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CLINICAL IMAGES

Orbital compartment syndrome from retrobulbar hemorrhage

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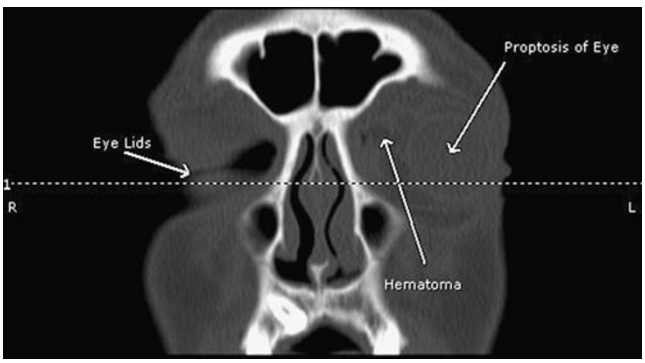
A 48-year-old man sustained significant left-sided facial and eye trauma after having been struck with a falling tree branch. He had a proptotic left eye with a fixed and dilated pupil, complete unilateral vision loss, and an intraocular pressure of 80 mmHg. An emergent lateral canthotomy was performed, ophthalmology was paged, and the patient was sent for computed tomography (CT).

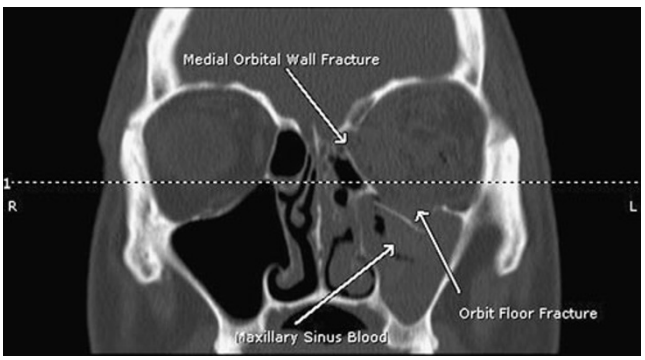
The orbital space is an enclosed area that is unable to expand making it particularly vulnerable to compartment syndrome. Acute rises in intraorbital pressures (normal <20 mmHg), such as those following traumatic events, can lead to a dramatic decrease in perfusion with subsequent ischemia much like those seen in other compartment syndromes [1]. Raised intraorbital pressures lasting for just 60–100 min can lead to permanent visual sequelae [2]. Thus early recognition and prompt treatment are essential to preventing vision loss.

Orbital compartment syndrome (OCS) is a clinical diagnosis that should always be suspected in patients presenting with periorbital bruising, impairment of vision, fixed dilated pupils, and proptosis following a blunt trauma [3]. CT is commonly employed to further evaluate the extent of injury to guide further management. This is preferred to magnetic resonance imaging (MRI) primarily because of time constraints associated with this syndrome.

OCS is an ophthalmologic surgical emergency; therefore, treatment should not be delayed to obtain imaging. First-line treatment for suspicion of OCS is emergent lateral canthectomy which can be performed at the bedside [4]. Additional management in the case of OCS from significant trauma is usually required as adjacent structures are often involved.

CT scan revealed a possible small extra-axial hematoma along the anterior-inferior left temporal lobe, multiple maxillofacial bone fractures, left orbital blowout fracture with herniation of the orbital contents inferiorly, abnormal





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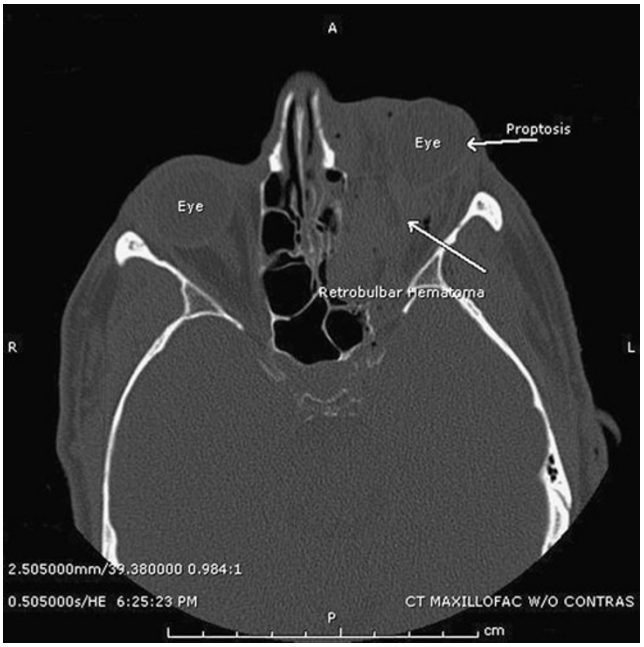

ocular globe contour, left maxillary and paranasal sinus hemorrhage, and small hemocephalus.

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