



**SESSION: Challenging Cases of Surgical Retina**

**DATE: September 2, 2023**

**HALL: HALL 1**

**TIME: 16:45 – 17:45**

**Moderators: Faisal Fayyad, Tansu Erakgün**

### **Anatomical and Functional Outcomes of Vitrectomy with Silicone Punctal Plug for Optic Disc Pit and associated Serous Macular Detachment**

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**Objective:** To evaluate the efficacy in terms of anatomical and functional outcomes of vitrectomy with punctal plug for optic disc pit and associated serous macular detachment.

**Material-Method:** A non-comparative interventional case series was conducted at the Ophthalmology Department of Lahore General Hospital, Lahore between 2017 and 2023. The study included 07 patients (05 males and 02 females) between the age 25 to 55 years who presented with unilateral optic disc pit associated with serous macular detachment. After informed consent, a detailed preoperative examination was carried out. All the patients underwent 23-gauge pars plana vitrectomy, silicone punctal plug in the pit. The follow up period is 05 years for 03 cases, 03 years for 02 patients while 02 patients had a follow up of 01 year. Anatomic outcome and visual acuity was analysed for all eyes. Optical coherence tomography (OCT) was used to observe the anatomic changes.

**Results:** This study included 07 patients in which 05 were males (71.43%) and 02 were females (28.57%). The mean age was 40 years. Postoperative visual acuity improved from counting finger (CF) to 6/60 in 02 patients, 6/24 in 03 patients, from hand motion (HM) to 6/36 in 01 eye while 01 patient attained the postoperative visual acuity of 6/9 from perception of light. The serous macular detachment resolved completely between 03 to 18 months postoperative period. No patient had a recurrence of the disease in the follow up period.

**Conclusion:** Plugging the optic disc pit with the appropriate sized silicone punctal plug is a safe and efficient surgical procedure to achieve both the anatomical and visual outcomes in patients with optic disc pit associated serous macular detachment.

**Keywords:** Pit, Plug, Punctal

## Outcomes of pars plana vitrectomy for retinal detachment with chorioretinal coloboma

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**Purpose:** To evaluate the outcomes of retinal detachment (RD) in eyes with chorioretinal coloboma managed by pars plana vitrectomy (PPV) and silicone oil tamponade.

**Methods:** This retrospective study included 14 eyes of 12 patients who underwent PPV for RD with chorioretinal coloboma. All of the patients underwent PPV with silicone oil tamponade. Only in 2 patients additional scleral buckle procedure was needed.

**Results:** The mean age of 12 patients was  $35.5 \pm 19.9$  years. The average follow-up period was  $42.5 \pm 38.7$  months. Preoperatively, the mean visual acuity (VA) was logMAR 2.00 and final VA was logMAR 1.10. The single operation anatomic success rate was in twelve eyes (85%). There were two eyes with anatomical success after the second PPV. The average silicone oil tamponade duration was  $16.1 \pm 3.3$  weeks. Cataract extraction was performed in 4 eyes as an additional surgical intervention.

**Conclusion:** PPV and silicon oil tamponade can be considered as an effective surgical intervention in retinal detachment with chorioretinal coloboma.

**Keywords:** Chorioretinal coloboma; Retinal detachment; Pars plana Vitrectomy

## **A mysterious case of retinal detachment- is it really rhegmatogenous?**

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Case presentation:

A 47-year old male with no previous ophthalmic or medical history presented in July 2022 with 4 day history of loss of vision in the right eye (RE). His best corrected visual acuity (BCVA) was Hand movements in the RE and 0.6 LogMAR in the left eye (LE) intraocular pressure: RE 5mmHg, LE 21mmHg. Additionally, in the RE: AC cells ++ and flare ++ and mild phacodonesis.

In the RE total macula off retinal detachment (RD) with retinal tears was found, in the LE horse-shoe tears.

The left eye underwent laser retinopexy and RE-pars plana vitrectomy (ppV), laser, cryotherapy. Intraoperatively unusual retinal appearance of was noted with schitic changes and ghost vessels and silicone oil was used as a tamponade. Despite initial successful attachment, RD recurred under oil without obvious tears or proliferative vitreoretinopathy (PVR). Fluorescein angiography revealed bilateral vasculitis with leakage, more prominent on the right side. No obvious association was identified. He was treated with topical, periorbital and oral steroids. The treatment did not improve subretinal fluid. Second surgery (ppV, laser, fluid drainage via retinotomy, laser, oil tamponade) was performed with no breaks or PVR found. Despite initial successful attachment and vision 1.3 LogMAR, fluid recurred again despite good oil fill.

Mycofenolate Mofetil was started to preserve the left eye.

Conclusions:

In case of failed RD repair with no obvious reason exudative detachment should be considered and combined aetiology (rhegmatogenous and exudative) is possible.

In such cases prognosis is guarded and further surgery does not guarantee success, especially if the underlying inflammatory condition is not controlled

**Keywords:** exudative retinal detachment, vasculitis, vitrectomy

## Repair with two ILM flaps in a patient with optic disc pit maculopathy who developed a full-thickness macular hole at the first surgery

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**Purpose:** To report the effect of repair with two ILM flaps on visual and anatomical success in a patient with optic disc pit maculopathy who developed a full-thickness macular hole in the first operation.

