Can statins lower the risk of age-related macular degeneration?

Question submitted by
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Age-related macular degeneration (AMD) is the number one cause of vision loss and legal blindness in adults over 60 in North America. Recent evidence published in the *British Journal of Ophthalmology* (September, 2003) suggests that lipid-lowering agents, such as statins, may be associated with a lower incidence and progression of AMD. The results of this case-controlled study showed that 550 subjects with AMD were over 50% less likely to have filled a statin prescription than the 5,500 controls. Even when the results were adjusted for confounding factors, such as diabetes and cardiovascular disease, a significant association was still present.

Although these results appear promising for future AMD therapies, one should realize that they show only an association, rather than a direct cause-and-effect relationship. Another limitation to the study by McGwin et al. is that the study population was restricted to males 50 and older. More importantly, the investigators were unable to control for smoking, which has been shown to be associated with AMD. In contrast to these aforementioned studies, a recent cohort study suggested that, while controlling for age and sex, there was no association between statin use and incidence of AMD over a five-year period. A prospective cohort study by van Leeuwen et al. also showed no association between statins and AMD.

Numerous biologic theories, such as reduced cholesterol accumulation in Bruch's membrane and possible antioxidant properties of statins, could explain a causal relationship between statin use and delayed onset or development of AMD. However, before physicians prescribe statins specifically for AMD prevention, further long-term randomized, controlled clinical trials are necessary to elucidate whether there is a direct relationship between statin use and reduced incidence and/or progression of AMD. CME

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