Author’s response to reviews

Title: Outcomes after the surgery for acquired nonaccommodative esotropia

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Author’s response to reviews:

Editor Comments: Please take into consideration the comments by the reviewers. Not only does the discussion need re-writing with attention to grammar and syntax, but there also needs to be better definition of the study population and surgical success. In addition, authors need to acknowledge the potential that a cut off of 6ms or older likely includes many congenital ETs and this would confound data.

Thank you very much for your careful considered comments.

Chan et al. [1] defined ANAET as strabismus characterized by constant esodeviation starting after 6 months of age, in the absence of any significant refractive error. We diagnosed ANAET if esotropia had developed after 6 months of age in an otherwise healthy child and the esodeviation angles at distance and near were unchanged even after the full correction of hyperopia of +2.0 diopters (D) or more, if revealed in cycloplegic refraction. Moreover, patients with DVD, latent nystagmus or IOOA were excluded regardless of history, due to concern for unrecognized infantile esotropia, which was described as explained in the method section on page 5, lines 84-86. The youngest patient was 17 months old. So, the chance that infantile esotropia patients had been included in this study population would be relatively low. However, as per your comment, we added the sentence, “because the patients in whom esotropia had developed after 6 months of age were included in this study, even though patients with DVD, latent nystagmus or IOOA were excluded, the possibility infantile esotropia patients to be included in this study group were cannot be completely ruled out.” in discussion section, page 10-11, lines 198-201.

References

Reviewer reports: Andrew Reynolds (Reviewer 1): Inclusion criteria: Although prior studies, including the Jacobs/Mahoney study, have used >6 months as an age cutoff, this seems unusually low for ANAET, and almost certainly would include some congenital esotropias. I am not sure how one would determine if the onset was acute, subacute, acquired or congenital in that very young age group. That being said, it is part of the literature standard, but I would consider a higher age cutoff.

We diagnosed ANAET if esotropia developed after 6 months of age in an otherwise healthy child and esodeviation angles at distance and near were unchanged even after the full correction of hyperopia of +2.0 diopeters (D) or more, if revealed in cycloplegic refraction. Moreover, patients with DVD, latent nystagmus or IOOA were excluded regardless of history due to concern for unrecognized infantile esotropia, which was described in method section page 5, lines 84-86. The youngest patient was 17 months old. So the chance that infantile esotropia patients had been included in this study population would be relatively low. However, as your comment, we added the sentence, “because the patients in whom esotropia had developed after 6 months of age were included in this study, even though patients with DVD, latent nystagmus or IOOA were excluded, the possibility infantile esotropia patients to be included in this study group were cannot be completely ruled out.” in discussion section, page 10-11, lines 198-201.

In the very young age group, we obtained, from parents or previous photography, the information about the onset of strabismus which was acute, subacute, acquired or congenital. From their parents or previous photography, which were added in the Method section, page 5, lines 86-88.

Throughout the paper (line 93 and others): Replace "at far" with "at distance"

Thank you for your comment.

As you mentioned, we changed 'at far' to 'at distance' throughout the paper.

Line 82: replace "also, the patients with" with "Patients with associated findings of.."

Thank you for your comment.

We changed 'also, the patients with' to 'Patients with associated findings of' at page 5, line 84.

Line 83: I would also add Inferior Oblique Overaction to the list of disqualifying conditions as a marker for congenital esotropia (there were 2 patients included)
Thank you for your advice.

We agree that IOOA would be a marker for unrecognized congenital esotropia. Accordingly, we excluded the 2 patients with inferior oblique overaction (IOOA) from the study population and reanalyzed the results through the paper.

Line 84 Replace "had been" with "was"
Thank you so much for your careful review.
We replaced 'had been' with 'was' at page 5, line 88.

Line 113 Correct typo. should read "... on posterior day 1, 3, ...":
As you advised, we changed 'postoperative 1 day, 1 month...' to 'postoperative day 1, month 1..' throughout the paper.

Line 160 Consider replacing "often associated" with either "sometimes associated" or preferably "occasionally associated"
Thank you for your advice.
We replaced 'often associated' with 'sometimes associated' at page 9, line 165.

Line 168 Do you mean "comitant" instead of concomitant?
Yes. In this sentence, 'concomitant esotropia' means 'comitant esotropia'. Because Sturm et al. [1] presented 'concomitant esotropia' in his paper, we quoted the sentence as it was.

Reference

Line 177 Consider "... so in this respect, there is some limitation in comparing ..." (corrects tense and typo)
Thank you for your advice.
We changed the sentence “However, there was no limitation in the age of onset or surgery, so in this aspect, there was some limitation to compare the surgical result for ANAET between our study and the other studies mentions above.” to “However, there was no limitation in the age of onset or surgery, so in this respect, there is some limitation in comparing the surgical result for ANAET between our study and the other studies mentions above.” at page 10, line 186-188.

Justin Marsh (Reviewer 2): Line 82-83: Please change wording of the sentence. DVD and latent nystagmus are not unequivocal markers for infantile nystagmus, though are frequently seen in such a setting. It is probably better to say something to effect of "were excluded regardless of history due to concern for unrecognized infantile nystagmus."

