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ORIGINAL RESEARCH

Visual Outcomes and Safety Profile of "Dropless Vitrectomy" for Epiretinal Membranes

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Purpose: To assess the clinical effectiveness and safety of Tri-Moxi intravitreal injection in comparison to standard postoperative topical steroid-antibiotic treatment after epiretinal membrane (ERM) removal with pars plana vitrectomy (PPV).

Methods: A retrospective longitudinal cohort study of 278 eyes undergoing ERM removal by PPV was conducted from 2019 to 2023. Group 1 (N = 139) received a triamcinolone acetonide–moxifloxacin (Tri-Moxi) intravitreal injection at the conclusion of surgery, and Group 2 (N = 139) had postoperative standard topical antibiotic-steroid therapy. Clinical changes of best-corrected visual acuity (BCVA), intraocular pressure (IOP), and central foveal thickness (CFT) were evaluated.

Results: By 3-month after surgery, the Tri-Moxi (Group 1) demonstrated a significantly greater reduction in CFT (178 ± 32 vs 145 ± 38 μm, $P < 0.001$) and a slightly superior improvement in BCVA (0.34 ± 0.03 vs 0.41 ± 0.04 logMAR, $P < 0.05$) compared to the standard (Group 2). Postoperative IOP remained minimal change in both groups. The occurrence of cystoid macular edema was markedly reduced in patients receiving Tri-Moxi (4% vs 10%, $P = 0.02$). No infection or ocular hypertension cases were recorded.

Conclusion: For the postoperative management of PPV in ERM patients, intravitreal Tri-Moxi injection is an efficacious and safe alternative to standard topical therapy. Intravitreal Tri-Moxi can be used as a viable treatment option for managing inflammation and preventing infection after epiretinal membrane removal by pars plana vitrectomy. Tri-Moxi group demonstrated superior anatomical outcomes and comparable functional outcomes while simplifying postoperative care and reducing the occurrence of cystoid macular edema compared to standard topical therapy.

Keywords: central macular edema, drop less, epiretinal membrane, inflammation, moxifloxacin, triamcinolone acetonide, vitrectomy surgery, wound healing

Introduction

Epiretinal membrane (ERM) is a pathological fibrocellular tissue that forms on the internal limiting membrane (ILM) at the vitreoretinal boundary. The proliferation and migration of ocular cells, mediated by cytokines and molecular signals, can result in visual distortion due to traction exerted by the ERM on the retina.[1] Vitreoretinal surgery is an option for individuals experiencing significant visual impairment or distressing symptoms. Pars plana vitrectomy (PPV) is an efficacious surgical procedure to remove the ERM and release retinal traction.[2] Postoperative wound healing involves hemostasis, inflammation, proliferation, and remodeling phases. The evolution of sutureless, small incision transconjunctival PPV has reduced tissue manipulation and postoperative inflammation severity.[3] However, postoperative complications may still occur.

Postoperative anti-inflammatory agents, particularly steroids, modulate the process of wound healing,[4] hence decreasing the risk of potential complications such as cystoid macular edema (CME), ocular inflammation, and synechiae formation, which can affect intraocular pressure (IOP) and visual outcomes. Although endophthalmitis is relatively rare after PPV, with reported rates ranging from 0.03% to 2.17%,[5] its consequences can be severe, including permanent vision loss. The risk of infection is increased by surgical microtrauma and the creation of scleral entry wounds during PPV, providing a potential route for bacterial entry into the eye. Consequently, the

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traditional post-PPV combined use of topical steroids and antibiotics is a widely accepted treatment guideline due to their synergistic effects in managing inflammation and preventing infection.[6]

Recently, compounded pharmaceuticals for postoperative therapy have been developed in response to concerns regarding cost, patient compliance, possible harmful to ocular surface, and individuals' ability to appropriately administer drops.[7] Tri-Moxi (ImprimisRx, Carlsbad, CA), a combination of triamcinolone acetonide plus moxifloxacin, has recently been recommended as a viable substitute to traditional topical drops for postoperative cataract patients.[8–11] The use of "dropless" procedures, including intracameral, transzonular, and pars plana approaches, has gained popularity in recent years for treating postoperative cataract patients.[8–14] Studies comparing intravitreal Tri-Moxi to a traditional eye drop regimen following cataract surgery have demonstrated comparable levels of anterior chamber cell response, corneal edema, CME, and overall effectiveness.[8,9]

Intravitreal injection delivers concentrated anti-inflammatory and antibacterial agents directly to the retina and vitreous cavity. Our previous study showed intravitreal Tri-Moxi injection after vitreoretinal surgery effectively managed inflammation, prevented infection, and matched standard eye drop efficacy.[15] However, we identified limited clinical outcomes data on intravitreal Tri-Moxi injection for specific retinal diseases, particularly ERM.

