



Magdalena M. Bacon, RN, BSN

CASE STUDY

Just Another Trauma Case in the Ophthalmic Emergency Room

Any time I see a young person in the emergency room because of a motor vehicle accident, my heart skips a beat. Traffic injuries affect me personally because I worry about my two young adult children driving on our fast-paced, congested roads in southern Florida.

Such was the case when Betty, a 20-year-old female, was referred to us from a nearby hospital after being involved in a motor vehicle accident the night before. She was suffering from vision loss in the right eye following the accident. She was initially

diagnosed with traumatic optic neuropathy and treated with intravenous steroids at the referring hospital.

Upon examination, Betty's visual acuity was light perception O.D. and 20/20 O.S. Her right pupil was 6 mm in size, fixed, nonreactive, with a positive afferent pupillary defect (APD), identified by the swinging flashlight test (see *Table 1*). APD indicated unilateral optic nerve disease or impairment (Cybersight, n.d.). Her left pupil was 4 mm in size, round, and reactive to light with no APD. Pressures in both eyes were within normal limits. Betty had no past ocular or medical history.

She was diagnosed with vitreous hemorrhage, commotio retinae, iritis, and multiple orbital fractures. Commotio retinae is a disruption of photoreceptors caused by edema from blunt trauma (AAO, 2015). It presents as a sheen-like white discoloration of the outer retina (see *Figure 1*).

TABLE 1
Afferent Pupillary Defect with Swinging Flashlight Test

Figure 4. Swinging Flashlight Test

Normal	APD	APD with a fixed and dilated pupil

Abbreviation: APD, afferent pupillary defect.

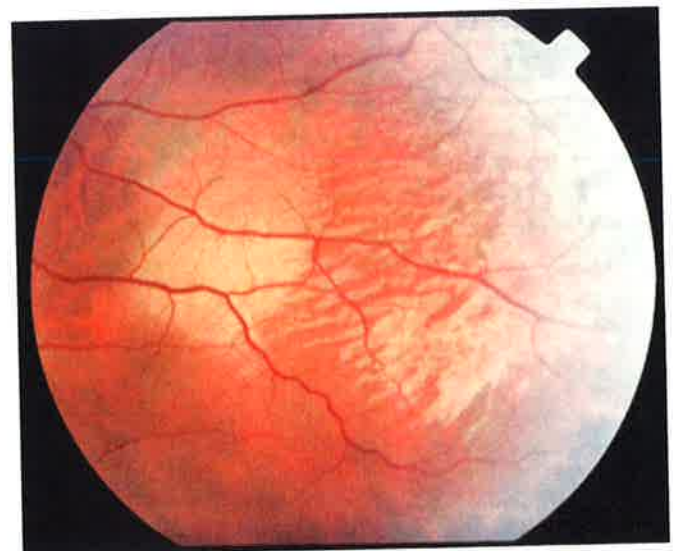


Figure 1. Commotio retinae. [http://sudjms.net/issues/3-1/html/15-Bevacizumab%20\(Avastin\)%20Off-label%20Use%20in%20Ophthalmology_files/image008.jpg](http://sudjms.net/issues/3-1/html/15-Bevacizumab%20(Avastin)%20Off-label%20Use%20in%20Ophthalmology_files/image008.jpg)

The patient was sent for a B-scan ultrasonography, which showed no retinal tears or detachment. Treatment included oral antibiotics, steroids, and atropine eye drops. She was instructed to follow up in the ER in one week.

At her one-week follow-up visit Betty had no light perception in the right eye. Other findings included large hemorrhage of the optic nerve, obscured vessels, whitening of the macula-retina, and periphery commotio-retinae. Another B-scan was performed and showed dense membrane formation.

It was determined at this point that there was no visual potential in the right eye. The team discussed the importance of monocular precautions and safety glasses to protect her better seeing eye before discharging the patient from the ER. Betty was eventually

cleared for surgery to repair her orbital fractures, which she requested for cosmetic reasons.

This was just another, special, trauma patient in my life in the ER. The patient was safe, as well as my children.

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References

- American Academy of Ophthalmology (AAO). (2015). Commotio retinae. Retrieved from <http://www.aao.org/bcscsnippetdetail.aspx?id=b791267d-8088-4abb-bde3-6f662cf1fb9f>
- Cybersight. (n.d.). Pupillary abnormalities – afferent pupillary defect. Retrieved from http://www.cybersight.org/bins/volume_page.asp?cid=1-2630-2644-2654



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