Author's response to reviews

Title: Hyphema is a risk factor for failure of trabeculectomy in neovascular glaucoma: a retrospective analysis

Authors:

Shunji Nakatake (s-ntake@eye.med.kyushu-u.ac.jp)
Shigeo Yoshida (yosida@med.kyushu-u.ac.jp)
Shintaro Nakao (snakao@med.kyushu-u.ac.jp)
Ryoichi Arita (r-arita@med.kyushu-u.ac.jp)
Miho Yasuda (miho-m@info.med.kyushu-u.ac.jp)
Takeshi Kita (kita@eye.med.kyushu-u.ac.jp)
Hiroshi Enaida (enaida@med.kyushu-u.ac.jp)
Yuji Ohshima (yuji@eye.med.kyushu-u.ac.jp)
Tatsuro Ishibashi (ishi@med.kyushu-u.ac.jp)

Version: 2
Date: 10 March 2014

Author's response to reviews: see over
Reviewers report

Title: Postoperative hyphema is a surgical risk factor in trabeculectomy for neovascular glaucoma: a retrospective study

Version: 1

Date: 27 January 2014

Reviewer: Luciano Quaranta

Reviewers report:

The paper is of interest and conclusions are well balanced. I suggest the following:

- Professional english revision

Thank you for pointing this out. We used a professional language editing service.

- The title and short title are misleading: the title should be changed as "Hyphema is a risk factor for failure of trabeculectomy in NVG: a retrospective analysis" similar for the short title

As you mentioned, the previous title was misleading. We have changed the title and short title in accord with your suggestion.

- Please quote and discuss the recent systematic review of Quaranta et al on the results of trabeculectomy in POAG and compare with the results of the present paper on NVG

Thank you for your useful proposition. We have discussed the excellent systematic review in the text.

- Please state clearly as a limitation of the study the retrospective nature of the investigation.
It is important to state the limitations of the retrospective study. We have now stated this in the last part of the Discussion and also noted the need for prospective randomized studies.

- Please quote and discuss the possibility of fibrin clots resolution by the means of TPA (Tripathy et al. Am J Ophthalmol. 1991 Feb 15;111(2):247-8.)

We appreciate your advice. Fibrin clots and hyphema after trabeculectomy may have similar effects on the postoperative course. In the study by Tripathi et al., an intracameral injection of TPA dissolved fibrin clots and decreased the elevated IOP. This strengthens the possibility that avoiding postoperative hyphema provides a better prognosis in NVG patients.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:** NONE
Title: Postoperative hyphema is a surgical risk factor in trabeculectomy for neovascular glaucoma: a retrospective study

Version: 1

Date: 16 February 2014

Reviewer: Paolo Fogagnolo

Reviewer's report:

In this well written paper, the Authors investigated the causes affecting success of trabeculectomy in NVG by means of a retrospective design. Unfortunately, this is not the proper analysis to answer the question, as allocation the therapeutic options was not randomized. The message of the paper may therefore be, at best, not precise; sadly, in the worst option, it may even be misleading.

We appreciate your excellent comment. As you mentioned, generally there is a limitation that accompanies retrospective study. To answer the question properly, a prospective randomized investigation is required. We stated this in the last section of the Discussion.

Major Essential Revisions

1) How was the choice of performing IVT chosen?

In the absence of a randomized study, the info on the rate of success of IVT must be considered with caution, as authors may have allocated to IVT the worst cases.
The sentence “Preoperative IVB did not significantly influence either postoperative hyphema or the result of trabeculectomy” should be mitigated accordingly.

Thank you for pointing this out. We administered intravitreal bevacizumab for all patients without a history of ischemic cardiac disease or brain infarction and in poor general status, as we described in the manuscript. However, it might be possible that we administered intravitreal bevacizumab for the worst cases, as you pointed out. Thus, it would be an overstatement to conclude that “Preoperative IVB did not significantly influence either postoperative hyphema or the result of trabeculectomy.” Accordingly, we changed this sentence to “There was no significant association between preoperative IVB and postoperative hyphema or the results of trabeculectomy.”

2) Sample size is missing. Multivariate results may be influenced by inadequate sampling (see history of vitrectomy).

Thank you for pointing this out. The sample size for the multivariate analysis was 49. As you noted, the number may not have enough statistical power to evaluate 5 factors with this sample size. Therefore, we reevaluated the results using three risk factors: history of vitrectomy, preoperative intravitreal bevacizumab, and postoperative hyphema. We changed Table 4 according to the results of this new analysis.

3) Discussion:

In view of their results, what is the clinical management that authors would recommend in NVG patients in order to reduce the risk of hyphema?
As we had noted in the manuscript, direct cauterization of the iris and using Ex-PRESS drainage would be beneficial to reduce the risk of hyphema. In addition, Wilson RP et al. reported that during trabeculectomy for glaucoma patients with POAG, CACG, congenital glaucoma, or NVG, the use of sodium hyaluronate reduced the incidence of postoperative hyphema (Wilson RP, Lloyd J. *The place of sodium hyaluronate in glaucoma surgery*. Ophthalmic Surg 1986 17:30-33). We agree that using ophthalmic viscosurgical devices would be beneficial to reduce the risk of hyphema during trabeculectomy for NVG patients. We thus added text relevant to this point to the manuscript.

Minor Essential Revisions

1) Abstract:

“Trabeculectomy with mitomycin C (MMC) is a good treatment modality in the management of eyes with NVG.” This sentence is too strong considering the high failure rate of the procedure in the literature and in the study.

2) Results:

the first 3 lines replicate what already written in Methods.

3) “The mean follow-up period was 16.8 ± 8.1 months with a range from 6 to 34 months. All eyes were followed up for more than 6 months” These two sentences are conflicting.

Thank you; we rewrote the sentences according to your suggestions.
Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: I declare that I have no competing interests