

## STRABISMUS IN PRESENCE OF RETINAL EXOPLANT – A CASE REPORT

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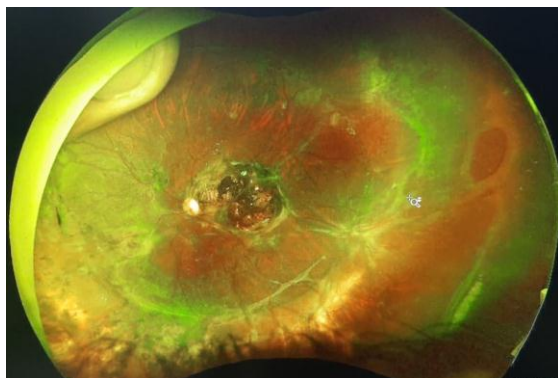
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### ABSTRACT

A 22 year old female presented to Advanced Eye Centre on 30<sup>th</sup> July 2021 with chief complaints of outward deviation of left eye since 3 years. Patient gave history of injury to left eye with a wooden stick in 2004 seventeen years back for which she underwent multiple surgeries. She gradually started developing the deviation for the last three years. Was prescribed glasses but no improvement with them. Patient gave no history of diplopia/patching. She Underwent left eye Pars Plana Vitrectomy (PPV) + Pars Plana Lensectomy (PPL) for left eye subluxated lens and vitreous haemorrhage in 2004. In 2017 she was diagnosed as having Aphakic Retinal Detachment for which she underwent Left Scleral band (240 x 360 degree) + PPV (25G) + silicone oil tamponade (SOT) in 2017. In 2018 patient had RE Retinal detachment for which she underwent- Epi Retinal Membrane (ERM) removal +SOT + Fluid Air Exchange (FAX) + Endo Laser (EL) in 2018. Maintaining on 0.8/0.9 Cup to Disc Ratio, with shallow Retinal Detachment under oil with macular scar; was referred for exotropia 2021 in view of no benefit from further retinal surgeries.

Ocular examination done on 30-7-2021 with best corrected visual acuity of 6/9 in right eye and counting finger at 4 metre in left eye. Intra ocular pressure in right eye was 20 mmHg and left eye was 20 mmHg on eye drop brimonidine with timolol done by Goldmann Applanation Tonometry. Anterior segment in rt eye was within normal limits and left eye was aphakic . Extra ocular movements in both eyes were full and free . posterior segment of right eye was normal whereas left eye has been discussed in figure 1.



**Figure 1: Showing fundus photo of left eye.**

On motor examination

Head posture: No head tilt or face turn was seen

Hirschberg test: Reflex in the left eye was falling just inside nasal limbus

Cover test: Left eye moved inwards to take fixation but did not maintain

Left exotropia 50-55 PD (Krimsky) as shown in figure 2



**Figure 2: Showing left eye exotropia.**

On sensory examination left eye suppression was seen. Based on these findings a final diagnosis of Left sensory exotropia status post retinal surgery with scleral band in situ was made and patient was planned for left eye strabismus surgery. A retinal consultation was also made for removal of scleral buckle intra operatively but because of shallow retinal detachment band removal was not a safe option for this patient. So left Lateral Rectus Recession 9.00 mm with Medial Rectus Resection 6-7 mm under guarded visual prognosis was done. Patient was explained about intraoperative difficulties and isolation of muscles also was explained about residual strabismus, no visual gain, Redness/ watering/congestion and prolonged post operative care. Post operative

evaluation after 6 months showed excellent results with mild exotropia shown in figure 3.



**Figure 3: Showing post operative results after 6 months of strabismus surgery.**

Strabismus after retinal detachment surgery is generally of two types ie Transient strabismus seen in 50% patients and resolves in 3-6 months. The other type is Persistent Strabismus seen in 3.8% - 25 % patients.<sup>[1]</sup> Types of strabismus seen post scleral buckle surgery can be enlisted as Horizontal deviation, Vertical deviation, Combined (horizontal + vertical) and Rare types – Brown's syndrome / Anti elevation syndrome.<sup>[2]</sup>

Mechanism of strabismus post scleral buckle surgery can be classified as -Sensory (Subretinal Fluid, Vision Distortion, Anisometropia Due To The Eye Elongation by buckle), Mechanical (Mechanical adhesion which is seen in different sites such as tenon's capsule, sclera, inter muscular septum, extraocular muscles, and orbital fat), Muscular (Mass effect leading to Muscular Ischemia, Dehiscence/Slippage, Muscle Paresis And Scar Formation), Anatomical factors (Nerve damage, muscle ectopia and gliosis, and oblique muscle inclusion or rotation). Factors affecting surgical outcomes include- Information about retinal procedure (with / without vitrectomy / buckle/band/cryotherapy), Size of preoperative deviation and time between retinal and strabismus surgery, Macula structural status, Presence of restriction to passive movement.<sup>[3]</sup>

The problems faced by a strabismologist in the presence of exoplane are- Preoperative: Restriction of movements, assessment of measurements, Pupil abnormalities making measurement inaccurate, Intraoperative: Muscle localization, scarring, adhesions, altered muscle insertion, entrapment, Insert under the buckle/hangback recessions, Buckle removal: No removal/Complete or partial removal at time of strabismus surgery.<sup>[4]</sup>

Factors to be considered for outcome of surgery are -Age of onset of strabismus, Time to onset of strabismus / diplopia, Time to presentation, Time to strabismus surgery, Type of anaesthesia (local / general anaesthesia), FDT before and after surgery.<sup>[5]</sup>

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