RETINA ROUNDUP

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RETINA ROUND UP- OCTOBER 2025

1) CENTRAL SEROUS CHORIORETINOPATHY IMAGING BIOMARKERS AS POTENTIAL INDICATORS OF RESPONSE TO SUBTHRESHOLD NANOSECOND LASER

The purpose: was to evaluate OCT and ICGA biomarkers in patients with chronic CSC as potential indicators of response to treatment with subthreshold nanosecond laser (NSL).

In this retrospective study 36 eyes of chronic CSC patients were examined after Nanoscond laser. High response (HR) was defined as complete resolution of SRF 3 months after first sitting, full response (FR) as complete resolution of SRF 3 months after the last sitting with all sessions occurring within 1 year from the first session. Biomarkers included central macular thickness (CMT), subfoveal choroidal thickness (SFCT), and intervortex venous anastomosis (IVA).

OCT at baseline showed a mean CMT of 364 ± 130 µm and SFCT of 292 ± 45 µm; 64% showed IVA in ICGA. HR was seen in 50% and FR in 78%. Higher IVA rates (83% vs. 44%, P = 0.03) predicted poor response after the first NSL, showed a statistically significant higher likelihood of requiring more than one NSL session.

Conclusion was:

OCT and ICGA biomarkers may play a role as indicators of anatomical responses to NSL. Patients with IVA at baseline showed a poor first response and may need repetitive laser treatments.

2) DELAYED-ONSET RECURRENT RETINAL DETACHMENT MORE THAN ONE YEAR AFTER PNEUMATIC RETINOPEXY, SCLERAL BUCKLE, OR VITRECTOMY FOR PRIMARY RHEGMATOGENOUS RETINAL DETACHMENT REPAIR

This was To evaluate the incidence, causes, and outcomes of recurrent rhegmatogenous retinal detachment (RRD) occurring more than 12 months after the initial RRD repair

This retrospective case series examined patients who underwent primary pneumatic retinopexy (PnR), scleral buckle (SB), pars plana vitrectomy (PPV), or combined PPV/SB for primary RRD and were followed for at least 12 months. Patients treated with silicone oil were excluded. The primary outcome was the incidence of delayed recurrent RRD.

3,668 eyes were included The mean follow-up length was 4.9 ± 2.6. Fifty-one eyes from 51 patients developed delayed redetachment. The time to delayed redetachment was 3.8 ± 3.0 years. The incidence was 4.4% after PnR, 2.8% after SB, 0.9% after PPV, and 0.6% after PPV/SB. The causes of redetachment included new tears, proliferative vitreoretinopathy, and other. Reoperation resulted in anatomic success of 88.2% at 3 months and 98.9% at the final visit.

Conclusion:

Recurrence of RRD more than 12 months after initial surgery may occur in 1.4% of patients, with a higher incidence after PnR and a lower incidence after PPV and PPV/SB. Reoperation resulted in acceptable anatomic outcomes.

3) COMPARISON OF MYOPIC MACULOPATHY PROGRESSION IN PATIENTS WITH MYOPIC TRACTION MACULOPATHY UNDERGOING VITRECTOMY OR MACULAR BUCKLING

Study compared the progression of myopic maculopathy in patients with Stage 3 myopic traction maculopathy undergoing either pars plana vitrectomy (PPV) or macular buckling (MB).

A total of 61 eyes were retrospectively divided into PPV group with 30 eyes and Macular bckling group with 31 eyes. Best-corrected visual acuity, axial length, myopic maculopathy progression, and retinal and choroidal thickness were measured and compared.

The mean follow-up period was 70.9 months. Progression to a different stage occurred in 14 eyes in the PPV group, compared with only 2 eyes in the MB group. In total, 5 of 30 of eyes in the PPV group and 2 of 31 of eyes in the MB group showed progression within the same MM stage. In addition, 9 eyes in the MB group exhibited retinal pigment epithelium injury adjacent to the macular buckle ridge. Postoperatively, foveal retinal thickness and central choroidal thickness were significantly greater in the MB group.

For patients with Stage 3 myopic traction maculopathy, PPV may accelerate the progression of myopic maculopathy, whereas MB may not. Therefore, MB may be a preferable surgical option for these patients.

4) FOVEAL CONFIGURATION AFTER AMNIOTIC MEMBRANE TRANSPLANTATION IN COMPLEX MACULAR HOLES

This study evaluated outcomes and foveal morphologic changes after human amniotic membrane transplantation in complex macular holes.

