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RESPONSE TO LETTER

Efficacy and Safety of Initial Outflow Reconstruction Using Ab Interno Microhook Trabeculotomy: A Retrospective Study in Secondary Glaucoma [Response to Letter]

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Dear editor

Thank you for providing us with the opportunity to respond to the letter addressing our paper, "Efficacy and Safety of Initial Outflow Reconstruction Using Ab Interno Microhook Trabeculotomy: A Retrospective Study in Secondary Glaucoma".[1] We sincerely welcome scholarly discussion and constructive critique, as they contribute to a deeper understanding and improvement of clinical practice. In responding to this letter, we would first like to acknowledge that there are important points of agreement between the letter's authors and us. We respectfully address the specific issues raised below.

We are grateful to Dr. Haque for his insightful and thoughtful comments on our study. As Dr. Haque correctly pointed out, there is currently no clear consensus regarding the role of minimally invasive glaucoma surgery (MIGS) in secondary glaucoma (SG), and further accumulation of clinical data is required to support decision-making in real-world practice. We hope that our study may serve as a modest contribution toward this goal.

Effect of Combined Cataract Surgery on Intraocular Pressure Reduction

As pointed out by Dr. Haque, the potential contribution of concomitant cataract surgery to postoperative intraocular pressure (IOP) reduction is acknowledged as an important and valid concern. Given the retrospective nature of our study, and as discussed in the manuscript, it is not possible to accurately quantify the independent IOP-lowering effect of cataract surgery alone.

The meta-analysis by Benekos et al, which Dr. Haque kindly referenced, reported a mean IOP reduction of 2.75 mmHg at 12 months following cataract surgery alone in patients with exfoliation glaucoma (XFG), which we also consider to be an important and interesting finding.[2]

In our cohort of 39 eyes, the observed mean IOP reduction at 12 months postoperatively was 10.5 mmHg overall. Of these 39 eyes, 14 underwent glaucoma surgery alone (single group: 6 phakic eyes and 8 pseudophakic eyes), while 25 underwent combined cataract and glaucoma surgery (triple group). At 12 months, the mean percentage IOP reduction was 28.7±35.5% in the single group and 34.4±27.1% in the triple group, with no statistically significant difference between the two groups (p=0.65). Furthermore, in the subgroup analysis limited to XFG eyes, preoperative and 12-month postoperative IOPs were 25.4±9.0 mmHg and 18.5±9.7 mmHg in the single group (7 eyes, including 6 pseudophakic eyes), and 23.6±8.5 mmHg and 12.3±2.9 mmHg in the triple group (11 eyes), respectively. The IOP reduction rate was 25.1±39.7% in the single group and 40.5±22.4% in the triple group, with no significant difference between groups (p=0.42).

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Regarding surgical success, our primary analysis followed the 2024 AAO recommendations, which define surgical failure as not achieving the prespecified IOP target at two consecutive visits.[3] Three criteria were applied: Criterion A (IOP ≤ 21 mmHg and/or ≥ 20% reduction from baseline), Criterion B (IOP ≤ 18 mmHg and/or ≥ 20% reduction), and Criterion C (IOP ≤ 15 mmHg and/or ≥ 20% reduction), all allowing the use of medications. Kaplan-Meier survival analyses were performed for all three criteria. In addition, as described in the Methods, any reoperation or additional glaucoma surgery during follow-up was also counted as surgical failure. In Cox proportional hazards models, surgical type (glaucoma surgery alone versus combined cataract surgery) was not identified as a significant risk factor for failure under any criterion.

Nevertheless, we acknowledge that the limited sample size, the use of postoperative medications, and the inclusion of cases that were lost to follow-up or converted to filtration surgery within 12 months warrant cautious interpretation of these results.

Prospective Comparison with Cataract-Only Surgery

A study design incorporating a cataract-only control group or strict stratification by lens status would indeed provide highly valuable data for more precise interpretation, and agreement is expressed with this suggestion. However, in real-world clinical practice, when cataract surgery is planned in patients undergoing glaucoma treatment, considerations such as IOP control, medication burden, and surgical timing often lead to the concomitant performance of some form of glaucoma surgery. Consequently, it can be difficult to secure a sufficiently comparable cataract-only control group in retrospective analyses, and this was also the case in our study. Although prospective allocation to a cataract-only group would be ethically and practically challenging under these circumstances, we agree that such a study would be of great interest if feasible.

Clinical Impact of Medication Score Reduction

We agree with the comment that the reduction in medication score observed in our study may appear modest in clinical practice. Nevertheless, a reduction in the number of topical medications may still have meaningful clinical value for patients with ocular surface disease or medication intolerance. Additionally, previous reports have suggested that a higher preoperative topical medication burden may be associated with poorer outcomes following trabeculectomy.[4,5] From this perspective, reducing medication burden at an earlier stage may potentially influence long-term outcomes. However, whether microhook trabeculotomy can ultimately reduce or delay the need for filtration surgery remains to be determined and requires longer follow-up.

Assessment of Inflammatory Activity in Uveitic Glaucoma

We fully agree that evaluation of inflammatory activity is crucial for interpreting outcomes in uveitic glaucoma. As this was a retrospective study, a predefined remission period was not established, and no minimum duration of uveitis quiescence was prespecified. However, all uveitic glaucoma cases included in this study underwent surgery during clinically inactive phases without signs of active inflammation. Nonetheless, inflammatory activity was not uniformly assessed using standardized quantitative measures, and therefore, outcomes were not stratified based on inflammatory activity. This represents a limitation of the present study and an important area for future research. Future studies should incorporate clearly defined measures of inflammatory activity and remission periods, as suggested, to allow for more precise evaluation of surgical outcomes.

Suggestions for Future Research

The suggestions regarding longer-term follow-up, further evaluation of the IOP-lowering effect of cataract surgery, more detailed reporting of inflammatory status, specific changes in medication regimens, and health-economic considerations are sincerely appreciated and agreed upon. These points represent important directions for future research. In particular, evaluation beyond 12 months is essential to clarify whether MIGS can meaningfully reduce or delay the need for filtration surgery in SG, and we believe such studies will significantly advance the field.

In closing, we would like to again thank Dr. Haque for his constructive and insightful comments. We hope that this exchange contributes to a deeper discussion regarding the appropriate role of MIGS in the management of SG.

Disclosure

The authors report no conflicts of interest in this communication.

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