ISSN: 2582-6751
Journal of Clinical Medical Research

ATHENAEUM SCIENTIFIC PUBLISHERS

Case Report

Treatment of Retinitis Pigmentosa with Intravitreal Injection of Etamsylate: Case Report

Pedro Cuevas[1*], Javier Angulo[1], Luis Outeiriño[2]

[1]Servicio de Histología, Departamento, de Investigación, IRYCIS, Hospital Universitario Ramón y Cajal, Spain

[2]Departamento de Oftalmología, Hospital de Día Pío XII, Madrid, Spain

***Correspondence author:** Pedro Cuevas, Servicio de Histología, Departamento, de Investigación, IRYCIS, Hospital Universitario Ramón y Cajal, Spain; Email: pedro.cuevas44@gmail.com

Citation: Cuevas P, et al. Treatment of Retinitis Pigmentosa with Intravitreal Injection of Etamsylate: Case Report. Jour Clin Med Res. 2026;7(2):1-3.

https://doi.org/10.46889/JCMR.2026.7201

Received Date: 09-04-2026

Accepted Date: 03-05-2026

Published Date: 10-05-2026

Abstract

Cystoid Macular Edema (CME) is a common complication of Retinitis Pigmentosa (RP) which increases with time and its treatment remains a challenge. Aberrant inflammation plays an essential role in RP. Here we report that local application of etamsylate, a powerful anti-inflammatory medicament, led to clinical improvement in a patient presenting this condition.

Keywords: Retinitis Pigmentosa; Etamsylate; Fibroblast Growth Factor

Introduction

RP is a genetic progressive disease characterized by the death of photoreceptors that produces night blindness and finally a total vision loss in both eyes [1]. This disease affects 2 million people in the world [2]. This condition is characterized with photophobia, central visual constriction, mid-peripheral bone spicula pigmentation, optic disc pallor and attenuation of retinal arteries at fundus oculi examination. CME is a common complication of RP that occurs in 10% to 38% of patients [3].

Chronic inflammation plays a deleterious effect on the retinal function as such occurs in RP [4]. Thus, reduction of retinal inflammation emerges as a new therapeutic target to reduce the deleterious effects in RP. In this study, we assess the efficacy of etamsylate, a powerful anti-inflammatory drug in a RP patient [5,6].

Case Presentation

A female with 36 years history of RP presented at the Hospital Pio XII (Madrid. Spain). Having signed her consent, patient was ophthalmologically examined. Spectral-Domain of Optical Coherence Tomography (SD-OCT) and Best-Corrected Visual Acuity (BCVA) were performed. Patient received an intravitreal injection of etamsylate (150 µl) (Sanofi-Aventis. Paris. France) in her left eye. At baseline SD-OCT showed a parafoveal cystoid macular edema in the nasal portion (Fig. 1) and BCVA was 0.1. Ten days after treatment macular edema disappeared (Fig. 1) and BC-VA was 0.3.

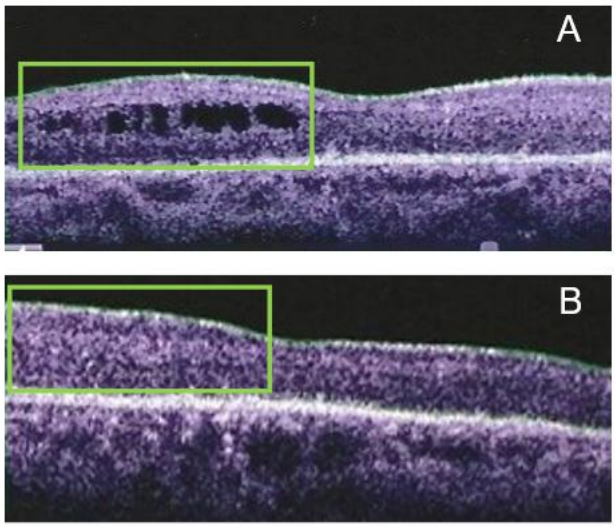

Figure 1: Spectral-Domain of Optical Coherence Tomography (SD-OCT) demonstrated macular edema at baseline (A, rectangle). After 10 days of etamsylate treatment macular edema disappeared (B, rectangle).

.

Discussion

Retinal inflammation is characterized by the proliferation and migration of glial cells and the synthesis of inflammatory molecules which affects the retinal function [7]. Repeated intravitreal ranibizumad (an anti-VEGF drug) has been used in patients with RP [8]. However, no significant improvement was noted in visual acuity beyond 6 months.

