

# Treatment of Progressive Myopia in the Pediatric Population



Following the publication of the results of the Atropine for the Treatment of Myopia 2 (ATOM 2) study,<sup>1</sup> a resurgence of interest in the prevention of myopia with topical atropine occurred. Throughout the world, pediatric ophthalmologists began prescribing daily low-dose atropine drops to children with myopia. I have read that in Taiwan approximately 50% of the pediatric population is receiving atropine eye drops. In the United States, ophthalmologists are using compounding pharmacies to prepare 0.01% atropine solution to be instilled in their patients. Although the data show a reduction in both the progression of myopia and the axial length growth in children treated with this low dose, it remains to be determined who will best benefit from this therapy. Patients who have recently become myopic with a strong family history of progressive myopia would be ideal candidates. There are currently no specific guidelines as to who should be treated.

I am aware of a least two ongoing randomized controlled trials evaluating the treatment of children with -0.50 to -6.00 diopters (D) of myopia. I believe that normative data on the progression of myopia in untreated populations are necessary to identify good candidates for treatment. Data indicate that different ethnic populations may vary in the incidence and progression of myopia.

In this issue, Kim and Lim construct a novel myopia growth chart using data from a population-based survey for the prediction of myopic progression in Korean children. The severity of myopia can be determined more specifically using their myopia growth chart. They found that a value of -1.00 D in a 5-year-old patient corresponds to the 94th percentile for myopia at that age and is associated with a -0.84 D myopic progression rate. This patient has an expected high myopia at 20 years of -6.94 D, which corresponds to the 94th percentile at that age. The point is that as little as -1.00 D of myopia at 5 years of age may be an appropriate trigger for institution of myopia treatment. This type of data for diverse populations of children may prove invaluable for establishing treatment guidelines, if a formulation receives the approval of the U.S. Food and Drug Administration in the future.

## REFERENCE

1. Chia A, Chua WH, Cheung YB, et al. Atropine for the treatment of childhood myopia: safety and efficacy of 0.5%, 0.1%, and 0.01% doses (Atropine for the Treatment of Myopia 2). *Ophthalmology*. 2012;119:347-354.

**Rudolph S. Wagner, MD**  
Editor

---

*The author has no financial or proprietary interest in the materials presented herein.*  
doi:10.3928/01913913-20190205-02