Author’s response to reviews

Title: Intraoperative Optical Coherence Tomography Assisted Analysis of Pars Plana Vitrectomy for Retinal Detachment in Morning Glory Syndrome: a case report

Authors:

Lyubomyr Lytvynchuk (lubko_l@yahoo.co.uk)
Carl Glittenberg (webmaster@carlglittenberg.com)
Siamak Ansari-Shahrezaei (ansari@retinacentervienna.com)
Susanne Binder (susanne@susannebinder.com)

Version: 1 Date: 09 Apr 2017

Author’s response to reviews:

Answers to Comments

Dear Reviewers,

The authors greatly appreciate your comments and corrections, which improved our manuscript. All the comments and question were answered, and the text as well as pictures and videos were corrected respectively.

Reviewer reports:

Takeshi Iwase (Reviewer 1): Authors analyzed intraoperative optical coherence tomography data (iOCT) in pars plana vitrectomy (PPV) for non-RRD in morning glory syndrome (MGS), and concluded that iOCT assisted PPV in RD case due to MGS facilitated to remove thick layers of the vitreous much more safer.

However, there are some concerns regarding this investigation below.
Authors: Dear Takeshi Iwase (Reviewer 1), we are grateful for your review and comments.

All the questions are answered below.

Reviewer 1

I The most concern in this manuscript is whether the retinal detachment is from strong adhesion between the vitreous and epimacular, epipapillary areas. In addition, is optic disc pit really absent? The pre-operative OCT images show ILM detachment and retinoschisis, and subretinal fluid. Furthermore, the Supplementary Video 1 shows the ILM detachment in the latter half of the video, and a temporary pause during ILM peeling. The authors may want to demonstrate a strong adhesion at the pause?. However, the detached retina can be pulled up during ILM peeling without strong adhesion. In general, ILM detachment is not caused by the tractional force. The finding can be observed in eyes with optic pit including MGS. Therefore, it is likely that this case has a pit in the anomalous optic disc head which cause non-RRD with MGS.

Answer:

Slit-lamp biomicroscopy of the optic disc on right eye showed the typical signs of MGS. Unfortunately, there is no color fundus photo before the surgery. But we added the video fragment at the beginning of Video 1, which depicts in details the appearance of MGS in color scale before vitrectomy.

Preoperative OCT shows retinal detachment with retinal schisis. However, we do not state that there was an ILM detachment. In Supplementary Video 1 we paused the image on the moment of ILM peeling (time code 01:16), showing with iOCT that underlying retinal nerve fiber layer is intact and that further ILM peeling was save without risk of making “retina” peeling and creating the hole. We corrected Supplementary Video 1 and added subtitles to make it more clear.

Additionally, we marked with arrows on Figure 2 anteroposterior orientation of vitreoretinal traction and indicated it in text: “Triamcinolone enhanced iSD-OCT imaging showed antero-posterior orientation of strongly adherent hyaloid layers in epimacular (Fig.2 A, yellow arrow) and epipapillary (Fig.2 B, yellow arrow) areas, that proves the presence of vitreoretinal traction (Supplementary Video 1, Video 2).”
2 The authors hypothecates the tractional forces of the vitreous to be the major cause of the retinal detachment in MGS, meaning that primary tractional forces if the vitreous induce tractional RD and further formation of the retinal break at the weakest area of the overstretched retinal tissue within excavated optic disc. It is difficult to state the hypothesis from this one case. It is better to delete it

Answer: We do agree that it is not correct to state a hypothesis based on one clinical case. We deleted this statement. The traction forces of vitreous body on retina can play a role in retinal detachment, that is why we discussed this possibility, rather then make a hypothesis. We change the Conclusions in Abstract to: “Conclusion: Based on iSD-OCT findings we assume that non-RRD in this case of MGS is caused primarily by the vitreous traction with further possible formation of the retinal breaks.” We changed the title of the manuscript as well: “Intraoperative Optical Coherence Tomography Assisted Analysis of Pars Plana Vitrectomy for Retinal Detachment in Morning Glory Syndrome.”

3 In general, MGS has an excavation and preretinal membranous tissue. Those findings are not clear in the pre-operative OCT images. Does this patient have those findings or the quality of the images are not good?

Answer: We do agree that excavation of the optic disc and epiretinal membranes are the hallmarks of MGS. It was difficult to show it on preoperative OCT. That is why we performed intraoperative OCT at the beginning of the surgery. In Supplementary Video 1 we showed optic disc excavation (time code 00:24) and epiretinal membranous tissue (time code 00:34). We have marked these features with subtitles on the Video 1 to make it more clear. Optic disc excavation and epipapillary membranous membrane also are visible on Video 2.

4 In method section, BCVA was stable at 0.8 for a long time. How long the vision was stable and central non-RRD was persisted?

Answer: BCVA of the patient was 0.8 (ETDRS Chart) during last 6 years starting from the first visit to our clinic. We added this information in the text in Methods section.
5 The authors performed 23-gauge PPV. When the surgery was performed? Please state it.

Answer: The surgery was performed on 09.12.2014. We included the date of the surgery in methods.

6 It is better to show the pre-operative fundus color photo

Answer: We added the video fragment at the beginning of Video 1, which depicts in details the appearance of MGS in color scale before vitrectomy. Unfortunately, there is no color fundus photo before the surgery.

Thiemo Rudolph, M.D. (Reviewer 2): Dear Author(s),

you are presenting an interesting case report of a patient with Morning Glory Syndrome. The management of retinal detachment (RD) as a potential sight threatening complication of this condition has been described before and you present a nice overview of present publications on that subject. You are presenting evidence that RD in your case was non-rhegmatogenous and caused by vitreomacular traction, utilizing intraoperative OCT imaging of the surgical procedure.

Authors: Dear Thiemo Rudolph, M.D. (Reviewer 2), we appreciate your comments and corrections. All the questions are answered below.

However, I would strongly urge you to submit your article to a thorough language revision. There are numerous spelling and grammar errors, but there is also quite some redundancy in your discussion. The most obvious example is repeating almost a whole paragraph from page 10, line 45 on the next page 11, line 31 ("Based on iSDOCT analysis,...") word by word. Also, the last statement of the discussion is almost immediately repeated in your final conclusion section in
slightly different words ("There is a high risk that retinal holes can develop" versus "...can lead to retinal break formation and retinal atrophy,...").

A thorough revision would therefore also reduce the length of the article and make it much more pleasant to read.

Answer: Dear Reviewer, we submitted the manuscript to a thorough revision on English language by native speaker dealing with scientific medical work. We did correct the discussion and eliminated all repeating (including “on page 10, line 45 and on the next page 11, line 31”).

We reduced the lengths of the article as well from 4088 words to 3920 words. We hope that after all correction our manuscript is more pleasant to read.

We did change the title of the manuscript as well: “Intraoperative Optical Coherence Tomography Assisted Analysis of Pars Plana Vitrectomy for Retinal Detachment in Morning Glory Syndrome.”, as an answer to comments of Reviewer 1.