

Penetrating keratoplasty and scleral fixated artificial iris-IOL implantation following anterior segment trauma

Filip Bosnić^a, Jure Buljević^a, Miro Kalauz^b

^a*School of Medicine, University of Zagreb, Šalata 3b, Zagreb, Croatia*

^b*Department of Ophthalmology, University Hospital Center Rebro, Kišpatičeva ulica 12, Zagreb, Croatia*

INTRODUCTION Ocular trauma is a worldwide public health problem 1 ,and it's most severe form is open- globe injury. They are a common cause of visual impairment and blindness, with a global incidence 200 000 per year 2 . Young men experience the highest rates of open globe injuries. Male to female ratio is 4:1, and 50% of ocular trauma patients are under 18 years old. Children are more exposed due to play, but can even experience ocular trauma in utero, during amniocentesis. There is a disproportion between number of injuries and eye surface; eyes make up 0.27% of body surface, 4 % of the face surface, but are injured in more than 10% of body injury cases. Eye trauma makes up for 5-10% of all hospitalisations, with intraocular foreign bodies (35%), perforative injuries (25%), non-perforative injuries (25%) and burns/adnexal injuries (15%). Recent improvements in ophthalmic instrumentation and management resulted in improved patient care, and advances in vitreoretinal surgery and newer refractive implants resulted in improved visual outcomes. This is a case report of penetrating keratoplasty and scleral fixated artificial iris-IOL implantation following anterior segment trauma.

CASE SUMMARY Our patient is a 63-year-old man with an amblyopic left eye, who had a traumatic open-globe injury of the right eye in 2011. Upon ocular examination hyphema, traumatic aniridia, luxated cataract with corneoscleral rupture were found. The eye had been primarily repaired, using 10.0 and 8.0 sutures, intracapsular cataract extraction had been performed, along with an anterior vitrectomy. In 2012., the patient had a corneal ulcer which has been treated with amniotic membrane transplant. A scleral-fixated artificial iris intraocular lens (Ophtec USA, model 311, +20.00) has been placed and sutured with polypropylene, atraumatic suture 10/0, 16mm needle double armed. Perforative keratoplasty had also been performed, using interrupted and running suture technique. Postoperatively, the artificial iris-IOL remained well centered. Patient's visual acuity improved to best corrected visual acuity of 0.2. Patient also reported a subjective reduction in glare.

CONCLUSION Ocular trauma is common cause of ocular impairment and blindness. Male population is typically affected. This case shows that in severe cases of open globe trauma presenting with aniridia, luxated cataract and corneoscleral rupture best therapeutic option to restore visual acuity is penetrating keratoplasty and scleral fixated artificial iris-IOL implantation. Operation resulted with adequate aesthetic effect of iris and improvement of patient's quality of vision.