Hospital Universitario
12 de Octubre

Madrid

# CLUB DE PATOLOGÍA OSTEOARTICULAR
# CASO 6

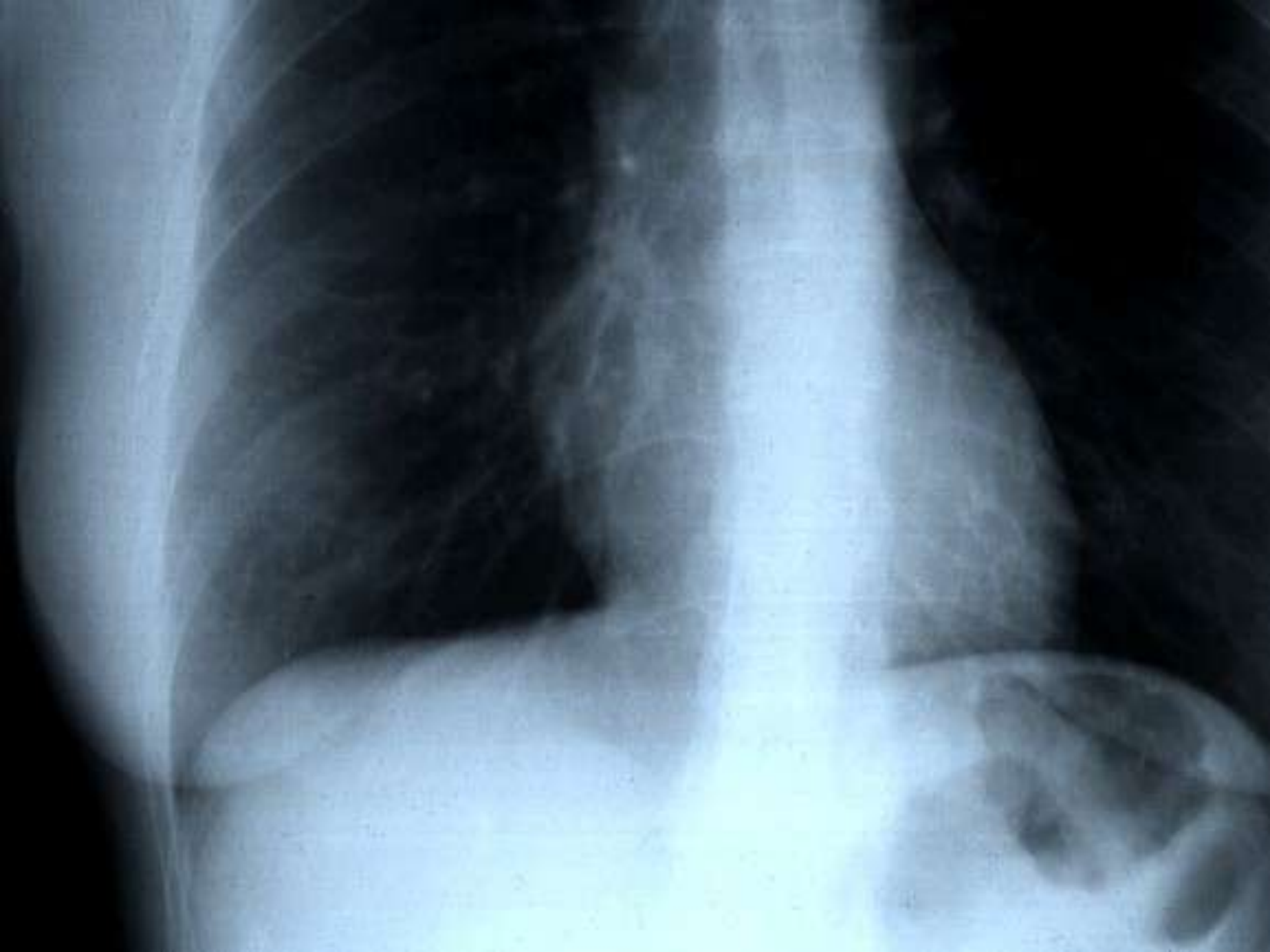
XXV Congreso
de la Sociedad Española
de Anatomía Patológica
y División Española de la
International Academy
of Pathology

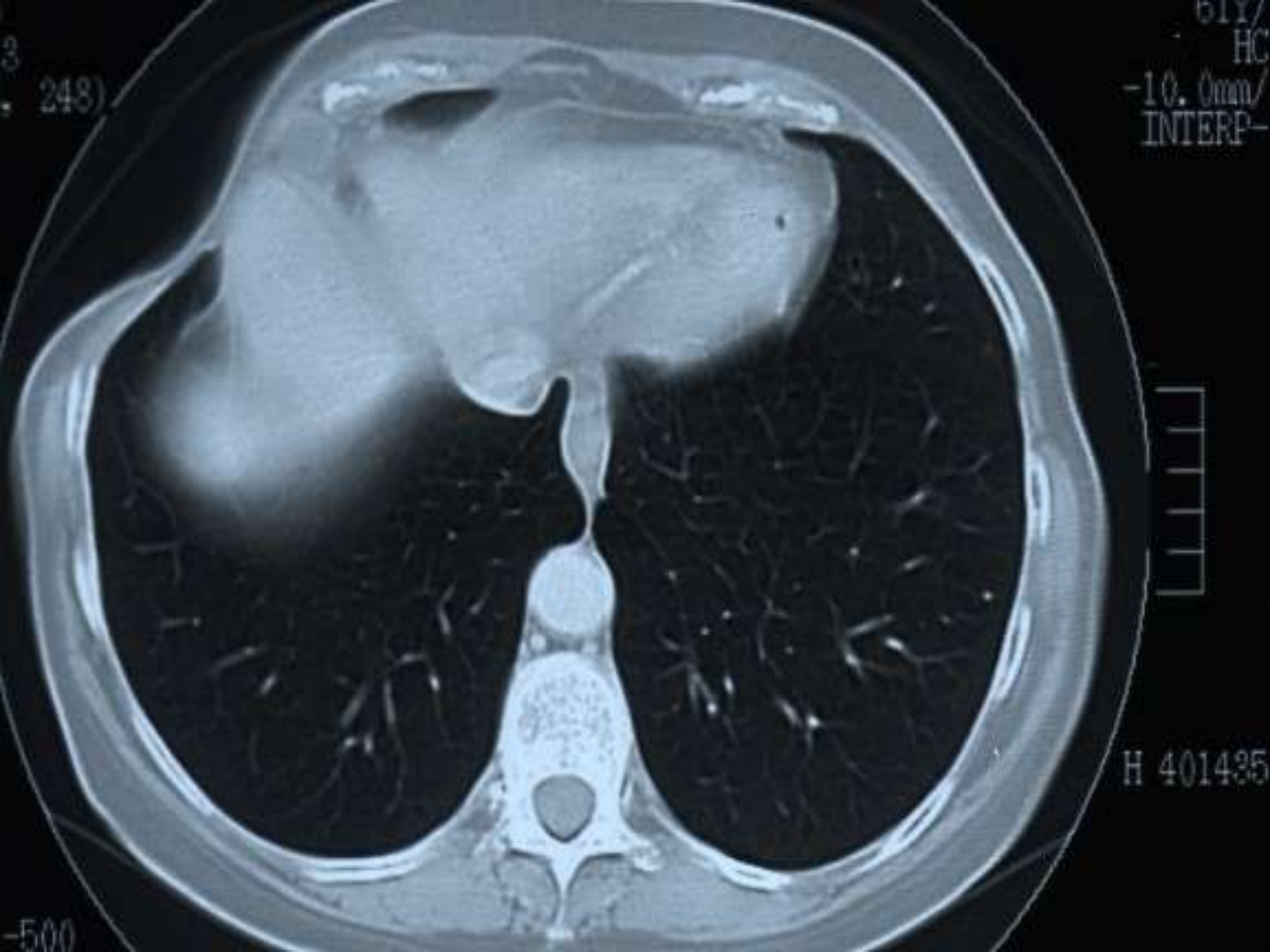
Dra. Enguita

# Historia Clínica

- Paciente de 61 años fumadora de 10-15 cigarrillos al día, con antecedentes personales de hipertensión arterial, cólicos renoureterales frecuentes, cervicoartrosis, apendicectomizada en su juventud y legrado en 1970

- Presenta una tumoración dura-pétrea submamaria derecha adherida a pared torácica de 1 mes de evolución.

