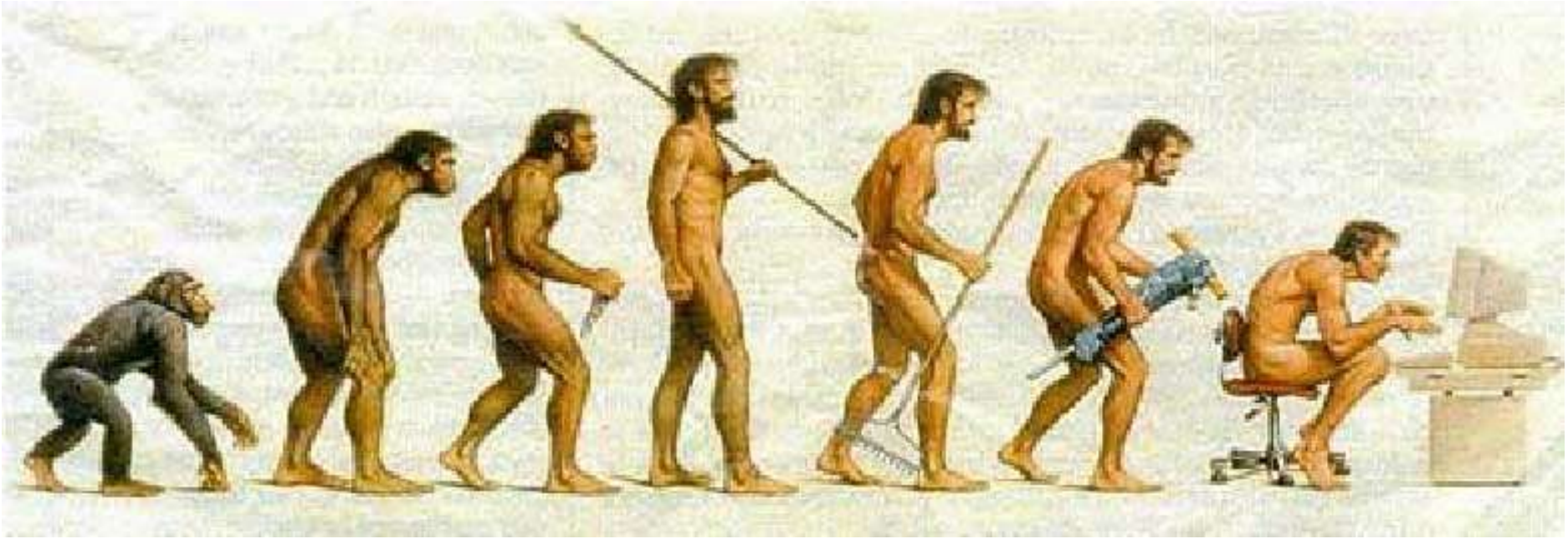
XXV Congreso de la SEAP y DEIAP
XX Congreso de la SEC
I Congreso de la SEPAF

Jueves 19 de mayo de 2011

Curso corto de citología de la mama

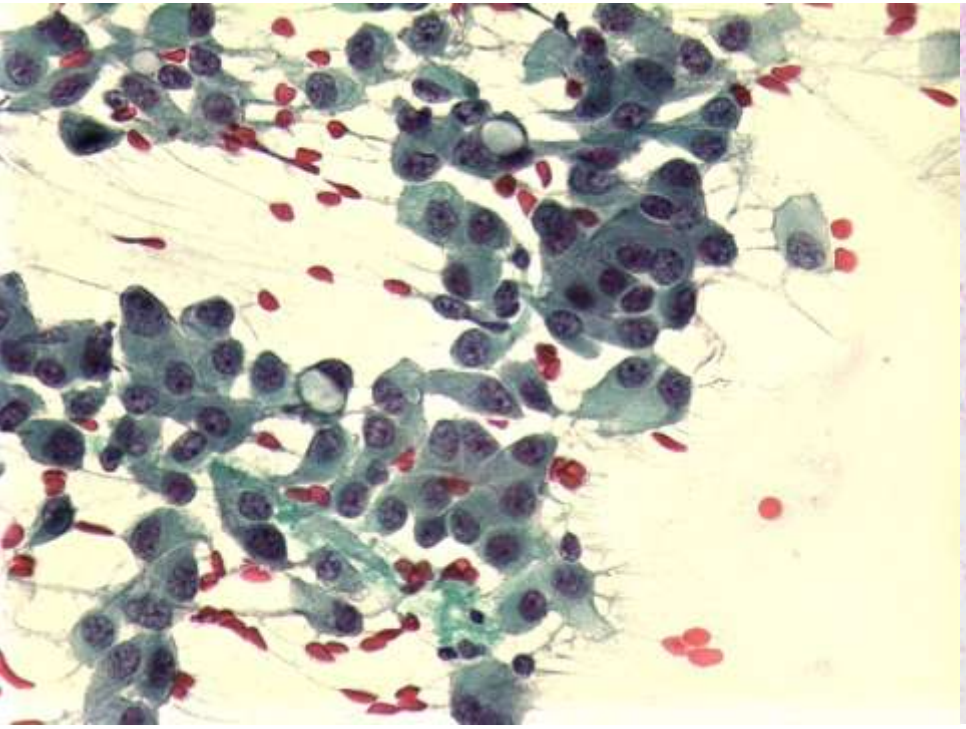


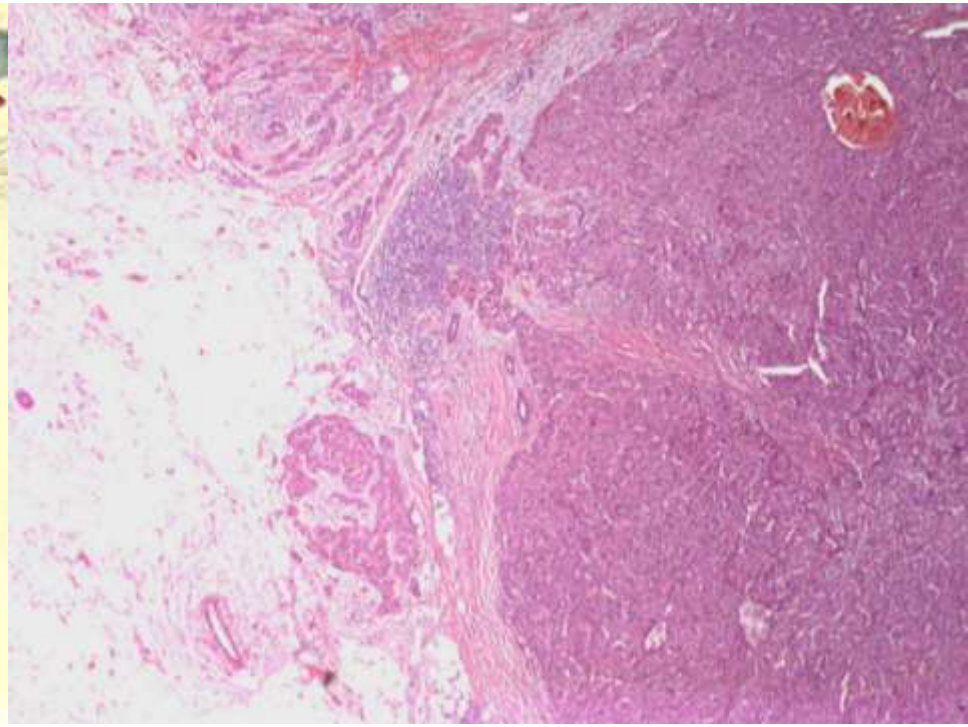
POSITIVO: Grupo + Peculiaridad

Hombre = Animal + Racional

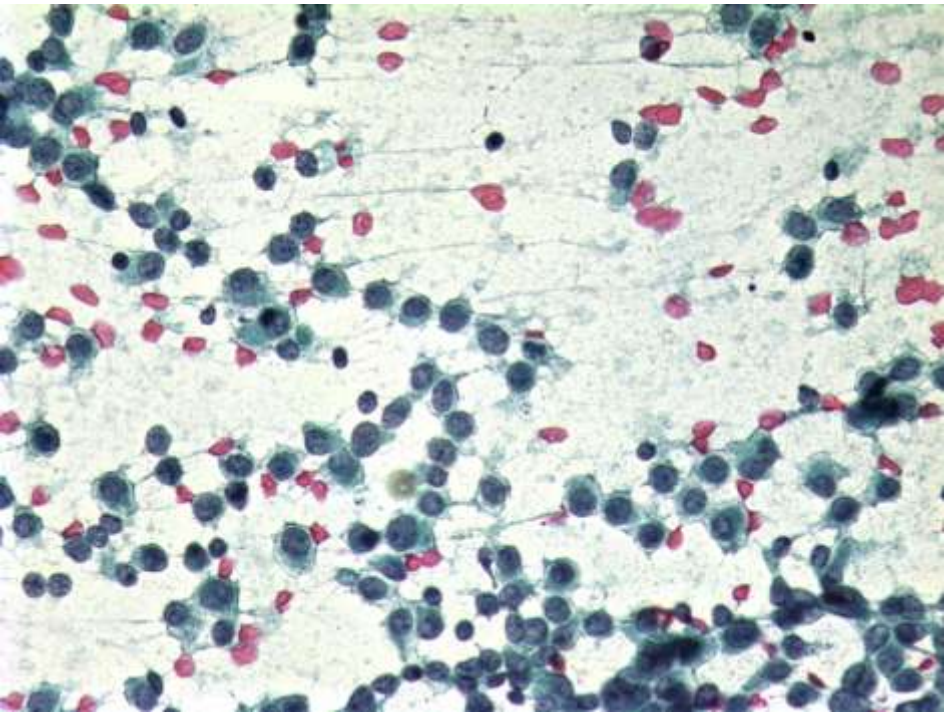
NEGATIVO: Enumerar cada una de las cosas que no es

