Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/22848
DOI URL: http://dx.doi.org/10.21474/IJAR01/22848

*RESEARCH ARTICLE*

# JUXTAPAPILLARY CHOROIDAL METASTASIS OF BREAST CARCINOMA: A CASE REPORT

**Charaf Bouabbadi, Ayoub Bouimtarhan, Mohamed Boukssim, Imane Jeddou, Aissam Fiqhi, Adil Elkhouyaali and Yassine Mozari**

1. Department of Ophthalmology, Mohammed V Military Teaching Hospital, Rabat.

## *Manuscript Info*

***Manuscript History***
Received: 14 December 2025
Final Accepted: 16 January 2026
Published: February 2026

***Key words:-***
Breast carcinoma; Choroidal metastasis; Juxtapapillary lesion; Multimodal imaging; External beam radiotherapy.

## *Abstract*

**Introduction:** Choroidal metastases are the most common intraocular malignant tumors and usually occur in the setting of advanced systemic malignancy. Breast carcinoma represents the leading primary tumor in women, whereas juxtapapillary involvement remains rare and poses particular diagnostic and therapeutic challenges due to its proximity to the optic nerve head.

**Case presentation:** We report the case of a 52-year-old woman with a history of breast carcinoma who presented with decreased visual acuity in the left eye. Fundus examination revealed a yellowish, amelanotic juxtapapillary choroidal lesion extending toward the posterior pole. Multimodal imaging, including fundus photography, fundus autofluores cence, fluorescein angiography, optical coherence tomography, and B-scan ultrasonography, supported the diagnosis of choroidal metastasis. Following multidisciplinary evaluation, external beam radiotherapy was initiated.

**Conclusion:** Juxtapapillary choroidal metastasis secondary to breast carcinoma is an uncommon entity that may severely compromise visual function. Early diagnosis using multimodal imaging and coordinated multidisciplinary management are essential to optimize visual outcome s and preserve residual vision.



## Introduction:-

Choroidal metastases represent the most frequent intraocular malignant tumors in adults and arise through hematogenous dissemination from systemic malignancies (Arepalli et al., 2015; Shields & Shields, 2016). The choroid's rich vascular supply explains its predilection for metastatic seeding, accounting for approximately 85–90% of all intraocular metastatic lesions (Konstantinidis & Damato, 2017).The reported prevalence of choroidal metastases varies widely, ranging from 2% to 12% in clinical series of patients with metastatic cancer, whereas autopsy studies suggest a significantly higher incidence, reaching up to 30% (Nelson et al., 1983; Ferry & Font, 1974). Improvements in systemic oncologic treatments and longer patient survival, combined with advances in ophthalmic imaging modalities such as optical coherence tomography, have contributed to increased recognition of ocular metastases in recent decades (Mathis et al., 2019).Breast carcinoma is the most common primary tumor



**Corresponding Author:-** Charaf Bouabbadi
**Address:-**Department of Ophthalmology, Mohammed V Military Teaching Hospital, Rabat.

associated with choroidal metastases in women, accounting for approximately 40–50% of reported cases, while lung carcinoma predominates in men (Demirci et al., 2003; Shields et al., 2018). Juxtapapillary localization remains uncommon but is of particular clinical relevance because of its close relationship with the optic nerve head and the potential for rapid and irreversible visual loss (Borkowski &McCannel, 2016).The aim of this case report is to describe the clinical presentation, multimodal imaging characteristics, and management considerations of a rare case of juxtapapillary choroidal metastasis secondary to breast carcinoma.

