Heredity as a Risk Factor in Concomitant Strabismus

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Introduction

Risk factors for the development of concomitant strabismus include heredity, prematurity, increased maternal age at delivery and neonatal hypoxia. The role of heredity as an important risk factor for concomitant strabismus has been based on studies of large pedigrees with accumulation of strabismic members, high incidence of family history in strabismic patients and the concordance of strabismus in twins. The prevalence of family history among patients with squint varies from 25% to 55%. But the exact factor that is inherited or the actual mode of inheritance is not known.

Purpose

To study the prevalence of family history in patients with concomitant strabismus and to compare its role as a risk factor in concomitant exotropia and esotropia.

Materials and Methods

Sixty two patients with concomitant strabismus who attended our institution during the period January 1998 to March 2006 were included in the study. The patients and their family members were interviewed regarding any family history of strabismus. All the patients underwent complete ophthalmological evaluation for strabismus. Family history was taken as positive when at least one member in the family within six degree relatives (siblings, parents, grandparents, uncles, aunts, first and second cousins) had strabismus. Strabismus associated with any organic eye diseases was excluded. A comparison of the heredity as a risk factor among patients with exotropia and esotropia was done using Fisher’s test.

Results

Of the 62 patients 20 patients had exotropia and the remaining 42 patients had esotropia. There were 29 males and 33 females. The overall prevalence of positive family history among patients with concomitant strabismus was 25.8%. 11 out of the 20 patients with exotropia had a positive family history (55%) as against 5 out of the 42 with esotropia (11.9%). Average age at presentation was 13.8 years. The higher prevalence of family history in patients with exotropia when compared to those with esotropia was statistically significant (p = 0.001 by Fisher’s test).

Discussion

The risk of developing strabismus increases by four times if either of the parents has squint. In this study the prevalence of family history in patients with squint was 25.8% which is comparable to studies cited earlier. Aurell et al has reported increased risk of squint with family history in patients with esotropia while Toshihiko et al reported family history as significant risk factor in development of both esotropia and exotropia with a clearly greater incidence in patients with intermittent and
constant exotropias and accommodative esotropia than in patients with infantile esotropia. Our study however finds a higher incidence in patients with exotropia than in esotropia. However the number of patients in our study was too small to evaluate the significance of family history in each of the subtypes.

**Conclusion**

In our study heredity was an important risk factor in patients with concomitant exotropia.

**References**