**Case presentation:** A 28-year-old female patient was admitted to our clinic with the complaint of loss of vision in her left eye for about 2 months. The patient's visual acuity was 20/20 in the right eye and counting fingers at 1 meter in the left eye.

Biomicroscopic examination was normal. Fundus examination revealed optic disc pit maculopathy in the left eye (Figure 1). The patient underwent pars plana vitrectomy and C3F8 gas injection in the first surgery. In the 2nd month follow-up examination of the patient, full thickness macular hole was observed and reoperation was recommended (Figure 2). In the second vitrectomy surgery, two ILM flaps were created from the nasal and temporal aspect of the fovea. The temporal ILM flap was placed over the fovea, the nasal ILM flap was placed over the optic disc pit, and C3F8 gas injection was applied. In the 3rd months after the second surgery, the patient's left eye visual acuity was 20/50. OCT imaging showed that the left eye full-thickness macular hole was closed, and retinoschisis and serous macular detachment regressed (Figure 3).

**Conclusion:** In cases of optic disc pit maculopathy that develops full thickness macular hole with standard vitrectomy and gas injection, the creation of ILM flaps from the nasal and temporal aspects of the fovea in the second surgery may contribute positively to visual and anatomical success.

**Keywords:** Full-thickness macular hole, internal limiting membrane (ILM) flap, optic disc pit maculopathy

## **Free ILM flap for Retinal Detachment secondary to Juxta-Papillary holes in Peripapillary Staphylomas**

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**Purpose:** To evaluate the use of ILM flap to close holes lying inside the peripapillary staphylomas associated with Retinal Detachment (RD)

**Methods:** Seven patients of RD associated with holes lying inside the peripapillary staphyloma underwent vitrectomy. ILM flaps were used to stuff the holes. Peripapillary laser was done in select cases. Silicon Oil/Gas was used as a tamponade as required.

**Results:** Six patients had high pathological myopia associated with peripapillary type 3 staphyloma. One patient had staphyloma associated with optic disk coloboma. All patients presented with sudden decrease of vision. All patients were discovered to have micro holes within area of chorio-retinal atrophy associated with posterior staphyloma. Laser was done around the optic nerve head in 4 eyes. Silicon Oil was used for tamponade in 3 eyes and Per-fluoro Octane gas was used in 4 eyes. Retina was attached in all eyes. In 6 eyes, the retina was attached with single surgery.

**Conclusion:** Long term success was achieved by vitrectomy using free ILM flap over juxta-papillary holes. ILM flap worked even in eyes where laser was not possible around the holes.

**Keywords:** Retinal Detachment, Posterior Staphyloma, ILM flaps

## Early results of autologous retinal pigment epithelium–choroid transplantation for the treatment of eyes with subretinal disciform scar formation

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**Purpose:** To present early outcomes of subfoveal scar excision and autologous retinal pigment epithelium(RPE)–choroid transplantation with a peripheral retinotomy.

**Methods:** Seven patients who underwent vitreoretinal surgery with subfoveal scar excision and autologous RPE–choroid transplantation with a peripheral retinotomy between November 2022 and January 2023 were analyzed retrospectively. Subfoveal scar formation has been developed as a result of choroidal neovascular membrane secondary to exudative age–related macular degeneration in 5 patients, angioid streaks in 1 patient and choroidal rupture with subretinal hemorrhage in 1 patient. The duration of scar formation in all patients was between 3 months and 1 year. All eyes were evaluated with pre- and postoperative first-month best-corrected visual acuity (BCVA), optical coherence tomography, optical coherence tomography angiography and fluorescein angiography.

**Results:** Mean age was 64.57(24–83) years. Five patients were female. Four phakic patients underwent phacoemulsification and intraocular lens implantation at the beginning of the surgery. Silicone was used as tamponade in all patients. Mean pre- and postoperative first-month BCVA was  $1.54\pm 0.70$  logMAR and  $1.41\pm 0.65$  logMAR, respectively ( $p=0.0.68$ ). At the 1st month examination, visual acuity in 4 of 6 patients reached the level of finger counting at least 1 meter from hand movement level. Submacular hemorrhage in 1 patient developed at the first week of follow-up. Inferior quadrant retinal detachment under silicone oil was developed in 1 patient.

**Conclusion:** Considering our short-term evaluation with a small number of patients, although it did not reach statistical significance, we achieved a slight increase in BCVA in these patients. Autologous RPE–choroid graft is promising even in patients with subfoveal scar formation and impaired inner-segment/outer-segment junction band, and complication rates will decrease as the surgical method improves.

Nonetheless, it is appropriate to evaluate with long-term results of more patients.

**Keywords:** Age-related macular degeneration, subfoveal scar, retina pigment epithelium–choroid graft

## **Surgical results of Vitrectomy for Central Retinal Artery Occlusion**

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Central Retinal Artery Occlusion ( CRAO) is a potentially blinding condition with very limited treatment modalities. This paper describes the results of using Vitrectomy with Arterial Sheathotomy as an effective method for restoring perfusion in cases of CRAO in 55 cases.