**Case Report:-**

A 52-year-old woman with a history of left breast adenocarcinoma treated four years earlier was referred to the ophthalmology department for progressive visual impairment of the left eye. Her oncological history included systemic treatment, and she was under regular oncologic follow-up at the time of presentation.On ophthalmologic examination, best-corrected visual acuity was 4/10 in the right eye and 1/10 in the left eye. Intraocular pressure was within normal limits in both eyes. Anterior segment examination was unremarkable bilaterally.Fundus examination of the right eye revealed a clear vitreous with macular alterations characterized by hard exudates (fig 1). Examination of the left eye showed mild vitritis associated with a yellowish, creamy-colored, amelanotic choroidal lesion located in a juxtapapillary position, extending toward the posterior pole. The lesion appeared slightly elevated with irregular margins and was associated with pigmentary changes of the overlying retinal pigment epithelium (fig2,3 and 4).

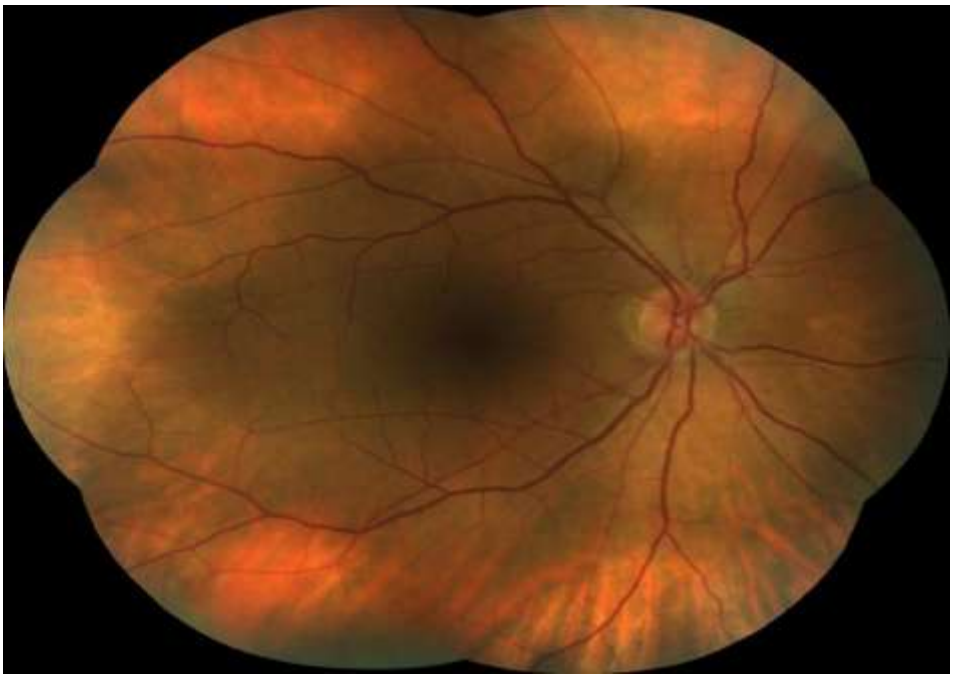


**Fig1: Fundus photograph of the right eye showing macular hard exudates.**

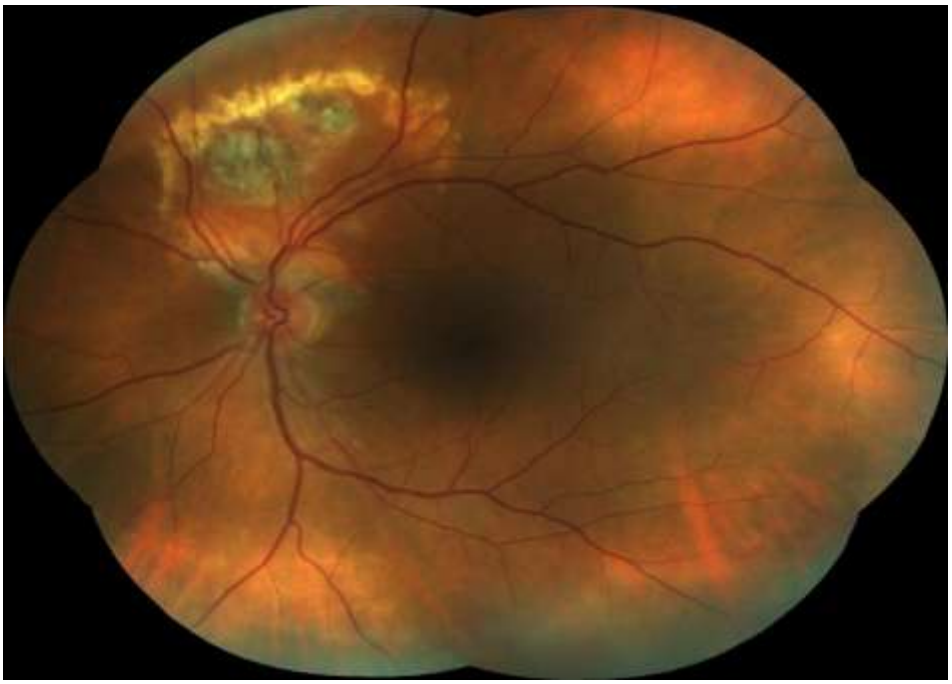


**Fig 2: Red-free fundus photograph of the left eye showing a juxtapapillary choroidal lesion extending toward the posterior pole.**

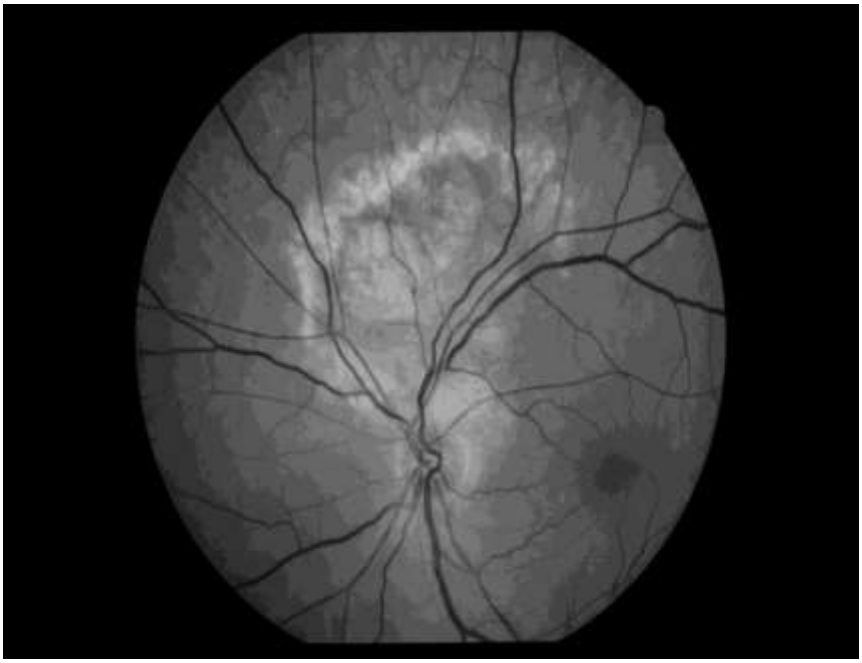


**Fig 3. Red-free fundus photograph of the left eye highlighting a juxtapapillary choroidal lesion extending toward the posterior pole.**

