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Case Report

Sclopetaria Chorioretinitis

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Received: February 23, 2017; **Published:** April 11, 2017

Abstract

To report a gunshot cerebral trauma case that caused loss of one eye and a weird chorioretinal disease in the contralateral eye.

Keywords: *Chorioretinitis; Sclopetaria; Lateral Geniculate Nucleus; Encephalomalacia; Hemianopsia*

Abbreviations

LGN: Lateral Geniculate Nucleus; CAT: Computerized Axial Tomography; BID: Twice A Day; VA: Visual Acuity; NLP: No Light Perception; IOP: Intraocular Pressure; DD: Disc Diameter; C/D: Cup Disc; RNFL: Retinal Nerve Fiber Layer; OCT: Optical Coherence Tomography; FA: Fluorescein Angiography; ILM: Internal Limiting Membrane

Introduction

Bullet orbital or cerebral trauma, apart from the original, site of entrance lesion, may cause damage at distance to the retina and choroid without eye perforation, due to the passing of the projectil nearby the globe. It was first described by the German Goldzieher in 1901 who introduced the term chorioretinitis plastica sclopetaria to describe the appearance of direct choroidal and retinal rupture in the peripheral retina following trauma from a bullet wound in the orbital area [1].

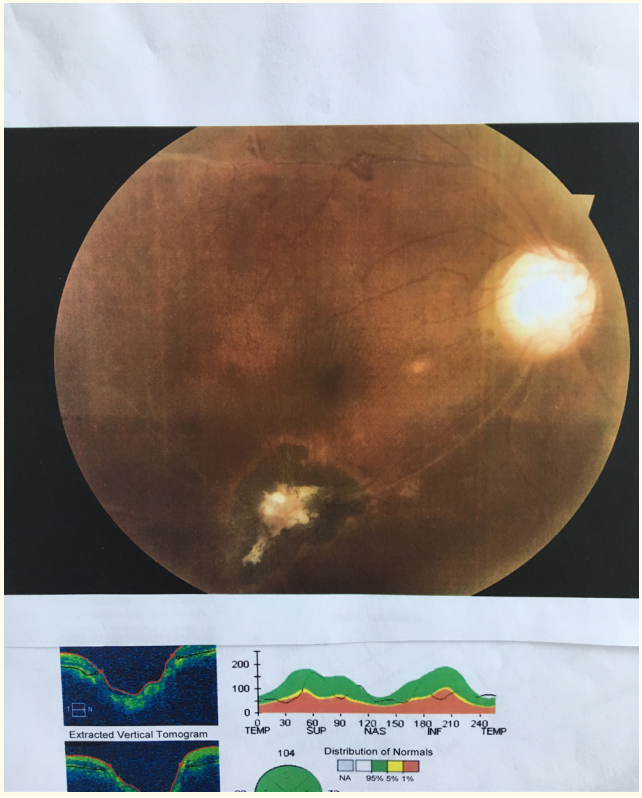
Case Details

This is a 32 years old man, Hispanic who in 2004 suffered a gunshot in the right parietal area, losing the vision of the left eye. Had neurosurgical treatment and medical treatment until the present time with lamotrigine because of convulsions. Actual CAT reveals calcification of the left eye, encephalomalacia including the posterior horn of the right lateral ventricle, osteosintesis material in the parietal bone. The right orbit and right eye are totally normal.

On September 14, 2016 he came to Clinivision, asking for a second opinion to rule out glaucoma in his OD. Currently using brinzolamide + timolol BID. He was so scared because has just one eye. Concerning to OS, is asymptomatic, has a cosmetic contact lens.

The ophthalmological examination revealed:
VA OD 20/20, OS: NLP, IOP OD: 19 mmHg
Anterior segment: OD normal. OS: corneal diameter 9 mm, total vascularized leucoma.
Fundus: macula normal, optic disc pallor, C/D 0,8, retinal hemorrhages nasal to the disc, 1 DD scar with a central atrophic area, below the macula in the IT arcade, ghost blood vessels in temporal and nasal equatorial retina, vitreous floater (Figure 1).

FA: ischemia in temporal retina. Neovascularization in the supero temporal arcade (Figure 2).
Visual field: nasal hemianopsia (Figure 3).
Disc OCT: vertical C/D 0,86. RNFL: loss of fibers in temporal half.
Macula OCT: ILM distortion, with a kind of micropunctures or ruptures.


