

Choroidal Melanoma Misdiagnosis in the Presence of Sub-Retinal Fluid, Vitreous Hemorrhage and Retinal Detachment

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Objectives:

Diagnosing a choroidal melanoma can be challenging due to various factors as outlined in Figure 1. A missed diagnosis of a choroidal melanoma risks increased morbidity and mortality, especially when metastatic spread has occurred. Hence, early diagnosis and treatment is key in managing patients with this underlying malignancy. While choroidal melanoma is the commonest occurring primary intraocular malignancy, it is still uncommonly seen in clinical practice and so not as frequently dealt by ophthalmologists, especially those practicing in non-specialist oncology centers. To increase awareness of how a choroidal melanoma may present, we discuss a patient case highlighting the diagnostic difficulties that may arise and how these could be overcome to avoid unnecessary interventions and delayed treatment for patients.

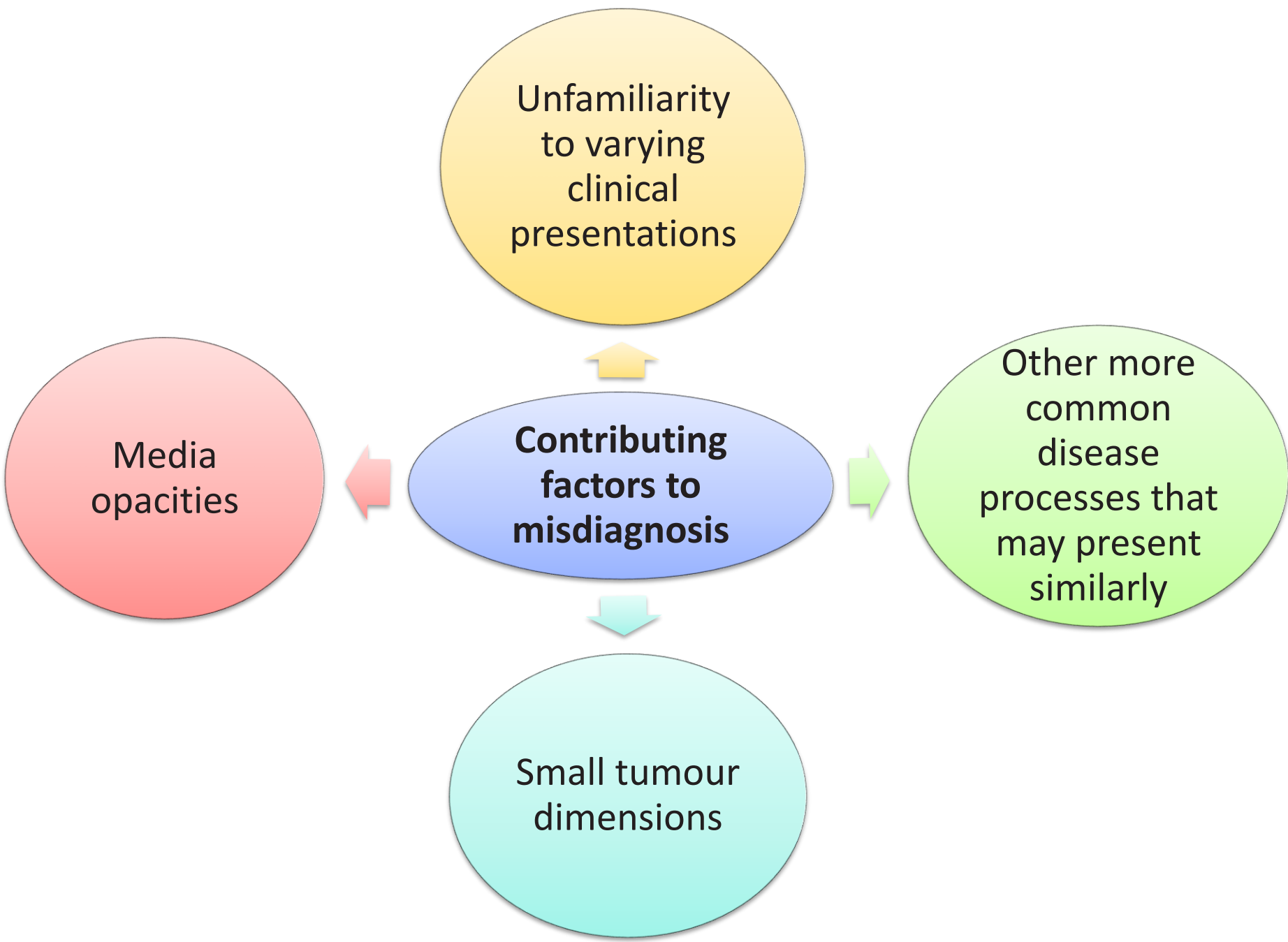


Figure 1: Factors contributing to a choroidal melanoma misdiagnosis

Methods:

