

Management of Hemorrhagic Choroidal Detachment

BY THOMAS ALBINI, MD; JOHN KITCHENS, MD; JONATHAN PRENNER, MD;
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Hemorrhagic choroidal detachment can be an unfortunate complication of ophthalmic surgery with significant ocular morbidity. Often, vitreo-retinal surgeons are involved in the management of such cases; however, evidence to support a standardized approach to the treatment strategy or surgical drainage techniques is not well established. In this month's discussion, a panel of Vit-Buckle Society (VBS) members answers key questions regarding their approaches to the management of this often challenging condition. Our esteemed panel consists of VBS members Thomas Albin, MD; Jonathan Prenner, MD; John Kitchens, MD; Charles Mango, MD; and Andrew Moshfeghi, MD, MBA.

Are there any medical treatments that you have found helpful before proceeding with surgical intervention?

Dr. Prenner: I tend to place my choroidal detachment patients on 4 times daily atropine and difluprednate (Durezol, Alcon Laboratories, Inc.).

Dr. Kitchens: I find that use of oral steroids (prednisone 40-60 mg daily for 1 week followed by a taper) and/or gabapentin (300 mg 3 times daily, increasing as necessary) can be beneficial for pain control and often precludes the use of narcotics.

Dr. Moshfeghi: I generally use a methylprednisolone dose-pak only if patients are having pain and so long as they are nondiabetic; otherwise I do not use oral medications. I will use difluprednate 4 times daily and atropine twice daily.



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-Charles Mango, MD

What are your indications for proceeding with drainage of a hemorrhagic choroidal detachment?

Dr. Prenner: I perform drainage when the choroidal detachment results in retinal apposition or angle closure with an elevated intraocular pressure (IOP).

Dr. Mango: In appositional choroidal detachments, I will make the decision to drain if there is no resolution within 1 week. In nonappositional cases I prefer to observe longer in hopes of spontaneous resolution. If the cause of a partial choroidal detachment is hypotony then I prefer to address only the cause of the hypotony (eg, occult wound leak, shallow retinal detachment, or ciliary body detachment from trauma) and let the partial choroidal detachment resolve on its own without an attempt at drainage.

"I find most choroidals drain well through standard anterior sclerotomy sites once infusion is achieved and IOP is raised."

-Thomas Albini, MD

Dr. Moshfeghi: I nearly always drain appositional cases. In the case of partial choroidal detachments I will drain if they are chronic, with no signs of progressive improvement, and there is a symptomatic visual field defect. If there is considerable pain that does not abate with medical management and observation I will drain regardless of appositional status.

Understanding that certain factors (eg, patient discomfort and elevated IOP) may prompt early drainage, what is your usual or ideal timeframe for drainage to allow for liquefaction of any clots?

Drs. Kitchens, Mango, and Moshfeghi: 1-2 weeks.

Dr. Prenner: I try my best to wait 10 days. I follow these patients closely with B-scan ultrasonography to assure that liquefaction has occurred, at least in large part, before I operate. I also use the B-scan to identify the quadrants with the most prominent choroidal, as that is where I will drain.

Describe key aspects of your surgical technique.

Dr. Albini: I find most choroidals drain well through standard anterior sclerotomy sites once infusion is achieved and IOP is raised. I do not believe that the infusion must be placed in the vitreous cavity unless I am also fixing a coexisting retinal detachment. In these cases, if the patient is phakic, I almost always remove the crystalline lens in order to see better for work on the peripheral retina. When I place a posterior infusion, aphakia and a long infusion cannula, such as the Alcon 6-mm 23-gauge cannula, are key.

Dr. Kitchens: First, I address the issue for the choroidal detachment (ie, hypotony from overfiltration). Then, I try to place the infusion in the vitreous cavity (even if this means 1 mm from the limbus). I like the illuminated infusing chandelier (high-flow) from Synergetics. It allows visualization of the infusion in the vitreous and confirms that it is not under the cho-

roid. It also allows you to view the drainage as it happens with the aide of wide-angle viewing systems.

