Short communication

Intravitreal ranibizumab in the treatment of subretinal neovascularization in a case of punctate inner choroidopathy


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Abstract

Case report: We report the case of a 28-year-old woman suffering from loss of visual acuity in her left eye, who presented an image suggestive of a subretinal neovascular membrane in her left eye, and bilateral retinal lesions compatible with punctate inner choroidopathy (PIC). She was treated with intravitreal ranibizumab obtaining excellent results.

Discussion: The differential diagnosis must be made between PIC and the rest of “white dot syndromes” and the presumed ocular histoplasmosis syndrome (POHS). Antiangiogenic drugs may be a good alternative for the treatment of such diseases when they develop a subretinal neovascular membrane.

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Ranibizumab intravítreo en el tratamiento de membrana neovascular subretiniana en un caso de coroidopatía puntata interna

Resumen

Caso clínico: Se presenta el caso de una mujer de 28 años con disminución de agudeza visual en ojo izquierdo (OI) que presentaba una imagen sugestiva de membrana neovascular subretiniana en OI y lesiones coriorretinianas bilaterales compatibles con coroidopatía puntata interna (PIC) que fue tratada con ranibizumab intravítreo, obteniendo excelentes resultados.

Discusión: Debe realizarse el diagnóstico diferencial de la PIC con el resto de “síndromes de puntos blancos” y con el síndrome de presunta histoplasmosis ocular (SPHO). Los fármacos anti-VEGF pueden ser una buena alternativa como tratamiento de este tipo de enfermedades cuando desarrollan una membrana neovascular subretiniana.

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Introduction

Punctate inner choroidopathy (PIC) is an infrequent endogenous posterior uveitis included in the white spots syndrome and first described in 1984 by Watzke et al. Typically, it presents unilaterally or bilaterally symmetrically in young women with moderate myopia. It debuts with multiple roundish lesions of atrophic appearance located in the posterior pole at the level of the retinal pigment epithelium and the internal choriocapillary. The initial symptom is generally diminished visual acuity (VA). It can also develop choroidal neovascularization (NVC) followed by subretinal fibrosis, thus worsening the visual prognosis which will depend on the involvement of the macula.

Clinic case

Female, 28, who visited the emergency service referring diminished VA in the left eye (LE) with 2 weeks evolution, without ophthalmological antecedents with the exception of −2D simple myopia in both eyes (BE). Best corrected visual acuity (BCVA) was 20/20 in right eye (RE) and 20/40 in LE. Anterior segment biomicroscopy and intraocular pressure were normal. Funduscopic explorations revealed small yellow-whitish chorioretinal lesions with circumscribed limits close to the papillary edge in BE and in the LE nasal retina (Figs. 1 and 2). In addition, a spindly shapes macular lesion with intraretinal hemorrhage was observed in the juxtafoveal region, compatible with choroidal neovascular membrane (CNVM) as can be seen in Fig. 2. Signs of vitreous inflammation were not found.

Fluorescein angiography (FA) showed early fluorescence obstruction in all the lesions which turned to slight hyperfluorescence in the arteriovenous phase (Fig. 3) which increased rapidly in intensity and persisted up to late stages. In the focus suggesting a subretinal membrane, hyper-fluorescence was appreciated since early stages which increased in size and intensity in late stages of the tests which confirmed its existence (Fig. 4). The image seen in the optic coherence tomography suggested the presence of CNVM with sub- and intraretinal edema.

Serology for toxoplasma, syphilis and borreliosis were negative. ECA levels were normal and chest X-ray did not produce

Fig. 1 – Two whitish lesions with undefined edges in the RE posterior pole.

Fig. 2 – Deep whitish lesions in LE with nasal to papilla predominance, with sizes ranging between 100 and 300 μm. Juxtafoveal hemorrhage together with changes at the level of the RPE in the papillomacular bundle.

Fig. 3 – LE fluorescein angiograph showing early obstruction of fluorescence at the macular level and in the chorioretinal lesions.

Fig. 4 – Hyperfluorescence in plate at the macular level in LE, confirming the presence of CNVM and hyperfluorescence areas in the nasal sector corresponding to PIC lesions.
relevant findings. The Mantoux test and haplotypes HLA B7, DR2 and A29 tests were likewise negative.

Treatment was decided with intravitreal injections of ranibizumab in LE in monthly administration up to 3 injections. VA improved up to 20/30 after the first injection. One month after the third injection BCVA reached 20/20 and remained stable up to the three-month examination. Tomographic sections revealed the absence of intra- and subretinal fluid. During the year in which the patient was followed up in our service no symptoms or signs of activity were observed.

Discussion

The «white dot syndrome» comprises a group of infrequent endogenous choroidal inflammations requiring a precise differential diagnostic. Funduscopic signs discarded acute posterior multifocal placoid pigmented epitheliopathy. Birdshot choroidopathy was discarded due to negative HLA-A29 and mismatching condition. The absence of spontaneous resolution did not suggest evanescent white spot syndrome or acute retinal pigmentary epithelitis. Multifocal choroiditis was not considered due to the absence of vitritis and lack of activity in the lesions. Presumed ocular histoplasmosis syndrome exhibits peripapillary atrophy and is associated to HLA B7 and DR2, which were absent in the patient of this case.

On the other hand, in the presence of choroiditis areas, infectious etiology must be excluded. Negative serology discarded syphilis, toxoplasmosis and Lyme’s disease. Chest X-ray, Mantoux test and normal ECA values discarded tuberculosis and sarcoidosis.

The presence of CNVM associated to chorioretinal atrophy with typical angiographic signs and absence of vitritis in a young Caucasian patients with moderate myopia led us to consider PIC.

In what concerns therapeutic alternatives for CNVM, various options have been described such as argon laser photocoagulation in juxta- and extrafoveal membranes, surgical removal or photodynamic therapy in subfoveal membranes, as well as treatment with corticoids.

The above methods have obtained limited visual results, high recurrence rates and, in the case of corticoids, frequent side effects. At present, the efficiency of anti-VEGF drugs has been demonstrated for treating CNVM associated to ARMD. Accordingly, wider use of the anti-VEGF drugs has been proposed for counteracting angiogenesis secondary to other ocular diseases. The first studies published on the use of antiangiogenics in PIC analyzed treatment of NVC with bevacizumab, obtaining good morphological and visual results.3

Among the few references on the use of ranibizumab, Menezo et al. described in 2010 an improvement of vision stabilization in 9 out of 10 patients with CNVM secondary to PIC after being treated with intravitreal ranibizumab with an average of 1.9 injections (1–5).3 Cornish et al. also treated 9 cases of CNVM secondary to PIC with visual deterioration in a single patient with anti-VEGF drugs.3 The Clinic Case reported herein is an additional example of the usefulness of ranibizumab for treating these patients. Prospective studies are needed to demonstrate whether ranibizumab is an efficient and definitive alternative against subretinal neovascularization in these diseases.

Conflict of interests

No conflict of interests has been declared by the authors.

References