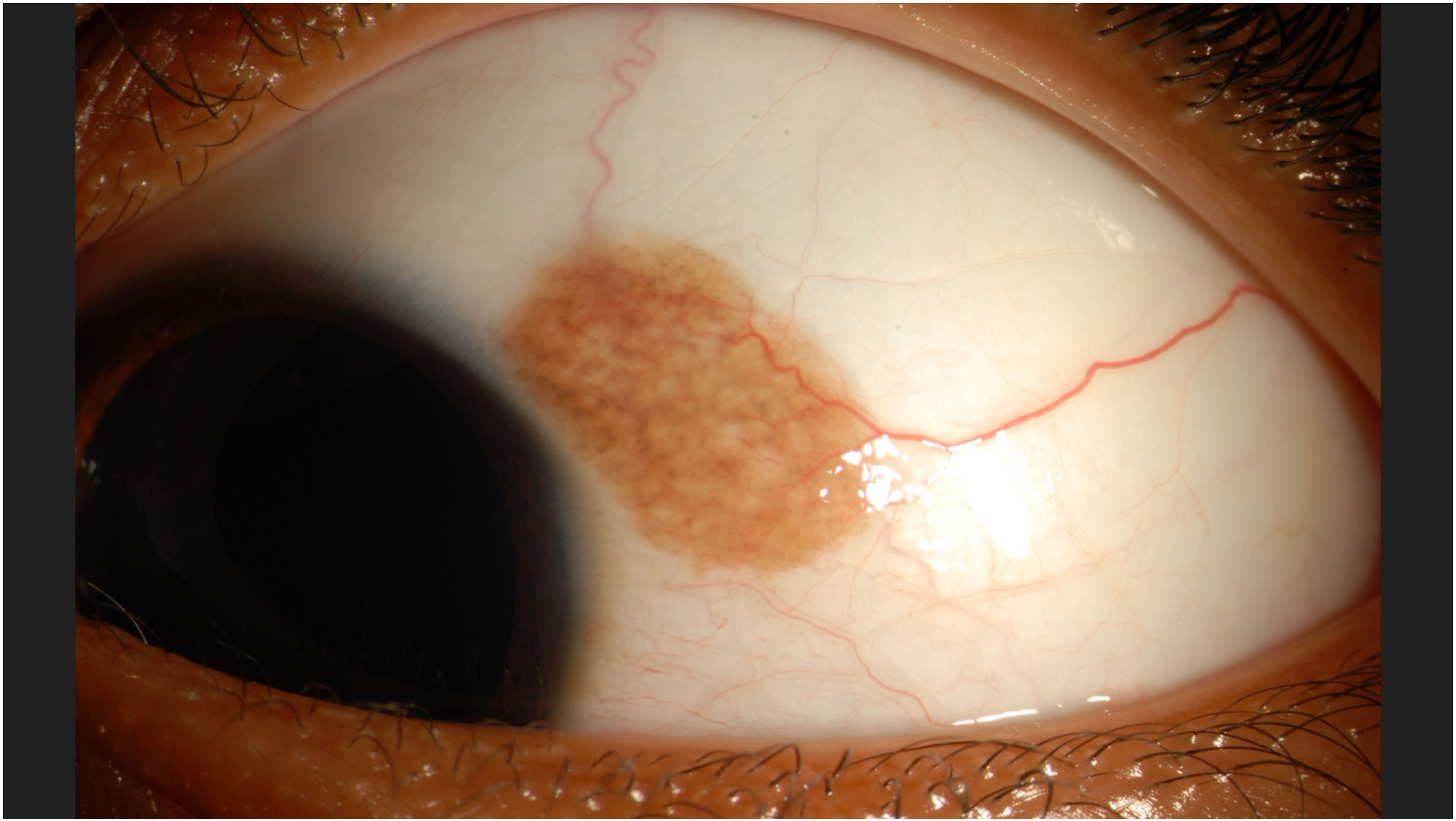
Pathology Visiting Professor Lecture

Sanika Udyaver

No financial disclosures

A 10-year old African-American female presented to the Ocular Oncology clinic for evaluation of an enlarging conjunctival lesion on her left eye

Past Medical History - None	Surgical History - None	Family History - None
Social History - None	Medications - None	Allergies - None



Va → 20/20, 20/20

IOP → FTN, FTN

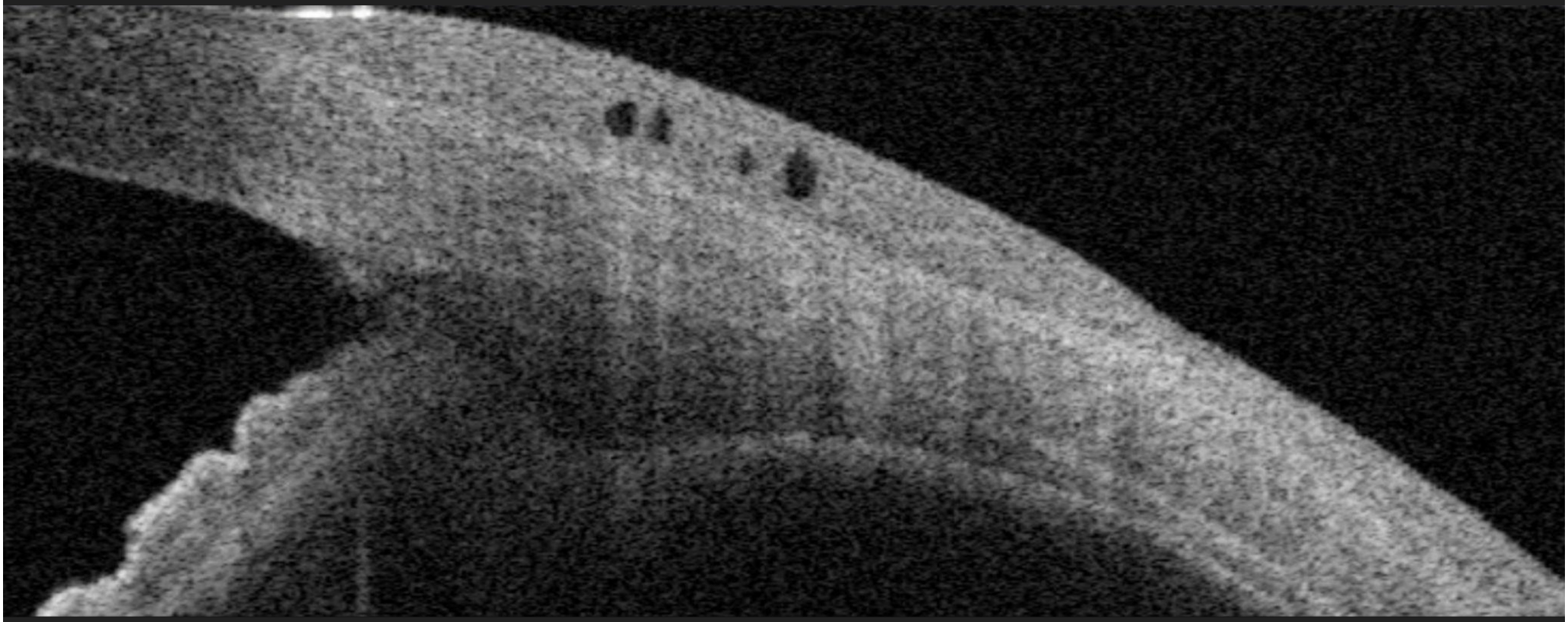
EOM → Full, Full

	OD	OS
External	Normal	Normal
Lids/Lash	Normal	Normal
Conj/Sclera	No CAM, W & Q	Temporal pigmented lesion (5 x 4 mm)
Iris	Normal	Normal
Lens	Clear	Clear

	OD	OS
Vitreous	Clear	Clear
Disc	Normal	Normal
C/D	0.3	0.3
Macula	Normal	Normal
Vessels	Normal	Normal
Periphery	Normal, no holes/tears/lesions	Normal, no holes/tears/lesions

What additional testing would you want to see?