Extracted Vertical Tomogram
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Distribution of Normals
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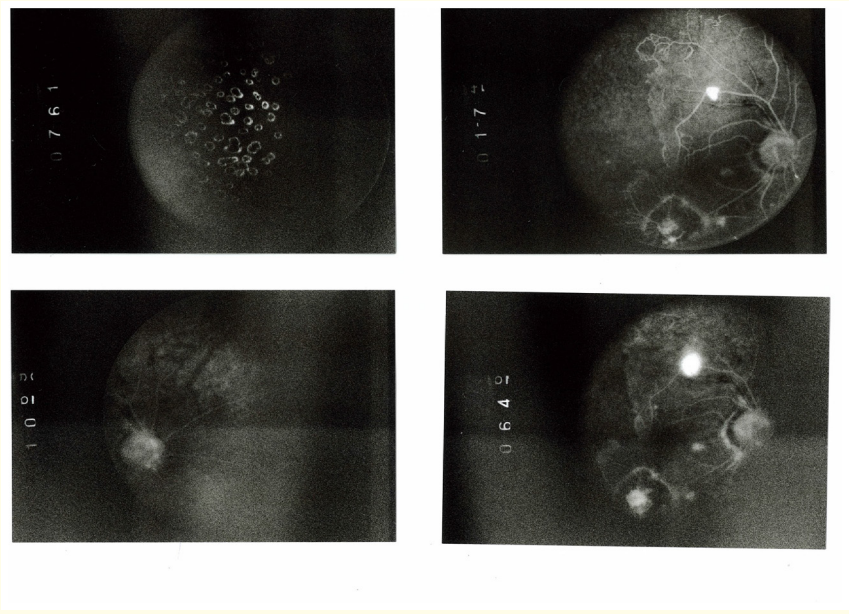

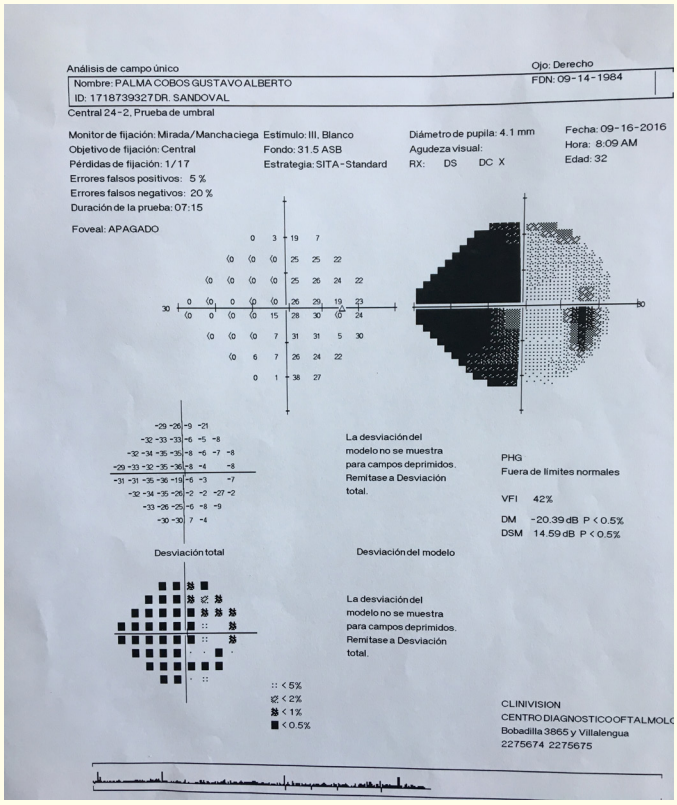

On October 2016 and February 2017, it was performed argon laser PC in the ischemic temporal retina and around the neovascular area. The patient didn't accept anti -VEGF treatment.

The topical medication was switched to brimonidine BID and the IOP was 10 mmHg (December 17-2016).

Discussion

1) Why the loss of vision of the left eye and the resultant Phthisis bulbi?

It seems that the bullet lodged in the left orbit, that means it made a move through, from back to front and from right to left. It was not possible to get the surgery procedure report because it happened in 2004.

2) Why the disc lesion in right eye?

Clearly the disc lesion is due to the cerebral trauma affecting the right optic tract around the lateral geniculate nucleus (LGN) because of the congruent defect of the visual field. The disc pallor means that the lesion is before the LGN because if it should be posterior (third neuron) the disc would appear normal. The inferior defect of the RNFL on the OCT means a lesion superior of the optic tract, that is the parietal zone of the optical radiations, in this case posterior to the LGN.

3) Why the retina lesion?

The waves of the movement of the projectil at a high speed are the cause. The multiple lesions of the ILM, like micropunctures seen in the OCT do confirm this issue. The etymological origin of the term sclopetary is related to the old English verb "sclow" which means "to tear or rupture" and/or to the Latin word "sclopetum" that denotes an Italian long weapon [2].

Conclusions

1) Sclopetaria chorioretinitis occurs after an orbital or cerebral trauma caused by gun fire shots Usually the affected area is in the course of the projectil though it is not directly touched. This is a closed eye injury related to the energy of the waves originated by the high-speed movement of the projectil [3].

2) The features of sclopetaria chorioretinitis are: retinal atrophic areas, irregularities of the ILM, retinal hemorrhages, macular edema, pre-retinal fibrosis, choroidal breaks, chorioretinal necrosis, vitreous hemorrhage, disc edema. Retinal detachment does not occur, probably due to spontaneous retinopexy and scar formation [4-7].

3) The optic disc pallor may misdirect the management, and in the present case it was not a glaucoma but an optic tract involvement expressed clearly in the visual field. The high C/D ratio on the OCT must be genetic.

4) Ophthalmologists should be aware of this entity to start the correct treatment at proper time, this is an ischemic disease and the potential risks of vitreous hemorrhages or tractional retinal detachment should be avoided.

5) The term Sclopetaria Neuro-Chorioretinopathy could be applied for this case.

Conflicts of Interest

There are no conflicts of interest.

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Volume 6 Issue 2 April 2017