Thank you for your comments.

We changed 'were excluded because of unequivocal markers for infantile esotropia' to 'were excluded regardless of history, due to concern for unrecognized infantile esotropia' at page 5, line 85-86.

Line 98: Titmus stereotest is two words

We corrected the word into two words at page 6, line 102.

Lines 102-104: Was the near angle or distance angle used to calculate the surgical dosage (or something else entirely)? I would include how surgical dosage was determined.

As we presented in Table 1, the surgical dosages were determined based on the formulas suggested by Parks [1] and Wang [2]. And we decided the surgical dosages by consideration both the distance and the near angles. We excluded the patients with any history of accommodative or partial accommodative esotropia, and included only the patients whose differences between the preoperative esodeviation angles at distance and near were less than 5 prism diopters. We added the sentence, “And we included only the patients whose differences between the preoperative esodeviation angles at distance and near were less than 5 prism diopters.” at page 5, lines 82-84.

References


Lines 113-118: I assume success was based on the distance angle only? Regardless, I would include what angle was used to determine success.

As we showed in Table 5, we presented surgical success based on the distance and near angles separately. And at the final follow-up, the surgical success rates were the same at distance and at near.

However, surgical success was defined based on both the distance and the near angle. That is, if the deviation angles were more than 8 PD at distance or near, that patient was included in the surgical failure group. So the sentence, “Surgical success was defined as esotropia or exotropia of 8 PD or less” was changed to “Surgical success was defined as esotropia or exotropia of 8 PD or less at distance and at near” in the method section, page 7, lines 122-123, in the results section, page 8, lines 149-150, and in Table 7. Also, Table 5 was also corrected.

Line 129: I am not sure how many adults are included in this study, but if you are including 70 year olds, some of these patients may have divergence insufficiency esotropia - a completely different form of esotropia altogether. I really would exclude patients above a certain age (perhaps age 18) so that the study group is more similar.

Thank you for your comments.

As we showed in Table 2, the range of age at onset was 1.4 to 66.8 years old. There was no one more than 70 years old. And divergence insufficiency esotropia is usually defined as acquired esotropia that is at least 10 PD larger at distance than at near [1]. However, we included only the patients whose differences between the angles at distance and near were less than 5 PD. We added the sentence “And we included only the patients whose differences between the preoperative esodeviation angles at distance and near were less than 5 prism diopeters” at page 5, line 82-84.

References

Line 160: I would change "often associated" to "may be associated"

As you advised, we corrected the word 'often' to 'sometimes' at page 9, line 165.

Line 175-178: As stated above, I think there is good reason to separate the two groups. I recommend setting an age limit on your own data and recalculating success rates. These two sentences should be rewritten as the read very poorly.

As you recommended, we separated the two groups by age, more than 18 years old, or not and analyzed the success rates in each group. The surgical success rate of less than 18 years old group (1.4 ~ 17.5 years old, mean 10.8 years old) was 66.7%, and that of more than 18 years old group (18.9 ~ 66.8 years old, mean 42.5 years old) was 54.5%. As you mentioned, it was, in fact, a little difference between the two groups. However, there was no statistical difference between two groups (p=0.374, Fisher’s exact test). This finding was added at page 10, lines 188-193.

And as you advised, further, a large prospective study looking at only individuals with childhood onset ANAET will be needed. This point is added at page 11, lines 201-202.

Line 177: spell check for limitation

Thank you for your careful review.

We corrected the spelling of the word “limitation” at page 10, line 186.

Line 180: The primary limitation to this study is the lack of a large number of patients known to have the same problem. I think it is important to separate out the adults from the children.

We agree with your opinion.

We added the sentence, “Further, a large prospective study looking at only individuals with childhood onset ANAET will be needed” at page 11, lines 201-202.

Line 181-182: This is not a complete sentence

As you mentioned, we changed the sentence “Moreover, the range of refractive error was -14.0 – +5.3 D, even though all of the patients were eligible according to the ANAET-diagnostic criteria.” to “And moreover, the range of refractive errors was from -14.0 to +5.3 D, even though
all of the patients were eligible for according to the diagnostic criteria of ANAET” at page 10, line 196-197.

Line 182-183: A large prospective study looking at only individuals with childhood onset non accommodative esotropia would be best as a future study.

Thank you for your comments.

As you recommended, we replaced the sentence “Further, prospective study involving various populations of patients and generating more comprehensive data will be needed.” with “Further, a large prospective study looking at only individuals with childhood onset ANAET will be needed.” at page 11, lines 201-202.

Line 186-188: Please expand on your conclusion. Surgical failures for persistent esotropia in this study were 3 times more common than surgical failures for consecutive exotropia. Does this mean your surgical tables should be adjusted? If not, why not? Also, I would comment that while no factors were identified to be associated with surgical failure, the small number of patients in this study could hide a true difference between the two groups, particularly if that difference is small.

We agree with your opinion.

Surgical failures for persistent esotropia were 3 times more numerous than for consecutive exotropia. Like your comments, this would mean that the correction of the surgical tables might be considered. And as you said, because the study population was too small, the true difference between the groups could be hidden. Further prospective study involving more data would be needed. This is added at page 9, lines 176-179.