Verbal informed consent for patient information and images was obtained. The patient demographics and clinical details were obtained from the Medisoft (Medisoft Limited, United Kingdom) application. The patient images were obtained from the IMAGENet (Topcon Corporation, Japan) data capturing system and the Moorfields hospital system.

Case Description:

A 72-year-old Caucasian female presented with a few months’ history of blurred vision in the left eye. On examination, visual acuity was 6/7.5 Snellen OD and 6/12 Snellen OS with normal intraocular pressures bilaterally. Fundoscopy was unremarkable (Figure 2) and OCT scanning displayed a small amount of central subretinal fluid, as well as some retinal pigment epithelial changes. She was diagnosed with a sub-clinical choroidal neovascular membrane secondary to age-related macular degeneration.

She presented eight months later with a marked reduction in visual acuity to hand movements with associated vitreous haemorrhage. A diagnosis of sub-retinal haemorrhage and haemorrhagic retinal detachment from a presumed eccentric choroidal neovascular membrane was made, which was managed with a pars plana vitrectomy. Intraoperatively, a subretinal dome-shaped swelling was noted, which appeared to be an organised haemorrhage. Following surgery, recurrent vitreous haemorrhage, and progression of early lens changes to more significant cataract precluded early visualisation of the fundus. When the haemorrhage failed to resolve promptly, ultrasonography was performed that revealed a pedunculated “collar stud” mass (Figure 3).