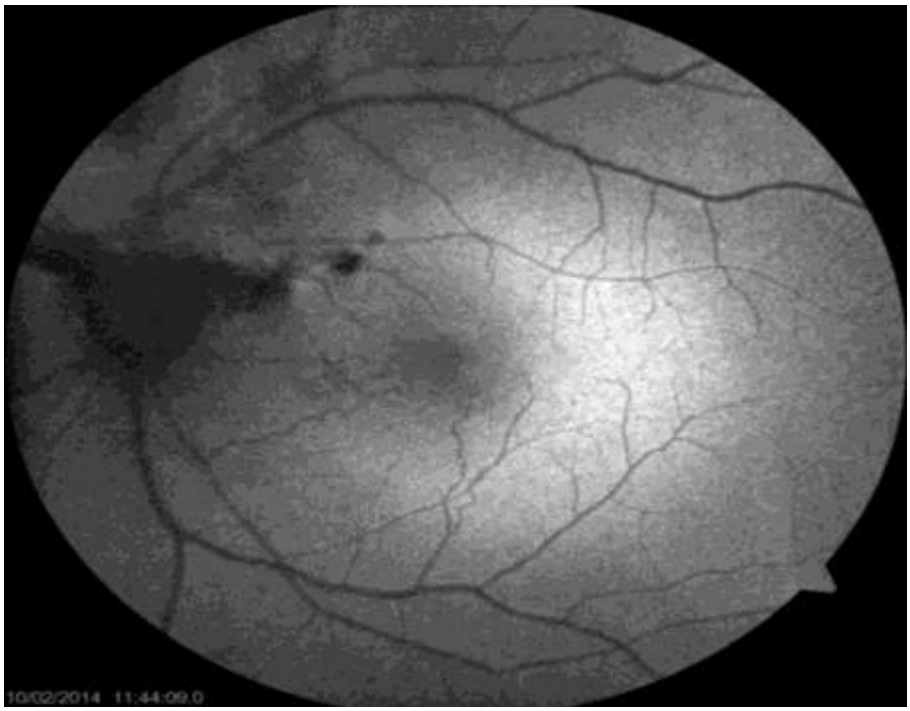
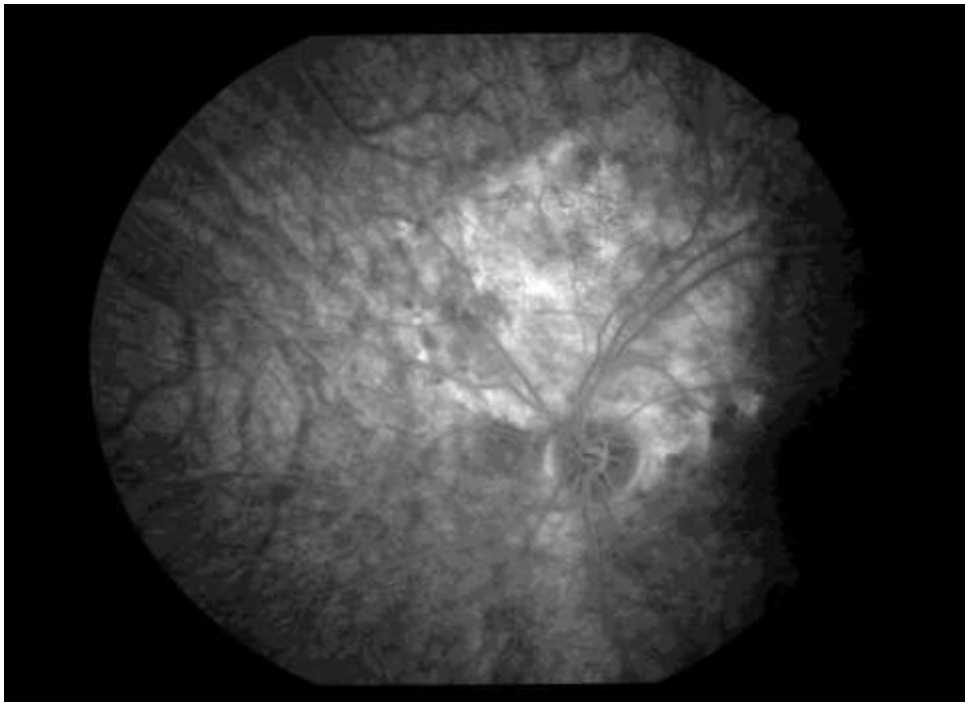


**Fig 4. Autofluorescence fundus photograph of the left eye highlighting retinal pigment epithelium alterations overlying the juxtapapillary lesion.**

Fluorescein angiography demonstrated early hypofluorescence due to blockage, followed by irregular staining of the lesion during the arteriovenous phase. In the late phases, a mottled hyperfluorescence was observed, progressively becoming more confluent, consistent with the angiographic pattern typically described in choroidal metastases (Fig.5).



