Is a Fixation Switch Necessary for Visual Acuity Improvement in Patients With Amblyopia Treated With Atropine?

It is often questioned whether a change in fixation (to the amblyopic eye) is necessary for atropine treatment to be successful. Recent retrospective reviews report that patients swapping fixation during atropine treatment have significantly greater improvement in visual acuity compared with those who do not swap. Studies by the Pediatric Eye Disease Investigator Group and others have found that visual acuity improvement can be demonstrated in patients treated with atropine regardless of their fixation behavior. The implication is that a fixation swap is not essential for atropine to be successful.

In the study by Leone et al. in this issue, the authors aimed to investigate the impact of fixation behavior on visual acuity outcomes following atropine treatment. They also investigated the validity of the cyclo-swap test as a method to predict response to amblyopia therapy. The authors suggest it is likely that patients treated for amblyopia using atropine achieve an improvement of visual acuity via the mechanism of a fixation swap that results during the treatment phase. This may occur at distances of less than 1/3 of a meter, which may not always be tested. They demonstrated that vision can improve regardless of the results of the cyclo-swap test, but this may be because the test was not performed at nearer fixation points in their study.

The cyclo-swap test may be a valuable clinical tool in providing information about prognosis, efficacy, or practicality in relation to the use of atropine in the treatment of amblyopia. Additional research to investigate the efficacy of the cyclo-swap test as performed at various distances, including those nearer than “near” (1/3 m), is necessary. Future amblyopia studies to monitor fixation at distances closer than 1/3 m during the atropine treatment phase may prove beneficial.

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