Research Highlight

A Quick and Easy Eye Test for Identifying Those at Most Risk of Developing Early Age-Related Macular Degeneration

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Deciding who is at risk for development of age-related macular degeneration (AMD) is a significant challenge. Important progress has been made with respect to the development of late stage disease. Combining demographic, lifestyle, retinal markers, and genotype allows risk scores to be computed with good sensitivity and specificity.[1] Prognostic markers for the development of AMD in those with normal macular health are not as widely studied, yet this may be a group in which prophylactic treatments are most effective. Owsley et al.[2] recently have reported delayed rod-mediated dark adaptation as a functional biomarker for incident early AMD, though with a sensitivity and specificity of 33.3% and 82.8%, respectively, this could not be used alone as a screening test for those at most risk for early AMD. Therefore, the study by Owsley et al.,[3] which examined the association between cone-mediated visual function and incident AMD, provides important clinical findings, as these techniques tend to be quicker and more easily applicable in a standard clinical setting and also are known to be useful in studying AMD at later stages. The finding that impaired mesopic visual acuity in older eyes in normal macular health is a risk factor for incident early AMD is notable, in that it confirms the use of functional tests beyond acuity to identify those at most risk. Glazing a trial lens with a 1.5 log unit neutral density filter is relatively straightforward and inexpensive, while repeating a visual acuity measurement with the filter in place just takes minutes, making this test easily applicable. Although the authors acknowledge it may not be a good candidate for tracking change within a trial, its use for revealing retinal dysfunction and disease risk not evident on fundus photography should be considered by those providing primary ophthalmic care to older populations.

References

1. Seddon JM, Silver RE, Kwong M, Rosner B. Risk prediction for progression of macular degeneration: 10 common and rare genetic variants, demographic, environmental, and macular covariates. *Invest Ophthalmol Vis Sci*. 2015;56:2192–2202.
2. Owsley C, McGwin G Jr, Clark ME, et al. Delayed rod-mediated dark adaptation is a functional biomarker for incident early age-related macular degeneration. *Ophthalmology*. 2016;123:344–351.
3. Owsley C, Clark ME, Huisingh CE, Curcio CA, McGwin G Jr. Visual function in older eyes in normal macular health: association with incident early age-related macular degeneration 3 years later. *Invest Ophthalmol Vis Sci*. 2016;57:1782–1789.

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