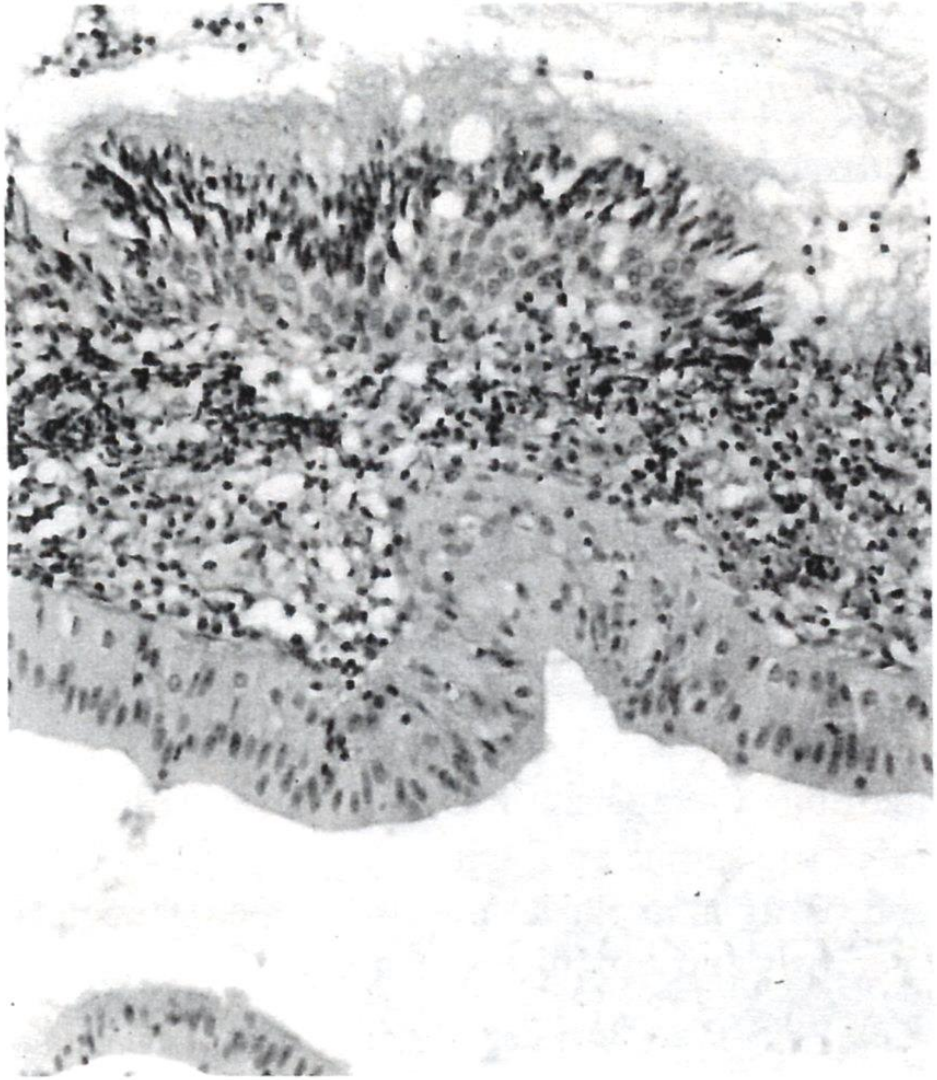
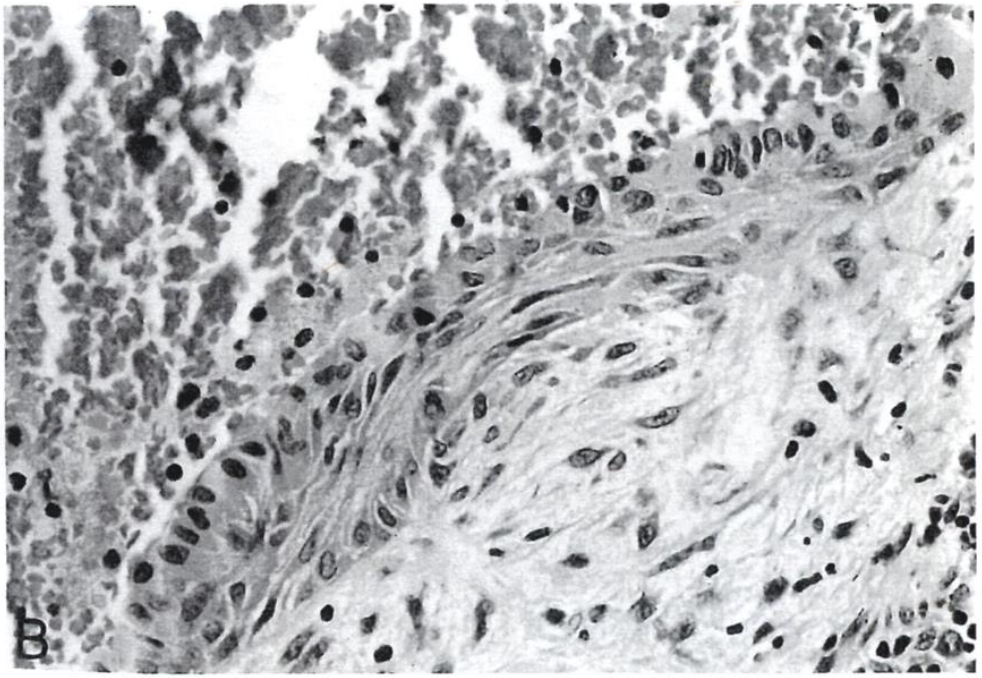
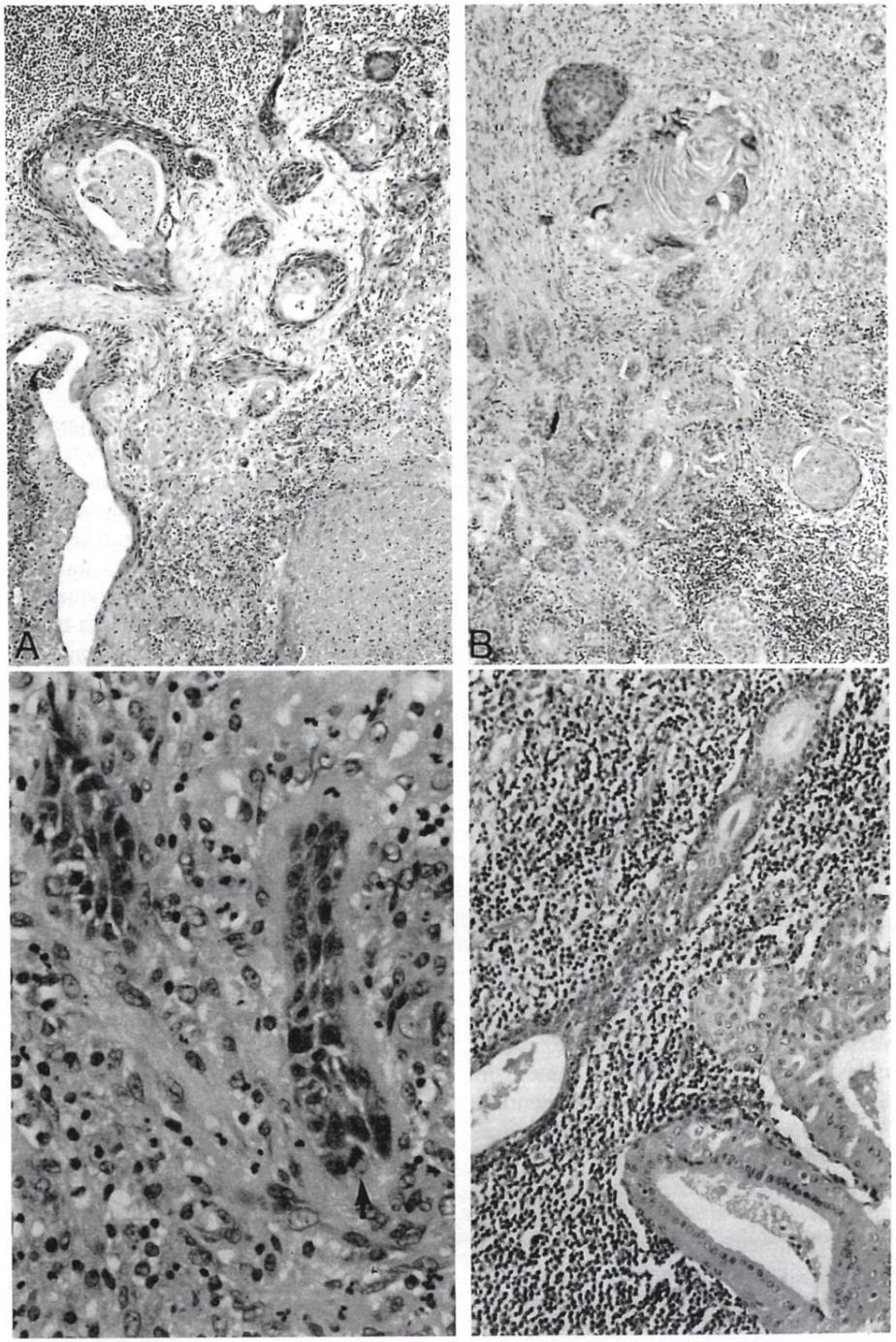


