THE OHIO STATE UNIVERSITY

AANP Diagnostic Slide Session
Case 11

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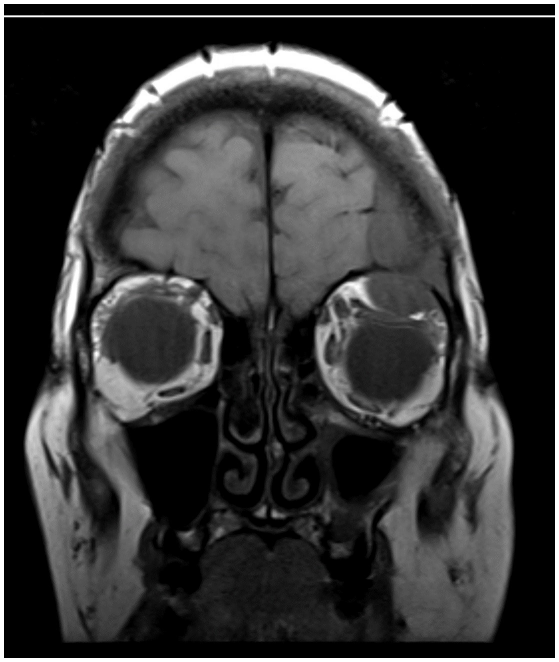
Disclosures

- No relevant financial relationships to disclose

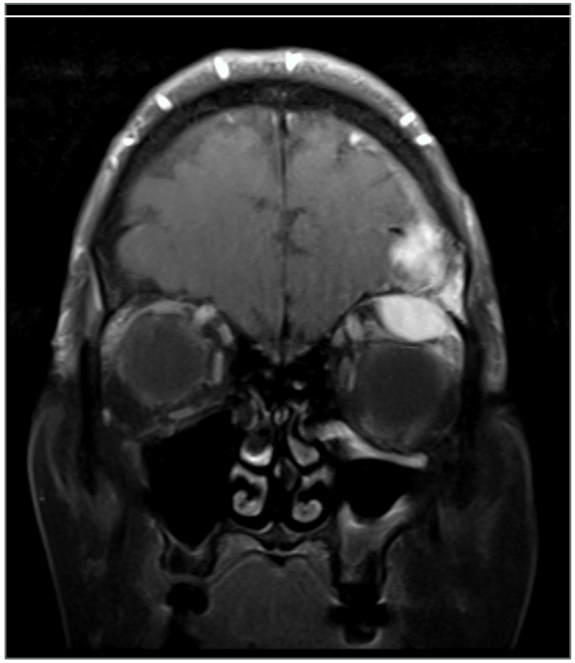
Clinical History

- 57F, presented with DVT and changes in L eye vision
- Past medical history significant for prior resection of an anterior mediastinal mass

