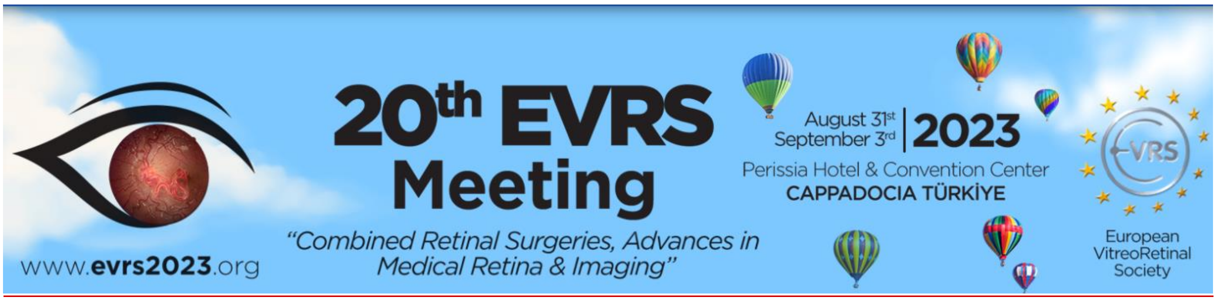

SESSION: Macular Hemorrhage
DATE: August 31, 2023
HALL: HALL 1
TIME: 18.10-18.40
Moderators Susana Teixeira, Jayant Guha

Vitrectomy for sub ILM hemorrhage: Different causes and visual results

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Sub ILM hemorrhage is a rare clinical entity that can result from a variety of causes. These include valsalva retinopathy, blood dycrasias, laser induced as well as idiopathic and secondary to retinal macroaneurysms. The presentation will show videos of vitrectomy for four cases of sub ILM hemorrhage including one case valsalva induced, 2 cases laser induced and one case due to rupture of macro aneurysm. The indications for intervention will be highlighted and the surgical tips for safe surgery will be elaborated

Interoperative OCT in Management Of Submacular Hemorrhage, Is it additional tool ?!!

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Purpose
To evaluate a new technique and the surgical impact with visual outcomes in management of sub macular hemorrhage caused by choroidal neovascularization (CNV), trauma, and ruptured retinal arterial macroaneurysm (RAM) operated with iOCT-assisted vitrectomy with subretinal injection of recombinant tissue plasminogen activator (rt-PA) followed by aspiration of liquified blood under monitoring of interoperative OCT

Methods
iOCT-assisted vitrectomy was performed with subretinal injection of recombinant tissue plasminogen activator (rt-PA) of a dose of 25 ug in 0.1 ml using a 38G needle with soft tip and for a submacular hemorrhage caused by choroidal neovascularization (CNV), trauma, and ruptured retinal arterial macroaneurysm (RAM). injection of small bubble of perflurocarbon liquid (PFO) after finalizing the vitreous base shaving to give time for the action of r-TPA with aspiration of liquified blood using the same subretinal needle under clear visualization of the site of the needle using iOCT after frequent shaking of the glob making dancing PFO bubble to help in liquefaction and drainage of liquified blood by compression and shifting of blood to the site of aspirating needle

Conclusions
iOCT-assisted vitrectomy with subretinal rt-PA injection and aspiration of liquified blood with the aid of PFO bubble and gas tamponade were accurate in removing and displacing the submacular blood with rapid visual recovery. Also the use of iOCT helps monitoring the site of injection as well as the site of aspiration of liquified blood and the most important value is monitoring the stretching effect of the fovea during injection to avoid development of iatrogenic macular hole

Tissue Plasminogen Activator for the Treatment of Preretinal Blood Under Silicone Oil

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Purpose: To report the results of use of tissue plasminogen activator(t-PA) for the treatment of preretinal blood under silicone oil after vitrectomy for proliferative didabetic retinopathy.
Methods: Four eyes of 4 patients who developed preretinal blood under silicone oil within one week after vitrectomy for proliferative diabetic retinopathy were treated with intravitreal injection of 25 microgram of t-PA. Patients were kept at supine position for 1 hour after injection of t-PA and followed up at day 1, and first, second and third weeks after injection.
Results: Preretinal blood under silicone oil was completely regressed within 3 weeks after injection in 3 of 4 eyes. One eye developed recurring hyphema and ghost cell glaucoma and needed repeated anterior chamber lavage procedures. No eyes developed preretinal fibrosis and any sign of toxicity.
Conclusion: İntravitreal injection t-PA fort he treatment of preretinal hemorrhage under silicone oil after vitrectomy for proliferative diabetic retinopathy is effective for fibrinolysis of preretinal blood under silicone oil and fastening the resorbtion time.

