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ANISOMETROPIA AND STRABISMUS

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ANISOMETROPIA has long been considered an etiologic factor in strabismus. The incidence of anisometropia in the general population has not been well defined. Its relationship with strabismus and amblyopia is not well documented. A study of patients with known strabismus was done to discover the occurrence of unequal refraction. A large group of consecutive patients seen in our private office was also examined for the occurrence of anisometropia.

METHOD

Histories of 865 patients with strabismus were reviewed. Four hundred twenty-four patients were from the Children's Medical Center in Dallas, and 441 patients were from our private office. These records were surveyed to determine the incidence of anisometropia. Charts of 20,096 patients seen in our private office were also reviewed for the occurrence of strabismus, amblyopia, and anisometropia. These were taken on a consecutive basis.

In this study, adults were considered to be 16 years of age or older. Patients 15 years of age and younger were classed as children. Anisometropia was defined as a difference of 1.50 diopters of spherical equivalent or greater. This was an arbitrary figure, but it has been accepted by many workers in this field. Excluded from

this study were unilateral aphakia; cataract patients without refraction; patients with unequal vision from infection, foreign body, or other acute symptoms; and infants or other children in which the visual acuity could not be obtained.

DISCUSSION

The association between anisometropia and strabismus has been known for many years. Worth¹ described anisometropia in approximately 45% of patients with unioocular squint and 4% of alternaters. In 1913, Lagleyze² reported similar findings. They both reported the greater hypermetropia or astigmatism to be in the squinting eye. Unequal refraction has commonly been included in any etiologic consideration of squint. The exact cause-and-effect relationship has not been well defined nor documented in the past.

In examination of 441 cases of strabismus from our office, 31 (7%) of these patients had anisometropia greater than 1.50 D. Twenty-four patients had esotropia, and 7 had exotropia. The vision ranged from 20/20 in each eye to a vision of 20/400 in the worst eye. There was one case of macular degeneration, one case of optic atrophy, and two cases of chorioretinal scarring in the macular area, making a total of four patients with organic amblyopia. The refraction varied from 1.50 D to 15.50 D, with an average of 3.1 D.

The Children's Hospital series had 424 patients with strabismus, of whom

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