MRI findings

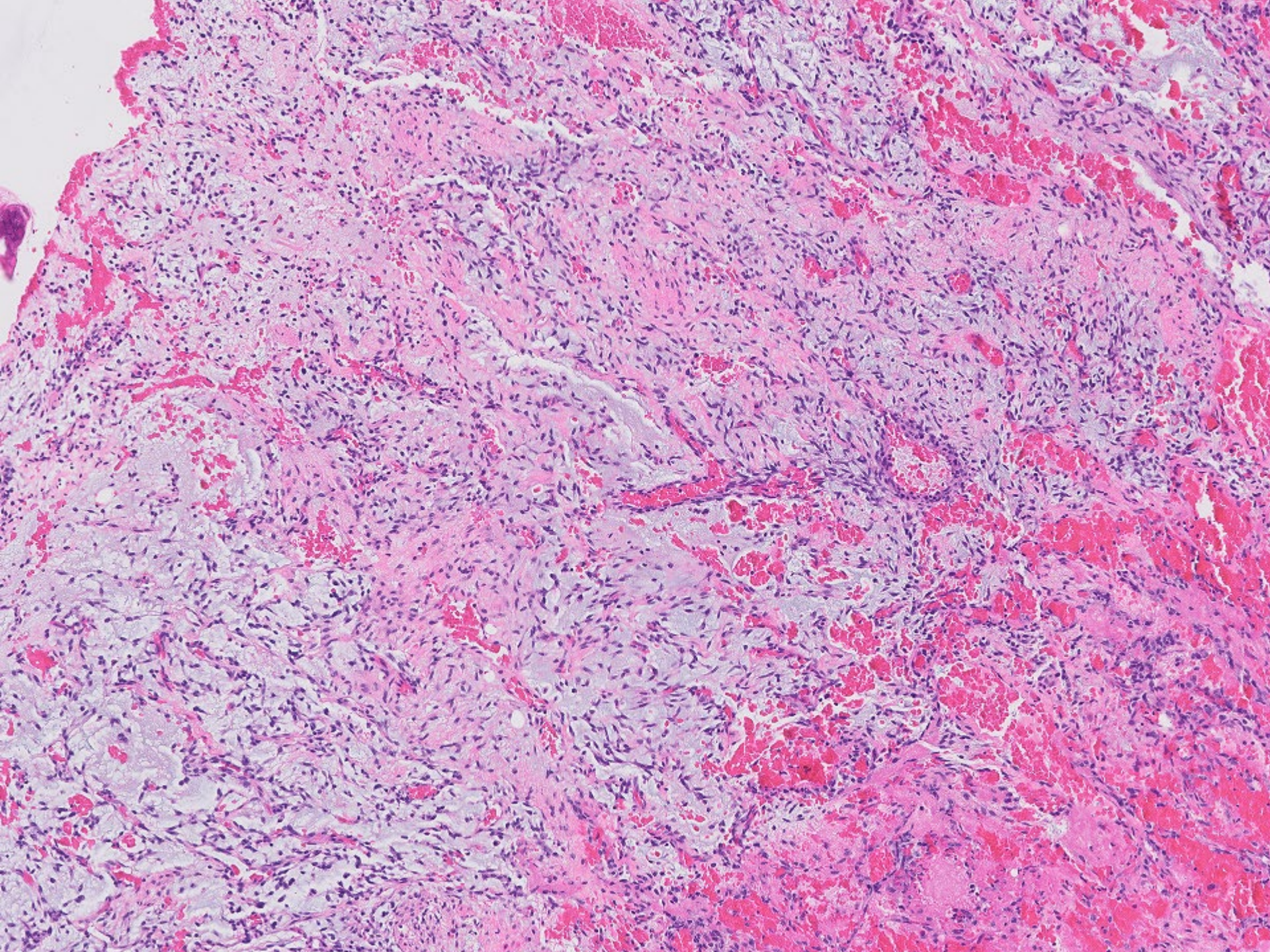


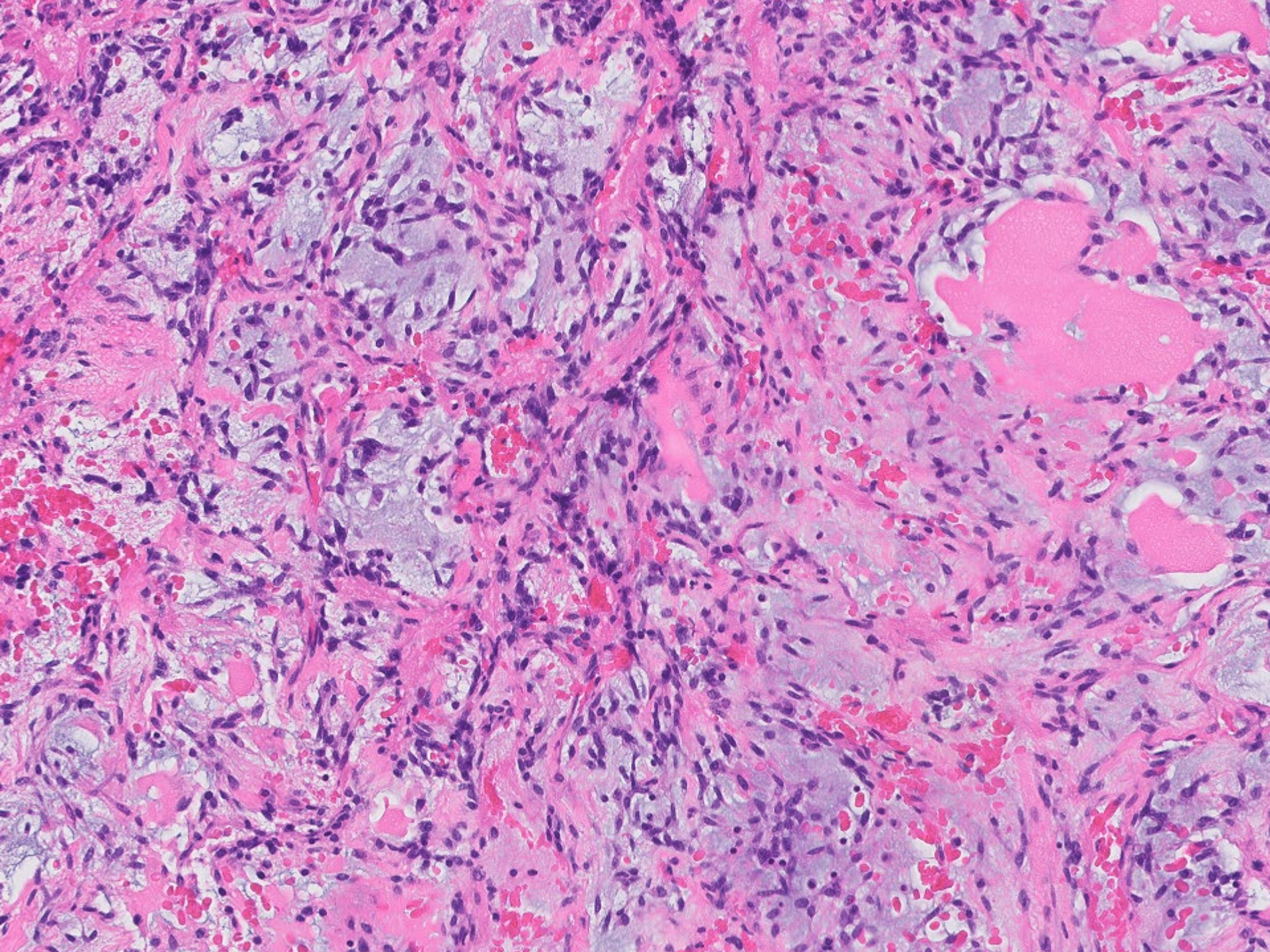
T1 cor C

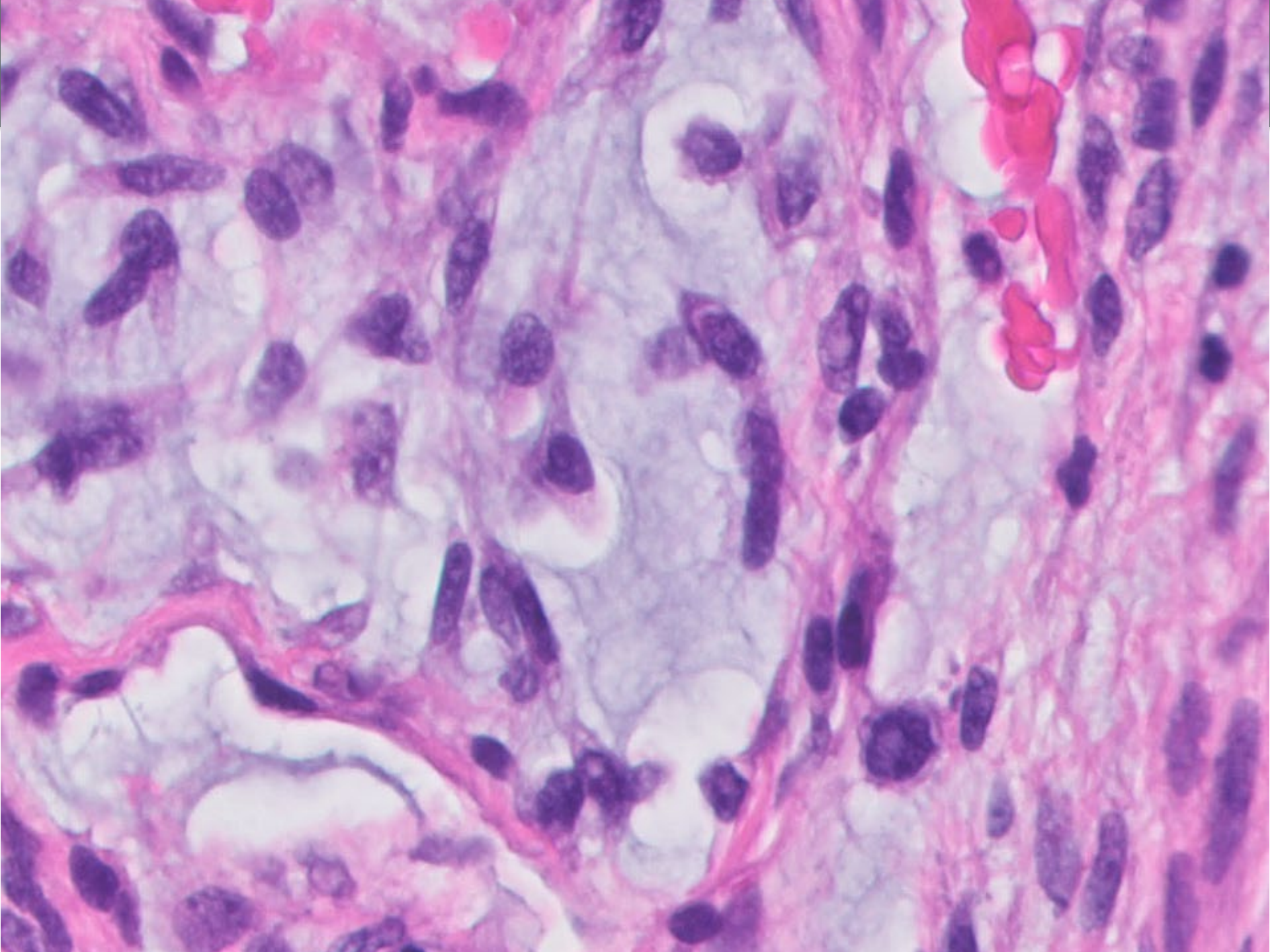


T1 cor C + fat saturated

- An anterior craniotomy and gross total resection