Evidence of choriocapillaris ischemia on Swept-source OCT Angiography in specific inflammatory maculopathies

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Purpose:

To describe swept-source optical coherence tomography angiography (SS OCTA) findings in five patients with specific inflammatory maculopathies.

Patients & Methods:

This study is a retrospective review of the chart of 6 patients (9 eyes) diagnosed with 5 different specific inflammatory maculopathies. All patients were evaluated using fluorescein angiography (FA), indocyanine green angiography (ICGA), spectral domain optical coherence tomography and SS OCTA.

Results: The patients were aged between 21 and 48 years. The inflammatory diseases included unilateral acute idiopathic maculopathy, relentless placoid chorioretinitis, atypical multiple evanescent white dot syndrome (MEWDS), and acute posterior multifocal placoid pigment epitheliopathy (APMPPE) (in 2 patients) and tuberculosis serpiginous-like choroiditis. SS OCTA showed areas of reduced flow within the choriocapillaris. These lesions were multifocal in 4 patients (7 eyes) and unique in 2 patients (2 eyes). Areas of choriocapillaris flow deficit correlated with hypofluorescent lesions on ICGA. At 6-month follow up, hypointense choriocapillaris lesions significantly decreased in the patient with MEWDS, and persisted in the patient with acute unilateral idiopathic maculopathy.

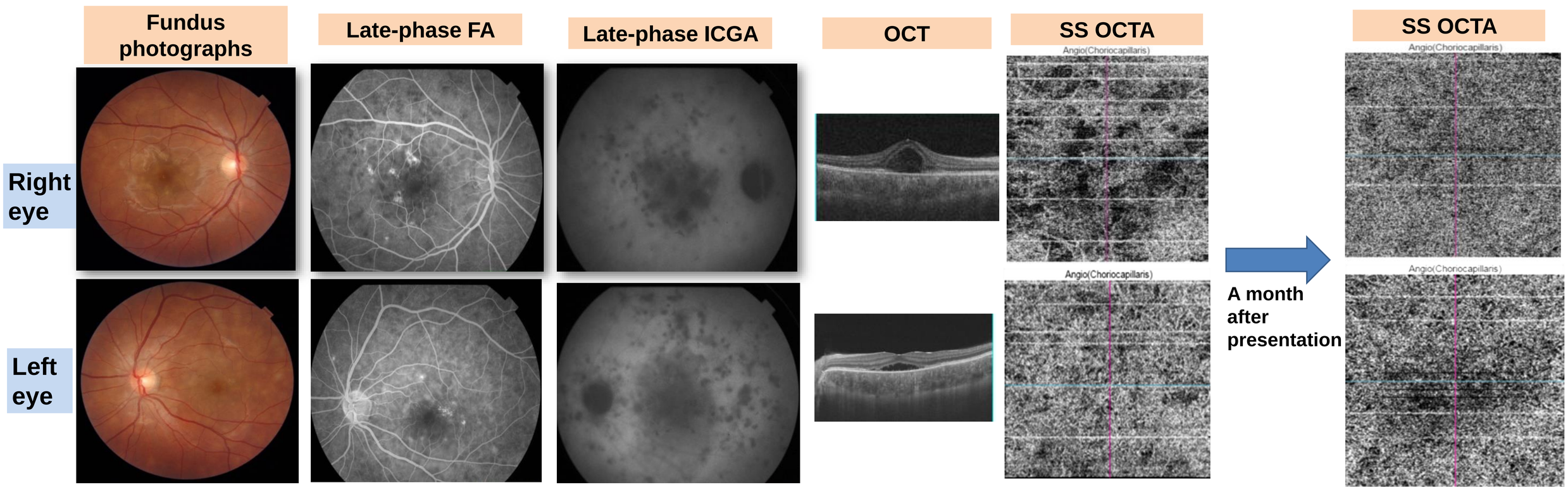

Figure 1: A 27-year old female patient with APMPPE. SS OCTA shows multifocal choriocapillaris flow abnormalities at presentation, with small distinct residual vascular abnormalities in the choriocapillaris layer one month after presentation

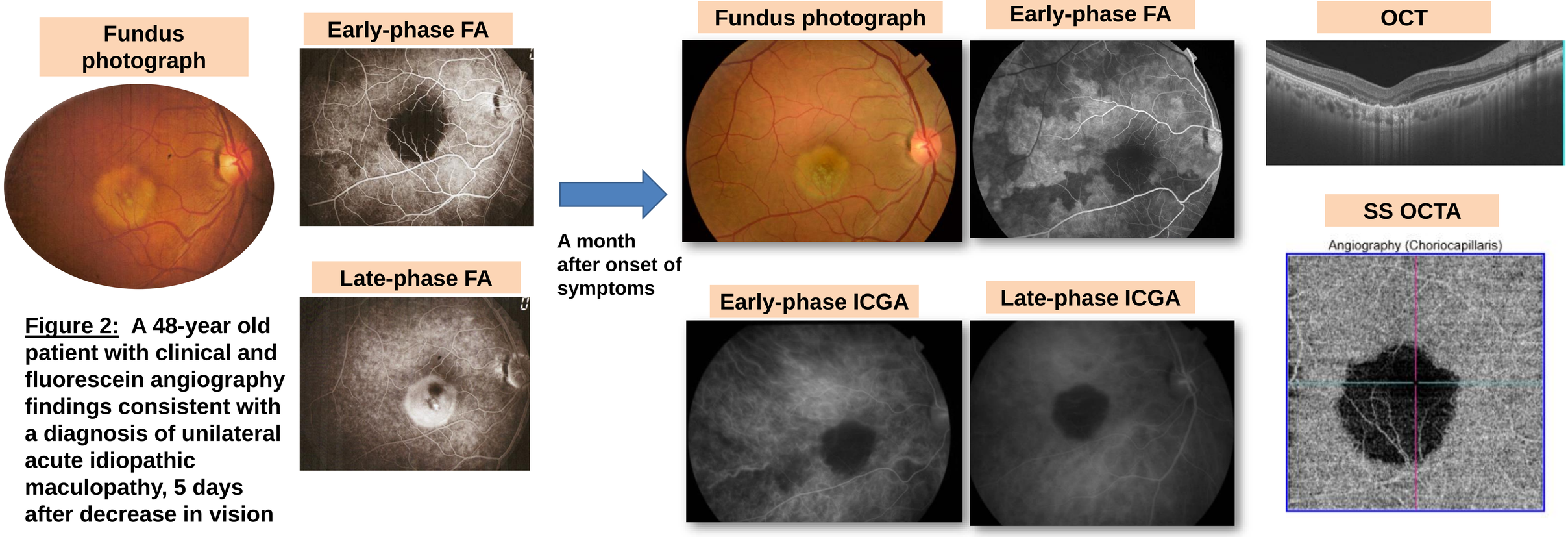

Figure 2: A 48-year old patient with clinical and fluorescein angiography findings consistent with a diagnosis of unilateral acute idiopathic maculopathy, 5 days after decrease in vision

Figure 3: The same patient of figure 2, one month after symptoms onset. Early-phase FA and ICGA show hypofluorescence of the macular lesion and extensive areas of choriocapillaris hypoperfusion. OCT reveals alterations of the outer retinal layers and RPE and SS OCTA shows a large area of choriocapillaris hypoperfusion corresponding to the macular lesion

Conclusion:

SS OCTA reveals areas of choriocapillaris flow reduction in specific inflammatory maculopathies. In these conditions, the inner choroid seems to be the primary site of a transient or persistent ischemic process.