



# ARCHIVOS DE LA SOCIEDAD ESPAÑOLA DE OFTALMOLOGÍA

[www.elsevier.es/oftalmologia](http://www.elsevier.es/oftalmologia)



## Original article

# Topical prostaglandin analogues and development of epiretinal membrane ☆,☆☆



J.M. Giambruni\*, C. Pagano, T. Ortiz Basso, A.I. Burchakchi, M.C. Pozzoni, D.V. Diamint, C.F. Challiol, G. Gossn, B. Boietti

Departamento de Oftalmología, Hospital Italiano de Buenos Aires, Buenos Aires, Argentina

### ARTICLE INFO

#### Article history:

Received 2 May 2017

Accepted 11 December 2017

Available online 9 March 2018

#### Keywords:

Epiretinal membrane  
Epimacular membrane  
Macular pucker  
Prostaglandin analogues  
Glaucoma

### ABSTRACT

**Objectives:** To determine whether patients with glaucoma and epiretinal membrane (ERM) use a greater proportion of prostaglandin analogues (PA) than a control group of patients with glaucoma without ERM.

**Method:** A retrospective study of cases and controls was conducted in order to determine whether patients with glaucoma and ERM used a greater proportion of PA than a control group of patients with glaucoma without ERM.

The diagnosis of de ERM was made by clinical examination and optical coherence tomography.

**Results:** The mean age of the cases was 77 years (SD: 8.68; 95% CI: 74.3–79.4), compared to the controls with 63 years (SD: 16.6; 95% CI: 70.1–78.5). The cases included 50% (n = 26) men and 50% women (n = 26), whereas in the controls 25.4% (n = 16) of the cases were men and 74.6% (n = 47) women. PA treatment was used in 59.6% (n = 31) and 60.3% (n = 38) of the cases and controls, respectively. There was no statistically significant difference in PA use between the 2 groups (p = 0.939).

**Conclusions:** In this study, an association between the use of AP and the development of ERM could not be demonstrated.

© 2018 Sociedad Española de Oftalmología. Published by Elsevier España, S.L.U. All rights reserved.

### Análogos de prostaglandinas y desarrollo de membrana epirretinal

#### RESUMEN

**Objetivos:** Evaluar la posible asociación entre el uso de análogos de prostaglandinas (AP) y el desarrollo de membrana epirretinal (MER) en pacientes con glaucoma.

**Método:** Mediante el método comparativo se realizó un diseño retrospectivo de casos y controles. Se compararon pacientes que presentaban glaucoma y, a su vez, MER y que utilizaban una mayor proporción de AP con un grupo control de pacientes que presentaban glaucoma

#### Palabras clave:

Membrana epirretinal  
Membrana epimacular  
Pucker macular  
Análogos de prostaglandinas  
Glaucoma

\* Please cite this article as: Giambruni JM, Pagano C, Ortiz Basso T, Burchakchi AI, Pozzoni MC, Diamint DV, et al. Análogos de prostaglandinas y desarrollo de membrana epirretinal. Arch Soc Esp Oftalmol. 2018;93:169–173.

☆☆ This paper was presented at the 2016 Annual Congress of the Ophthalmology Society of Argentina.

\* Corresponding author.

E-mail address: [juangiamburuni@gmail.com](mailto:juangiamburuni@gmail.com) (J.M. Giambruni).

2173-5794/© 2018 Sociedad Española de Oftalmología. Published by Elsevier España, S.L.U. All rights reserved.

pero sin MER. El diagnóstico de MER ha sido realizado mediante un examen clínico y un estudio de tomografía de coherencia óptica.

**Resultados:** La edad media de los casos ha sido de 77 años, con DE de 8,68 (IC 95%: 74,3-79,4) y la de los controles de 63 años, con DE de 16,6 (IC 95%: 70,1-78,5). El 50% de los casos (n = 26) estaba compuesto por hombres y el otro 50% eran mujeres (n = 26), mientras que para los controles el 25,4% eran hombres (n = 16) y el 74,6% eran mujeres (n = 47). El 59,6% de los casos (n = 31) y el 60,3% de los controles (n = 38) fueron tratados con AP. No se ha observado ninguna diferencia de colocación de AP entre ambos grupos (p = 0,939).

