

# European Ophthalmic Pathology Society

63<sup>rd</sup> Annual Meeting

Date of Meeting: 11<sup>th</sup> June 2025

Guest's Name: Huda Fadlelseed

National Ophthalmic Pathology Laboratory, Royal Victoria Eye  
and Ear Hospital, Adelaide Road, Dublin, Ireland

Email: [huda.fadlelseed@rveeh.ie](mailto:huda.fadlelseed@rveeh.ie)

Case No: 24E1951

Material distributed: 1 H&E slide

## Sudden Growth in Iris Melanocytoma

### Clinical history:

In 2012, a 70-year-old Caucasian woman, presented with a dark spot on her right iris. The lesion was homogeneous and pigmented, 1.45mm. There was no ciliary body involvement and no seeding. The anterior chamber angle was open and IOP was normal. Her visual acuity was 6/7.5 in the right eye and 6/6 in the left eye. The clinical appearance of the lesion is keeping with iris melanocytoma. Conservative management and clinical surveillance were advised. The patient was followed up annually for 7 years until 2019. She did not attend during or after the COVID-19 pandemic. In 2024, 5 years later, she re-presented with severe pain in her right eye. IOP was 22mmHg/OD and 16mmHg/OS. Visual acuities were 6/10-OD and 6/5-OS. There was interval increase in size of the iris lesion, with a new exophytic component arising from the flat pre-existing melanocytoma suspicious of transformation into iris melanoma, and excision biopsy was recommended.

### Pathology:

The excised tumour is dark tissue 4x3x 2mm. The histology revealed 2 distinct areas; one composed of heavily pigmented, large polygonal cells with bland nuclei, and the other is a cellular nodule of pleomorphic spindle/ ovoid cells, with 2 mitosis and variable pigmentation. No necrosis was identified. At the periphery the cellularity was mixed. Testing for BAP-1 mutation was negative with BAP-1 IHC intact. Ki-67 was 3%. This was consistent with melanoma arising on melanocytoma.

In January 2025 (6 months), there was a new focus of episcleral pigmentation and interval progression of extensive anterior chamber angle pigmentation. IOP was elevated with secondary glaucoma, raising concern for local recurrence. UBM demonstrated a local recurrence of a solid iris mass with involvement of the anterior chamber angle. Biopsy of the episcleral lesion confirmed subepithelial conjunctiva involvement by known iris melanoma. No evidence of metastasis on imaging, and the patient subsequently underwent enucleation.

**Histology of enucleation:** revealed iris tumour with large epithelioid cells, vesicular nuclei, abundant eosinophilic cytoplasm, and prominent nucleoli. Tumour involved sclera, canal of Schlemm and anterior chamber.

### Discussion:

Melanocytomas are dark brown to black homogeneously pigmented lesions with a granular surface. In contrast, iris naevi are lighter in colour and lack surface granularity, while melanomas tend to be larger, exhibit intrinsic vascularity and have irregular margins. Histologically, melanocytomas are composed of deeply pigmented, large polygonal cells with small uniform nuclei. Mitosis is usually absent, although necrosis can be observed in larger tumours. Melanocytomas are slow-growing lesions, however, an overgrowth can occur. This was described in a 9-year-old boy where the progressive enlargement of melanocytoma required surgical excision. Melanocytoma can undergo spontaneous necrosis, which results in pigment distribution onto the iris and trabecular meshwork resulting in anterior chamber obstruction and secondary glaucoma. Resolution of secondary glaucoma following surgical excision of a necrotic melanocytoma has been documented.

The current case describes an iris melanocytoma that remained clinically stable, with no progression, for 7 years. In 2024, the lesion developed a new nodular growth and discolouration raising suspicion of malignant transformation. At the most recent presentation in 2025, the development of secondary glaucoma suggested local recurrence of iris melanoma.

Malignant transformation of iris melanocytoma is exceptionally rare, with only 4 cases reported in the English literature based on searches in PubMed and Google Scholar. Of these, 3 patients were females, and one was male, with ages ranging from 20 to 54 years. Two required trabeculectomy with mitomycin C to manage elevated IOP due to the melanocytoma. All 4 patients presented with features suggestive of malignancy arising from a pre-existing melanocytoma. The malignant changes in the melanocytoma were observed over a time span ranging from 17 months to 15 years. Three of the patients underwent enucleation, and one was treated with sector iridectomy.

### **Selected references**

1. Shields JA, Eagle RC, et al. Progressive growth of an iris melanocytoma in a child. *Am J Ophthalmol.* 2002;133(2):287–9.
2. Rummelt V, Naumann GOH, et al. Surgical Management of Melanocytoma of the Ciliary Body with Extrascleral Extension. *Am J Ophthalmol.* 1994;117(2):169–76.
3. Fineman MS, Eagle RC, et al. Melanocytomalytic glaucoma in eyes with necrotic iris melanocytoma. *Ophthalmology.* 1998;105(3):492–6.
4. WHO Classification of Tumours Online.
5. Cialdini AP, Sahel JA, et al. Malignant transformation of an iris melanocytoma: a case report. *Graefes Arch Clin Exp Ophthalmol.* 1989;227:348–54.
6. Demirci H, Mashayekhi A, et al. Iris melanocytoma: clinical features and natural course in 47 cases. *Am J Ophthalmol.* 2005;139(3):468–75.
7. Sagoo MS, Mruthyunjaya P, et al. Malignant transformation of iris melanocytoma to iris ring melanoma. *Br J Ophthalmol.* 2007;91(11):1571–2.
8. Inoue R, Saishin Y, et al. A case of iris melanocytoma transformed to malignant melanoma. *Jpn J Ophthalmol.* 2009;53(3):271–3.
9. Thomas CI, Purnell EW. Ocular melanocytoma. *Am J Ophthalmol.* 1969;67(1):79–86.
10. Moshirfar M, Rageh A, et al. Benign and Malignant Iris Tumours. StatPearls Publishing; 2025.
11. Shields CL, Shields JA, et al. Iris melanoma. *Ophthalmology.* 2001;108(1):172–8.