CHOROIDAL DETACHMENT ASSOCIATED WITH DELAYED SPONTANEOUS OCULAR HYPOTONY

DESPRENDIMIENTO COROIDEO ASOCIADO A HIPOTONÍA OCULAR ESPONTÁNEA TARDÍA

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ABSTRACT

Case reports: We report two cases of delayed spontaneous hypotony associated with choroidal detachment and hypotony maculopathy. Both patients had undergone uneventful cataract extractions 10 and 6 years prior to the occurrence of apparently spontaneous hypotony. Trabeculectomy was combined with phacoemulsification in one of them. Both had been receiving timolol at the time of presentation.

Discussion: Delayed spontaneous hypotony, without recent ocular surgery or trauma, represented a challenge in both the diagnosis and management processes in these patients. We have analysed the main causes (Arch Soc Esp Oftalmol 2007; 82: 381-384).

Key words: Hypotony, choroidal detachment, hypotony maculopathy, timolol, filtration surgery.

INTRODUCTION

Ocular hypotony is defined by the presence of an intraocular pressure (IOP) below 6 mmHg or by the existence of an IOP below the level which entails functional and structural changes preventing the normal eye operation (1). It takes place under different clinical conditions and may be due to reversible or irreversible causes. They are usually unilateral ocular processes, most of them occurring during the postoperative immediately after undergoing glaucoma surgery. Two cases of late spontaneous hypotony associated to choroidal detachment and hypotony maculopathy are
described herein. Both patients were administered antihypertensive treatment with timolol. In both cases, the cause of hypotony is attributed to sensitivity to beta blockers.

## CASE REPORTS

### Case 1

A 40-year-old woman arrived in the emergency room reporting a reduction in visual acuity (VA) of the right eye (RE) with a week long evolution. Her history included psychomotor delay. She exhibited myopia magna, bilateral pseudophakia (1995) and two surgical procedures for the left eye (LE) retinal detachment (2001). Six months earlier, during her last visit, she exhibited VA counting fingers, 14 mmHg intraocular pressure and retina applied in the said eye. Her current treatment was timolol in the RE. The RE VA was light perception (LP) and noLP in the LE, 4 mmHg IOP for the RE and 20 mmHg for the LE. Biomicroscopy and gonioscopy were normal. The eye fundus (EF) (figs. 1 and 2) and the B mode ultrasound scanner (fig. 3) revealed a peripheral 360° CD. Timolol was suspended, prescribing instead Pred-forte® every two hours and Dacortin® 45 mg per day. Full resolution of the CD was observed (fig. 4), together with an increase of IOP up to 34 mmHg, and subsequently Azopt® was prescribed. Today, five months later, she exhibits a 22 mmHg IOP and VA of hand movements.

### Case 2

A 68-year-old woman reported bilateral aphakia and trabeculectomy with mitomycin in both eyes (BE) six years earlier. The consecutive half-yearly check-ups revealed visual and IOP stability in BE. The last check-ups revealed 22-24 mmHg pressures, which led to prescription of timolol treatment in BE. Two months later, the patient reported a 0.3 VA in the RE and 1 in the LE, 10 mmHg IOP in the RE and 2mmHg in the LE. The biomicroscopy and gonioscopy were normal. In the EF we observed a CD and macular flaps in the LE (fig. 5.) The optic coherence tomography (OCT) revealed chorioretin-
nal flaps (fig. 6), confirming the presence of hypotony maculopathy. Timolol was suspended, adding Pred-forte® every 2 hours. Two months later, the IOP was 11 mmHg and VA was 1. Today she is not being treated.

**DISCUSSION**

Hypotony is a relatively frequent finding at the ophthalmologist’s office. The most frequent cause is a recent filtering surgery (usually after a trabeculectomy performed with mitomycin). Late hypotony, without recent surgery or documented trauma, represented a diagnostic challenge.

It seems that ocular surgery leads to the appearance of CD in combination with antihypertensives; in fact, rare CD cases have been described in patients who have undergone cataract surgery and have been treated with dorzolamide or prostaglandin analogs (2).

The CD is a consequence of hypotony but, once it has settled, it perpetuates. The increase in IOP breaks this vicious cycle (3). Its treatment aims at correcting the underlying cause. First, the antihypertensive treatment must be suspended. Corticoids may increase IOP and reduce the inflammation of the ciliary body, although its prescription is controversial in hypotony by cyclodialysis; on the other

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**Fig. 4:** Resolution of the peripheral CD.

**Fig. 5:** Clinical case 2. Macular flaps caused by hypotony and CD in the LE.

**Fig. 6:** OCT: chorioretinal flaps in the same patient. Cut performed at the macular level.
hand, cycloplegia does play a significant role in these cases (4). Recently, we have observed good results after injecting BSS, viscoelastics or gas (3). Laser treatment (transcleral diode laser has been used in cyclodialysis cases or on the trabecula in order to induce its sclerosis) or else surgery (dissection of epiciliary proliferation by means of a vitrectomy, surgical suture of cyclodialysis...) may be used as a last resort.

In both patients, the cause of late hypotony is attributed to their antihypotensive treatment. There are few cases in the literature concerning hypotony after treatment with betablockers, carbonic anhydrase inhibitors and prostaglandin analogs after filtering surgeries or draining device implants. The etiopathogenesis remains controversial. Asides from decreasing the IOP, some authors describe the sensitivity of the ciliary body after a chronic therapy prior to surgery which would lead to hypotony after reinstating the said antihypertensive treatment (5).

Hypotony maculopathy is one of the causes leading to the reduction of VA due to hypotony. In other words, the presence of a choroidal detachment linked to a hypotony without recent surgery or trauma represents a diagnostic and therapeutic challenge. Faced with a spontaneous hypotony, we must identify and correct prematurely the origin in order to avoid the persistence of its effects and complications.

REFERENCES