Comparison of three different techniques in the management of submacular hemorrhage

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Purpose: Comparison of intravitreal tissue plasminogen activator (tPA) injection and pars plana vitrectomy (PPV) with subretinal tPA injection to treat submacular hemorrhage(SMH)
Methods: Retrospective analysis of 94 eyes surgically treated for SMH caused by age-related macular degeneration, idiopathic, trauma and retinal macroaneurysms. 94 eyes with SMH were retrospectively divided in 3 groups. Group 1 received intravitreal tPA and gas (n=21), group 2 underwent PPV, subretinal tPA and gas (n=53), group 3 underwent PPV, subretinal tPA and gravitational displacement (n=20). Main outcome measures are pre-operative visual acuity (VA), final VA, SMH duration until surgery, final central macular thickness(CMT) and surgical complications.
Results: Ninety-four patients with a mean age of 71.01±16.45 years were followed 45.94±24.56 months. Mean duration of SMH prior intervention was 10.2(± 8.3) days. Mean VA improved from logMAR 1.90±0.54 at baseline to logMAR 1.13±0.72 at final. Mean final CMT was 312.1±108.5 μm. All surgical approach achieved statistically significant gain in vision compared to baseline. ($p<0.05$). A significant negative correlation was found between SMH duration and final VA. (p:0.005) Complications consisted of 4 cases of recurrent subretinal hemorrage, 3 vitreous hemorrhages, 2 retinal detachment, and 3 macular hole during the follow-up period.
Conclusion: This study suggests that three different surgical techniques may be an effective procedure for SMH. The duration of the SMH appear to be related to the success of the surgery.

Our Visual and Anatomical Results After Vitrectomy with Subretinal tPA Injection in the Treatment of Submacular Hemorrhage Secondary to Age-Related Macular Degeneration

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Purpose: To investigate the results of vitrectomy, subretinal tissue plasminogen activator (tPA) injection, hemorrhage displacement with liquid perfluorocarbon, gas tamponade, and face-down positioning in patients with submacular hemorrhage (SMH) secondary to age-related macular degeneration (AMD).
Methods: The medical records of 8 patients who applied to our clinic with large SMD due to age-related macular degeneration (AMD) and underwent PPV, subretinal TPA injection and gas tamponade between January 2020 and January 2022 were reviewed. Data collected includes preoperative visual acuity (VA), SMH extent and duration, intraoperative and postoperative complications, postoperative anatomical and VA responses, and the need for additional postoperative treatments.
Results: Overall, six patients were male and two patients were female, with a mean (SD) age of 71.75 (6.25) and a mean (SD) follow-up of 16.5 (3.70) months. Preoperative mean VA values were 2.20 (.185). Mean (SD) SMH duration was 7.87 (9.77) days, and mean (SD) SMH coverage was 4.68 (2.49) disc diameter. Complete displacement of hemorrhage occurred in all patients at postoperative 1 month. At 1 month postoperatively, mean SMH coverage was 2.31 (2.18), mean (SD) VA 1.40 (.489),(P = 0.018) significantly improved. Additional therapy (anti-vascular endothelial growth factor (anti-VEGF) monotherapy, photodynamic therapy or in combination) was given to all patients during follow-up. Mean (SD) LogMAR VA was 1.112 (.646) at 6 months postoperatively, which was significantly improved from baseline (P = 0.018). SMH recurrence was not observed in any of the patients postoperatively. Retinal detachment (RD) developed in one (12.5%) patient after surgery.
Conclusıon: Vitrectomy, subretinal tPA injection, replacement of hemorrhage with liquid perfluorocarbon, gas tamponade, and prone positioning were associated with better anatomical and visual outcomes in patients with large hemorrhagic neovascular AMD. The duration and area of SMH and preoperative visual acuity seems to correlate with the success of the relocation.