A multicenter, retrospective analysis was conducted on 30 eyes that underwent vitrectomy with human amniotic membrane transplantation for indications including failed prior macular hole closure, macular hole-associated retinal detachment in high myopia (axial length >28 mm), giant macular holes (>1000 μm), and large macular holes (≥400 μm) unsuitable for internal limiting membrane flaps. Postoperative assessments included closure rates, visual outcomes, and foveal structural changes on optical coherence tomography at 1, 3, and 6 months.

The study showed Macular hole closure with retinal tissue reconstitution was observed in 73.3% of eyes at 1 month, whereas 23.3% showed foveolar dehiscence with exposed hAM in the subretinal space. Visual acuity improved from LogMAR1.22 to 0.99 at 1 month, 0.98 at 3 months, and 0.97 at 6 months. The bare hAM area decreased over time in eyes with foveolar dehiscence, and retinal tissue reconstitution was observed in three of these cases. A larger preoperative minimal linear diameter was significantly associated with this pattern (P = 0.033).

To conclude

Human amniotic membrane transplantation demonstrated favorable outcomes in complex macular holes, supporting its potential role in the anatomical restoration.

5) TEMPORAL RETINAL VESSEL ANGLE AS A BIOMARKER FOR FAMILIAL EXUDATIVE VITREORETINOPATHY

This study aims to investigate temporal retinal vessel angles (TVAs) measured from color fundus photographs as a biomarker for assessing clinical outcomes in familial exudative vitreoretinopathy. The primary objectives were to establish correlations between TVA and key clinical parameters, evaluate the predictive power of TVA for poor visual acuity and foveal hypoplasia, and determine optimal threshold angles for risk stratification.

This retrospective case series included 65 patients. Ophthalmic examinations, imaging, and TVA measurements were conducted. Statistical analyses included correlation coefficients, logistic regressions, and receiver-operating-characteristic curves.

Results:

TVA exhibited negative correlations with key clinical outcomes including BCVA. Logistic regression analysis revealed associations between narrower TVA and key outcomes such as poor BCVA and foveal hypoplasia. Receiver-operating-characteristic curves demonstrated area-under-curve values for predicting poor BCVA and foveal hypoplasia for temporal retinal artery and vein angle, respectively. Optimal thresholds were determined (temporal retinal artery angle: 65.02°, temporal retinal vein angle: 72.87°).

Conclusion:

TVAs emerged as sensitive predictors of familial exudative vitreoretinopathy outcomes, showcasing robust correlations with disease severity and functional outcomes. It highlights TVA as a potential noninvasive biomarker for prognosis aiding in early detection and facilitating timely interventions. Future research with larger cohorts and longitudinal follow-up is warranted to validate the utility of TVA in clinical practice

6) SURGICAL PROCEDURE VITREOUS CAVITY LAVAGE WITH A BENDED-NEEDLE SYSTEM FOR POSTOPERATIVE VITREOUS CAVITY HEMORRHAGE

This retrospective case series includes all patients with postoperative vitreous cavity hemorrhage who received vitreous cavity lavage with the bended-needle drainage system from January 2022 to May 2024. Patients adopted a supine position that allows preparation and draping. BSS was injected with a 30-G needle. One bended 25-G needle was used to drain the blood. Primary outcomes include the visual acuity and short-term postoperative complications. Secondary outcomes include preoperative and postoperative intraocular pressure and long-term complications

Three patients with postoperative vitreous cavity hemorrhage received the procedure, with two cases of proliferative diabetic retinopathy and one case of primary central nervous system lymphoma. All patients recovered well after the procedure with minimal complications. Long-term prognosis largely depends on the primary retinal conditions.

Conclusion:

In conclusion, vitreous cavity lavage with the bended-needle system is safe and effective to manage postoperative vitreous cavity hemorrhage with an outpatient surgery, which potentially benefits patients with similar conditions.

7) SURGICAL TECHNIQUE SIMPLIFIED TECHNIQUE FOR CORRECTING INTRAOCULAR LENS DECENTRATION IN SCLERAL-SUTURED FIXATION SURGERY

During surgery, Purkinje images were used to assess IOL positioning. A straightforward IOL decentration adjustment technique was used when necessary. Patients in whom IOL position were corrected and who were followed up for at least 3 months after surgery were included in the study.

From June 2023 to February 2024, six patients with noticeable IOL decentration were successfully treated using this technique. After a mean follow-up of 3.17 ± 0.37 months, there was a significant change in spherical. While the BCVA, refractive cylinder, intraocular pressure, and corneal endothelium density remained unchanged. Importantly, the IOL was well-centered in all six patients, with average horizontal and vertical IOL decentration of 0.21 mm and 0.20 mm, respectively.

Conclusion:

This simple IOL decentration correction technique demonstrated favorable results and may enhance IOL positioning in scleral fixation procedures.