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SURGICAL TIPS & TRICKS (MY WAY) & COMPLICATIONS

NAVIGATING COMPLEX MACULAR MAZE- WITH 41-GAUGE COMPASS

Oral Presentation

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This small case series is meant to review and exemplify the use of 41-gauge needles to treat seven different retinal pathologies. While using 41-gauge needles for submacular hemorrhages may be relatively mainstream, their use in other conditions may not be as intuitive.

This retrospective case series evaluates the clinical utility of a 41-gauge (41G) needle in managing six distinct vitreoretinal pathologies. • Submacular Hemorrhage: Following pars plana vitrectomy (PPV), a 41G needle was utilized for subretinal injection of tissue plasminogen activator (tPA). • Refractory Macular Hole: Following failed primary internal limiting membrane (ILM) peeling, a 41G needle injected balanced salt solution (BSS) to induce localized macular detachment, creating retinal redundancy prior to C3F8 gas tamponade. • Subfoveal Perfluorocarbon Liquid (PFCL): Active aspiration via a 41G needle at the bubble's edge facilitated submacular PFCL removal under intraoperative OCT (iOCT) guidance. • Macular Fold: To resolve a post-PFCL aspiration fold, a 41G needle injected BSS under iOCT to induce a localized macular detachment, followed by SF6 gas tamponade. • Rhegmatogenous Retinal Detachment with Coloboma: A 41G needle was intuitively applied to localize the causative retinal break. • Drainage of localized subretinal fluid in retinal detachment & For retinal flattening after complex epiretinal membrane removal

This case series depicts the successful use of 41G needles in a small series of 6 patients to treat seven various retinal pathologies.

The use of 41-gauge needles may not only be useful in cases of large submacular hemorrhages but may offer significant benefits in treating failed macular hole closure following primary repairs, retained submacular PFO, symptomatic macular folds following vitreoretinal surgery, drainage of localized subretinal fluid and finding hidden breaks in complex retinal detachments.

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