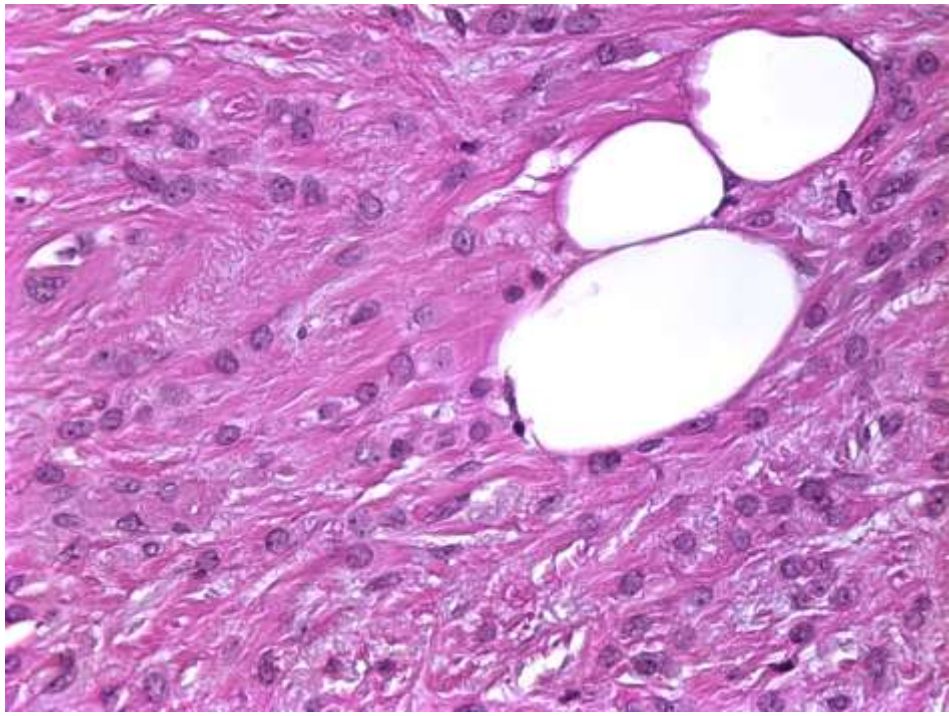
Carcinoma ductal de mama



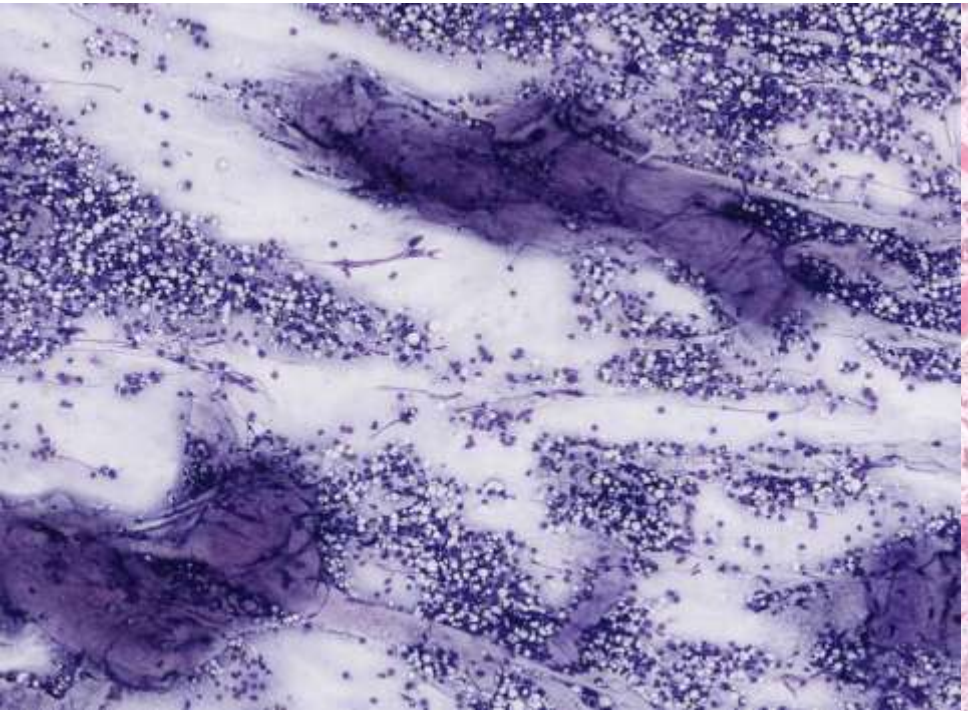


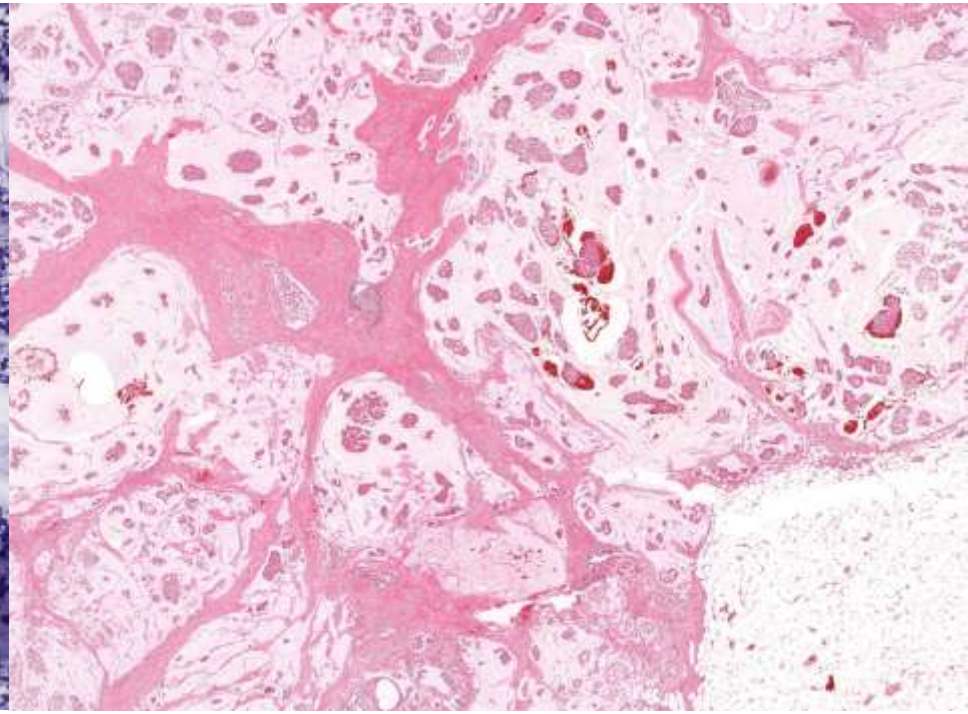
Carcinoma lobular



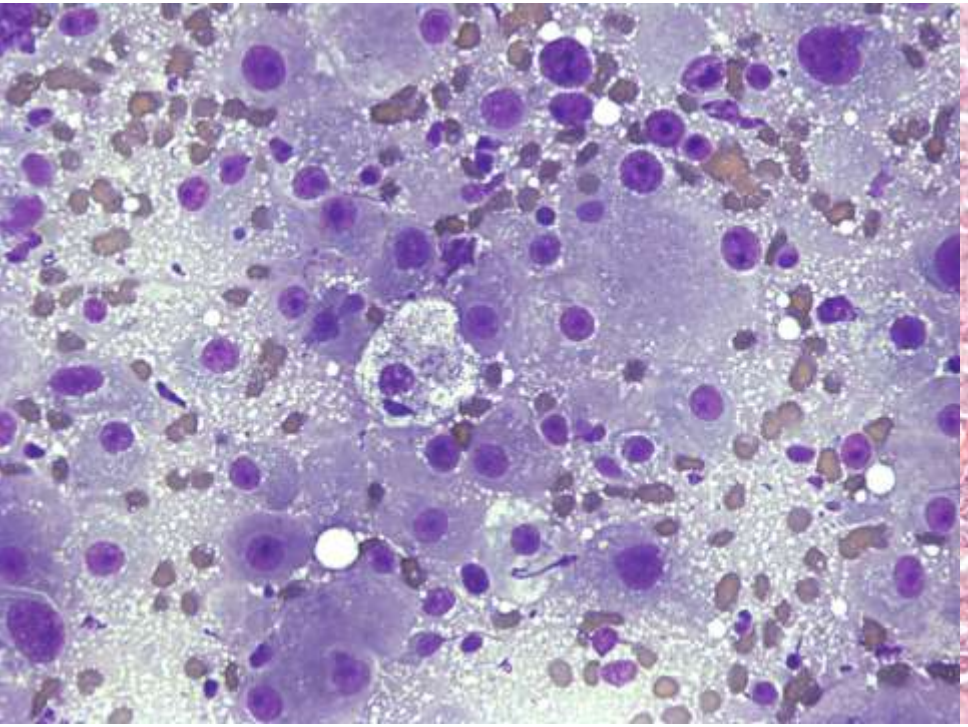


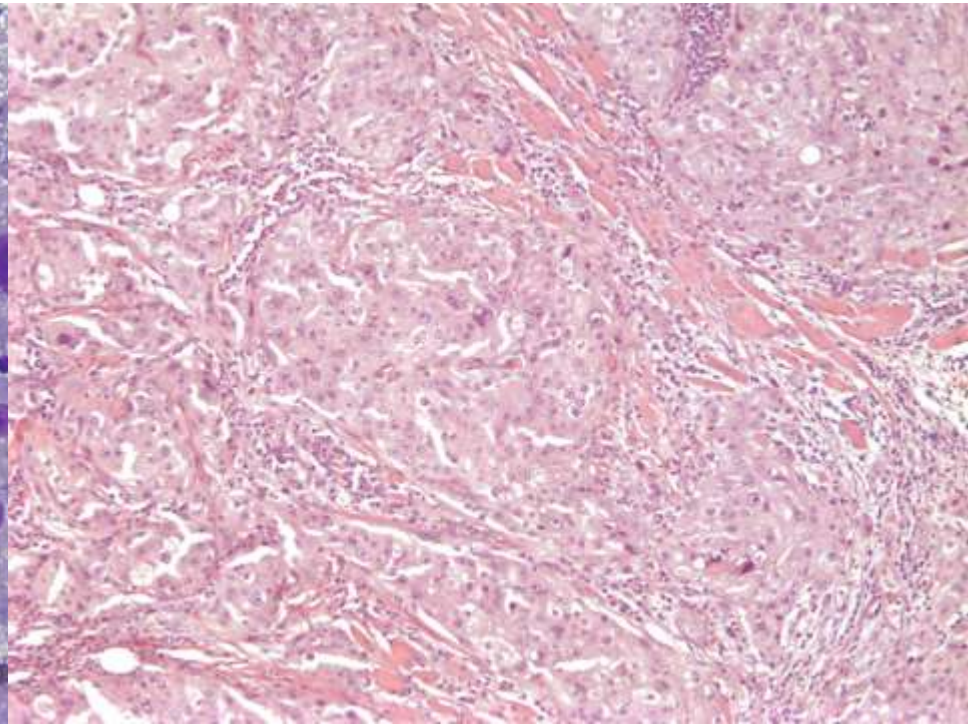
Carcinoma mucinoso



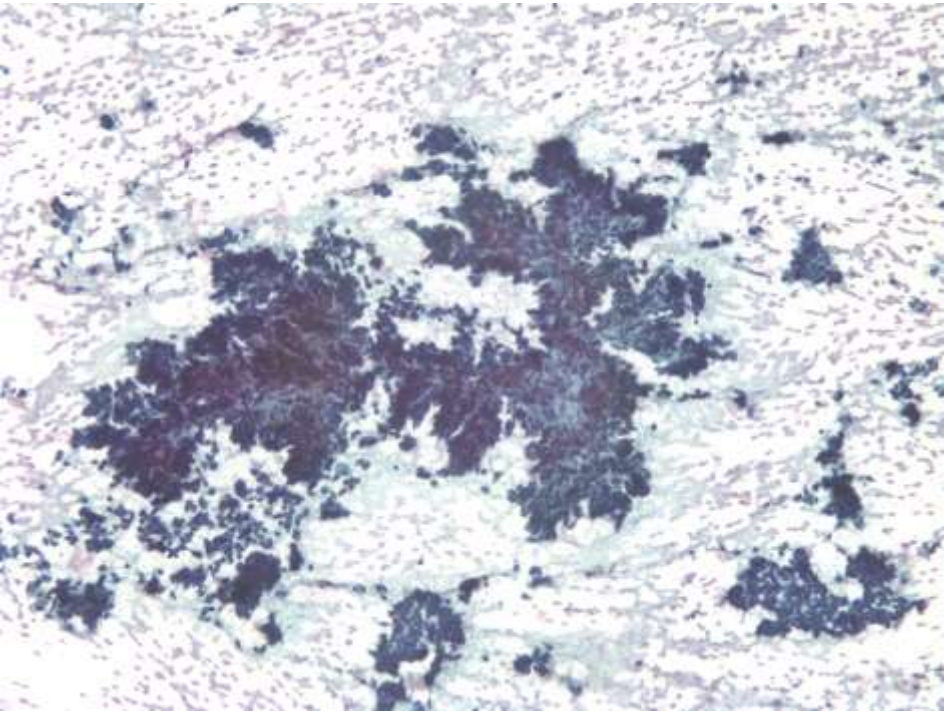


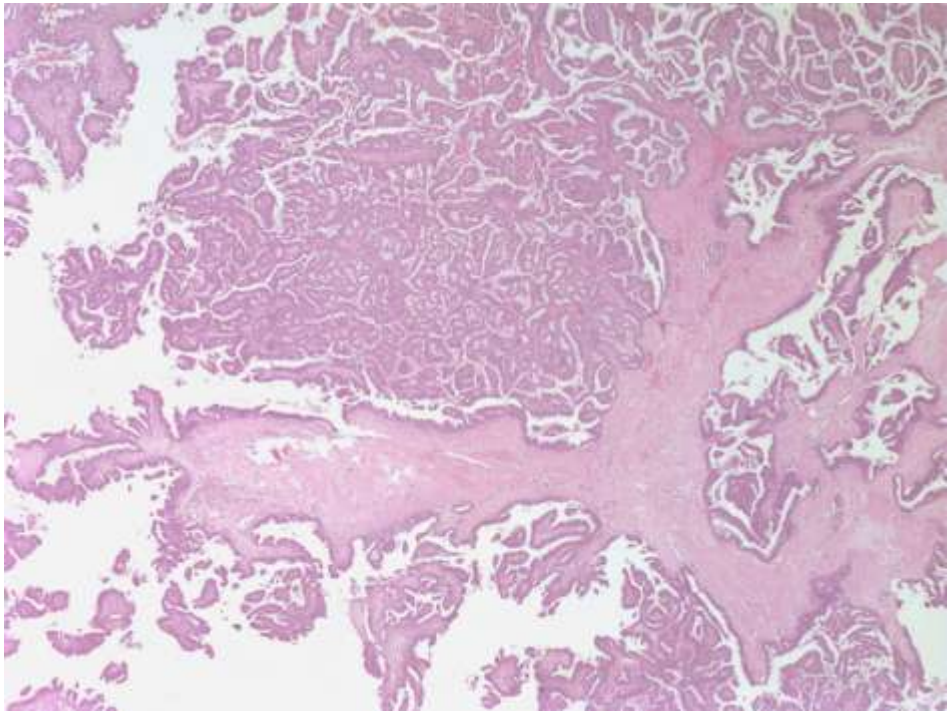
Carcinoma apocrino





Carcinoma papilar





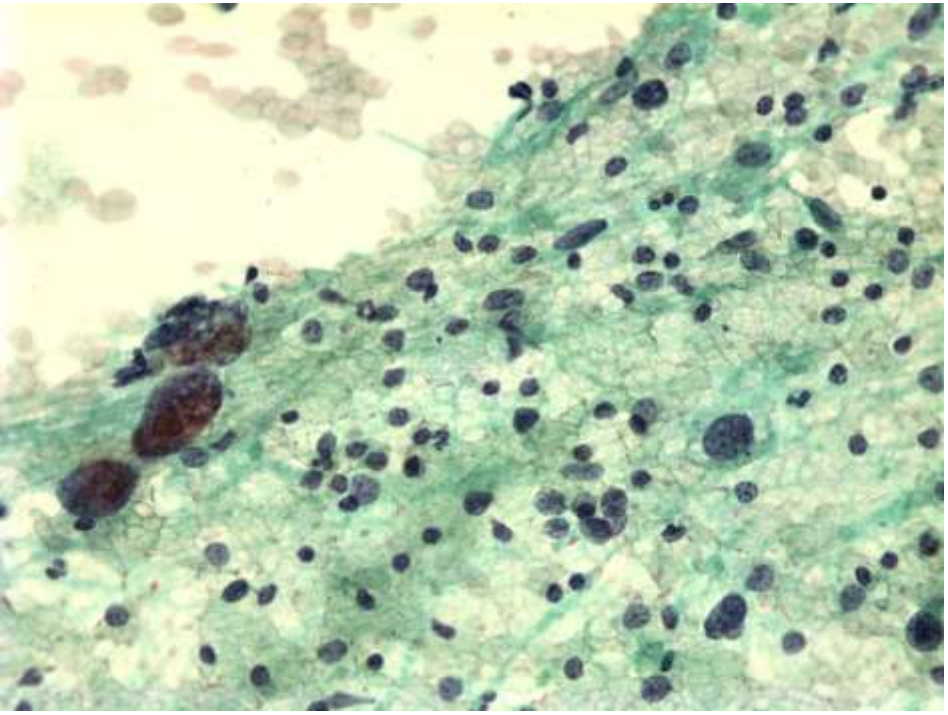
1) Microinvasive carcinoma
2) Invasive ductal carcinoma, not otherwise specified (NOS)
3) Invasive lobular carcinoma
4) Tubular carcinoma
5) Invasive cribriform carcinoma
6) Medullary carcinoma
7) Mucinous carcinomas and other tumors with abundant mucin
8) Neuroendocrine tumors
9) Invasive papillary carcinoma
10) Invasive micropapillary carcinoma
11) Apocrine carcinoma
12) Metaplastic carcinomas
13) Lipid-rich carcinoma
14) Secretory carcinoma
15) Oncocytic carcinoma
16) Adenoid cystic carcinoma
17) Acinic cell carcinoma
18) Glycogen-rich clear cell carcinoma
19) Sebaceous carcinoma
20) Inflammatory carcinoma: defined clinically as an enlarged erythematous breast. Clinical features of inflammatory carcinoma must be present in order to classify a carcinoma as T4d.

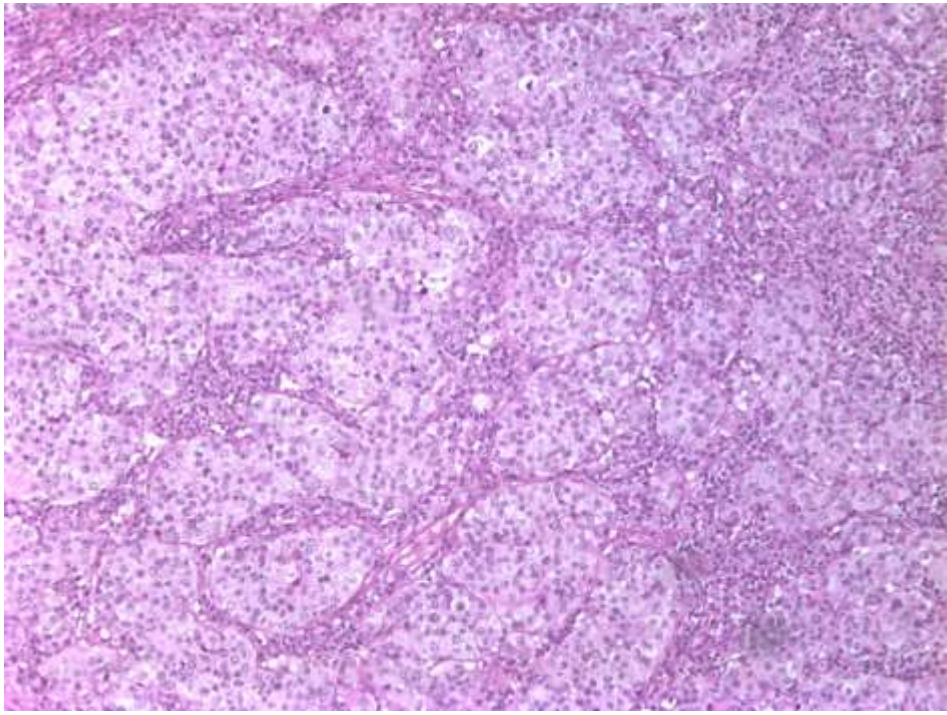
Gene expression patterns of breast carcinomas distinguish tumor subclasses with clinical implications

Therese Sørlie[a,b,c], Charles M. Perou[a,d], Robert Tibshirani[e], Turid Aas[f], Stephanie Geisler[g], Hilde Johnsen[b], Trevor Hastie[e], Michael B. Eisen[h], Matt van de Rijn[i], Stefanie S. Jeffrey[j], Thor Thorsen[k], Hanne Quist[l], John C. Matese[c], Patrick O. Brown[m], David Botstein[c], Per Eystein Lønning[g], and Anne-Lise Børresen-Dale[b,n]

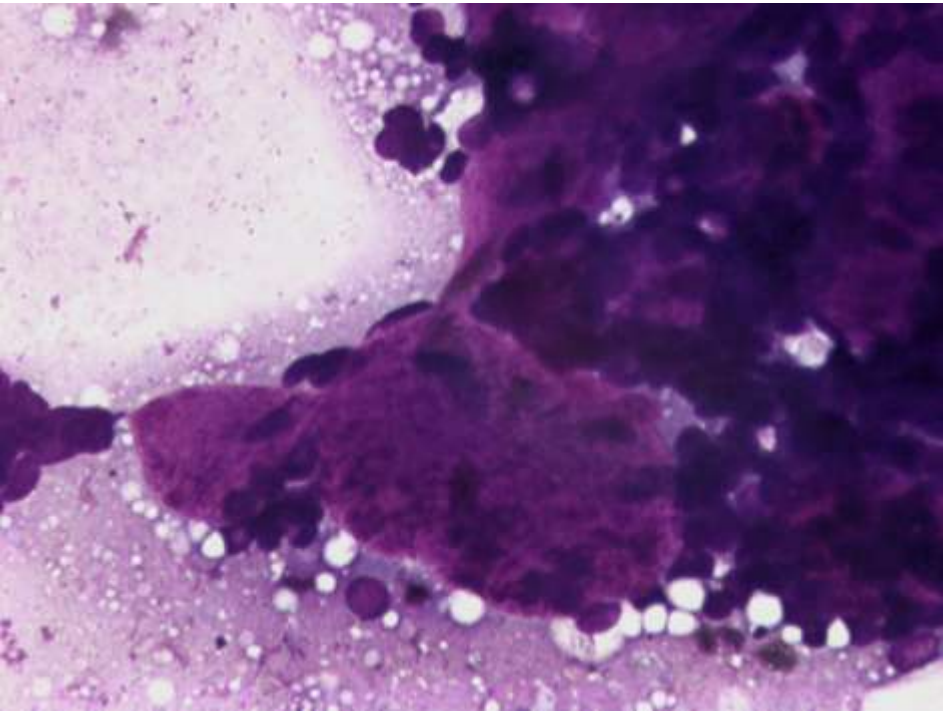
A. Grupo de carcinomas RE+:
    1. Luminal A
    2. Luminal B
B. Grupo de carcinomas RE-:
    1. Normal-like
    2. HER 2+
    3. Basal

