Deep inside Multifocal Choroiditis: an OCT-Angiography approach

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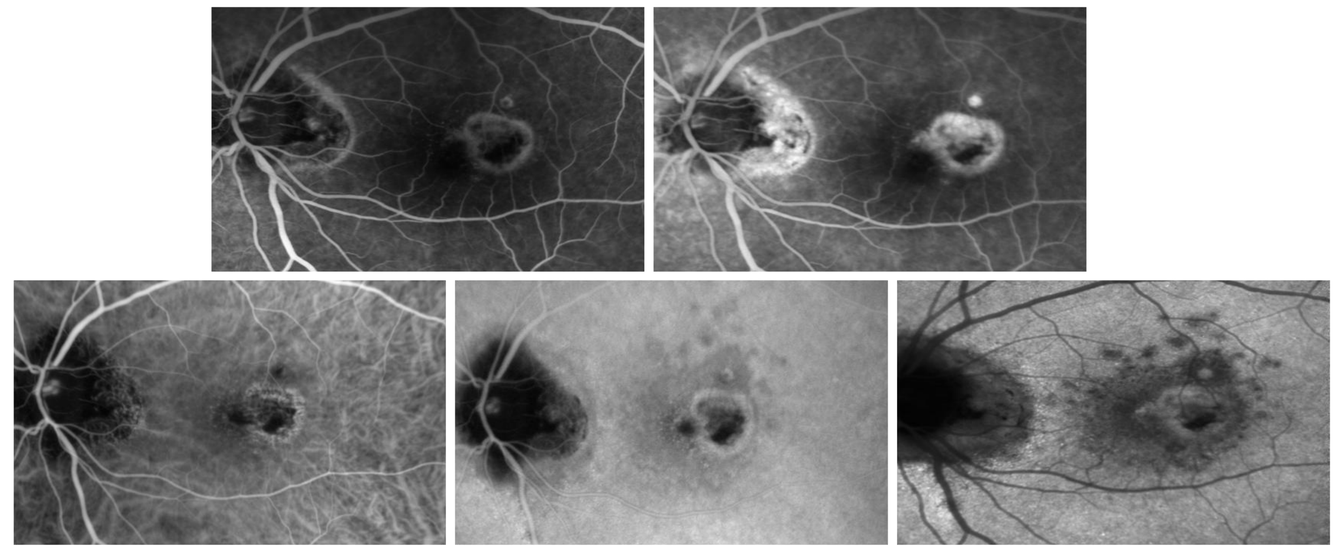
Financial interests: none

Background: to report the clinical utility of optical coherence tomography angiography (OCT-A) in characterizing and differentiating inflammatory lesions and choroidal neovascularisation (CNV) in Multifocal Choroiditis (MFC).

Patients & Methods: case report. A patient affected by MFC complaining central visual loss and scotoma in his left eye was fully investigated with OCT, dye-based angiographies and OCT-A

Results:. A reactivation of macular CNV was initially suspected, while OCT-A revealed the absence of any decorrelation signal both over the RPE and between RPE and Bruchs Membrane.

Case : a Caucasian 45-year-old man affected by bilateral idiopathic MFC. Florescein angiography (FA) early arteriovenous (left top) and late arteriovenous (right top) phases of macular area of the left eye, showing two early hypofluorescent lesions with mild late staining and slight increase in fluorescence of the nasal border of the foveal lesion, without evident leakage. ICGA (bottom) bares the appearance in the intermediate phase (central bottom), with increase in late phase (right bottom), of a hypofluorescent placoid area at the posterior pole surrounded by numerous hypofluorescent satellite spots.



