

Acute Angle Closure in the Fellow Eye as a Complication of Prone Positioning After Vitreoretinal Surgery

Facedown positioning is a routine procedure after some vitreoretinal surgical procedures. We report a case of acute angle closure in the fellow eye during the postoperative phase of this procedure.

Report of a Case. A 56-year-old woman had a 2-month history of decreased vision and mild discomfort in the left eye. She had a history of penetrating injury at the age of 8 years that led to traumatic cataract and corneal scarring in her left eye. Two years before we saw her, she had undergone uncomplicated combined cataract extraction and lens implantation with penetrating keratoplasty elsewhere.

There had been a satisfactory convalescence, but the visual acuity OS remained counting fingers at 1 m. Amblyopia was therefore suspected.

At our first examination of her, the visual acuity was 6/9 OD and hand motion in the left eye. Full ophthalmological workup revealed a graft rejection and a subtotal retinal detachment with a peripheral retinal tear at the 6-o'clock position in the left eye. Intraocular pressure was 22 mm Hg OD and 18 mm Hg OS. In the right eye there was early nuclear cataract formation, but otherwise all findings were normal. No signs of pseudoexfoliation were noted and the cup-disc ratio was 0.3. The patient was admitted and the graft rejection was successfully treated with intensive topical steroids.

After the corneal graft inflammation settled, the patient underwent a left pars plana vitrectomy with endolaser and silicone oil filling under retrobulbar anesthesia. No systemic atropine was used. Postoperatively the patient was positioned facedown. The retina was flat under silicone oil on day 1 and the pressure was 40 mm Hg in the eye that had undergone surgery. Systemic treatment with oral dorzolamide hydrochloride reduced the pressure to 27 mm Hg. On day 3 the patient complained about severe pain in the right (fellow) eye. The visual acuity had dropped to 6/60 OD. On examina-

tion, acute angle closure with very shallow anterior chamber and angle grade 0 (Schaffer) was found. The intraocular pressure was 45 mm Hg despite continued treatment with dorzolamide hydrochloride, 250 mg 4 times a day, since day 1 after surgery and additional intravenous 20% mannitol (300 mL over 1 hour).

Right eye YAG laser iridotomies were performed and the intraocular pressure dropped as the anterior chamber deepened. Pressures remained within normal limits after withdrawal of all systemic and topical treatment. The visual acuity returned to 6/12 OD.

Gonioscopy 2 months later showed a grade 2 (Schaffer) anterior chamber angle in the right eye with small patent laser iridotomies at the 11- and 2-o'clock positions. The axial length was measured at 22.79 mm. A reliable A-scan was not possible in the left eye because of the silicone oil filling.

Comment. The prone position test for narrow-angle or angle-closure glaucoma was introduced in 1968¹ and was found to be more sensitive and safer than the darkroom test or pharmacological provocation tests.² Angle closure is thought to evolve secondary to pupillary block as the lens moves anteriorly in prolonged prone position.³ Facedown positioning after vitreoretinal surgery, especially after repair of full-thickness macular holes, is effectively an extended prone position provocation test.

Interestingly, the acute angle closure occurred in the fellow eye and not in the eye that had undergone surgery, probably because the eye that was operated on was pseudophakic, leaving the anterior segment less crowded. Another factor is probably the silicone oil that is lighter than water and in a prone position will move toward the posterior pole, relieving possible pupillary block.

This case report demonstrates that facedown positioning after vitreoretinal surgery may lead to angle closure in the fellow eye. Given the prevalence of narrow-angle glaucoma or occludable angles in certain racial groups, this complication may not be an insignificant risk.

Conclusions. Prone positioning poses a risk of angle closure in the fel-

low eye in certain patients. We therefore recommend that assessment of the risk for angle closure in both eyes be included in the preoperative evaluation, especially in at-risk patients (such as those patients of southeast Asian, Chinese, or Inuit origin; or those patients with a positive family history, hyperopia, short axial length, or microphthalmos).⁴ Where occludable angles are found during gonioscopy, a prone position provocation test preoperatively may be useful. In high-risk cases, prophylactic laser iridotomy may be considered or vitreoretinal surgery without postoperative prone positioning could be attempted.⁵

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Long-term Fundus Changes Due to Fundus Albipunctatus Associated With Mutations in the RDH5 Gene

Fundus albipunctatus (FA) is a type of congenital stationary night blindness with an autosomal recessive inheritance pattern. The fundus of affected patients has a characteristic appearance of numerous small yellow-white dotlike lesions at the level of the retinal pigment epithelium