

Traumatic Iris Loss In A Pseudophakic Patient

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Abstract

Severe blunt trauma to the eye can cause a myriad of pathologies, but in an eye which has been subject to a surgical incision, the consequences can be quite remarkable.

We present a case of traumatic total iridodialysis nine months after sutureless small incision phacoemulsification cataract surgery.

The intraocular lens was maintained within an intact, undisturbed capsule, and vision was preserved at 6/6

INTRODUCTION

Severe blunt trauma to the eye can cause a myriad of pathologies, but in an eye which has been subject to a surgical incision, the consequences can be quite remarkable.

To the best of our knowledge, there have been sporadic case reports of iris loss following trauma, and we would like to present a further case of traumatic total iridodialysis.

CASE REPORT

A 55 year old Caucasian lady presented to the eye department as a casualty, reporting a sudden change in the colour of her left eye. The history was of having sustained a significant trauma to the left side of her face 2 weeks previously, while Scottish reeling (a vigorous form of country dancing) with her husband. She had lost control and hit the left side of her face and head on the corner of a table, which had resulted in considerable oedema and ecchymosis.

She had then waited for the swelling to resolve, and on the first day she was able to open her eye, noticed it was darker than her blue right eye. She attended eye casualty immediately.

The past ocular history was of having uncomplicated small incision phacoemulsification cataract surgery in a neighbouring hospital 9 months previously in the affected eye. This was confirmed by her clinical notes from the relevant department. There were no other relevant medical conditions.

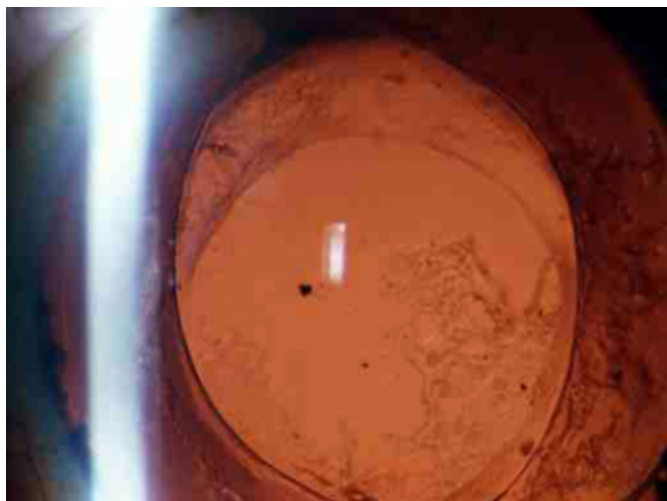
Examination of the affected eye revealed evidence of recent injury, with soft tissue swelling and bruising of the peri-orbital tissues. The visual acuity was preserved at 6/6. There was some residual sub-conjunctival haemorrhage, but the cornea showed a self-sealed 3mm superior corneal incision, with some pigment deposit at the posterior lip. Anterior chamber revealed only a few cells with no hyphaema, and the intraocular pressure was 14 mmHg.

The most striking abnormality was the complete absence of an iris. Gonioscopy revealed some evidence of iris roots, and the other eye had a completely normal blue iris.

There was a large diameter acrylic intraocular lens, stable within the capsule, with no evidence of zonular or capsular disturbance [Image 1]. There was a posterior vitreous detachment, with a sclerosed Weiss ring, and no retinal pathology.

Figure 1

Image 1: Complete loss of iris with preserved intraocular lens



The patient was investigated by full indented fundoscopy and a B scan ultrasound of the eye [Image 2], but neither of these could identify a location for the missing iris.

Figure 2

Image 2: Ultrasound showing pseudophakia but no iris structures



We therefore drew the conclusion that she had suffered a complete iridodialysis with expulsion of the iris through the old corneal incision, but with sparing of the prosthetic lens and its capsule. This would have occurred at the time of injury, but the oedematous closure of the eye had masked any relevant symptoms.

The patient is now being managed with a cosmetic daily-wear contact lens, with a blue coloured iris, which gives her the desired cosmetic result and reduces glare and other optical aberrations.

DISCUSSION

Similar cases have postulated that wound construction is important to prevent complications following trauma.^{1,2,3} Others, however, postulate that wound construction is irrelevant, as an expulsion injury such as this can occur up to 5 years post surgery.⁴

It is, however, certain that construction of a corneal or scleral wound creates a weak point. If enough pressure is applied to the globe, eg by blunt trauma, this wound is an escape hatch for miscellaneous contents of the globe. Thus, it is advisable that patients who are in potentially hazardous occupations or pastimes should be advised of the possible consequences post operatively, even some years down the line.

The lack of disturbance of the other intraocular tissues is consistent with previous reports and adds further evidence to support the theory of Ball et al that small surgical incisions may function as a release valve during severe blunt trauma, avoiding catastrophic globe rupture, but promoting rapid extension of a partial iridodialysis to complete avulsion with subsequent expulsion due to the high velocity of aqueous flow through the small aperture.⁵ Other cases have suggested that the positioning of a synthetic, large diameter intraocular lens may provide a barrier to the expulsion of posterior segment contents.⁶

We feel that the 3mm superior corneal incision was large enough to allow a dialysed, atonic iris through, but not large enough for a foldable acrylic lens; indeed, the lens may have stabilised the capsule and its zonules in a normal position.

The main complications of the resultant aniridia are glare and cosmetic difficulty. Our patient is wearing a cosmetic contact lens, but other management options include a coloured intraocular lens, artificial iris implant,⁷ corneal tattooing⁸, or spectacle-related devices such as photochromic lenses.

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