

# Macular drusen resolution following supplementation with all three macular carotenoids

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## Introduction

Age-related macular degeneration (AMD) is the leading cause of blind registration in the developed world. For the dry (early) type of the condition there are currently no treatment options. Studies into risk factors for AMD have been ongoing. Many risk factors for AMD have been confirmed, and some can be modified (e.g. smoking cigarettes) and some cannot (e.g. family history). Cigarette smoking is the most important modifiable risk factor for AMD, however, nutrition is emerging as a very promising modifiable risk factor for this condition. In clinical practice, Ophthalmologists and Optometrists are now actively recommending nutritional supplements, containing the macular carotenoids, to help reduce risk of AMD development and/or its progression.

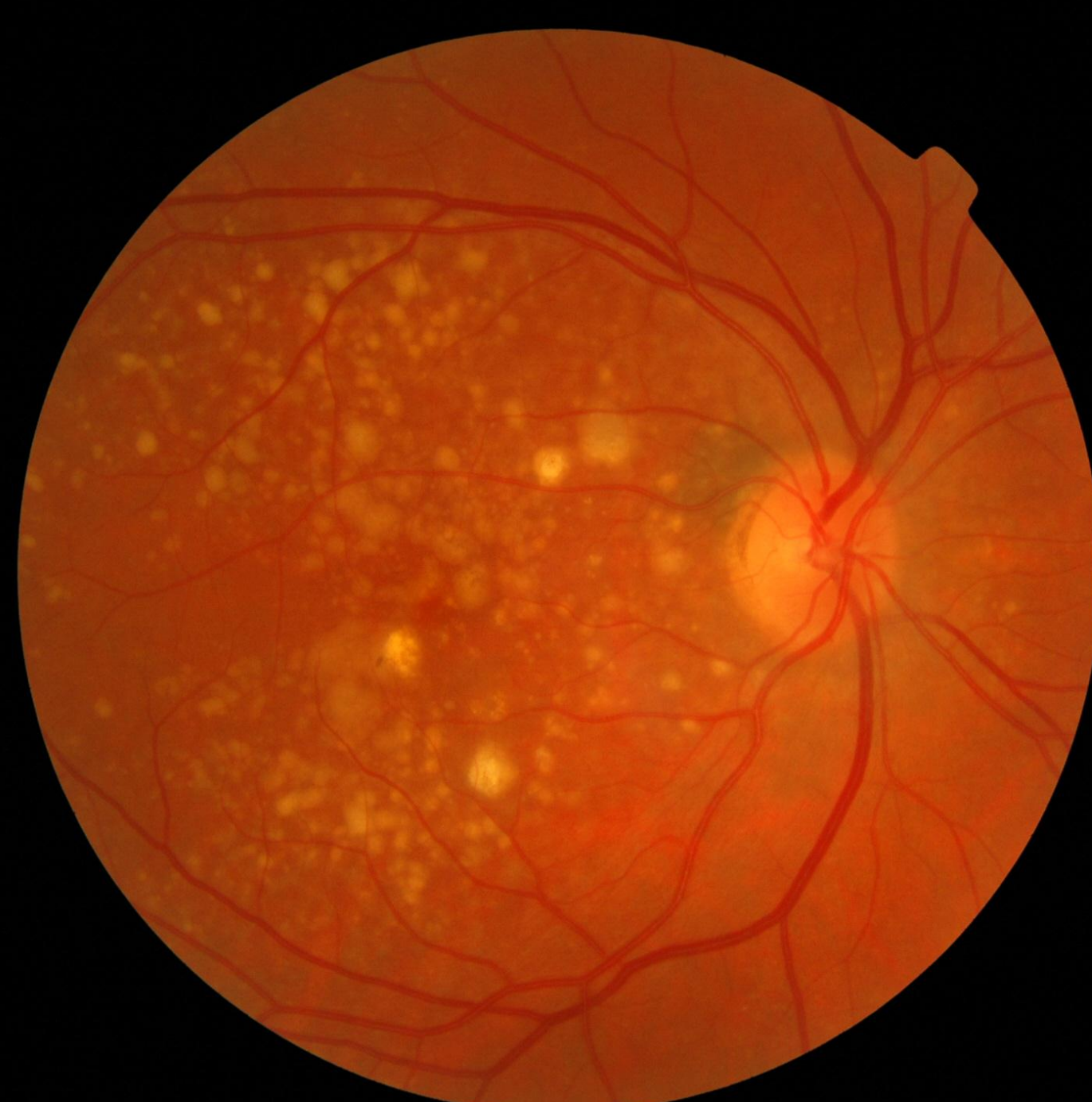
## Method

This report presents a case study from a 64 year old female patient with bilateral dry (early) AMD who is a past cigarette smoker and whose best correct visual acuity (BCVA) was 6/6 -1 in the RE and 6/6 in the LE at baseline. Also, Amsler assessment at baseline confirmed central visual distortion typical of AMD. This patient commenced a course of macular carotenoids supplements containing 10mg *meso*-zeaxanthin, 10 mg lutein, and 2 mg zeaxanthin (commercially available as Macushield) and has been taking this supplement daily for 18 months. Dietary and lifestyle details were also recorded. Fundus photographs, Amsler assessment, BCVA, and subjective assessment of vision were performed at baseline, 12- and 24 months.