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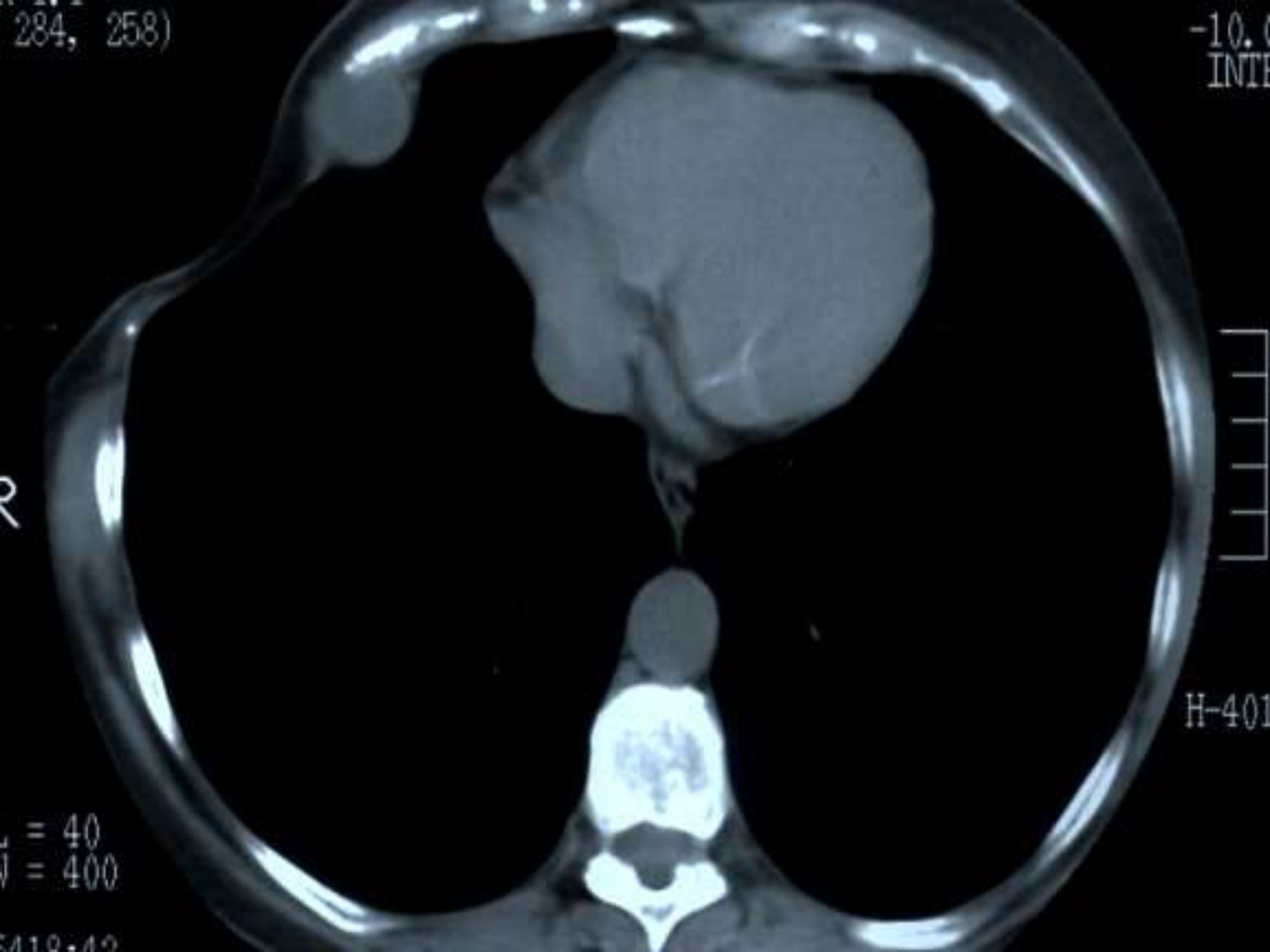
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