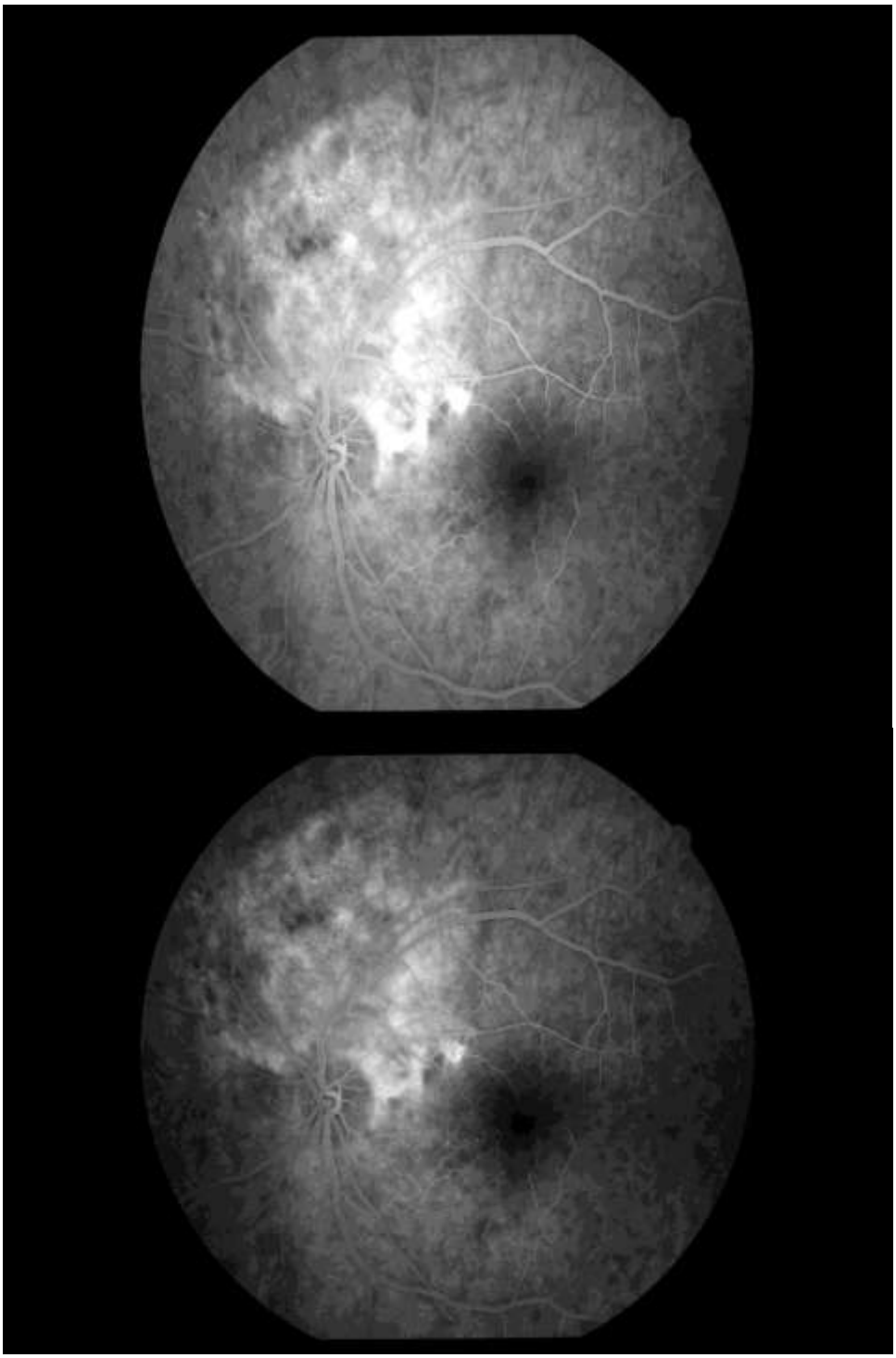


**Fig 5. Fluorescein angiography of the left eye showing early hypofluorescence followed by progressive irregular hyperfluorescence of a juxtapapillary choroidal lesion.**

Optical coherence tomography revealed an elevated choroidal mass with heterogeneous internal hyperreflectivity, associated with disruption of the outer retinal layers and retinal pigment epithelium irregularities. No significant subretinal fluid was noted at the time of examination.B-scan ultrasonography showed a placoid, hyper-echoic choroidal lesion with moderate internal reflectivity and absence of choroidal excavation, findings that further supported the diagnosis of choroidal metastasis rather than primary uveal melanoma.Based on the patient's

oncological history, clinical presentation, and multimodal imaging findings, the diagnosis of juxtapapillary choroidal metastasis secondary to breast carcinoma was strongly suspected. After multidisciplinary discussion involving ophthalmologists and oncologists, external beam radiotherapy was selected as the treatment modality.

## Discussion:-

Choroidal metastases may represent either a manifestation of disseminated metastatic disease or, less frequently, the first sign of an underlying systemic malignancy (Shah et al., 2014). At the time of diagnosis, more than half of patients present with additional metastatic sites, most commonly involving the lung, liver, bone, or brain, which contributes to the generally poor systemic prognosis (Konstantinidis & Damato, 2017; Shields et al., 2020).Breast carcinoma remains the leading cause of choroidal metastases in women, while lung carcinoma is predominant in men (Demirci et al., 2003; Shields et al., 2018). Lesions are unilateral in approximately 60–65% of cases, whereas bilateral involvement is more frequently observed in breast cancer–related metastases (Mathis et al., 2019). Juxtapapillary localization is uncommon but clinically significant, as involvement of