RETINA ROUNDUP

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1.Retina 45(1):p 1-6, January 2025. | DOI: 10.1097/IAE.0000000000004283

HIGH-DOSE INTRAVITREAL TOPOTECAN FOR RECURRENT RETINOBLASTOMA, SUBRETINAL SEEDS, AND VITREOUS SEEDS

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Purpose

To evaluate the efficacy and safety of high-dose intravitreal topotecan (IvitTopo) for recurrent retinoblastoma.

Methods

There were 13 patients with recurrent retinoblastoma treated with high-dose IvitTopo (90 micrograms [μg]/0.18cc–100 μg/0.20cc). The primary outcome measures were tumor control, globe salvage, and treatment complications.

Results

At date first seen, median patient age was 9 months, and the affected eye was classified as International Classification of Retinoblastoma Group B (n = 2, 15%), Group C (n = 3, 23%), or Group D (n = 8, 62%) retinoblastoma with initial therapy of intravenous chemotherapy (n = 9, 69%) or intraarterial chemotherapy (n = 4, 31%). Recurrent tumor was detected at median 10 months as solid tumor (n = 3), subretinal seeds (n = 10), and/or vitreous seeds (n = 3) and high-dose IvitTopo (median three injections) delivered at monthly intervals. Additional chemotherapy was delivered by intraarterial (n = 8, 62%) or intravenous (n = 1, 8%) routes, and one eye received additional cryotherapy (n = 1, 8%). In three cases (23%), there was no additional therapy. At mean follow-up of 9 months, regression of solid tumor, subretinal seeds, and vitreous seeds was achieved in 12 cases (92%), and globe salvage was achieved in all cases (n = 13, 100%). Of those three eyes treated with high-dose IvitTopo alone, tumor control was initially achieved in all cases (100%), but one case that previously demonstrated massive vitreous seeding showed late recurrence of a solitary vitreous seed at 8 months. There were no complications.

Conclusion

High-dose IvitTopo is an effective and safe therapy for recurrent retinoblastoma, in conjunction with other therapy, and possibly as a stand-alone therapy.

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2. Retina 45(1):p 23-29, January 2025. | DOI: 10.1097/IAE.0000000000004276

MACULAR HOLE SURGERY AND RETINAL TECTONICS-The Impact of Internal Limiting Membrane Peeling Size on Tangential Retinal Displacement

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Purpose:

To evaluate the tangential retinal displacement occurring following macular hole (MH) surgery and to assess the impact of the internal limiting membrane (ILM) peeling size on the extent of the retinal movement.

Methods:

This retrospective study included patients with full-thickness MH undergoing 25-gauge pars plana vitrectomy with ILM peeling. Patients received either a small ILM peeling with a size of two-disk diameters or a large peeling extended up to the vascular arcades. Near-infrared retinal imaging was performed with the Spectral is (Heidelberg Engineering, Carlsbad, Germany) before and 6 months after the surgery. The tangential retinal displacement was evaluated comparing the optical flow of near-infrared images with a custom digital image analysis algorithm.

Results:

Forty-four eyes of 44 patients undergoing vitrectomy with small (n = 24) or large (n = 20) ILM peeling were included. An average overall displacement of 31.3 ± 22.8 μm toward the optic disk was observed after the surgery. Large ILM peeling was associated with a significantly higher overall displacement ($P = 0.009$), displacement in the central 4-mm circle ($P < 0.001$), and displacement in outer 8-mm ring ($P = 0.001$). Macular holes closure was achieved in 100% and 83.3% of patients in the large and small peeling group, respectively ($P = 0.055$).

Conclusion:

Pars plana vitrectomy with ILM peeling for MH results in a tangential retinal displacement toward the optic disk. A larger extent of the ILM peeling leads to a greater tangential movement, possibly improving the MH closure rate.

