vascular membranes previously treated with PDT appear to be composed of large vessels with a predominantly fibrous body and smaller vessels in the more cellular periphery of the CNVM. In some cases, RPE cells may cover the neurosensory retinal surface of PDT-treated CNVM.

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Preexisting Endothelial Abnormalities in Bilateral Postoperative Descemet Membrane Detachment

Small peripheral detachments of the Descemet membrane commonly occur during intraocular surgery. However, extensive clinically significant stripping of the membrane is rare, and the exact pathogenesis is unclear. Bilateral detachments have been described leading to speculation that there may be an anatomic predisposition for this infrequent complication. We report a case of bilateral Descemet membrane detachment with documented preoperative abnormalities of the corneal endothelium.

Report of a Case. On postoperative day 2 after phacoemulsification from a superior approach with intraocular lens (IOL) insertion, an 83-year-old woman was referred to the Mayo Clinic (Rochester, Minn) for evaluation of corneal edema due to a Descemet membrane detachment that was noticed intraoperatively. She was treated with 20% sulfur hexafluoride gas tamponade in the anterior chamber on postoperative day 11 and was instructed to remain in an upright position. The detachment resolved, and her visual acuity returned to 20/25 in the affected eye. Endothelial specular photomicrographs were obtained of the contralateral eye. Five years later, we performed phacoemulsification on the left eye from a superior approach with IOL insertion. Intraoperatively, extreme care was used to avoid stripping the Descemet membrane. On postoperative day 1, the patient had a large detachment that did not resolve with observation.
Three days later, the left eye was treated with gas tamponade and postural positioning. The detachment resolved, and her visual acuity improved to 20/40 OS.

Preoperatively, the biomicroscopic examination of the left eye revealed the subjective appearance of an irregular endothelial surface similar to, but more coarse than, the beaten-metal appearance of the endothelium in iridocorneal endothelial syndrome (Figure). In comparison with 10 age-matched controls from a previous study of healthy patients (mean age, 73 years; range, 70-79 years), our patient had a higher mean cell area (mean, 473 µm² compared with mean±SD, 348.8±36.1 µm²), a higher coefficient of variation (34% compared with 27%), and a lower percentage of hexagonal cells (mean, 60% compared with mean±SD, 65.5% ± 3.1%). The endothelial morphologic characteristics were not consistent with iridocorneal endothelial syndrome or Fuchs dystrophy.

Comment. In 1964, the idea of an intrinsic abnormality was first proposed in an article on Descemet membrane detachments by Scheie,1 as discussed by John McLean, MD. Since then, additional cases of bilateral detachments have been reported with further speculation on an anatomic predisposition but without supporting evidence.2-4 In our patient, we noted abnormalities in the results of both the biomicroscopic examination and the morphometric analysis of her endothelium that may have contributed to her subsequent membrane detachment. Given the paucity of data available for this rare complication, our 1 case supports an underlying defect leading to its occurrence, although this idea may not be generalizable to the population as a whole.

In light of this information, we recommend additional preoperative counseling and careful examination of the contralateral eye in patients with Descemet membrane detachment prior to undertaking additional surgery. For cataract surgery, we recommend considering incision into the anterior chamber superiorly, rather than temporally, to facilitate gas tamponade of the endothelial break should a detachment occur.

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Iatrogenic Corneal and Conjunctival Toxic Reaction From Hydrogen Peroxide Disinfection

Goldmann applanation tonometer tips and contact fundus laser lenses can be disinfected using various means. Tonometer tips are commonly cleansed by rubbing briskly with a 70% isopropyl alcohol wipe. Alternative methods of disinfection include soaking in either 3% hydrogen peroxide, a 1:10 dilution of sodium hypochlorite (household bleach), or 70% isopropyl alcohol, followed by rinsing and thorough drying (see “Comment” section). Proper use of these solutions requires soaking for 5 to 10 minutes. At our institution, tonometer tips and fundus laser lenses are routinely soaked in hydrogen peroxide, rinsed with sterile water or an isotonic sodium chloride solution, then left to air dry. We report 2 cases of toxic reactions from exposure to instruments disinfected in a 3% hydrogen peroxide solution.

Report of Cases. Case 1. A 30-year-old woman with newly diagnosed proliferative diabetic retinopathy was scheduled for a planned session of panretinal photocoagulation. The patient was not receiving any ocular medications. Visual acuity of the involved eye was 20/20 OS. There was no history of diabetic keratopathy in either eye. One to 2 minutes after placing the fundus laser lens on the patient’s eye, the physician noted a short-term onset of corneal edema with the presence of discrete, subepithelial bubbles measuring 0.1 to 0.3 mm in diameter and extending into the conjunctiva (Figure 1). There was a large epithelial defect on removal of the lens. The patient did not note significant pain. She was referred to the cornea service, where she was instructed to use frequent lubrication and to return the next day to her referring specialist. She returned to our clinic 3 weeks later with a visual acuity of 20/30 OS. She had moderate diffuse punctate epithelial erosions with faint subepithelial and anterior stromal corneal haze superior to the visual axis. Her epitheliohypopyon resolved over the next 6 weeks, and her visual acuity remained stable with persistent anterior corneal haze over the ensuing 3-month follow-up period.

Case 2. A 32-year-old woman was seen in follow-up by the cornea service for chronic graft rejection. She had an ocular history of 3 penetrating keratoplasties in the left eye, first due to penetrating ocular trauma, then subsequently due to graft rejections. She also had a history of aphakic glaucoma. The patient was not receiving any ocular medications in the involved right eye. Visual acuity was 20/15 OD. Applanation tonometry was performed without the patient experiencing pain, first in the right eye, followed by the left eye. During applanation of the right eye, bubbles were observed within the area of the mires. Applanation progressed without incidence in the left eye. On ophthalmic examination by the staff physician 10 minutes later, the right eye exhibited moderate hyperemia along with few subepithelial corneal and conjunctival bubbles (Figure 2). The patient was instructed to use lubrication in the right eye and to call with worsening symptoms. Her symp-