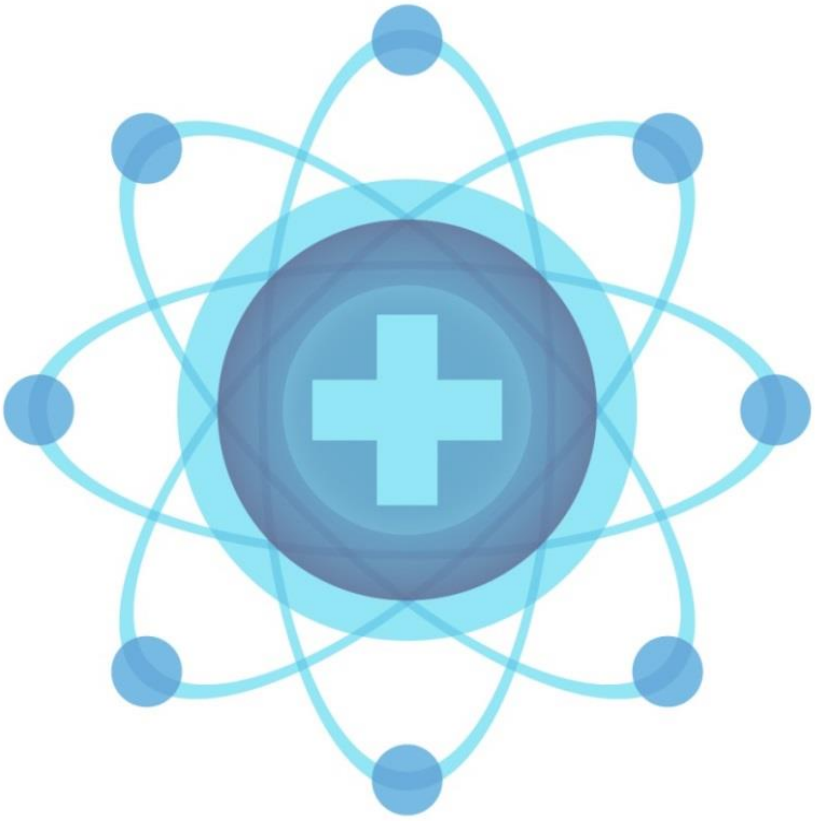

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TO THE QUESTION OF CLASSIFICATION OF CRANIOORBITAL INJURIES

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Introduction. Cranioorbital injury is a combined damage to the bones of the vault and base of the skull, brain structures, bone structures and the contents of the orbit. The frequency of orbital fractures in craniofacial injuries is extremely high - up to 98%, in 66% of cases, orbital injuries are accompanied by damage to the eyeball (wounds, contusions) and its accessory organs [1, 2, 3, 5, 6, 7] . To date, in the literature, the classification of B.L. is often used to describe injuries to the organ of vision. Polyak , but the classification of cranioorbital injuries that would fully reflect the combined damage to the bones of the skull, orbit, eyeball and adnexa, we have not found in the literature [4] . This circumstance is an urgent problem of ophthalmotraumatology , since the existing classifications do not fully reflect the damage to the organ of vision (orbit, eyeball and adnexal apparatus) in cranio-orbital injuries, which leads to late diagnosis of lesions and thus, irreversible loss of vision in patients.

Purpose. To develop a classification of cranio-orbital injuries in traumatic brain injuries, taking into account the data of ophthalmic symptoms.

Material and research methods . The material of the study was 132 patients with cranio -orbital injury due to traumatic brain injury. All patients underwent general and ophthalmological examination methods according to indications. General research methods included the assessment of impaired consciousness and the degree of coma according to the Glasgow scale, the study of neurostatus , multispiral computed tomography of the brain and orbit, as well as other research methods. Of the standard ophthalmological methods, an external examination, determination of

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pupillary reactions, visometry , perimetry, ophthalmoscopy, as well as computed perimetry and optical coherence tomography, according to indications, were carried out.

