In addition, ankylosis of the fingers and joints and syndactyly have been reported. The condition is related to Apert's syndrome and Crouzon's disease, although there is no evidence that it is an inherited disorder. Survival to fourteen years has been reported. Recent studies suggests that total, subtotal craniectomy within the first few weeks of life may improve the otherwise dismal prognosis.

Yours sincerely,

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## References

<sup>1</sup> Holtmuller K and Wiedermann HR: Kleeblattschädel syndrome. *Med Monattsschur* 1960, 14: 439–46.

<sup>2</sup> Zuleta A and Basauri L: Cloverleaf skull syndrome. *Childs Brain* 1984, **11**: 418–27.

<sup>3</sup> Warkany J: The Skull. Congenital Malformations. Notes and Comments, ch. 95, Chicago:Year Book. Medical Publishers Inc. 1971, 904-5.

<sup>4</sup> Ferngold M, O'Connor JF, Berkman M, Darling DS: Kleeblattschädel syndrome. Am J Dis Child 1969, 118: 589-94.

<sup>5</sup> Kroczek RA, Muhlbauer W, Zimmermann I: Cloverleaf skull associated with Pfeiffer syndrome: pathology and management. *Eur J Pediatr* 1986, 145: 442–5.

SIR—A case is presented in which a sevenyear-old boy sustained a blunt injury to one eye. On examination, the lens of this eye was found to have the appearance of a posterior lenticonus, associated with a rupture of the posterior capsule. Refraction revealed a high degree of astigmatism induced by the change in shape of the lens. The rapid development of a dense cataract was anticipated, but in this case only minimal opacities formed with little deterioration in visual acuity. A mature cataract was eventually formed eight months post trauma.

## Case report

A seven-year-old Asian boy attended the Ophthalmic Casualty Department, having been kicked in the left eye four days previously. He has complained of diminished vision since that time.

Visual acuity was found to be hand movements with accurate light projection in the left eye and 20/15 in the right. There was no external evidence of trauma, but the lens showed a dramatic change in shape (Figs. 1 & 2). This had the appearance of a large posterior lenticonus associated with rupture of the posterior lens capsule and presumably, her-

niation of cortex into the defect. There were no other abnormalities, apart from some minimal punctate lens opacities posteriorly.

The child was known to have a slightly amblyopic left eye with documented previous refraction of:

Right Plano = 20/15Left Plano = 20/40

Refraction on this occasion was unchanged on the right, but was  $-7.00/+6.00\times70^{\circ} = 20/200$  on the left, revealing a high degree of astigmatism in concordance with the lenticular appearance.

Three weeks later the left visual acuity had improved to 20/60 with pinhole. Five months post-trauma the left visual acuity was 20/120 with unchanged refraction and slight increase in size and density of the lens opacities (Figs. 3 & 4). A mature cataract eventually formed eight months post-injury.

## Comment

Injuries to the lens and supporting structures from blunt trauma are common. The usual result is the formation of one or other type of lenticular opacity, which may or may not be associated with a visible capsular tear. A large



Fig. 1



Fig. 2



Fig. 3

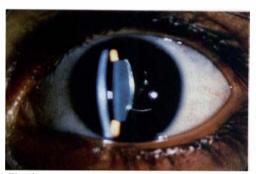


Fig. 4

capsular rupture usually results in the rapid development of a diffuse cataract, due to the free entry of aqueous into the lens. Small ruptures may be sealed by overlying iris or healed by proliferation of lens epithelium. In addition concussive injury to the lens capsule may alter its semipermeability, allowing the formation of cataract without actual capsule rupture. 1-3

Although the development of cataract is a common outcome, the formation of a posterior lenticonus, (thought to be due to the occurrence of a capsular tear in the region of the posterior pole) has been reported.<sup>4,5</sup> These cases were associated with the subsequent development of significant lens opacities, or intumescence of the lens. The case illustrated is unusual in that the lens remained clear five months post-injury.

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## References

<sup>1</sup> Yannoff M, Fine BS: Surgical and Nonsurgical trauma. Duane TD, Jaeger EA (ed) Biomedical Foundations of Ophthalmology, Philadelphia, Harper and Row, 1983, Vol. 3, Ch. 6, 33–6.

<sup>2</sup> Duke-Elder S and MacFaul PA: Concussions, Duke-Elder (ed) System of Ophthalmology, London, Henry Kimpton, 1972, Vol XIV (Part 1) Ch. 2, 121-49.

<sup>3</sup> Eagling EM and Roper-Hall MJ: Blunt injuries to the eye, eye injuries, an Illustration Guide, London, Gower Medical Publishing Limted, 1986, 5-11.

<sup>4</sup> Rosen E: Traumatic Lenticonus Posterior. *Br J Ophthalmol* 1945, **29:** 370–3.

<sup>5</sup> Tipshus AF: Posterior Traumatic lenticonus, *Arch Ophthalmol* 1969, **82:** 370–3.