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3. Int J Retin Vitr 10, 96 (2024). https://doi.org/10.1186/s40942-024-00612-x

Clinical characteristics and risk factors of bacillary layer detachment in central serous chorioretinopathy: a comparative multicenter study

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Purpose

Compare the clinical characteristics, risk factors, and optical coherence tomography (OCT) findings in patients with Central Serous Chorioretinopathy (CSC) with and without Bacillary Layer Detachment (BALAD), and to identify the distinguishing features and associated conditions of CSC with BALAD.

Methods

This observational, retrospective, multicenter case–control study collected data from 12 retina centers worldwide on patients with central serous chorioretinopathy (CSC) from December 1, 2022, to April 1, 2023. CSC was defined by serous retinal detachment and fluid leakage through the retinal pigment epithelium. Patients underwent detailed evaluations, including OCT, and were classified as having acute or chronic CSC. Inclusion criteria included a CSC diagnosis with RPE leakage, BALAD confirmed by three authors, age over 18, and a detailed medical history from the 30 days before symptom onset. The study assessed visual acuity, choroidal thickness, psychiatric disorders, corticosteroid use, prior CSC treatments, and hyperreflective material on OCT.

Results

Thirty-seven patients (40 eyes; mean age, 48.0 ± 11.9 years) had CSC and BALAD and were followed for a mean of 4.92 ± 6.65 months. The control group was comprised of 40 patients with CSC without BALAD (40 eyes; mean age, 48.2 ± 11.9 years). On clinical examination, BALAD was as a circular, yellowish macular lesion. On OCT, BALAD was a detachment of the ellipsoid zone with splitting of the photoreceptor inner segment. BALAD was associated with psychiatric disorders ($p = 0.014$), use of corticosteroids ($p = 0.004$), previous treatment for CSC ($p = 0.041$) and thickened choroid ($p = 0.036$).

Conclusions

BALAD in CSC differs from a typical CSC due to the presence of a circular, yellowish macular lesion, detachment of the ellipsoid zone, segmentation of the inner segment of the photoreceptor, a thicker choroid, the use of corticosteroids, and generally more aggressive previous treatments. These results suggest that BALAD may serve as a valuable biomarker for the severity of CSC and highlight the influence of inflammation and previous treatments.

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4. Ophthalmol Retina,Volume 8, Issue 12,2024,Pages 1181-1191,ISSN 2468-6530,https://doi.org/10.1016/j.oret.2024.07.004.

Efficacy and Safety of 0.19-mg Fluocinolone Acetonide Implant in Postoperative Cystoid Macular Edema after Pars Plana Vitrectomy: The Iluvien in Postoperative cystoid Macular edema Study

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Purpose:

To assess the efficacy and safety of 0.19-mg fluocinolone acetonide (FAc) intravitreal implant (Iluvien) in treating chronic postoperative cystoid macular edema (PCME) after pars plana vitrectomy.

Methods:

Retrospective multicentric case series in clinical settings .Patients with chronic PCME who underwent vitrectomy in tertiary care centres in France. Review of charts and OCT scans were done

Main Outcome measures:

The primary end points were the best-corrected visual acuity (BCVA) and central retinal thickness (CRT). Secondary end points were the intraocular pressure (IOP); proportion of patients maintaining a BCVA ≥20/40; need for additional nonstudy treatment; differences between eyes that underwent a single and multiple surgeries; and OCT biomarkers of better BCVA.

Results:

Forty-nine eyes of 49 patients with a mean follow-up of 24.5 ± 3.87 months were included. The mean BCVA increased from 0.40 ± 0.26 logarithm of the minimum angle of resolution (logMAR) at baseline to 0.32 ± 0.24 logMAR at month 24 (P = 0.0035). The mean CRT decreased from 409 ± 139 μm at baseline to 340 ± 92 μm at month 24 (P = 0.0001). The mean IOP was 14.0 ± 4 mmHg at baseline and remained stable at 14.03 ± 4.1 mmHg at month 24 (P = 0.99). During the follow-up, the IOP exceeded 21 mmHg in 9 eyes, with one eye requiring cyclophotocoagulation. The BCVA was ≥20/40 in 47% of eyes (95% confidence interval [CI], 34%–61%) at baseline and in 58% of eyes at month 24 (95% CI, 41%–73%). At month 18, the likelihood of achieving a BCVA ≥20/40 was higher in eyes with intact external limiting membrane and ellipsoid zone. Additional dexamethasone (DEX) implant was injected in 14 eyes (28.6%). The treatment burden of 2.45 ± 1.35 DEX implant was decreased to 0.57 ± 0.60 DEX implant after FAc implantation (P = 0.001).