Anterior Segment OCT



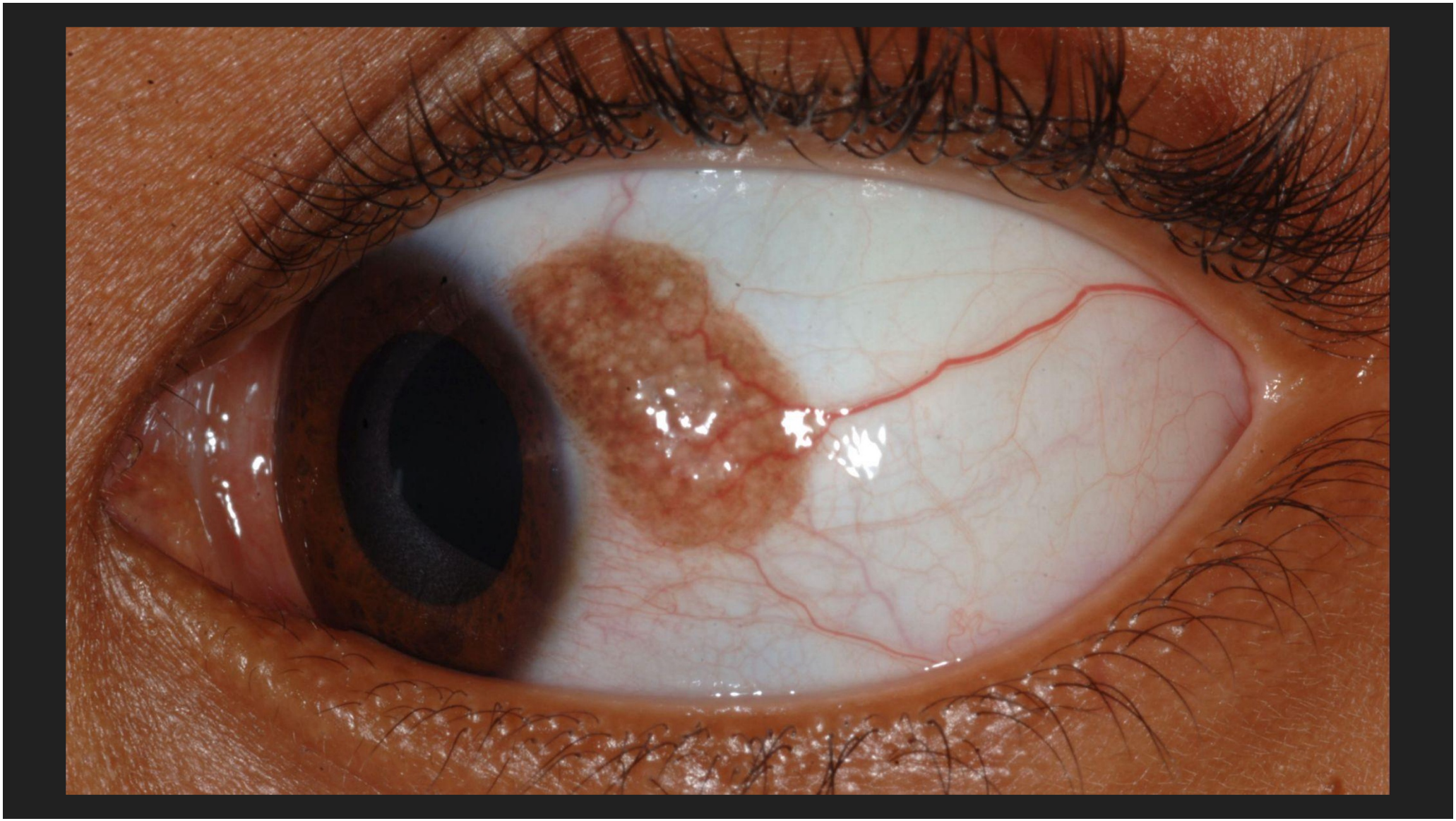
Conjunctival multicystic nevus

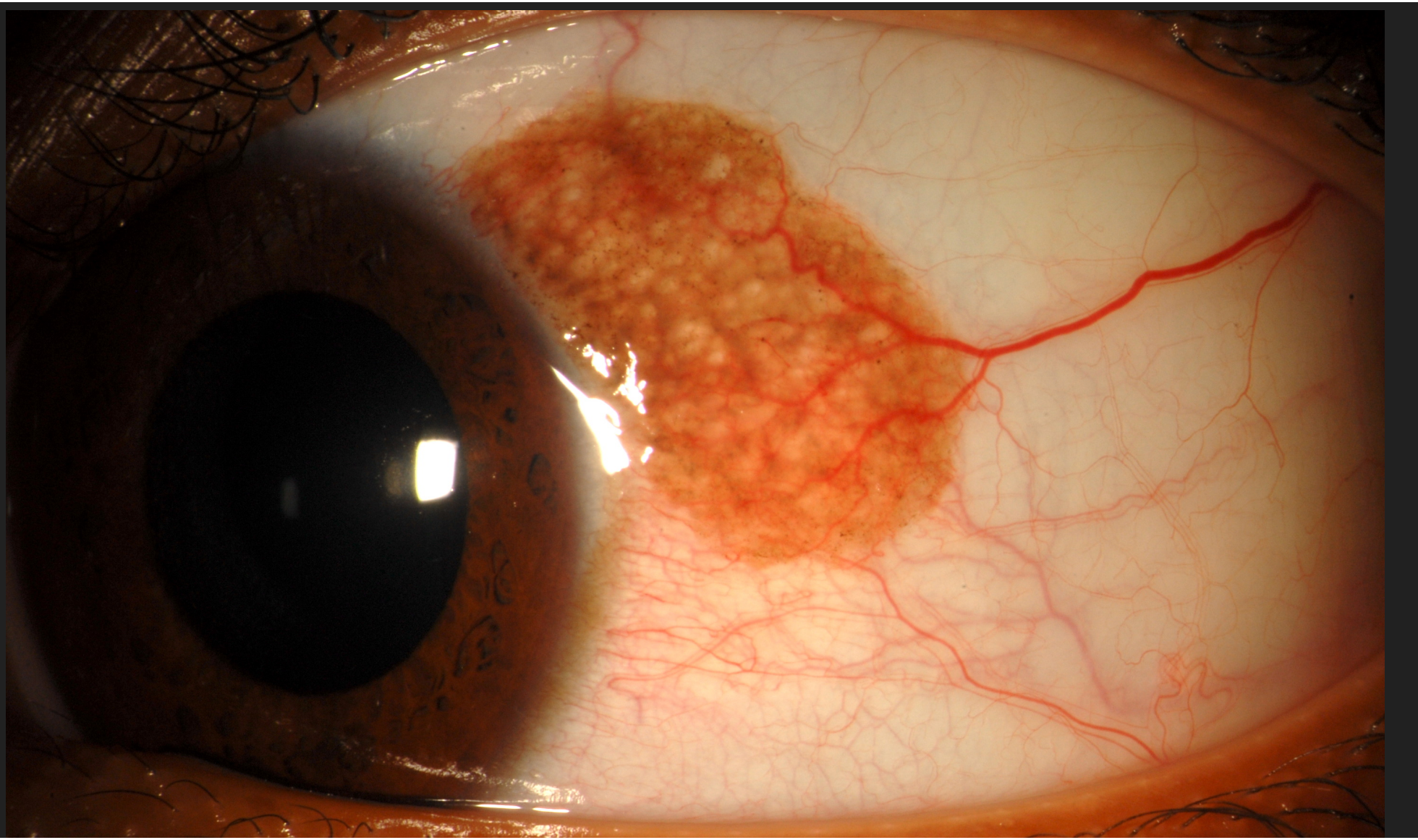
- 5 x 4 mm base
- 2 mm thickness

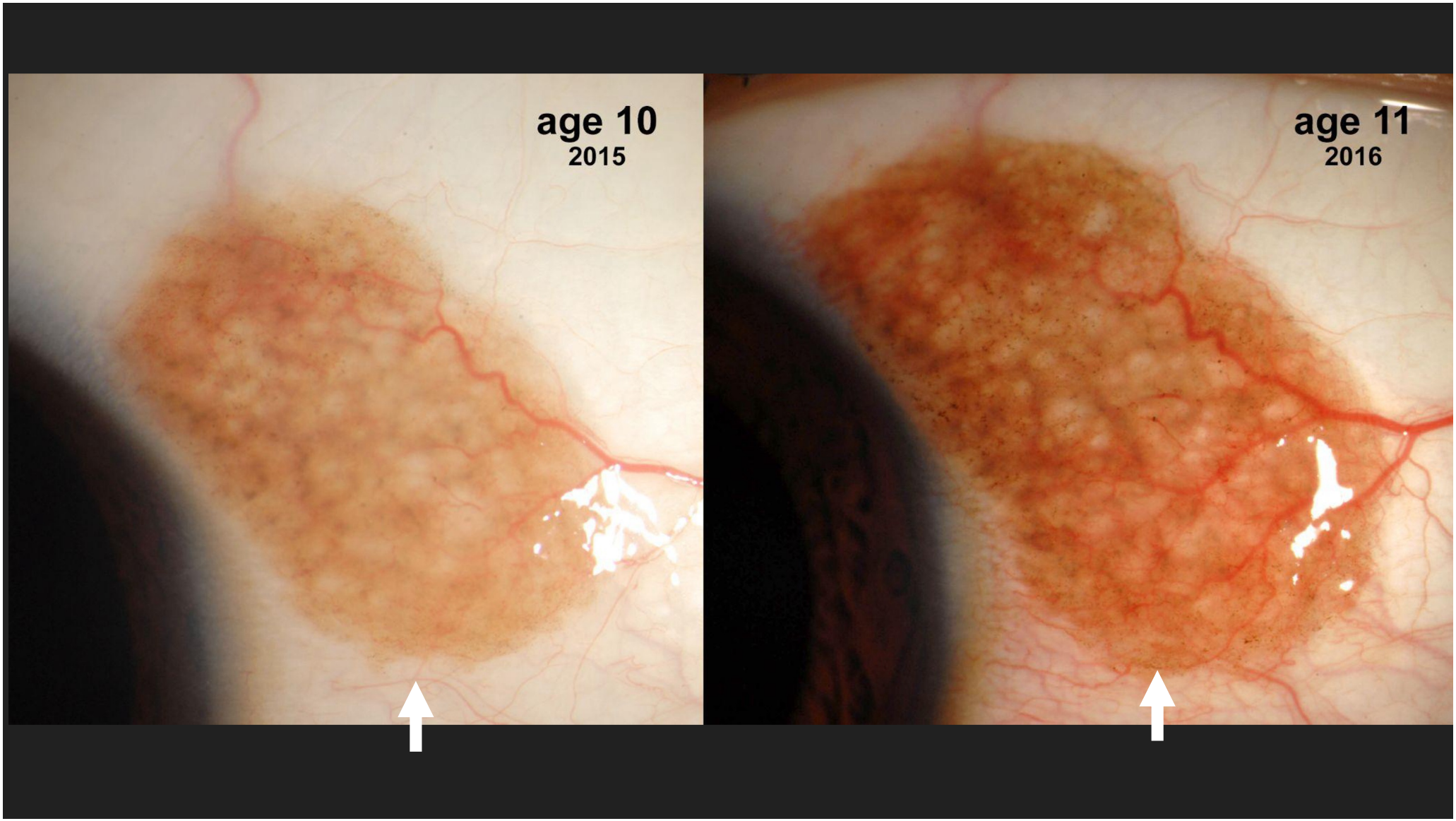
What would you do next?