In this study, we compared intravitreal Tri-Moxi injection with standard eye drops after PPV for ERM. We evaluated vision improvement, IOP control, infection prevention, and anatomic and functional outcomes. Our results showed Tri-Moxi administration effectively managed postoperative inflammation and prevented infections, demonstrating non-inferiority to standard eye drops. Our findings suggest intraoperative Tri-Moxi injection could simplify care while maintaining effectiveness comparable to standard treatments for PPV in ERM patients.

Methods

Study Participants

The medical records of patients with ERM who underwent PPV by a vitreoretinal surgeon (K.V.C) at the Loma Linda University Eye Institute (California, USA) from August 2019 to March 2023 were reviewed. The Institutional Review Board granted approval for this retrospective longitudinal cohort study with a waiver of patient consent owing to its retrospective design. All patients underwent PPV for idiopathic ERM removal; nevertheless, we identified patients received different postoperative therapies. We categorized patients into two treatment groups. At the conclusion of the PPV, Group 1 was administered a pars plana intravitreal injection of triamcinolone acetonide-moxifloxacin (Tri-Moxi), while Group 2 was treated exclusively with standard steroid-antibiotic eye drops (Tobradex). We included patients aged 18 years or older and no preoperative elevated IOP (defined as 24 mmHg or higher). All patients underwent a minimum of three months of consistent postoperative follow-up at day 1, week 6, and month 3. During each office visit, we conducted a thorough ophthalmologic evaluation. We measured visual acuity using ETDRS charts, performed tonometry, examined both anterior and posterior segments, and utilized optical coherence tomography (OCT) for macular assessment. This comprehensive approach allowed us to meticulously assess the results of both treatment methods within our patient cohort.

Procedure

We performed a standard 23-gauge vitrectomy to remove ERM and sutured all sclerotomy sites with 10–0 Nylon. After completing the surgery, patients in Group 1 were administrated a pars plana intravitreal injection of 0.1 mL Tri-Moxi, which included 15 mg/mL triamcinolone acetonide and 1 mg/mL moxifloxacin. We used a 30-gauge needle of 4 mm long on a tuberculin syringe to inject 4.0 mm back from the limbus in the inferotemporal quadrant (Figure 1). In Group 2, patients were instructed to apply steroid-antibiotic (Tobradex) eye drops every four hours while awake for the first week. The eyedrop treatment was then gradually tapered over the subsequent five weeks, resulting in a total of six weeks of treatment.

Assessment

Demographic data was collected included age, gender, lens status and race. Changes of distance visual acuity, IOP, and OCT of macular thickness at baseline (prior to surgery), 1 day, 6 weeks, and 3 months after PPV were recorded. We also

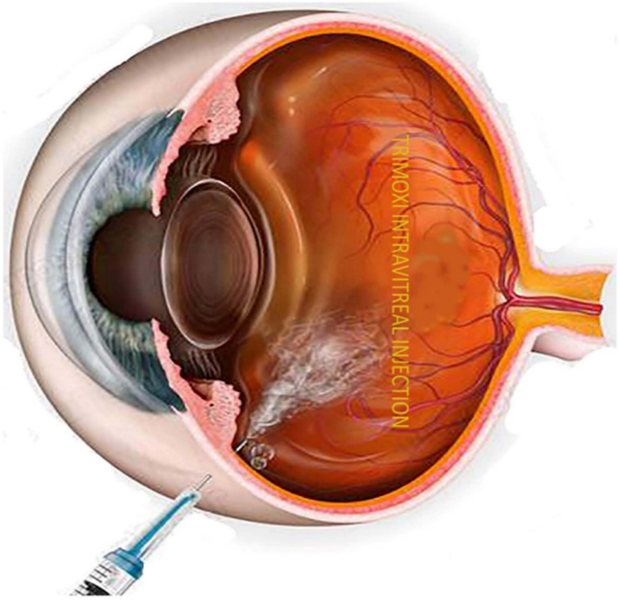

Figure 1 Pars plana intravitreal injection of Tri-Moxi 4.0 mm posterior to the limbus in inferotemporal quadrant of the right eye after removal of epiretinal membrane. Medication was injected using a 30-gauge needle (4 mm length) on a tuberculin syringe.