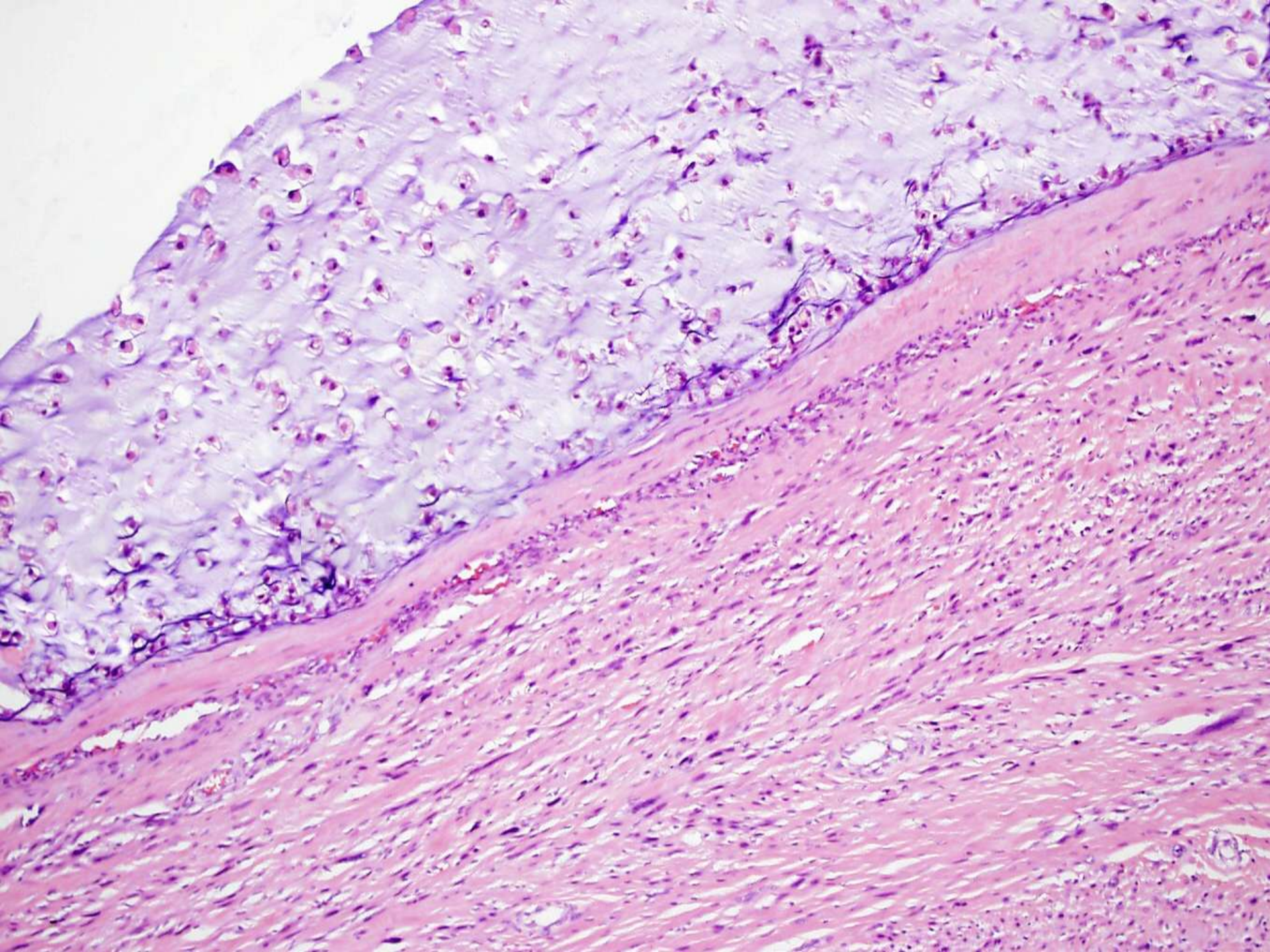
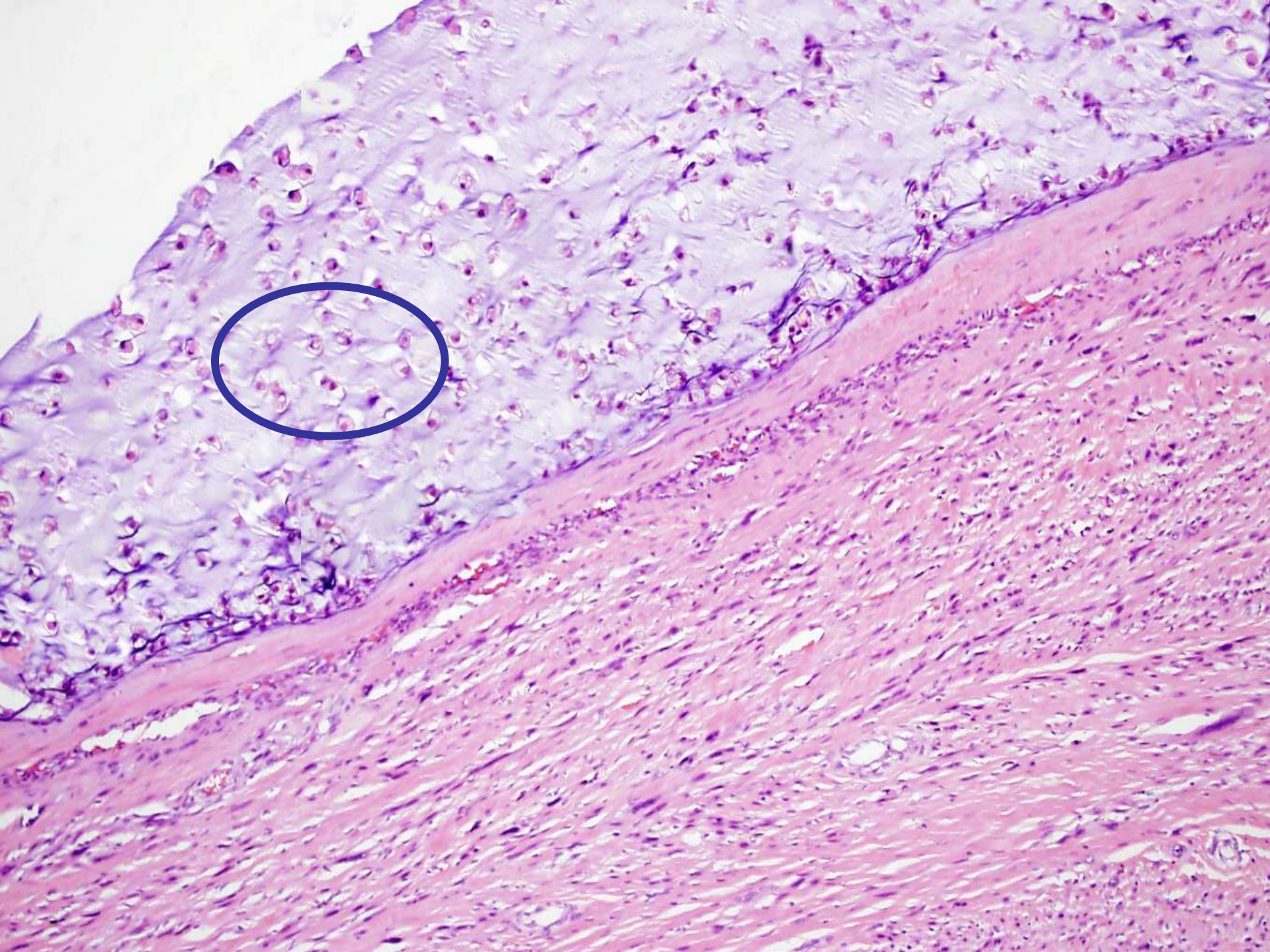
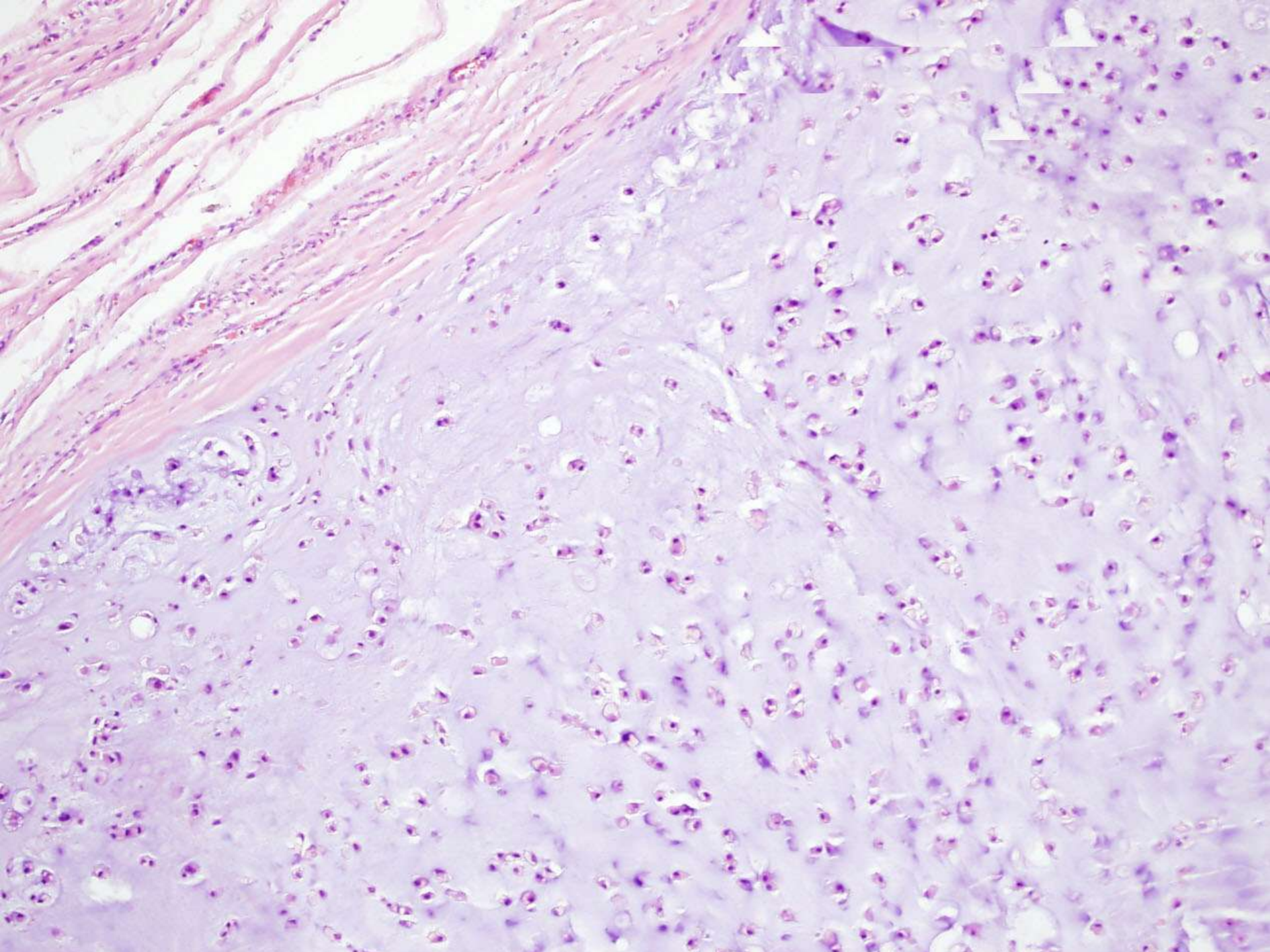