the optic nerve head may result in rapid visual deterioration and optic neuropathy (Borkowski &McCannel, 2016).Clinically, choroidal metastases typically appear as yellowish-white, amelanotic lesions with indistinct margins and limited elevation. Visual symptoms, including decreased visual acuity, metamorphopsia, and visual field defects, are often related to macular or juxtapapillary involvement and to associated serous retinal detachment (Arepalli et al., 2015; Shields & Shields, 2016).Multimodal imaging is essential for diagnosis and differential diagnosis. Fluorescein angiography usually shows early hypofluorescence followed by progressive leakage in the late phases, reflecting tumor vascular permeability (Kaliki& Shields, 2015). B-scan ultrasonography typically demonstrates placoid lesions with moderate to high internal reflectivity and absence of choroidal excavation, allowing differentiation from uveal melanoma (Finger, 2005). Optical coherence tomography provides high-resolution cross-sectional imaging, revealing choroidal thickening, retinal pigment epithelium disruption, and variable subretinal fluid (Mathis et al., 2019).

Histopathological confirmation by choroidal biopsy is not routinely required in patients with a known primary malignancy and typical clinical and imaging features. Biopsy is generally reserved for atypical presentations, isolated lesions, or cases in which the primary tumor is unknown (Damato et al., 2002; Shields et al., 2020).Management of choroidal metastases is primarily palliative and aims to preserve visual function and improve quality of life. External beam radiotherapy remains the standard local treatment, achieving tumor regression and visual stabilization or improvement in most cases (Wiegel et al., 2002). Systemic treatments, including chemotherapy, targeted therapy, and hormonotherapy—particularly in hormone receptor–positive breast cancer—play a key role in controlling both ocular and systemic disease (Jardel et al., 2014).