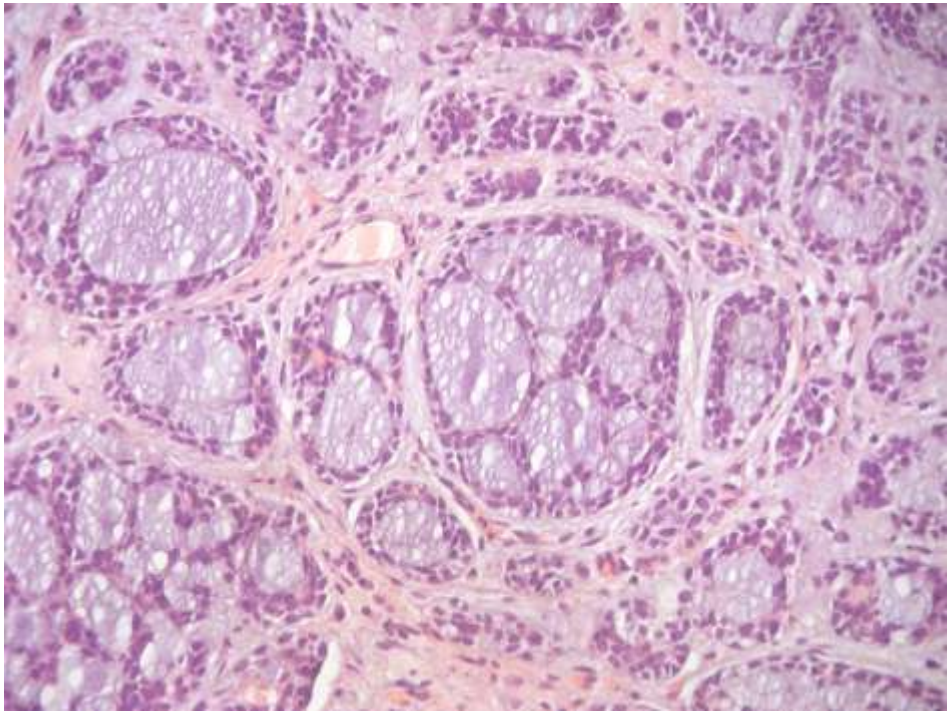
Carcinoma medular



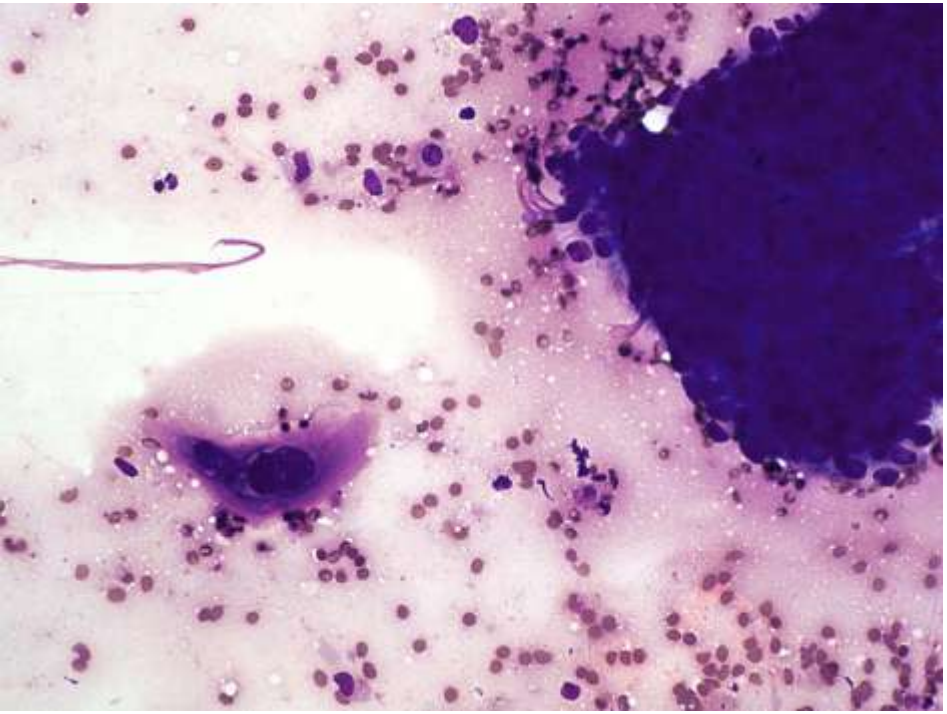


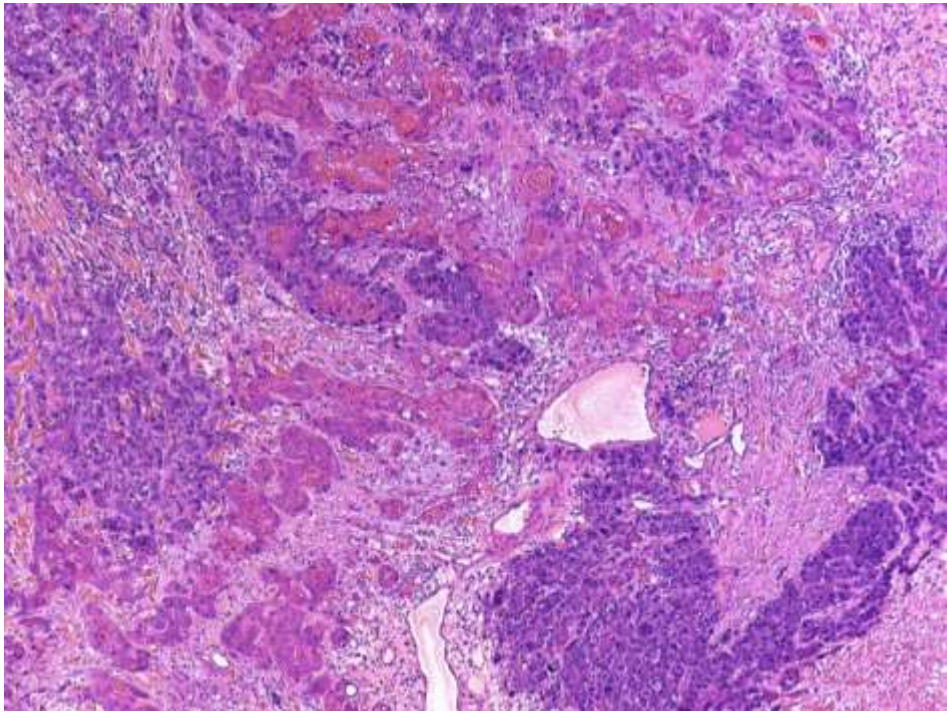
Carcinoma adenoide quístico



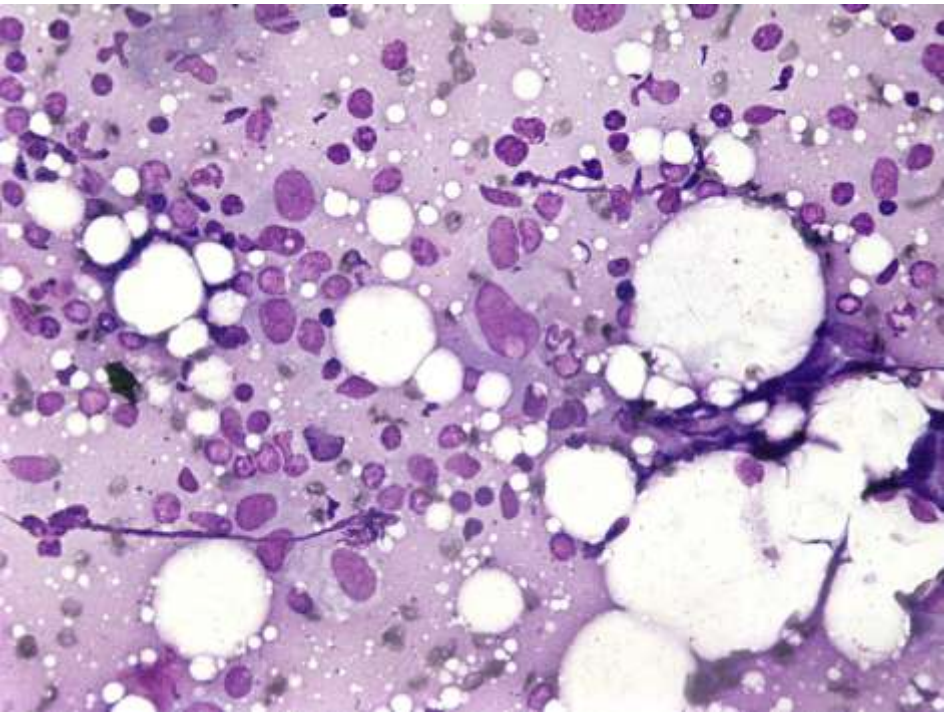


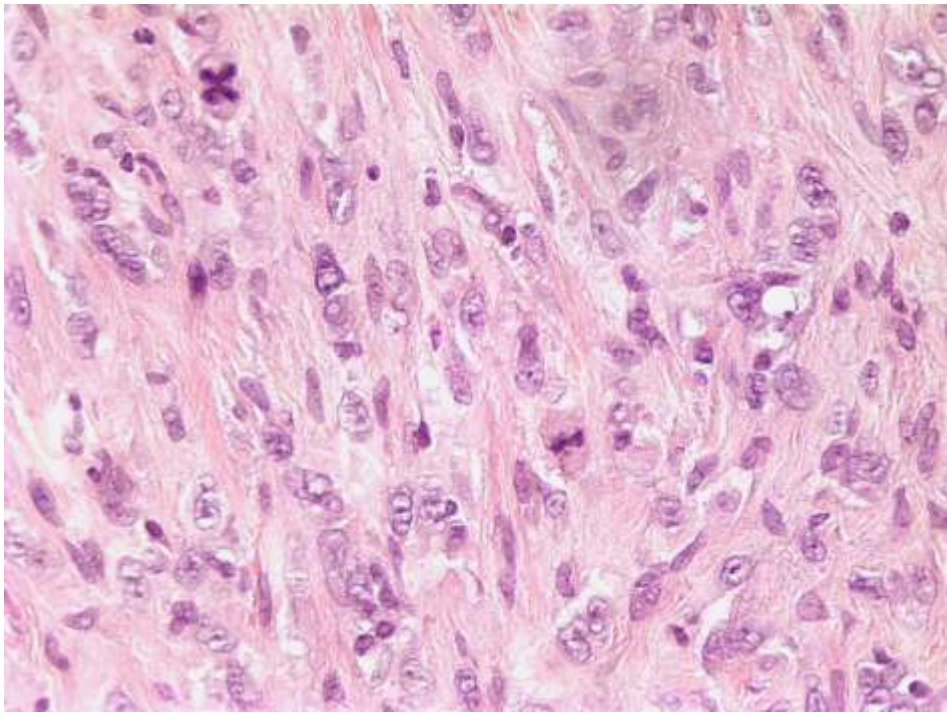
Carcinoma epidermoide



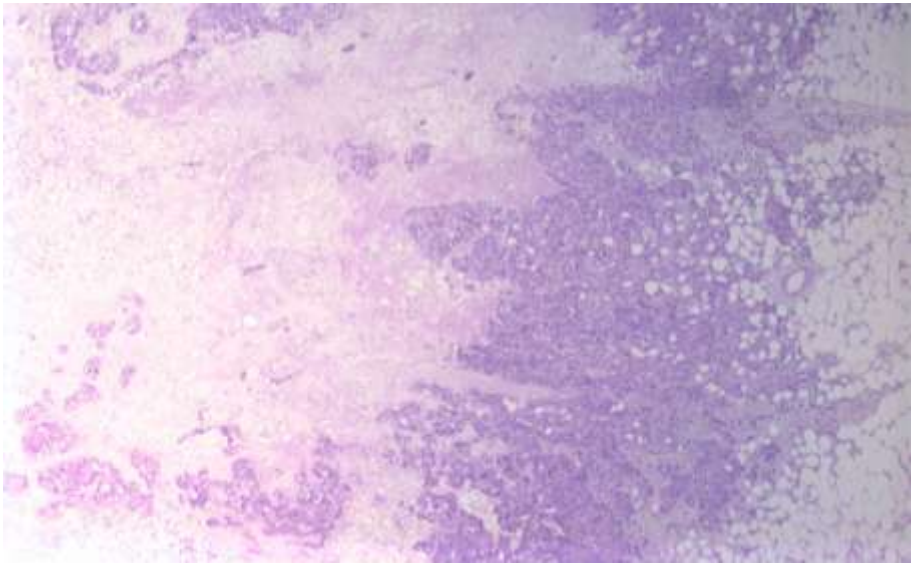


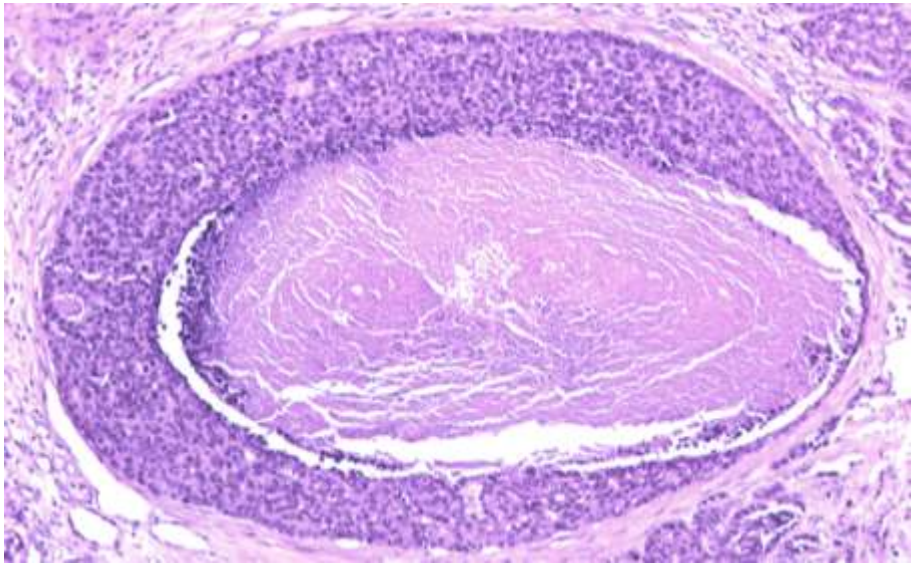
Carcinoma sarcomatoide

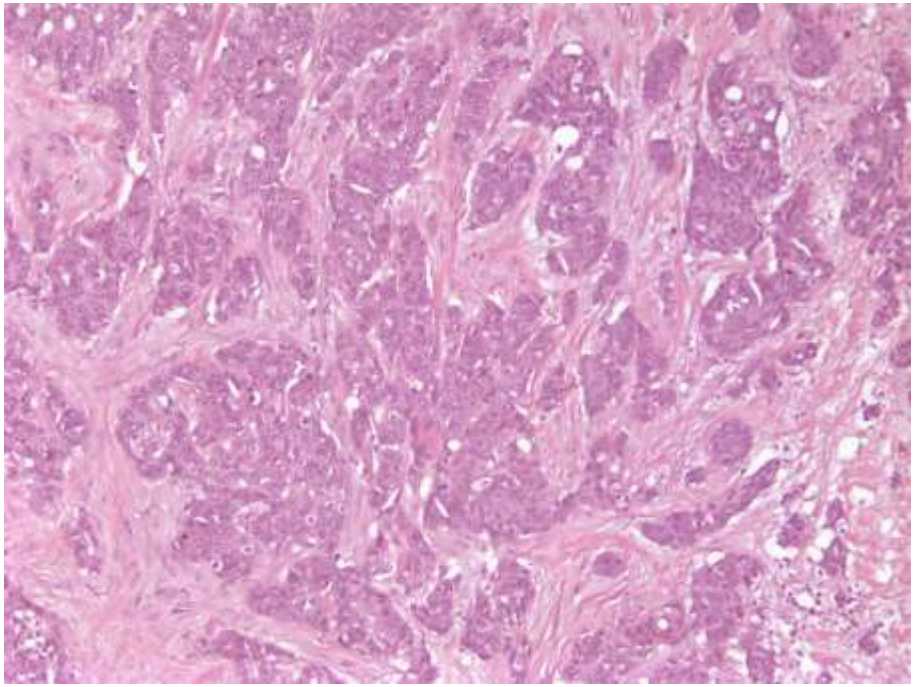


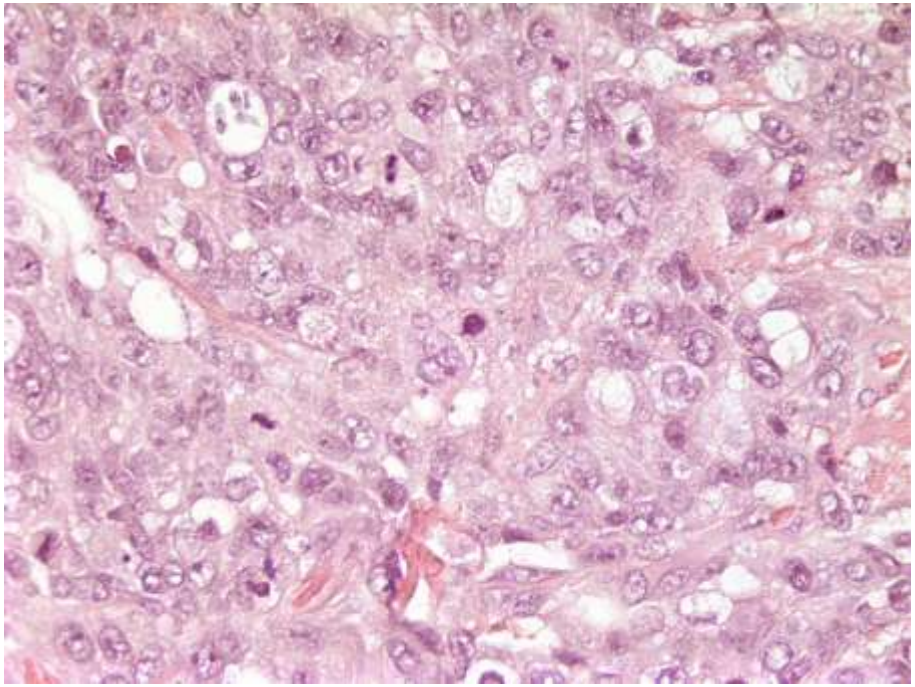


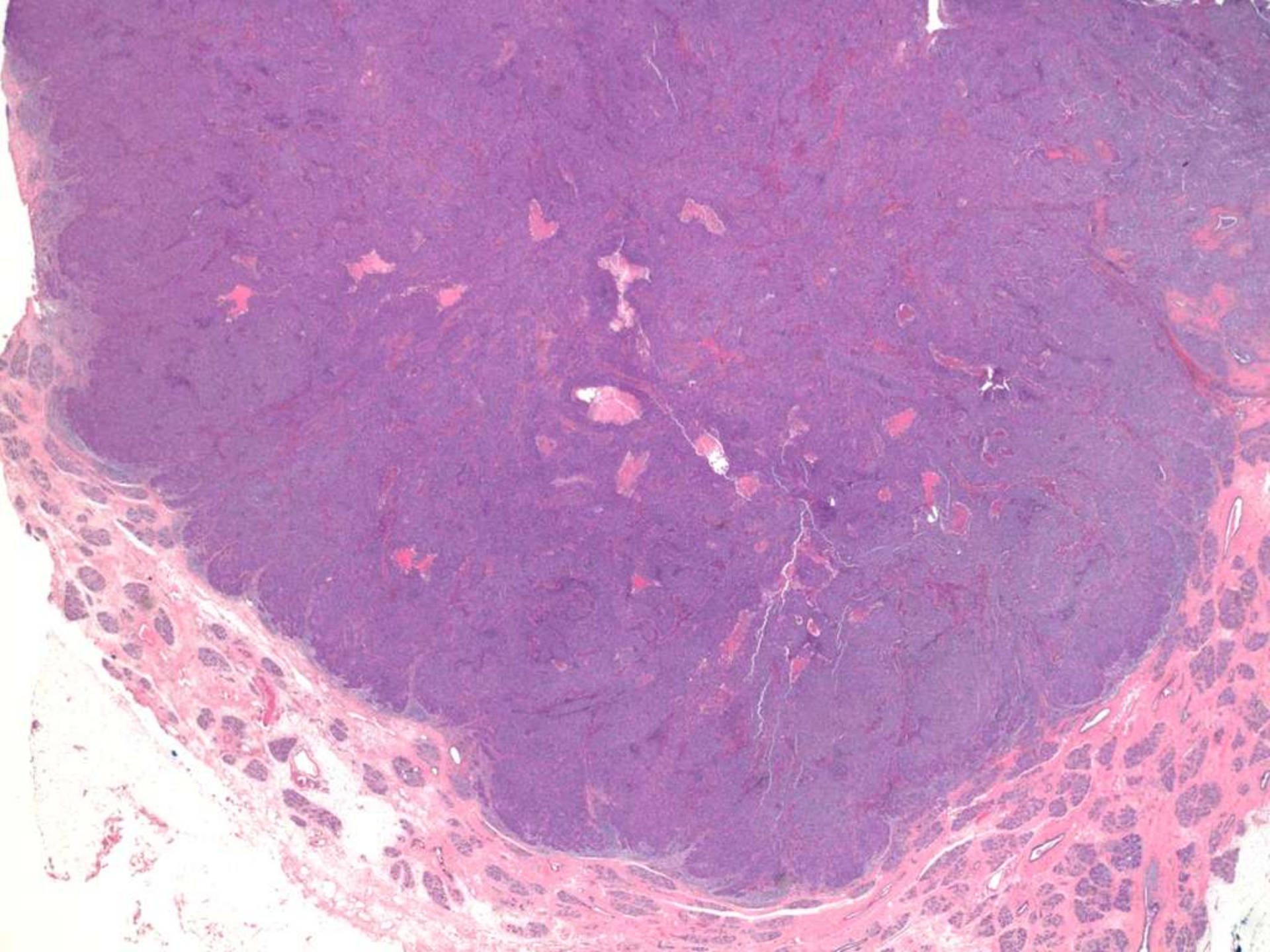