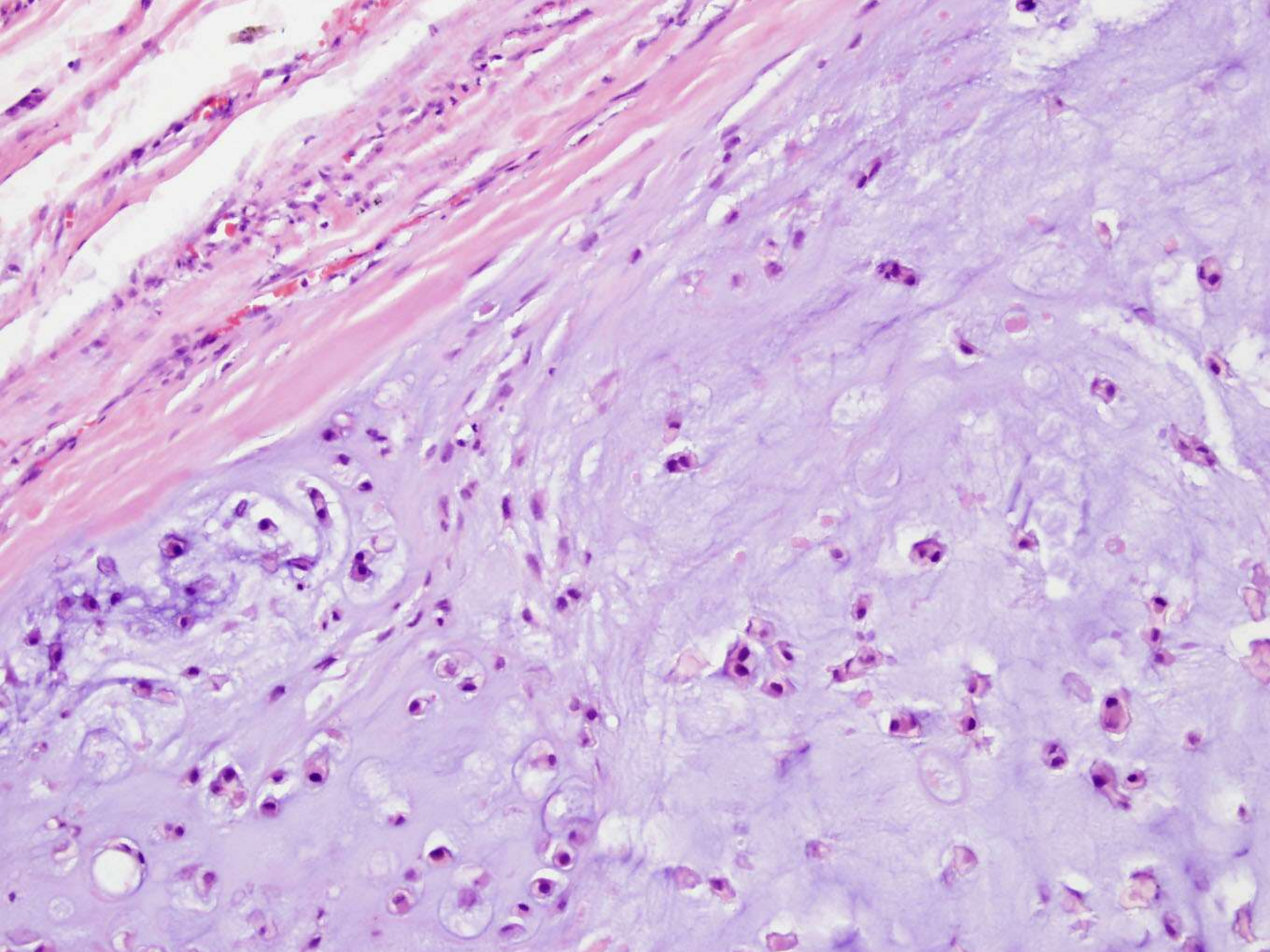
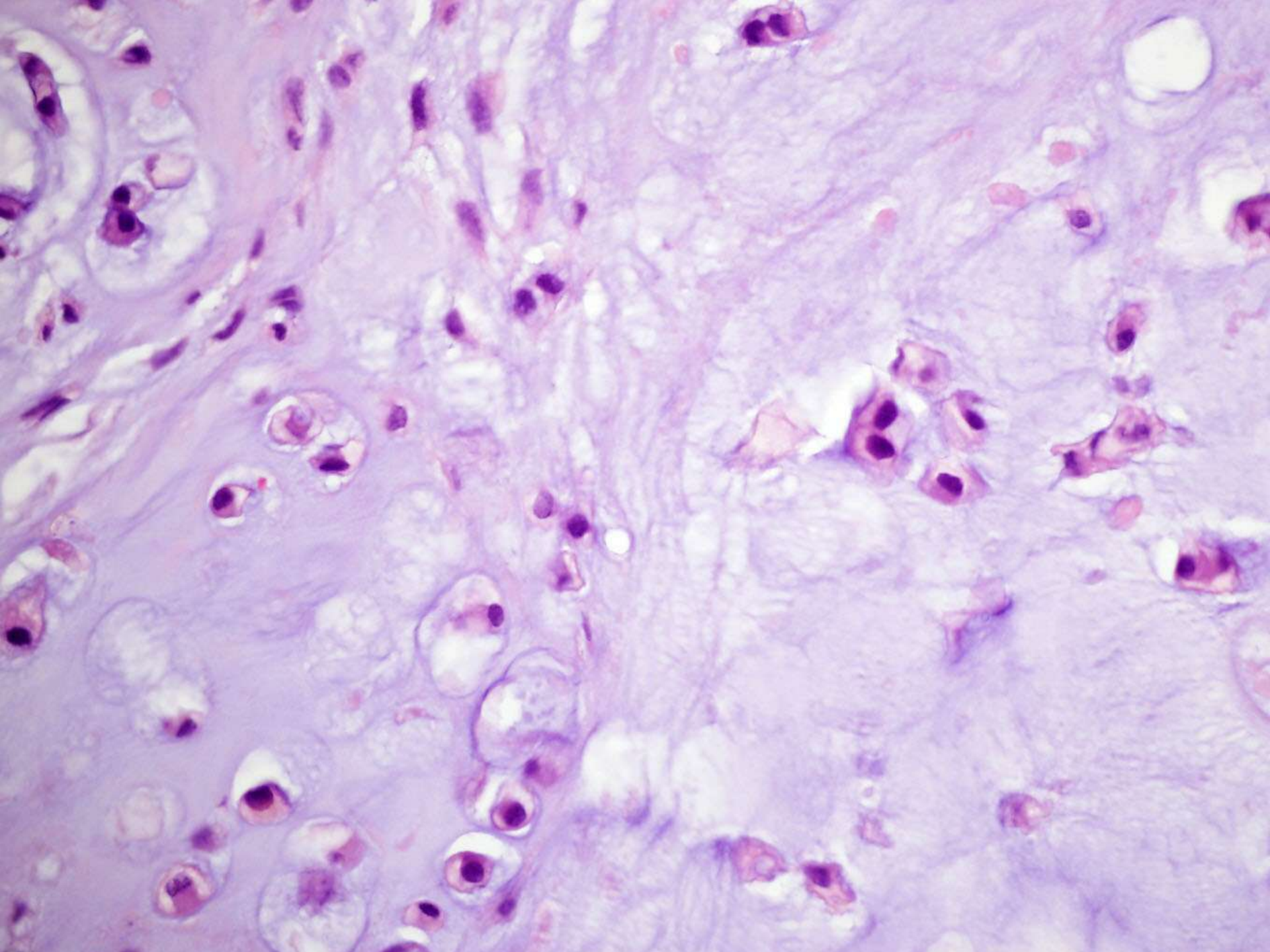
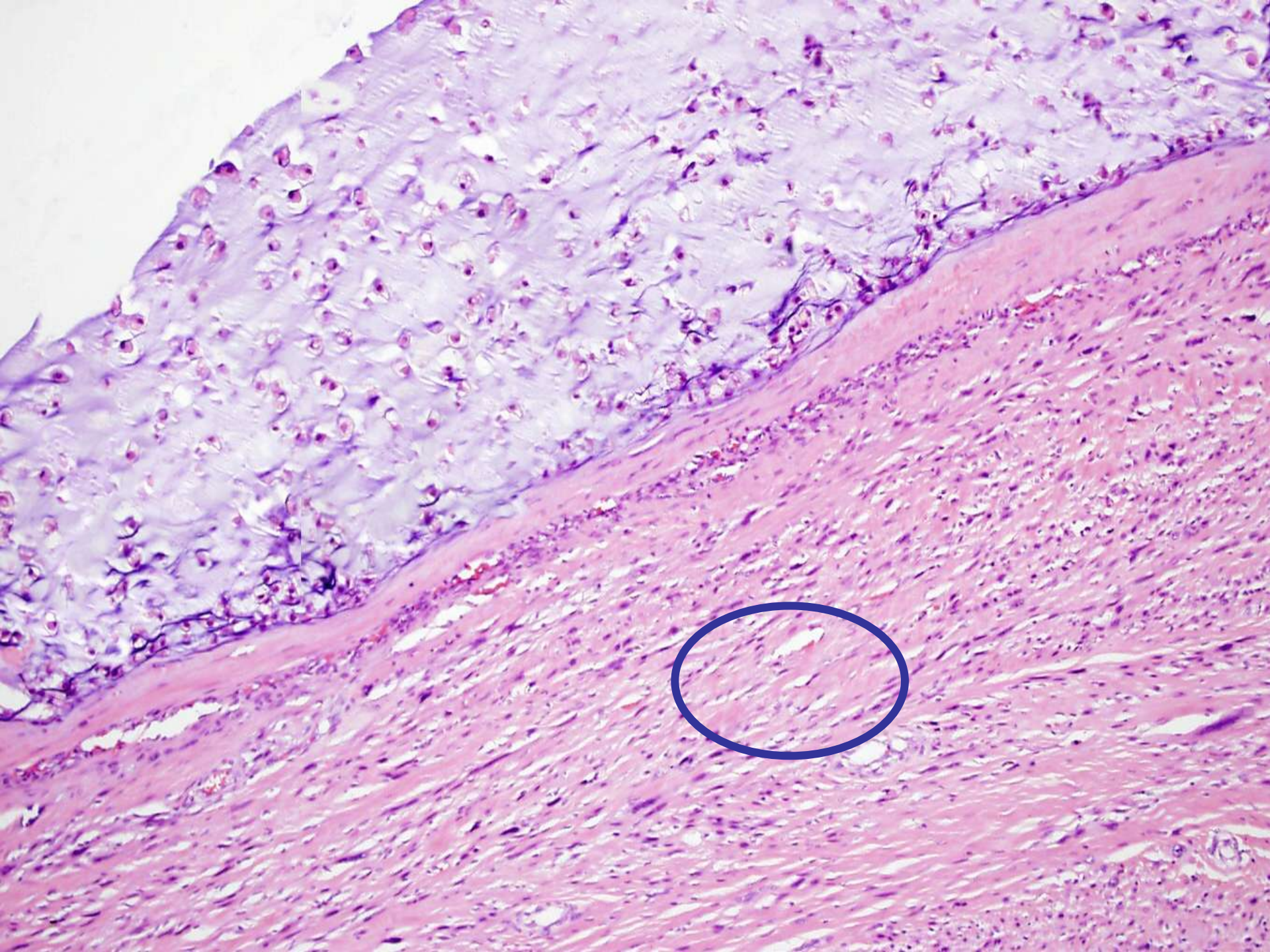


