Retina Roundup

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Displacement Of Submacular Hemorrhage Using Subretinal Cocktail Injection Versus Pneumatic Displacement: A Real-World Comparative Study.

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Introduction:

To compare the outcome of submacular hemorrhage (SMH) displacement using pneumatic displacement with intravitreal expansile gas versus pars plana vitrectomy (PPV) with subretinal injection of tissue plasminogen activator (tPA), anti-vascular endothelial growth factor (VEGF) agent and air as primary surgery.

Methods:

Retrospective interventional case series of 63 patients who underwent surgical displacement of SMH secondary to neovascular age-related macular degeneration (nAMD) or polypoidal choroidal vasculopathy (PCV) from May 1, 2015 to October 31, 2022. Medical records were reviewed for diagnosis, logMAR visual acuity (VA), central subfield thickness (CST) and post-operative displacement rates and complications up to 12 months after operation.

Results:

The diagnosis was nAMD in 24 (38.1%) and PCV in 39 (61.9%) eyes. There were 40 (63.5%) eyes in the pneumatic displacement group (38 received C3F8, 2 received SF6) and 23 (36.5%) eyes in the subretinal cocktail injection. Mean baseline VA was 1.46 and 1.62, respectively (p=0.404). The subretinal injection group had more extensive SMH (p=0.005), thicker CST (1006.6 m vs 780.2 m, p=0.012) and longer interval between symptom and operation (10.65 vs 5.53 days, p<0.001). The mean post-operative VA at 6 months was 0.67 and 0.91 (p=0.180) for pneumatic displacement and subretinal injection group, respectively, though VA was significantly better in the pneumatic group at 12-month visit (0.64 vs 1.03, p=0.040). At least 10 Mean change in VA were >10 letters gain in both groups up to 12 months. Post-operative CST reduction was greater (625.1 m vs 326.5 m, p=0.008) and complete foveal displacement

(87.0% vs 37.5%), p<0.001, odds ratio (OR) = 11.1) and displacement to arcade or beyond (52.5% vs 17.5%, p=0.009, OR = 5.15) were more frequent in the subretinal injection group. Two patients with failed pneumatic displacement were successfully treated with subretinal cocktail injection as a second operation.

Conclusion:

Surgical displacement of SMH lead to clinically meaningful improvement in VA. PPV with subretinal cocktail injection is more effective than pneumatic displacement in displacing SMH with similar safety profile despite longer interval before operation, higher CST and more extensive SMH at baseline. Retinal surgeons could consider this novel technique in cases with thick and extensive SMH or as a rescue secondary operation in selected cases.

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2) Retina 44(3):p 438-445, March 2024

Longitudinal Changes Of Posterior Vortex Veins In Highly Myopic Eyes Determined By Retrospective Analyses Of Indocyanine Green Angiograms

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Purpose

To assess the longitudinal changes of the posterior vortex veins (VVs) in highly myopic (HM) eyes.

Methods

The medical records of 1,730 consecutive HM eyes that had undergone indocyanine green angiography were studied. Eyes that had posterior VVs and had undergone at least two indocyanine green angiography examinations with a minimum interval of 3 years were selected from this group.

Results

Ninety-one eyes of 78 patients met the inclusion criteria. A total of 124 posterior VVs were identified. Over an average interval of 7.8 ± 5.0 years, 41 (33.1%) of the 124 posterior VVs had marked changes consisting mainly of an attenuation of vessels in 36 posterior VVs (87.8%) and alterations in the drainage course in 16 posterior VVs (39.0%). Fifteen posterior VVs had both types of changes. Most of the attenuations of the vessels occurred for smaller branches, but a complete loss of the entire trunk was seen in three eyes. Additionally, four eyes had posterior VV changes in association with changes of peripheral VVs.

Conclusion

Posterior VV in highly myopic eyes can undergo changes with increasing time. The associated factors included the development and

progression of myopic maculopathy lesions. In some cases, the blood drainage shifted from posterior VV to peripheral VV by forming anastomotic channels.

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3) Retina 44(3):p 392-399, March 2024

Full-Thickness Macular Hole Closure With Topical Medical Therapy

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Purpose

To examine the efficacy and clinical characteristics of successful full-thickness macular hole closure with topical therapy.

Methods

Retrospective case series of full-thickness macular holes managed by a single retinal physician (DS) diagnosed and treated from 2017 to 22.

