

# Case Study: Non-Neovascular AMD with Geographic Atrophy

SriniVas Sadda, MD  
Doheny Eye Institute

Some of the greatest discoveries  
are farther than the eye can see.



## History:

In July 2010, an 83 year-old Caucasian male with known age-related macular degeneration (AMD) noticed progressive worsening of his central vision in the left eye for the past year. During his visit to Doheny Eye Institute, he reported metamorphopsia on the Amsler grid. The patient, who has been a smoker for 40 years, has been diagnosed with chronic obstructed pulmonary disease. In addition, he also has a history of depression, gastroesophageal reflux disease, osteoarthritis, and arterial hypertension. His family has an ocular history of macular degeneration and glaucoma. His visual acuity is measured at 20/20 in the right eye and 20/200 in the left eye. His right eye has a PCIOL, whereas his left eye has a potentially vision significant cataract (2+ PSC).

## Examination

A dilated fundus exam was performed showing extensive bilateral multifocal atrophy in the macula. **optomap® plus** images and color fundus photographs were captured, and an SD-OCT scan confirmed both drusen and atrophy in the macula. **optomap® af** images showed the full extent of the satellite lesions as well as irregular background autofluorescence seen centrally and peripherally in both eyes. The geographic atrophy (GA) showed up clearly demarcated on the high contrast autofluorescence images and abnormal autofluorescence

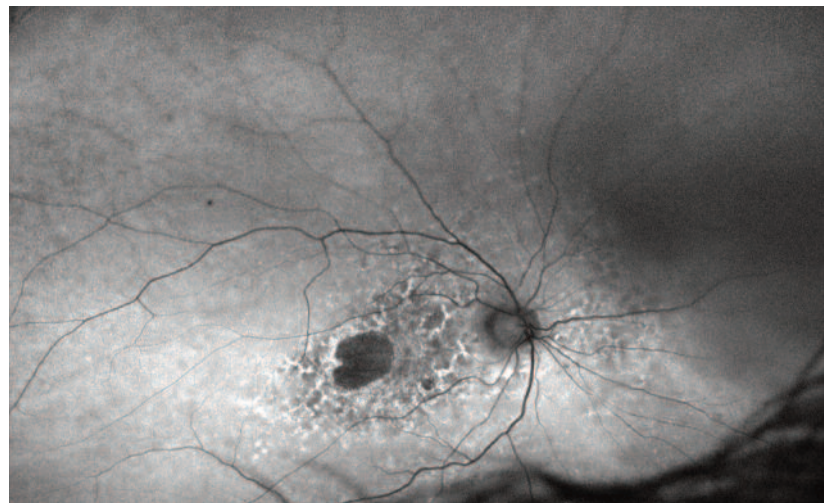
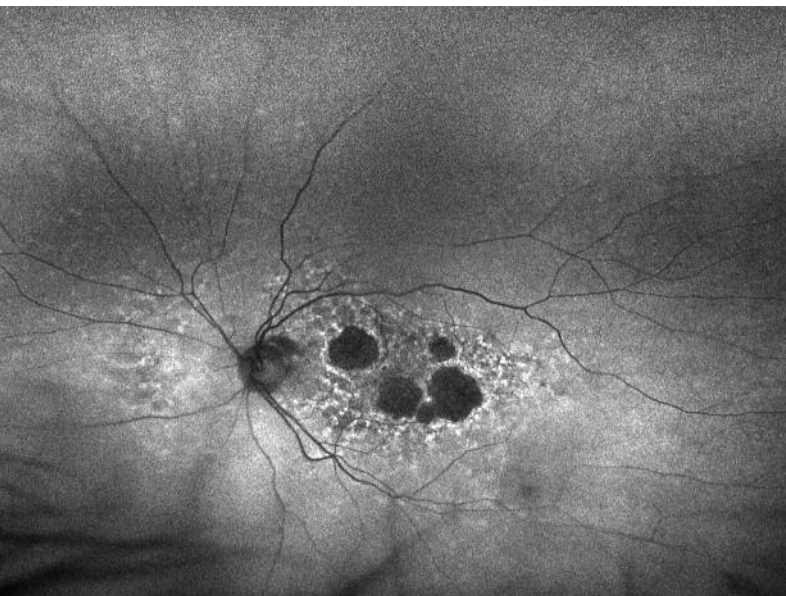
patterns were seen between the lesions and nasal to the optic disc. Typically, a fluorescein angiogram (FA) is captured to confirm the absence or presence of choroidal neovascularization, however, because the patient had poor venous access and the results from the other imaging tests were remarkable, an FA was not performed.

## Discussion

Based on the images, the diagnosis of non-neovascular age-related macular degeneration (AMD) with geographic atrophy (GA) in both eyes including central GA on the left was confirmed. **optomap® af** images were able to clearly show the atrophy through the cataract in the left eye. Interestingly, **optomap® af** changes were observed not only centrally but also in the mid-periphery, which has led observers to believe that non-neovascular AMD may also have peripheral involvement in its progression.

## Conclusion

In order to slow the disease progression and preserve his vision, ocular vitamins were prescribed and continued smoking cessation was suggested. Continued regular Amsler grid testing will be performed at home by the patient and he will report any new findings. Results of genetic testing are still pending.



**optomap® af** images demonstrate the geographic atrophy as well as the abnormal autofluorescence patterns seen between the lesions and the periphery

