SUB-TENON STEROID TREATMENT IN CHOROIDAL NEOVASCULARIZATION CAUSED BY SERPIGINOUS CHOROIDITIS. A CASE REPORT

ESTEROIDES SUBTENONIANOS EN NEOVASCULARIZACIÓN COROIDEA SECUNDARIA A COROIDITIS SERPINGINOSA. PRESENTACIÓN DE UN CASO

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ABSTRACT

Case report: We present a report of a patient suffering from serpiginous choroiditis complicated by choroidal neovascularization (CNV). Sub-tenon steroid treatment, added to the usual immunosuppressive therapy, resolved the CNV, improving visual acuity in one eye.

Discussion: Choroidal neovascularization is a sight-threatening complication of posterior uveitis. Our case suggests that sub-tenon steroid treatment, added to systemic immunosuppressive therapy, may accelerate the CNV resolution in posterior uveitis (Arch Soc Esp Oftalmol 2006; 81: 615-620).

Key words: Serpiginous choroiditis, retinal neovascularization, steroids, sub-tenon, immunosuppressive.

RESUMEN

Caso clínico: Se presenta el caso clínico de una paciente con coroiditis serpiginosa y neovascularización coroidea (NVC) activa en ambos ojos. Tras tratamiento con terapia inmunosupresiva sistémica junto con inyección sub-Tenon posterior de esteroides, conseguimos la resolución de la NVC en ambos ojos, mejorando la capacidad visual en uno de los ojos.

Discusión: La NVC es una complicación de las uveítis posteriores, cuya presencia amenaza de forma importante la visión. El presente caso sugiere que los esteroides subtenonianos añadidos a terapia inmunosupresiva sistémica, pueden acelerar la resolución de NVC tras uveítis posteriores.

Palabras clave: Coroitidis serpiginosia, neovascularización retiniana, esteroides, subtenon, inmunosupresora.
INTRODUCTION

Serpiginous choroiditis is a progressive and infrequent disorder which involves the choriocapillary, the pigmentary epithelium of the retina and the neurosensitive retina. The disease appears in acute form mainly in young and middle-aged people. Clinical symptoms range between a painless loss of vision to a central scotoma (1). It usually exhibits moderate blurred vision or metamorphopsia, as the fovea is not initially involved (1).

The course of the disease is characterized by recurring episodes which may be non-symptomatic as long as the fovea is not affected (1). The characteristic yellowish subretinal lesions typically begin in the peripapillar region and disseminate radially outward, finally involving the fovea. With the passage of time, the disease almost always asymmetrically affects both eyes. Fluoresceina angiography (FAG) reveals a typical early blockage pattern with late hyperfluorescence at the edges of the active lesions (1). Choroidal neovascularization (CNV) is a complication described with a prevalence of 10-25% of cases (1). The general opinion is that systemic or periocular steroid treatment is usually effective to halt the active inflammation and to shorten the duration of the episode (1-4). Immunosuppressive drugs described for the treatment of serpiginous choroiditis include cyclosporine, combinations of prednisone-cyclosporine, azathioprine and therapy with alkylating agents, together with cyclophosphamide or chlorambucyl.

Corticosteroids have antiangiogenic, antifibronolytic and anti-permeabilizing properties.

Although their main effects are the stabilization of the hemato-retinal barrier, the reabsorption of

Fig. 1: Photographic composition of color and red free photos of both eyes, comparative and prior to treatment, at 4 and 6 months.
Exudates and the regulation of the inflammatory stimuli, corticosteroids also are powerful inhibitors of neovascularization (4). Multiple angiogenesis inhibition mechanisms have been proposed for steroids, including an alteration of the composition of the capillary basal membrane, suppressing its disappearance, and the inhibition of endothelial cellular migration (5).

Corticoids act upon the neovascular cascade with a direct reduction of the vascular endothelial growth factor levels (VEGF), inhibiting fibroblastic growth factors and acting on the macrophages which release them (5).

Our purpose is to describe a CNV case secondary to serpiginous choroiditis, successfully treated with posterior sub-Tenon injection of steroids with azathioprine.

**CASE REPORT**

A 61-year old patient, Hispanic, from Veracruz, Mexico, without relevant pathological antecedents. He attends our practice due to reduction of eyesight in both eyes (BE) which began three years ago. His visual capacity (VC) in RE was 0.2 and in the LE finger-counting at 4 metres. The funduscopic exploration revealed peripapillar choroidal alterations in BE, compatible with inactive serpiginous choroiditis. The RE showed a temporal active choroidal lesion in the macula with subfoveal CNV. The LE exhibited an inactive sub-foveal disc-shaped scar, extrafoveal although apparently with inactive lower edge (figs. 1A, 1C). The findings were confirmed with FAG (figs. 2A, 2B, 2C and 3A, 3B, 3C).

Fig. 2: Photographic composition of RE fluorescein angiography in initial, middle and late stages prior to treatment, at 4 months and 6 months thereof.
Treatment was established with azathioprine and prednisone, 50 mg/day. Photodynamic therapy was not applied due to the patient’s economic limitations and lack of public medical insurance. One month later it was decided to add sub-Tenon corticoids (betametasone phosphate and acetate). Two months after beginning treatment, a second sub-Tenon dose of corticoids was injected. In the check-up 4 months after the second injection, the CNV was found to be resolved in the RE with reabsorption of the submacular scar, although the active lower edge of the sub-foveal scar persisted in the LE (fig. 1E and 1G) confirmed by FAG (fig. 2D, 2E, 2F and 3D, 3E, 3F). After 6 months of treatment, the CNV was resolved in the LE and the VC of the RE improved to 3/10, without exhibiting changes in the LE (fig. 1I, 1K, 2G, 2H, 2I and 3G, 3H, 3I).

**DISCUSSION**

Currently, the proliferation of intraocular vascular tissue is one of the most important problems in ophthalmological practice. Corticosteroids have clearly proven their capacity to reduce inflammation and suppress cellular proliferation. Accordingly, steroids have been utilized for treating multiple eye diseases, with local or systemic administration.

Taking into account the presence of systemic side effects and the fact that the eye occupies only 0.01% of body volume, it is more effective to apply steroids directly in the region where their action is required. In humans, the use of systemic, sub-Tenon and intravitreous steroids for the treatment of CNV in the ocular histoplasmosis syndrome, although controlled studies have not yet been carried out.
Similarly, it has been described that treatment with cyclosporine A and steroids can be beneficial for resolving CNV in serpiginous choroiditis, with results after 6 months (4).

Publications on treating serpiginous choroiditis with steroids usually treat active serpiginous choroiditis (5). Our patient exhibited a bilateral active choroidal neovascular membrane secondary to serpiginous choroiditis but without inflammatory activity. For this reason it was decided not to apply intravitreous therapy with triamcinolone acetonide because we preferred to use it for active choroiditis (5). Recently there is a tendency to use antiangiogenic with excellent results in choroidal neovascularization, but experience with neovascularization secondary to inflammation is limited and therefore we did not consider its use in a patient with bilateral involvement.

The result of this case suggests that the use of betametasone acetate and phosphate with sub-Tenon administration, added to systemic immune-suppressant treatment, can be useful to stabilize and improve the visual capacity of patients with CNV after serpiginous choroiditis, accelerating the resolution thereof.

REFERENCES