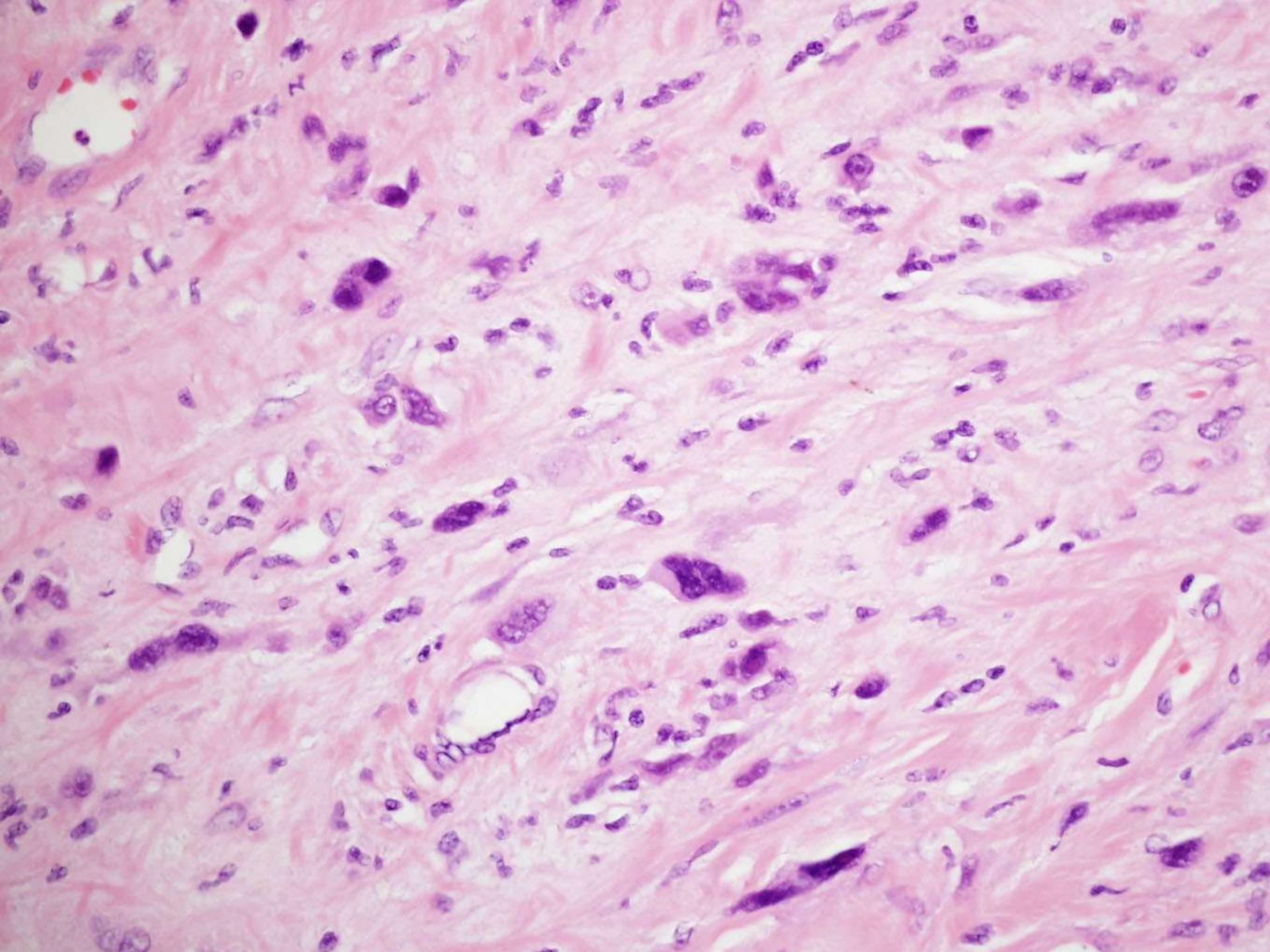


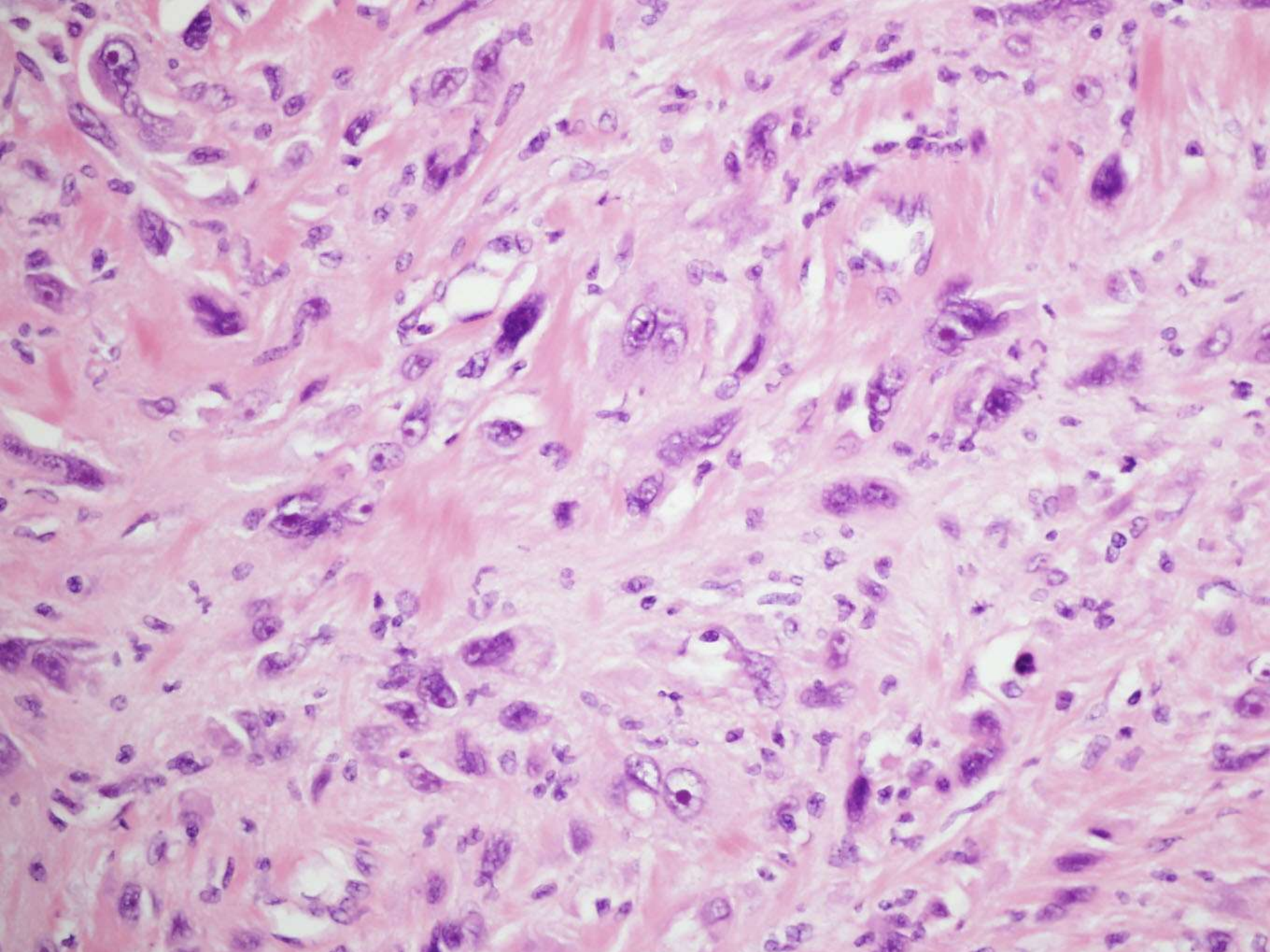


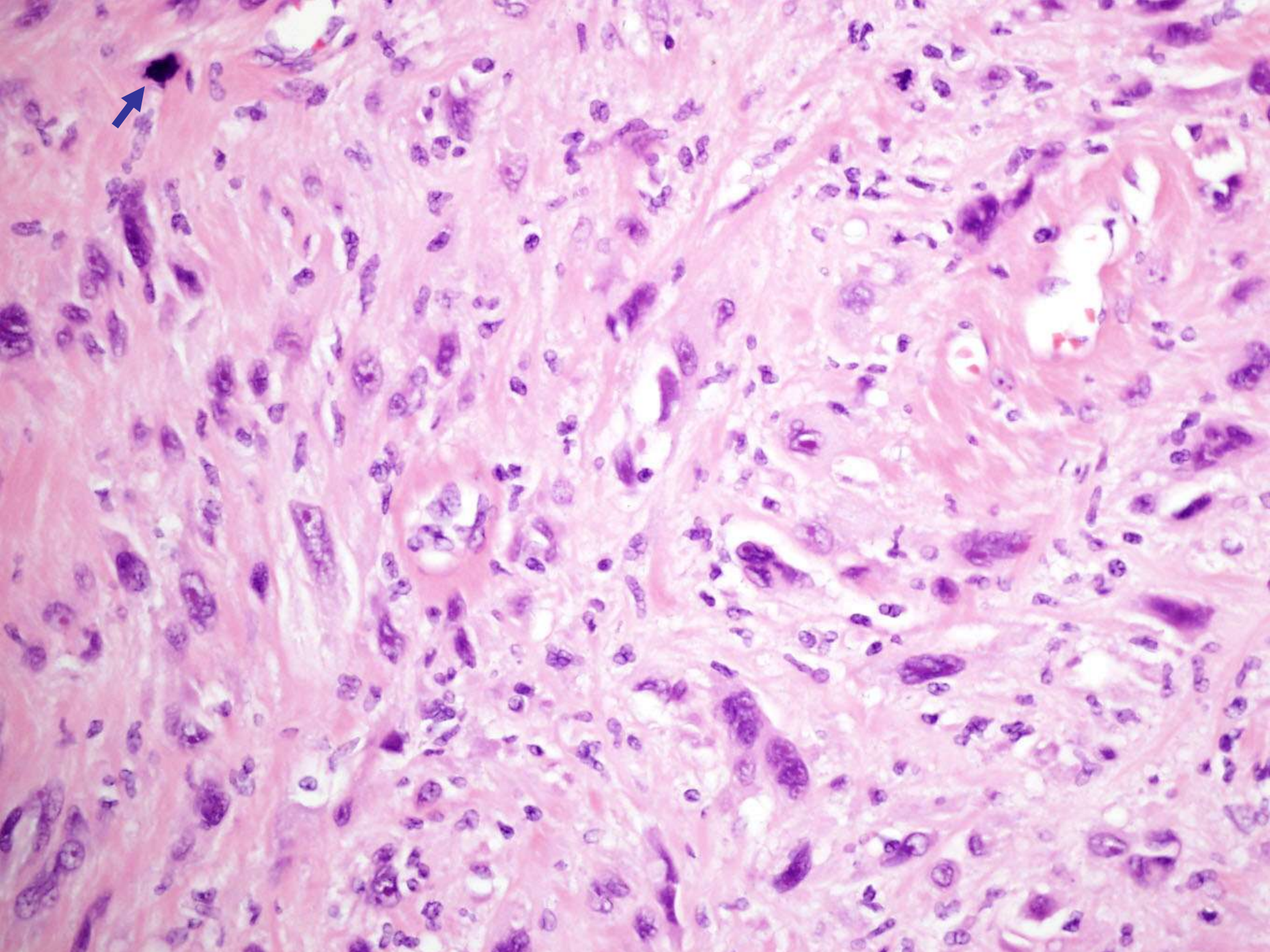












# Diagnóstico

**CONDROSARCOMA DESDIFERENCIADO**

# Evolución

La paciente sigue revisiones y un año después de la cirugía se objetiva en pared torácica, una masa de 2 cm que infiltra pleura, un nódulo diafragmático de 1,5 cm y un nódulo pulmonar adyacente de 1 cm. Tres años más tarde desarrolla nuevas metástasis pulmonares que son resecadas. Actualmente, 5 años después de la última cirugía, se encuentra libre de enfermedad.