- Monitor annually
- Biopsy
- More testing

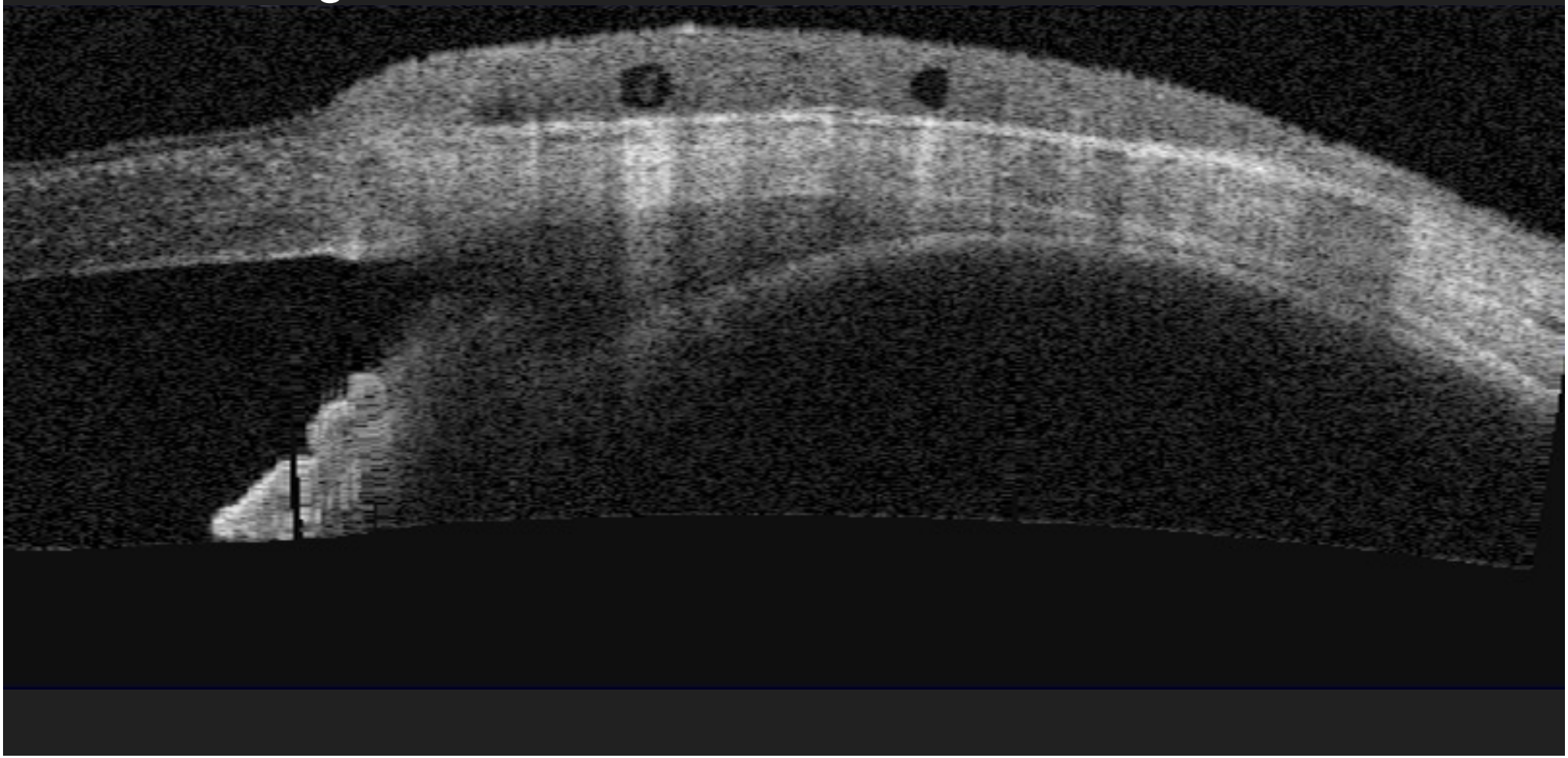
Patient returned 1 year later for monitoring





