Short communication

Usefulness of optical coherence tomography in the treatment and monitoring of posterior scleritis: Report of a case

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A B S T R A C T

Case report: We describe the findings on optical coherence tomography before and after treatment with corticosteroids in a 51-year-old patient with recurrent episodes of bilateral posterior scleritis without associated systemic disease.

Discussion: We believe that optical coherence tomography allows the pathological changes that occur in posterior scleritis to be monitored by objective and quantitative comparison of images, and even for therapeutic decisions.

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Utilidad de la tomografía de coherencia óptica en la monitorización terapéutica de la escleritis posterior: a propósito de un caso

R E S U M E N

Caso clínico: Se describen los hallazgos encontrados en la Tomografía de Coherencia Óptica antes y después del tratamiento con corticoides sistémicos en un paciente de 51 años con episodios recurrentes de escleritis posterior bilateral sin enfermedad sistémica asociada.

Discusión: Consideramos que la OCT puede permitir hacer un seguimiento de las alteraciones patológicas que se suceden en la escleritis posterior, mediante la comparación objetiva y cuantitativa de imágenes, e incluso para la toma de decisiones terapéuticas.

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Introduction

Even though optical coherence tomography (OCT) does not allow the entire identification of the sclera or the choroids, it is useful to determine and differentiate retinal alterations secondary to posterior sclera inflammation.

This paper presents a case of posterior scleritis in which OCT was useful to adequately monitor and objectively assess the patient response to treatment.

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Case report

Female, 51, without personal history of interest, was referred to the Uveitis Unit of our hospital due to ocular pain episodes and progressive visual acuity reduction in both eyes with 3 years of evolution, which had partially receded with corticoids.

Upon exploration, the patient exhibited a best-corrected visual acuity (BCVA) of 0.7 in the right eye (RE) and 0.5 in the left eye (LE). Intraocular pressure was 28 and 19 mmHg, respectively. RE anterior segment biomicroscopy revealed a slight reddening of the temporal sector.

The RE fundus exhibited hemorrhage in inferior peripapillary splinter, upper retinochoroidal folds and lipidic exudates with the retina applied (Fig. 1).

An image obtained with mode B echography revealed diffuse scleral thickening together with fluid in the adjacent Tenon capsule giving rise to the “T” sign (Fig. 2).

An internal consultation was made with Internal Medicine and this department carried out an exploration with devices and systems, requesting biochemical and blood markers (VSG, PCR, ANA, ANCA, FR, B27, infectious serology), which discarded the presence of associated systemic disease. Nuclear magnetic resonance (MR) and computerized axial tomography were performed to discard another type of ocular or orbital injury.

In the light of the results, the patient was diagnosed as idiopathic posterior scleritis and ocular hypertension secondary to corticoid pharmacological treatment, establishing once again oral prednisone treatment with ocular anti-hypertensives.

Quarterly controls were carried out, between which the patient referred recurrent ocular pain episodes and reddening of both eyes. Echography and ocular fundus evidenced only subtle signs (slight scleral-choroidal thickening). In order to determine inflammatory activity in these doubtful situations, OCT was performed which evidenced the presence of folds at the level of the internal retina/RPE/choriocapillary as indirect signs of scleral information (Fig. 3). Accordingly, OCT enabled adequate monitoring of the patient to reach a clinically stable situation, expressed in this case by the absence of tomographic anomalies (Fig. 4).

Due to the chronic nature of the process and the necessity of corticoid treatment for extended periods, maintenance treatment with methotrexate with corticoid rescue was introduced.

At present the patient remains stable, without inflammatory signs in the ophthalmological explorations or in tomographic and ecographic tests.

Discussion

The most useful test for diagnosing posterior scleritis is ocular echography, which revealed thickening of the sclera (and the choroids), with an acoustic shadow in the background signaling liquid in Tenon’s space.1

Posterior scleritis can appear in a broad range of funduscopic clinical findings, including optic disc tumefaction, exudative retina detachment, annular choroidal detachment,
macular edema, choroidal folds and subretinal lipidic exudates.²

The only report found in the literature describes a case of posterior scleritis in a child detailing the presence of cystic forms by means of OCT below the retina and macula which disappeared after treatment.³

In our case, the only indirect sign of the disease and the retinal level was the presence of retina and choroidal folds shown in the OCT as discrete continuous and homogeneous undulations of the internal retina/RPE/choriocapillary, without alterations in the morphology of the retina external layers, with identification of the fovea. No type of retinal

Fig. 3 – Optic coherence tomography prior to corticoids treatment. Continuous undulations of the retina layers matched the retinal–choroidal folds.

Fig. 4 – Optic coherence tomography after corticoids treatment. Retinal layer morphology is normalized.
edema was observed. Folds are distinguished from artifacts produced by ocular movements during the procedure because these are usually asymmetric and with sharp elevations of the retina.4

The use of MR enhanced in T1 post-gadolinium has been described as a supplementary test when posterior scleritis is suspected wherein mode B echography is not diagnostic.5

However, the said technique is expensive in addition to involving the possibility of complications and requiring sedation in children and non-cooperative patients.

OCT is an innocuous, reproducible and accessible technique which can be useful for diagnostic and particularly monitoring treatment in posterior scleritis when ecographic and funduscopic signs are poorly quantifiable or evidential. Due to the extraordinary ability of this technique for displaying the retina/RPE/choriocapillary, even subtle effects of scleral information can be observed at a distance.

In the case presented in this paper, the fundamental tomographic signs in the follow-up of the patient were the presence of folds at the level of the internal retina/RPE/choriocapillary.

Conflict of interest

No conflict of interest was declared by the authors.

REFERENCES