## Conclusion:-

Choroidal metastases secondary to breast carcinoma remain an uncommon but clinically significant manifestation of systemic disease. Their poor prognosis is primarily related to the advanced stage and biological aggressiveness of the primary tumor, as well as to the frequent association with metastatic involvement of other organs. Ocular involvement generally reflects widespread dissemination and is often indicative of limited overall survival.Despite their rarity, choroidal metastases should be considered in patients with a history of breast cancer who present with visual symptoms, particularly when the posterior pole or juxtapapillary region is involved. Multimodal ophthalmic imaging plays a pivotal role in establishing the diagnosis, assessing lesion characteristics, and differentiating metastatic lesions from primary intraocular tumors.Management of choroidal metastases requires a multidisciplinary approach integrating ophthalmologists, oncologists, and radiation oncologists. Local treatments such as external beam radiotherapy, combined with systemic therapies including chemotherapy, hormonotherapy, or targeted agents, aim primarily to preserve visual function and improve quality of life rather than achieve curative outcomes.Early diagnosis and timely intervention may allow visual stabilization and symptomatic relief, even in the context of advanced systemic disease. Increased awareness of this entity among clinicians is essential to ensure prompt recognition and appropriate management, thereby optimizing visual prognosis and patient-centered care.

**Ethical Considerations:-**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. The study was conducted in accordance with the principles of the Declaration of Helsinki.

## References:-


1. Arepalli S, Kaliki S, Shields CL. Choroidal metastases: origin, features, and therapy. Indian J Ophthalmol. 2015;63:122–127.
2. Borkowski PK, McCannel TA. Juxtapapillary choroidal metastasis: diagnostic and therapeutic considerations. Retina. 2016;36:789–795.
3. Damato B, Groenewald C, McGalliard JN, Wong D. Fine needle aspiration biopsy of intraocular tumors. Eye. 2002;16:603–610.
4. Demirci H, Shields CL, Chao AN, Shields JA. Uveal metastasis from breast cancer in 264 patients. Am J Ophthalmol. 2003;136:264–271.
5. Ferry AP, Font RL. Carcinoma metastatic to the eye and orbit. Arch Ophthalmol. 1974;92:276–286.
6. Finger PT. Ultrasound characteristics of intraocular tumors. SurvOphthalmol. 2005;50:1–19.
7. Jardel P, Sauerwein W, Zehetmayer M, et al. Management of choroidal metastases. Cancer Treat Rev. 2014;40:1115–1123.
8. Kaliki S, Shields CL. Optical coherence tomography of choroidal tumors. Indian J Ophthalmol. 2015;63:128–137.
9. Konstantinidis L, Damato B. Intraocular metastases—a review. Eye. 2017;31:162–170.
10. Mathis T, Jardel P, Loria O, et al. New concepts in the diagnosis and management of choroidal metastases. Prog Retin Eye Res. 2019;68:144–176.
11. Nelson CC, Hertzberg BS, Klintworth GK. A histopathologic study of eyes in patients with cancer at autopsy. Am J Ophthalmol. 1983;95:788–793.
12. Shah SU, Mashayekhi A, Shields CL, et al. Uveal metastasis as the initial presentation of systemic cancer. Ophthalmology. 2014;121:808–813.
13. Shields CL, Shields JA. Intraocular tumors: an atlas and textbook. 3rd ed. Philadelphia: Wolters Kluwer; 2016.
14. Shields CL, Welch RJ, Malik K, et al. Uveal metastasis: clinical features and survival outcome. Ophthalmology. 2018;125:255–262.
15. Shields CL, Dalvin LA, Lim LS, et al. Management of uveal metastases. Ophthalmology. 2020;127:259–271.
16. Wiegel T, Bottke D, Kreusel KM, et al. External beam radiotherapy of choroidal metastases. Radiother Oncol. 2002;64:13–18.