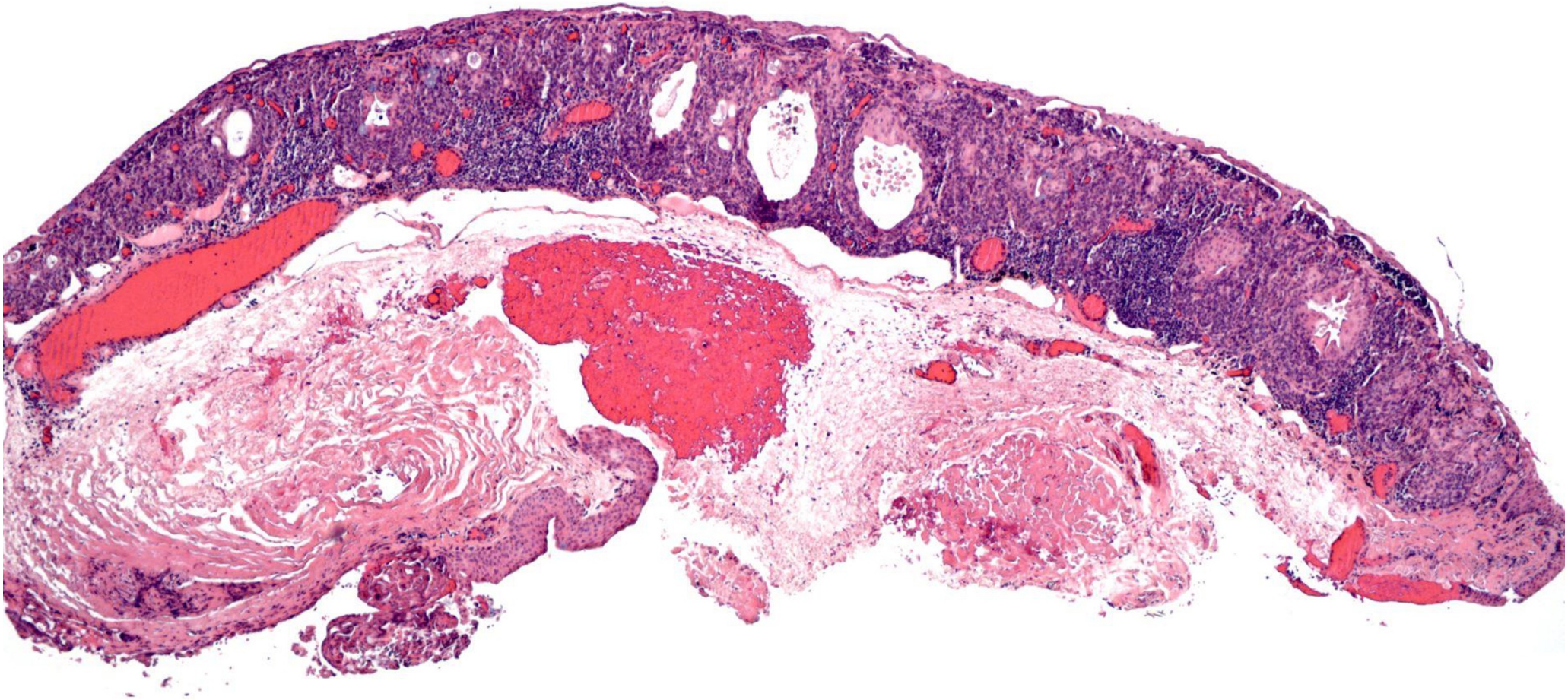

age 10
2015
age 11
2016

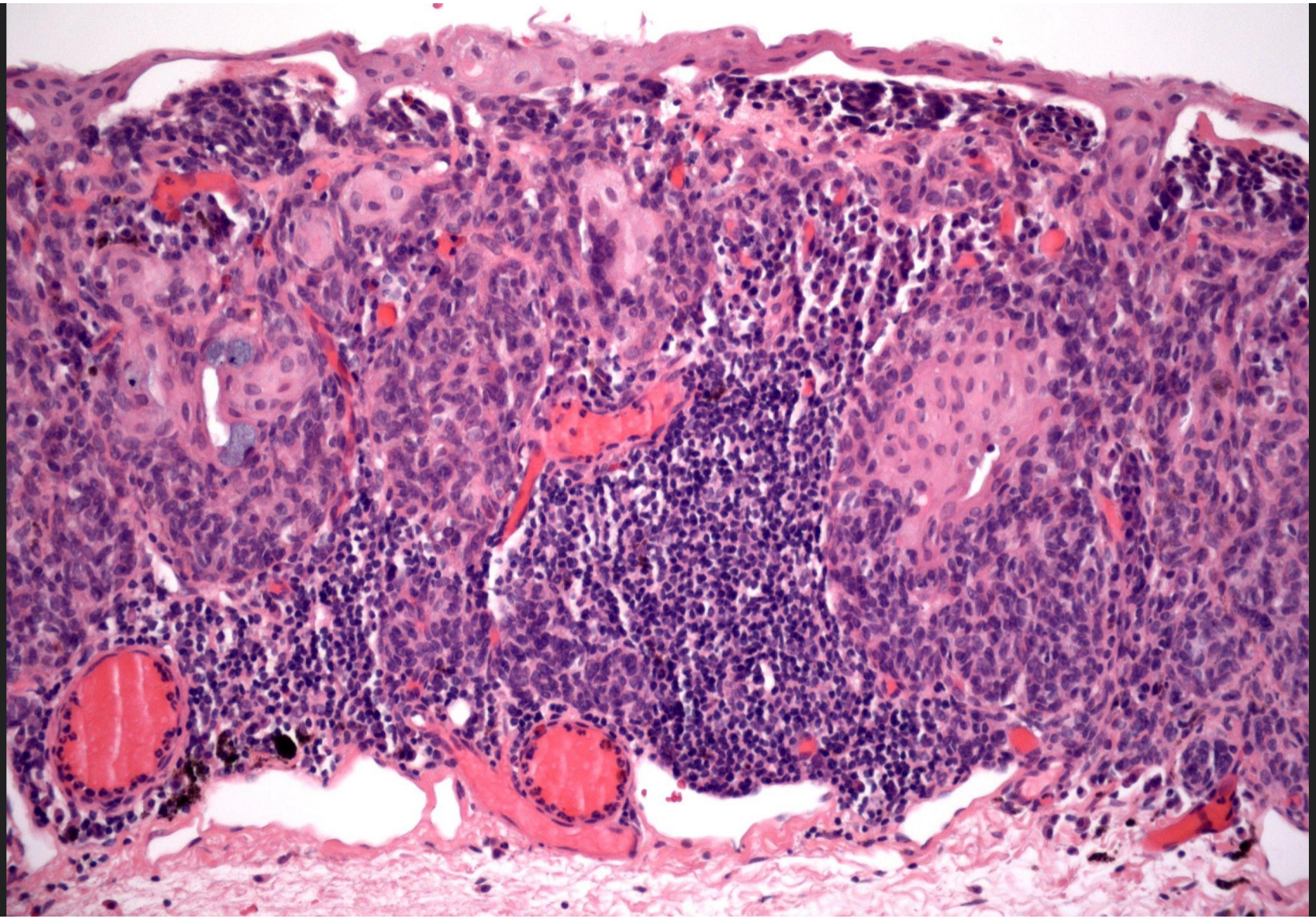
Anterior Segment OCT

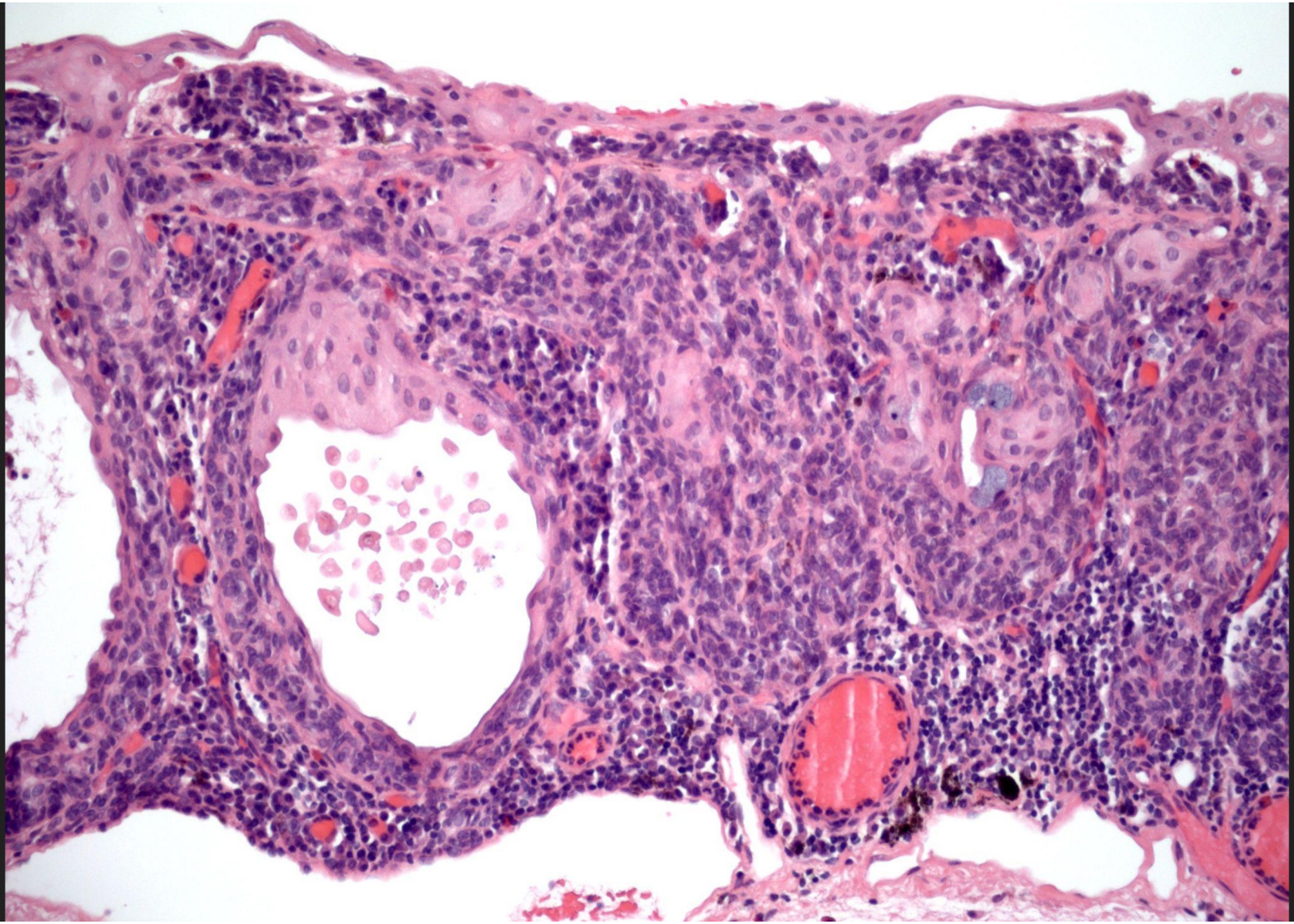


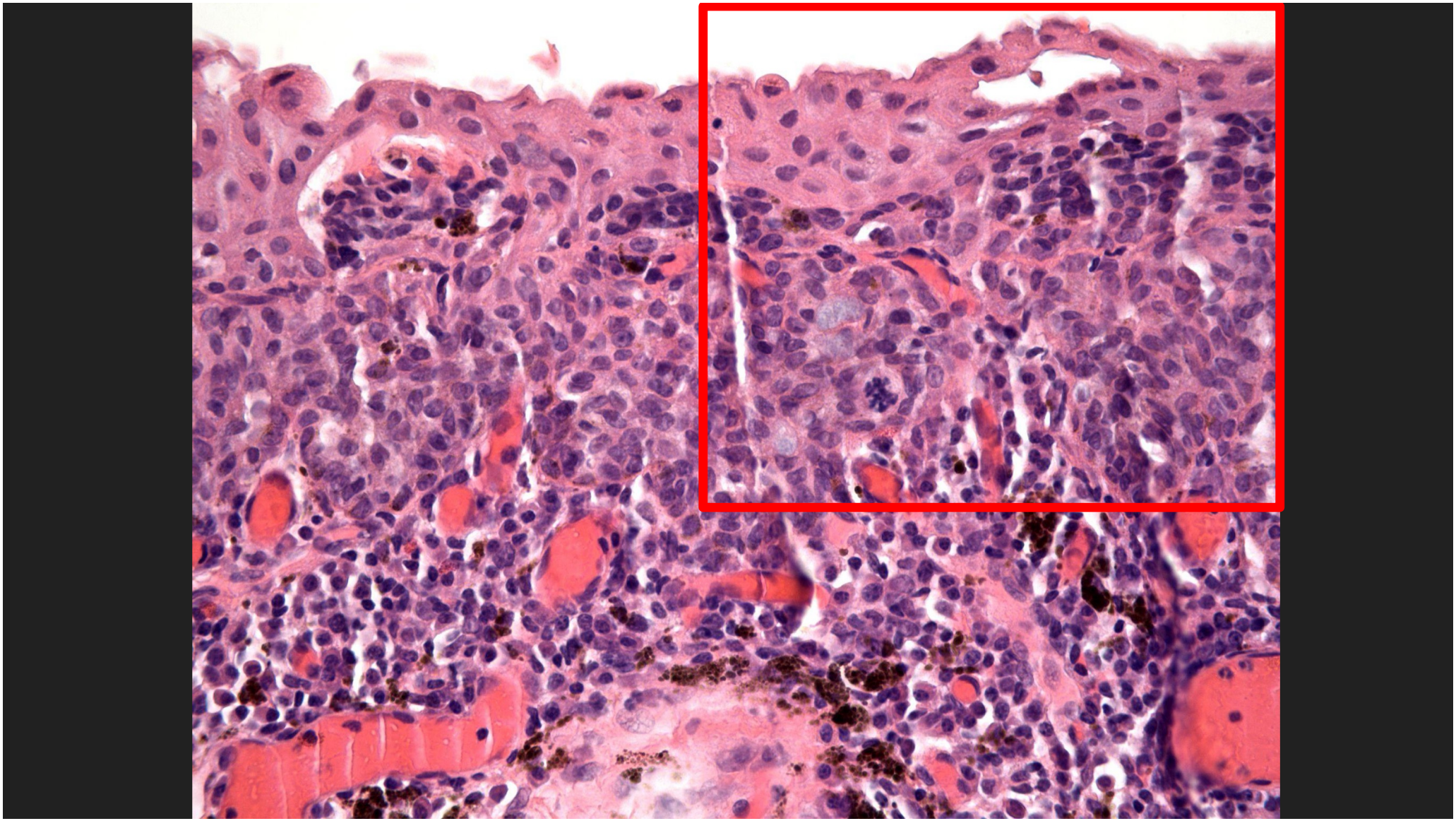
What should we do next?

