

Delayed Suprachoroidal Hemorrhage

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CASE PRESENTATION

During a routine follow-up visit, a 78-year-old white male presented with an uncontrolled IOP of 38 mm Hg OD on maximally tolerated medical therapy. Visual field testing revealed an inferior arcuate scotoma in the patient's right eye corresponding to his vertical cup-to-disc ratio of 0.8. He had an afferent pupillary defect and a BCVA of 20/50 OD. The patient had a long ocular history of bilateral primary open-angle glaucoma and nuclear sclerotic cataracts. His medical history was significant for hypercholesterolemia controlled on atorvastatin and osteoarthritis treated with nonsteroidal anti-inflammatory medications as needed.

The patient underwent combined trabeculectomy and cataract surgery. The fornix-based trabeculectomy was uncomplicated. We performed pupillary stretching during extracapsular cataract extraction with phacoemulsification, and we implanted a posterior chamber IOL. On the first postoperative day, the patient had a visual acuity of 20/40 OD and an IOP of 18 mm Hg with a formed bleb, a deep anterior chamber, and a patent peripheral iridecto-

my. As he was leaving our clinic, he dropped his follow-up appointment card, bent over to pick it up, and experienced a sudden onset of severe ocular pain and decreased vision in his operated eye. He returned, and we re-examined him.

The patient's visual acuity had decreased to 20/100 OD, and his IOP had dropped to 13 mm Hg OD. A slit-lamp examination showed a shallower but formed anterior chamber and a diminished pupillary red reflex. A dilated fundus examination revealed peripheral, large choroidal elevations with dark coloration and poor transillumination (Figure 1). An ocular B-scan ultrasound confirmed our diagnosis of a delayed suprachoroidal hemorrhage by revealing marked, dome-shaped, opaque choroidal elevations (Figure 2). We did not note any associated retinal detachments on the ultrasound or during the clinical examination.

HOW WOULD YOU PROCEED?

1. Would you put the patient under close observation for regression?
2. Drain the hemorrhagic choroidal elevations immediately? Drain them after 10 to 14 days?
3. Refer the patient to a vitreoretinal specialist for choroidal drainage and pars plana vitrectomy?

CLINICAL COURSE

The absence of an elevated IOP, associated retinal detachment, or central retinal apposition allowed us to follow the patient conservatively without further surgical intervention. We prescribed topical steroids every hour while he was awake and then, after 3 weeks, tapered the dosage to q.i.d. for 2 months. The patient instilled topical atropine 1% drops b.i.d. for 1 month, and he received acetaminophen with codeine to control his pain.

OUTCOME

During the first few weeks after the suprachoroidal hemorrhage, the patient showed signs of improvement. His IOP stabilized, his ocular pain subsided, and the suprachoroidal hemorrhage spontaneously resolved. Without

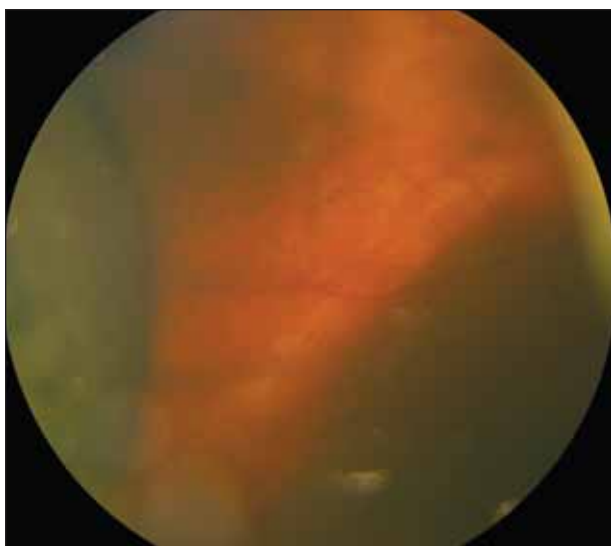


Figure 1. A fundus photograph shows peripheral, large, dark choroidal elevations with poor transillumination.

