Short communication

Combined hamartoma of the retina and retinal pigment epithelium. Anti-VEGF treatment of the associated choroidal neovascular membranes\textsuperscript{☆,☆☆}

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ABSTRACT

Case report: A 58-year-old female was diagnosed with a juxtapapillary combined hamartoma of the retina and retinal pigment epithelium (CHR–RPE) in her left eye 14 years ago. Her visual acuity in that eye was 20/20. Recently, she came to our department with a sudden visual loss and metamorphopsia in her left eye. After performing funduscopy, angiography and OCT, she was diagnosed with choroidal neovascular membrane (CNVM) at lesion border, and started on antiangiogenic therapy.

Discussion: CHR–RPE, despite being a benign condition, may become complicated with severe visual impairment. Antiangiogenic therapy provides a good alternative to photodynamic therapy or laser photocoagulation for treatment of CNVM, avoiding adding iatrogenesis from these treatments to the complications associated with this pathology.

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Hamartoma combinado de retina y del epitelio pigmentario. Abordaje mediante terapia anti-VEGF de membranas neovasculares asociadas

RESUMEN

Caso clínico: Paciente de 58 años diagnosticada de hamartoma combinado del epitelio pigmentario retiniano (CHRPE) yuxtapapilar unilateral en ojo izquierdo hace 14 años, con máxima agudeza visual. Acude con pérdida de visión brusca y metamorfopías en dicho ojo. Tras fundoscopia, angiografía y OCT se diagnostica membrana neovascular coroidea (MNV) en el borde de la lesión, y se inicia terapia antiangiogénica.

Discusión: El CHRPE, aunque benigno, puede complicarse produciendo gran deterioro visual. Los antiangiogénicos son buena opción frente a terapia fotodinámica o a
Introduction

Combined hamartoma of the retina and the retinal pigment epithelium (CHR–RPE) is an infrequent, presumably benign congenital malformation with unilateral expression. It appears in healthy individuals and occasionally in patients with type 2 neurofibromatosis and Gorlin-Goltz syndrome.\(^1,2\) It can be associated to fossa, drusen or papilla coloboma,\(^3\) in addition to being frequently juxtapapillary. Histologically, it presents membranes in the retinal pigment epithelium, neurosensory retina, retinal blood vessels and vitreous-retina in varying degrees. It is frequently diagnosed as a casual finding as it does not usually involve the eyesight.\(^4,5\) However, in 10% of cases vision deteriorates severely, with complications derived from epiretinal tractions, formation of hard exudates and occasionally choroidal neovascularization at the edges of the lesion.\(^6,7\)

Clinic case

The authors addressed the case of a female, 58, diagnosed 14 years ago with CHR–RPE in the left eye during a routine examination. Visual acuity in both eyes was 1, and the patient exhibited only a small altitudinal scotoma in the visual field of the left eye. After regular follow-up, she visited 5 months ago due to metamorphopsia in the left eye and visual acuity of only 0.08. Left eye ophthalmoscopy revealed an image compatible with juxtapapillary hamartoma together with choroidal neovascular membrane (CNVM) at the edge of the lesion (parapapillary), associated to hemorrhage and serous detachment (Fig. 1). This finding was confirmed with angiography (Fig. 2) and posterior OCT (Fig. 3) of said eye. Right eye examinations gave normal results.

As the lesion was located in the papilomacular area, intravitreal anti-VEGF injections were indicated (ranibizumab, 10 mg/ml), applied in 3 injections at one-month intervals. The first was applied on December 10, and the patient was examined with retinographs one month later (Fig. 4A), which revealed some activity of the lesion. The second intravitreal anti-VEGF injection was administered on January 14, with subsequent retinograph examination one month later (Fig. 4B). On this occasion, moderate activity reduction was observed. The last antiangiogenic application was administered February 18, with another retinographic examination one month later (Fig. 5), achieving cicatization of the lesion, the disappearance of hemorrhages and of serous detachment. However, significant subretinal fibrosis remained.

