PHOTODYNAMIC THERAPY IN RETINAL PIGMENT EPITHELIUM DETACHMENT ASSOCIATED WITH LONG TERM CENTRAL SEROUS CHORIORETINOPATHY

TERAPIA FOTODINÁMICA EN DEP AVASCULAR ASOCIADO A CORIORRETINOPATÍA SEROSA CENTRAL DE LARGA EVOLUCIÓN

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ABSTRACT

Purpose: To present a case of long term central serous corioretinopathy associated with chronic detachment of the retinal pigment epithelium (RPE) and the effect of photodynamic therapy on it.

Case clinic: We present the case of a 46-year old man with long term chronic central serous choriotiretinopathy (18 mo.) with chronic detachment of RPE in his left eye who underwent PDT with Verteporfin (Visudyne). BCVA improved from 0.7 to 1 and metamorphopsia disappeared within one month of treatment. The patient remained asymptomatic for a follow-up period of 15 months.

Discussion: Choroidal hyperpermeability is found in central serous choriotiretinopathy as a primary involvement factor. PDT with Verteporfin induces a transient reduction in choriocapilaris blood flow and can be used as treatment in cases of chronic central serous choriotiretinopathy (Arch Soc Esp Oftalmol 2008; 83: 545-548).

Key words: Macula, photodynamic therapy, chronic central serous choriotiretinopathy, treatment, case report.

RESUMEN

Objetivo: Describir un caso de coriorretinopatía serosa central asociada a un DEP crónico y el resultado de terapia fotodinámica sobre el mismo.

Caso clínico: Se presenta el caso de un hombre de 46 años con coriorretinopatía serosa central crónica de larga evolución (18 meses) con desprendimiento crónico del EPR en su ojo izquierdo que se sometió a tratamiento con terapia fotodinámica con Verteporfin (Visudyne). La AV mejoró de 0,7 a 1, desapareciendo la metamorfopsia en un mes tras el tratamiento. El paciente permaneció asintomático durante un periodo de seguimiento de 15 meses.

Discusión: La hiperpermeabilidad coroidea es un factor primario en el desarrollo de la coriorretinopatía serosa central. La terapia fotodinámica con Vertoporfín induce una reducción transitoria en el flujo sanguíneo de la coriocapilar y se puede usar como tratamiento en casos de coriorretinopatía serosa central crónica.

Palabras clave: Mácula, terapia fotodinámica, coriorretinopatía serosa central crónica, tratamiento, caso clínico.

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INTRODUCTION

The usefulness of photodynamic therapy (PDT) with verteporfin for treating chronic central serous chorioretinopathy (CCSC) and of chronic serous detachment of the retinal pigmentary epithelium has been discovered recently (1). Both entities can produce a visual acuity reduction. This brief communication presents the case of a patient with serous retinal pigmentary epithelium detachment (PED) with extended evolution which rapidly reverted after treatment with PDT, with improved clinical symptoms and visual acuity.

CASE REPORT

A male patient, aged 46, with a history of 15 years of diabetes mellitus, without signs of associated retinopathy, visited our service every year for a checkup. In a routine exploration, the patient exhibited a serous PED image in the right eye, confirmed with OCT. FA did not reveal signs of underlying sub-retinal neovascularization (fig. 1). VA was of 0.9 in the involved eye and of 1 in the other eye. The left eye ophthalmological exploration gave normal results throughout the evolution of the condition, although the FA showed several points of hyper-fluorescence without dye leak which persisted throughout the process. During the evolution progress was observed in the size of the PED by means of OCT (fig. 2) and the patient referred central metamorphopsia.

Eighteen months after the diagnostic, the patient exhibited a VA of 0.7 and marked metamorphopsia with PED persistence. The FA revealed hyper-fluorescence in the arterial-venous stage with increased intensity and slight diffusion in late stages (fig. 3), showing the image of an altered RPE. For this reason the patient was asked to consider the possibility of treatment with PDT with verteporfin as a sensitizing agent over the involved macular area. The patient accepted the treatment, which was performed following the usual protocol for Age Related Macular Degeneration (dose of 6 mg/m2 of bodily surface and 2000 µm spot).

Eight weeks after treatment the VA was of 1 with correction of metamorphopsia. The eye fundus no longer evidenced bulges. OCT proved the disappearance of PED with recovery of the normal macular profile, while the FA only showed RPE alterations without contrast diffusion (fig. 4). The patient has remained asymptomatic and without evidence of ophthalmological alteration until he was dismissed from our practice after a 15-month follow-up.

DISCUSSION

In CCSC, the persistence of sub-retinal liquid is associated to a reduction in visual acuity. The usual treatment of persistente CCS, in which we find leak points in contrast FA, is photo-coagulation with thermal laser to achieve a temporary resolution of the lesions although no differences were found between the recurrence rates of eyes treated with laser vis-à-vis non-treated eyes (2). The main prob-
lem is that direct thermal laser photo-coagulation is sometimes inefficient and with uncertain results, particularly in the chronic forms of the disease in which the liquid frequently issues from non-determined areas of RPE instability. In addition, direct laser entails a variety of undesirable side effects such as the appearance of scotomae, increased atrophic scarring with the passage of time and even the induction of choroidal neovascularization.

Even though the main indication of PDT is exudative ARMD, its usefulness for chronic serous PED (1) not associated to NVSR and CSC has been proved quite recently, both in its chronic form (3,4) and in acute outbreaks (5). Studies made with indocyanine green angiography (IGA) have revealed a primary choroidal alteration in CSC, with RPE decompensation areas arising from increased choroidal vascular permeability. Therefore, it seems logical that the focus should be on treating choroidal alterations using a more specific treatment. PDT may occlude choroidal neovascular membranes in patients with ARMD. There is evidence that, in addition to the effect on the neovascular membrane, there is a transient ischemia evidenced by IGA in the underlying choriocapillary. This could be the effect which reduces the loss of sub-retinal fluid in CSC, although the physiopathogenic mechanisms of this entity remain unknown.

A study (4) made on 16 eyes of 13 patients with CCSC treated with PDT over the choroidal hyper-permeability areas evidenced by the IGA, none of them lost VA and the majority exhibited a persistent improvement. Only two patients exhibited recurrences within a follow-up of one year. Direct photo-coagulation had been practiced on all these patients. It was also seen that it achieves a rapid resolution of acute CSC episodes (5), with AV improvement, particularly in patients exhibiting a better VA prior to the treatment.

Most authors agree on following the treatment parameters for the occlusion of choroidal neovascular membranes, applying one or more non-confluent spots depending on the hyper-permeability points identified in FA or, preferably, over the choroidal hyper-permeability evidenced in indocyanine green angiography. It is not recommended to treat two adjacent areas due to the possibility of overdosing radiation at the edges of the spots. In the instant case IGA was not performed, treating instead the PED area. Even so, the improvement of clinical symptoms – VA and metamorphopsia – was rapid and persistent two months after treatment.
Other authors recommend the utilization of lower radiation dosages, either reducing the exposure time (1) or the laser potential.

It can be concluded that PDT is a treatment to be considered in patients with CCSC associated to PED without evidence of sub-retinal neovascularization. More evidence is needed about the pathogeny of the disease and the role PDT plays therein.

REFERENCES