## Results



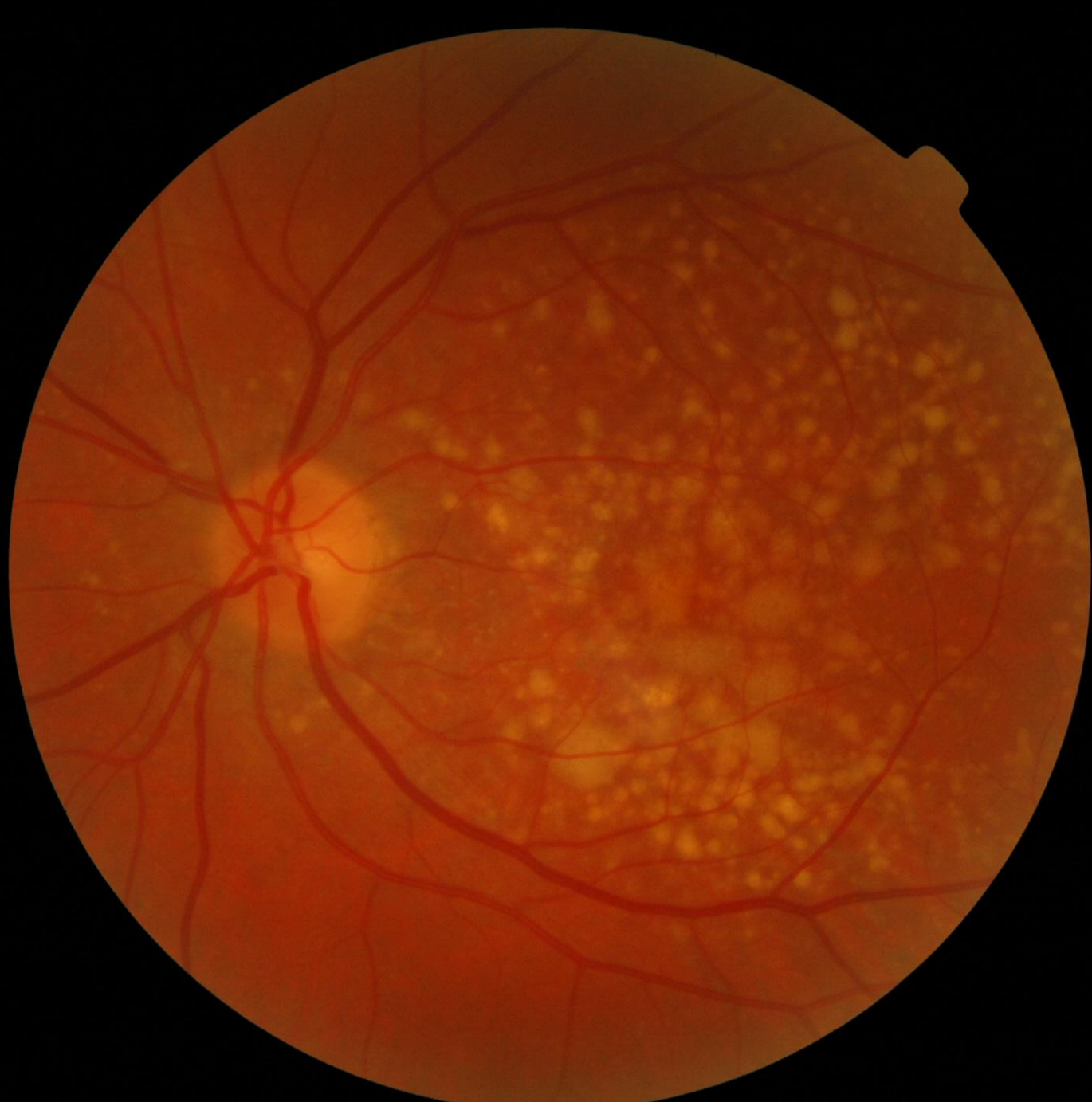
**Baseline**



**12 months-better**

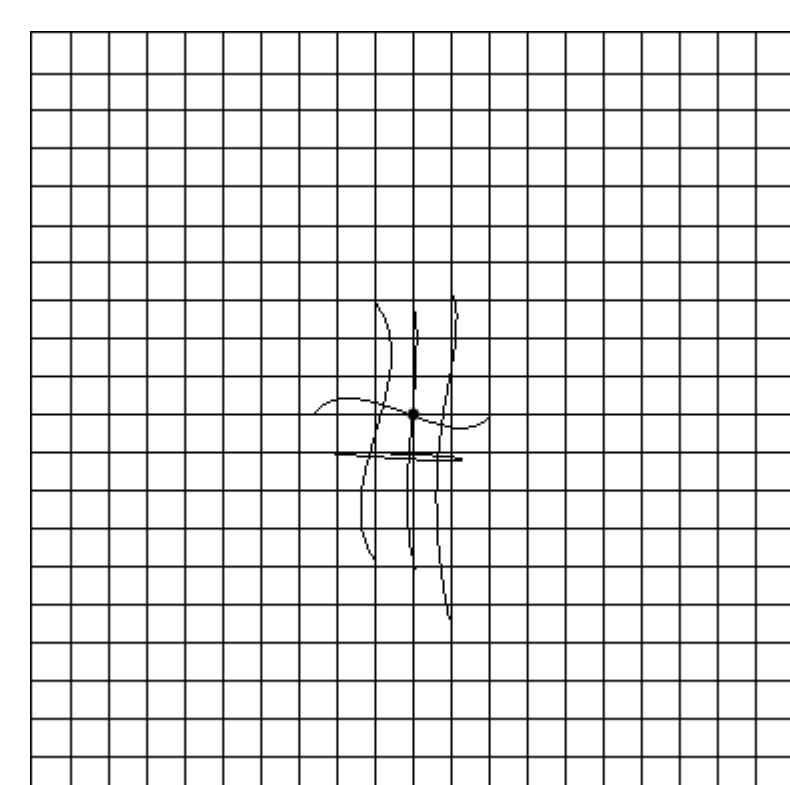


**24 months – even better**

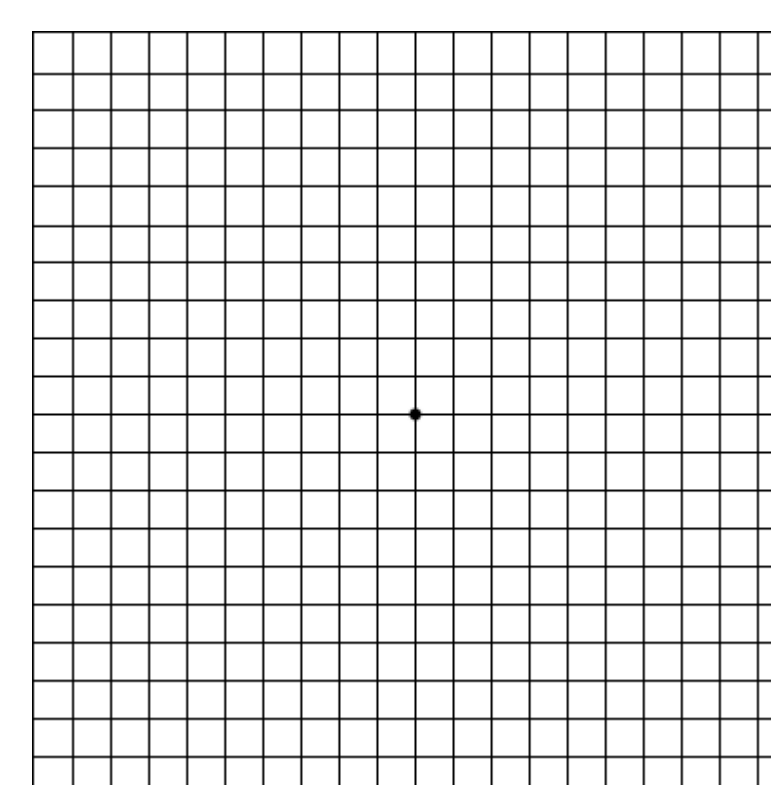


At 12 and 24-months, assessment of fundus photographs shows drusen resolution in the macular area from baseline. Consistent with this, BCVA improved to 6/5 and Amsler assessments confirm no visual distortion by 24 months. Finally, subjective assessment of vision also suggests improvement in visual function since commencing the carotenoid intervention. The patient reported that her 'vision seems much better'.

Date	Best Corrected visual acuity
13/02/2009	R: 6/6-1 L: 6/6+1
02/03/2010	R:6/6+1 L: 6/6+1
08/03/2011	R:6/5 L:6/5



**Amsler distortion at baseline in both eyes**



**No Amsler distortion in either eye at 12 and 24 months**

## Conclusion

This case study is consistent with the hypothesis that the macular carotenoids, *meso*-zeaxanthin, lutein and zeaxanthin may protect against the progression of AMD. Properly conducted clinical trials are required to identify the cohort of AMD patients that may benefit most from supplementation with the macular carotenoids.