LONG TERM FOLLOW-UP OF THE MACULAR ANATOMICAL AND FUNCTIONAL OUTCOME IN CASES OF RETINOTOMY AND RETINECTOMY

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Introduction

Retinal Detachment is defined as detachment of the inner retinal layers from the retinal pigment epithelium beneath them. Rhegmatogenous retinal detachment (RRD) is the most common type.

Proliferative vitreoretinopathy (PVR) involves the growth and contraction of cellular membranes within the vitreous cavity and on both the epiretinal and subretinal surfaces, following rhegmatogenous retinal detachment or a penetrating injury. PVR is the leading cause of visual impairment after surgical treatment for rhegmatogenous RD.

Surgical Techniques During Vitrectomy:

- Alleviate retinal traction and providetamponade to aid in the treatment of retinal breaks.
- Remove proliferative tissue that could cause recurrent contraction and retinal detachment (RD).
- Relaxing retinotomies or retinectomies are considered if the above measures are insufficient to relieve traction, usually in cases with severe subretinal proliferation or vitreous base contraction.
- Large retinotomies may render scleral buckling unnecessary.

Aim of the Work

The aim of this study was to assess the long term anatomical and functional outcome after silicone oil removal in macula of eyes which had retinotomy and/or retinectomy done for treatment of retinal detachment.

Patients and Methods

The study included 30 patients who had retinectomy / retinotomy done during their treatment plan.

Inclusion Criteria:

- Age of 18 years or more.
- Patients with RRD with proliferative vitreoretinopathy (PVR) grade C, who had undergone retinectomy / retinotomy during vitreoretinal surgery.
- Patients with giant retinal detachment or recurrent retinal detachment and retinal fibrosis.

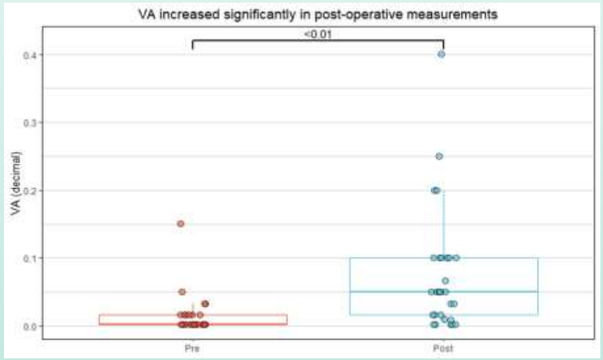
Exclusion Criteria:

- Significant media opacity which prevents good quality imaging by OCT on follow up.
- Eye with pre-existing macular pathology.
- Eye with tractional retinal detachment (TRD) due to diabetes.

Patients records were evaluated for full ophthalmic examination, including decimal BCVA using Grover et al when required, IOP for any postoperative IOP spike or hypotony and retinal condition (whether attached or redetachment under silicon oil) was assessed. SD-OCT macula scan was done after silicon oil removal to assess anatomical macular condition.

Results

decimal Visual Acuity (VA) ranged from 0.0016 to 0.15 pre operative with a mean value of 0.01 ±0.03 and ranged from 0.002 to 0.4 post-operative with a higher mean value of 0.07±0.09. Also, intra-ocular pressure (IOP) ranged from 6 mmHg to 22 mmHg pre-operative with a mean value of 13.24 ± 4.01 mmHg and ranged from 6 mmHg to 38 mmHg post-operatively with a higher mean value of 15.07±5.85 mmHg. Central Subfield Thickness (CST) measurements pre-operatively were only recorded for a single patient. However, post-operative CST measurements had a mean value of 405.9±296.7 mm and ranged from 40 mm to 1482 mm.



Figure

Table: Distribution of pre-operative and post-operative measurements among study participants (n:29)

Term	Avg (SD)	Median (IQR)	Range: Min-Max
Pre-op VA (decimal)	0.01 (0.03)	0.002 (0.01)	0.0016 - 0.15
Preop IOP	13.24 (4.01)	13 (4)	6 - 22
Preop CST	-	236 (0)	236 - 236
Postop VA (decimal)	0.07 (0.09)	0.05 (0.08)	0 - 0.4
Post op IOP	15.07 (5.85)	15 (4)	6 - 38
Post op CST	405.86 (296.65)	303 (341)	40 - 1482

Conclusion

Visual acuity showed a significant improvement in cases with advanced retinal detachment following retinectomy with an encouraging safety profile. However, there was no evidence of such improvement in intra-ocular pressure.