documented any postoperative complications that occurred. This comprehensive approach allowed us to thoroughly evaluate the outcomes and safety profile of both treatment modalities in our patient groups.

Statistical Analysis

Statistical analyses were conducted using GraphPad software. Best-corrected visual acuity (BCVA) measurements were converted to logarithm of the minimum angle of resolution (logMAR) values for analytical purposes. Descriptive data is shown as mean ± standard deviation. We utilized the chi-square test to compare categorical variables and defined statistical significance as $P < 0.05$.

Results

Demographic and Clinical Characteristics of the Study Population

The study included 278 eyes, evenly distributed between the Tri-Moxi intravitreal injection (Group 1, 139 eyes) and the standard topical eye drop (Group 2, 139 eyes). No statistically significant differences were observed between the two groups regarding baseline characteristics, including age (67.2 vs 65.8 years, $P = 0.77$), gender distribution ($P = 0.82$ for females, $P = 0.86$ for males), lens status ($P = 0.86$ for phakic, $P = 0.99$ for pseudophakic), and race ($P = 0.91$ for White, $P = 0.88$ for Black/Hispanic). Baseline BCVA was similar between the groups (0.71 ± 0.04 vs 0.69 ± 0.04, $P = 0.91$), as were baseline IOP (18.42 ± 2.8 vs 17.62 ± 3.1 mmHg, $P = 0.88$) and OCT thickness (482 ± 52 vs 489 ± 49 µm, $P = 0.86$) (Table 1).

Clinical Outcomes Following PPV for ERM

Central Foveal Thickness (CFT) Reduction

Patients in the Tri-Moxi group exhibited a significantly greater reduction in central foveal thickness (CFT) compared to the standard topical therapy group (Figure 2). At the 3-month follow-up, the CFT reduction in the Tri-Moxi group was 178 ± 32 µm, whereas the standard topical therapy group showed a reduction of 145 ± 38 µm ($P < 0.001$) (Figure 3A). This marked improvement in CFT suggests that the intravitreal delivery of Tri-Moxi provides enhanced control of inflammation and edema, contributing to superior anatomical outcomes.

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Table 1 Demographic and Clinical Characteristics of Study Population

	Group 1 - Tri-Moxi Intravitreal Injection (139 Eyes)	Group 2 - Standard Topical Eye Drop (139 eyes)	P value
Age (y)	67.2	65.8	0.77
Gender			
Female	64	67	0.82
Male	75	72	0.86
Lens status			
Phakic	71	67	0.86
Pseudophakic	68	72	0.99
Race			
White	108	106	0.91
Black/Hispanic	31	33	0.88
Baseline BCVA (log MAR)	0.71± 0.04	0.69 ± 0.04	0.91
Baseline IOP	18.42 ± 2.8	17.62 ± 3.1	0.88
Baseline OCT thickness	482 ± 52	489 ± 49	0.86

Abbreviations: BCVA, best corrected visual acuity; IOP, intraocular pressure; OCT, optical coherence tomography; Tri-Moxi, triamcinolone acetonide and moxifloxacin; y, years old.

Best-Corrected Visual Acuity (BCVA)

Both groups showed improvements in BCVA, reflecting successful surgical and postoperative management. In the Tri-Moxi group, BCVA improved from a baseline of 0.71 ± 0.04 logMAR to 0.34 ± 0.03 logMAR at 3 months while the standard therapy group demonstrated an improvement from 0.69 ± 0.04 logMAR to 0.41 ± 0.04 logMAR. These findings indicate slightly better functional recovery in the Tri-Moxi group ($P < 0.05$) (Figure 3B), likely due to its direct and sustained anti-inflammatory effect.