I use a guarded needle (3 mm of needle showing, bevel away from the choroid) hooked to active aspiration (medium aspiration) on the vitrectomy machine. I enter 9-10 mm from the limbus in the area of highest choroidal detachment (usually temporal to give best access). I find that all of the choroidal detachments flatten pretty equally from 1 drain site. If there is possible coagulated blood, I use a polyamide cannula cut to 2 mm. You can carefully insert a 25-gauge cutter to help break up any clot if it becomes clogged. This is less controlled than the guarded needle drainage, which, if possible, is preferable.

Except in the case of a coexisting retinal detachment, I perform vitrectomy if there is vitreous hemorrhage or if I cannot see the periphery well, because often there are a number of breaks. I use 30% SF₆ gas tamponade (slightly expansile).



Dr. Mango: If the patient is aphakic or pseudophakic, I put in an anterior chamber maintainer as a first step. The Lewicky Anterior Chamber (AC) Maintainer (Katena) has grooves that lock it into place and make it a nice choice for surgery like this that involves globe manipulation and rotation. A 20-gauge MVR blade is used to make a clear corneal beveled incision, and then the AC maintainer is gently inserted into the incision and turned on. The infusion can either be hooked up to a vitrectomy machine (preferred) or hung on a pole using gravity flow if no machine is available. If the patient is phakic, I put in a posterior infusion cannula to maintain pressure. I attempt to first place a 3-mm cannula, but, if I cannot confirm its placement in the vitreous cavity, then I use a 6-mm cannula. I am always concerned with hitting the lens or causing an iatrogenic retinal break with the longer cannula. I make a 3-mm radially oriented scleral cutdown with a blade (guarded or unguarded) 8 mm posterior to the limbus. Often, this is enough, and I will get drainage of old hemorrhage at this point. If necessary, I puncture the area with a needle to start the flow. Once the flow is going, I apply constant pressure with cotton-tipped applicators to maintain the egress of fluid. I will perform a combined vitrectomy if there is a retinal detachment noted preoperatively.

Dr. Moshfeghi: I place my infusion posteriorly and use a 6-mm cannula at the 6 o'clock position inferiorly (most likely spot to avoid elevated choroid/retina com-

plex) with flat entry angle. I do not like anterior infusion as it can be little clumsy and I am often operating without a skilled assistant who can monitor the stability of an anterior infusion line. I use radially oriented anterior sclerotomies created with a Type 64 blade and then puncture into the choroidal space with a bent needle. I use a cotton swab to depress the sclera adjacent to the more elevated areas of choroidal congestion in order to help facilitate outflow while maintaining elevated IOP. I address temporal and nasal areas until indirect ophthalmoscopy or coaxial visualization through the microscope indicates that sufficient drainage has been achieved. If I suspect that peripheral retinal pathology is present, I perform a posterior vitrectomy following completion of the choroidal drainage. I probably perform a vitrectomy more often than not and have a low threshold for this because many cases will also have prolapsed vitreous into the anterior. I use expansile internal gas tamponade only if significant retinal pathology is present or in cases of chronic choroidal detachment with hypotony or those that have recurred despite previous drainage.

Dr. Prenner: I use a technique that Flavio Rezende, MD, taught me. I place a 25-gauge trocar and infusion into the anterior chamber and turn it on. I then place a transconjunctival 25-gauge trocar parallel to and 7 mm from the corneal limbus in the quadrant that has the largest choroidal detachment. I place the trocar at a 15° angle to attempt to remain shallow, and insert the trocar to 50% depth. I then remove the blade and drainage is usually dramatic. I then examine the eye, and I choose a second drain site and repeat the procedure if significant choroidal detachment persists. I do not routinely perform vitrectomy, and I do so only if pathology demands it (ie, a retinal detachment). ■

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