Results and Discussion. As a result of the analysis of the examined patients, it was revealed: in 10 patients - damage to the bones of the walls of the orbit, without damage to the eyeball, in the rest of the patients - with damage to the eyeball. At the same time, only 7% of patients had a penetrating wound of the eyeball, while the rest were diagnosed with a contusion of the organ of vision. When diagnosing bone damage to the orbit, damage was observed to one wall of the orbit in 26 patients (16.5%), 2 walls in 14 patients (8.9%), 3 walls in 5 patients (3.1%), all walls orbit in 4 patients (2.5%), in addition, in 2 patients (1.2%), isolated damage to the apex of the orbit was noted. In 21 patients (13.7%) with cranioorbital injuries, damage to the walls of the orbit was visualized without displacement of bone fragments, in 24 (15.2 %) with displacement of the above. Unilateral cranioorbital lesions were detected in 109 patients (82,5 %) and bilateral in 23 patients (17,4 %), as well as in 13 patients (8.2%), the development of the syndrome of the superior orbital fissure was noted, which was not observed in other patients. During the study, patients had visual impairments associated with damage to the optic nerve, while in 5 patients (3.1%), contusion of the optic nerve was observed, in 9 (5.7%) compression of the ON, and in 2 patients (1, 2%) visualized detachment of the optic nerve.

Given the above, for the classification of cranio-orbital injuries, we propose to subdivide them as follows:

I. Depending on the damage to the bones of the walls of the orbit (specify which wall), without damage to the eyeball:

a) defeat of one wall of the orbit, without damage to the eyeball;
b) defeat of two walls of the orbit, without damage to the eyeball;
c) defeat of three walls of the orbit, without damage to the eyeball;
d) damage to the four walls of the orbit, without damage to the eyeball;
e) damage to the top of the orbit, without damage to the eyeball

II. Depending on the damage to the bones of the walls of the orbit (specify which wall) with damage to the eyeball:

a) defeat of one wall of the orbit, with damage to the eyeball;
b) defeat of two walls of the orbit, with damage to the eyeball;
c) defeat of three walls of the orbit, with damage to the eyeball;
d) damage to the four walls of the orbit, with damage to the eyeball;
e) damage to the top of the orbit, with damage to the eyeball

III. Depending on the displacement of bone fragments of the walls of the orbit:

a) without displacement of bone fragments;
b) with displacement of bone fragments.

IV. Depending on the side of the cranio -orbital lesion:

a) unilateral cranioorbital lesion;
b) bilateral cranioorbital lesion.

V. Cranioorbital lesion depending on the presence of the syndrome of the superior orbital fissure:

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a) cranio -orbital lesion with superior orbital fissure syndrome;

b) cranioorbital lesion without superior orbital fissure syndrome.

VI. Cranioorbital lesion depending on damage to the optic nerve:

a) without damage to the optic nerve;

b) with damage to the optic nerve:

1) contusion of the optic nerve;

2) compression of the optic nerve;

3) detachment of the optic nerve.

Conclusion. The proposed classification is simple and concise, taking into account the nature, degree and localization of damage to the orbit, eyeball, optic nerve and adnexal apparatus of the organ of vision in cranio-orbital injuries, which will contribute to the early differential diagnosis of multiple organ lesions and the preservation of visual functions in patients with craniocerebral injuries.

References:

1. Eolchiyan S.A., Serova N.K., Kataev M.G. Modern approaches to the surgical treatment of cranio-orbital injuries. Bulletin of Ophthalmology. 2006. No. 6. pp. 9–13.

2. Eolchiyan S.A., Serova N.K. Damage to the optic nerve in traumatic brain injury // Clinical guide to traumatic brain injury, ed. A.N. Konovalova, L.B. Likhterman , AA Potapova // M.: " Antidor " 2002. - S. 208 - 233.

3. Kataev M.G., Eolchiyan S.A., Tishkova A.P. Diagnosis and treatment tactics for orbital fractures. Bulletin of Ophthalmology. 2006. No. 1. pp. 26–32.

4. Polyak B.L. Damage to the organ of vision. Moscow: Medgiz . - 1972. - 405 p.

5. Hwang K., Sun Hye You. Analysis of facial bone fractures: An 11-year study of 2,094 patients // Indian. J. Plast . Surg. 2010 Vol. 43(1). - P. 42-48 (doi : 10.4103/0970-0358.63959)

6. Haug R.H., Van Sickels J.E., Jenkins W.S. Demographics and treatment options for orbital roof fractures // Oral. Surg. Oral. Med. Oral. Pathol . Oral. Radiol . endod . -2002. Vol . 93(3). P. 238-46 (doi : 10.1067//moe.2002.120975)

7. Joseph J.M., Glavas I.P. Orbital fractures: a review // Clin. Ophthalmol . -2011. Vol. 12(5). -P. 95-100.