14.9 mm

# Condrosarcoma desdiferenciado

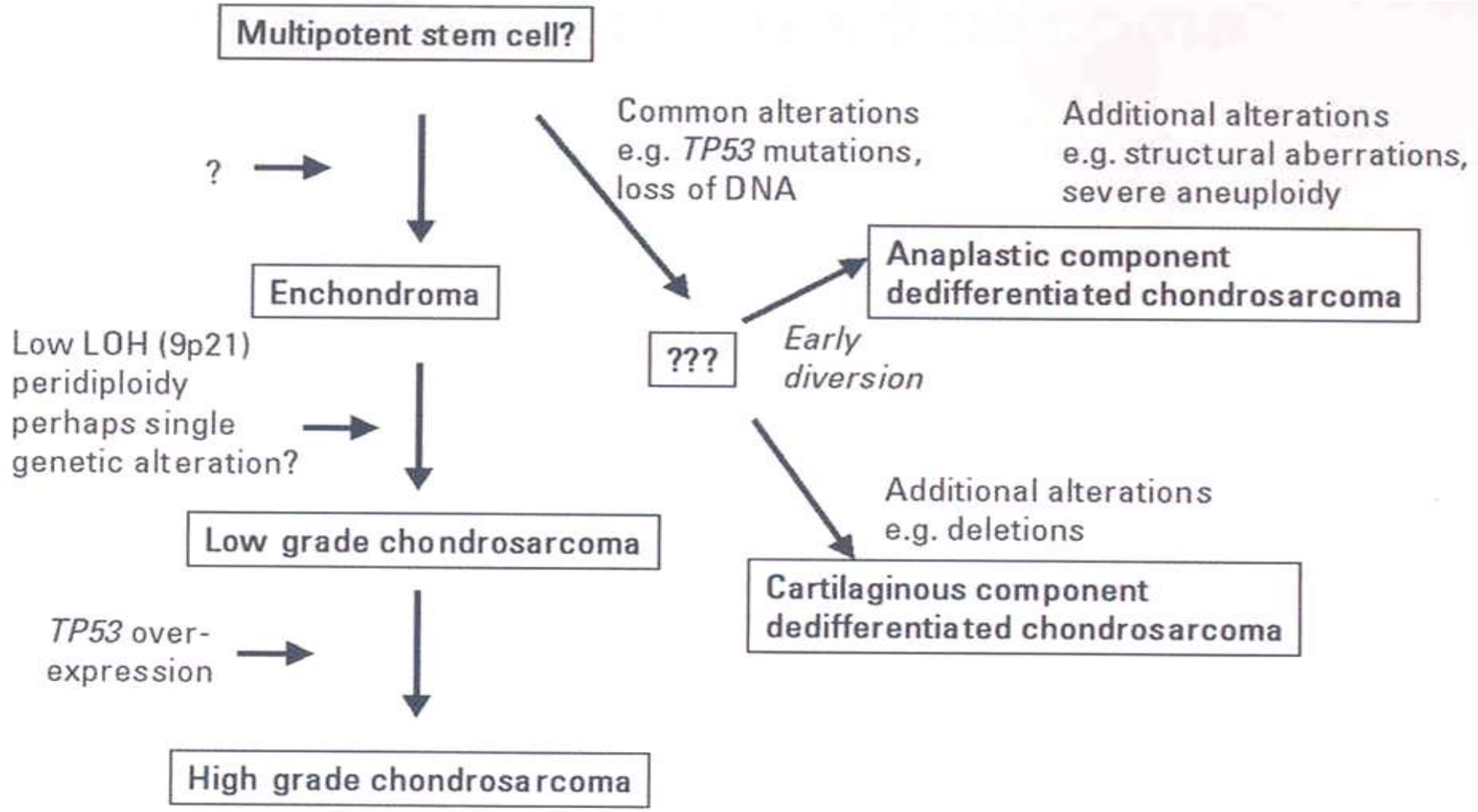
- El término desdiferenciado (Jaffe-Dahlin, 1971) no describe la patogénesis del tumor.

- Dos componentes bien definidos:
  - Encondroma/Condrosarcoma de bajo grado (15% G2)
  - Sarcoma de alto grado no cartilaginoso.
    - Histiocitoma fibroso maligno
    - Osteosarcoma
    - Fibrosarcoma
    - Rabdomiosarcoma

# Condrosarcoma desdiferenciado II

- 10% de todos los condrosarcomas
- Edad media de presentación 50-60 años (entre los 29 y los 85 años). V=M
- Pelvis, fémur y húmero.
- Dolor, inestabilidad, parestesias y fracturas patológicas.
- Lítica, intraósea, que infiltra la cortical y se extiende a partes blandas.

# Patogénesis



# Diagnóstico diferencial

- Osteosarcoma condroblástico.
- Condrosarcoma/Condrosarcoma mesenquimal
- Fibrosarcoma
- Histiocitoma fibroso maligno

# Tratamiento y Pronóstico

- No existen aberraciones citogenéticas específicas asociadas.
- Resección amplia. QT valor incierto. RT
- Agresivos y de mal pronóstico.
- 90% de los pacientes mueren con metástasis a distancia a los 2 años.
- Supervivencia a los 5 años del 10%.

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# The Clinical Approach Towards Chondrosarcoma

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**Key Words.** Chondrosarcoma • Classification • Review • Mesenchymal chondrosarcoma • Radiotherapy • Chemotherapy

**Disclosure:** No potential conflicts of interest were reported by the authors, planners, reviewers, or staff managers of this article.

## LEARNING OBJECTIVES

After completing this course, the reader will be able to:

1. Classify the chondrosarcoma subtypes.
2. Engage in the diagnostic process of chondrosarcoma.
3. Evaluate the treatment options for chondrosarcoma.

**Table 1.** Overview of clinical characteristics and therapeutic options in all subtypes of chondrosarcoma of bone

| | Conventional primary central chondrosarcoma | Conventional secondary peripheral chondrosarcoma | Dedifferentiated chondrosarcoma | Mesenchymal chondrosarcoma | Clear cell chondrosarcoma |
|---|---|---|---|---|---|
| % of all chondrosarcomas | ~75% | ~10% | ~10% | <2% | <2% |
| Precursor lesion | Enchondroma (up to 40%?) | Osteochondroma (100%) | Conventional chondrosarcoma | None | None |
| Occurrence within syndrome | Enchondromatosis (Ollier disease) | Multiple osteochondromas (MOs) | Rarely in MOs or enchondromatosis | None | None |
| Age | >50 years | Younger than central chondrosarcoma | Median age 59 years | Any age (peak in second and third decade) | Any age (peak in third to fifth decade) |
| Preferential location | Pelvis, proximal femur, proximal humerus, distal femur, ribs | Pelvis, shoulder girdle bones | Femur and pelvis | 65%–86% skeleton (jawbones, ribs, ilium, vertebrae) 14%–43% extraosseous (meninges) | Epiphysis of humeral or femoral head |
| Histological grading | Grade I–III | High grade | High grade | Low grade | |
| Survival | Grade I, 83%; grade II, 64%; grade III, 29% at 10 yrs | 24% at 5 yrs | 28% at 10 yrs | 89% at 10 yrs | |
| Sensitivity to chemotherapy | None | None | Uncertain | Possibly, if high percentage round cells | None |
| Sensitivity to radiotherapy | Low | Low | Low | Possibly high | Low |
| Potential targets for therapy | PTHLH (BCL2), IHH, PDGFR-$\alpha$, COX-2, MMP, ER, HDAC | PTHLH (BCL2), ER, HDAC | None | BCL2, c-PKC-$\alpha$, PDGFR-$\alpha$ | PTHLH (BCL2), PDGF, MMP2, IHH |

Abbreviations: BCL2, B-cell lymphoma 2 protein; COX-2, cyclo-oxygenase 2; ER, estrogen receptor; HDAC, histone deacetylase; IHH, Indian hedgehog; MMP, matrix metalloproteinase; PDGFR-$\alpha$, platelet-derived growth factor receptor $\alpha$; PTHLH, parathyroid hormone–like hormone.