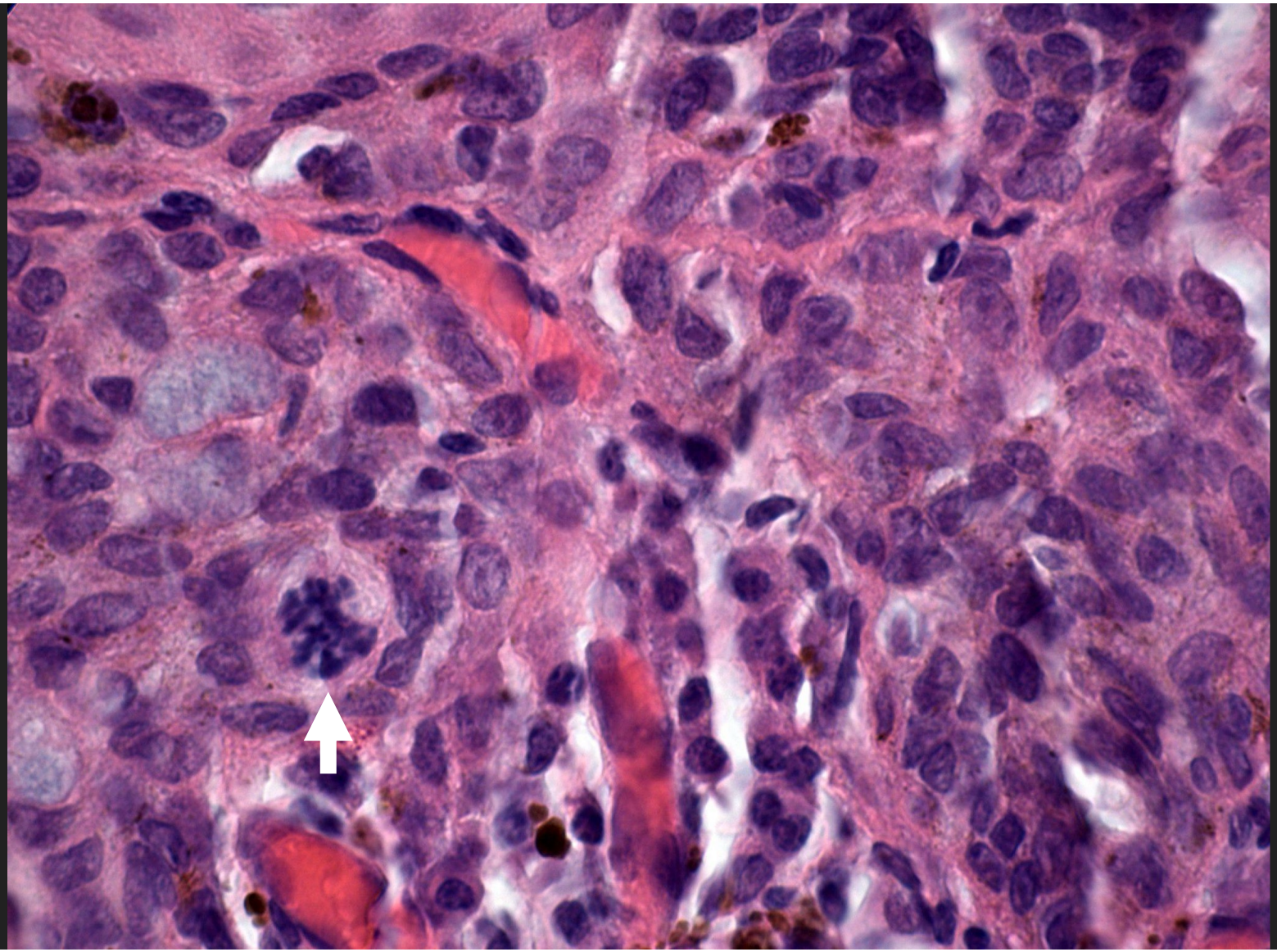
- Monitor again
- Excisional biopsy
- More testing

