Author’s response to reviews

Title: Comparison of Outcomes of Unilateral Recession-Resection as primary surgery and reoperation for Intermittent Exotropia

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Dear Editor-in-chief

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Comparison of Outcomes of Unilateral Recession-Resection as primary surgery and reoperation for Intermittent Exotropia

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BMC Ophthalmology

I have been listed as a corresponding author on a manuscript submitted to BMC Ophthalmology and entitled "Comparison of Outcomes of Unilateral Recession-Resection as primary surgery and reoperation for Intermittent Exotropia". Thank you for providing us the opportunity to revise the manuscript, entitled "Comparison of Outcomes of Unilateral Recession-Resection as primary surgery and reoperation for Intermittent Exotropia" for consideration for publication in the BMC Ophthalmology.

Through the revision process, the reviewers have raised a number of points which we believe would improve the manuscript and we were able to complement the drawback in our manuscript. We thank the reviewers and editor-in-chief for their valuable and constructive comments. Unfortunately, we received the third revision request from one reviewer. The reviewer pointed out six questions again. However, we dissented from the opinion of the reviewer (Question number 3 and 4). The reviewer thought that it was meaningless to compare the postoperative outcomes of R&R as primary surgery and reoperation and argued that we must compare the primary surgery in group A with initial surgery in group B. We believed that it did not conform to the purpose of this study. When we encounter patients who are to undergo reoperation for recurrent exotropia in clinical settings, they or their parents usually are concerned about the
prognosis and the accuracy of the surgical dosage for avoidance of complications such as over- or undercorrection. These questions prompted us to compare the postoperative outcomes of the same surgical procedure (R&R) as primary surgery and reoperation for intermittent exotropia. According to previous studies, other authors compared the postoperative outcomes of the same surgical procedure for intermittent exotropia between two groups even though the reviewer was concerned that we compare two groups that cannot be compared [Lee et al. Comparison of outcomes of unilateral lateral rectus recession for exotropia between first and second operations. Korean J Ophthalmol 2011;25:329-333] [Kim WJ, Kim MM. The clinical course of recurrent intermittent exotropia following one or two surgeries over 24 months postoperatively. Eye. 2014;28:819-24]. If we modify the research according to the reviewer’s opinion, it will be a totally different study. We request your consideration about this problem politely. I hope you can understand my situation. Once again, we beg your pardon for a complicated request. We are looking forward to your response. Thank you.

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Reviewer reports:

Reviewer 1: Comments on reviewer's responses

Q1. I appreciate your response but still not clear unless you specifically indicate the stereopsis before and after for those patients with intermittent exotropia who resulted in esotropia. By definition bifoveal fixation is 40 seconds of arc. So any patient with 40 seconds of arc (9/9) who resulted in 100 seconds of arc (6/9 circles) and esotropia is a monofixator.
A: Thank you for your valuable comment. In this study, there were 25 patients with 40 seconds of arc before surgery (group A – 14 patients / group B – 11 patients). After surgery, they maintained the same stereoacuity (40 seconds of arc) except one patient. This one patient resulted in 50 seconds of arc after surgery and orthotropia during postoperative follow-up. Thus, we considered that the definition of surgical success about motor alignment was suitable for our study. However, we also agree that the explanation about the definition of surgical success was not sufficient for a reader to understand. So, we added the sentence “For the precise estimation of surgical success, any patient whose stereoacuity had 40 seconds of arc preoperatively and changed worse after surgery was regarded as a monofixator and excluded from the surgical success, in spite of the postoperative esodevation ≤ 8 PD.” at page 6-7, lines 127-130.

Q3 & 4. I appreciate your response. But I still recommend you compare Group A and Group B first surgery. This is needed. As a reviewer and as a reader I want to see why groups behaved differently or indeed those groups were similar to begin with. Then your results may be more representative.

A: Thank you for your comment. According to previous studies, other authors compared the postoperative outcomes of the same surgical procedure for intermittent exotropia between two groups even though you are concerned that we compare two groups that cannot be compared [Lee et al. Comparison of outcomes of unilateral lateral rectus recession for exotropia between first and second operations. Korean J Ophthalmol 2011;25:329-333] [Kim WJ, Kim MM. The clinical course of recurrent intermittent exotropia following one or two surgeries over 24 months postoperatively. Eye. 2014;28:819-24]. To conduct the comparison of surgical success rate and dose-effect ratio between primary surgery and reoperation, we planned to make the study design similar to Kim and Kim’s study. To some degree, the impact that primary surgery had on the group would be likely to have acted as a bias affecting surgical outcomes such as postoperative angle of deviation and surgical success. However, our study design would remain a meaningful and possible comparative case series in any event, given that we had concluded that we did not need to modify the surgical dose of reoperation by assessing the surgical success and dose-effect ratio of R&R as reoperation. We believed that your opinion did not conform to the purpose of this study. Once again, we still thought that the surgical outcomes could be compared between primary surgery in group A and reoperation in group B.

Q5. An overcorrection is meaningless if the stereopsis is not worse or the patient does not have diplopia. The paper needs to prove and demonstrate that.

A: Thank you for your comment. In this study, there were 25 patients with 40 seconds of arc (9/9 circles in Titmus Stereotest) before surgery (group A – 14 patients / group B – 11 patients). After surgery, they maintained the same stereoacuity (40 seconds of arc) except one patient. This one
patient resulted in 50 seconds of arc (8/9 circles) after surgery and orthotropia during postoperative follow-up. During early postoperative period (< 1 month), there were 10 patients with postoperative esodeviation of < 8 PD who had diplopia and temporary deterioration of stereopsis. However, the diplopia and esodeviation were resolved with recovery of stereopsis after postoperative 1 month. So, we added these sentences at page 9, lines 188-191.

Q6. Are the results reported updated to indicate near and distance motor alignment?

A: Thank you for the comment. We updated the results to indicate near and distance motor alignment. We routinely estimated the pre- and postoperative angle of deviation at distance and near and described the data in Table 2 and 3. When we decided the surgical dosage of recess-resect, we refer to the preoperative angle of deviation at distance and near. Based on the postoperative angle of deviation at distance and near, we defined the surgical success as postoperative ocular alignment at distance and near within 8 PD and presented the surgical success in Table 4.

Q8. Table 2, Group A and Group B were significantly different near and distance deviations.

A: We appreciate your valuable comment. Although we had already answered this question in first point by point response, we re-explained it in this section for your convenience. Unfortunately, there was a difference of preoperative angle of deviation between the two groups. The reasons were as follows: (1) the patients with R&R as a reoperation had already undergone the primary surgery, which induced a relatively small angle of deviation, and (2) early detection of exotropia recurrence in the patients with R&R as a reoperation could be made, due to their steady follow-up after the primary surgery. As you mentioned, a discrepancy of preoperative angle of deviation would be likely to influence the postoperative angle of deviation and surgical success. We believe therefore that an additional, prospective study should be conducted to confirm our present results. We described this limitation in “discussion” at page 12, line 262-272.