

Extensive ocular metastases involving choroid, optic disc, and ciliary body more than 20y after mastectomy: a case report

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Dear Editor,

We present a case of hormone receptor-positive breast carcinoma with bilateral multifocal choroidal metastases, right optic disc infiltration, and left ciliary body involvement, occurring more than 20y after mastectomy. This ultra-long latency, combined with simultaneous extensive intraocular spread, represents an exceptionally rare metastatic phenotype.

Intraocular metastases are the most common malignant intraocular tumors in adults, arising predominantly in the choroid^[1-3]. Breast cancer accounts for 37% of choroidal metastases and shows a tendency for bilateral and multifocal involvement^[4]. Large series report ocular or periocular metastasis in approximately 0.5% of breast cancer patients, most commonly affecting the orbit (47%), choroid (40%), optic nerve (11%), and iris/ciliary body (2%), with bilateral disease in nearly half of cases^[5]. The latency from primary diagnosis

to ocular metastasis can extend over several years (mean approximately 6.5y for breast cancer)^[6]. Ocular involvement portends a poor systemic prognosis, with survival varying across cohorts; historically, median survival has been reported as less than 1y^[5]. Optic disc metastases are rare (11%), and ciliary body involvement is even less frequent^[5].

On August 18, 2025 (admission number: 100053), a 58-year-old woman presented with a 1-month history of progressive blurred vision in the right eye. She had been diagnosed with invasive ductal breast carcinoma on July 19, 2005 and had undergone radical mastectomy, followed by adjuvant chemotherapy, radiotherapy, and five years of tamoxifen. She had known lung and bone metastases. On ophthalmic examination, best-corrected visual acuity was counting fingers at 50 cm in the right eye and 20/40 in the left eye. Fundus examination of the right eye revealed an indistinct optic disc margin with creamy-yellow nodular lesions and exudative retinal detachment; the left eye showed a subtle creamy-yellow elevation at the optic disc with exudative detachment (Figure 1A–1B). Optical coherence tomography (OCT) demonstrated direct tumor infiltration of the right optic disc, serous neurosensory detachment, and diffuse choroidal thickening in both eyes (Figure 1C). B-scan ultrasonography confirmed retinal detachment and choroidal elevation (Figure 1D). Ultrasound biomicroscopy revealed irregular thickening of the ciliary body in the left eye (Figure 1E). Fluorescein angiography and indocyanine green angiography showed early hyperfluorescence and late leakage of the choroidal lesions, with corresponding hypofluorescent areas on indocyanine green angiography (Figure 1G). Based on the clinical history and multimodal imaging findings, a diagnosis of bilateral choroidal metastases with right optic disc infiltration and left ciliary body involvement was made. The patient was referred to oncology for further systemic management.

Although breast cancer shows a well-known predilection for the choroid and may present with bilateral and multifocal lesions^[4], the combination of an ultra-long latency of 20y with simultaneous involvement of the choroid, optic disc, and ciliary body is exceptionally rare. In the largest uveal-