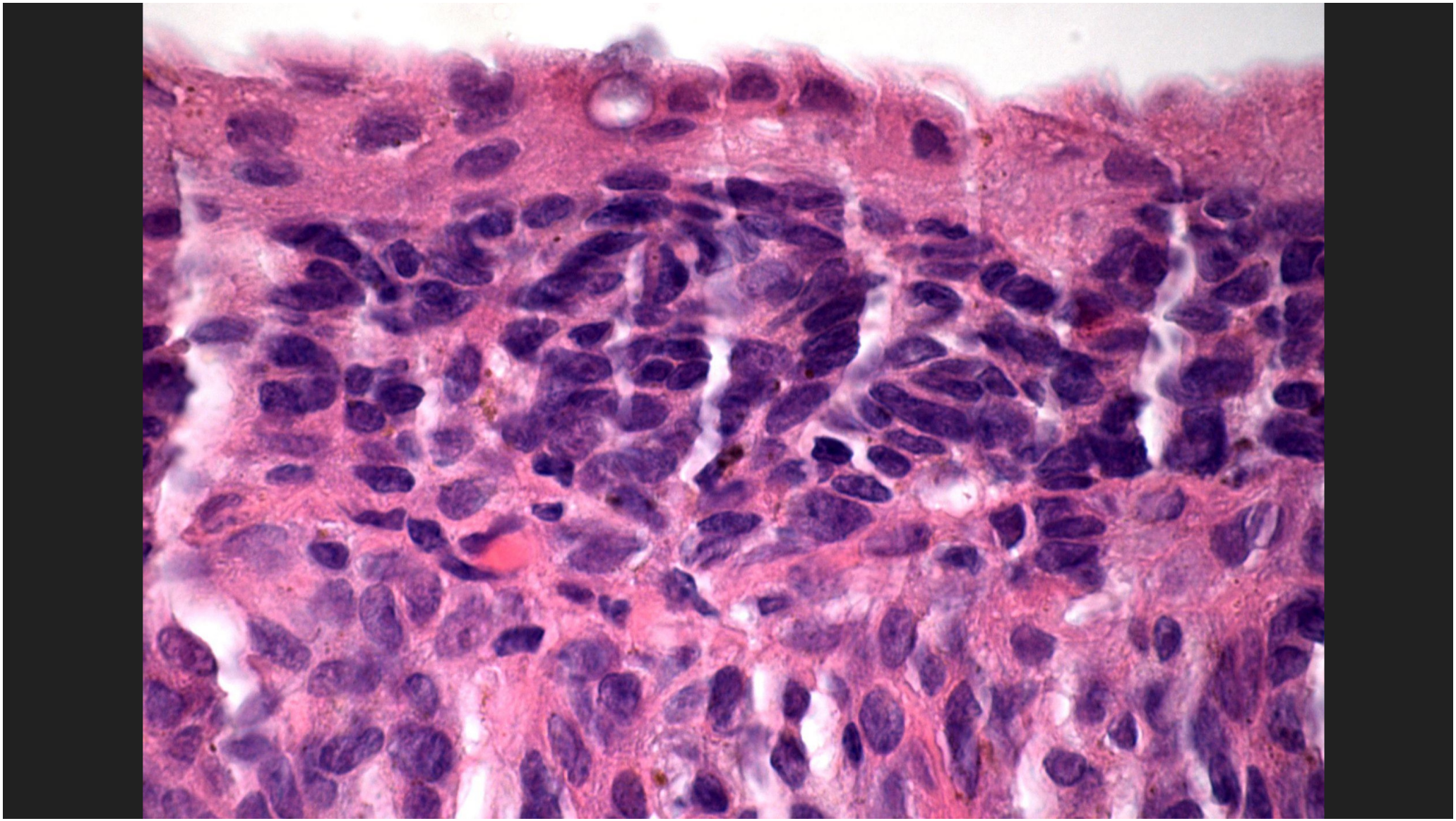


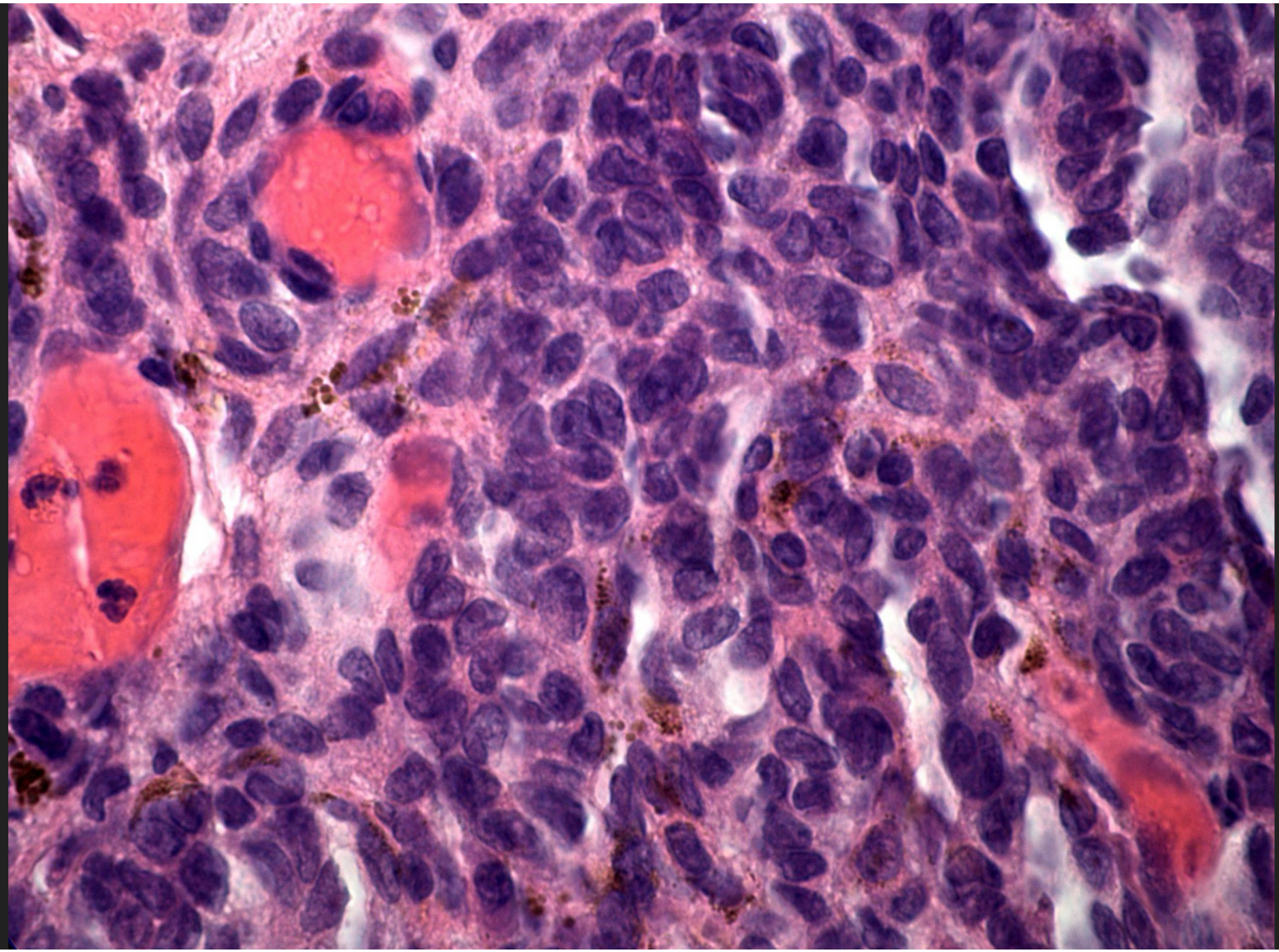




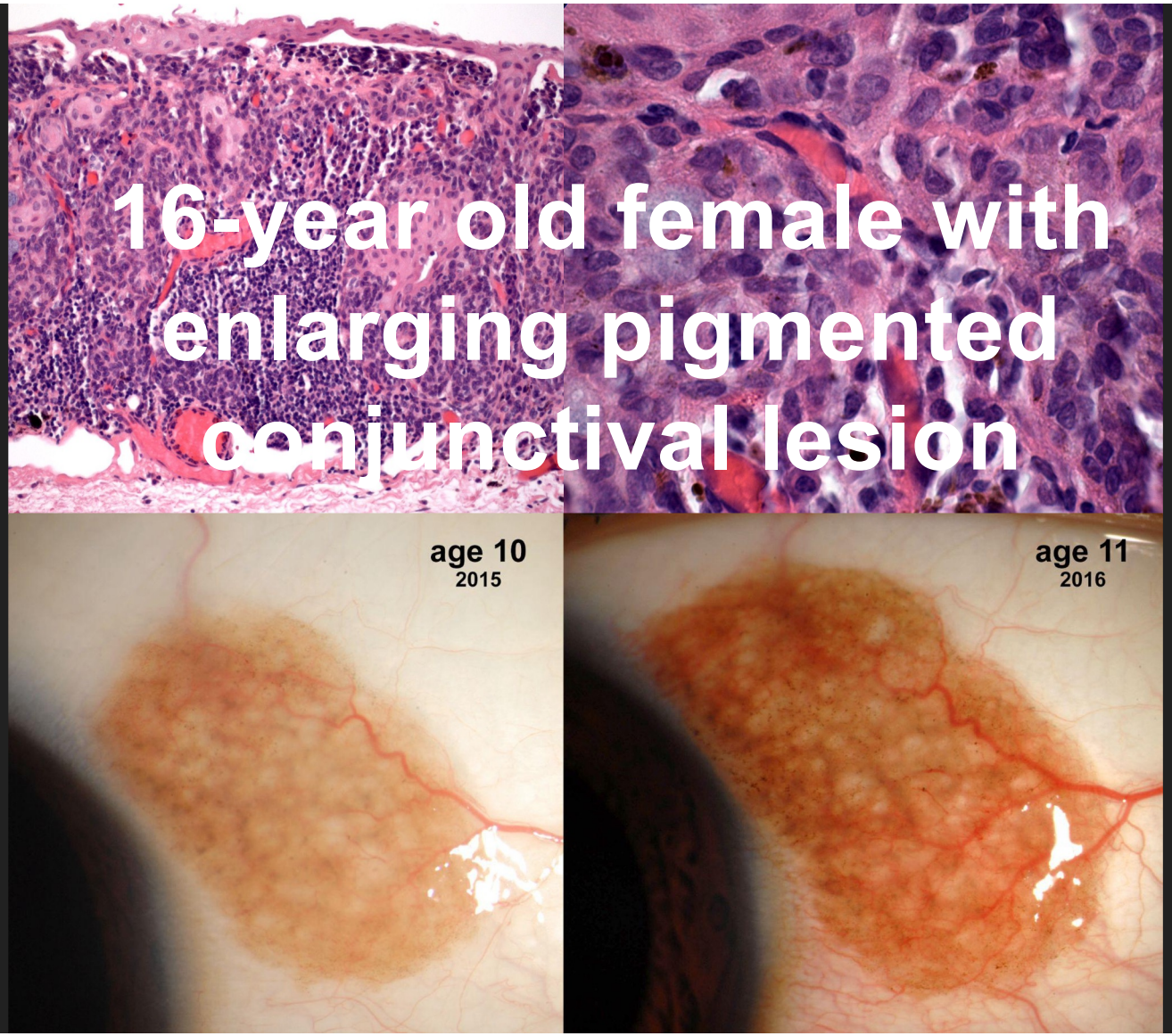


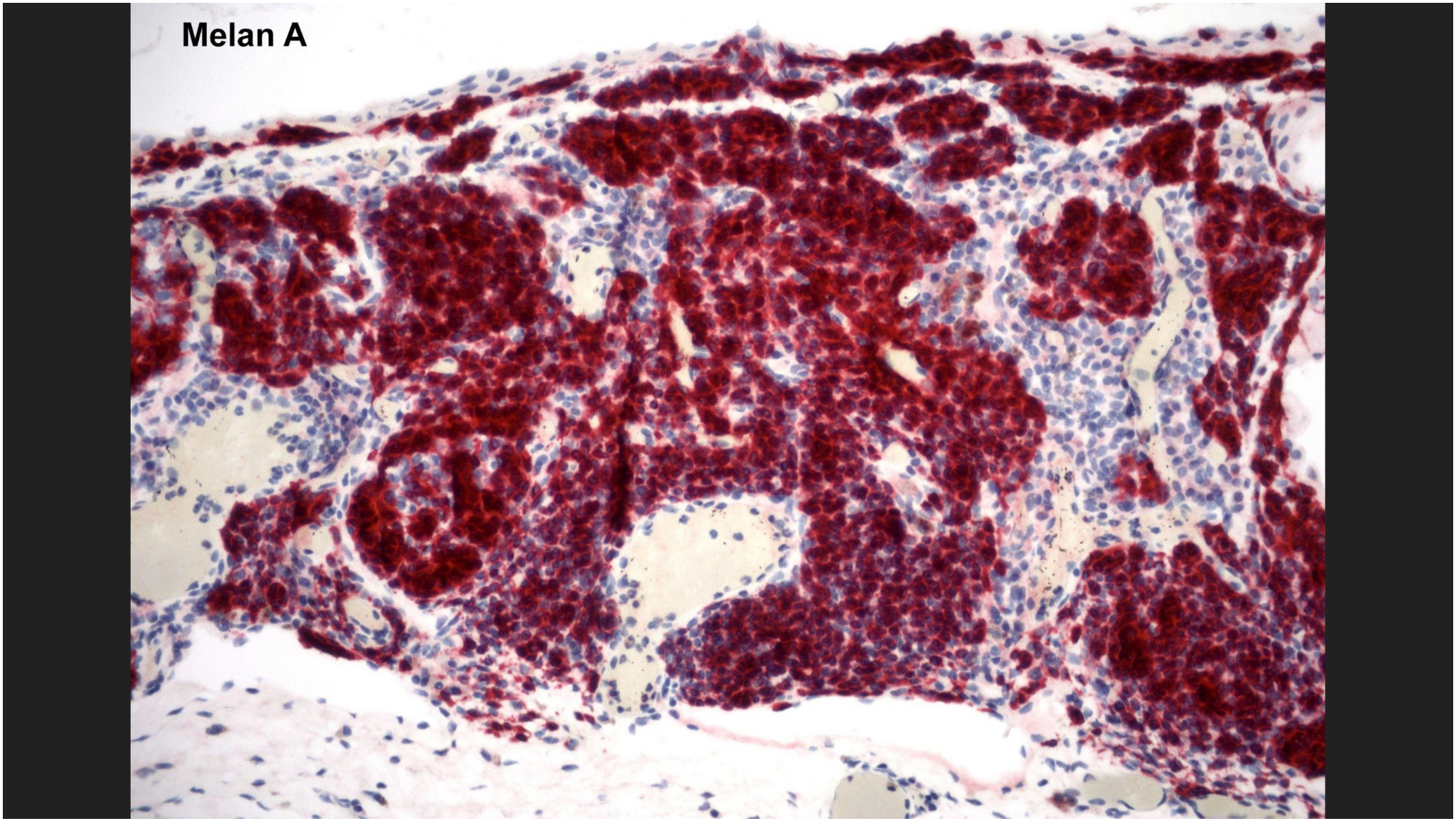


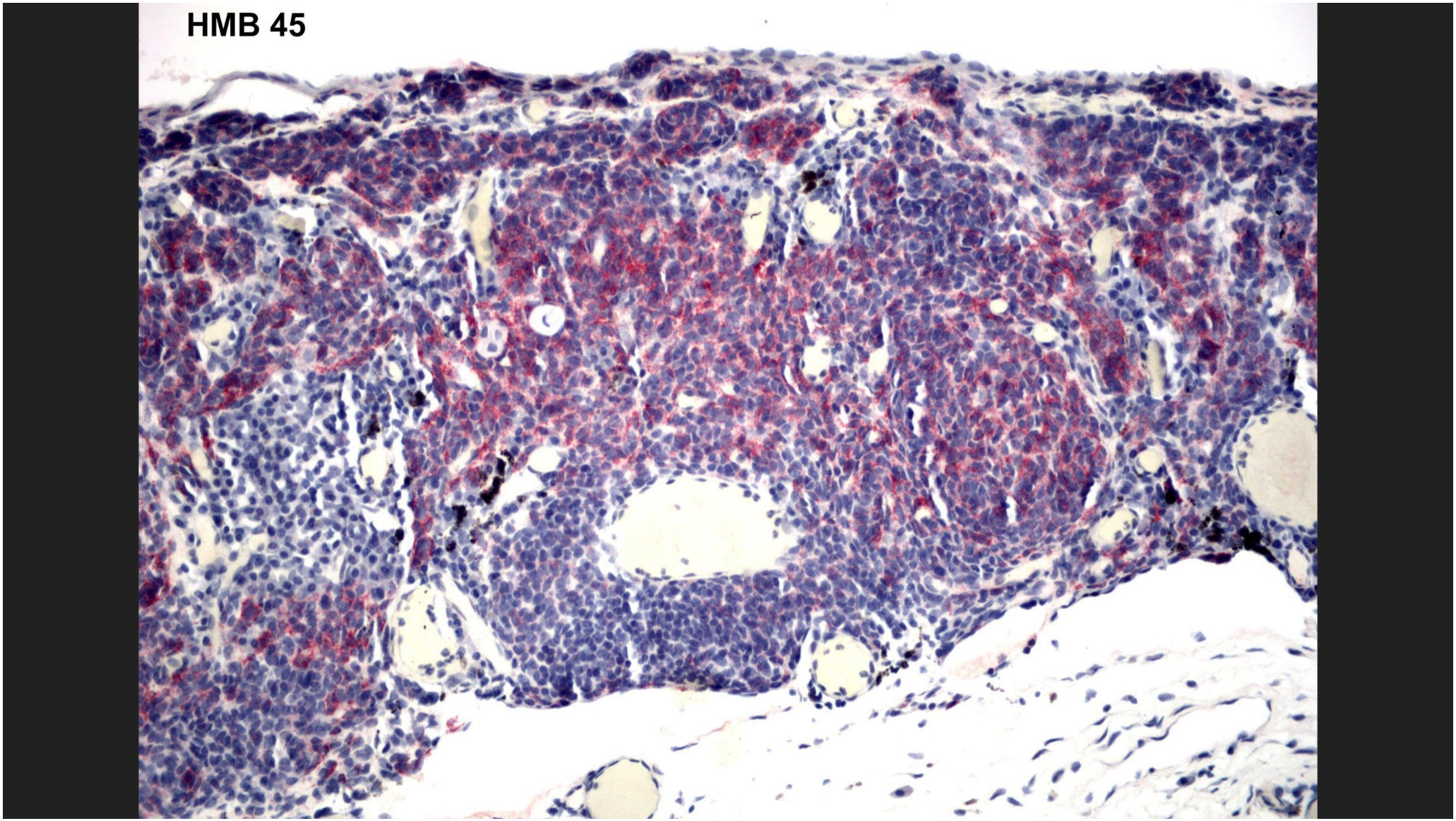


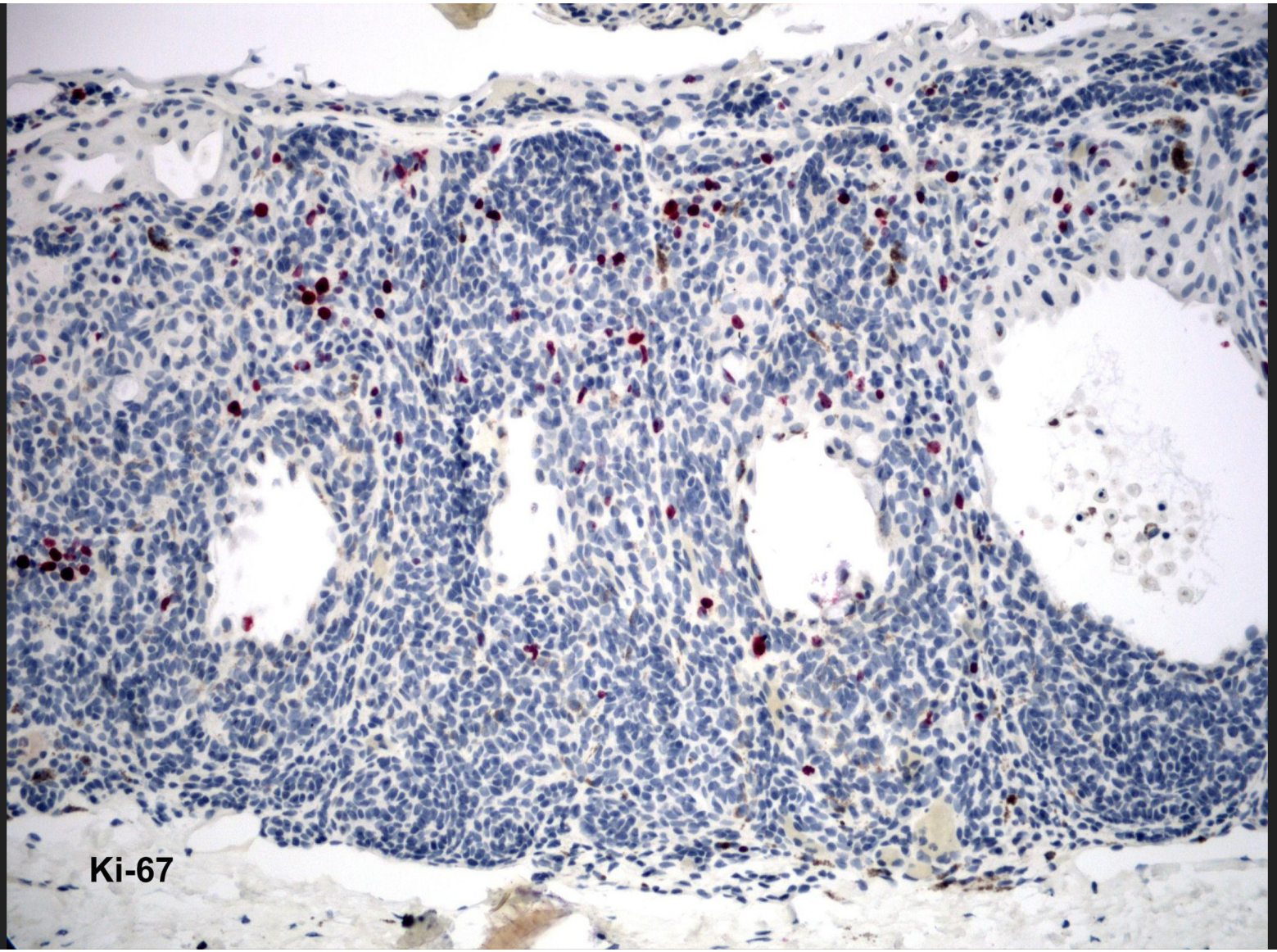


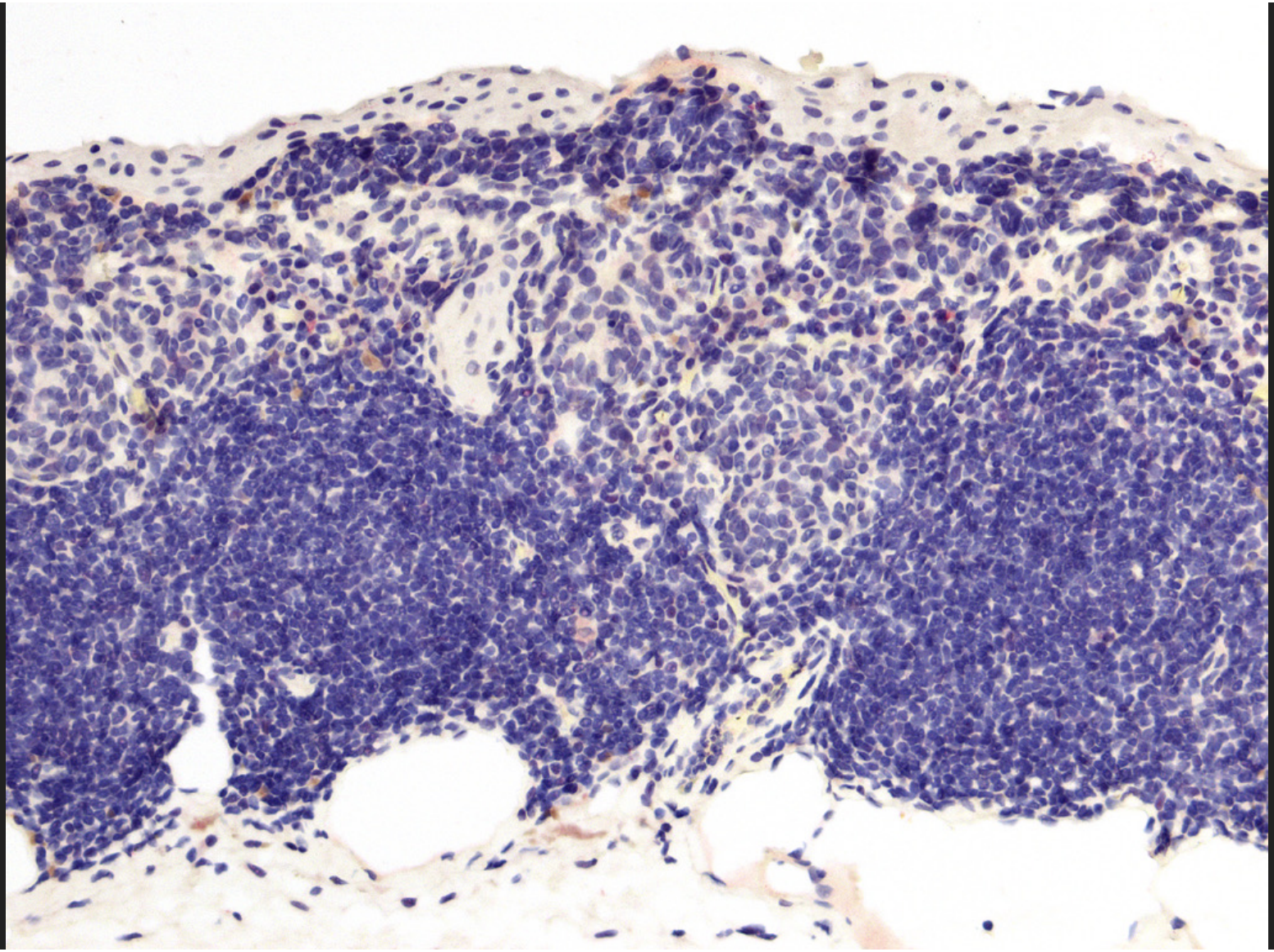
16-year old female with enlarging pigmented conjunctival lesion




Melan A


HMB 45


Ki-67



HMB-45

- Human Melanoma Black
- Monoclonal antibody which recognizes melanosomal glycoprotein gp100
- Gp100: membrane protein which facilitates maturation of melanosomes
- Marker to confirm melanoma

Original Article

The Korean Journal of Pathology 1995;29(2): 189-196.

Immunohistochemical Evaluation of HMB-45 and S-100 Protein in Melanocytic Tumors.

Chang Soo Park, Hwan Kim, Hyang Mi Ko, Kyung Soo Kim, Ji Shin Lee

Department of Pathology, Chonnam University College of Medicine, Kwangju, Korea.

ABSTRACT

Immunohistochemical staining on paraffin sections for S-100 protein improved diagnostic accuracy for melanocytic tumor. But specificity of S-100 protein in the diagnosis of melanocytic tumor is very low, because S-100 protein was also expressed in neurogenic tumor and salivary gland tumor. To investigate a specific tumor marker for the malignant melanoma, immunohistochemical staining for HMB-45 and S-100 protein was performed on the paraffin sections of 25 cases of malignant melanoma and 46 cases of nevi. Positive reaction for HMB-45 and S-100 protein was diffusely identified in the cytoplasm of tumor cells. Positive ratio for HMB-45 was 100% in malignant melanoma, 92% in junctional component of compound nevus and 0% in intradermal