Carcinoma ductal NOS

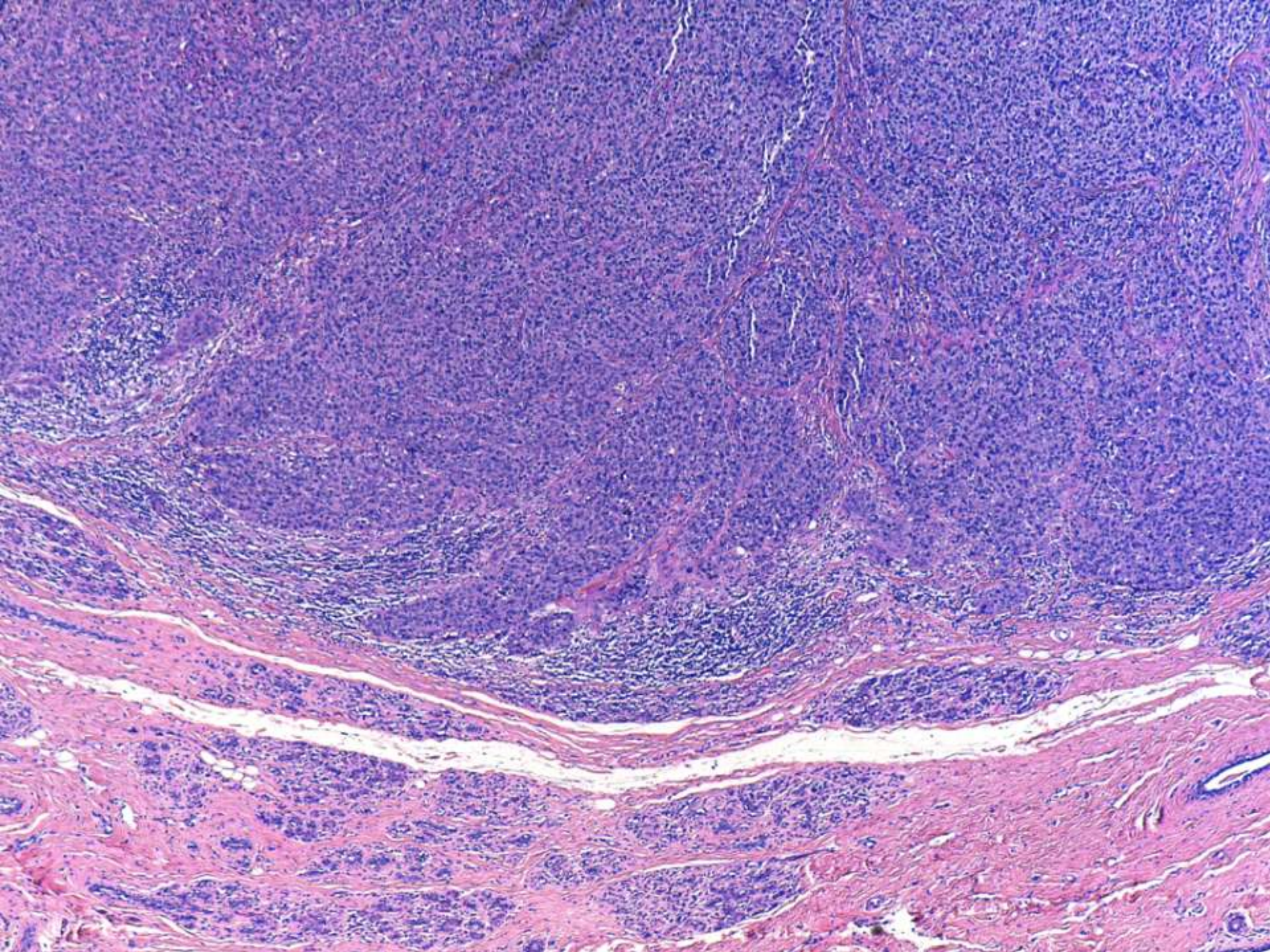


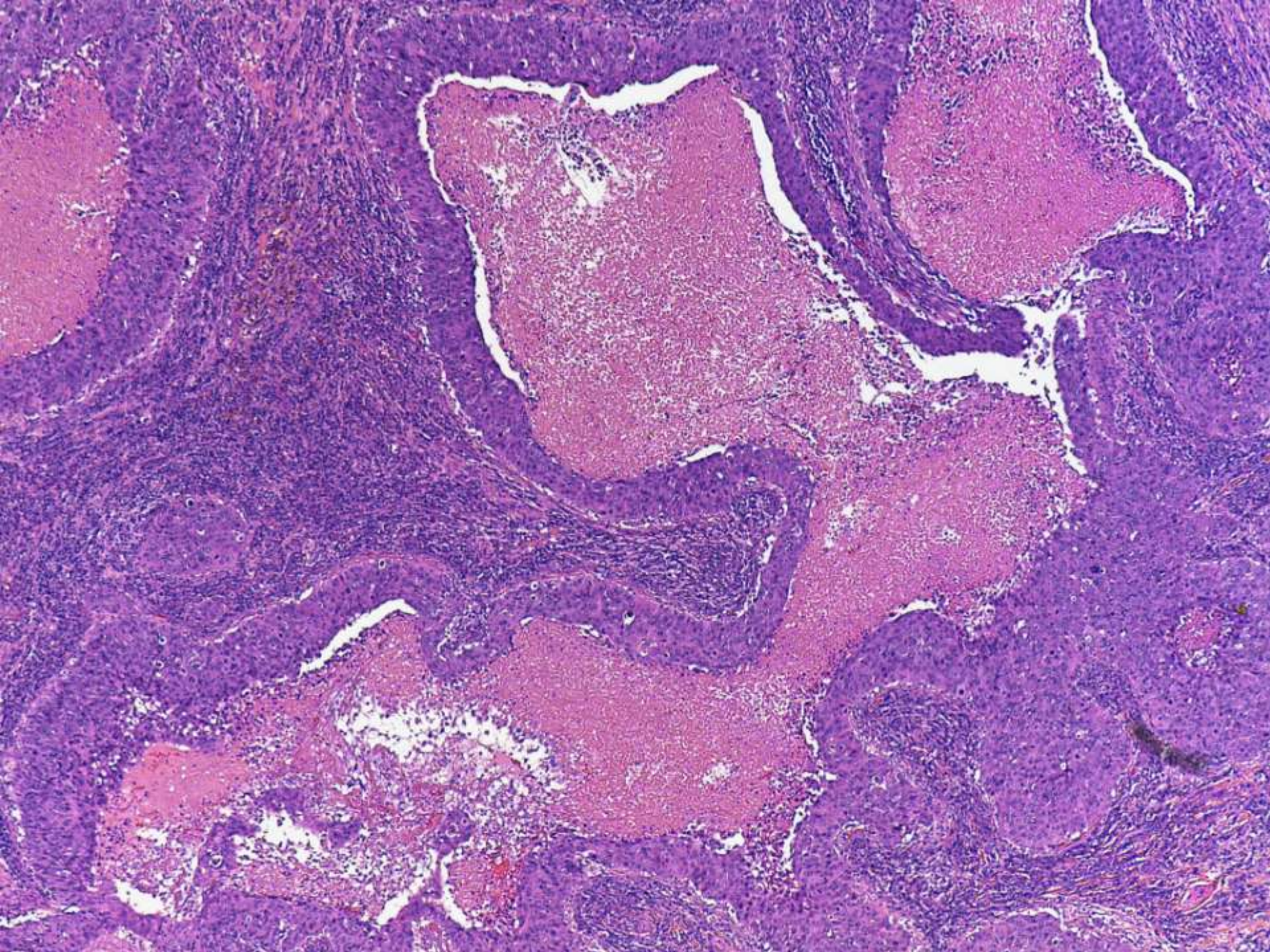


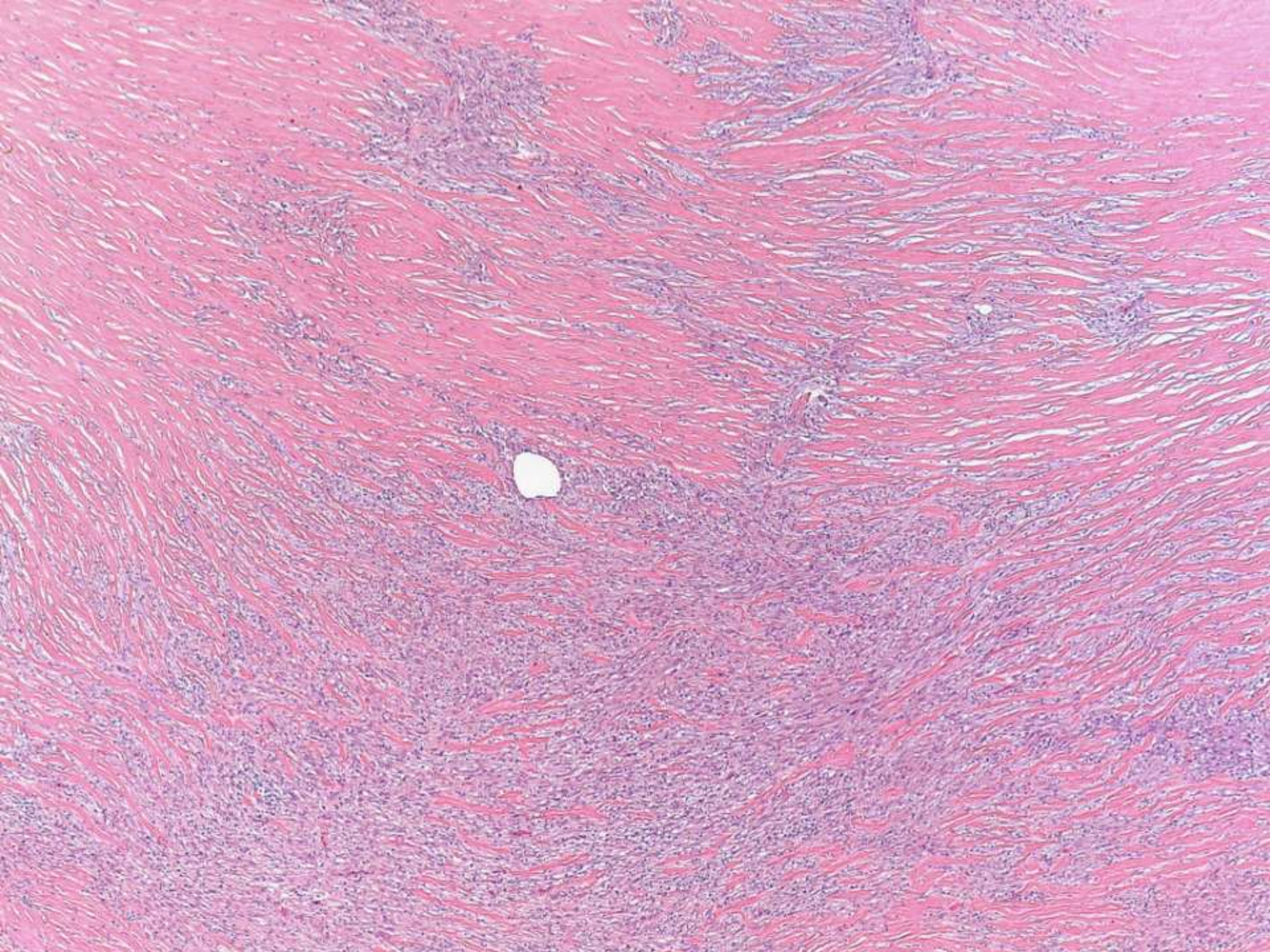


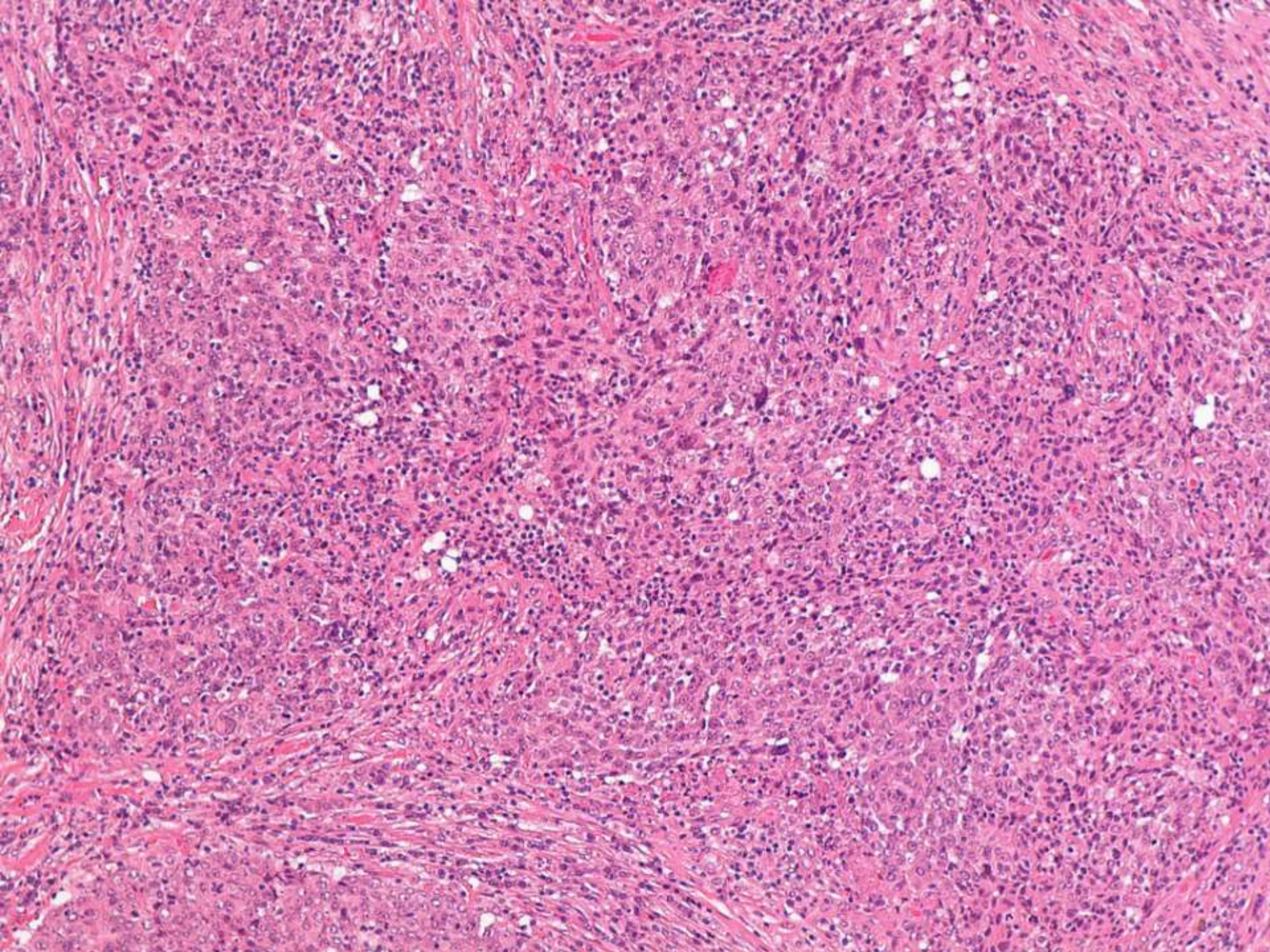


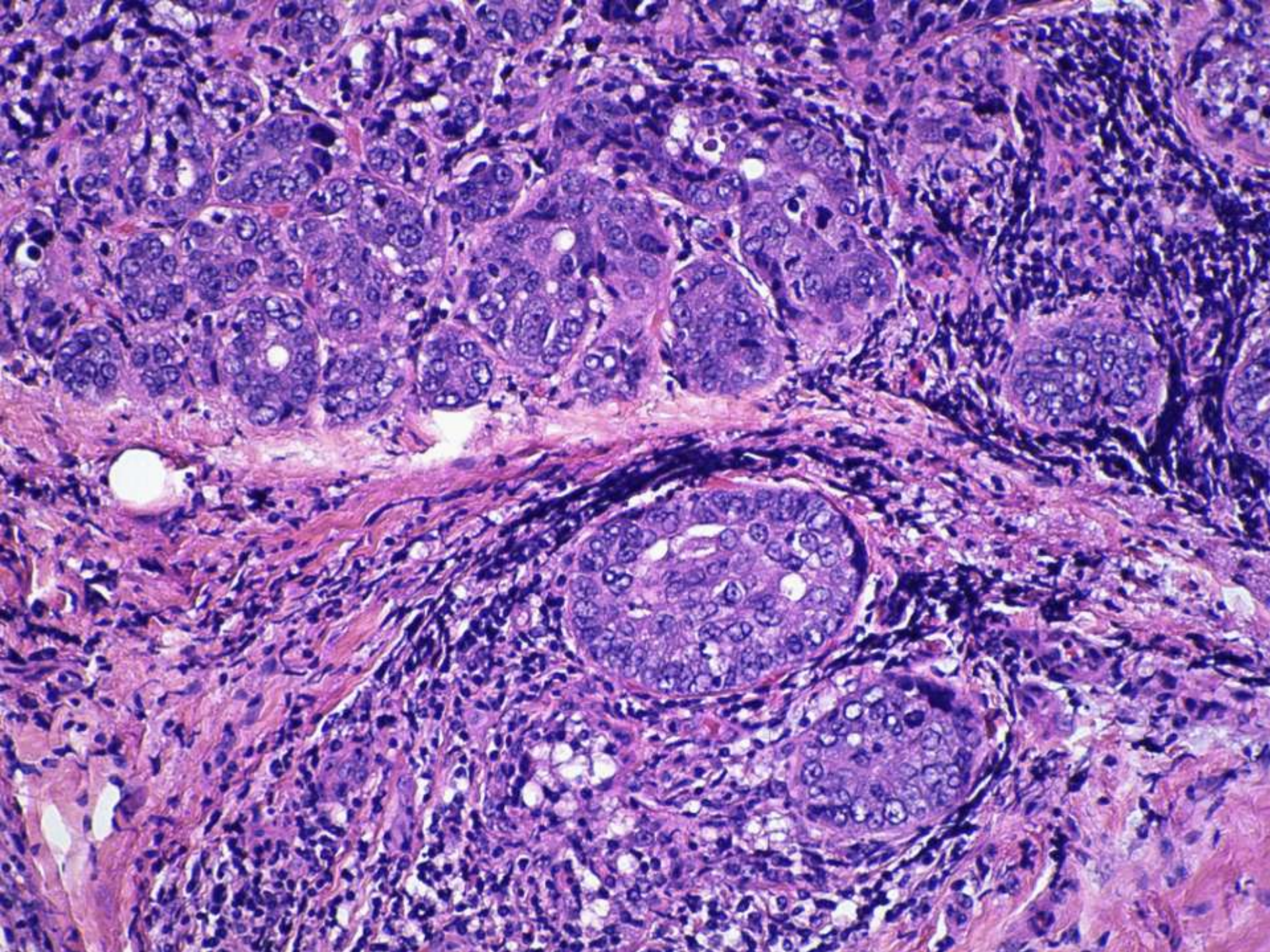


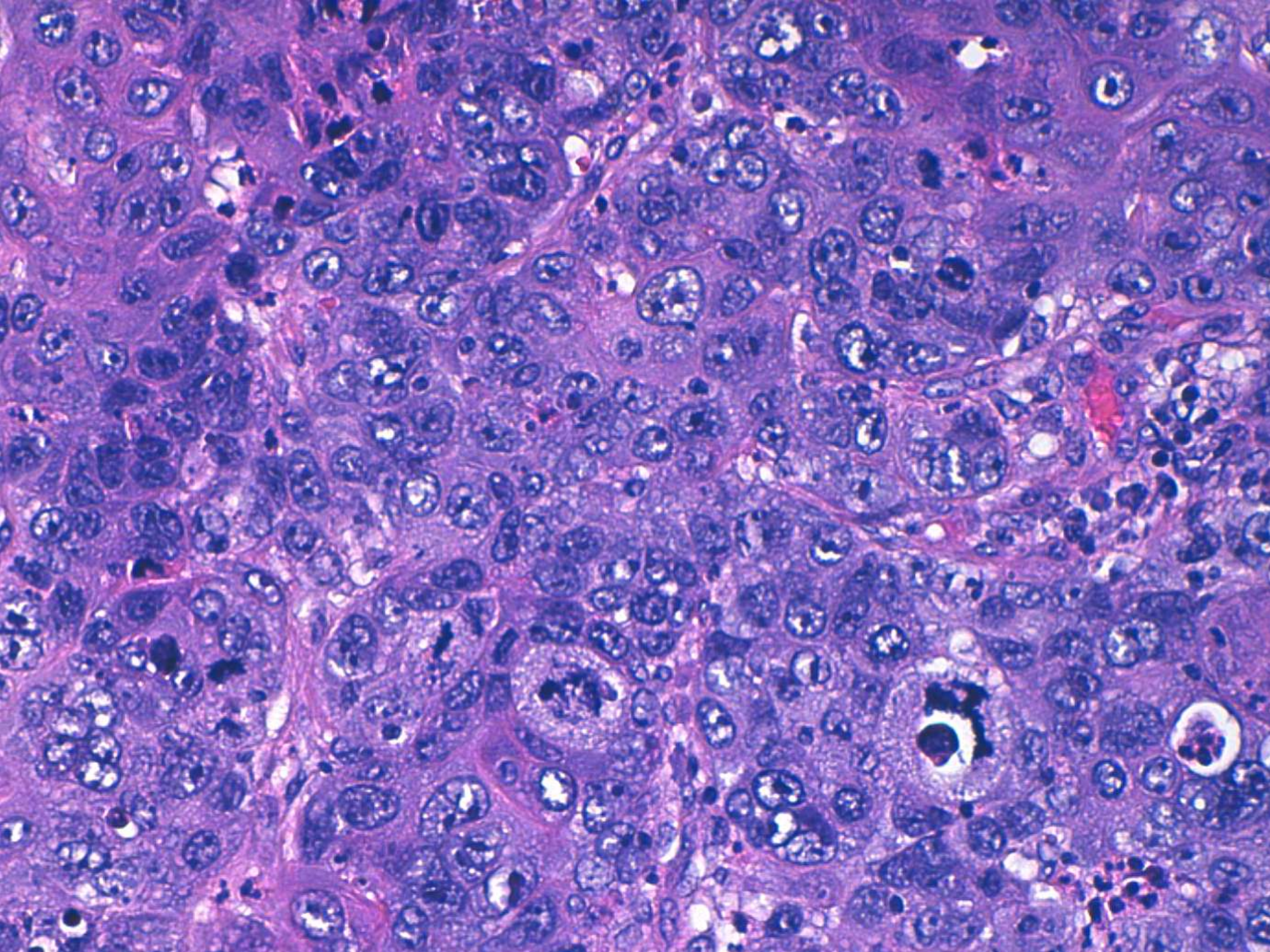




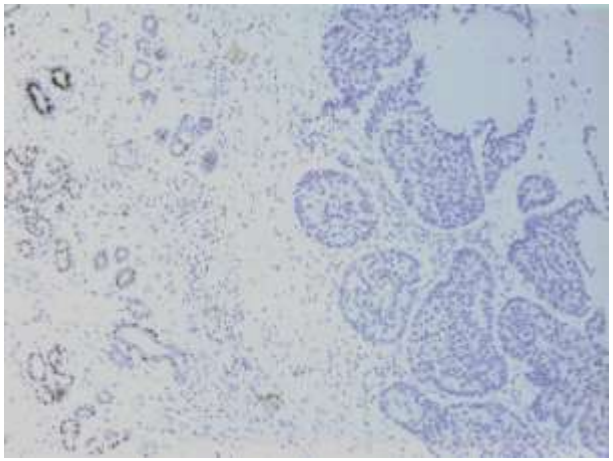
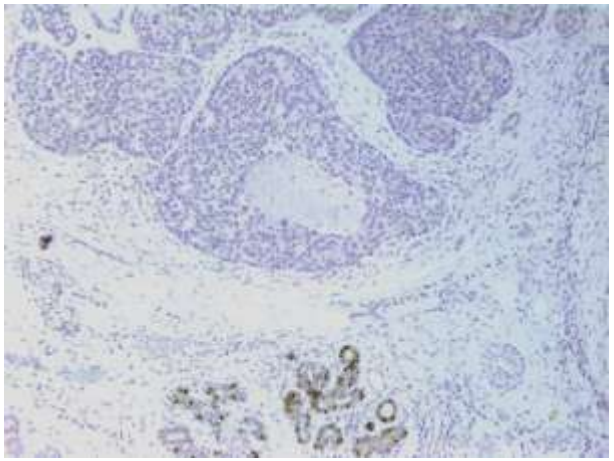
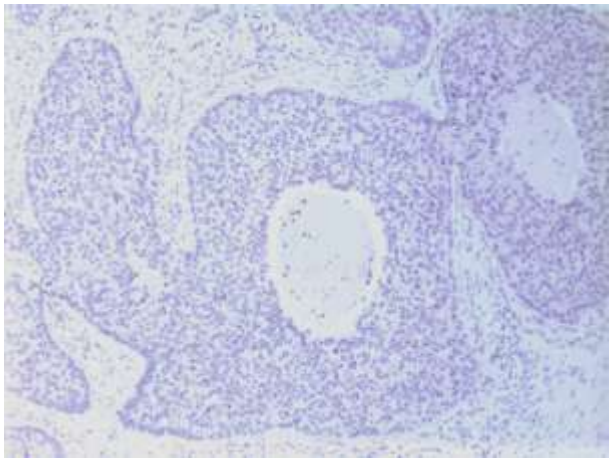
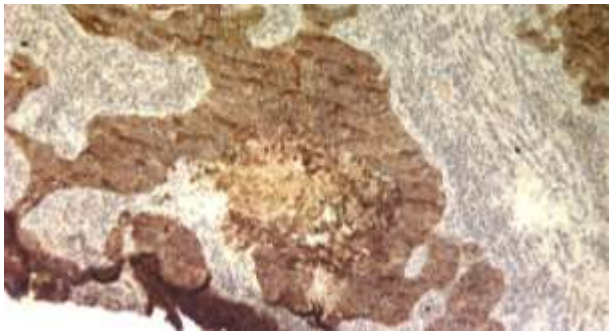
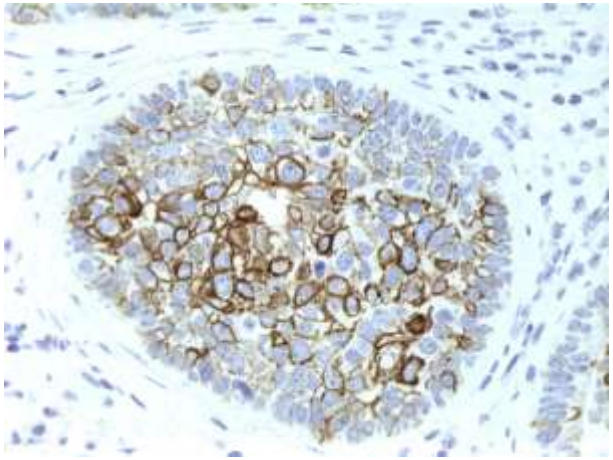
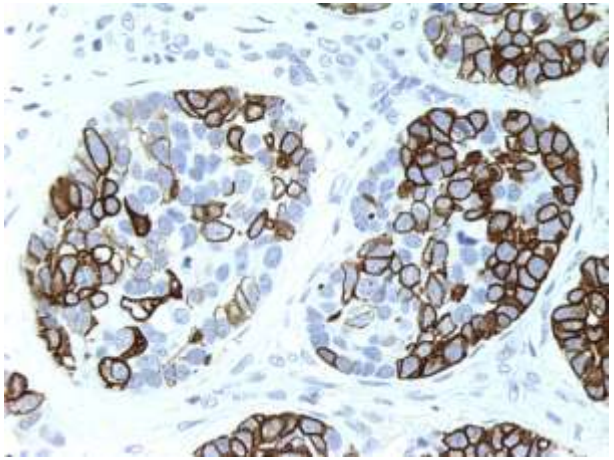
