Author’s response to reviews

Title: Unilateral Inferior Oblique Anterior Transposition for Markedly Asymmetric Dissociated Vertical Deviation with Unilateral Inferior Oblique Over-action

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Dear Editor,

Thank you for your kind suggestions regarding our paper “Unilateral Inferior Oblique Anterior Transposition for Asymmetric Dissociated Vertical Deviation with Unilateral Inferior Oblique Over-action” (BOPH-D-19-00075R2). We have carefully revised the paper and listed our replies to the corresponding comments from the reviewers as follows:

For Professor Pandey:

1. Visual acuity details, amblyopia not reported. Unilateral DVD is seen mostly with sensory deviations and deep amblyopia.

Reply: We have added a table to clarify the epidemiological characteristics of our patients. The details related to visual acuity and amblyopia are described in the table.
2. The amount of DVD and IOOA in the fellow eye not reported, only difference has been documented.

Reply: We have presented the amount of DVD in the operated eye but not the difference in DVD. The amount of DVD and IOOA in both eyes is described in Table 1.

3. Most reports include a difference of 7 PD or more as criteria for asymmetry, here we have taken 5 PD as cut off, some potentially symmetric cases may have been classed as asymmetrical raising ethical issues.


We think that the results of our studies may be acceptable.

4. IOOA is not classed as primary / secondary. as unilateral PIOOA is unusual, some of these cases may be of secondary IOOA due to say superior oblique palsy congealing inclusion criteria.

Reply: It was difficult to classify IOOA as primary or secondary in this study. Paralytic factors can change to comitance factors after several years. We excluded paralytic strabismus; therefore, secondary IOOA due to superior oblique palsy was not considered in the present study.

5. Head tilt test results are not known.

Reply: DVD can increase head tilt. In our study, we did not find a head tilt phenomenon in our patients, and we excluded paralytic strabismus, so we did not perform a head tilt test.

6. DVD has not been measured by prism under cover test (PUCT) followed by total deviation by PACT to differentiate vertical components due to DVD and IOOA.

Reply: We measured DVD by PUCT followed by PACT in the clinic. The amount of DVD was recorded under PACT with the eyes in the primary position according to the following reference:


7. Unilateral surgery in DVD is limited to eyes with poor vision which are not switching fixation, lest surgery will lead to a fixation switch hypertropia and DVD in the fellow eye. These aspects have not been assessed.

Reply: In the present study, we excluded patients with alternate fixation. All surgeries were performed on the non-fixing eye with significant DVD. Although only a few patients had poor vision, no switching fixation or DVD was postoperatively found in the fellow eye.

8. Motility has not been evaluated in 9 gazes to assess AES or other complications or induced incomitance. There is little like dominant eye in DVD.

Reply: No paralytic strabismus was included in the present study, and motility was not restricted in 9 gazes in our patients. None of the patients developed obvious hypotropia, anti-elevation syndrome or IOOA in the contralateral eye postoperatively. In future studies, we should evaluate the development of the V pattern and AES in abduction.

9. Surgery has not been uniformed in all the cases as regards station of IO placement is concerned rendering it difficult to draw valid inferences.

Reply: Due to the complex conditions observed in the patients, it was difficult to perform a uniform surgical procedure in all cases. The design of the IO placement station was based on the degree of IOOA.

10. Being a retrospective study, there are no controls.

Reply: As a limitation of our study, this has been described in the Discussion section.
For Professor Rajavi:

1) It is better to add word significant or marked before asymmetric DVD in title.

Reply: The word “markedly” has been added to the title according to this comment.

2) It is not logical and ethical to postpone the patient's horizontal strabismus to 3 months later, since it causes more physical and mental hurts for patient.

Reply: Due to the impact of DVD and IOOA on horizontal strabismus, we hypothesized that it would be more stable at 3 months postoperatively. According to this suggestion, we will try to shorten the duration to the second surgery based on changes in the strabismus later. Furthermore, we will consider performing ATIO and horizontal muscle surgery at the same time in the future.

3) If preoperative asymmetric DVD was define equal to 5 pd, how the author can define success as asymmetric DVD as less than 10 pd postoperatively? Is it for showing more success? It is better to reduce it to DVD less than 5 pd in pp.

Reply: Preoperative asymmetric DVD was defined as the difference in DVD between both eyes, while successful outcomes of DVD were defined according to residual DVD in the operated eye. We propose that these two concepts were not conflicted.

4) The author has claimed that the AES or HOT after unilateral IOAnt would be temporary? What was the mean duration of these major complications? You may do not see any HOT and AES at pp but you would see it in upgase.

Reply: We did not observe AES or HOT after unilateral IOOA in the present study. Motility in 9 gazes was not restricted in our patients.

5) There were no tables to clarify the epidemiological characteristics of the pts such as age, sex, BCVA, refraction, and .... please add it.

Reply: We have added a table to clarify the epidemiological characteristics of these patients.
6) there was no separate control group in this study, instead there was before and after control
Reply: As a limitation of our study, this point has been described in the Discussion section.

7) it is somehow surprising to have only +1 iooa and asymmetric DVD from 14 to 36pd in 2 pts.
Reply: A typical case with 36 PD DVD is shown in Figure 1. The results obtained in this patient were exciting, but some individual differences may exist.

There was no change of author list in this revision. Each of the coauthors has seen and agrees with each of the changes made to this manuscript in the revision and to the way his or her name is listed.

We hope our revised manuscript is acceptable for publication in journal of BMC Ophthalmology

Best regards

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