

“Transorbitario” foreign body after ATV accident

Corpo estranho “transorbitário” após acidente com quadriciclo

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ABSTRACT

This report aims to show an unusual case of “transorbitário” wooden foreign body causing visual loss due to optic nerve damage on the side contralateral penetration of foreign matter.

Keywords: Eye foreign bodies; Eye injuries; Wounds, nonpenetrating

RESUMO

O presente relato tem o objetivo de mostrar um caso incomum de corpo estranho de madeira “transorbitário” que causou perda visual por lesão do nervo óptico do lado contralateral a penetração do corpo estranho.

Descritores: Corpos estranhos no olho; Traumatismos oculares; Ferimentos não penetrantes

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Study conducted at Faculdade de Medicina de Botucatu, Universidade Estadual Paulista “Júlio de Mesquita Filho” – Botucatu, SP, Brazil.

Os autores declaram não haver conflito de interesses.

Recebido para publicação em 16/01/2016 - Aceito para publicação em 25/02/2016.

INTRODUCTION

Eye complaints correspond 2-7 % of all emergency room visits in hospitals⁽¹⁾. In general, result of ocular trauma which affects mainly males between 16 and 45 years of age, followed by children whose injuries usually occur in the domestic environment⁽²⁾.

The eyeball occupies only one quarter of the volume of the orbital cavity, so it tends to accommodate fragments that can be retained in the tissues⁽³⁾. In most cases, the diagnosis can be done by direct observation, which allows relatively easy removal⁽⁴⁾. But when undetected may use imaging tests, such as conventional X-rays, ultrasound, CT and MRI as auxiliary methods⁽⁵⁾.

This report aims to show an unusual case of orbital foreign body, resulting from scrap wood.

Case report

Female patient, 17y, brown, student, attended the emergency department of the Botucatu Medical School - São Paulo, with a history of ocular trauma after all-terrain vehicle (ATV) collision with tree; she used helmet, but with open visor. Initially evaluated by General Surgery, she was in lucid, cooperative and no motor deficit. Ophthalmologic examination revealed visual acuity of no light perception in the left eye and the right eye examination was not possible due to foreign body presence of wood in this topography. The fragment was in front of the right eyelids, transfixing the medial orbit, making the eyelid opening on the right impossible. The left eye had 2+ conjunctival edema, especially in the temporal region, transparent cornea, anterior chamber formed, iris in mydriasis, no light reaction (Figure 1). Computed tomography showed foreign body with input path in the lower medial portion of the right orbit that crossed ethmoid cells and end in the posterior region of the left orbit. It was associated with proptosis, lateral deviation with compression of the muscle belly of the medial rectus and retrobulbar portion of the optic nerve to the left. Eyeballs with form and contours bilaterally preserved (Figure 2). The patient was referred to the operating room under general anesthesia being operated in conjunction with the otolaryngology, being removed the foreign body, bicanalicular intubation with Sylastic, reintegration of medial canthal tendon right and suturing the eyelids. It was also performed orbital decompression by endonasal left through opening papyraceous, targeting the treatment of orbital postoperative edema and proptosis (Figure 3).

The patient was discharged and followed as an outpatient, with visual acuity without correction, 20/20 right eye and absence without light perception in the left eye. The fundoscopic evaluation of the right eye was consistent with normality, while the left eye showed pale in the macular region, with reddish coloration of the fovea and loss of foveal depression (Figure 4).

DISCUSSION

The authors aimed to report an unusual case of “transorbital” ocular trauma with scrap wood in a female adolescent, unlike the vast majority of affected patients, known men and young adults⁽²⁾.

In the assessment of visual acuity, the patient had initially no light perception left. Knowing that the sight is directly correlated with the mechanism of injury and severity of lesions, indicative of the final visual prognosis⁽⁶⁾ can be deduced from the evaluation of visual acuity the magnitude of the trauma.



Figure 1. The left eye had 2+ conjunctival edema, especially in the temporal region, transparent cornea, anterior chamber formed, iris in mydriasis, no light reaction



Figure 2. Computed tomography showed foreign body with input path in the lower medial portion of the right orbit that crossed ethmoid cells and end in the posterior region of the left orbit.

