Abstract 110

CHROMO- ASSISTED SUB SILICONE OIL PVR PEEL

Nasr M.*

University Hospitals Dorset ~ Bournemouth ~ United Kingdom

Complex cases of TRD and RRD usually end up with silicone oil tamponade on primary repair with significant proportion of these cases developing sub-silicone oil PVR related recurrent RD, which is a major challenge during silicone oil removal surgery, especially when the PVR process is involving/ threatening the macula with guarded prognosis.
Sub-silicone oil interface vitrectomy has been postulated as a technique for controlled surgical management of these cases (1) with procedures like forceps membrane peeling, scissors segmentation/delamination, cutter delamination, retinectomy, internal drainage of subretinal fluid, removal, or resection of subretinal traction elements, retinectomy, and endophotocoagulation all working well with silicone oil in place.
The main challenge to this technique is, however, difficult visualization/ manipulation of epi-retinal membranes under silicone oil with higher risk of iatrogenic retinal breaks, thus the need to stain these membranes to facilitate safe membrane dissection. As most commonly used silicone oil tamponades in use in VR surgery are practically immiscible with water-based fluids, and safety and efficacy of commonly used water-based stains for epi-retinal membranes is well established, it was thought to combine both agents to bridge the gap of surgical challenge of this technique.

Case series of 3 consequent cases of sub silicone oil recurrent complex PVR-related RD with macula off/ threatening extension, sub silicone oil injection of Membraneblue dual DORC (Netherlands) dye to stain the PVR membranes utilizing the inevitable layer of sub-silicone oil fluid interface while patient is lying flat using VFC injection mode of the vitrectomy machine, followed by aspiration of the dye and fluid using VFC extraction mode with same extrusion cannula with infusion of air or silicone oil to compensate for lost volume and pressure, this is then followed by either single or bi manual sub-silicone oil PVR peel under visualization with minimal mobility of underlying retina, controlled retinectomy if necessary and then routine removal of silicone oil and laser or cryo retinopexy follow and the case is finally tamponaded with either gas or silicone oil.

All 3 cases ended up with successful removal of tractional PVR elements with minimal extension of iatrogenic breaks and most importantly preventing macular trauma, with 2 cases ended up with silicone oil tamponade and one with C2F6 16% tamponade and all with flat retina post-operatively.

Though interface vitrectomy and membrane peeling under silicone oil is an established technique to encounter complex PVR related RD, using this new technique of controlled sub-silicone oil interface injection and washout of blue stain to assist safer membrane visualization and dissection may help improve surgical outcomes of these complex cases.

1. Pars plana vitrectomy reoperation without removing silicone oil
Steve Charles 1, John C Randolph, Eric J SiglerRetina 2012 Sep;32(8):1664-5