**Conclusiones:** En este trabajo no hemos podido demostrar si existe asociación entre el uso de AP y el desarrollo de MER.

© 2018 Sociedad Española de Oftalmología. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

## Introduction

The epiretinal membrane (ERM) is characterized by the proliferation of fibrocellular tissue over the surface of the retina. Presentation ranges from the presence of a discrete cellophane-like reflection that does not produce visual consequences (simple ERM) to markedly contractile membranes featuring the presence of wrinkles or folds in the macular area that diminish visual acuity and produce metamorphopsia (tractional ERM).<sup>1</sup> Overall, 14.8% of ERM are related to numerous ocular diseases including diabetes, cataract surgery<sup>2</sup> and ocular inflammatory diseases among others.<sup>3</sup> ERM has been classified in different manners, the most classic differentiating ERM types according to etiology and defining them as idiopathic (which present in eyes without previous ocular disease) or secondary (associated to other ocular diseases).<sup>4</sup>

Even though the etiopathogeny of ERM remains uncertain, it is believed that inflammation could play an important role. The most widely accepted theory maintains that, starting from the ruptures that occur in the internal limiting membrane as the result of vitreous detachment, glial cells migrate and proliferate through said defect and end up forming ERM.<sup>1</sup> Another theory, proposed by Sebag et al., maintains that anomalous posterior vitreous detachment triggers ERM formation.<sup>5</sup>

Prostaglandin analogs (PA) are powerful ocular hypotensory agents utilized for treating glaucoma. Even though PA are not pro-inflammatory molecules per se, they could regulate the synthesis of endogenous prostanoids that participate in the inflammatory cascade.

The most common collateral effects produced by PA include hyperemia, changes in eyelids, darkening of the iris and periocular skin hyperpigmentation. Less frequent but potentially more severe adverse effects include the formation of iris cysts, cystoid macular edema, anterior uveitis and the reactivation of herpes simplex keratitis.<sup>6</sup> The physiopathological mechanism of macular edema caused by PA could be due to the rupture of the blood-aqueous barrier which, associated to the posterior capsular disruption of the lens after cataract surgery, would enable the entry of inflammatory substances from the anterior segment into the macula.<sup>7</sup> In addition, there is evidence of anterior uveitis episodes caused by the use of latanoprost in patients without previous uveitis

or iritis history which receded completely after interrupting treatment with said medicament. The risk of these episodes is low although they could be potentially severe.<sup>8</sup>

Due to the possible inflammatory causes mentioned above that influence the etiopathogeny of ERM and the potential indirect pro-inflammatory effect of PAs, the authors decided to undertake a study of the relationship between the use of PAs and the development of ERM in patients with glaucoma.

## Methods

The following study was carried out in accordance with the standards of the Helsinki declaration and was approved by the Research Protocol Ethics Committee (IRB000003580).

The design of the study was retrospective and based on the analysis of cases and controls. It included patients over 18 years of age. Cases were defined as patients exhibiting idiopathic ERM who applied drops for glaucoma during the period exceeding 3 months. Controls were patients without the presence of ERM who also used drops for glaucoma for a period exceeding 3 months. Information on the types of utilized drops was collected. The minimum time limit of 3 months of medication application was selected for the analysis of cases and controls because after said period histological changes are evidenced at the conjunctival level. This has given rise to the thoughts that lesions could occur in the rest of the eye due to chronic use.<sup>9</sup>

Both the PAs as well as the rest of medicaments utilized in cases and controls included benzalkonium chloride as preservative. The exclusion criteria were: possible secondary causes of ERM, inflammatory ocular diseases (uveitis, endophthalmitis), vitreoretinal ocular surgery history, retinal laser application history, previous retinal detachments or tears, penetrating ocular traumatism, ocular radiotherapy application, presence of intraocular tumors and complicated cataract surgery (cataract surgery was defined as complicated when loss of vitreous occurred, such as in capsular rupture or zonular dialysis).

The data of participants were collected on the basis of searches in the e-clinical records system.

The presence or absence of ERM was diagnosed by clinical examination and optical coherence tomography (OCT) utilizing Optovue OCT (Optovue Inc., Fremont, CA, USA)

Download English Version:

<https://daneshyari.com/en/article/8791386>

Download Persian Version:

<https://daneshyari.com/article/8791386>

[Daneshyari.com](https://daneshyari.com)