Regarding the foreign body orbit composition, scrap wood, as found in this case is among the most frequent, together with the metal and glass particles⁽⁷⁾. Removal of organic foreign body must be made so identified, since the wooden piece, for their organic nature and porous surface acts as a medium for microbial agents, which can cause chronic orbital infections, abscesses and fistulas⁽⁸⁾. The orbital decompression in traumatic optic neuropathy is controversial in the literature, and should be evaluated case by case basis^(9,10).

There was full of left eye vision loss, but given the conditions involved in the accident, it can be considered that the patient had a favorable evolution, most likely by the short time between trauma and treatment carried out, reducing the chance of infections and minor injuries.

The authors also draw attention to the need for evaluation of



Figure 3. Removed the foreign body, bicanalicular intubation with Sylastic, reintegration of medial canthal tendon right and suturing the eyelids. It was also performed orbital decompression by endonasal left through opening papyraceus.

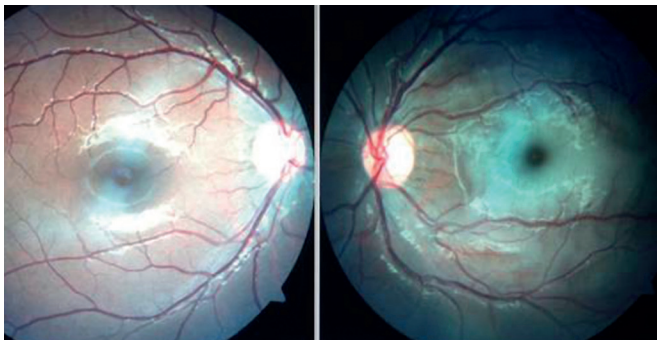


Figure 4. The fundoscopic evaluation of the right eye was consistent with normality, while the left eye showed pale in the macular region, with reddish coloration of the fovea and loss of foveal depression.

the causes and circumstances that lead to reduced visual capacity by factors that can be prevented, such as missing or incorrect use of protective equipment, in this case the helmet.

REFERENCES

1. Araújo AA, Almeida DV, Araújo VM, Góes MR. Urgência oftalmológica: corpo estranho ocular ainda como principal causa. *Arq Bras Ophthalmol.* 2002; 65(2): 223-7.
2. Liu D, Al Shail E. Retained orbital wooden foreign body: a surgical technique and rationale. *Ophthalmology.* 2002; 109(2):393-9.
3. Layaun SE, Schor P, Rodrigues ML. Perfil da demanda de um serviço de oftalmologia em uma unidade de emergência. *Rev Bras Ophthalmol.* 1992; 51(3):171-3.
4. Green BF, Kraft SP, Carter KD, Buncic JR, Nerad JA, Armstrong D. Intraorbital wood detection by magnetic resonance imaging. *Ophthalmology.* 1990; 97(5): 608-11.
5. Boncoeur-Martel MP, Adenis JP, Rulfi JY, Robert PY, Dupuy JP, Maubon A. CT appearances of chronically retained wooden intra-orbital foreign bodies. *Neuroradiology.* 2001; 43(2):165-8.
6. Pieramici DJ, Sternberg P Jr, Faberg Tm Sr, Bridges WZ Jr, Capone A Jr, Cardillo JA, et al. A system for classifying mechanical injuries of the eye (globe). The Ocular Trauma Classification Group. *Am J Ophthalmol.* 1997; 123(6):820-831.
7. Bullock JD, Warwar RE, Bartley GB, Waller RR, Henderson JW. Unusual orbital foreign bodies. *Ophthal Plast Reconstr Surg.* 1999; 15(1):44-51.
8. Ho VT, McGuckin JF Jr, Smergel EM. Intraorbital wooden foreign body: CT and MR appearance. *AJNR Am J Neuroradiol.* 1996; 17(1):134-6.
9. Levin LA, Beck RW, Joseph MP, Seiff S, Kraker R. The treatment of traumatic optic neuropathy: the International Optic Nerve Trauma Study Group. *Ophthalmology.* 1999, 106(7):1268-77.
10. Yu Wai Man P, Griffiths PG. Surgery for traumatic optic neuropathy. *Cochrane Database Syst Rev.* 2005; 19(4):CD005024.

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