surgery and are often related to inadvertent ocular penetration during anaesthetic administration. Direct surgical trauma to the posterior segment structures is rarely caused by intraocular manipulation, as instruments are under direct visualization and surgical control. This case illustrates a possible cause of inadvertent trauma: the forcible ejection of an unsecured cannula during injection of viscoelastic. Because of the high resistance provided by the viscoelastic, significant pressure is generated during injection, allowing for a sudden, explosive release of the cannula into the eye. To avoid this surgical complication, the surgeon should secure the connections of all surgical instruments, including cannulas, phacoemulsification tips, and intraocular lens injectors, before inserting them into the eye, especially if prepared by an assistant. Aiming the cannulas toward the angle and lens injectors toward the ciliary body may prevent forceful posterior capsular tears and retinal breaks. If traumatic retinal breaks do occur, retinopexy should be considered to prevent retinal detachment.

Jonathan L. Prenner, MD
Michael J. Tolentino, MD
Albert M. Maguire, MD
Philadelphia, Pa

Corresponding author: Albert M. Maguire, MD, Retina Service, Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania, 51 N 39th St, Philadelphia, PA 19104.


Bilateral Serous Retinal Detachments Following Diode Laser Treatment for Retinopathy of Prematurity

We report a rare retinal complication in a premature infant undergoing diode laser treatment for retinopathy of prematurity (ROP).

Report of a Case. A male infant (triplet 2) was born at 27 weeks’ gestation with pigmentary macular change. The macular edema observed clinically is not visible photographically.

Triplet 1 (male; 850-g birth weight) reached threshold ROP at 35 weeks (8-9 cumulative clock hours of stage 3 ROP in zone 2 with plus disease in 4 quadrants bilaterally). Both eyes received indirect diode laser treatment (400-mW intensity/400-millisecond duration; 1200 burns OD and 840 burns OS). No retinal problems were noted following treatment. This infant also developed grade 4 intraventricular hemorrhage. Triplet 3 (female; 990-g birth weight) developed ROP bilaterally but did not reach threshold. All 3 infants received supplemental oxygen.

All infants undergoing ROP screening and treatment underwent dilation with a combination of 0.5% cyclopentolate hydrochloride and 0.5% hydrochloride and 2.5% phenylephrine drops (repeated once). When diode laser treatment is indicated, children are sedated with intravenous morphine.

Comment. Bilateral serous retinal detachment with pigmentary macular change following diode laser treatment for ROP has not been previously re-
reported. Noonan and Clark\(^1\) reported a case of unilateral serous retinal detachment following unilateral argon laser photocoagulation treatment for threshold ROP. Berman and Deutsch\(^2\) reported a case of bilateral pigment epithelial detachments in a premature neonate being screened for ROP. In both cases, these retinal changes resolved spontaneously without sequelae, and the authors postulated that phenylephrine-induced hemodynamic changes in the choriocapillaris may have been responsible.\(^1,2\) Macular pigmentary changes have been reported following cryotherapy for ROP.\(^3\) Williams and Trese\(^4\) reported a unilateral punched-out macular lesion with pigmentary change in an 11-year-old girl who had been born prematurely but had never received any treatment for ROP.

Phenylephrine drops are an unlikely cause for these posterior segment changes, given their widespread use in preterm infants and the rarity of these complications. We hypothesize that the diode laser treatment in our case may have caused an inflammatory reaction that led to fluid exudation. Fluid collection at the macula may be responsible for subsequently observed macular pigmentary changes, as suggested by Williams and Trese.\(^4\) However, inflammation following treatment would not explain the retinal changes in children who did not receive treatment\(^2,4\). Different etiological mechanisms may apply in different situations. Individual factors such as very low birth weight, early development and treatment of threshold ROP, and possibly multiple-gestation pregnancy may play a role in the development of subretinal fluid collections in premature infants with ROP.

Alan Mulvihill, FRCSI
Bernadette Lanigan, RGN
Michael O’Keefe, FRCS
Dublin, Ireland

Corresponding author and reprints:
Michael O’Keefe, FRCS, National Children’s Eye Centre, Children’s University Hospital, Temple St, Dublin 1, Ireland (e-mail: mokeefe@materprivate.ie).


Retinal Pigment Epithelium Tumorlike Lesion Arising From an Area Treated With Laser Photocoagulation

Focal hyperplasia of the retinal pigment epithelium (RPE) is a benign condition that can occur as a result of numerous ocular injuries,\(^1,2\) including laser photocoagulation of the choroid or retina in various disease conditions.\(^3\) It appears as an irregular, flat accumulation of black pigment under the sensory retina. It is uncommon for RPE hyperplasia to evolve into elevated, tumorlike lesions. To the best of our knowledge, there has been no documentation of such lesions from their first appearance to full development. This case report documents laser photocoagulation to treat choroidal neovascularization (CNV) associated with age-related macular degeneration evolving into RPE hyperplasia and then a tumorlike elevated lesion.

Report of a Case. In 1991, a 62-year-old African American woman was examined for vision loss in her right eye. Her visual acuity with correction was 20/400 OD and 20/40 OS. She had a subfoveal CNV lesion with subretinal fluid, blood, and lipid components (Figure 1). A fluorescein angiogram showed subfoveal CNV, composed of classic CNV with no occult CNV, that was less than 3.5 disc areas in size.

Laser photocoagulation treatment was applied to decrease the risk of additional severe visual acuity loss.\(^4\) Posttreatment photographs confirmed adequate intensity throughout the area of laser treatment, which covered the lesion in its entirety. One month after treatment, the patient’s visual acuity with correction was 20/800 OD.

Two months later, flat foci of RPE hyperplasia were noted. Additionally, prominent retinal folds were observed, suggesting traction by the fibrovascular tissue (Figure 2). A fluorescein angiogram showed no evidence of recurrent CNV. Hypofluorescence of the center of the le-