

Changes in astigmatism in children with congenital nystagmus.

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Author information

Abstract

BACKGROUND:

Astigmatism is commonly reported in children with and without nystagmus. In children less than 4 years of age the astigmatism changes from against the rule (ATR) to with the rule (WTR) astigmatism in children without nystagmus. However, little is known about children with congenital nystagmus. We compared astigmatism in children with congenital nystagmus below 4 years and above 4 years of age.

MATERIAL AND METHODS:

Three hundred and fifty-six eyes in 178 children who satisfied the study criteria were included. The children were divided into those below 4 years of age (n of eyes = 192) and those above (n of eyes = 164). Cycloplegic refraction (with manual retinoscopy) carried out at presentation and at the last follow-up were recorded and compared. Cycloplegia was achieved using cyclopentolate eye drops. Outcome of eyes with no astigmatism at initial presentation was compared with the final refraction in both the age groups. The visual acuity at the first presentation was compared with the visual acuity at the last presentation.

RESULTS:

Average follow-up duration was 3.36 \pm 1.59 years. On presentation, 176 (49.44%) eyes did not have any astigmatism. We found that 26 (25.2%) out of the 103 children below 4 years of age who did not have any astigmatism on presentation developed WTR astigmatism after a mean follow-up of 3.5 \pm 1.5 years. ($p=0.042$). In children \geq 4 years of age only 7 (9.6%) children out of 73 developed WTR after a mean follow-up of 3.4 \pm 1.4 years. The visual acuity change was not found to be significant in the two groups. The majority (90.3%) improved or had same visual acuity in group A and 88.9% improved or had the same visual acuity in group B at the last follow-up ($p=0.77$).

DISCUSSION:

Our incidence of WTR astigmatism in children with congenital nystagmus is similar to those previously reported series. Our data suggest that there is a significant chance that children under 4 years with congenital nystagmus may develop WTR astigmatism compared with children above 4 years of age.

CONCLUSION:

With the rule (WTR) astigmatism is common in children with nystagmus. Children under 4 years of age presenting with no astigmatism may acquire WTR astigmatism as they grow. The amount

of astigmatism increases with age in children with nystagmus. Visual acuity, however, remains stable as the age advances.