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SHORT TERM TAMPONADE WITH PERFLUOROCARBON LIQUID IN SUBRETINAL BLEEDING IN COMPLEX SCENARIOS- INDICATIONS, SAFETY AND EFFICACY.

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Short-term tamponade with perfluorocarbon liquid (ST-PFCL) involves off-label use of heavy liquids. Despite that it has been used in certain indications in vitreoretinal surgery, particularly in the treatment of giant retinal tears with good outcomes. Retinal detachment with subretinal bleeding is a challenging scenario and the purpose of this study is to investigate if ST- PFCL culd be a technique of choice of managing this situation and discuss indications, safety and efficacy.

Retrospective consecutive series of 7 eyes of 7 patients with subretinal haemorrhage associated with retinal detachment- rhegmatogenous in 6 cases and exudative in 1 case (patient 4) operated by a single surgeon (KMC) between January 2022 and February 2025, 31-93 years of age. Data regarding indication, preoperative visual acuity, duration of temporary tamponade, complications and visual acuity at 3 months after the surgery were recorded for patients 1-4; for the remaining 3 (patients 5-7) who had more recent surgery and data from the latest review were used. All patients had subretinal bleeding associated with retinal detachment- either preoperatively (globe rupture-patent 1and 6, penetrating eye injut-patient 7, diabetic retinal redetachment,-patient 3. ; peripheral exudative haemorrhagic chorioretinopathy (PEHCR)-patient 4) or as a result of intraoperative complication (patient 2. and 5.) underwent vitrectomy with about 95% fill of vitreous cavity with perfluorodecalin. All sclerostomies were sutured with 8-0 vicryl and patients were instructed to posture in supine position until the date of removal. Topical steroid and antibiotic was prescribed. Removal of PFCL (PFCL-R) was scheduled between 7-14 days from the initial surgery. Secondary tamponading agent was used depending on the clinical scenario.

At the time of PFCL-R, subretinal blood was completely or almost completely resolved in 6 cases. In case 6 some organized, fibrosied blood persisted. In 5 cases retina was attached at the time of second operation. In patient 5 the retina was detaching due to subretinal bands, which were removed during the second operation; in patient 7 the retina was incompletely treated with laser and that was addressed in the second operation. In both cases successful apposition was achieved after the second surgery, but in patient 7 proliferative vitreoretinopathy caused inferior macula-on re-detachment about 1 month later. In 6 cases vision improved after the 1st surgery (cases1-4 and 6-7), in 1 case vision did not change (patient 5- severe pre-existing in the macular region). During the ST-PFCL, 4 patients had significant blood in the anterior chamber (patients 1,2, 4 and 6) and 3 of them (2,4 and 6) had increased intraocular pressure, responding to medication. The blood was washed out at the time or PFCL-R and IOP stabilized in the postoperative period. All patients had severe conjunctival hyperaemia during ST-PFCL, suggestive of inflammation, which resolved after PFCL-R. No retinal toxicity was observed. No severe or irreversible complications or deterioration of vision were noted in relation to ST-PFCL.

ST-PFCL is safe and very effective in draining subretinal blood in scenario of retinal detachment associated with subretinal blood. ST-PFCL should not extend beyond 2 weeks due to possible inflammation, therefore the patient selection should be careful. It is not a technique of choice for submacular bleeding secondary to wet AMD or macroaneurysm and should be reserved to selected

cases where retinal detachment is present. Intraocular pressure should be monitored and treated accordingly during ST- PFCL, especially if the drained blood might migrates to the anterior chamber.