### **Results**

**Overall results** - Perfusion could be restored partially/ completely in 47% eyes with the retinal circulation improving immediately within 48 hours.

**Presence of abnormal glial tissue** - In some patients with abnormal glial tissue on the optic disc Removal of glial tissue in helped restore the retinal perfusion immediately.

**Visualization of the embolus** - On massaging the central retinal artery the embolus could be visualized migrating to the periphery in 40% of the eyes with CRAO. In some cases the embolus had to be manually broken into pieces to relieve the arterial occlusion

**Visual acuity** - In the where the treatment was successful, visual acuity gradually improved over a period of 4-6 weeks. A total of n=8 eyes where the duration of presenting symptoms less than 24 hours, had a visual acuity improvement up to 20/80 - 20/120. n=14 eyes had a visual acuity improvement up to 20/200 by 6 weeks postoperatively. n=4 eyes had a minimal visual improvement up to 20 /400. The latter groups were eyes with duration of symptoms more than 24 hours, with a mean duration of 38 hours.

**Safety evaluation [at 3 months follow up]** - None of these eyes had any retinal complications, endophthalmitis or any vitrectomy related complications.

**Keywords:** CRAO, Vitrectomy, Restoration of Perfusion

## Hungry Eyes! Management of Live Intravitreal Cysticercus Cyst with Retinal Detachment

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A 13 year old boy presented with live intravitreal cysticercus cyst with RD. After complete IVTA assisted vitrectomy, the live cyst was eaten inside the vitreous cavity. Encirclage, extensive Membrane Peeling, Endolaser to extensive sieve like retinal holes created by the parasite, and silicone oil tamponade was performed. Postoperatively retina remained attached. 3 months later patient underwent cataract surgery. Another 5 months later patient underwent silicone oil removal with Brilliant Blue G and Loop assisted epiretinal membrane and internal limiting membrane peeling, air fluid exchange and C3F8 gas tamponade. At final follow-up at 1 year, best-corrected vision in affected eye was 6/24p, intraocular pressure was normal, PCIOL was in situ with central posterior capsule opening and quiet anterior chamber. Fundus showed attached retina with extensive peripheral scarring in the area of laser. Optical coherence tomography showed flat retina with resolving minimal macular edema.

To report an extremely rare case of bilateral live intravitreal cysticercus cyst. A 26 year old male presented with BCVA OD HMCF & OS 2/60. Fundus showed OU intense vitritis, B/L live intravitreal cysticercus cyst with RD OD>OS. Patient underwent 25G MIVS surgery OS followed by OD. The cyst was eaten with the cutter followed by AFX, EL & silicone oil tamponade. Additional steps in OD included encirclage band, extensive MP, & EL to extensive sieve like retinal holes. Postop. retina remained attached. 3 months later, patient underwent cataract surgery. Another 2 weeks later, patient underwent silicone oil removal with BBG & 25G loop assisted ERM & ILM peeling, AFX & C3F8 gas tamponade. At last followup at 1 year, BCVA was 6/24 OU, fundus showed attached retina with extensive peripheral laser CRA. OCT showed flat macula. Despite the devastation caused inside the vitreous cavity by the parasite, favorable results were achieved after multiple patient interventions.

**Keywords:** intravitreal cysticercus cyst, 25 G vitrectomy, cysticercosis



## **Internal limiting membrane (ILM) surgery for myopic traction maculopathy (MTM): Should macular buckle be abandoned ?**

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Between 2019 and 2022, ILM surgery was used to treat 70 eyes with MTM, including 25 eyes with myopic macular hole retinal detachment (MMHRD), 20 eyes with myopic foveoschisis (MF) and 25 eyes with myopic macular holes (MH) without RD. Fovea sparing ILM peeling was used to treat eyes with MF and multilayer ILM flaps were used to treat the MHs. In MMHRD & MH without RD. In all cases the peeling was extended to the edge of the posterior staphyloma.

The tamponade was air in eyes with MF & MH without RD and eyes with MMHRD limited to the posterior staphyloma. Silicone oil (SiO) 2000 Cs. was used to tamponade eyes with MMHRD extending to the periphery. The latter was removed after 30 days.

MH closure, retinal reattachment and flattening of the MF could be achieved in all cases (100%). Anatomical success was associated with functional improvement by at least 2 lines. Additional macular buckle was not needed to achieve retinal reattachment or closure of the MH in any eye.

The ILM is the most rigid structure at the posterior pole of eyes with pathological myopia complicated with MTM. Extended peeling of the ILM to the edge of posterior staphyloma helps to increase the mobility of the posterior retina and can adapt to the concavity of the staphyloma. Multilayer ILM flaps help closure of MHs.

Techniques of LM surgery (Fovea sparing ILM peeling, multilayer flaps and extended ILM peeling to the edge of staphyloma) are effective for treating MTM (100%).

Additional macular buckle was not needed in any case.

**Keywords:** ILM surgery in MTM