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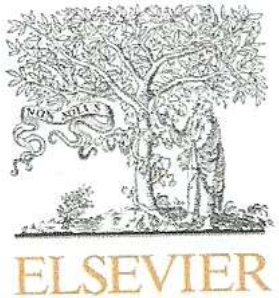

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# Dedifferentiated chondrosarcoma: Prognostic factors and outcome from a European group

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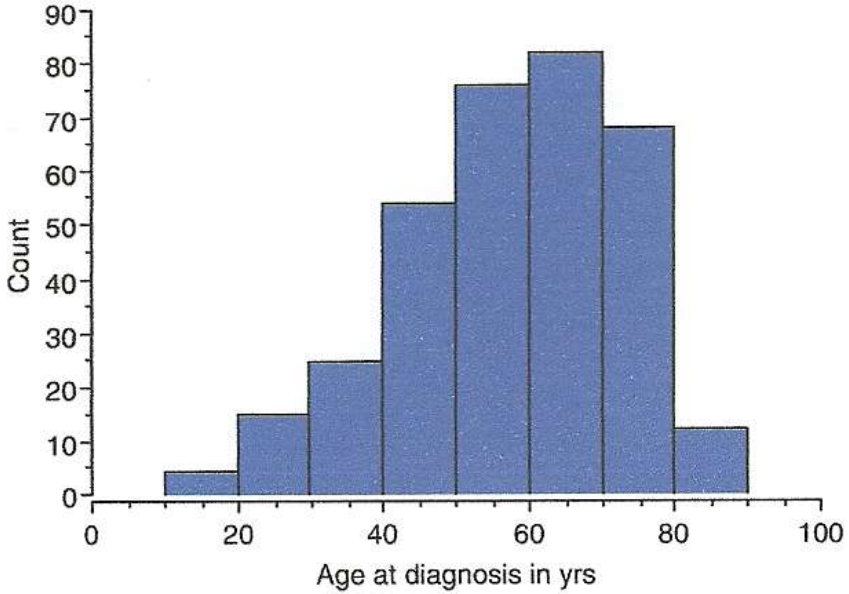


**Fig. 1 – The age distribution of the 337 patients.**

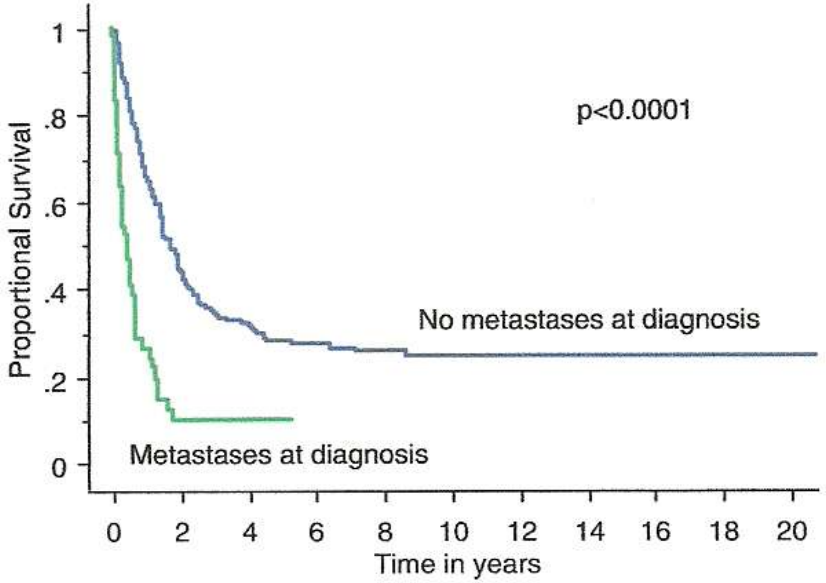


**Fig. 2 – Kaplan–Meier survival curve for the overall survival of all patients with evaluable data comparing those with metastases ($n$ = 62) and without metastases ($n$ = 242) at diagnosis.**

# Peor Pronóstico

- Edad avanzada
- Pelvis
- Fractura patológica al diagnóstico.

- Recurrencia y supervivencia global relacionadas con márgenes de escisión inadecuados.
- No relación con el subtipo histológico, el tamaño o uso de QT.

# Dedifferentiated Central Chondrosarcoma

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**BACKGROUND.** The prognosis for patients who develop dedifferentiation of central chondrosarcoma traditionally has been poor. Because not much has been reported about this rare lesion, many uncertainties remain about prognostic factors.
**METHODS.** In this retrospective study, the clinical, radiographic, and histologic features and the treatments in 123 patients from the Rizzoli Institute were reviewed in an attempt to define which factors may be related to outcome in patients with dedifferentiated central chondrosarcoma.
**RESULTS.** Among 123 patients who were included in this study, 109 patients were treated at the Rizzoli Institute, and 14 patients were seen in consultation. There were 66 males and 57 females, and their average age was 59 years. The femur (62 patients), pelvis (28 patients), and humerus (20 patients) were the most common locations. Radiographically, a soft tissue mass was present in 87% of patients, and a bimorphic pattern was appreciated in 53% of patients. Histologically, the cartilaginous component was considered Grade 1 in 63% of patients and Grade 2 in 37% of patients. In most patients, the dedifferentiated component showed the features of an osteosarcoma (92 patients), followed by fibrosarcoma (19 patients), and malignant fibrous histiocytoma (9 patients). For 101 patients, surgery was a component of their definitive management. In 25 patients, surgery was combined with chemotherapy. The 2-year and 5-year survival rates were 34% and 24%, respectively. The median survival was 13 months (95% confidence interval, 9-17 months).
**CONCLUSIONS.** Metastatic disease at diagnosis, malignant fibrous histiocytoma dedifferentiation, and a high percentage of dedifferentiated component were related to poorer outcomes. There was no statistical evidence of any beneficial effect from adjuvant chemotherapy. ***Cancer* 2006;106:2682–91.**


**KEYWORDS: dedifferentiated chondrosarcoma, central chondrosarcoma, chemotherapy, outcome, prognostic factors.**

The prognosis for patients with central chondrosarcoma usually is favorable and is correlated strongly with histologic grade and adequacy of treatment.[1,2] However, the outlook for patients who develop dedifferentiation in their chondrosarcoma traditionally has been poor, with 5-year survival rates reported between 7% and 18%.[3,4]

Although there are numerous single patients and small series of patients with dedifferentiated chondrosarcomas reported in the literature,[5–12] only a very few large series have been published.[3,4,13,14] Therefore, many uncertainties remain about prognostic factors for patients with this lesion. It is believed that an early, accurate diagnosis at a localized stage of disease and adequate surgical treatment improve the survival of these patients. The roles of chemotherapy and histologic characteristics of the dedifferentiated component remain unclear.

In this report, we present a retrospective study of our experience in 123 patients with dedifferentiated central chondrosarcomas. Clin-

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Vista de la ciudad de Zaragoza. Juan Bautista Martínez del Mazo, 1647. Museo del Prado

*Allá va la despedida*
*La que no quisiera echar*
*Pero vienen mis amigos*
*Y me tengo que marchar*