were performed at Ohio State University







Differential diagnosis?

Immunohistochemical or
Molecular evaluation?

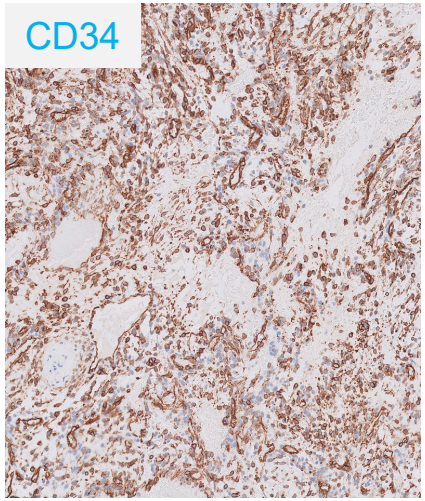
Diagnostic Diagnosis

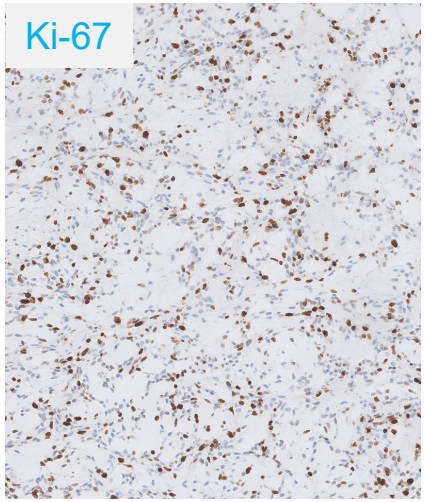
- Primary
- Glioma, meningioma, solitary fibrous tumor, vascular neoplasm, nerve sheath tumor

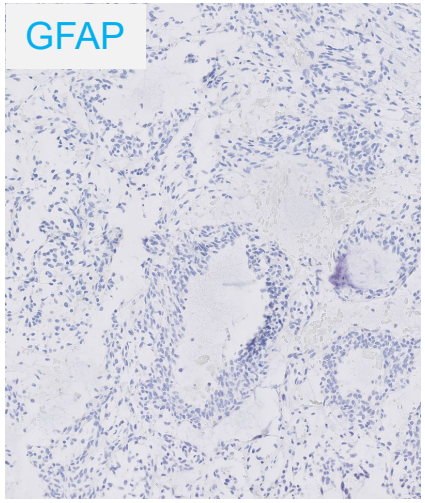
- Direct extension
- Pleomorphic adenoma, mucoepidermoid carcinoma, chondrosarcoma

