Abstract Title: Fundus Autofluorescence Features in the Inflammatory Maculopathies

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Abstract Body: Purpose: To describe the fundus autofluorescence (FAF) features of the inflammatory maculopathies. Methods: Retrospective chart review of all consecutive patients with a diagnosis of inflammatory maculopathies seen at Emory University and University of British Columbia between October 2010 and October 2011. Clinical findings, demographics, and fundus autofluorescence (FAF) were reviewed. The median and standard deviation of foveal AF with adequate focus were analyzed by measuring one disc area centered in the fovea using ImageJ. Results: Thirty-four eyes of seventeen patients were evaluated. The FAF findings in acute macular neuroretinopathy (AMNR), acute posterior multifocal placoid pigment epitheliopathy and serpiginous choroiditis (ampiginous), multifocal choroiditis (MFC), punctate inner choroiditis (PIC), serpiginous choroiditis, and unilateral acute idiopathic maculopathy (UAIM) are visualized in Figure 1A-F. In AMNR, the active phase showed hyperautoflourescence (HRAF) in the fovea, which became more hypoautoflourescent (HOAF) as the disease resolved. In ampiginous patients, there were multiple discrete macular lesions with HOAF centers with HRAF borders during the active phase which became HOAF with resolution. In MFC and PIC, the location of the lesions was variable with inactive chorioretinal scars being HOAF. In serpiginous, there was a large placoid peripapillary lesion that extended to the macula, characterized by complete HOAF with HRAF borders during active phase. UAIM showed a complex pattern of mixed HOAF and HRAF in the macula during the acute phase. Median foveal AF was higher in AMNR and UAIM than other maculopathies, while the standard deviation of foveal AF was highest in UAIM (Figure 1G-H). Conclusions: Distinct FAF patterns of the inflammatory maculopathies may be helpful in their clinical diagnosis. Further evaluation of quantitative aspects of FAF intensity may elucidate the precise changes that occur at the level of the outer retina/retinal pigment epithelium and provide additional insight into the pathogenesis of the inflammatory maculopathies.
Figure 1. Characteristic findings of fovea autofluorescence (FAF) in inflammatory maculopathies (A-F). (A) Acute macular neuroretinitis (AMNR). (B) Acute posterior multifocal placoid pigment epitheliopathy and serpiginous choroiditis (Amphigous). (C) Multifocal choroiditis (MFC). (D) Fuch's heterochromic cyclitis (FHC). (E) Serpiginous choroidopathy (Serpigous). (F) Unilateral acute idiopathic maculopathy (UAIM). (G) Median and (H) standard deviation (SD) of foveal autofluorescence in different maculopathies.

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