

# Pars Plana Vitrectomy increases the Success of Retinal Reattachment Surgery

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A study was carried out in the eye department of SGRH/FJMC, Lahore to see the success rate of Pars Plana Vitrectomy in retinal reattachment surgery. Out of 36 eyes, 66.67% of eyes showed retinal reattachment and 33.33% developed retinal detachment after primary procedure of Scleral Buckling. With Pars Plana Vitrectomy percentage of success increased to 86.11 and thus failure rate decreased.

**Key words.** Pars plana, vitrectomy

Although the surgical treatment of rheumatogenous retinal detachment has considerably improved, but there are still lots of failures. Proliferative Vitreoretinopathy was studied as a cause of recurrence of retinal detachment<sup>1</sup>. In a retrospective study of 1159 cases of retinal detachment surgery, it was seen that proliferative vitreoretinopathy is considered to be single most important factor responsible for surgical failures<sup>2</sup>. In another study retinal reattachment was achieved in 82% of the eyes with one operation and additionally in 7% after reoperation. Conclusion suggested that proliferative vitreoretinopathy is a significant cause of failure in retinal detachment surgery with conventional methods and proliferative vitreoretinopathy is threshold beyond which the percentage of reattachment decreases to about 50%<sup>3</sup>. Many other research workers supported that conventional scleral buckling is more frequently complicated by proliferative vitreoretinopathy<sup>4,5</sup>.

Presence of proliferative vitreoretinopathy decreases the success of conventional retinal detachment surgery. For this pars plana vitrectomy should be performed<sup>6</sup>. To see the effects of pars plana vitrectomy in retinal reattachment success we planned a study design at SGRH Lahore.

## Materials and methods

Study was done in the eye department of Sir Ganga Ram Hospital, Lahore. Thirty six cases were selected in which all procedures were carried out at Sir Ganga Ram Hospital. All these patients were admitted through outpatient department. Total follow up period was six months.

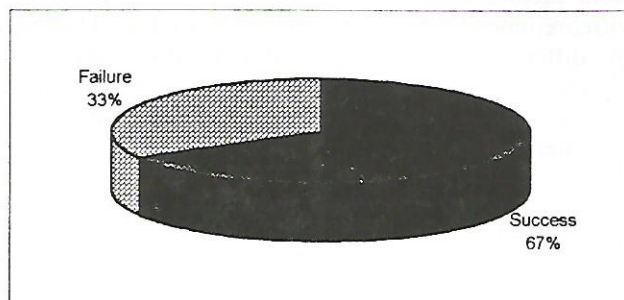
## Results

Among 36 eyes which were treated in Sir Ganga Ram Hospital, 24 eyes showed retinal reattachment after single procedure (66.67%), 12 eyes (33.33%) developed recurrent retinal detachment and thus needed pars plana vitrectomy and silicon oil injection either once or twice to reattach the retina (Graph 1). With multiple procedures in failed eyes we achieved retinal reattachment in 7 eyes, while in remaining 5 eyes we could not reattach the retina (Table 1). Finally after multiple procedures retinal reattachment was achieved in 31 eyes out of 36 eyes (86.11%)

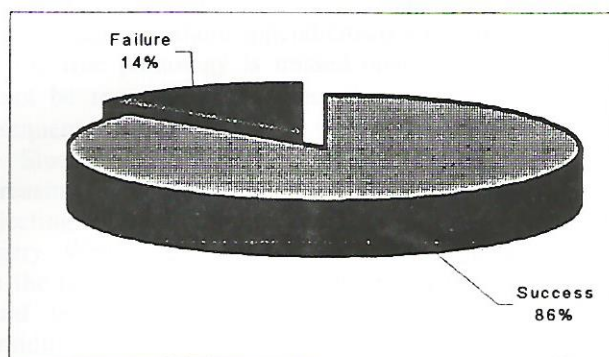
Incidence of failure decreased to 13.89%(Graph 2).

Table 1

| Method                               | %age of Success | %age of Failure |
|--------------------------------------|-----------------|-----------------|
| Primary procedure (scleral buckling) | 66.67           | 33.33           |
| Pars Plana vitrectomy                | 86.11           | 13.89           |



Graph 1. Results after scleral buckling



Graph 2. Results after Pars Plana Vitrectomy

With these results we concluded that by doing Pars plana Vitrectomy we have increased our success rate from 66.67% to 86.11% and our failure rate decreased.

### Discussion

Out of thirty six eyes which were included in this study, 24 eyes(66.67%) achieved success after primary scleral buckling for rhegmatogenous retinal detachment Among remaining 12 eyes(33.33%) which had recurrence , the main cause of failure was proliferative vitreoretinopathy. We tried to study the cause of recurrence in these cases and reached to the conclusion that recurrence could be due either due to maturation/intensification of proliferative vitreoretinopathy or excessive cryotherapy. Supporting this conclusion is a study in which it was found out that early recurrence occurred as a result of intensification of proliferative vitreoretinopathy<sup>1</sup>. We have been of the opinion since long that once the process of proliferative vitreoretinopathy has started and gone upto the stage of grade B, vitrectomy should be carried out as a primary procedure. In case of proliferative vitreoretinopathy grade B, simple scleral buckling does not suffice and usually the retina detaches with in 3-6 months as proliferative vitreoretinopathy process keeps on, gets mturated and cause traction on retina<sup>7</sup>. Cryotherapy might further aggravate the proliferative vitreoretinopathy by dispersing the viable retinal pigment epithelial cells into vitreous cavity. Cryotherapy also disturbs the blood retinal barrier. Both factors enhanced the disease cycle of proliferative vitreoretinopathy and thus lead to recurrence. The studies of different authors from abroad also suggest that cryotherapy might also be the reason for further aggravation/intensification of pre existing proliferative vitreoretinopathy<sup>8,9</sup>.

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