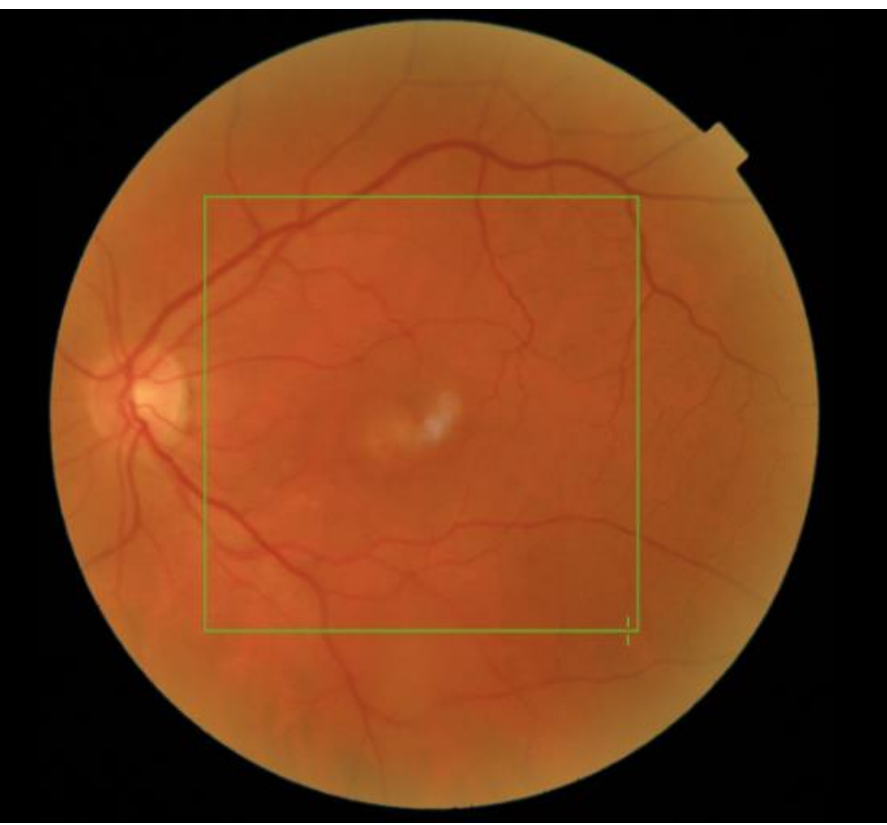


Figure 2: Fundal view at initial presentation

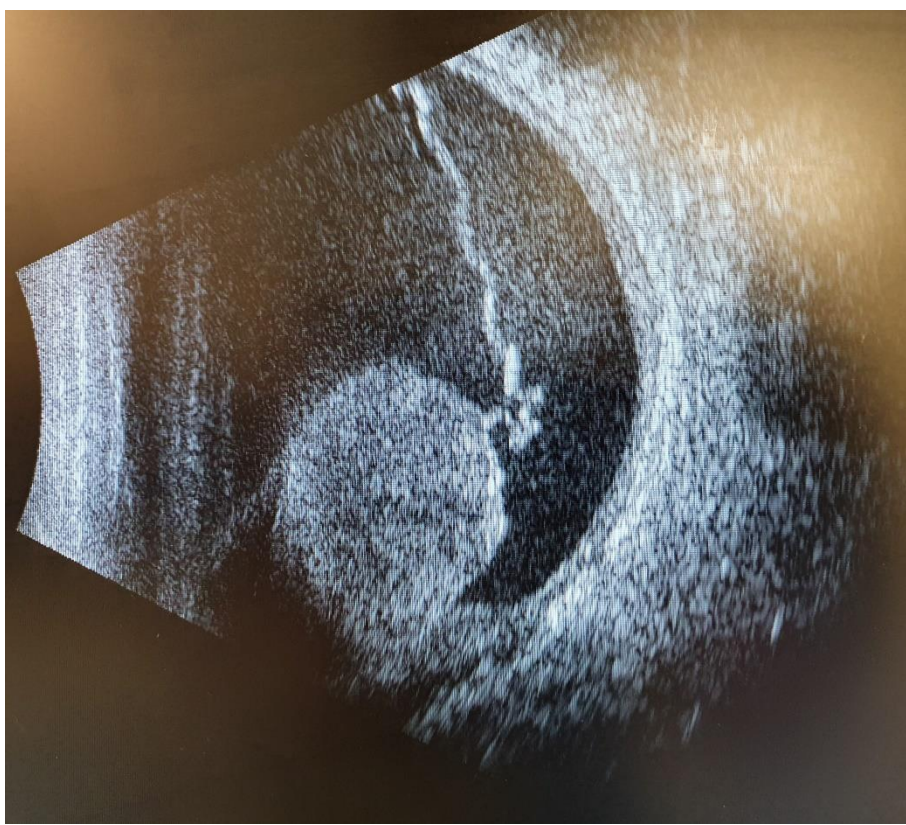


Figure 3: The ultrasound appearance of the underlying uveal melanoma

The left eye was enucleated, and pathological analysis of the mass confirmed a malignant ciliary body and choroidal melanoma.

Learning Points:

Difficult in some cases to **differentiate** between **causes of retinal detachment** due to another more common diagnosis being available to explain symptoms and findings

Solid sub-retinal **lesion** may be **too small** to be visualised and thus may be **masked** by an **overlying detachment or fluid**

Opacities and abnormalities that **limit the fundus view** can make it difficult to visualise an underlying solid lesion

If suspicion of an underlying melanoma is raised, **early ultrasonography** can aid in diagnosis

Vitreous haemorrhage in the setting of an **underlying melanoma** may indicate the tumour **perforating the Bruch’s membrane** and **seeding into the vitreous**

Unnecessary interventions may result in **potential shedding** of cancerous cells along the **surgical sites**

Conclusions:

Accurate diagnosis of an underlying melanoma is vital to avoid unnecessary interventions and provide timely treatment. In the presence of media opacities, B-scan ultrasonography can be a useful diagnostic aid for visualizing a lesion suggestive of a melanoma. For this to happen, the clinician must firstly hold a suspicion of an underlying tumor amid the other more common differentials. Choroidal melanoma presentation with vitreous hemorrhage is uncommon. Early suspicion can minimize the risk of vitrectomy in the setting of an underlying melanoma. This will consequently reduce the risk of tumor seeding at surgical entry sites and will provide patients with timely treatment before further lesion growth and metastatic spread occurs.

Disclosures:

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