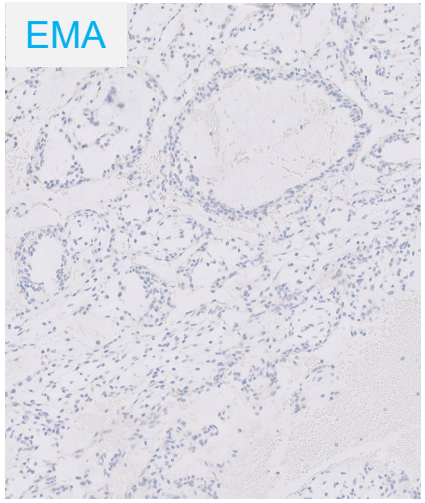
- Metastatic
- Melanoma, fibromyxoid sarcoma, myxoid liposarcoma, sarcomatoid carcinoma

Immunohistochemistry





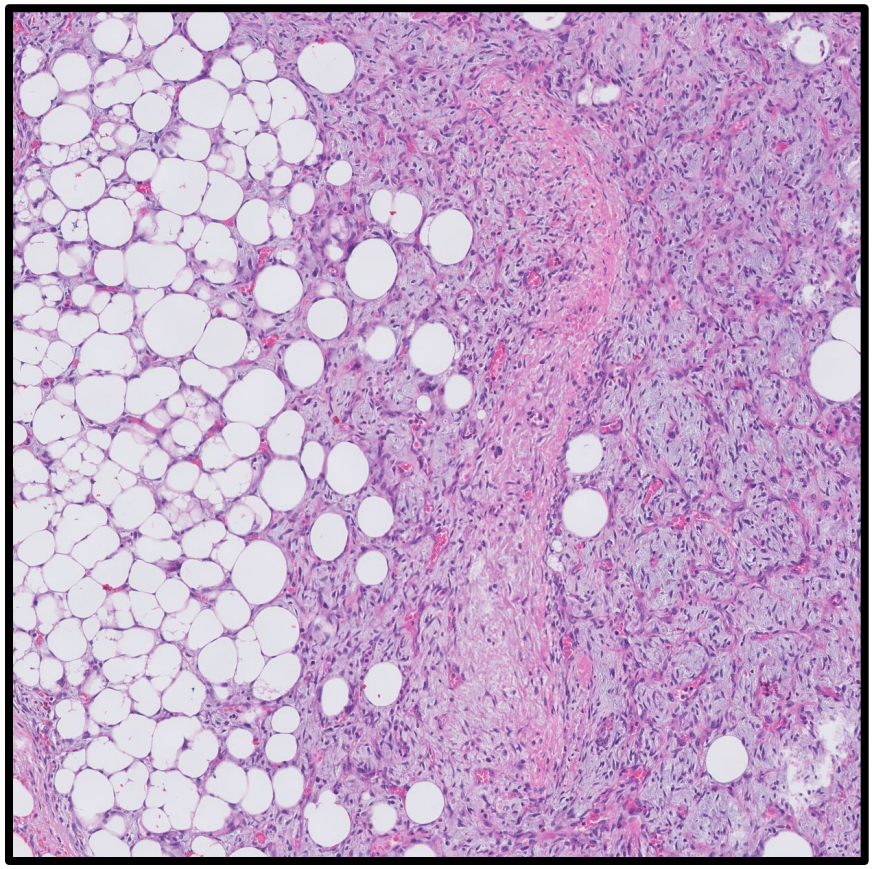




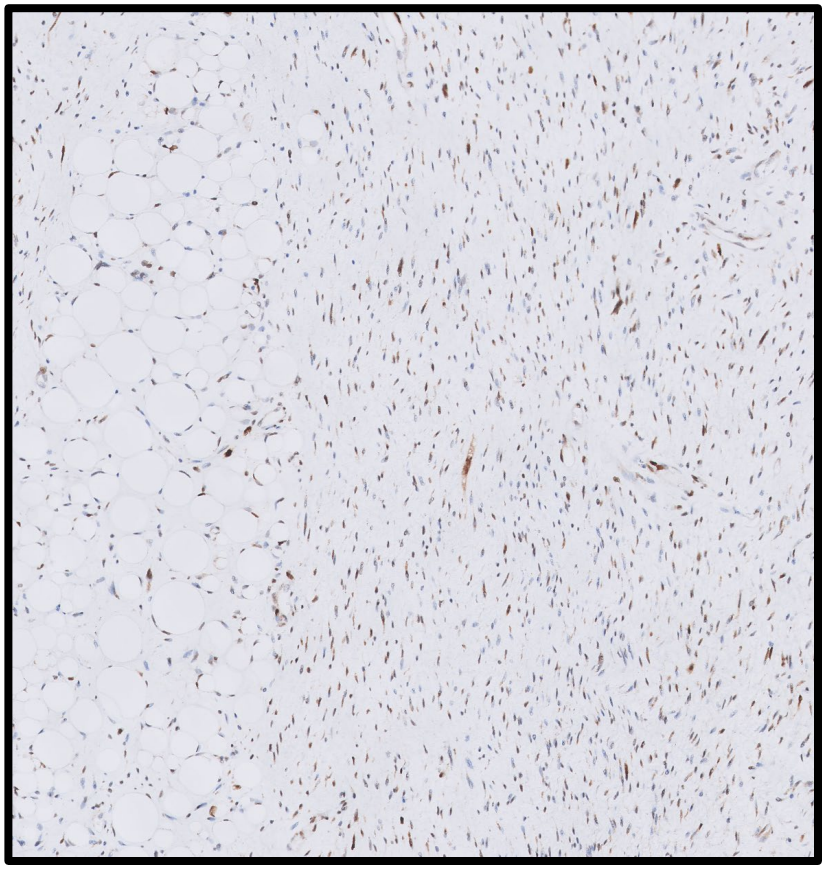
Positive	Negative	
Vimentin	AE1/3	GFAP
CD34	EMA	Olig-2
BCL-2 (cytoplasmic)	STAT6	CD117
SMA (scattered)	S100	DOG-1
Desmin (scattered)	SOX10	MelanA
CD99 (scattered)	MUC4	NeuN
CD163 (scattered)	P53	
	D2-40	

