A study published in Ophthalmology found that optomap® confirmed the presence of wide-ranging AMD-like pathologic changes even in those without central sight-threatening macular disease. 97% of patients with age-related macular degeneration (AMD) had peripheral retinal changes associated with AMD.

Results from a recent clinical study published suggest that ultra-widefield color and autofluorescence (af) imaging confirmed the presence of wide-ranging AMD-like pathologic changes in subjects with AMD even in those without central sight-threatening macular disease. The overwhelming majority of subjects investigated were determined to have hard, crystalline, and soft drusen; retinal pigment epithelial changes; choroidal neovascularization (CNV) and atrophy evidenced by hypoautofluorescence and hyperautofluorescence in the peripheral retina.

“Peripheral retina grading may be important for the fuller understanding of the development and progression of AMD and potentially other diseases”

— Ophthalmology 2015

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Reference:
Peripheral Retinal Changes Associated with Age-Related Macular Degeneration in the Age-Related Eye Disease Study

The Writing Committee for the OPTOS PERiphera1 RetinA (OPERA) study
Ophthalmology | 2017

Previously, the 12 year follow-up of the Reykjavik Eye Study evaluated subjects with optomap color and autofluorescence imaging; finding that 67% of subjects in the Reykjavik eye study had peripheral AMD-like changes.

This new study by the Writing Committee for the Optos PERiphera1 RetinA (OPERA) study, has found that peripheral retinal changes are more prevalent in eyes with AMD than in control eyes. Drusen are seen in a majority of eyes with AMD in both the mid and far periphery, whereas pigment changes and features of advanced AMD are less frequent. Age-related macular degeneration may be more than a “macular” condition but one that involves the entire retina.

- 484 subjects underwent UWF color and AF imaging.
  For those with large drusen in the macular area, almost all of these cases also had drusen detected in the periphery, both zones 2 and 3. Drusen was found in 97% of eyes in Zone 2 and 77% of eyes in Zone 3.

- Super large drusen were found in 63% in Zone 2 and 39% in Zone 3.

- In a previous publication, the Reykjavik Eye Study group found that the comparison of grading of macular abnormalities on ultra-widefield images with conventional digital fundus images (45°) showed no substantial differences between grading for AMD in the macula. Ultra-widefield images were gradable in the macula, even those that fell short of grading standards on conventional fundus images. This was because of the capacity of laser beams to overcome problems with media opacities and they have higher resolution in terms of sharpness and contrast than conventional color images.

- The phenotypes associated with vast areas of the peripheral retina and were distinct from macular changes. Their association with early or late AMD in the macula should be investigated in follow-up studies.

- Age-related macular degeneration may be more than a “macular” condition but one that involves the entire retina. Future longitudinal studies of peripheral changes in AMD and their impact on visual function may contribute to understanding AMD pathogenesis.