FIG. 2. Oncocytic cyst of the nasopharynx in a patient with a coexisting Warthin's tumor. Note respiratory mucosa. Hematoxylin and eosin, ×200.



FIGS. 3A and B. (*A*) An area of dense fibrosis within a Warthin's tumor, a small part of which is seen in the upper right corner. The cystic spaces are lined by an attenuated, squamous epithelium. Hematoxylin and eosin, ×160. (*B*) Higher-power view of an area of squamous metaplasia within a Warthin's tumor. Oncocytes are undermined by squamous cells; note scarring of adjacent stroma. Hematoxylin and eosin, ×250.

壊死性ワルチン腫瘍と壊死性唾液腺化生は一連のスペクトラムにあるものが存在する？



FIGS. 4A and B (*upper*). (*A*) Squamous metaplasia and necrosis (left). Squamous areas are disordered, variably sized, and consist of ducts and cysts. Hematoxylin and eosin, ×160. (*B*) Interface of tumor (right) and salivary gland (left). Both areas show extensive squamous metaplasia. Area of fibrosis in the tumor also exhibits a foreign body reaction to extravasated keratin. Hematoxylin and eosin, ×160.

FIG. 5 (*lower left*). Squamous metaplasia with cytologic atypia and a mitotic figure (arrow). Hematoxylin and eosin, ×160.

FIG. 6 (*lower right*). A duct with metaplasia (longitudinal) next to two oncocyte-lined spaces typical of Warthin's tumor. Hematoxylin and eosin, ×160.

Final Diagnosis

Warthin tumor and necrotizing sialometaplasia

Do you believe that ghost shadow is really Warthin tumor?

Yes→Why?

No→Why not?