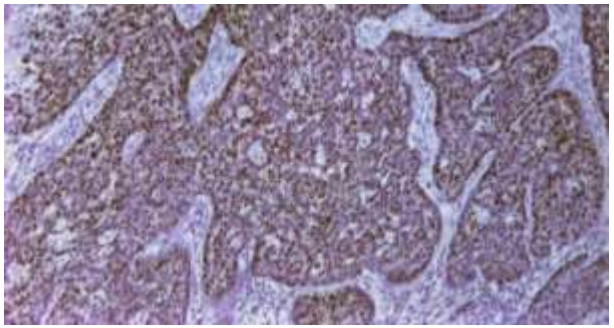








IHQ

Carcinomas de tipo basal

- Particularidades:
  - Clínicas
    - Mujeres jóvenes
    - Asociación con mutación germinal BRCA-1
    - Menor frecuencia de mtx axilar
    - Mayor frecuencia de mtx SNC y pulmón
  - Pronósticas
    - Grupo de peor pronóstico después de HER-2
    - Baja supervivencia global y supervivencia libre de enfermedad
  - Terapeúticas
    - Sensibilidad a Qttº neoadyuvante antracicilinas
    - anti-EGFR
  - Genéticas
  - Histológicas
  - IHQ
  - ¿Citológicas?

