

# Hyphema With Elevated IOP

BY SAIF HAFEEZ, MD; ANJU GUPTA, MD; AND MATTHEW CITRON, DO

## CASE PRESENTATION

A 53-year-old Hispanic male presented to our emergency walk-in clinic in September 2004. Local ER staff referred the patient to us for a hyphema in his left eye, where he had been accidentally struck by a blunt object approximately 6 hours earlier. He was wearing his prescription glasses at the time of the injury. The patient complained of blurry vision and pain, but he did not have diplopia. His ocular history was significant for the removal of a chalazion more than 10 years prior. At the time of presentation, he was taking only an oral medication for his type 2 diabetes mellitus, which had been diagnosed 4 years earlier. He had no known drug allergies. His social history was noncontributory, and his family history was negative for glaucoma.

Upon examination, the patient's visual acuity was 20/80 OD and 20/70 OS, and his pinhole correction was 20/20 OD and 20/40 OS. His IOP was 17 mm Hg OD and 44 mm Hg OS. His left eye had chemosis, a mildly edematous cornea, and a blood clot in the inferior aspect of the anterior chamber. Gonioscopy revealed three open quadrants, with the view inferiorly obstructed by the clot. The posterior segment examination was significant for mild cupping in both eyes, with a cup-to-disc ratio of 0.6 OU.

Due to the patient's high IOP and pain, we administered

one drop of Lumigan 0.03% (Allergan, Inc., Irvine, CA), one drop of Alphagan P 0.15% (Allergan, Inc.), one drop of timolol 0.5%, and 500 mg of oral Diamox (Wyeth Pharmaceuticals, Philadelphia, PA). The patient's IOP remained elevated for 2 hours following treatment, and he was admitted for inpatient management. After 18 hours and two doses of intravenous mannitol, his IOP remained elevated at 43 mm Hg. He also complained of considerable, unabated pain. The results from the sickle cell prep and computed-tomography scan of his head were negative.

## HOW WOULD YOU PROCEED?

1. Would continued medical therapy be appropriate?
2. How long can an IOP in the 40s be tolerated?
3. Would surgical intervention be warranted?
4. What surgical intervention would be appropriate?

## SURGICAL COURSE

After an appropriate discussion with the patient, we decided to proceed with trabeculectomy and a washout of the anterior chamber, due to his intractable pain and significantly elevated IOP. We felt that such a procedure would give maximal postoperative IOP control and an immediate reduction in the pressure of his left eye. Using a fornix-based flap and two releasable sutures that we tied tightly, we completed the procedure without incident.

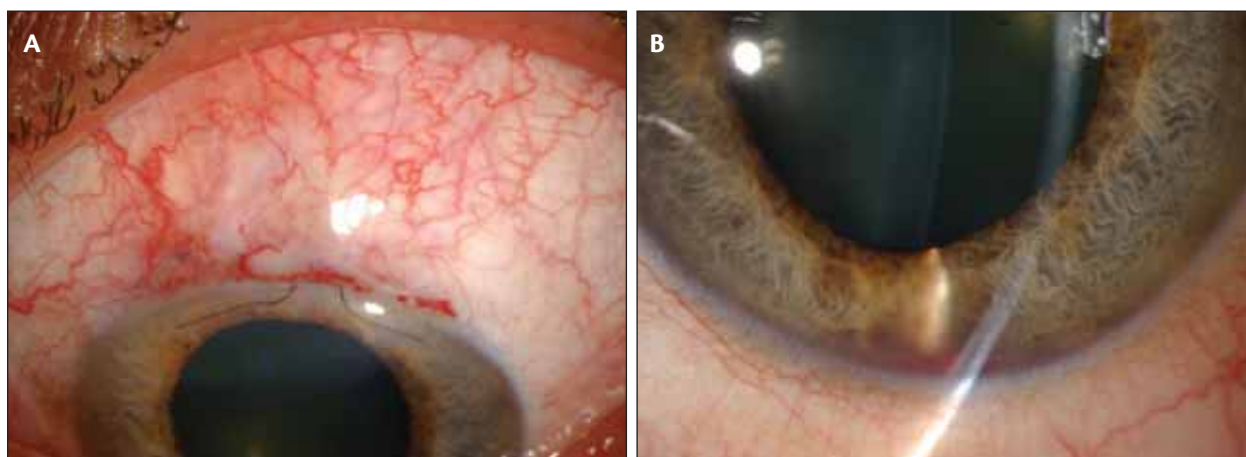


Figure 1. The bleb (A) and hyphema (B) were apparent 1 week postoperatively.

