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Atropine to myopia control without photosensitive lens

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Purpose: To compare the efficacy of 0.025% atropine eye drop in children for the control of myopia with and without photosensitive lens.

Methods: This was a prospective study of sixty children, aged 6 to 12 with spherical equivalent refractive error of -1.00 to -6.00 Diopters (D) and astigmatism of -1.00 D or smaller. Children were randomly assigned into two groups in a 1:1 ratio of either anti-reflective coating lens (group 1) or photosensitive lens (group 2). Both groups used 0.025% atropine, once-nightly dosing to both eyes for 1 year. Cycloplegic refraction, axial length and keratometry were noted at the baseline and 1 year later. In terms of corneal topography, only regular astigmatism was accepted. Student's t test was used to compare the two groups.

Results: The age mean and SD for the two groups were 8.2 ± 1.7 and 8.3 ± 1.7 years; the initial refractive errors were -3.63 ± 1.21 D and -3.60 ± 1.38 D in groups 1 and 2, respectively. Myopic progression was significantly less ($P=0.0007$) in group 1 (-0.19 ± 0.14 D) than in group 2 (-0.32 ± 0.13 D). Axial length increase was also significantly smaller ($P=0.001$) in group 1 (0.11 ± 0.08 mm) than in group 2 (0.21 ± 0.11 mm). There were no significant statistical differences in relation to keratometry between groups.

Conclusion: Topical 0.025% atropine eye drops is more effective without photosensitive lens for retarding myopic progression in moderate myopia. However, it is necessary the usage of multilayer anti-reflective coating lens for preventing glare. Furthermore, a larger scale randomized controlled study with longer follow-up seems warranted.

Biography

Celso Marcelo Cunha has completed his specialization at Hospital Regional, Santa Catarina, Brazil. He is a Member of the Refraction Department SOBLEC, Brazil and a Medical Consultant for Hoya Vision Care. He has published more than 10 papers which were published in Brazilian journals and meetings. He is a Member of the Editorial National Board of *Arquivos Brasileiros de Oftalmologia* and *Revista Brasileira de Oftalmologia*.

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