Acute Optical Coherence Tomographic Findings in Cancer-Associated Retinopathy

Cancer-associated retinopathy (CAR) is a rare paraneoplastic condition characterized by painless subacute visual loss in the setting of a distant neoplastic process.1-4 The symptoms are often asymmetrical, initial fundus examination results can be normal, and in 50% of cases, CAR is seen before the primary tumor is diagnosed, making initial misdiagnosis common.2,3 We describe the acute optical coherence tomographic (OCT) findings in a case of CAR.

Report of a Case. A 58-year-old woman was first seen by us with 1 week of visual obscuration and photopsia. There was no relevant ocular, family, or medical history. She was systemically healthy. Visual acuity at first examination was 6/6 corrected OU and rapidly deteriorated to 6/9 OD and counting fingers OS over the course of 3 days. There was no relative afferent pupillary defect or color vision abnormality. The anterior segment was normal. Fundus examination revealed a few central macular drusen, healthy optic discs, and subtle generalized arteriolar narrowing (Figure 1). There was bilateral peripheral field loss on Goldmann perimetry. Fluorescein angiography and autofluorescence imaging results were normal. The photopic full-field electroretinogram was extinguished and scotopic responses were subnormal with markedly reduced amplitude and delayed implicit times. The OCT 3.0 (Carl Zeiss Meditec, Dublin, California) showed dramatic thinning of the retina with loss of the inner-highly reflective layer (Figure 2). Computed tomography of the chest, abdomen, and pelvis revealed a uterine mass. Endometrial biopsy led to the diagnosis of endometrial adenocar-

cinoma, which was treated by surgery and chemotherapy.

Despite attempted treatment with a systemic calcium channel blocker, visual acuities deteriorated to only perception of light in the right eye and no perception of light in the left eye. Serum analysis results were positive for antirecoverin antibodies. Antibodies against recoverin (a calcium-binding protein found in retinal photoreceptor cells) may activate cell apoptosis via a calcium-dependent pathway leading to retinal degeneration with loss of photoreceptor outer segments and outer nuclear layers seen on histopathology.\(^4\) Cancer-associated retinopathy with antirecoverin antibodies is associated with severe, progressive visual loss and profound abnormalities seen on electroretinography. Various treatments, including systemic steroids, plasmapheresis, and calcium channel blockers, have been tried with little success.

Visual symptoms often precede diagnosis of malignancy, and prompt recognition can help identification and treatment at an earlier stage. In our case, OCT showed dramatic thinning of the retina with loss of the inner, highly reflective layer corresponding to the histopathologic changes described. Reduced macular thickness on OCT can be demonstrated acutely in CAR prior to severe visual loss. Optical coherence tomography is a useful noninvasive test in patients with unexplained visual loss and may provide an objective measure of retinal damage in these patients.

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Financial Disclosure: None reported.

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Subretinal Hypopyon in Acute Retinal Necrosis

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A 40-year-old white woman developed shingles and acute retinal necrosis in the left eye with hand-motion vision. A subretinal hypopyon was evident in the left eye (Figure, A). On the red-free photograph (Figure, B) and angiogram (Figure, C), mild blockage (by hypopyon) was noted.