Results

Of 168 patients with full-thickness macular holes, 71 patients were started on steroid, carbonic anhydrase inhibitor, and nonsteroidal antiinflammatory (NSAID) drops. 49 patients (mean 67 years, 59% women) were included in the analysis, and 22 patients were excluded for poor follow-up. In total, 7/49 were secondary post-PPV holes and 42/49 were idiopathic. In addition, 18/49 eyes (36.7%) achieved closure on topical therapy, of which 13 were idiopathic. Hole size was directly correlated with odds of closure: for every 10 μm decrease in size and odds of closure increased by 1.2× (P = 0.001, CI 1.1–1.4). Average time to closure was 107.2 days (range 20–512 days) and was not correlated with hole size (P = 0.217, CI −0.478 to +1.938). The presence of VMT was found to be inversely related to successful closure (OR 6.1, P = 0.029, CI 1.2–31.3). There was no significant difference in final best-corrected visual acuity for eyes undergoing primary pars plana vitrectomy versus those trialing drops before undergoing pars plana vitrectomy (P = 0.318, CI −0.094 to +0.112).

Conclusion

In the first study to date to report the overall efficacy and clinical characteristics of successful macular hole closure with topical therapy, drops achieved an overall closure rate of 36.7%, with higher efficacy in smaller holes and those without VMT. Rates of MH narrowing and reduction in central foveal thickness acted as predictors of effectiveness of drop therapy.

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4) International Journal of Retina and Vitreous volume 10, Article number: 8 (2024)

Serous Maculopathy With Absence Of Retinal Pigment Epithelium (SMARPE) Associated With Large Drusen

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Purpose

To describe the association of serous maculopathy with absence of retinal pigment epithelium (SMARPE) and large drusen in patients with non-neovascular age-related macular degeneration (AMD).

Methods

A retrospective study of ophthalmic examination and multimodal imaging data of individuals with SMARPE and large drusen observed over a period of 12-month was accomplished. SMARPE was defined as subretinal accumulation of fluid within the macular area due to retinal pigment epithelium (RPE) aperture. Large drusen were identified by the presence of sub-RPE deposits using multimodal imaging analysis (color fundus photography, fundus autofluorescence, and spectral-domain optical coherence tomography).

Results

Twelve eyes of 7 white patients with a mean age of 77 years were observed to have SMARPE associated with large drusen. The median visual acuity was 20/100. Bilateral SMARPE lesions were observed in 71% of study patients. All SMARPE lesions were hypoautofluorescent, located in the subretinal space between the RPE and the ellipsoid zone, and presented as complete or incomplete RPE apertures associated with subretinal fluid. The SMARPE in this study had coincident multimodal

imaging features as the SMARPE described in other reports in the literature.

Conclusions

Bilateral SMARPE can occur in association with typical AMD large drusen. Anomalisms resulting in drusen biogenesis or mechanisms that act alongside to these may be related to SMARPE development.

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Outcomes Of Short- Versus Long-Acting Gas Tamponades In Vitrectomy For Rhegmatogenous Retinal Detachment

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Background

In vitrectomy for rhegmatogenous retinal detachment, long-acting gas tamponades (LGT) such as C3F8 or C2F6 may improve surgical success rate due to their prolonged effect compared to a short-acting gas tamponade (SGT) with SF6. On the other hand, SGT allow a significantly faster visual rehabilitation after surgery and may reduce the risk of gas-related complications. As comparative data in retinal detachment surgery is limited, we assessed the outcomes of vitrectomies using either LGT or SGT.

Methods

We retrospectively analyzed 533 eyes of 524 consecutive patients diagnosed with primary rhegmatogenous retinal detachment not complicated by proliferative vitreoretinopathy (PVR) and treated by vitrectomy at two clinical sites. Depending on the site the patients presented at, they received either preferentially LGT (study site 1) or SGT (study site 2). Retinal re-detachment rates during a period of 6 months following surgery were analyzed.

Results

At study site 1, 254 of 278 eyes (91.4%) were treated by LGT (C3F8 72.3%; C2F6 19.1%), whereas at study site 2, 246 of 255 eyes (96.5%) received SGT (SF6). Rates of retinal re-detachment in the LGT- and SGT-treated groups were similar with 23 of 254 eyes (9.1%) and 24 of 246 eyes (9.8%), respectively ($p = 0.9$). Median time to re-detachment was 5.7 weeks in the LGT-treated group and 4.4 weeks in the SGT-treated group ($p = 0.4$).

Conclusion

In rhegmatogenous retinal detachment repair by vitrectomy, the use of SGT results in comparable rates of successful retinal re-attachment as LGT. Given the faster visual rehabilitation with SGT, these results suggest SGT as a sensible alternative to LGT in surgery of retinal detachment without PVR.

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