Ki-67 >20%

Anterior mediastinal mass

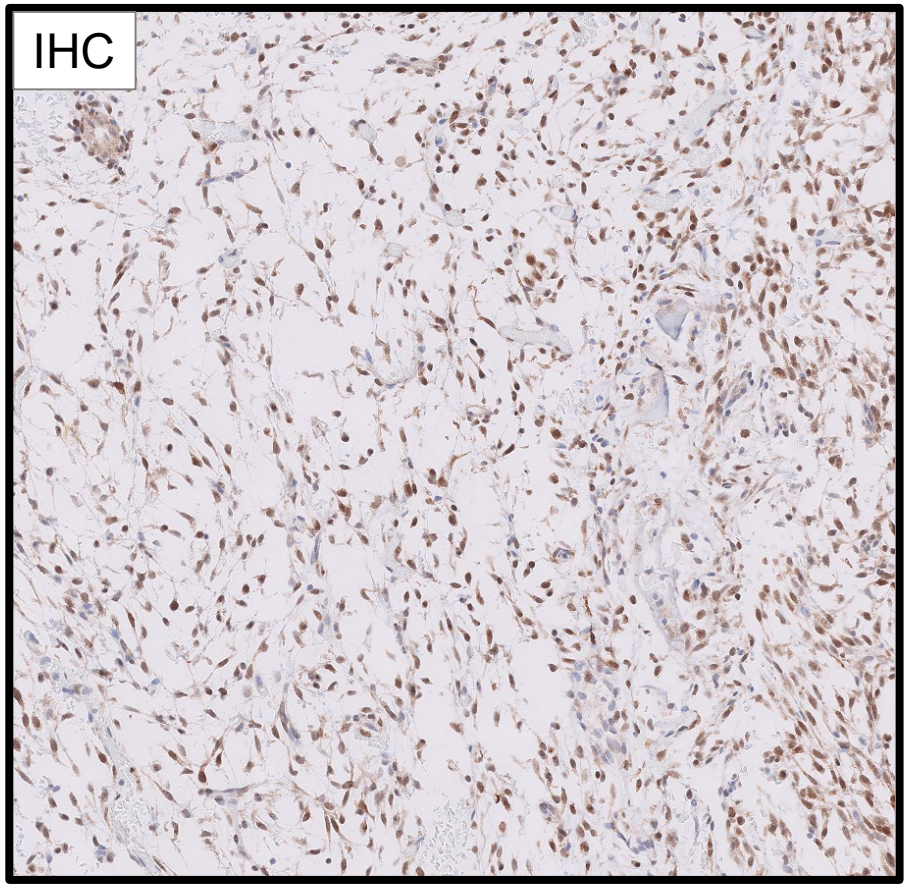


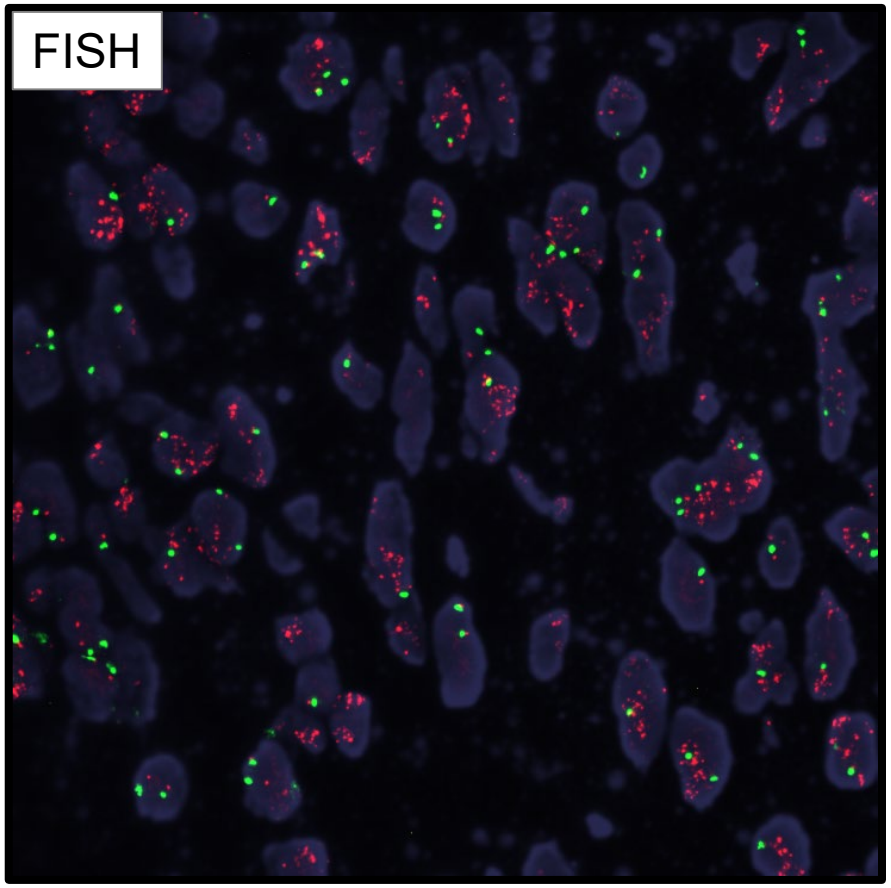
H&E: well-differentiated & Dedifferentiated components



MDM2+ by IHC

Ancillary results: MDM2





Green = centromere

Red = MDM2

Final Diagnosis

- Metastatic dedifferentiated **low-grade** liposarcoma

Dedifferentiated

=

no longer resembles tissue

of origin (i.e. not lipogenic)

Dedifferentiated Liposarcoma

Dedifferentiated liposarcoma (DDL) first described by Evans in 1979

Low-grade DDL first described by Henricks 1992

→Minority pattern

High-grade histology: pleomorphic sarcoma, myxofibrosarcoma-like

Low-grade histology: bland fibroblastic spindle cells, sometimes myxoid, minimal atypia or pleomorphism

Location most important prognostic factor (worse diagnosis retroperitoneal, intra abdominal origin)

Histologic grade not of prognostic importance

DDL ancillary testing

Immunohistochemistry: Vimentin positive, variable expression of CD34, SMA, Desmin

→Most express MDM2 and CDK4

Combination of positive IHC for CDK4 combined with IHC/FISH MDM2 very specific

→strongly correlates with amplification

Key Points

- Dedifferentiation in liposarcomas results in a nonlipogenic sarcoma with variable histology
- Dedifferentiated liposarcoma occurs most commonly in the retroperitoneum
- Although dedifferentiated liposarcoma was originally thought to be all high grade, low grade dedifferentiation is recognized
- Histologic grade of differentiation is not prognostically significant
- MDM2 and/or CDK4 overexpression is very specific with MDM2 FISH the gold standard

References

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Acknowledgements

Wayne Slone (Neuroradiology, MRI images)

Dan Jones (Molecular pathology, FISH image)

Paul Wakely (Soft tissue pathology)

Jose Otero, Diana Thomas (Neuropathology)

Thank you!