TREATMENT OF ANGIOID STREAKS WITH PHOTODYNAMIC THERAPY

TRATAMIENTO CON TERAPIA FOTODINÁMICA EN LAS ESTRÍAS ANGIOIDES

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ABSTRACT

Clinical case: A patient had bilateral angioid streaks complicated by cicatricial degeneration in the left eye and subfoveal choroidal neovascularization in the right eye. Photodynamic therapy resulted in a favorable response with normalization of the visual acuity and angiographic resolution of the lesions.

Discussion: The most serious complication of angioid streaks is choroidal neovascularization. Today photodynamic therapy is an effective treatment of subfoveal choroidal neovascularization. It also appears useful in the treatment of choroidal neovascularization in angioid streaks (Arch Soc Esp Oftalmol 2007; 82: 719-722).

Key words: Angioid streaks, subfoveal choroidal neovascularization, photodynamic therapy, fluorescein angiography, ophthalmoscopic.

RESUMEN

Caso clínico: Paciente con estrías angioides bilaterales complicadas con degeneración cicatrizal en el ojo izquierdo y posterior aparición de una membrana neovascular subfoveal en el ojo derecho. Se plantea tratamiento con terapia fotodinámica y la paciente responde favorablemente con recuperación de la agudeza visual y regresión angiográfica de la lesión.

Discusión: Las membranas neovasculares son la complicación más grave de las estrías angioides. Hoy en día uno de los posibles tratamientos de las membranas neovasculares subfoveales es la terapia fotodinámica, siendo ésta, también, un tratamiento eficaz en algunas membranas neovasculares subfoveales secundarias a estrías angioides.

Palabras clave: Estrías angioides, membrana neovascular subfoveal, terapia fotodinámica, angiografía fluoresceína, oftalmoscopia.

INTRODUCTION

In 1889 Doyne described angioid streaks as dark and irregular peripapillary lines. Later on, it was suspected that the lesion was located at the level of Bruch’s membrane. Currently, they are associated to primary degeneration of elastic fibers and rupture of Bruch’s membrane. Etiologically they can be
idiopathic (25-50%) or associated to multiple systemic diseases, notably, due to its frequency, pseudoxanthoma elasticum (1). Clinically they tend to go unnoticed in the initial stages, but in advanced stages they entail a loss of visual acuity and metamorphopsia due to foveal impact. They are usually bilateral and asymmetric, accompanied by alterations such as «orange skin», «salmon spots», papillary drusen, reticular peripheral clustering, etc. Their evolution is highly variable, ranging from stability to complications, the most frequent being subretinal neovascular membranes (2).

Photodynamic therapy (PDT) can be one of the treatments of choice for some subfoveal neovascular membranes (3,4) which, before application of this treatment, had a negative impact on the prognosis of this pathology.

CASE REPORT

43-year old female visiting due to progressive loss of visual acuity in left eye. Her history includes diagnosis of angioid streaks five years earlier. During ophthalmological examination we objectified distant unit visual acuity in right eye and «finger counting» at a distance of two meters in left eye. Ocular pressure and biomicroscopy were within normal ranges. Ophthalmoscopy under dilatation showed, in both eyes, existence of winding line lesions radiating from optic disk towards periphery. Also, in left eye, there were large cicatricial lesions with areas of pigment movement and fibrosis covering the whole macular area (fig. 1). A fluorescein angiography (FAG) was carried out with the following results: in the right eye there were hypo and hyperfluorescent lines with pigment movement at macular level without contrast diffusion. The left eye showed the same line lesions accompanied by a hypo and hyperfluorescent area at macular level without contrast diffusion in late periods (fig. 2), the diagnosis being compatible with bilateral angioid streaks and also, in the left eye, complicated by subretinal neovascular membrane not susceptible to treatment. We recommended regular clinical follow-up.

Two months later the patient returned reporting worsening of visual acuity, this time in right eye. Ophthalmological examination revealed impaired unit visual acuity in right eye and «finger counting» at two meters in left eye. Funduscopy revealed a small hemorrhage and pigment movement in posterior pole with orange streaks in right eye, already observed in prior examinations (fig. 3). A new FAG was conducted in right eye which showed hyperfluorescence at macular level from initial period surrounded by a hypofluorescent halo with increased fluorescence towards later periods and minimum diffusion, not seen in prior FAGs, compatible with subfoveal neovascular membrane (fig. 4). Therefore a new diagnosis was made, angioid streaks complicated by subfoveal neovascular membrane in right eye. We indicated treatment with PDT and after the first session,
there was a partial reabsorption of the hemorrhage maintaining central pigmentation. These findings were confirmed with the FAG which revealed a slight contrast diffusion in late periods (fig. 5). For this reason, despite visual recovery, we decided to apply two more sessions of PDT. During the last visit, visual acuity was maintained at the unit and an angiography showed a hypo and hyperfluorescent lesion compatible with a cicatrical lesion in the macular area. In mean angiographic times there was an increase in hyperfluorescence that remained in later periods, but without contrast diffusion (fig. 6).

**DISCUSSION**

The main and most severe complication of angioid streaks is the appearance of subretinal neo-vascular membranes, which are, furthermore, the main cause of blindness in these patients. To establish a diagnosis of streaks or their complications it is essential to conduct ophthalmoscopic and angiographic studies (3).

In our clinical case, FAG was crucial to establish the final diagnosis, implement treatment and objectify its efficacy. Given the location of the neovascular membrane, PDT represents a possible treatment. Our patient responded satisfactorily to what resulted in the recovery of visual acuity and angiographic regression of the initial lesion. Therefore, we can state that PDT
can be an efficient treatment for neovascular membranes secondary to the presence of angioid streaks (4) although, given the diverse outcomes in various publications (5), long-term studies are necessary to clarify the real potential of PDT in these patients.

REFERENCES