

Comprehensive surgical intervention on the anterior and posterior parts of the eye for untimely diagnosed subconjunctival scleral rupture

Vitreoretinal Surgery

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Purpose

To determine the tactics of surgical treatment in the anterior and posterior segments of the eye in case of untimely sutured subconjunctival scleral rupture (SCSR).

Setting/Venue

Clinical retrospective study was performed in the Post-Traumatic Eye Pathology Department

Methods

The results of complex surgical treatment of 15 patients (15 eyes) with severe closed combat and civilian eye trauma accompanied by undiagnosed SCSR were analyzed. All patients were male, aged 26 to 77 years, an average age of 52 years. Before applying to our department, the patients were examined and treated in other clinics, and scleral inspection for rupture was not performed. Visual acuity (VA) ranged from light perception with incorrect light projection to 0.02. All eyes were hypotonic. The cataract, vitreous fibrosis, detachment of retina, ciliary body and choroid were diagnosed in all patients. Initial phthisis bulbi was set in 3 eyes. SCSR of various localization was detected during combined pars plana vitrectomy (VE) 23-25Ga with cataract extraction. After scleral wound suturing, all cases underwent retinotomy around the scleral rupture, retinal flattening using perfluorocarbon liquids, endolaser coagulation, and tamponade: air-gas mixture (C3F8) or silicone oil (5700 cSt). Some cases included iridoplasty and intraocular lens implantation.

Results

Outcomes were evaluated based on VA, intraocular pressure (IOP), ultrasound biometry and reattachment of layers. One year after surgery, all patients retained functional vision (0.02–0.3 with correction), with IOP within 14–22 mmHg. The retina and choroid remained attached in all cases. Low VA was due to the development of epimacular fibrosis and secondary cataract .

Conclusions

Thus, in cases of severe blunt trauma of the eyeball with suspected SCSR, a scleral revision in all segments of the eyeball, especially at the site of attachment of the rectus muscles, should be performed, and if there are indications for VE, it should be conducted as early as possible after the trauma, before the beginning of active proliferation.

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