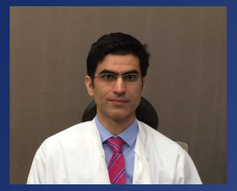

Peripheral Vitrectomy Under Air in Rhegmatogenous Retinal Detachment

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Purpose:

To evaluate the results of pars plana vitrectomy with peripheral vitreous shaving under air in eyes with rhegmatogenous retinal detachment (RRD).

Patients and Methods:

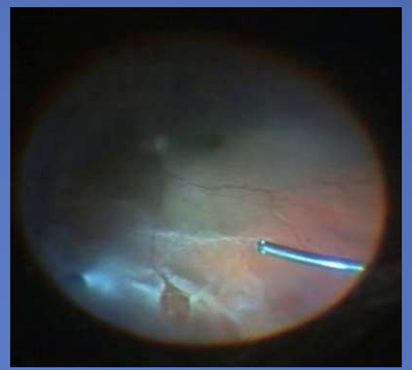
Fourty two eyes of 42 consecutive patients with RRD were included .
All patients underwent 23G pars plana vitrectomy.
Phacoemulsification and IOL implantation at the same setting if they are in the presbyopic age, or they have a high refractive error.
Perfluorodecalin was injected if there was Grade C PVR, if the detachment was bullous, or if the macula was completely detached.
Subretinal fluid was drained through posterior drainage retinotomy or existing postequatorial tears under air in surgeries without perfluorodecalin use.
Peripheral vitrectomy was performed up to anterior border of the vitreous base under air.
3 rows of 360 degree laser photocoagulation was applied posterior to vitreous base

Results:

15 female and 27 male with RRD
5 eyes had Grade C PVR
12 of 19 phakic eyes underwent phacoemulsification at the same setting.
Mean follow-up: 6.5±4 months.
Perfluorodecalin was used in 13 (31%) eyes.
Silicone oil in 19 (45%) eyes, and 12% C3F8 in 23 (55%) eyes.
Silicone oil was removed from 17 of 19 eyes (89%)
Preoperative VA: 0.23±0.32 (logMAR: 1.8±1.4), postoperative VA: 0.59±0.31 (logMAR 0.31±0.3) ($p<0.001$, paired t-test)
Complicatons:
Redetachments developed in 4 (9.5%) eyes which were related to

- -Anterior PVR in 2 eyes.
- -Insufficient adhesion around posterior retinotomy in one highly myopic eye with hypopigmentation
- -Epiretinal membrane traction to posterior retinotomy site in one eye

Complete reattachment in 3 (75%) cases and persistence of shallow anterior detachment in the other case after repeat surgeries.
Accidental peripheral holes in 2 (4.7%) eyes, increased IOP in 5 (12%) eyes, and fibrin reaction in 3 (7%) eyes postoperatively.



Highly mobile retina with a large superior horseshoe tear

Immobile retina under air without PFCL, vitreous sticking to the probe tip

Wide field view with clearly defined posterior border of vitreous

Conclusion:

Peripheral vitrectomy under air in eyes with RRD is a safe and effective method with a high success and low complication rate. Although it has some technical challenges such as impaired depth perception and light reflections it has advantages such as improved retinal stability, wider field of view, lower need for perfluorocarbon liquid use and independence from an assistant for scleral indentation.