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0196-0644/\$-see front matter
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 doi:10.1016/j.annemergmed.2007.09.029

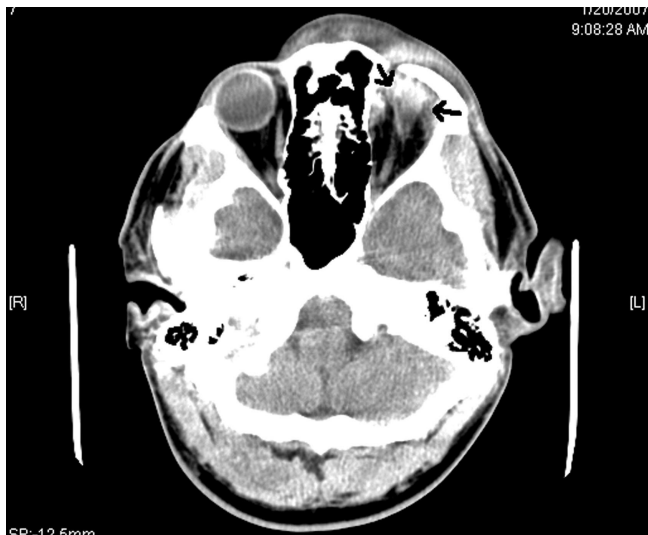


Figure 1. Computed tomography scan of the orbit.



Figure 2. Left-eye lateral canthotomy and cantholysis. Used with permission of Kohei Hasegawa, MD, the Department of Emergency Medicine, United States Naval Hospital Okinawa, Okinawa, Japan.

[Ann Emerg Med. 2008;51:790.]

An intoxicated 23-year-old man was brought to the emergency department after having been assaulted. He had been punched in the left eye and complained of eye pain. His examination revealed the following findings in the left eye: a reduced visual acuity (oculus dexter 20/30, oculus sinister 20/400), ecchymosis, proptosis, a tense orbit, voluminous subconjunctival hemorrhage, and an afferent pupil defect. The cornea was clear and the anterior chamber was unremarkable. The optic nerve and retina were clearly visible and unremarkable.

*For the diagnosis and teaching points, see page 797.
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We agree with Dr. Francis' assertion that the ideal dosage regimen for octreotide has yet to be clarified. Reference #2 in his letter as well as a more recent edition of the same reference¹ both recommend 50 micrograms subcutaneously as a suggested dose, but both references assert, as do we, that the ideal dose is unknown. We chose a one-time 75 microgram subcutaneous dose for use in the first prospective randomized placebo controlled trial of octreotide in sulfonylurea-associated hypoglycemia pilot study because other references report safety at much higher doses for maintenance of glycemic control in other conditions.^{2,3}

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doi:10.1016/j.annemergmed.2007.12.029

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article, that might create any potential conflict of interest. The authors have stated that no such relationships exist. See the Manuscript Submission Agreement in this issue for examples of specific conflicts covered by this statement.

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2. Livstone EM. Chapter 21, Section 2 In: *Insulinoma treatment in the Merck Manual of Diagnosis and Therapy* 18th ed. White House Station, NJ: Merck Research Laboratories; 2006, page 181.
3. Octreotide (Sandostatin[®]) in the *Physician's Desk Reference* 61st ed. Montvale, NJ: Thomson Healthcare; 2007, page 2278.

IMAGES IN EMERGENCY MEDICINE

(continued from p. 790)

DIAGNOSIS:

Acute orbital compartment syndrome as a result of retrobulbar hematoma. Computed tomography scan (Figure 1) revealed an intraorbital hematoma adjacent to the superior rectus muscle of the left eye (arrows). The patient underwent an emergency left orbital decompression by lateral canthotomy with inferior cantholysis, after which the hematoma was seen to protrude from underneath the upper eyelid (Figure 2). The patient had an immediate recovery of visual acuity *oculus sinister* to 20/40, with reduction of intraocular pressure and resolution of the afferent pupil defect. Vision further improved until normal in the ICU.

Acute retrobulbar hemorrhage with orbital compartment syndrome is an ophthalmologic emergency whose prompt diagnosis and treatment are essential to prevent permanent vision loss. This rare complication can follow blunt eye trauma, eyelid surgery, and retrobulbar anesthesia. Increased pressure in the retrobulbar location arises from a retrobulbar hematoma (a compartment syndrome), causing decreased perfusion of the optic nerve. Without decompression, irreversible vision loss will occur in 90 to 120 minutes. The emergency procedure of choice for orbital compartment syndrome is lateral canthotomy with cantholysis. It is a safe and effective procedure that decreases intraorbital pressure by increasing orbital volume and should lead to immediate reversal of vision loss. With blunt periorbital trauma, the following clinical findings mandate immediate intervention:

1. Decreased vision
2. Afferent pupil defect
3. Proptosis
4. Subconjunctival hemorrhage
5. Increased intraocular pressure

Other measures that can be used to increase the perfusion pressure of the optic nerve are topical antiglaucoma medications, oral acetazolamide, and intravenous hyperosmotic agents.¹ Once the pressure is relieved acutely, the eyelid deformity can be easily repaired at a later time.

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