Short communication

Bullous retinal detachment in chronic central serous chorioretinopathy treated with photodynamic therapy

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ABSTRACT

Case report: We describe a case of serous retinal detachment as an atypical presentation of bilateral chronic central serous chorioretinopathy,
Discussion: We present its differential diagnosis and therapeutical management with low-fluence photodynamic therapy, achieving satisfactory anatomical and functional results.

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Introduction

Central serous chorioretinopathy (CSC) is characterized by the idiopathic serous detachment of the neurosensory retina in the macula area. The association between hyperpermeability of the choriocapillary layer and disruption of the retina pigmentary epithelium (RPE) seems to be the mechanism producing the accumulation of subretinal fluid. Most CSC resolve spontaneously but there is a chronic form accompanied by diffuse RPE alteration in which detachments

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tend to be larger and visual involvement is prolonged and frequently severe.²

Clinical case

Anamnesis

Male, 44, without toxic habits or known pathological history, who initially visited another centre due to bilateral central vision reduction starting about 6 months before and more accentuated in the left eye (LE). The initial assessment revealed macular pigment alteration in both eyes, being greater in the LE and with an inferior bullous retinal detachment (RD) associated without evidencing retinal tears. The condition was approached as Harada’s disease even though the patient did not exhibit additional ophthalmological or systemic alterations, establishing treatment with oral prednisone and cyclosporine. In the absence of a response, 2 months later vitrectomy was performed in the LE at the original center. The inferior retina reapplication was achieved, with detachment relapse occurring 1 month in follow-up. At the time, the patient had been referred to our practice with suspected bilateral chronic CSC.

Physical exploration

In the first visit, the exploration gave a visual acuity (VA) of 0.7 in the right eye (RE) and 0.05 in LE. The anterior pole exploration did not reveal significant alterations. The funduscopic exploration evidenced diffuse pigmented epitheliopathy with bilateral macular subretinal fluid and exudative inferior retina detachment in LE (fig. 1).

Supplementary tests

Fluorescein angiography revealed an alteration of the RPE with multiple leak points in the posterior pole. The LE exhibited greater contrast diffusion and RPE with scatter atrophy, communicating with the detached retina area (fig. 2).

Optic coherence tomography (OCT) showed subretinal fluid in the macula area with hyper-reflecting areas at the level of the RPE (fig. 3).

Figure 1 – A) Serous retinal detachment prior to vitrectomy. B) Subsequent relapse thereof. Both images show subretinal exudation areas and pigmentary epithelium alteration (arrows).

Figure 2 – LE fluorescein angiography showing: A) Macular RPE diffuse alteration with multiple hyper fluorescent points. B) RPE exudation areas and scattered atrophy image formed by chronic leak (white arrow).
Diagnostic

The presence of diffuse pigmentary epithelium alteration in a young male associated to subretinal fluid in the macula area, supported by the angiographic finding of multiple leak points and pigmentary atrophy areas in descending tracts, lead us to confirm the diagnostic of bilateral chronic CSC.

Treatment and evolution

Initially, we considered the application of low fluency photodynamic therapy (PDT) in LE, utilizing the standardized parameters for ARMD with the exception of a 50% reduction in fluency and intensity. A verteporfin infusion was prepared in a dose of 6mg/m² during 10 minutes, applying laser 5 min. later with a spot of 4,000µm focused on the macula is an intensity of 300 mW/cm² and fluency of 25J/cm² during 83 seconds.

In month 6, the VA in LE was of 0.1, exhibiting in OCT a complete reabsorption of the subretinal fluid (fig. 4) and residual foveal atrophy associated to the loss of homogeneity of the outermost layers of the retina and choroidal hyper reflectiveness. Funduscopic exploration revealed the disappearance of the inferior retina detachment.

After 6 months, the patient visited the practice again due to loss of vision in RE, which diminished to 0.5. A new macular subretinal liquid accumulation was found. Low fluency PDT was applied in RE utilizing the same parameters as in the LE. 3 months later the reabsorption of the fluid was complete and the VA improved up to 0.65 (figs. 5 and 6).

Discussion

A careful differential diagnostic must be made for RD associated to CSC with regmatogenous RD or other serous RD secondary to Harada, severe hypertensive choroidopathy, posterior scleritis, multifocal choroiditis, metastatic tumor or uveal effusion. To achieve said diagnostic, it is useful to perform anamnesis, a detailed exploration to confirm the absence of inflammatory cells and ruptures, and fluorescein angiography to support the diagnostic in diffuse pigmentary epitheliopathy, frequently bilateral with multiple hyperfluorescente points and descending atrophic tracts.3

At present, the efficacy of treating this entity with PDT has been considered on the basis of the hypothesis that its application diminishes choriocapillary hyperpermeability and thus allows the reabsorption of the subretinal fluid. Several studies present excellent anatomic results with variable functional benefits, obtaining moderate visual improvements in most cases. Ruiz-Moreno et al described an interventionist, multicenter, nonrandomized study comprising 82 eyes with a mean follow-up of one year. The anatomic recovery occurred in all cases, the mean foveal thickness was reduced from 325 to 202 microns and the mean VA increased +1.9 lines ETDRS. Moon et al performed a retrospective analysis of 41 eyes of which 87.8% achieved complete reabsorption of the subretinal fluid and a recovery exceeding one ETDRS line in 46.3%. The chronicity of the retinal involvements with the ensuing degradation of the photoreceptor external segments could be the cause of the mismatch between anatomic and functional recovery.4,5

In order to optimize results and diminish the appearance of secondary effects in PDT, it is important to modify the standard parameters as in the case of low fluency.
Conflict of interest

None of the authors have declared any conflict of interest.

References