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Sir,

Associations of high hypermetropia in childhood

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Further to our findings on high myopia in childhood,[1] we reviewed 114 consecutive children under 10 years of age with high hypermetropia (greater than +5.00 dioptres) during a 5-year period and found both analogous and contrasting results (Table 1).

Whereas the myopic children were referred for the most part with nonspecific symptoms, 68% of the hypermetropic children were referred because of specific signs (strabismus 57%, hypermetropia 11%). Furthermore, the finding that initiated referral was confirmed in all but one case. Demographically the children were similar to the myopia group in terms of age at presentation and gender, but there was no over-representation of Asian children in the hypermetropia series.

In both series, the incidence of simple high refractive error was low (hyperopia 12%, myopia 8%). An orthoptic abnormality was present in 80% of the children with hypermetropia, usually accommodative esotropia (54%).

The spectrum of ocular associations was much narrower in the hypermetropic than the myopic group, but the overall incidence of ocular abnormality was almost identical (13% compared to 16%) (Table 2).

Table 1 Incidence of systemic, orthoptic and ocular abnormalities in children with high hypermetropia compared to high myopia[1]

Abnormalities	*Hypermetropia* (%)	*Myopia*[1] (%)
Simple refractive error alone	12	8
Orthoptic abnormalities		
Strabismus	62	8
Nystagmus	4	17
Amblyopia	24	32
Systemic conditions	21	53
Ocular abnormalities	13	16

Table 2 Incidence of ocular abnormalities found in children with high hypermetropia

Ocular abnormality	*Number* (%)
Lens subluxation	5 (4)
Glaucoma	2 (2)
Cataract	2 (2)
Limbal dermoid	1 (1)
Axenfeld–Reiger syndrome	1 (1)
Coloboma	1 (1)
Microphthalmia	1 (1)
Peter anomaly	1 (1)
Orbital fibrosis syndrome	1 (1)

Table 3 Incidence of systemic conditions affecting children found to have high hypermetropia

Systemic abnormality	*Number* (%)
Global developmental delay	4 (3.5)
Chromosomal abnormalities (trisomy 21; Reiger syndrome; trisomy 8; chromosome 18 deletion)	4 (3.5)
Neurological abnormalities (hydrocephalus+ epilepsy; microcephaly+ neuroblastoma; craniopharyngioma)	3 (3)
Marfan's syndrome	3 (3)
Cleft palate/hare lip/Goldenhar syndrome	3 (3)
Previous extreme prematurity	2 (2)
Craniosynostosis	2 (2)
Congenital cardiac abnormalities	2 (2)
Miscellaneous (Goltz syndrome; oculocutaneous albinism; Maden Walker syndrome; immune deficiency; soft tissue syndactily)	5 (4.5)

In total, 24 (21%) of the children with hypermetropia had a systemic association compared to 53% of the myopic children. In only one case of high hypermetropia was the systemic diagnosis made following recognition of the refractive error (Table 3).

In conclusion, children with high hypermetropia are more likely to present with, and be referred for, definite

signs and are less likely to harbour occult ocular or systemic pathology than children with high myopia.

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Sir,

Choriovitreal neovascularization following transpupillary thermotherapy for choroidal melanoma

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Transpupillary thermotherapy (TTT) has recently emerged as a first-line treatment modality for some selected small posterior uveal melanomas.[1] This is largely because of the relative ease of performing the procedure on an outpatient basis, reduced costs compared with other modalities and perhaps, most important of all, few side effects and collateral damage depending on the location of the tumour. Currently, tumours posterior to the equator and measuring less than 10 mm in basal diameter and less than 3.5 mm in thickness can be predictably and safely treated with TTT.[1] We herein report a patient with a small choroidal melanoma treated with TTT, who shortly after the treatment developed choriovitreal neovascularization that led to a chain of disproportionately severe complications.

Case report

In June 1999, a 63-year-old woman presented with gradual loss of vision in the left eye within 6 months. Except for chronic systemic hypertension, she was in good health. On examination, her best corrected visual acuity was 20/25 in the right eye and 20/60 in the left. Intraocular pressures and anterior segments were within normal limits except for the presence of 2+ nuclear sclerosis in the left eye. Left fundus examination revealed a circumscribed, partially amelanotic choroidal melanoma that measured $6.5 \times 6.5\,mm^2$ in basal dimensions and 3.5 mm in thickness (Figure 1). There was no overlying subretinal fluid. We performed TTT with confluent 3 mm spots at 550 mW power, each lasting 60 s. The procedure was repeated 6 months later with the same settings at 600 mW power. The tumour steadily regressed during the following 10 months until the patient presented with a mild vitreous haemorrhage. Her left visual acuity dropped to counting fingers. Choriovitreal neovascularization originating from the tumour was observed (Figure 2). The patient then was temporarily lost to follow-up. When she presented again in June 2001, a dense vitreous haemorrhage precluded any fundus view. A standard three-port vitrectomy was performed with sector endolaser photocoagulation also surrounding the tumour. The neovascular fronds rapidly regressed into fibrotic sheaths while the tumour thickness decreased to 1.5 mm. The visual acuity stabilized at 20/100. No tumour recurrence or metastasis was noted during later follow-up.

Comments

Infrared thermotherapy induces tumour cell necrosis, probably by disruption of intracellular mitochondria, through raising the local temperature between 45 and 60°C.[2] Histopathological studies on eyes following TTT showed necrosis into a depth of 3.9 mm within the tumour and scattered haemorrhages between the necrotic and viable parts.[3] However, no evidence of choroidal neovascularization was mentioned in this

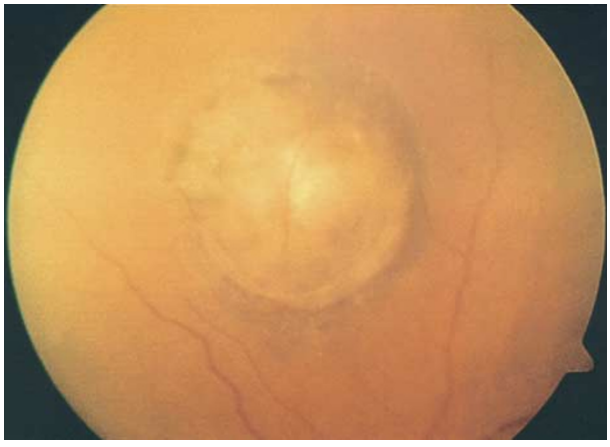

Figure 1 Choriovitreal neovascularization: overall pretreatment view of the choroidal melanoma that is located 12 mm superior to the optic disc.