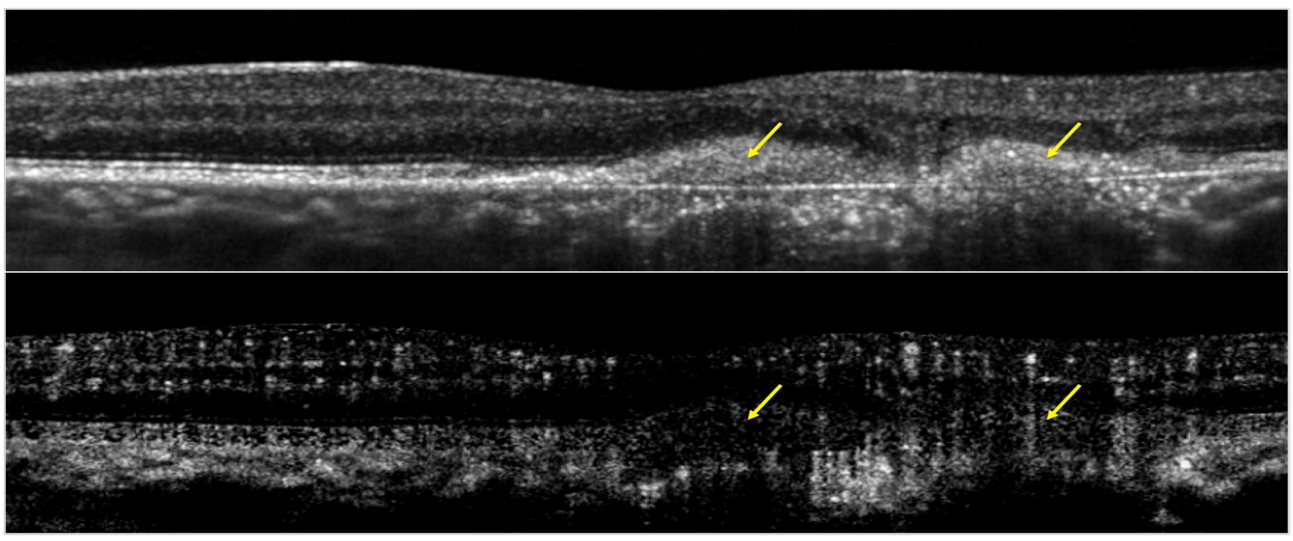


Figure 1: conventional spectral-domain OCT B-scan (top) showing two heterogeneous hyper-reflective subretinal lesions (yellow arrows). Optical coherence tomography angiography (OCT-A) B-scan (bottom) showing the absence of any pathologic decorrelation signal directly inside the previously described subretinal lesions. Multiple hyperintense microdots in the inner retinal layers representing the superficial capillary plexus and the deep capillary plexus are detected in ganglion cell and inner nuclear layers, respectively. A hyperintense signal coming from the choroidal vasculature (choriocapillaris, Sattler and Haller layers) is also shown.

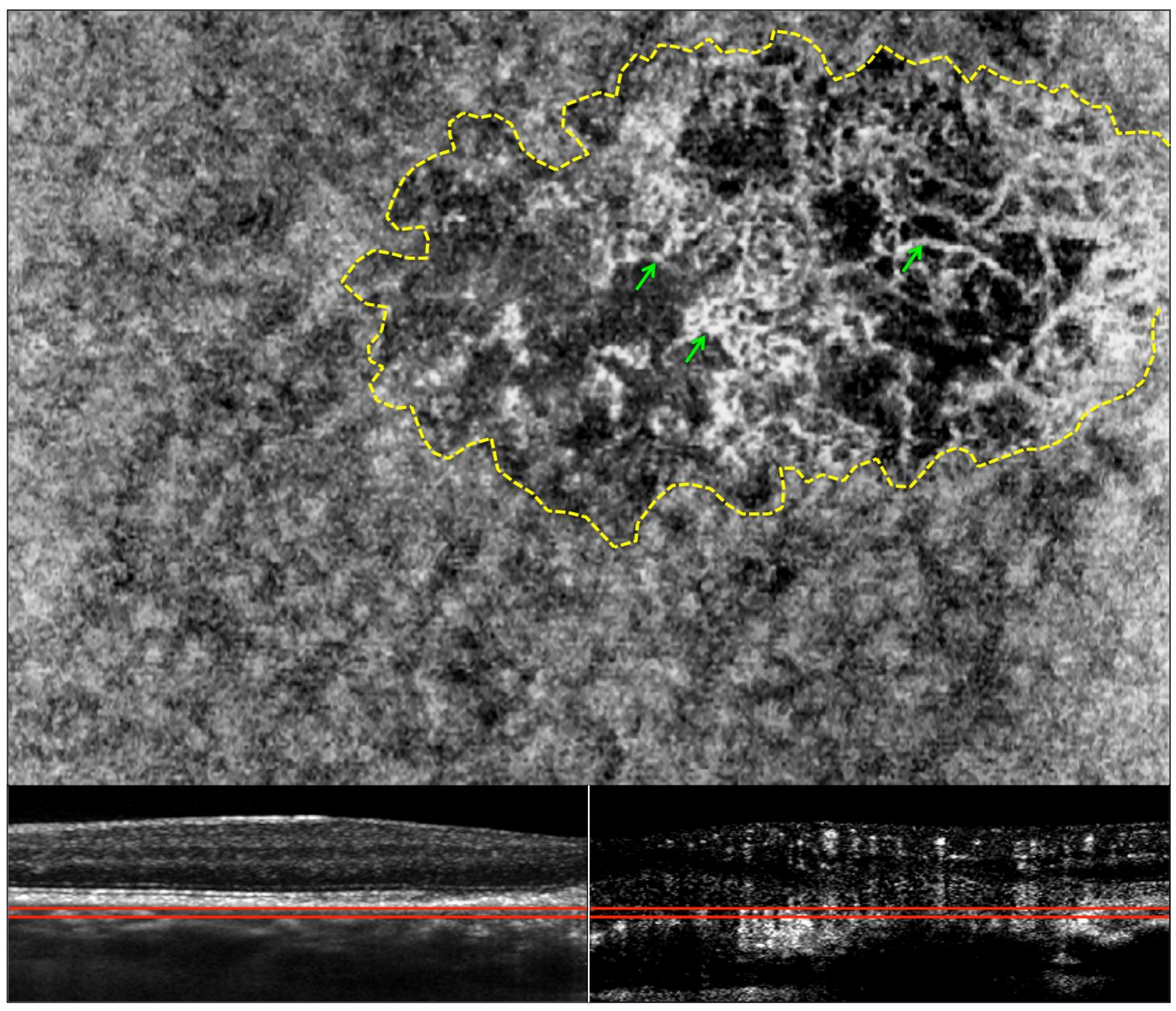


Figure 2: a 30-µm–thick OCT-A C-scan of an area 15° x 10° passing through the choriocapillaris (top image), showing the presence of an area of complete absence of decorrelation signal at the level of the choriocapillaris (yellow dashed line). Within this area, a clear hyperintense decorrelation signal is otherwise appreciable (green arrows); this finding is probably related to Sattler layer's vessels flow, and it can be visible because of the window defect due to RPE atrophy and choriocapillaris absence. Corresponding co-registered conventional OCT B-scan (bottom left) and angio-mode B-scan (bottom right) showing the reference plan (red lines) of the OCT-A C-scan.

Conclusions: OCT-A is a promising tool in detecting inflammatory CNV and in differentiating CNV from primitive inflammatory damage. Finely characterizing the aspect of a lesion allow us to choice the best therapeutic strategy for managing these potentially blinding diseases.