DUAL CAUSE OF BLINDNESS: CHORIORETINITIS SCLOPETARIA AND HOMONYMOUS HEMIANOPSIA

DOBLE CAUSA DE CEGUERA: CORIORRETINITIS ESCLOPETARIA Y HEMIANOPSIA HOMÓNIMA

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ABSTRACT

Clinical case: We describe the case of a man who, after a gunshot wound to the right facial region, exhibited chorioretinitis sclopetaria of the right eye and a contralateral homonymous hemianopsia.

Discussion: Chorioretinitis sclopetaria is a rare entity resulting from an ocular injury caused by a bullet passing through the orbit. It is not common to find the condition associated with a damaged visual field caused by the subsequent path traversed and lodging of that bullet in the brain (Arch Soc Esp Oftalmol 2006; 81: 119-122).

Key words: Chorioretinitis sclopetaria, Homonymous hemianopsia, firearm.

INTRODUCTION

Chorioretinitis sclopetaria (CS) is an uncommon expression of a non-penetrating eye traumatism, secondary to the path of a projectile between the eye globe and the orbit walls (1-5). A dual injury mechanism is proposed, one of them direct due to the path and the other indirect due to the shock waves transmitted to the eye globe. The case of a patient with this injury is presented, together with different theories about the ethiopathogeny thereof.

CLINICAL CASE

A 28-year old man who had received a firearm wound, with the bullet housed in the right occipital region, exhibiting comitial crises due to right temp-
poral encephalomalacia (figs. 1 and 2). The man was referred to the Ophthalmology service to assess loss of vision in the right eye. The visual acuity (VA) of the right eye (RE) was under 0,02 and in the left eye (LE) one unit. The intrinsic eye motility data for the anterior pole and IOP were normal in both eyes. The visual field exploration evidenced a left side homonymous hemianopsia (fig. 3).

The ocular fundus of the RE exhibited a chorior- retinal scar located in the posterior pole of the lower temporal region, with pigment mobilization in the macular area and an epiretinal membrane without traction, with normal papilla coloring. The ocular fundus of the LE was normal (fig. 4). Already at the initial stages, the angiography revealed a patched hyperfluorescence in the choroidal and retinal rupture area which did not increase in size or intensity due to the loss of the retina pigmentary epithelium loss; absence of subretinal neovascularization, discrete vascular centripetal traction and normal papilla (fig. 5). In the evoked visual potentials (flash and pattern) the responses obtained showed increased bilateral latency and amplitude reduction. These findings were compatible with axonal neuropathy of the 2nd pair. EOG and ERG did not exhibit alterations.

DISCUSSION

CS was described in 1901 by Goldhiezer in Germany, although other authors had already mentioned it as an entity, such as Cohn in 1872 (1-4). CS has been given other names such as traumatic choriorretinal rupture and Lagrange’s proliferative choriorretinopathy (1-3).

Fig. 1: Lateral cranium Rx, showing bullet in occipital region.

Fig. 2: Cranial CT: Right temporal encephalomalacia.
The etymological origin of the term «sclopetary» could be related to the old English verb «sclow» which means «to tear or rupture», or with the Latin word «sclopetum» which denotes an Italian long weapon. The term «chorioretinitis» would refer to the post-traumatic inflammation (1,2).

The injury comprises a chorioretinal scar with jagged and hyper-pigmented edges (1-5), epiretinal membrane (ERM), dispersion of pigment in the macula (1,4) and damages in the optic nerve.

Fig. 3: Visual field (Humphrey 30/2): Left homonymous hemianopsia.

Fig. 4a: RE Ocular fundus: Characteristic chorioretinal scar, irregular jagged edges. Pigmentary dispersion.

Fig. 4b: LE ocular fundus: Normal.
Said damage occurred due to a simultaneous and complete rupture of the choroidal and retinal layers and of Bruch’s membrane (BM), exposing the entire sclera (1,2), understanding that the injury is originated in a mechanical disruption mechanism and tissue retraction (2).

In what concerns possible complications, the low risk of sub-retinal neovascular membrane and of retinal detachment in the rupture zone (2,3,5) has been described, due to the integrity of the posterior hyaloid (frequent in young subjects) and to the retina-choroid juncture (12). However, there could be ruptures in the periphery, which requires follow-up (1,2).

The visual field defect, secondary to the optical pathway damage within the brain, could be evaluated by means of serial neuro-imaging techniques in order to pinpoint the path of the bullet and the topographic relationship with the sequels. In this case, it is also important to emphasize the contraindication of magnetic resonance imaging (MRI).

In conclusion, this is a rare entity, mainly caused by peri-orbital firearm attacks, with specific findings and few complications due to its pathogeny. In addition, in the patient of the study, the entity is associated with a retro-geniculated lesion of the optic nerve pathway, producing defects in the contralateral visual field which gives rise to the patient’s dual blindness.

REFERENCES