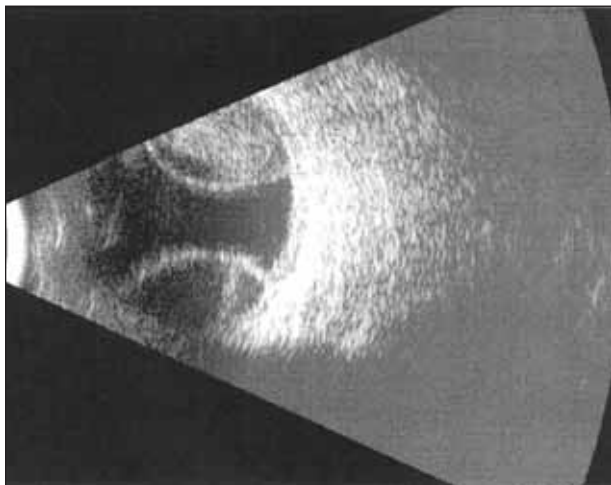


Figure 2. This B-scan ultrasound shows marked, dome-shaped, opaque choroidal elevations.

additional surgical intervention, the patient's BCVA improved to 20/25 OD 1 month after the original surgery. His IOP decreased to 16 mm Hg with a shallow bleb, and his hemorrhagic choroidal elevations completely resolved, both clinically and on B-scan ultrasound. No retinal appositions ("kissing choroidals") were visible during the entire follow-up period.

DISCUSSION

The accumulation of blood in the space between the choroid and sclera (ie, suprachoroidal space) is a rare but potentially devastating complication of ocular surgery. A suprachoroidal hemorrhage is a distinct entity from a choroidal detachment, in which serous fluid rather than blood pools in the suprachoroidal space.

Expulsive suprachoroidal hemorrhages are usually associated with substantial bleeding that leads to the eviction of intraocular contents through the surgical wound, usually with a poor visual prognosis. In a delayed suprachoroidal hemorrhage, the closed wound prevents the extrusion of intraocular contents. The latter form of hemorrhage can have a better visual prognosis than the former.

Delayed suprachoroidal hemorrhages typically occur after an uncomplicated glaucoma filtration surgery. Their risk factors include systemic conditions such as advanced age, atherosclerosis, and hypertension; ocular conditions including glaucoma, aphakia, and inflammation; perioperative conditions such as a Valsalva maneuver or a precipitous drop in IOP; and postoperative conditions including hypotony, systemic thrombolytic agents, and postoperative trauma.¹ Most patients who present with delayed suprachoroidal hemorrhages complain of severe ocular pain and decreased vision, and they exhibit classically dome-shaped

choroidal elevations that are darkly colored and may be confirmed by B-scan ultrasound.

In the majority of cases, the immediate management is relatively straightforward. Topical and oral antiglaucoma medications control the elevated IOP. Liberal amounts of topical and oral steroids manage the inflammation. Analgesics (except aspirin and nonsteroidal anti-inflammatory agents) and cycloplegic agents control the pain, which often can be severe.¹ Ocular pain is thought to result from stretching ciliary nerves in the posterior segment.

The secondary surgical management of delayed suprachoroidal hemorrhages remains controversial. No consensus exists about whether the surgical drainage of the suprachoroidal space is appropriate. Even in cases of suprachoroidal hemorrhages with associated retinal detachment, the evidence suggests that patients may be followed for progression, because the majority may experience spontaneous regression.² Different management strategies for delayed suprachoroidal hemorrhages with central retinal apposition have been proposed; they range from close follow-up without intervention to surgical drainage and vitrectomy 10 to 14 days after the event.³⁻⁵ □

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1. Chu TG, Green RL. Suprachoroidal hemorrhage. *Surv Ophthalmol.* 1999;43:471-486.
2. Chu TG, Cano MR, Green RL. Massive suprachoroidal hemorrhage with central retinal apposition: a clinical and echographic study. *Arch Ophthalmol.* 1991;109:1575-1581.
3. Berrocal JA. Adhesion of the retina secondary to large choroidal detachment as a cause of failure in retinal detachment surgery. *Mod Probl Ophthalmol.* 1979;20:51-52.
4. Reynolds MG, Haimovici R, Flynn HW Jr, et al. Suprachoroidal hemorrhage: clinical features and results of secondary surgical management. *Ophthalmology.* 1993;100:460-465.
5. Scott IU, Flynn HW Jr, Schiffman J, et al. Visual acuity outcomes among patients with appositional suprachoroidal hemorrhage. *Ophthalmology.* 1997;104:2039-2046.

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