ABSTRACT

Case report: A 78-year-old man with phakic eyes underwent photodynamic therapy followed by intravitreal injection of triamcinolone. During the injection a white solution was observed in the anterior chamber. Slit lamp examination revealed white opacities in the inferior anterior chamber angle and neither inflammatory activity nor corneal changes were noticed.

Discussion: Intravitreal triamcinolone has been used for treating macular edema and various retinal vascular and inflammatory diseases. We describe the passage of triamcinolone to the anterior chamber during the injection in a phakic eye as a very unusual adverse effect, observed probably as a result of a zonular defect (Arch Soc Esp Oftalmol 2007; 82: 781-784).

Key words: Triamcinolone acetonide, intravitreal injection, complications, intraocular pressure, anterior chamber, phakic.

INTRODUCTION

It has been proved that intra-vitreous triamcinolone can stabilize or enhance visual acuity in patients with choroidal neovascularization treated with photodynamic therapy (PDT) (1). The literature describes complications in this practice such as the increase of intraocular pressure

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1 Graduate in Medicine.
2 Ph.D. in Medicine.

Correspondence:
Cristina Blanco Marchite
C/. Alcalde Martínez de la Ossa, 1, 5E
02001 Albacete
Spain
E-mail: cblancomar@yahoo.es

RESUMEN

Caso clínico: Un hombre de 78 años de edad, fáquico, es sometido a terapia fotodinámica seguida de una inyección de triamcinolona intravítrea. Durante la inyección se observó el paso de una sustancia blanca a cámara anterior. En el examen en la lámpara de hendidura se observó una opacidad blanca en el ángulo inferior de la cámara anterior pero sin signos inflamatorios ni alteración corneal.

Discusión: La triamcinolona intraocular se ha usado para el edema macular y diversas enfermedades inflamatorias retinianas. Describimos el paso de esta sustancia a cámara anterior como una complicación muy poco frecuente, probablemente por un defecto de la zónula.

Palabras clave: Acetónido de triamcinolona, inyección intravítrea, complicaciones, presión intraocular, cámara anterior, fáquico.
(IOP), cataracts, retinal detachment, vitreous hemorrhage and infectious or aseptic endophthalmitis.

**CASE REPORT**

A seventy-eight year old man, phakic, diagnosed with exudative age-related macular degeneration (ARMD) in the right eye on whom photodynamic therapy was performed. Forty eight hours after the therapy, 20 mg of triamcinolone acetate in 0.1 ml obtained through the sedimentation technique were injected in the vitreous chamber.

The operation was carried out in the surgery under aseptic measures. The injection was made with a 27 G needle at 4 mm of the limbus in the lower temporal quadrant with the aid of a blepharostat. During the procedure and coinciding with an attempt to close the eyelids, it was observed through the microscope that a part of the milky substance went into the anterior chamber. It was decided to instill ciprofloxacin eye drops and monitor the spontaneous arterial pulse. The next day, the patient exhibited the triamcinolone precipitated in the anterior chamber (fig. 1) and in the vitreous chamber without other signs of inflammation. The IOP was of 25 mm Hg. Accordingly, timolole maleate at 0.5% in eye drops every 12 hours was prescribed.

Regular controls were carried out, during which a reduction of IOP to normal values was observed as well as reabsorption of the triamcinolone, with the cornea remaining transparent without inflammatory reactions. After two months very few remains of the substance were found (fig. 2), and the IOP was of 17 mm Hg without treatment. In turn, the endothelial biomicroscopy gave a normal cell count, equal to that of the contralateral eye.

**DISCUSSION**

Corticoids have been utilized in ophthalmology for decades to suppress intraocular inflammation and reduce the extravasation of liquid from damaged vessels.

In order to avoid the adverse effects of this medication, a variety of administration methods have been researched. The complications described are multiple, including an increased IOP. In the majority of cases, this increase is temporary and can be controlled with topical treatment. In the few cases in which the IOP cannot be controlled, surgery is necessary.

An additional complication described in the literature is the appearance of hypopion in pseudophakic patients, and with lesser frequency in phakic patients. The condition appears several days after the injection, requiring a differential diagnostic with acute endophthalmitis (2,3). In some of these cases the existence of triamcinolone crystals has been proved in the liquid aspirated from the anterior chamber, without inflammatory cells (4).

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*Fig. 1: Deposit of triamcinolone in the anterior chamber the day after the injection.*

*Fig. 2: Small remains of triamcinolone in the anterior chamber two months after the injection.*
Hypopion has also been described in pseudophakic patients with rupture of the posterior capsule, and therefore the pseudohypopion is explained due to the passage of triamcinolone from the vitreous to the anterior chamber as a result of eye movements. Another theory which explains this condition is an aseptic inflammatory reaction against the excipient of the active substance (5). Reaction takes place in the anterior chamber which does not involve pain, ciliary reaction or photophobia, which leads to the exclusion of an infectious condition.

This case is a phakic patient in whom the passage of triamcinolone was observed from the vitreous cavity to the anterior chamber during the intravitreal injection. Triamcinolone accumulated in the anterior chamber immediately after the injection. We believe that this could be due to the existence of a zonular dehiscence which allowed the passage of the medication with the aid of the pressure exerted by the patient during an attempt to close the eyes as a reaction against the injection in the sclera.

After following up the patient, it was seen that the amount which accessed the anterior chamber was not toxic for the corneal endothelium.

The passage of triamcinolone to the anterior chamber after injection in the vitreous chamber does not occur only in pseudophakic patients. It can also occur in patients who haven’t had any surgery. It is a slight complication which does not produce alterations in the ocular structures and which resolves spontaneously with the reabsorption of the corticoids in the anterior chamber.

Even though the lack of toxicity of the corticoids in the aforementioned concentrations in the anterior chamber, it is considered necessary to carry out a strict follow-up of the process.

**REFERENCES**