Case: A 55-year-old male was diagnosed with exudative-hemorrhagic maculopathy, with no signs observed of drusen or pigmented epithelium defects suggestive of age-related macular degeneration (ARMD). Fluorescein angiography (FA) and indocyanine green choroidal angiography (ICGA) showed retinal angiomatous proliferation (RAP). Afferent arteriole and retinal drainage venule connection was also observed. Treatment with a single Photodynamic Therapy provided an optimal outcome.

Discussion: RAP is a form of neovascular ARMD described in recent years; it consists of an angiomatous proliferation that originates from the retinal capillary system and extends posteriorly into the subretinal space. Our patient showed typical RAP findings without any sign of ARMD (Arch Soc Esp Oftalmol 2008; 83: 121-124).

Key words: Retinal angiomatous proliferation, ARMD, neurosensorial detachment, choroidal neovascularization, photodynamic therapy.
INTRODUCTION

Until a few years ago, retinal angiomatous proliferation (RAP) was known as retino-choroidal anastomosis (1-3). It has been described mainly in patients with ARMD but also in other toxoplasmosis retino-choroidal conditions, perifoveal telangiectasias of idiopathic origin or secondary to traumatic or laser retinal scars (2,3). All these entities include an alteration of the pigmentary epithelium and Bruch’s membrane which may influence the development of the vascular anomaly. This paper presents a case of RAP which is not associated to any apparent alteration of the retina and which showed an excellent response to photodynamic therapy treatment.

CASE REPORT

Male, 55, with a history of high arterial blood pressure and acute miocardial infarct in treatment with Clopidogrel (Iscover®), who visited the urgency ward due to a central scotoma and metamorphopsiae in the left eye (LE) with onset a few days before. The patient’s corrected visual acuity was of 0.9 in the right eye (RE) and 0.6 in the LE. The eye fundus exploration was normal in RE, while the LE showed a yellowish injury surrounded by hard exudation, deep intra-retinal and sub-retinal hemorrhage and serous neurosensory retina detachment comprising approx. 2 disc diameters (fig. 1). The initial diagnosis was idiopathic neovascular membrane, with prescription for fluorescein angiography (FA) and indocyanine green (IG) with confocal scan laser (SLO 101; Rodenstock, Germany). The FA revealed the hyper-fluorescent neovascular injury from early stages with late diffusion, showing the afferent retinal arterioles as well as the retinal drainage venule (fig. 2: arrows). The IG clearly showed the small neovascular injury surrounded by a hypo-fluorescent halo of blood (fig. 3).

After commenting with the patient the possibility of laser treatment or photodynamic therapy, it was decided to carry out the latter to avoid scotoma as far as possible. Three months later the patient’s VA was of 0.7, the metamorphopsiae had diminished and the hemorrhage had been reabsorbed. However, the neurosensory detachment (NSD) persisted, together with the hard exudation. FA showed hyper-fluorescence without diffusion and therefore it did not appear in the image (fig. 4). Six months later, the patient’s VA was of 0.8, he did not refer symptoms and the eye fundus showed a juxta-macular scar with discrete pigmentary epithelium alteration and without NSD. Three and a half years later, the patient remains without symptoms or changes in the eye fundus.

DISCUSSION

The term «Retinal Angiomatous Proliferation» (RAP) has been coined in recent years to describe a vascular anomaly with growth of new vessels originating in the deep retinal capillary plexus with vertical extension towards the sub-retinal space, establishing retino-retinal and retina-choroidal anastomosis. This injury has been described in patients with ARMD and angiographically concealed or minimally classic neovascular membrane, although in the first stages of the disease it can also appear as a classic membrane (1-3).

The prevalence of this anomaly as well as its natural course are not fully known because most studies have not diagnosed it as such, but it seems to have a worse prognosis than other ARMD lesions. It is estimated it can account for approximately 25% of patients with hidden membranes (2,3). The mean age of these patients is high (around 80) and the condition exhibits a marked tendency towards bilateralization (3-5).

Being an extrafoveal injury, argon laser treatment has been the most widely used treatment which, according to most authors, has yielded poor results...
mainly due to the late diagnostic with pigmentary epithelium detachments (1,2). In a retrospective study of 104 eyes treated with various techniques (direct laser on the injury, laser of irrigation vessels, laser in grid, photodynamic therapy, transpupillary thermal therapy), Botoni (4) suggests that the best results are obtained with direct laser treatment of the lesions in their initial stage. In a prospective study of 27 eyes, Freund et al (5) found good results with visual acuity improvement in 37% of eyes treated with intravitreous triamcinolone and photodynamic therapy.

The patient of the instant case did not exhibit signs or ARMD in the injured eye or in the contralateral one and had all the typical angiographic characteristics described for this lesion. We do not know if there is any relationship between the formation of new vessels and the ischemic cardiopathy of the patient or if treatment with platelet anti-aggregating medication might have influenced a greater degree of bleeding.

Fig. 2: A. Retinography with red-free light, clearly showing the neurosensory detachment. B, C, D: different stage of fluorescein angiography: note the afferent arteriole and drainage venule (arrows).

Fig. 3: Indocyanine green angiography, initial stages showing angiomatous proliferation and the afferent retinal arteriole.
FA and IG discarded a central serous choroidal or polypoidal choroidal vascular disorder, which could also cause an exudative-hemorrhagic condition of the macula.

The authors consider that early diagnostic and treatment, together with a good condition of the pigmentary epithelium and light receptors, are key for a good response to a single photodynamic therapy session in the instant case.

REFERENCES


Fig. 4: Different stages of the angioma 3 months after photodynamic therapy treatment, showing late dyeing of the injury.