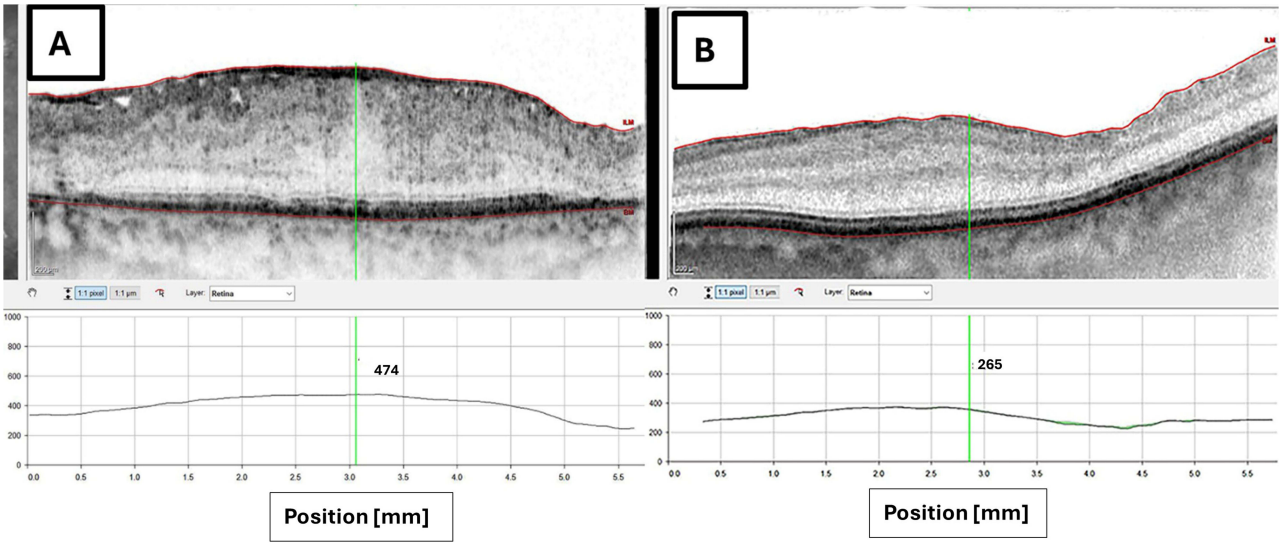

Figure 2 Reduction of central foveal thickness (CFT) of the macula measured by optical coherence tomography (OCT) after pars plana vitrectomy (PPV). The epiretinal membrane before PPV (**A**) was completely removed and intraoperative intravitreal Tri-Moxi was effective to resolve CFT (**B**). The vertical green line quantified the corresponding foveal thickness before and after treatment (474 vs 265 µm) by measuring the distance between the internal limiting membrane and the outer Bruch's membrane.