Conclusion:

Fluocinolone acetonide implant improved the BCVA, reduced the CRT, and allowed reducing treatment burden in eyes with chronic PCME after vitrectomy. The safety profile was acceptable.

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5. American Journal of Ophthalmology,Volume 269,2025,Pages 246-254,ISSN 0002-9394,https://doi.org/10.1016/j.ajo.2024.08.040

Targeting the Tie-2 Receptor With Faricimab in Central Serous Chorioretinopathy: A Case Series Motivated by a Genetic Finding

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Purpose

To investigate the effects of faricimab, a bispecific antibody targeting VEGF and Ang-2 (thus increasing Tie-2 activity), in patients with CSC based on a recent genetic study that implicated Tie-2 signaling in CSC pathophysiology.

Design

A retrospective interventional multicenter case series.

Methods

We included patients with chronic CSC (persistent or recurrent SRF for ≥6 months) who received at least one faricimab 6 mg injection between January 1 2022, and April 1 2024,Study sites included Massachusetts Eye and Ear and University of California San Francisco. Patients with evidence of a choroidal neovascular membrane on color photos, optical coherence tomography (OCT) and/or fluorescein angiography were excluded. 16 eyes (15 patients) met the inclusion criteria. The median central macular thickness at each visit from 52 weeks before to 52 weeks after the first faricimab injection was calculated using automated Heidelberg Spectralis ETDRS subfield measurements.

Results

Prior to treatment with faricimab, CSC had been diagnosed a median of 4.1 years (range 0.9-8) earlier and SRF (and intraretinal fluid [IRF] in a subset) had been continuously present for a median of 30 weeks (range 9-257). Decreases in macular thickness were observed in 14/16 eyes after the first faricimab injection and in 14/16 eyes in the full follow-up period compared with prior, 10 of which experienced complete resolution of SRF following the start of the first series of injections at a median of 4 weeks (range 2-25). One eye worsened after the second injection. The median improvement in macular thickness was 40 μm [range −3 to 89.5] (P = .0007). Upon review of OCT images, reductions in macular thickness were consistent with reductions in SRF and/or IRF. Visual acuity improved by 2 lines or more in 6/16 eyes.

Conclusion

In a retrospective case series of patients with chronic CSC and longstanding SRF, we observed improvement in macular thickness after intravitreal faricimab. While the small number of patients and variable natural history of CSC preclude definitive conclusions, a randomized controlled trial seems warranted.

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6. Retina 44(10):p 1766-1776, October 2024. | DOI: 10.1097/IAE.0000000000004176

MENISCUS MICROPYON-An Ophthalmoscopic Sign Possibly Associated With Epiretinal Proliferation After Retinal Surgery With Gas Tamponade

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Purpose:

To describe an ophthalmoscopic sign, termed a meniscus micropyon, and its possible association with proliferative vitreoretinopathy/epiretinal membrane (ERM) formation after retinal surgery with gas tamponade.

Methods:

Patients with intravitreal gas were examined postoperatively by one of six vitreoretinal surgeons from four institutions. A micropyon was defined as a white–yellow, solid-appearing consolidation along the meniscus (i.e., the fluid–gas interface).