In addition, a new OCT was performed which determined the inactivation of the neovascular lesion (Fig. 6).

Due to residual atrophic-degenerative changes, visual acuity only recovered up to 0.1, but anatomic improvements were achieved as well as diminished metamorphopsia and halting the progression of the lesion.

Discussion

CHR–RPE is regarded as an untreatable benign tumor. However, some of its complications can be devastating and cause significant visual loss. CNVM in papilomacular and subfoveal areas associated to juxtapapillary CHR–RPE, treated in the past with photocoagulation or photodynamic therapy\(^3,3,6,8\) produced huge central iatrogenic scotoma. However, at present these can be approached with anti-VEGF therapies with the advantage that they do not produce scars over the retina.

![Fig. 1 – Funduscopy showing image is compatible with juxtapapillary hamartoma associated to choroidal neovascular membrane (CNVM) at the edge of the lesion, accompanied by hemorrhages and serous detachment.](image_url)
Fig. 2 – In early and subsequently later times, angiographs show active neovascular membrane at the edge of the hamartoma. There are 2 traction choroidal folds along the posterior pole, possibly produced by the membranes associated to the tumor.
Clinical history (anamnesis-current disease)

Referred from Axarquia hospital for macular OCT, diagnosed with LE hamartoma. Visited Emergency Service due to loss of vision. Papillary venous loop and paripapillary serous detachment and hemorrhage. FAG in referring hospital: overflowing serous detach.

Supplementary tests:

Macular CT:
RE: reflexivity alteration in external retina with tomographic appearance of small drusen dispersed throughout the macular area. Choroidal folds in inferior macular periphery.
LE: tomographic image compatible with CNVM in nasal region of macula (parapapillary) extending to subfoveal region, with exudative activity signs. Accordingly, antiangiogenic intravitreal treatment is recommended ASAP.

Málaga, Nov. 12, 2013

Fig. 3 – Left eye OCT showing CNVM in the nasal region of the macula with signs of exudative activity.

The utilization of intravitreal ranibizumab injections, extensively applied in approaches to macular degeneration and other diseases, was not broadly described in the scientific literature for CNVM associated to juxtapapillary CHR–RPE. This treatment can counteract the progression of the lesion and avoids adding iatrogeny to the damages caused by the pathology itself. On the other hand, in some cases it is possible to combine different therapies such as vitrectomy.
Fig. 4 – (A) Retinographs one month after the first intravitreal injection, showing activity of the lesion with initial cicatriziation. (B) Retinographs one month after the second intravitreal injection, showing moderate reduction in the activity.

Fig. 5 – Retinographs one month after the third injection, showing lesion cicatrization, disappearance of hemorrhages and of serous detachment, with significant subregional residual fibrosis remaining.
Clinical history (anamnesis-current disease)

Referred from Axarquia hospital for macular OCT, CNVM associated to LE optic nerve hamartoma, treated with 3 doses (latest Feb. 18, 2014).

Supplementary tests:

Macular OCT: highly arteracted with continuous blinking and inability to fix gaze, even with RE.

RE: no significant changes from previous OCT.

LE: Image compatible with subretinal fibrosis. Minimum amount of LSR (a lot less than previous OCT). Atrophic-degenerative changes, making it difficult to precisely determine degree of activity: although the impression is more like residuals, assess on basis of clinic and/or FAG activity.

Málaga, May 19, 2014

Fig. 6 – New OCT which determined considerable deactivation of the neovascular lesion, with disappearance of liquid associated thereto. It also shows subretinal fibrosis and residual atrophic-degenerative changes.
or surgical approach of epiretinal membranes, when several
CHR–RPE complications are associated in the same eye,

even though and despite all the obstacles modest visual
results can be obtained due to the severity of the sequels left
by associated diseases.

Conflict of interest

No conflict of interests has been declared by the authors.

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