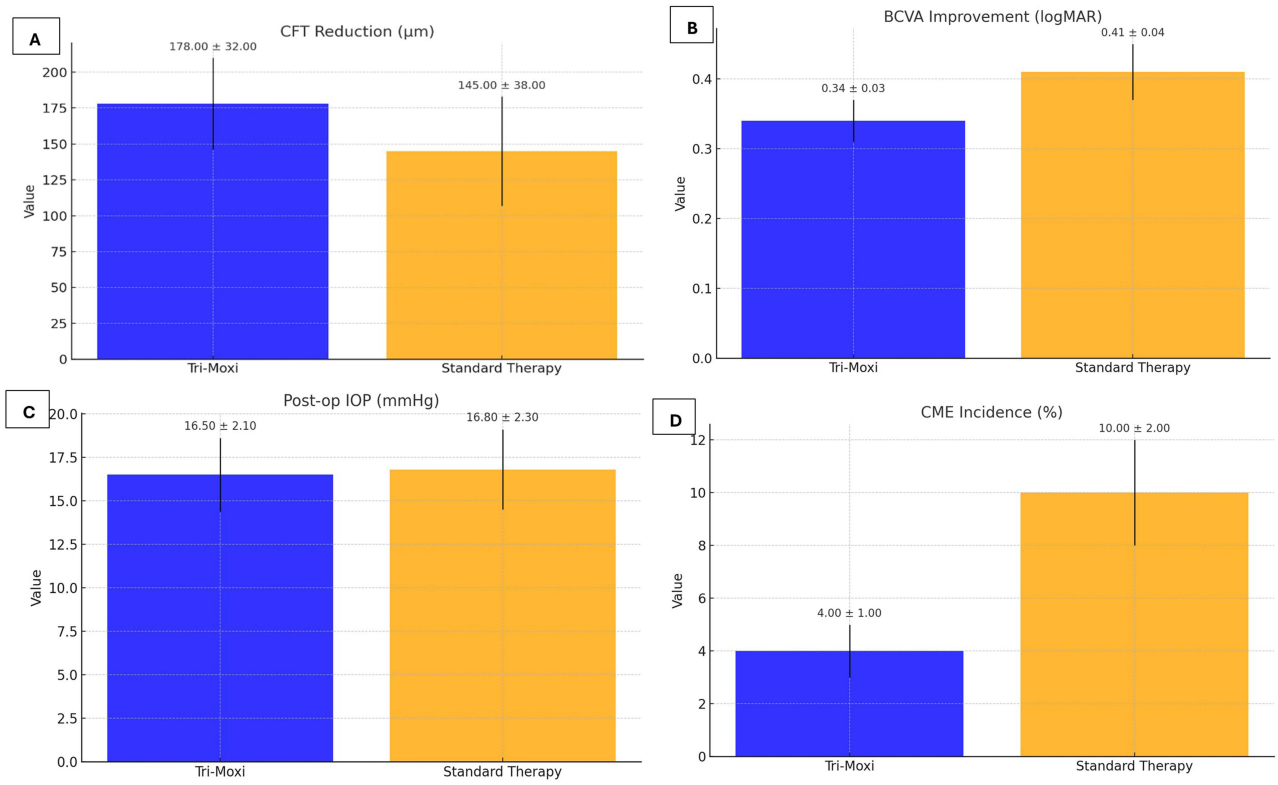

Figure 3 By 3-month after surgery, the Tri-Moxi demonstrated a significantly greater reduction in (**A**) central foveal thickness (CFT) ($P < 0.001$) and a slightly superior improvement in improvement of (**B**) best-corrected visual acuity (BCVA) ($P < 0.05$) compared to the standard therapy. (**C**) Postoperative IOP remained minimal change in both groups. The occurrence of (**D**) cystoid macular edema (CME) was markedly reduced in patients receiving Tri-Moxi ($P = 0.02$).

Intraocular Pressure (IOP) Stability

Postoperative IOP remained stable in both groups. In the Tri-Moxi group, mean IOP at 3 months was 16.5 ± 2.1 mmHg, compared to 16.8 ± 2.3 mmHg in the standard therapy group ($P = 0.91$) (Figure 3C). The lack of significant IOP elevation in the Tri-Moxi group, despite the use of triamcinolone acetonide, highlights the safety of the low-dose formulation utilized in this study.

Cystoid Macular Edema (CME)

The incidence of postoperative CME was significantly lower in the Tri-Moxi group compared to the standard therapy group. CME was observed in 4% of eyes in the Tri-Moxi group, whereas 10% of eyes in the standard therapy group developed CME ($P = 0.02$) (Figure 3D). This reduction highlights the enhanced anti-inflammatory efficacy of Tri-Moxi in mitigating secondary macular changes. Overall, Group 1 showed a greater CFT reduction and a slightly superior BCVA improvement than Group 2 but change in postoperative IOP was the same in both groups.

Postoperative Complications

One case in Tri-Moxi group reported temporary floaters and epiretinal deposits without affecting long term BCVA. No cases of infection, ocular hypertension, retinal detachment, or ERM recurrence were reported in either group. These results underscore the safety profiles of both treatment regimens. Notably, the absence of complications in the Tri-Moxi group, even with intravitreal administration, supports its feasibility as a safe alternative to topical steroid therapy.

Summary of Findings

The Tri-Moxi group demonstrated superior outcomes in both anatomical (CFT reduction: 178 ± 32 µm vs 145 ± 38 µm) and functional (BCVA improvement: 0.34 ± 0.03 logMAR vs 0.41 ± 0.04 logMAR) parameters compared to the standard topical therapy group, with comparable safety profiles (Table 2). These results suggest that intravitreal Tri-Moxi provides an effective and safe alternative to standard topical therapy for postoperative management of patients undergoing PPV for ERM removal.

