

## One Minute Ophthalmology

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### Photopsia and visual loss in a patient with lung cancer

#### Case

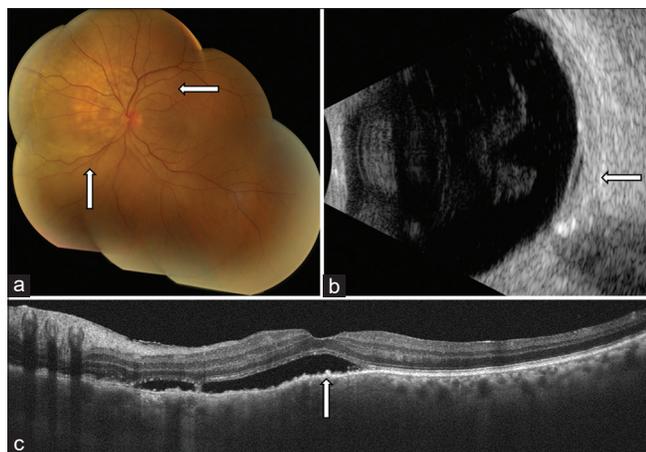
A 68-year-old Caucasian male with a history of lung carcinoma with metastasis to bone and lymph nodes, treated with 1.5 months of checkpoint inhibitor (CPI) pembrolizumab (antiprogrammed cell death protein-1 antibody), noted photopsia and decreased visual acuity in the left eye (OS) over 2 months. On examination, visual acuity was 20/25 in the right eye (OD) and 20/80 OS. Fundus evaluation revealed juxtapapillary subtle yellow choroidal discoloration with associated subretinal fluid (SRF) OS. The right eye was unremarkable.

#### What is your next step?

- A. Apply plaque radiotherapy
- B. Perform fine needle aspiration biopsy
- C. Apply photodynamic therapy
- D. Continue pembrolizumab

#### Findings

Fundoscopy examination OS revealed an ill-defined, juxtapapillary, amelanotic choroidal mass with surrounding SRF involving the macula [Fig. 1a]. The lesion demonstrated indistinct margins, measuring approximately 10 mm in diameter and 2.2 mm in ultrasonographic thickness [Fig. 1b]. By optical coherence tomography, the choroid was thickened and demonstrated a "lumpy, bumpy" surface configuration, suggestive of choroidal metastasis [Fig. 1c]. These features were suggestive of a partial response to pembrolizumab. The right eye was normal.



**Figure 1:** A 68-year-old Caucasian male presented with flashes and decreased vision in the left eye and was found to have (a) an ill-defined choroidal mass on funduscopy of the left eye. (b) B scan ultrasonography of the left eye revealed a small amount of subretinal fluid inferiorly. (c) Optical coherence tomography revealed thickening of the choroid and subretinal fluid beneath the fovea

**Diagnosis:** Choroidal metastasis OS

**Correct answer:** D

#### Discussion

Choroidal metastasis is a serious finding, associated with only 24% survival at 5 years.<sup>[1]</sup> The most common primary tumor sites include cancers of the breast (37%), lung (27%), kidney (4%), gastrointestinal tract (4%), and cutaneous melanoma (2%).<sup>[1]</sup> Metastases with best 1-year survival originate from lung carcinoid (92%), cutaneous melanoma (70%), and breast cancer (66%), while those with the poorest 1-year survival exhibit thyroid (35%), gastrointestinal (33%), and pancreatic (25% 6-month survival) origin.<sup>[1]</sup> Immunoinhibitory ligands are targeted by CPIs, upregulating the immune system to attack tumor. Ocular side effects include uveitis in 1% of patients; systemic side effects include lymphocytopenia and hepatitis.<sup>[2,3]</sup> Patients with systemic cancer and new ocular symptoms should have detailed ocular evaluation to determine the cause, such as medication-related, paraneoplastic syndrome, or metastatic disease.<sup>[2]</sup>

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

#### References

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