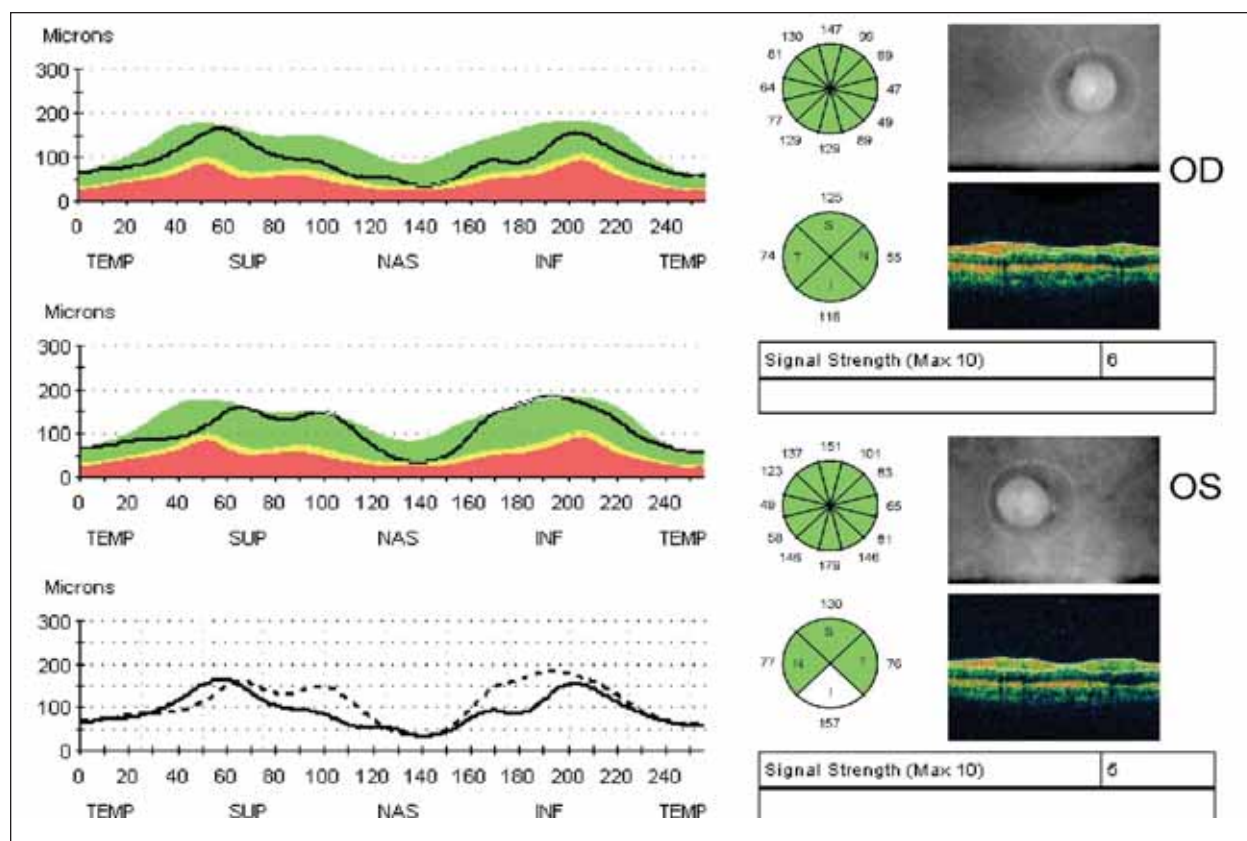


Figure 2. Postoperative optical coherence tomography revealed that the thickness of the retinal nerve fiber layer was normal in both eyes.

## OUTCOME

On the day after surgery, the patient's vision with pin-hole was 20/100, his IOP ranged between 6 and 8 mm Hg, and his pain had subsided. A low-lying, Seidel-negative bleb was apparent. A blood clot remained in the anterior chamber. Subsequent follow-up visits have demonstrated a sustained reduction in his IOP, a slow resolution of his hyphema, his visual acuity's return to baseline, and the development of a low-lying bleb (Figures 1 and 2).

## DISCUSSION

This patient provided an interesting clinical challenge. We presented the case at our grand rounds and generated several differing opinions about how best to manage this patient from faculty and glaucoma specialists in our community. Similarly, we found no consensus in the relevant literature as how best to proceed. Possible courses of treatment include observing an IOP of up to 50 mm Hg for 5 days,<sup>1</sup> trabeculectomy with anterior chamber washout<sup>2</sup> such as we performed, anterior chamber washout,<sup>3</sup> or serial taps of the anterior chamber in the office. □

Matthew Citron, DO, is Assistant Professor and a member of the Glaucoma Service at Wayne State University, Kresge Eye Institute, and he is Director of the Sinai Grace Eye Clinic, both in Detroit. He stated that he holds no financial interest in the products or companies mentioned herein. Dr. Citron may be reached at (313) 577-1352.



Anju Gupta, MD, is a glaucoma fellow at Wayne State University, Kresge Eye Institute, Detroit. She stated that she holds no financial interest in the products or companies mentioned herein. Dr. Gupta may be reached at (313) 577-1352.



Saif Hafeez, MD, is a resident at Wayne State University, Kresge Eye Institute, Detroit. He stated that he holds no financial interest in the products or companies mentioned herein. Dr. Hafeez may be reached at (313) 577-8900.



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