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Table 2 Comparison of Clinical Outcomes with Patients Receiving Tri-Moxi Intravitreal Injection or Standard Topical Eye Drop After PPV for ERM

	Group 1 - Tri-Moxi Intravitreal Injection (139 Eyes)	Group 2 - Standard Topical Eye Drop (139 Eyes)	P value
Rate of infection (%)	0	0	1
IOP (mmHg)			
Pre-op	18.42± 2.8	17.62± 3.1	0.8
compare pre, post -op	p= 0.09	p=0.09	
Post-op (3 months)	16.5±2.1	16.8±2.3	0.91
IOP Change (pre-op to post-op 3 months)	1.92±0.7	0.82±0.8	0.67
BCVA (logMAR)			
Pre-op	0.71±0.04	0.69±0.04	0.91
compare pre, post -op	p=0.04	p=0.05	
Post-op (3 months)	0.34±0.03	0.41±0.04	0.047
Vision Improvement (pre-op to post-op 3 months)	0.37	0.28	0.04
OCT (CFT, um)			
Pre-op	482± 52	489± 49	0.86
compare pre, post -op	p=0.01	p=0.01	
Post-op (3 months)	304± 2	344± 11	0.042
Change/Reduction in OCT	178± 32	145± 38	0.001

Abbreviations: BCVA, best corrected visual acuity; CFT, central foveal thickness; IOP, intraocular pressure; mmHg, millimeters of mercury; OCT, optical coherence tomography; Post-op, post operation; %, percentage.

Discussion

Pars plana vitrectomy (PPV) is a common surgical procedure employed to remove epiretinal membranes (ERMs) and improve vision by addressing the fibrous tissue responsible for retinal distortion. Postoperative management following PPV for ERM removal focuses on mitigating intraocular inflammation, maintaining normal IOP, and preventing infection to reduce the risk of complications, including CME, ocular hypertension, and infectious endophthalmitis.

In this study, we conducted one of the first comparative evaluations of the efficacy of intravitreal Tri-Moxi injection versus standard topical eye drop therapy in the postoperative management of patients undergoing PPV for ERM removal. Our findings demonstrated that the Tri-Moxi group exhibited a more rapid resolution of inflammation following PPV, coupled with stable IOP, compared to the group receiving standard topical eye drop therapy. Secondary ocular hypertension is a well-documented adverse effect associated with intravitreal steroid administration. To mitigate the risk of IOP elevation, we utilized a low-dose intravitreal triamcinolone formulation (15 mg/mL) rather than the conventional 40 mg/mL dosage.

These results align with previous research conducted at our institution, which demonstrated a significant reduction in anterior chamber cell reaction severity at 1 week ($p = 0.001$) and 1 month ($p = 0.02$) following cataract surgery, with no differences in IOP observed between patients receiving Tri-Moxi intravitreal injection and those treated with standard eye drop therapy.[9] Our recent study further demonstrated that there is no significant difference in IOP between the Tri-Moxi group and the standard topical eye drop therapy group following vitrectomy surgery for various retinal diseases.[15]

Importantly, we attribute these findings to several factors, including the use of a low intravitreal steroid dosage, longer follow-up periods, and the smaller sclerotomy wound size associated with PPV, which likely results in reduced inflammation compared to cataract surgery. In standard cataract surgery, the overall incision size typically ranges from 4–5 mm, comprising a clear corneal incision of 2.4–2.8 mm and a paracentesis wound of approximately 1 mm. In contrast, advances in microincision vitrectomy surgery (MIVS) have enabled the use of smaller vitrectomy instruments, including 23-gauge (700 µm sclerotomy size), 25-gauge (500 µm sclerotomy size), and 27-gauge systems. Standard three-port PPVs performed with 23-gauge instruments have wound sizes of approximately 2.1 mm, while those performed with 25-gauge instruments measure 1.5 mm. These smaller gauge incisions in MIVS are less than half the

size of typical cataract surgery incisions, contributing to reduced postoperative inflammation. Furthermore, studies have shown triamcinolone demonstrated significant efficacy in managing postoperative inflammation in patients undergoing PPV for ERM associated with diabetic retinopathy compared to those with ERM linked to other ocular diseases. Specifically, The Diabetic Retinopathy Clinical Research Network highlighted the correlation of triamcinolone acetonide injection with improved visual outcomes and less post-surgical foveal thickness in diabetic retinopathy patients.[16] In order to avoid the confounding factor, we only included patients with idiopathic ERM.

