

## IMAGES IN CLINICAL PRACTICE

### TRAUMA TO THE EYE

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blood in anterior chamber, ocular trauma

#### ARTICLE HISTORY

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A 16-year-old caucasian male with unremarkable family history and a personal history of left-sided nephrectomy done at 8 years of age for a non-functional left kidney was hospitalized with intense ocular pain and sudden decrease in visual acuity of the left eye after an injury caused by a ball strike during a football match. On physical examination, he was conscious with a Glasgow Coma Scale (GCS) of 15/15, had mild hyperemia of bulbar conjunctiva of the left eye with the anterior chamber totally filled by bright, red blood (Figure 1). Ocular movements were preserved. There were no other signs of trauma elsewhere in the body. Systemic examination was normal. Slit-lamp examination revealed the left eye anterior chamber totally filled with blood, thus iris, lens or fundus could not be visualized. Intraocular pressure (IOP) was 44 mmHg in the left eye. Blood tests revealed a normal hemogram without coagulation disorders. Cranium and orbital computed tomography did not show signs of other hemorrhages or fractures. He was given bed rest and head elevation

**Figure 1.** Macroscopic picture: Mild hyperemia of bulbar conjunctiva with anterior chamber totally filled by bright red, blood.



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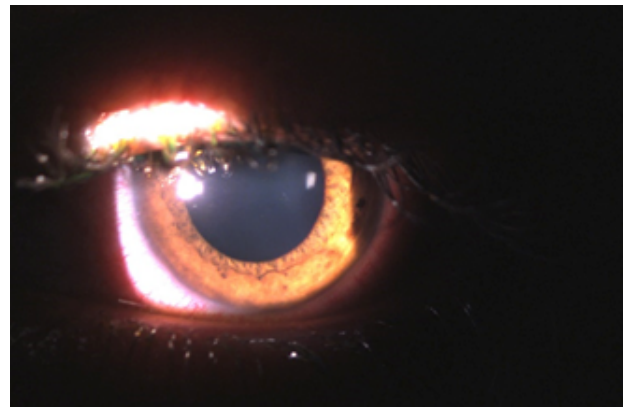
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and started on hypotensive topical drugs (dorzolamide 2% bid, brimonidine 0.2% bid, cyclopentolate 1% tid, fluorometholone 0.1% tid) for seven days. There was a progressive decrease of the blood level in the anterior chamber and IOP (21 mmHg at second day after injury) and, therefore, was discharged home. Five days after the injury, during the biomicroscopic examination, there was a clear cornea, clear anterior chamber and clear lens (figure 2). The retinal reflex was normal. The patient did not suffer any rebleeding episodes. Surgical intervention was not necessary. At the end of one-month, visual acuity was 10/10 and there was the normalization of intraocular pressure.

**Figure 2.** Biomicroscopic picture: Mild bulbar conjunctival hyperemia, clear cornea, clear anterior chamber, pupil in medium mydriasis and clear lens.



#### What is the diagnosis?

HypHEMA grade 4. It is defined as the presence of blood in the anterior chamber of the eye and the main cause is trauma (by accidents or by playing sports).<sup>1,2</sup> Traumatic hypHEMA is more common in children, especially boys.<sup>1,2</sup> The most common complications of hypHEMA are elevated IOP, the formation of synechiae, corneal bloodstaining, secondary anterior uveitis and optic atrophy that can cause permanent visual loss.<sup>1,2,3</sup> Treatment options include bed rest, topical cycloplegics and topical or systemic steroids.<sup>2,4</sup> Surgical intervention may be necessary.<sup>3,4</sup> Ocular trauma is a common cause of unilateral blindness in children.<sup>5</sup> To prevent the complications of the hypHEMA, frequent follow-up visits to the ophthalmologist are necessary during the subsequent weeks.<sup>6</sup> As trauma during sports is the major cause of

hyphema, the use of protective sports glasses should be recommended when children practice potentially hazardous activities. Other accident prevention measures should not be forgotten.<sup>5</sup>

**Compliance with ethical standards**

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**Conflict of Interest:** None

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