Eye (2021) 35:349–350
https://doi.org/10.1038/s41433-020-0787-2

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CORRESPONDENCE

Comment on: Diagnostic algorithm utilising multimodal imaging including optical coherence tomography angiography for the detection of myopic choroidal neovascularization

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Received: 8 January 2020 / Revised: 20 January 2020 / Accepted: 23 January 2020 / Published online: 6 February 2020

To the Editor:

Bagchi et al. [1] interestingly purposed a decision-making flow chart for cases clinically suspected of myopic choroidal neovascularization (mCNV) that may occasionally be misdiagnosed. In addition to an accurate clinical examination, diagnosis with complete multimodal imaging remains the best strategy because the sensitivity and specificity of spectral-domain optical coherence tomography (SD-OCT), optical coherence tomography angiography (OCTA), and fluorescein angiography (FA) alone is good but not infallible with a sensitivity ranging from 94 to 74% [1].

However, we believe that the flow chart warrants reconsideration for two main reasons. First, difficulty in determining the lesion activity clinically or on tomographic imaging. Some patients have reduced baseline visual acuity due to high myopia or concomitant diseases, such as amblyopia, cataract, and glaucoma. Therefore, these patients, especially those who are old, may be oblivious to further visual deterioration for months and may seek ophthalmologists' care months after symptom onset when the mCNV is in the scar stage. Thus, non-invasive and fast SD-OCT to assess lesion characteristics becomes crucial, but in some eyes tomographic signs of activities, including the presence of hyperreflective material with intraretinal or subretinal fluid, intraretinal fuzzy area, and retinal pigment epithelium elevation, may be difficult to detect or dependent on the examiners' interpretation and experience. Similarly, presence of ellipsoid zone and external limiting membrane interruption as signs of activity, as reported by some authors [2, 3], require additional validation and consensus since visual improvement and mCNV inactivity may occur after intravitreal treatment despite ellipsoid zone and external limiting membrane reconstitution within the lesion [4]. Occasionally, it is challenging to distinguish fibrosis from active mCNV on SD-OCT. In such cases, OCTA may be potentially helpful, although there is a risk of false-negative diagnosis because of macular haemorrhage and chorioretinal atrophy. In fact, mCNV was identified on OCTA in 74.07% of cases by Bagchi et al. [1], concluding that the lesion shape (tight rather than a loose net) and presence of a black surrounding halo are the characteristic features of activity. In contrast, a low specificity of choroidal dark halo with no association with lesion activity was reported recently [5]. We therefore strongly believe that interpretation of mCNV features on OCTA is inter-observer dependent and that artifacts and acquisition modality can greatly affect diagnosis, eventually leading to poor quality imaging in almost 24.1% of cases [5]. Nevertheless, we reported that in 80% of fibrosis secondary to mCNV (inactive mCNV), the original neovascular network remains well discernable several months after treatment even if enclosed within the scar area [6]. This observation, in particular, seems inconsistent with the proposed algorithm. According to it, mCNV should be treated if considered negative on SD-OCT but positive on OCTA (as commonly seen with fibrosis or inactive mCNV) independently from its features on FA.

Evidently, although SD-OCT is mostly sufficient for accurately diagnosing mCNV, we are convinced that FA should be strongly considered in mCNV cases with negative or doubtful SD-OCT outcomes, regardless of its invasiveness. In these cases, combined SD-OCT with OCTA, when available, may provide inaccurate diagnosis and lead to

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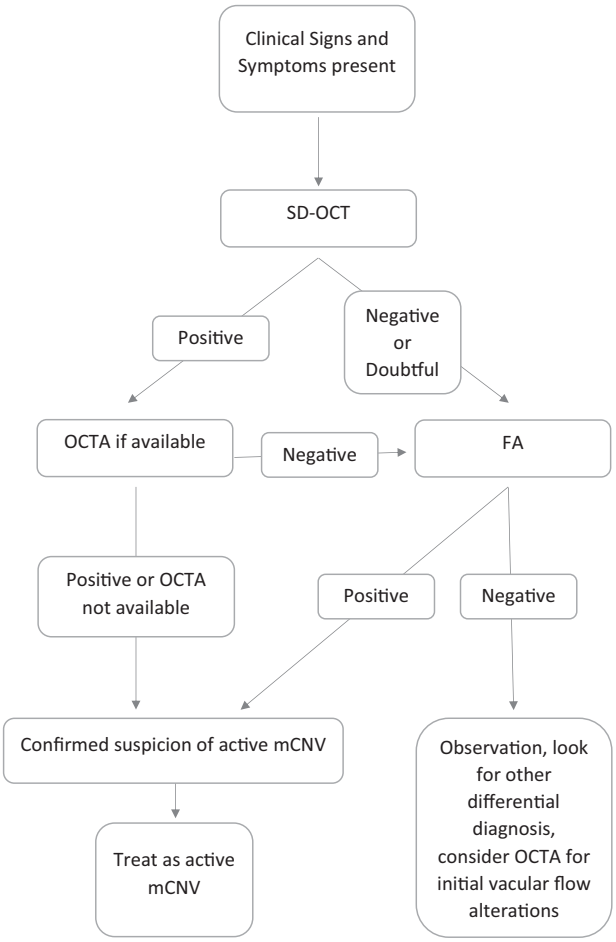

Fig. 1 Decision making flow chart for clinical suspicion of myopic choroidal neovascularisation. FA fundus fluorescein angiography, SDOCT optical coherence tomography, OCTA optical coherence tomography angiography, mCNV myopic choroidal neovascularisation.

overtreatment. FA may be dispensable only when SD-OCT and OCTA results are positive. In the enclosed modified algorithm (Fig. 1), we suggest reducing and reconsidering the use of OCTA, if available, only when SD-OCT is positive, or when SD-OCT and FA are negative, in order to identify possible initial changes in vascular flow and schedule frequency of controls.

Acknowledgements We would like to thank Editage (www.editage.com) for English language editing.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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