During wound healing following PPV, neutrophils and monocytes are recruited from the vasculature by growth factors such as platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), and transforming growth factor beta (TGF-β), which initiate the inflammatory response.[17] Triamcinolone acetonide modulates TGF-β to inhibit VEGF overproduction and remodel the extracellular matrix.[18] These molecular pathways are critical in the pathogenesis of age-related macular degeneration (AMD), and previous uncontrolled clinical studies have suggested that intravitreal triamcinolone acetonide may confer potential benefits in AMD.[19]

Furthermore, in vitro studies have demonstrated that triamcinolone acetonide modulates TGF-β2-induced angiogenic and tissue remodeling effects observed in proliferative diabetic retinopathy (PDR) and proliferative vitreoretinopathy (PVR).[18] Additionally, triamcinolone acetonide inhibits the release of tumor necrosis factor-alpha (TNF-α) from monocytes and macrophages, thereby attenuating leukocyte recruitment and nuclear factor-kappa B (NFκB) activation.[20] It also blocks the production of inflammatory cytokines, including interleukin-1 (IL-1), IL-6, and IL-8, thereby reducing cell migration and chemotactic responses.[21] Moreover, triamcinolone acetonide alters the balance between M1 (pro-inflammatory) and M2 (anti-inflammatory and healing-promoting) macrophages, ultimately accelerating wound healing.[22]

In this context, our study successfully demonstrated the efficacy of triamcinolone acetonide in mitigating postoperative inflammation following PPV for ERM removal. Despite the demonstrated anti-inflammatory and wound-remodeling efficacy of triamcinolone acetonide, the route of ocular medication administration significantly influences therapeutic outcomes. Conventional topical application, due to its limited ocular bioavailability, is suboptimal for delivering therapeutic drug concentrations to the posterior segment of the eye following vitreoretinal surgery.[23] Evidence from a single subconjunctival triamcinolone acetonide injection administered at the conclusion of PPV demonstrated no significant differences in IOP or inflammatory outcomes compared with the use of traditional topical steroid drop taper.[24] Additionally, a study employing a combination of subconjunctival cefazolin-dexamethasone and sub-Tenon's triamcinolone acetonide during 25- or 27-gauge PPV reported only a marginal rise in IOP without any cases of postoperative endophthalmitis,[25] further supporting these approaches as non-inferior alternatives to conventional topical eye drops.

Intravitreal injection, as a postoperative intervention, delivers medications directly into the vitreous cavity, bypassing the blood-ocular barrier and the limitations of topical administration. Intravitreal administration of triamcinolone acetonide has demonstrated efficacy in managing various posterior segment diseases, including AMD,[19] diabetic macular edema (DME),[26] and macular edema associated with central retinal vein occlusion.[27] Furthermore, intravitreal corticosteroid injections effectively address postoperative macular edema by suppressing inflammation. In the context of cataract surgery, intravitreal triamcinolone acetonide has proven beneficial, with comparable rates of CME observed—1.2% with intravitreal Tri-Moxi and 1% with traditional topical eye drops.[8] These findings highlight the advantages of intravitreal administration as a reliable and efficient therapeutic modality in postoperative ocular care.

A large-scale review analyzing 1541 eyes reported that the rate of visually significant postoperative CME was as low as 2.0% following intravitreal injection of triamcinolone–moxifloxacin–vancomycin for postoperative prophylaxis after cataract surgery.[13] However, literature on the application of intravitreal dropless regimens in postoperative settings, particularly following PPV, remains limited. Persistent or newly developed CME is frequently observed following surgery for idiopathic ERM, with a study reporting postoperative CME in 10% of eyes with ERM that did not have preoperative CME.[28]

In our previous research, we demonstrated that intravitreal Tri-Moxi was more effective in reducing central foveal thickness (CFT) than standard topical therapy after vitreoretinal surgery.[15] Consistent with these findings, this study on PPV for ERM removal revealed a greater reduction in CFT in the intravitreal postoperative Tri-Moxi group. This enhanced efficacy can be attributed to triamcinolone acetonide, a synthetic corticosteroid with prolonged retention in the

vitreous humor due to its low water solubility. In a rabbit model, intravitreal injection of 4 mg triamcinolone acetonide exhibited a half-life of 24 days,[29] which is attributable to the increased lipophilicity conferred by the acetonide group at the C16 and C17 positions.

