Author’s response to reviews

Title: Outcomes of a Postoperative Perfluorocarbon Liquid Tamponade for Complex Retinal Detachments: 12 Years of Experience in Southern Thailand

Authors:

Patama Bhurayanontachai (patama103@yahoo.com.au)
Usanee Seepongphun (usanee.seep@gmail.com)

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Author’s response to reviews:

Reviewer 1:
I would like to recommend some language editing of the article.
- This revised manuscript has been reviewed by Enago’s copyediting service. A certificate is enclosed at the end of this letter.

I would like to know more about the complications caused by PFCL tamponade.
- We added more data about the complication issues as in (Line 68), (Line 233) and (Line 240).

Reviewer 2:
All the paper about the use of PFCL for complicated or inferior RD reported PFCL removal with no additional endotamponade. Why had they filled all these eyes with silicone oil?
- (Line 206) Difficult cases such as chronic RRD with PVR and previously failed surgery for retinal attachment comprised more than half of the patients included. The duration from the patient’s symptoms to the starting date of this study was 125 ± 156.1 days. Therefore, the chronicity of the RD would be at least 4 or more months on average. The longer the duration of RD, the higher the risk of surgical failure in these patients. Therefore, silicone oil was a preferred choice of vitreous substitution to hold the retina in place after the retina was successfully reattached by PFCL (81.1%, oil; 17.2%, gas) and to lessen the risk of postoperative hypotony.

How many eyes were really with retinal attachment after the first operation with PFCL?
- (Line 159) After the operation with PFCL placement, 97.5% of the retinas were reattached at the time of PFCL removal.

If they had concentrated only to the VA outcomes or the low rare of toxicity related to the prolonged use of the PFCL after surgery, the paper could be more interesting.
- Yes, we did concentrate to both the VA outcomes and the low rare of toxicity in PFCL use. (Line 241) There was no sign of retinal toxicity from the PFCL reported in our study. However, an optic nerve atrophy was found in 22.1% of overall cases in late postoperative period, and this compromised a visual recovery in successful cases.
Reviewer 4:
Why didn’t they use silicone oil (heavy or light) rather than PFCL?
- (Line 54) Patients with chronic RD or those who underwent previously failed surgery are frequently accompanied by severe PVR, which sometimes produces severe peripheral retinal contraction and shortening and may require a retinectomy. During injection, the high specificity gravity of PFCL allows the detached retina to be smoothly flattened from the posterior pole and displaces unwanted subretinal fluid anteriorly passing through the presenting retinal breaks or peripheral retinectomy. In contrast, an air-fluid exchange flattens the retina from the periphery and pushes subretinal fluid toward the posterior pole; therefore, a retinotomy is required. Using PFCL can also be an alternative or adjunctive to the standard scleral buckling procedure.

Did the patients stay at bed for 14 days during PFCL tamponade?
- Yes, they did. (Line 99) All patients were instructed to limit activities and lie in bed in a supine position during the postoperative period in the ward. They were allowed to ambulate in upright position only for meals and toileting.

Did you evaluate your results for each single subsample (i.e. RRD from any causes)?
- The sample size would be too small to compare among each subgroup to yield a good prediction. Optic nerve atrophy was found in almost 1 out of 4 patients as a postoperative finding. The author should discuss about this complication.
- (Line 242) Optic nerve atrophy was found in 22.1% of the overall cases in the late postoperative period. Either using PFCL or repeated surgeries could account for late optic nerve atrophy.

Why lens-sparing vitrectomy in such complex cases? What was the importance of cataract in postoperative visual outcome?
- An axial length measurement is crucial for an IOL calculation and an optical biometry is more accurate than ultrasound. Therefore, the surgeons had tried to preserve patient’s natural lens and waited until the retina has been nicely attached before considering a cataract surgery. A phacovitrectomy was considered in particular cases such as poor surgical view compromising by a pre-existing cataract or an intraoperative accident of lens touching by an instrument.
- This is an interesting point that would be addressed in future study.