Cytological Criteria to Predict Basal Phenotype of Breast Carcinomas

Rozany Mucha Dufloth, M.D., Ph.D.,[1] Jacy Maria Alves, M.S.,[1] Diana Martins, B.Sc.,[2] Daniella Serafin Couto Vieira, M.D., M.Sc.,[1] Horácio Chikota, M.D.,[3] Luiz Carlos Zeferino, M.D., Ph.D.,[4] and Fernando Schmitt, M.D., Ph.D., F.I.A.C.[2,5]*

Breast carcinoma is a heterogeneous disease. It can be classified into phenotypes based on the expression of certain proteins, with distinct differences in prognosis. The basal phenotype is associated with worse prognosis and it still remains without specific treatment. However, there is currently no international consensus on the cytological criteria that could predict this phenotype. The purpose of the study was to evaluate the cytological criteria in fine-needle aspiration biopsy and to identify their association with the basal phenotype of breast carcinoma. Fine-needle aspiration biopsy specimens and tissue sections (mastectomy specimen) from 74 cases of high-grade invasive ductal breast carcinomas were consecutively retrieved from the files of three institutions. Breast carcinomas were studied using the tissue microarray technique, being classified into phenotypes: luminal A, luminal B, HER2 overexpression, and basal. The cytological criteria for all cases were reviewed blindly by two pathologists according to five cytological criteria: cellularity, cell pattern, presence of necrosis, nucleoli, and nuclear atypia. Exact Fisher test was used to test the association between cytological criteria and the phenotypes of breast carcinoma. Necrosis was present in 64.7% of basal breast carcinomas, and 31.1% of nonbasal breast carcinomas, and that result was statistically significant, showing an odds ratio (OR) of 3.80. The basal phenotype, compared with the luminal A, showed more necrosis (OR = 6.97), present/prominent nucleoli (OR = 8.18), and cellularity more frequently (OR = 18.08). Necrosis, as well as present/prominent nucleoli and abundant cellularity are criteria more frequently associated to the basal phenotype of breast carcinoma. Diagn. Cytopathol. 2009;37:809–814. © 2009 Wiley-Liss, Inc.

Key Words: breast cancer; fine needle aspiration cytology; basal cell cancer; cytology

Since therapeutic planning is frequently made as a preoperative multidisciplinary triple approach and fine-needle aspiration cytology (FNAC) is an integral part of this, it is important to gather as much prognostic information from the cytological specimen as possible.[1–7] This procedure has become widely accepted as a first-line diagnostic procedure for breast lesions and as a reliable diagnostic tool with both high sensitivity and specificity with minimum complications.[8–12] Emerging data demonstrate that stratification of tumors by gene-expression profiles divides breast carcinoma into a mixture of at least two main types, according to hormone estrogen receptor (ER) expression. The hormone receptor-negative group has two subtypes: human epithelial receptor 2 (HER2) overexpressing and basal-like. The hormone receptor-positive group has two subtypes: luminal A and luminal B.[13–15] Basal breast carcinomas represent one of the most intriguing subtypes because there is no efficient therapy against these lesions, which are often associated with poor prognosis.[16–18]

Basal breast carcinomas are thought to arise from the basal epithelial layer of the breast duct. This subgroup has morphology characteristics consisting of a high proliferate rate, central necrosis, and pushing border.[6,17,19]

FNAC offers a suitable alternative to biopsy in a variety of clinical settings, in which it may be useful to obtain material to study diagnostic, prognostic, and predictive markers. The progress of "specific" therapies based on antibody response will certainly obligate the cytologists to actively participate in the decision-making for therapeutic options for patients.[7,20]

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PONENCIAS

Nº **1954.**

Características citológicas de los carcinomas de mama de fenotipo basal

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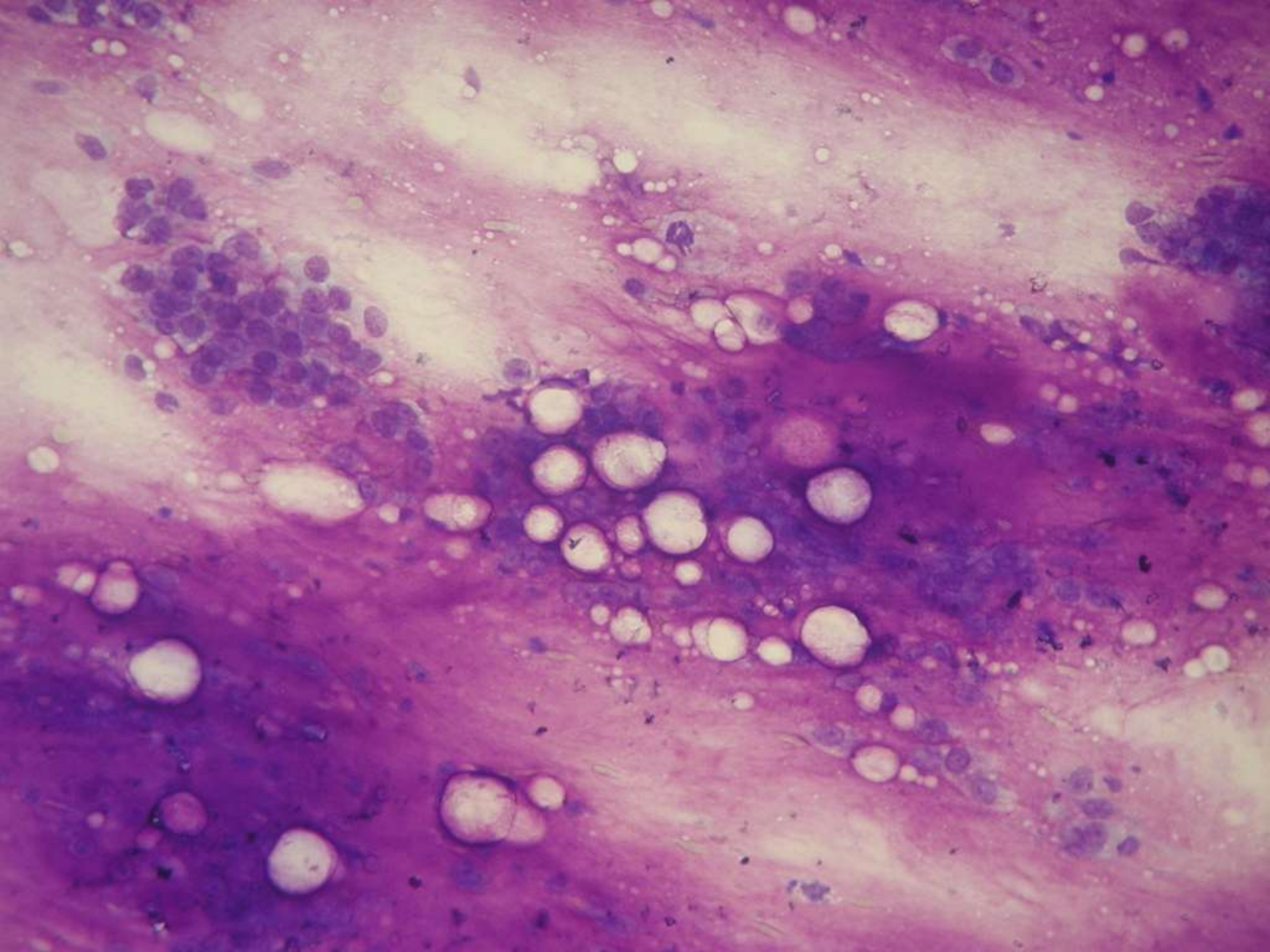
Introducción: La clasificación molecular del cáncer de mama reconoce el grupo de los carcinomas de tipo basal, constituido por neoplasias morfológicamente heterogéneas, de curso clínico agresivo y en las que con técnicas inmunohistoquímicas no se demuestra expresión de receptores hormonales ni c-erbB2 (carcinomas triple negativos). Las características histológicas, fenotípicas y genéticas de estos tumores ha sido objeto de publicación en diversos artículos. Sin embargo el cuadro citológico está escasamente documentado.

Objetivo: El objetivo del estudio es describir el cuadro citológico de los carcinomas de mama de fenotipo basal y buscar criterios objetivos que permitan al patólogo su sospecha a partir del material obtenido por PAAF o en extendidos citológicos realizados sobre la superficie del tumor.

Material y métodos: Se procede a revisar los carcinomas de mama diagnosticados en el servicio de Anatomía Patológica del hospital El Escorial durante los años 1998 a 2009, seleccionando los carcinomas triple negativos, a los que se realiza como marcadores adicionales CK5, CK5,6 y CK14. En total 13 casos corresponden a tumores triple negativos, con expresión de alguna CK basal y con material citológico disponible. Las citologías de estos 13 carcinomas se mezclan al azar con 15 citologías correspondientes a carcinomas ductales de alto grado. En total 28 citologías son evaluadas a ciegas y de manera independiente por 3 patólogos, atendiendo a las siguientes variables: diagnóstico citológico, grado citológico, patrón descamativo, fondo necrótico, histiocitos espumosos, cambios metaplásicos, descamación en grupos celulares grandes y presencia de núcleos desnudos. En los casos discordantes se llega a una decisión consensuada.

Resultados: En función de las variables reseñadas, se catalogaron adecudamente 10/13 carcinomas de fenotipo basal y 13/15 carcinomas ductales.



Histopathology 2006, **49**, 10–21. DOI: 10.1111/j.1365-2559.2006.02467.x

Metaplastic breast carcinomas are basal-like tumours

J S Reis-Filho,[1,2] F Milanezi,[2,3] D Steele,[1] K Savage,[1] P T Simpson,[4] J M Nesland,[5] E M Pereira,[6] S R Lakhani[4] & F C Schmitt[3,7]

[1]*The Breakthrough Toby Robins Breast Cancer Research Centre, Institute of Cancer Research, London, UK,* [2]*Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho, Braga and* [3]*IPATIMUP—Institute of Molecular Pathology and Immunology, University of Porto, Porto, Portugal,* [4]*Molecular & Cellular Pathology, Mayne Medical School, University of Queensland, Queensland Institute of Medical Research and Royal Brisbane and Women's Hospital, Brisbane, Australia,* [5]*The Norwegian Radium Hospital, University of Oslo, Montebello, Norway,* [6]*Laboratório Salomão & Zoppi, São Paulo, Brazil, and* [7]*Porto Medical Faculty, University of Porto, Porto, Portugal*

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Reis-Filho J S, Milanezi F, Steele D, Savage K, Simpson P T, Nesland J M, Pereira E M, Lakhani S R & Schmitt F C (2006) *Histopathology* **49**, 10–21

Metaplastic breast carcinomas are basal-like tumours

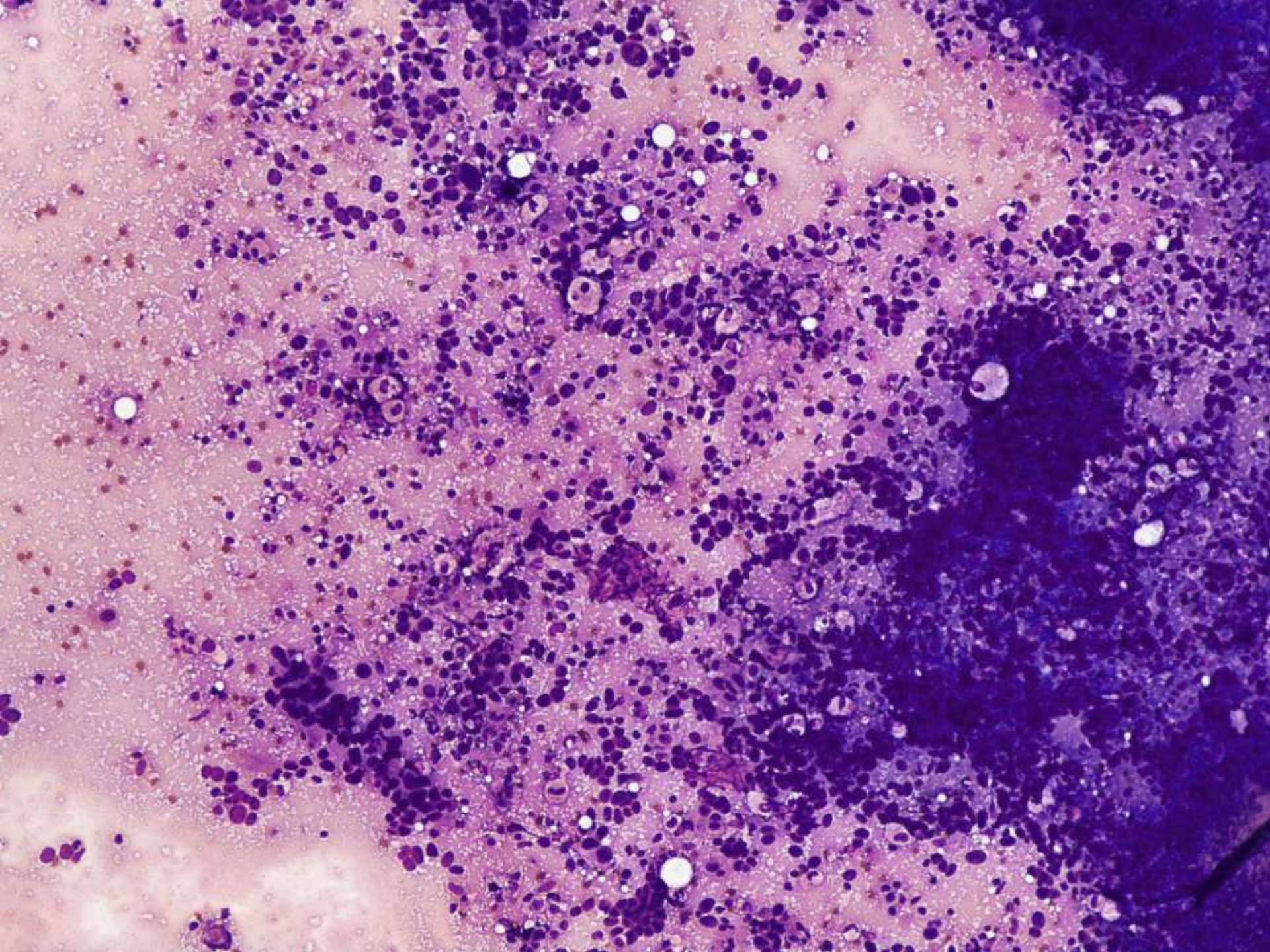
Aims: Recently, an immunohistochemical panel comprising antibodies against HER2, oestrogen receptor (ER), epidermal growth factor receptor (EGFR) and cytokeratin (CK) 5/6 was reported to identify basal-like breast carcinomas, as defined by cDNA microarrays. Our aim was to analyse a series of metaplastic breast carcinomas (MBCs) using this panel plus two other basal markers (CK14 and p63) and progesterone receptor (PR), to define how frequently MBCs show a basal-like immunophenotype.

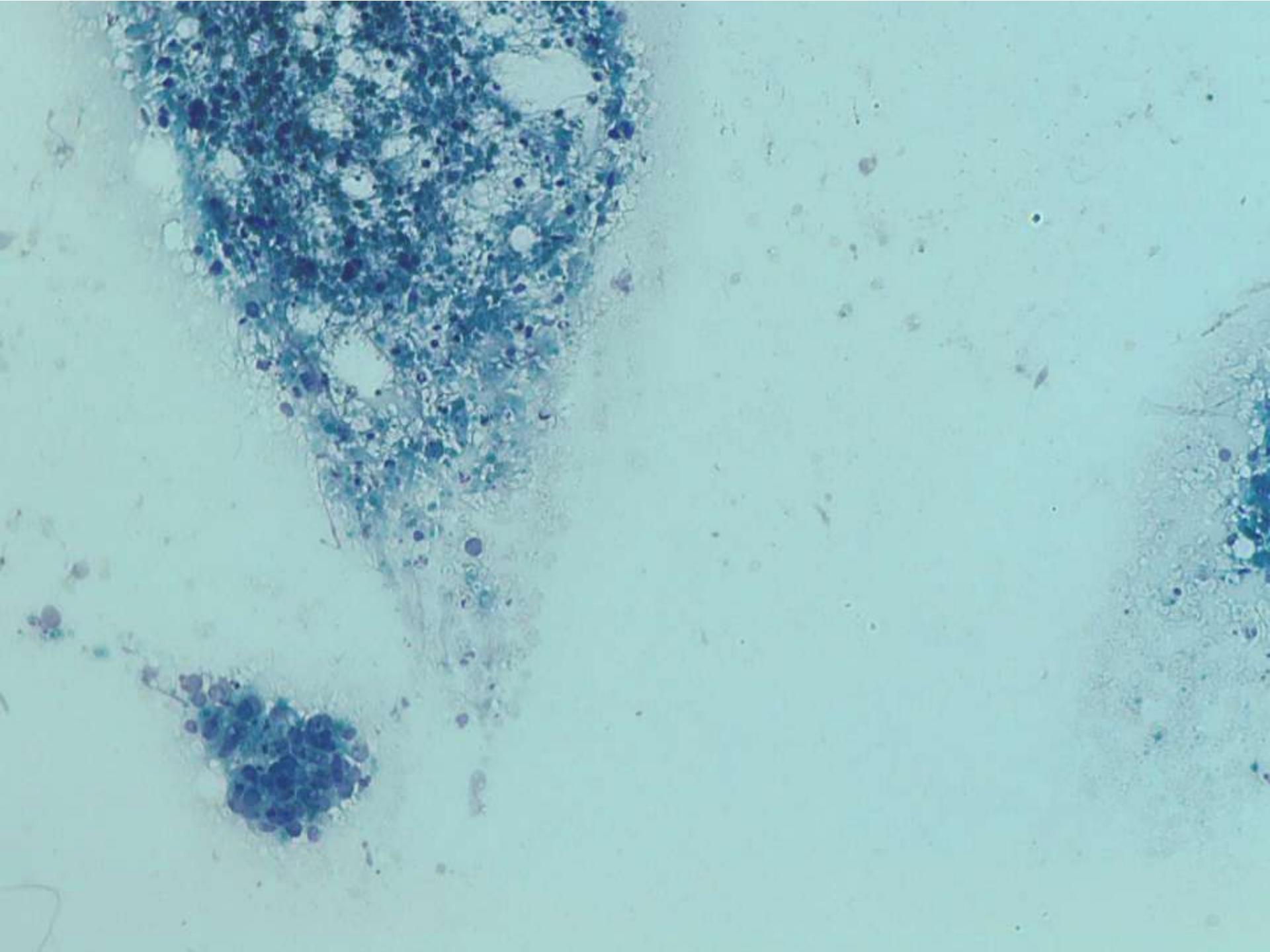
Methods and results: Sixty-five cases were retrieved from the pathology archives of the authors' institutions and reviewed by three of the authors. Immunohistochemistry with antibodies for HER2, ER, EGFR, CK5/6, CK14 and p63 was performed according to standard methods. All but six cases (91%) showed the typical immunoprofile of basal-like tumours (ER– and HER2–, EGFR+ and/or CK5/6+). When CK14 and p63 were added to the panel, two additional cases could be classified as basal-like. The majority of MBCs lacked PR, except 4/19 (21%) carcinomas with squamous metaplasia.

