

Transient visual disturbances as a primary manifestation of metastatic brain tumours

Rebecca Moran

To cite this article: Rebecca Moran (2021) Transient visual disturbances as a primary manifestation of metastatic brain tumours, *Clinical and Experimental Optometry*, 104:4, 550-551, DOI: [10.1080/08164622.2021.1878830](https://doi.org/10.1080/08164622.2021.1878830)

To link to this article: <https://doi.org/10.1080/08164622.2021.1878830>



Published online: 22 Feb 2021.



Submit your article to this journal [↗](#)



Article views: 9



View related articles [↗](#)



View Crossmark data [↗](#)

CLINICAL PICTURE



Transient visual disturbances as a primary manifestation of metastatic brain tumours

Rebecca Moran

Department of Ophthalmology and Optometry, St Barnabas Hospital, Bronx, NY, USA

ARTICLE HISTORY Received 25 May 2020; Revised 17 September 2020; Accepted 1 October 2020

KEYWORDS Intracranial tumour; metastatic brain cancer; visual aura; visual disturbances

Ophthalmic signs and symptoms occur as an initial presentation in up to 50% of patients with brain tumours.¹ Clinical challenges, risk of misdiagnosis or delayed treatment may occur when the presenting signs and symptoms are atypical or mimic other conditions.

Case presentation

A 41-year-old male presented with a chief complaint of episodic flashes of light and subsequent partial right-sided blur/vision loss lasting approximately one hour and then returning to normal. It was indeterminate if symptoms involved one or both eyes as he did not cover either eye; however, he reported a mild associated headache and a prior episode that week which also resolved.

Emergency room evaluation that morning revealed no significant findings, and the patient was subsequently seen in the eye clinic for further examination. He denied any ocular conditions, medical problems, or associated stroke-like symptoms. Visual acuity was 6/6 in each eye with normal extraocular muscle movements, pupils, confrontation visual fields, and colour vision. Anterior and posterior segment examination including dilation was unremarkable without pertinent findings or retinal emboli. The diagnosis of migraine with visual aura was made based on the clinical symptoms, exam findings, and absence of other risk

factors including microvascular disease. However, due to his older age and absence of a history of migraines a closer follow-up was recommended. He was advised to return to the eye clinic for additional testing, and seek emergency care if symptoms persisted or experienced signs of stroke.

Imaging

A Humphrey visual field (HVF) and an optical coherence tomography (OCT) examination were ordered within a week to rule out pathology. The Humphrey visual field analysis revealed an incomplete homonymous quadrantanopia (Figure 1). The patient was sent immediately to the emergency room for examination relating to a suspected stroke. Neuroimaging revealed multiple intracranial mass lesions with larger lesions in the left occipital and right temporal lobe areas. Further examination revealed metastatic adenocarcinoma with colon, lung, and brain involvement.

Discussion

Fewer than 10% of all brain metastases are found before the primary cancer is diagnosed, which makes this case unique, in addition to the atypical presenting features.² Typical migraine-

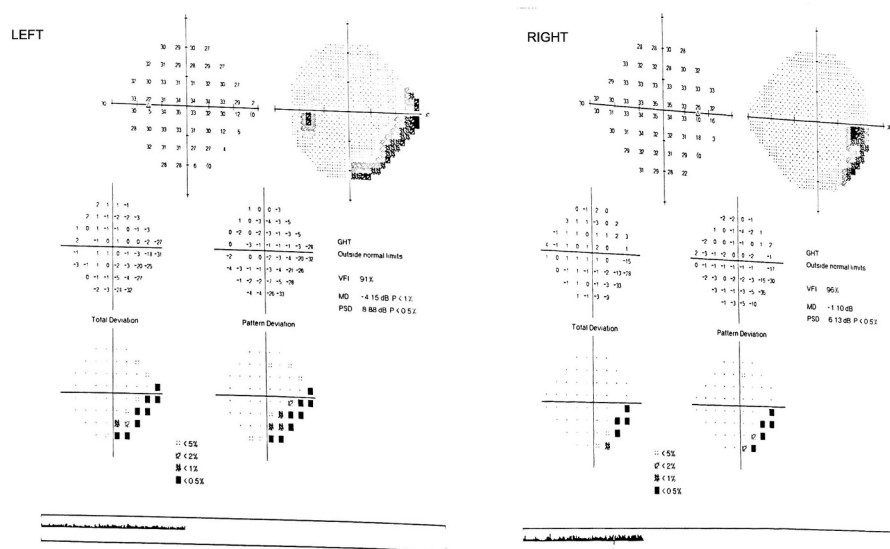


Figure 1. Humphrey visual field 24-2 of the left and right eye displaying a right inferior incomplete quadrantanopia.

like visual auras such as photopsias and transient scintillating scotomas due to a structural lesion in the absence of other neurological signs or symptoms are rare, and only few cases have been reported.³

Generally, initial ocular symptoms of intracranial tumours include progressive visual deficits and visual field loss over weeks to months before the diagnosis. Occasionally, these lesions may cause sudden visual loss.⁴ Other ophthalmic findings may include optic nerve atrophy or oedema, extraocular nerve palsies, relative afferent pupillary defects, and loss of colour perception. The most common ophthalmic sign of brain metastasis is papilloedema from obstruction of cerebrospinal fluid flow.⁵

Conclusion

Clinicians must be alert when approaching patients with complaints of transient visual disturbances. A thorough patient history, detailed examination, inclusive differential diagnoses, and prompt testing including visual fields are essential for an accurate diagnosis. Intracranial tumours

should be considered in the aetiology of transient visual disturbances, as they can manifest as a variety of neuro-ophthalmic features including a migraine-like visual aura.

Disclosure statement

No potential conflict of interest was reported by the author.

References

- [1] Tagoe NN, Essuman VA, Fordjuor G, et al. Neuro-Ophthalmic and clinical characteristics of brain tumours in a tertiary hospital in Ghana. *Ghana Med J.* 2015;49:181–186.
- [2] Metastatic brain tumours. American brain tumour association. Chicago, IL; 2017 [cited 2020 Jan 1]. Available from: <https://www.abta.org/wp-content/uploads/2018/03/metastatic-brain-tumor.pdf>
- [3] Shams PN, Gordon TP. Migraine-like visual aura due to focal cerebral lesions: cases series and review. *Surv Ophthalmol.* 2011;56:135–161.
- [4] Sefi-Yurdakul N. Visual findings as primary manifestations in patients with intracranial tumours. *Int J Ophthalmol.* 2015;8:800–803.
- [5] Leo-Kottler B. Brain tumours relevant to clinical neuro-ophthalmology. *Clin Neuro Ophthalmol.* 2007;171–183.