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Treatment-Naïve Quiescent Choroidal Neovascularization in Geographic Atrophy Secondary to Age-related Macular Degeneration

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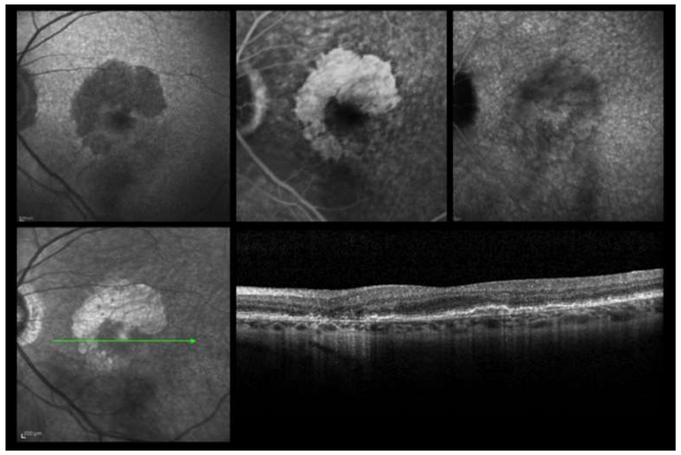
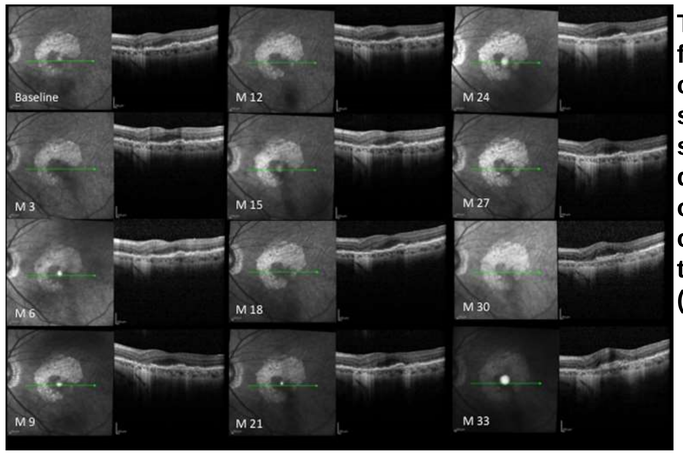
PURPOSE: to describe treatment-naïve quiescent choroidal neovascularization (CNV) by multimodal imaging in patients with geographic atrophy (GA) secondary to non-exudative age-related macular degeneration (AMD).

METHODS: A pool of patients with quiescent CNV and GA secondary to AMD with or without foveal sparing (FS) was individuated and retrospectively analysed at 2 high-volume referral centers. Treatment-naïve quiescent CNV (i.e. absence of exudation for at least 6 months) was detected on multimodal imaging Fluorescein angiography (FA), indocyanine green angiography (ICGA), spectral domain optical coherence tomography (SD-OCT), fundus autofluorescence (FAF), near-infrared FAF (NIR-FAF), were performed as a part of complete ophthalmologic examination. In a subset of patient, optical coherence tomography angiography (OCT-A) was performed. Quiescent CNV were classified with respect to shape (circular or irregular), presence of “visible” or “not visible” core (core has been defined as a vessel of grater calibre or “trunk vessel” from which other, smaller vessels branch off), and margin (“large loops” or “small loops”)

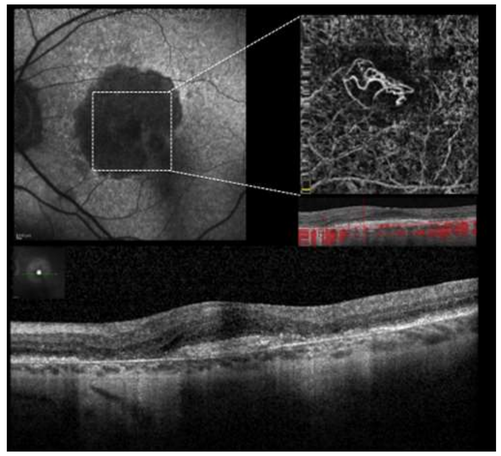
RESULTS: Thirteen eyes of 13 patients (11 female, 80.1 ± 11.6 years old) were included. Mean follow up was 45.77 ± 14.7 months. BVCA was 0.27 ± 0.25 logMAR at baseline and 0.34 ± 0.27 at last follow up (p 0.11). Quiescent CNV was located within the fovea in 10 eyes (foveal involvement) and foveal sparing in 3 eyes. In 5/13 eyes (38%) CNV developed exudation during follow up (after a mean of 20 ± 12.4 months). On OCTA, among the 8 eyes not developing exudation during follow up, 3 quiescent CNVs were classified as circular and 5 as irregular. In two eyes the core was not visible, in 6 eyes was visible (“central core” in 3 eyes and “eccentric core” in 3 eyes). In 5 eyes the margin was classified as “large loops” and in 3 eyes as “small loops”.



Multimodal imaging of case #13 showing treatment-Naïve quiescent choroidal neovascularizatio n(CNV) in geographic atrophy (GA) secondary to age-related macular degeneration at baseline.



Tri-monthly follow up of case #13 by structural spectral domain optical coherence tomography (SD-OCT).



Multimodal imaging of case #13 at 33 months follow up: fundus auto-fluorescence (FAF), optical coherence tomography angioggraphy (OCT-A) and (SD-OCT).

CONCLUSIONS:

Treatment-naive quiescent CNV can be present in GA secondary to AMD and may explain persistence of FS during follow up. OCT-A allows to non-invasively identify quiescent CNV in GA secondary to AMD. Closer follow up is suggested in patients with quiescent CNV in FS secondary to AMD as exudation can develop.

References

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