nevus. Positive ratio for S-100 protein was 92% in malignant melanoma, 100% in compound nevus and 100% in intradermal nevus. The sensitivity and specificity for HMB-45 in malignant melanoma were 100%, but those for S-100 protein were 92% in sensitivity and 86.7% in specificity. These results indicate that HMB-45 has a high sensitivity and specificity for malignant melanoma cells and it can be quite useful for the histopathological diagnosis of malignant melanoma.

Key Words: HMB-45; S-100 protein; Malignant melanoma

Inflamed Juvenile Conjunctival Nevus

- 11-13 year old females/males
- Location
  - perilimbal, may involve limbus
- Associated with:
  - Asymptomatic or symptomatic allergic conjunctivitis
- Clinical features:
  - Elevated, well-circumscribed nodule
  - Amelanotic or melanotic
  - Cystic structure
  - Resembles compound nevus with epidermal and dermal components
  - 75% with plasma cells and eosinophils

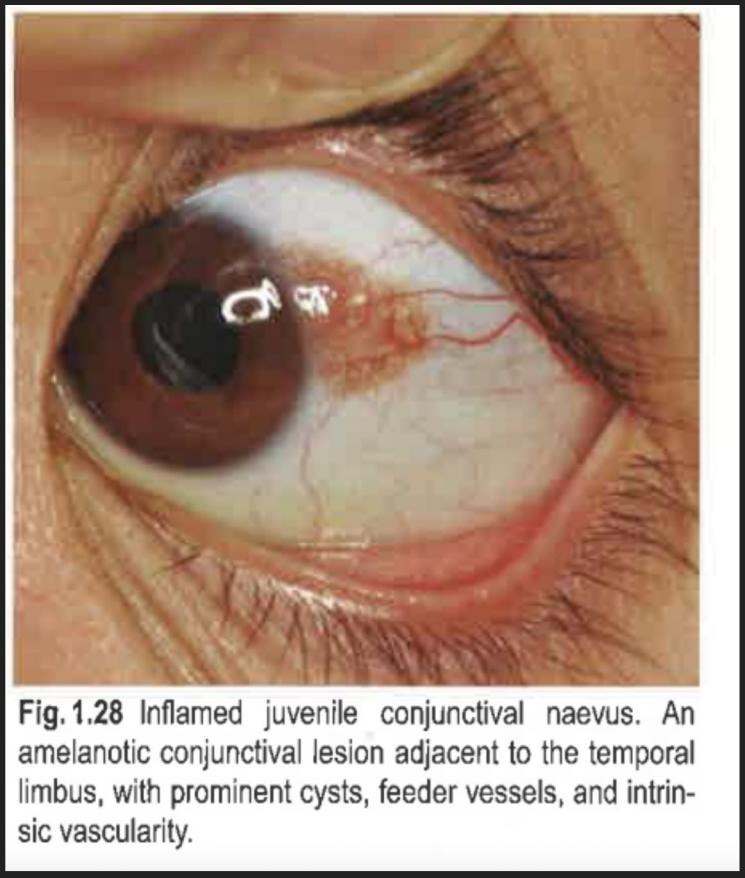


Fig. 1.28 Inflamed juvenile conjunctival naevus. An amelanotic conjunctival lesion adjacent to the temporal limbus, with prominent cysts, feeder vessels, and intrinsic vascularity.

Inflamed Juvenile Conjunctival Nevus

- Disorganized growth
  - Rapid growth with feeder vessel congestion
  - Prominent confluent junctional nests
  - **Reverse maturation:** nevus cells larger in subepithelial component than junctional component
  - Rare mitotic figures
- Enlargement
  - Inflammatory infiltration and cystic enlargement
- Stains
  - HMB45 in superficial layer

Inflamed juvenile conjunctival naevus: clinicopathological characterisation