Results:

A micropyon was visualized and photographed in 49 patients who received intravitreal gas. Preoperatively, retinal breaks were present in all 49 eyes and rhegmatogenous retinal detachment in 45 (92%). Postoperatively, 39 eyes (80%) developed epiretinal proliferation: 16 eyes (33%) developed recurrent rhegmatogenous retinal detachment from proliferative vitreoretinopathy, 6 eyes (12%) re-detached without frank proliferative vitreoretinopathy, 9 eyes (18%) developed postoperative ERM/worsening, and 8 eyes (16%) had postoperative ERM but no preoperative optical coherence tomography to determine if the postoperative ERM was new or worsening. The single-operation anatomical success in eyes with a micropyon was 51%, which was lower than that of a contemporaneous rhegmatogenous retinal detachment control group (91%) in which no micropyon was detected. In two patients, micropyons were biopsied during pars plana vitrectomy and examined histopathologically; they consist predominantly of white blood cells.

Conclusions:

The meniscus micropyon is an ophthalmoscopic sign that can occur after retinal surgery with gas tamponade. Features that distinguish a micropyon from postvitrectomy fibrin/fibrinoid syndrome include delayed appearance, hyperautofluorescence, absence of translucent strands or sheets in the anterior chamber or vitreous cavity, and the histopathologic identification of white blood cells. A clinically detectable micropyon may be a biomarker of proliferative vitreoretinopathy/ERM formation.

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7. *Int J Retin Vitr* 10, 82 (2024).https://doi.org/10.1186/s40942-024-00600-1

Safety and efficacy of human amniotic membrane plug transplantation in cases of macular hole. A scoping review

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Background:

Recently, there has been a surge of literature utilizing the human amniotic membrane (hAM) to manage cases of macular holes. In this scoping review, we aimed to systematically narrate the literature to identify cases of macular holes that are managed using hAM and explore the visual and anatomical outcomes to inform future research questions.

Methods:

This scoping review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. A detailed database search strategy (Scopus, Embase, Medline, and Cochrane Central) was developed to identify English-language published articles that reported using hAM to manage macular holes. All human clinical studies were included for a narrative data synthesis divided across study types.

Results:

The database search identified 82 articles, of which 34 were eligible for full-text review (0 randomized controlled trials (RCTs), 12 non-RCTs, 10 retrospective reviews, ten published case reports, and two clinical trial registries). The non-RCTs included patients with macular holes related to a wide range of retinal diseases, including retinal detachment, recurrent holes, and high myopia. Only two non-RCTs reported comparative data with a control group, but the study characteristics differed, and quantitative synthesis was impossible. Most retrospective interventional series and individual case reports reported a success rate of 93 - 100% in hole closure and improvement in best-corrected visual acuity. None of the studies reported adverse effects after a hAM transplantation.

Conclusions:

The hAM effectively seals macular holes without any safety concerns, improving anatomical and visual outcomes in all macular holes.

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8. Sci Rep. 2025 Jan 4;15(1):811. doi: 10.1038/s41598-025-85370-y. PMID: 39755919

Cystoid macular oedema after flanged intraocular lens scleral fixation using the Yamane technique: a multicentre cohort study

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Purpose

This retrospective observational multicentre cohort study compared the rate of postoperative cystoid macular oedema (CME) between two intraocular lens (IOL) scleral fixation (SFIOL) techniques

Methods

A flanged IOL fixation technique (Yamane technique) and a suture IOL transscleral fixation technique (conventional technique). The study included 207 eyes with postoperative CME that had undergone SFIOL and were observed for > 12 weeks between January 2019 and January 2021. The primary endpoint was a comparison of the rate of postoperative CME at 3 months between groups. Secondary endpoints were a comparison of postoperative best-corrected visual acuity (BCVA) at 3 months between groups and an analysis of characteristics associated with postoperative CME in the Yamane technique group.

Results

The Yamane technique group developed postoperative CME in 13.0% of eyes at 3 months, compared with 1.9% in the conventional technique group (odds ratio: 7.99, P = 0.045). Postoperative BCVA was consistently significantly higher in the Yamane technique group.

Conclusion

Although many retinal surgeons have performed the Yamane technique because of its convenience for SFIOL, our findings suggest that the Yamane technique carries an increased risk of postoperative CME compared with the conventional suture method. Therefore, careful management of postoperative CME is needed after SFIOL.

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