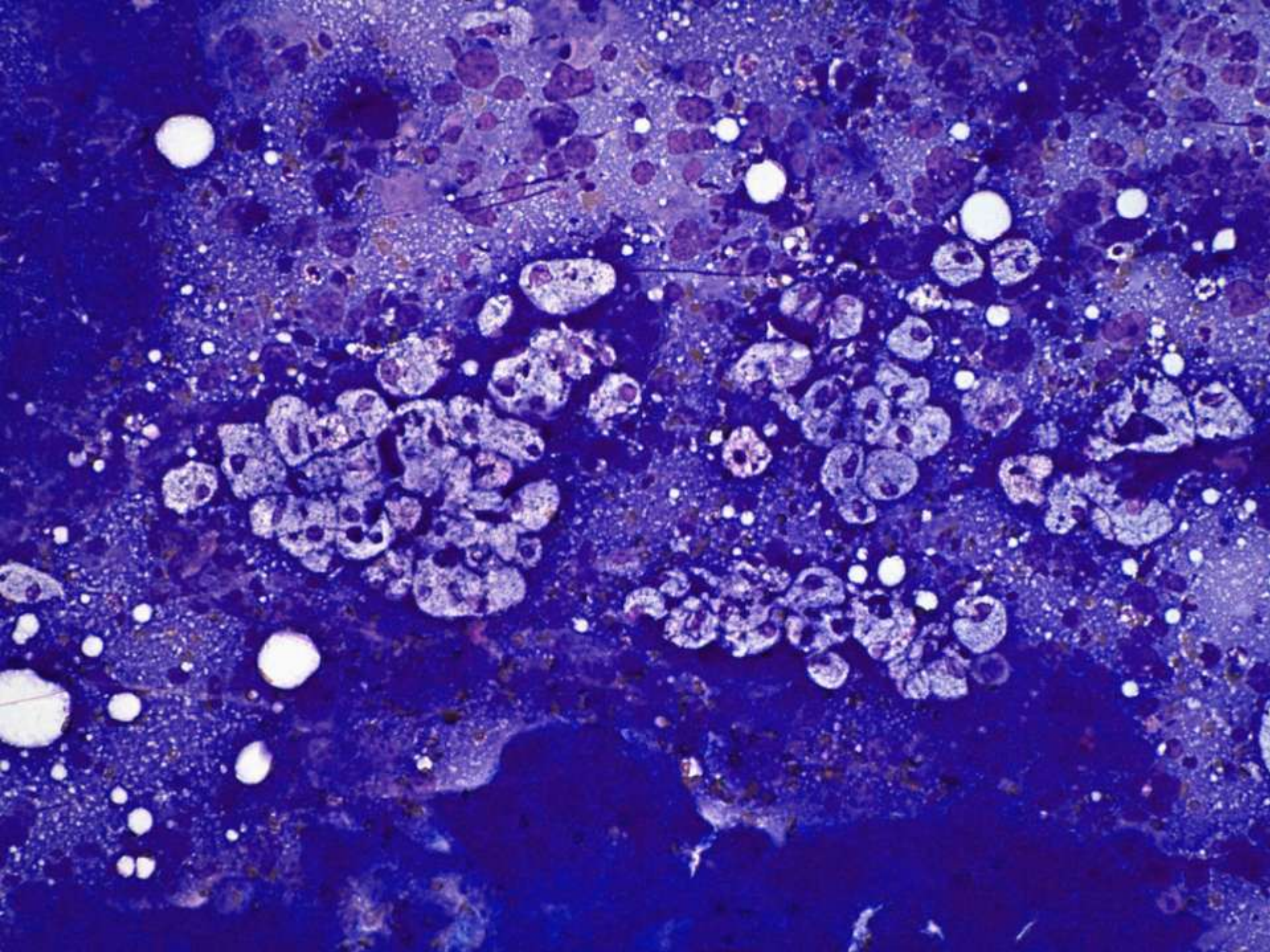
Conclusions: Our results demonstrate that MBCs show a basal-like phenotype, regardless of the type of metaplastic elements. Moreover, as these neoplasms frequently overexpress EGFR (57%), patients with MBC may benefit from treatment with anti-EGFR drugs.

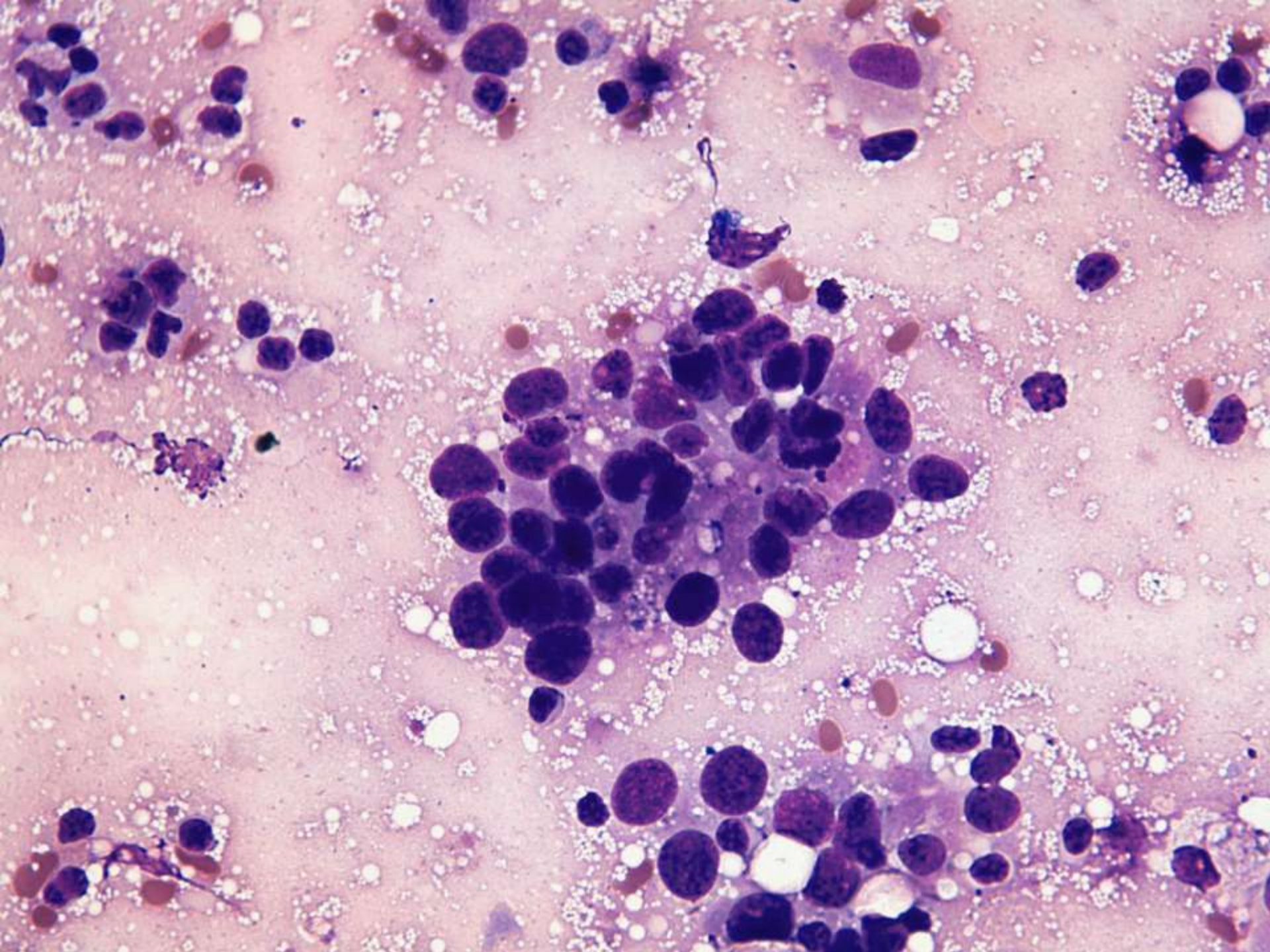
Keywords: carcinosarcoma, epidermal growth factor receptor (HER1), immunohistochemistry, myoepithelial, sarcomatoid carcinoma

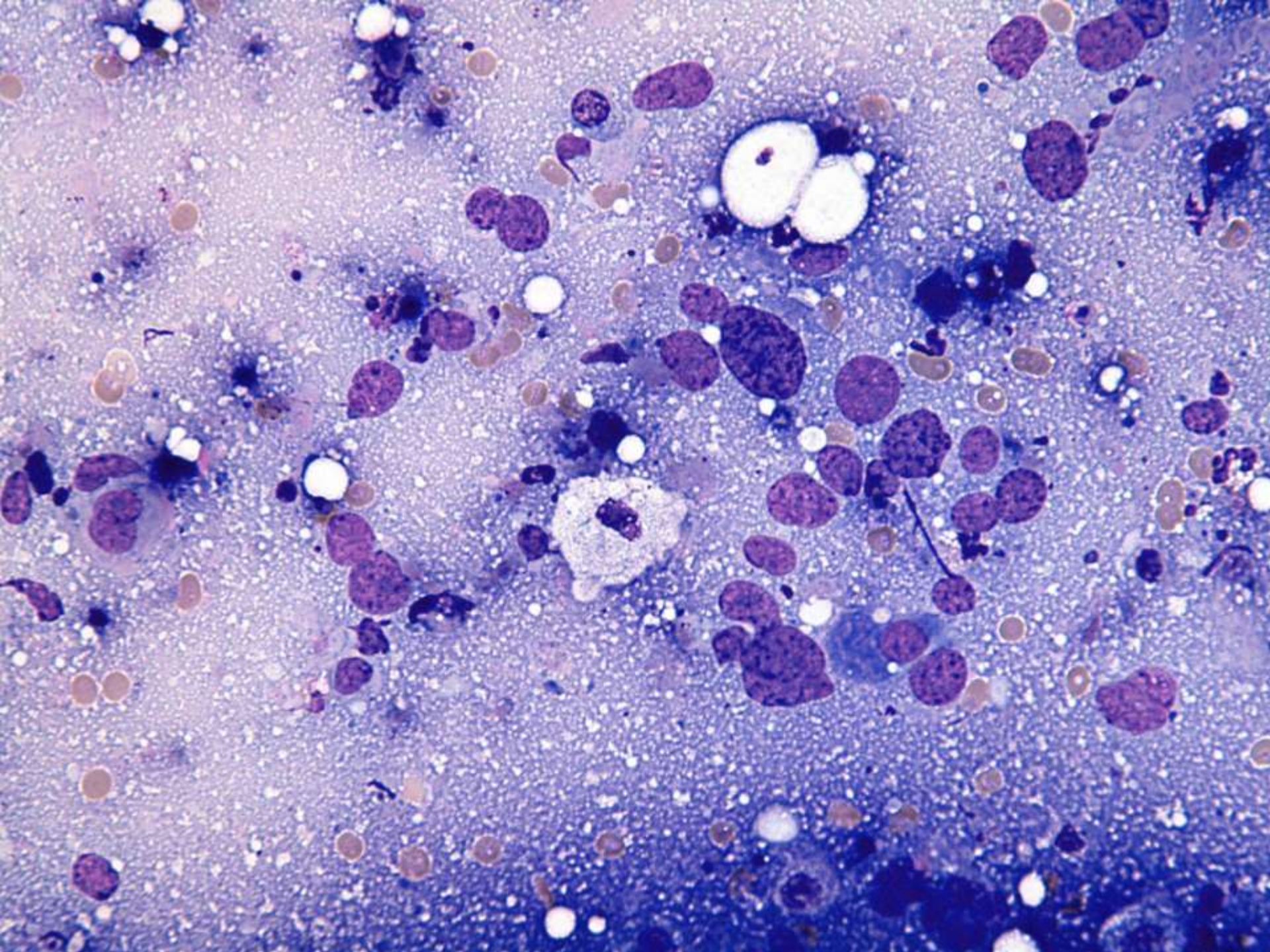
Abbreviations: CK, cytokeratin; EGFR, epidermal growth factor receptor; ER, oestrogen receptor; MBC, metaplastic breast carcinoma; PR, progesterone receptor