Ehud Zamir, Hadas Mechoulam, Alessandra Micera, Francesca Levi-Schaffer, Jacob Pe'er

Br J Ophthalmol 2002;**86**:28–30

- 63 conjunctival nevi of patients under age 20
- 47/63 conjunctival nevi classified as IJCN
- 47/47 (100%) **perilimbal**
- 47/47 (100%) with **rapid growth or congestion for several weeks to months, increased pigmentation**
- 18/24 (75%) with various **allergic diseases**
- 47/47 (100%) with **junctional nests**
- 47/47 (100%) with **lymphocytic infiltration**
- 32/47 (72%) with **epithelial cysts**
- 36/47 (77%) with **eosinophilic infiltration**

Juvenile Conjunctival Nevus

Clinicopathologic Analysis of 33 Cases

Sureka Thiagalingam, MBChB, MPH,† Matthew M. Johnson, MD,†‡*
Kathryn A. Colby, MD, PhD,† and Artur Zembowicz, MD, PhD*†‡*

- 40 conjunctival nevi with confluent growth pattern and lack of maturation
- 33/40 classified as IJCN
- Mean age 10.9 years
- 33/33 (100%) with **nested junctional growth pattern**
- 19/33 (59%) with **subepithelial nevus nuclei larger than epithelial nevus nuclei**
- 17/33 (52%) with **lymphocytic host response**

References

- Weltgesundheitsorganisation. *WHO Classification of Tumours of the Eye*. 4th edition. (Grossniklaus HE, Eberhart CG, Kivelä TT, eds.). International Agency for Research on Cancer; 2018.
- Thiagalingam S, Johnson MM, Colby KA, Zembowicz A. Juvenile conjunctival nevus: clinicopathologic analysis of 33 cases. Am J Surg Pathol. 2008 Mar;32(3):399-406.
- Zamir E, Mechoulam H, Micera A, Levi-Schaffer F, Pe'er J. Inflamed juvenile conjunctival naevus: clinicopathological characterisation. *Br J Ophthalmol*. 2002;86(1):28-30.

Thank You!!

Dr. Folberg

Dr. Milman

Dr. Eagle

Dr. Shields