Management of combined traumatic dislocated crystalline lens and traumatic mydriasis

Xhevat Lumi MD, PhD

Ljubljana, Slovenia

Purpose: We report surgical outcomes and safety of combined two-step approach in management of dislocated crystalline lens and posttraumatic mydriasis with pars plana vitrectomy (PPV), intraocular lens implantation and cerclage pupil repair in patients after injury of the eye globe.

Methods: Five patients with dislocated crystalline lens and traumatic mydriasis after the injury of the eye globe were included in a noncomparative case series. Mechanism of the injury was closed globe injury in four cases and rupture of the eye globe in one patient. In all cases PPV was performed immediately after the injury. Dislocated crystalline lens was removed from anterior chamber or vitreous body during vitrectomy and eyes were left aphakic. Pupil diameter after trauma in all cases was 8-9 mm. In all cases iris cerclage pupiloplasty combined with intraocular lens implantation as secondary procedure was performed. The visual acuity, subjective degree of glare disability, photophobia, postoperative anatomic results, intraoperative and postoperative complications were evaluated.

Results: The mean follow-up time was 16.67 months (range 12-48 months). Three patients have had cerclage iris pupilloplasty with retropupilary implanted iris-claw lens, while two patients had flanged haptic scleral fixation IOL alongside with cerclage pupiloplasty. Glare and photophobia subjectively improved in all patients. Best-corrected visual acuity improved in all 5 cases from 0.2, 0.3, 0.8, 0.7 and 0.5 preoperatively to 1.0, 0.9, 1.0, 0.9 and 1.0 postoperatively (Snellen charts). All eyes achieved the desired anatomic result with round pupil approximately 4 mm wide. There were no postoperative complications. All patients had increased intraocular pressure due to contusion injury of the eye, which was normalized by topical antihypertensive therapy.

Conclusion: In patients with dislocated crystalline lens and traumatic mydriasis, PPV with iris cerclage pupilloplasty and retropupilary intraocular lens implantation as a secondary procedure appears to be safe and effective approach in improving visual function, and reducing glare disability, as well as achieving an aesthetic effect and improving the quality of life of patients.