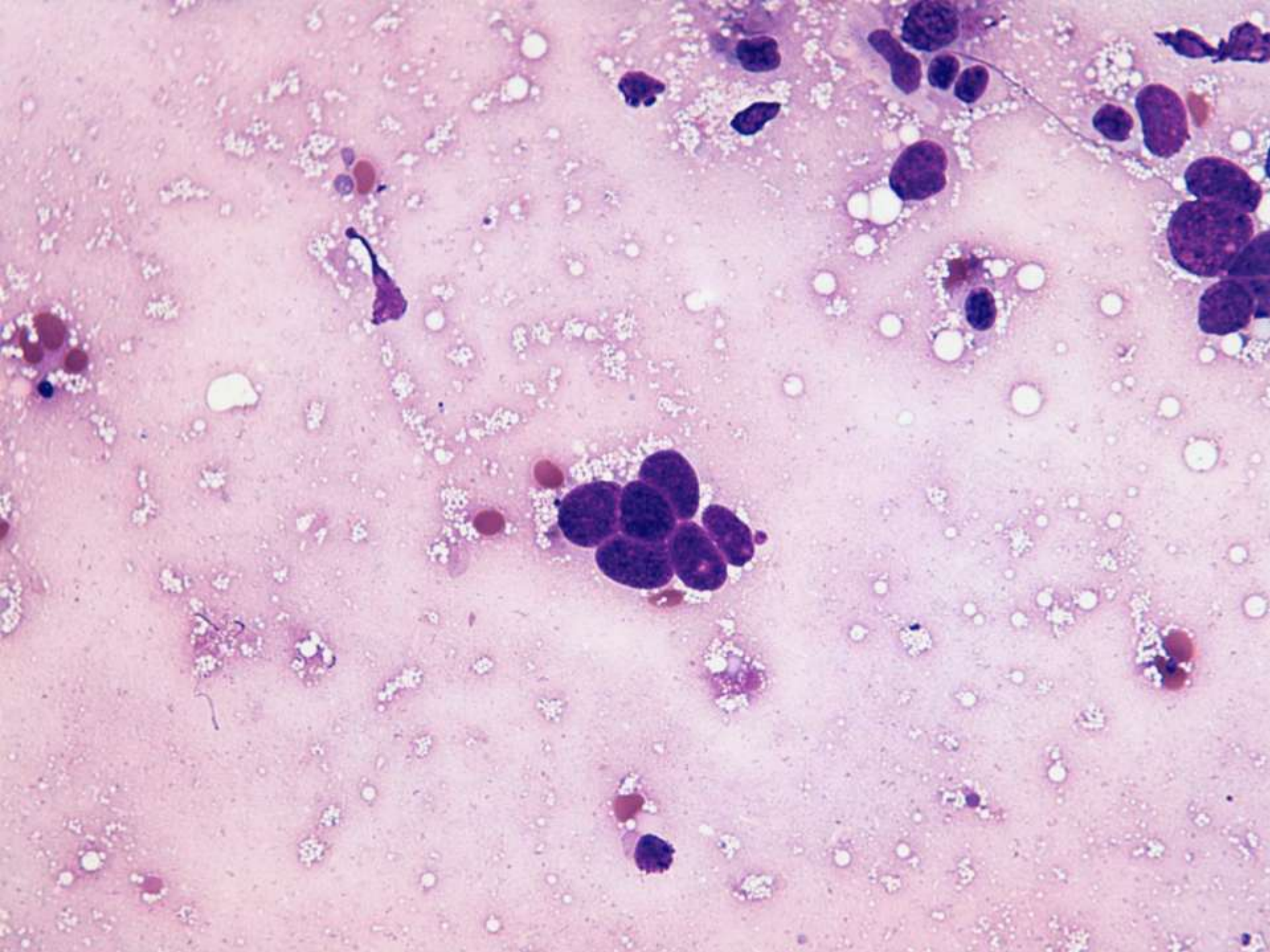


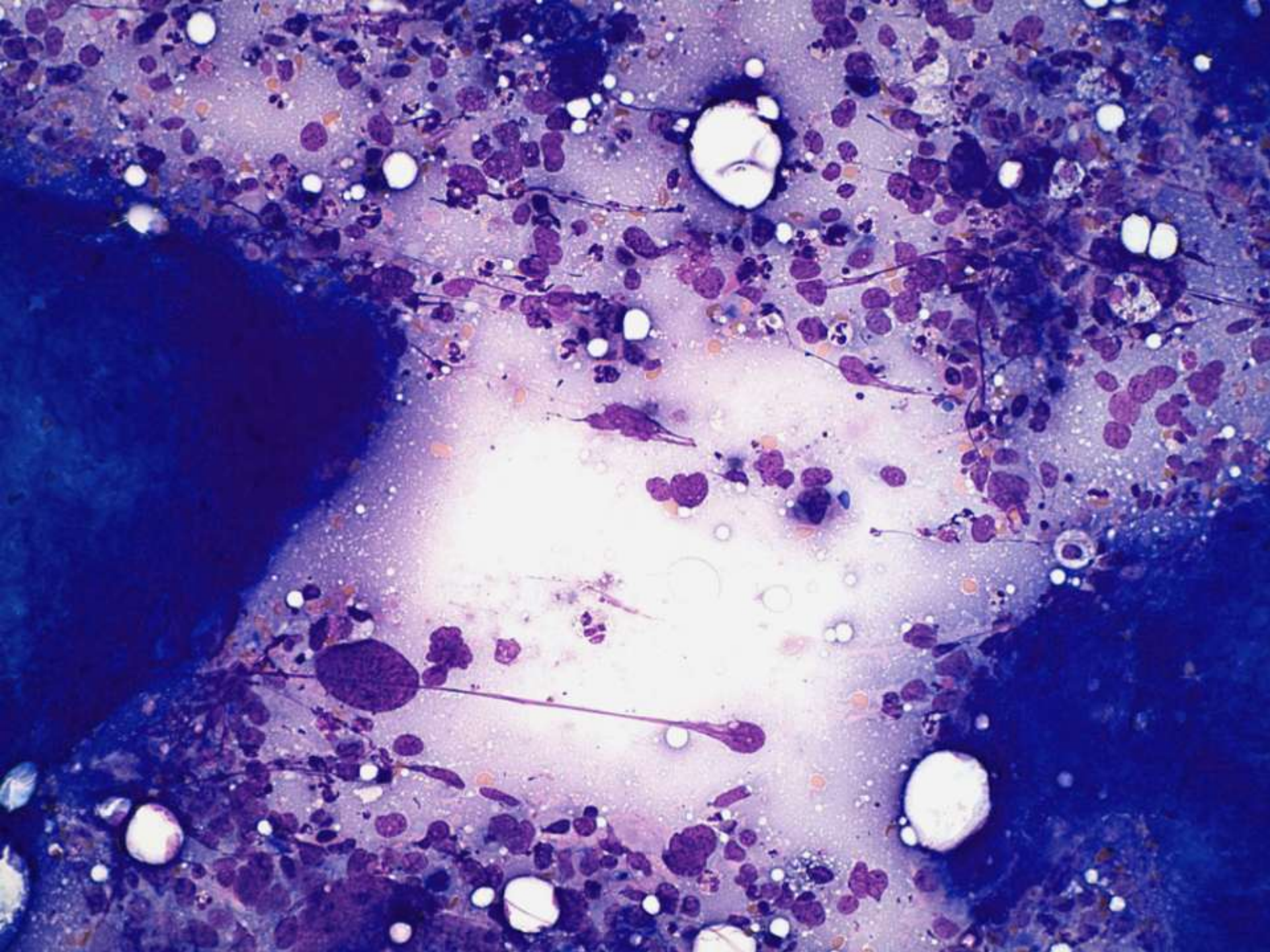


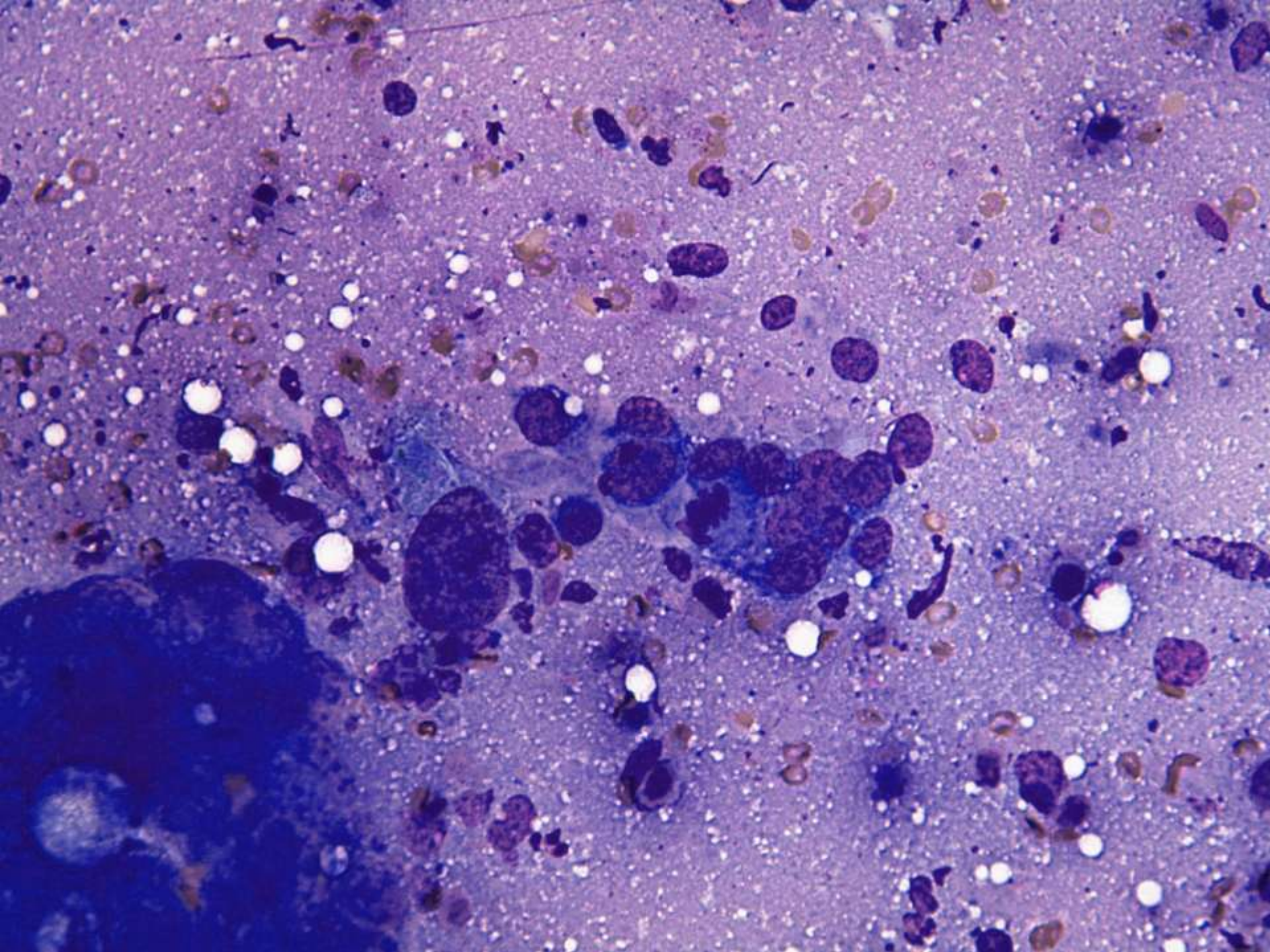


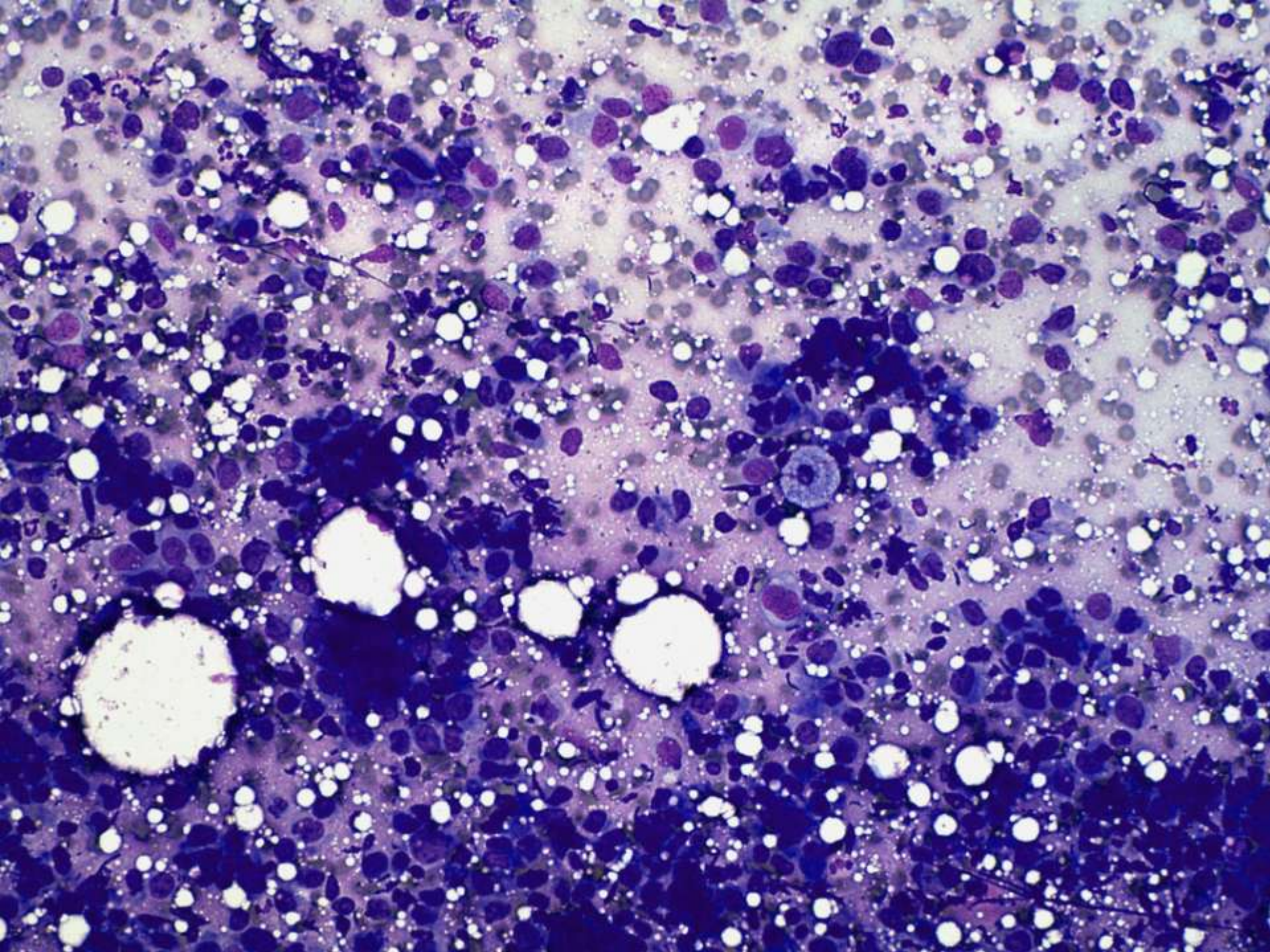


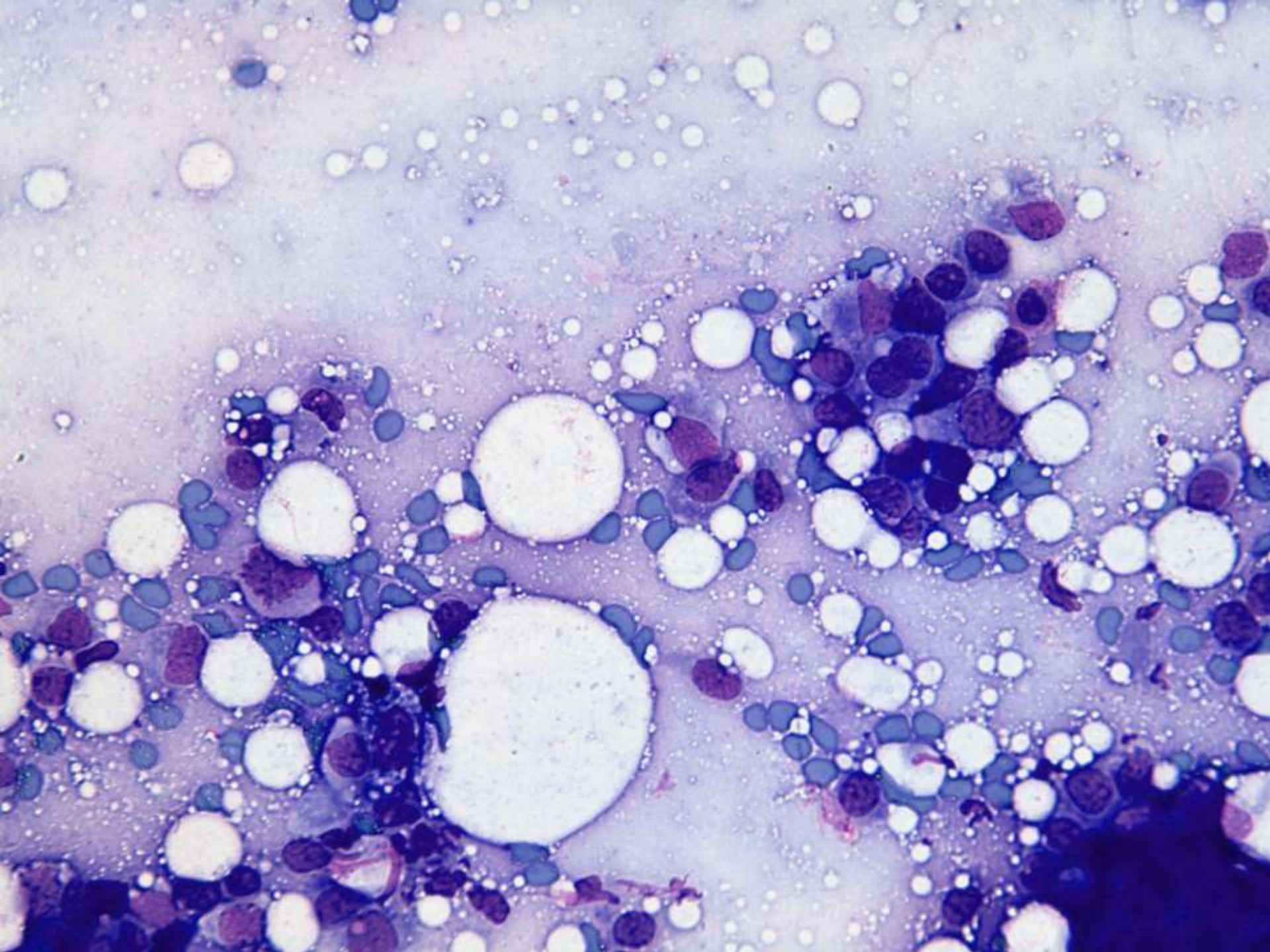












CARCINOMAS DE FENOTIPO BASAL

CASO	DG CITOL	GRADO	PATRON	FONDO NEC	HISTIOCITOS	GRUPOS G	NUC DESN	METAPLASIA
1	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
2	carcinoma	3	COHESIVO	NO	NO	SI	NO	NO
3	carcinoma	3	MIXTO	SI	SI	SI	NO	NO
4	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
5	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
6	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
7	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
8	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
9	carcinoma	3	COHESIVO	SI	SI	SI	NO	NO
10	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
11	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
12	carcinoma	3	COHESIVO	SI	SI	SI	SI	NO
13	carcinoma	2	MIXTO	NO	NO	NO	NO	SI

Tabla 1: Características citológicas de los carcinomas de fenotipo basal. Marcados en gris aparecen los casos no reconocidos como tales en los extendidos celulares (falsos negativos).

CARCINOMAS DUCTALES

CASO	DG CITOL	GRADO	PATRON	FONDO NEC	HISTIOCITOS	GRUPOS G	NUC DESN	METAPLASIA
1	carcinoma	3	MIXTO	SI	SI	SI	NO	NO
2	carcinoma	2	MIXTO	SI	SI	NO	NO	NO
3	carcinoma	3	DISOCIADO	SI	SI	SI	SI	NO
4	carcinoma	3	MIXTO	NO	NO	NO	NO	NO
5	carcinoma	3	MIXTO	NO	NO	NO	NO	NO
6	carcinoma	3	MIXTO	SI	SI	NO	NO	NO
7	carcinoma	3	MIXTO	NO	SI	SI	SI	NO
8	carcinoma	3	DISOCIADO	NO	NO	NO	NO	NO
9	carcinoma	3	MIXTO	SI	SI	SI	SI	NO
10	carcinoma	2	MIXTO	SI	SI	SI	NO	NO
11	carcinoma	3	MIXTO	SI	SI	SI	NO	NO
12	carcinoma	3	MIXTO	SI	SI	NO	NO	NO
13	carcinoma	2	MIXTO	SI	SI	SI	NO	NO
14	carcinoma	3	MIXTO	NO	NO	NO	NO	NO
15	carcinoma	2	MIXTO	NO	NO	SI	SI	NO

Tabla 2: Características citológicas de los carcinomas ductales de alto grado. Marcados en gris aparecen los casos que cumplían los criterios de carcinoma de tipo basal (falsos positivos).