CIRCUMSCRIBED CHOROIDAL HEMANGIOMA TREATED WITH PHOTODYNAMIC THERAPY

HEMANGIOMA CIRCUNSCRITO DE COROIDES TRATADO CON TERAPIA FOTODINÁMICA

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ABSTRACT

Clinical case: A 45-year-old male referred with a scotoma in the left eye of 2 months’ evolution. A peripapillary tumor was found, with a basal diameter of 7 mm and thickness 3.4 mm. It was diagnosed as a circumscribed choroidal hemangioma. It was decided to treat the patient using photodynamic therapy. After 4 sessions and 17 months follow-up, the patient remained asymptomatic and visual acuity was stable. There was evidence of subretinal fibrosis and no subretinal fluid was found.

Discussion: Photodynamic therapy is a good option for the treatment of circumscribed choroidal hemangioma given the minimal damage it causes to the adjacent retina. (Arch Soc Esp Oftalmol 2008; 83: 553-558).

Key words: Circumscribed choroidal hemangioma, peripapillary tumor, photodynamic therapy, hamartoma and serous detachment.

RESUMEN

Caso clínico: Varón de 45 años, que acude por escotoma de ojo izquierdo de 2 meses de evolución. Las exploraciones complementarias demuestran un tumor yuxtapapilar de 7 mm x 3,4 mm que es diagnosticado como hemangioma circuncrito de coroides.

Se decide tratarlo con terapia fotodinámica. Tras 4 sesiones y 17 meses de seguimiento el paciente permanece asintomático, su agudeza visual se mantiene y la lesión presenta aspecto fibrótico sin exudación.

Discusión: La terapia fotodinámica es una de las mejores opciones terapéuticas en esta patología por el mínimo daño que causa sobre la retina.

Palabras clave: Hemangioma coroideo circunscrito, tumor peripapilar, terapia fotodinámica, hamartoma, desprendimiento seroso.
INTRODUCTION

Choroidal hemangioma is a benign vascular tumor (hamartoma). There are two clinical forms: circumscribed, which appears as a localized mass posterior to the equator, typically juxtapapillar or macular, and diffuse, associated to the Sturge-Weber syndrome.

The circumscribed hemangioma is rarely detected before the third decade of life. It is a unilateral solitary tumor, typically red-orange color. In adulthood, the hemangioma can cause massive exudation, cystoid degeneration of the retina and changes in the pigmentary epithelium. Unless the tumor is localized directly over the macular area, patients remain non-symptomatic until a serous detachment occurs which may extend from the edge of the tumor to the macular area.

Even though this tumor does not affect the vital prognosis of the patient, until a short time ago the visual prognosis was reserved. Sixty-nine percent of patients with subfoveal tumor, and up to 38% with extra-macular tumor, evolved to a visual acuity of 0.1 (1).

CASE REPORT

A 45-year old man without relevant history who attended the practice due to a 2-month old scotoma in the left eye. Upon exploration, he exhibited an uncorrected visual acuity of 1 in both eyes, with biomicroscopy, reflexes, motility and tonometry within normal values. The left eye fundus revealed a reddish tumoration nasal to the papilla with ill-defined edges which diffused the nasal papillary margin and produced a supra-jacent retina raising (fig. 1).

Fluorescein angiography (FA) showed irregular hyper-fluorescence in early times with hypo-fluorescent edge (fig. 2 a) and late hyper-fluorescence pattern (fig. 2 b). Campimetry evidenced a scotoma in the temporal-superior quadrant and partially temporal-inferior (fig. 3a). Echography B revealed a juxta-papillary choroidal oval-shaped lesion with a size of 3.4 mm high by 7 mm wide (fig. 4). The magnetic resonance exhibited a nodular lesion close to the optic nerve, isointense in T1. An Optical Coherence Tomography (OCT) showed an exudative detachment with intra-retinal cystic alterations nasal to the papilla (fig. 5a), with the macula being normal (fig. 5b).

Considering the clinical conditions and supplementary tests, the diagnostic was toward circumscribed choroidal hemangioma after a differential diagnostic mainly with choroidal melanoma and choroidal metastasis. The patient was proposed a treatment with photodynamic therapy for reducing the exudation of the lesion.

The treatment was carried out as with neovascular Age Related Macular Degeneration (ARMD) patients. A perfusion of verteporfin was administered in a dosage of 6 mg/m 2 of bodily surface diluted in 5% glucosated serum up to a volume of 30 ml during 10 minutes. Fifteen minutes after beginning the perfusion a 689 nm diode laser was applied via slit lamp utilizing a broad field Mainster contact lens for 83 seconds. The only difference was that multiple impacts were carried out.
without leaving a safety margin for the optic nerve, although without exceeding the limits of the papillar. The interval between each session was of 3 months.

After 4 photodynamic therapy (PDT) sessions and 17 months of follow-up, the patient is free of symptoms, with a visual acuity of 1 and a considerable reduction of the scotoma in the visual field (fig. 3a and b); the eye fundus shows fibrotic-looking lesion without exudation (fig. 6). With OCT we verify the absence of sub-retinal fluid (fig. 5c).

**DISCUSSION**

The management of the circumscribed choroidal hemangioma is related to the presence of symptoms. In non-symptomatic cases simple observation will suffice. The goal of the treatment is to conserve visual acuity or improve it, producing the reabsorption of the sub-retinal liquid and the resolution of the macular edema.

The first treatment of choice was laser photocoagulation, but even though photocoagulation can achieve a reduction of the sub-retinal fluid, recurrence is frequent and the final visual acuity is poor (1).

External radiation leads to complications such as cataracts, maculopathy or retinopathy and increases the risk of osteosarcomae and soft tissue sarcoma. By using low dosages the prevalence of adverse effects is reduced, but exudation is not completely
resolved in all cases and sub-retinal fibrosis may appear.

Brachytherapy plates provide good results in what concerns the resolution of the exudative detachment, but it has the disadvantage of requiring two surgical procedures, one for insertion and the other for removal. In addition, said plates can give rise to radiation-related complications: cataracts, retinopathy and papillitis.

Trans-pupillary thermal therapy has demonstrated its ability to resolve the sub-retinal fluid, both as a primary treatment and after photocoagulation. On some occasions, this method can be destructive and cause loss of visual field and visual acuity. It should not be used on sub-foveal lesions (2).

PDT has proved its ability to eliminate sub-retinal fluid in choroidal neovascular membrane cases. As the success of PDT depends on a photochemical (not thermal) effect, it provides the possibility of achieving a regression of the tumor without causing damage to the retina or defects over the optic nerve fibres. In view of the low prevalence of complications in ARMD and neovascular membrane patients, the risk of adverse effects in choroidal hemangioma cases with this technique is low (2-5).

The instant case report evolved positively, visual acuity was maintained and the scotoma was reduced as can be seen when comparing the visual field before and after treatment (figs. 3a and b). Accordingly, even though the usually recommended 200-micron papillary margin was not respected, the optic nerve was not affected by the treatment.

By utilizing multiple impacts, the entire lesion is treated in each session. In the first sessions we utilized three impacts and two in the last one.

Some questions remain about the treatment for choroidal circumscribed hemangioma, such as: which are the best parameters (power, duration, maximum impact size or number for each session)?, which is the best interval between sessions?, is it possible to have recurrence in the long term? Additional studies will be necessary to find all the answers.

REFERENCES