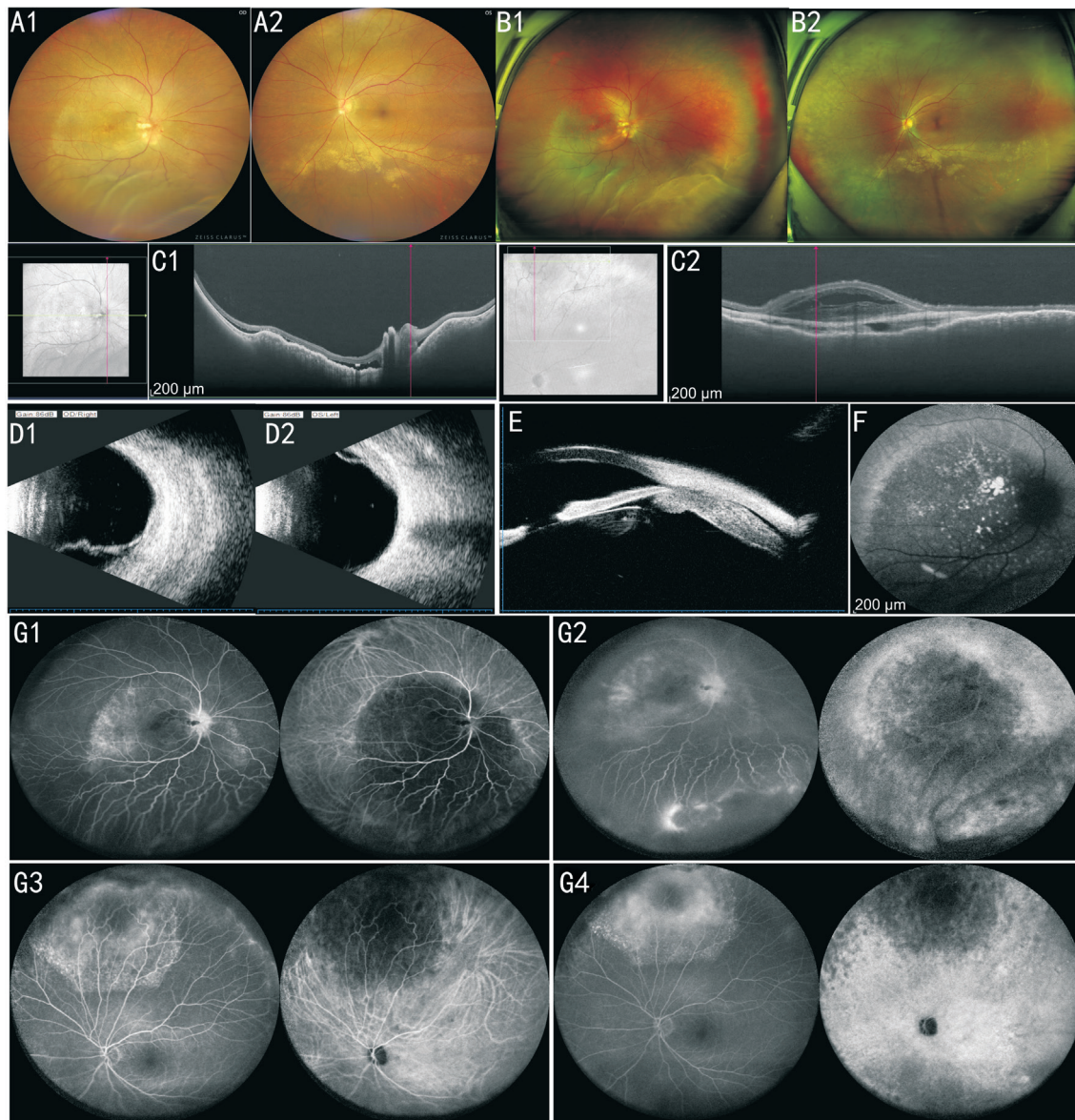


Figure 1 Multimodal imaging of both eyes Fundus photography (A1) and ultra-widefield imaging (B1) of the right eye show an indistinct optic disc margin with multiple creamy-yellow nodular lesions on and beneath the disc surface, linear hemorrhages nasally and temporally, and exudative retinal detachment involving the posterior pole and inferior quadrant with corresponding diffuse choroidal elevation. The left eye (A2, B2) shows a subtle creamy-yellow elevation inferonasally at the optic disc, exudative retinal detachment in both superior and inferior quadrants (more pronounced superiority) with vascular tortuosity, and subretinal yellowish-white punctate lesions in the inferior mid-periphery. Optical coherence tomography (OCT) of the right eye (C1) demonstrates two nodular hyperreflective lesions on the optic disc surface with posterior shadowing, consistent with direct tumor infiltration, with thickening and edema of the remaining disc tissue. OCT of both eyes (C1, C2) shows serous neurosensory detachment, undulating elevation of the retinal pigment epithelium with overlying hyperreflective nodules, and diffuse broad-based choroidal thickening with homogeneous medium-to-high reflectivity; these changes are more pronounced in the right eye. In the left eye (C2), intraretinal separation with cystoid spaces and scattered exudative material within and above the retinal pigment epithelium is additionally observed. B-scan ultrasonography of the right (D1) and left (D2) eyes demonstrates retinal detachment and diffuse choroidal elevation with homogeneous medium-to-high internal reflectivity. Ultrasound biomicroscopy of the left eye (E) shows irregular thickening of the ciliary body with heterogeneous echogenicity and shallow ciliary body detachment. Infrared reflectance imaging of the right eye (F) shows a large hypofluorescent area involving the posterior pole and optic disc, within which multiple hyperfluorescent spots are visible. Combined fluorescein angiography (FA) and indocyanine green angiography (ICGA) are presented (G1–G4). FA of the right eye (G1, early; G2, late) shows blockage of fluorescence corresponding to the solid optic disc lesion, which remains hypofluorescent throughout both phases, while the remaining disc area exhibits early hyperfluorescence from telangiectatic capillaries with diffuse leakage obscuring the disc margin in the late phase. FA of both eyes (G1 and G3, early; G2 and G4, late) shows early mottled hyperfluorescence in the lesion areas, progressing to diffuse mottled hyperfluorescence with progressive leakage and staining in the late phase. ICGA (G1 and G3, early; G2 and G4, late) demonstrates early hypofluorescent dark areas corresponding to the metastatic lesions, with late choroidal staining.

metastasis series, the mean interval from breast cancer diagnosis to uveal metastasis was approximately 6.5y^[6], whereas very late relapse beyond 20y is uncommon. Levison *et al*^[7] described choroidal metastases arising more than 20y after the primary breast cancer diagnosis. All three patients were found to have concurrent systemic metastases, but the ocular involvement in their series was limited to the choroid. Magliozzi *et al*^[8] reported a series of orbital metastases in which all cases were unilateral. By contrast, our patient exhibited bilateral multifocal choroidal lesions with concurrent optic disc and ciliary body involvement—a constellation that, to our knowledge, has not been previously reported in the literature. This presentation is compatible with, but does not establish, late reactivation of dormant disseminated breast cancer cells. Although breast-cancer dormancy and organ-specific microenvironmental influences have been proposed as mechanisms of late metastatic recurrence, their relevance to the extent of ocular involvement in this case remains unknown. This case underscores the need to consider very late ocular metastasis in breast cancer survivors presenting with new visual symptoms. Despite multiple attempts to contact the patient for follow-up (last attempt on June 15, 2026), the patient could not be reached; therefore, her latest status remains unknown.

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Data Availability Statement: The data that support the findings of this case report are available from the

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