Etamsylate is a well characterized inhibitor of Fibroblast Growth Factor (FGF) that has demonstrated safety and efficacy in different human inflammatory-dependent diseases [5,6,9-11]. We have showed that etamsylate interact with both FGF and its receptors, displacing heparin from its binding site, modifying the tri-dimensional structure of the protein and its receptor recognizing site and consequently, dissociating the receptor-growth factor signalling complex [5]. These properties may account for the efficacy of the treatment. Therefore, etamsylate therapy could be an attractive option in treating retinitis pigmentosa.

Conclusion

RP is characterized by degeneraiton of rod and cone photoreceptors that progresses to irreversible blindness. Etamsylate is an old medicament showing marked anti-inflammatory activity that can interrupt inflammatory network in the onset and progression of retinitis pigmentosa.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding Statement

This research did not receive any specific grant from funding agencies in the public, commercial or non-profit sectors.

Acknowledgement

None.

Data Availability Statement

Not applicable.

Ethical Statement

The project did not meet the definition of human subject research under the purview of the IRB according to federal regulations and therefore was exempt.

Informed Consent Statement

Informed consent was not required for this study due to the use of anonymized data with no identifiable personal information.

Authors' Contributions

PC wrote the article. LO performed the clinical study and JA prepared the iconography.

References

1. Pietra G, Bonifacino T, Talamonti D. Visual cortex engagement in retinitis pigmentosa. Int J Mol Sci. 2021;22(17):9412.
2. Vinikoor-Imler LC, Simpson C, Narayanan D. Prevalence of RPGR-mutated X-linked retinitis pigmentosa among males. Ophthalmic Genet. 2022;43:581-8.
3. Hajali M, Fishman GA, Anderson RJ. The prevalence of cystoid macular oedema in retinitis pigmentosa patients determined by optical coherence tomography. Br J Ophthalmol. 2008;92:1065-8.
4. Massengill MT, Ahmed CM, Lewin AS, Ildefonso CJ. Neuroinflammation in retinitis pigmentosa, diabetic retinopathy and age-related macular degeneration: A minireview. Adv Exp Med Biol. 2018;1074:185-91.
5. Fernández IS, Cuevas P, Angulo J. Gentisic acid, a compound associated with plant defense and a metabolite of aspirin, heads a new class of *in-vivo* fibroblast growth factor inhibitors. J Biol Chem. 2010;285:11714-29.
6. Angulo J, Cuevas P, Cuevas B. Diacetyloxyl derivatization of the fibroblast growth factor inhibitor dobesilate enhances its anti-inflammatory, anti-angiogenic and anti-tumoral activities. J Transl Med. 2015;13:48.
7. Martínez-Gil N, Maneu VV, Kutsyr O. Cellular and molecular alterations in neurons and glial cells in inherited retinal degeneration. Front Neuroanat. 2022;16:984052.
8. Artunay O, Yuzbasioglu E, Rasier R. Intravitreal ranibizumab in the treatment of cystoid macular edema associated with retinitis pigmentosa. J Ocul Pharmacol Ther. 2009;25:545-50.
9. Cuevas P, Angulo J, Outeirino LA. Intravitreal injection of etamsylate improves visual acuity in patients with dry age-related macular degeneration: Results from the international, multicentric, blind, randomized and sham-controlled Jericho-D study. Eur J Med Res Clin Trials. 2023;5:103-13.
10. Cuevas P, Arrazola JM. Therapeutic response of rosacea to dobesilate. Eur J Med Res. 2005;10:454-6.
11. Cuevas P, Angulo J, Giménez-Gallego G. Topical treatment of contact dermatitis by pine processionary caterpillar. BMJ Case Rep. 2011;2011:bcr0620114351.

About the journal

ATHENAEUM SCIENTIFIC PUBLISHERS

Journal of Clinical Medical Research is a peer-reviewed, open-access scholarly journal published by Athenaeum Scientific Publishers. The journal publishes original research articles, case reports, reviews, editorials, and commentaries within its defined scope, with the aim of supporting scientific research and clinical knowledge in clinical and medical research.

All manuscripts are evaluated through an independent peer-review process conducted in accordance with the journal's editorial policies and established publication ethics. Editorial decisions are made solely on the basis of academic merit.

Manuscript submission: https://athenaeumpub.com/submit-manuscript/