Our research demonstrated that after PPV for ERM removal, the administration of Tri-Moxi intravitreal injection significantly improved both anatomical outcomes, as evidenced by a reduction in CFT, and functional outcomes, reflected by improvements in BCVA. These findings align with prior studies emphasizing that effective management of intraocular inflammation following PPV for ERM is essential to minimizing the development of CME and achieving favorable visual outcomes.[30] Of note, Tri-Moxi is a combination medication that has not been reviewed by the US Food and Drug Administration (FDA). The individual ingredients must be compound by a 503B compounding pharmacy and be considered as an off-label usage.

Furthermore, no cases of endophthalmitis were observed in either treatment group. Acute-onset endophthalmitis following ERM surgery, though serious, remains a rare complication with an incidence rate of 0.030%–0.070%. Previous studies have shown that the use of intravitreal triamcinolone combined with antibiotics does not increase the risk of endophthalmitis after cataract surgery[8–10,14] or PPV,[15,25] a finding consistent with our results. These observations further support the safety and efficacy of intravitreal Tri-Moxi administration in the postoperative management of patients undergoing PPV for ERM removal.

In this study, one case reported transient floaters and epiretinal deposits accompanied by short-term blurry vision, which may be attributed to the suspension formulation of the Tri-Moxi injection. Although these epiretinal crystalline deposits do not impair long-term vision,[15] a case report has described the delivery of transzonular triamcinolone acetonide during cataract surgery, where residual material can persist on the retinal surface for extended periods.[31] Therefore, postoperative positioning following PPV is important, as it relies on gravity-dependent fluid dynamics to optimize outcomes. However, intravitreal fluid injections into an air-filled eye may lead to unpredictable drug distribution due to unknown air-fluid interactions. Similarly, in silicone oil-filled eyes, drug delivery may be uneven and less predictable While we believe this study provides valuable insights into the postoperative outcomes of Tri-Moxi in a specific retinal condition (ERM) and benefits from a large patient cohort, which minimizes potential confounders, the current analysis is limited to data collected through the 3-month postoperative visit.

In conclusion, the intravitreal administration of Tri-Moxi following PPV for ERM removal appears to be non-inferior to standard topical eye drop therapy. Notably, patients receiving Tri-Moxi intravitreal injection demonstrated a greater reduction in foveal thickness (CFT) and maintained stable visual acuity. Furthermore, there were no reported incidences of infection, ocular hypertension, retinal detachment, or ERM recurrence in this group, underscoring the safety and efficacy of this treatment approach.

Abbreviations

BCVA, best-corrected visual acuity; CFT, central foveal thickness; CME, cystoid macular edema; ERM, epiretinal membrane; ILM, internal limiting membrane; IOP, intraocular pressure, logMAR, logarithm of the minimum angle of resolution; PDR, proliferative diabetic retinopathy; PPV, pars plana vitrectomy; PVR, proliferative vitreoretinopathy; Tri-Moxi, triamcinolone acetonide plus moxifloxacin.

Data Sharing Statement

All data generated or analyzed during this study are included in this article. All data can be provided upon requested to corresponding author.

Ethical Considerations

The study involving human participants were reviewed and approved by Loma Linda University IRB (#5220202). This study protocol adhered to the tenets of the Declaration of Helsinki. Written informed consent from the participants was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Consent to Participate

The study is a retrospective review of data collection. The research does not adversely affect the rights, welfare, or safety of the participants. Informed consent to participate has been waived by the relevant Ethics Committee or Institutional Review Board.

Consent for Publication

The study is a retrospective review of data collection. The research does not adversely affect the rights, welfare, or safety of the participants. Informed consent to publication has been waived by the relevant Ethics Committee or Institutional Review Board.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

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