Author’s response to reviews

Title: Intra and post-operative complications observed with femtosecond laser-assisted cataract surgery versus conventional phacoemulsification surgery: A systematic review and meta-analysis

Authors:

Jinhua Wang (oculist498474@163.com)

Fanfan Su (64964747@qq.com)

Yong Wang (395300060@qq.com)

Yao Chen (287740@qq.com)

Qiao Chen (50231474@qq.com)

Fen Li (565227656@qq.com)

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POINT TO POINT RESPONSE TO REVIEWERS

Editor Comments:

Please see the comments of both reviewers; There are basically only two large studies, from which data are obtained.

Could you please explain the reasons in details and give comments if any.

Thank you.

Authors’ response: Thank you for pointing out this. There were only two big studies which satisfied all our inclusion and exclusion criteria. However, look at the ‘study weight’ demonstrated on the figures. The weight is almost on a similar level with all the other studies whether big or small. This means that the big studies did not have any impact or have not influenced the results. This means that the final analysis was not based on only the two main big studies, but rather, all the studies which were included during the analysis had almost a similar impact and contributed equally to reach these final outcomes. Hence, these two large studies do not influence the final analysis since they had similar impact on the final analysis when compared to the other small studies.

This is a new idea in clinical ophthalmology and therefore, not much studies have been published based on this idea. So, we have just pooled all the relevant data which were obtained, and we
cannot select only big or small studies. We need to include all the studies which are relevant and which satisfy the inclusion and exclusion criteria of this analysis.

Reviewer reports:

Nino Hirnschall (Reviewer 1): Interesting article comparing FLACS with CPE using the available literature. In general well written and good statistical analysis and good figures. I am not really certain, why some of the papers were excluded (see below):

- Please distinguish between different levels of studies (randomised controlled vs, cohort, vs retrospective...), furthermore, how often was the comparison bilateral?

Authors’ response: Thank you very much for these encouraging comments. We thank the reviewers for their intense role in trying to improve the manuscript.

A randomized trial is a study whereby participants are randomly assigned (by chance) to a certain treatment/intervention.

A cohort study is a longitudinal study that samples a cohort (a group of people who share a defining characteristic, typically those who experienced a common event in a selected period, such as birth) but without selection by chance/no random selection.

Retrospective studies are conceived after some people have already developed the outcomes of interest.

A prospective cohort study is a longitudinal cohort study that follows over time a group of similar individuals (cohorts) who differ with respect to certain factors under study, to determine how these factors affect rates of a certain outcome.

Randomized prospective study means the participants were randomized to take part in this study.

Non-randomized/consecutive patients means the participants were not selected at random prior to inclusion.

This analysis included randomized and non-randomized prospective participants. We have made this more clear in Table 2 of the revised paper.

This is clear with the authors. However, due to a lack of data, there was no other choice than mixing the data. Here the comparison is always bilateral because data from the cohort or prospective cohort of the experimental group were being compared with data from the cohort or prospective study of the control group.
We have added a statement in the limitation section that data from randomized and non-randomized prospective studies were combined and assessed. When data is not sufficient or data is limited, this is how a meta-analysis is carried out. All data should be pooled. Thank you.

Nino Hirnschall (Reviewer 1):

- Eight studies out of 544 were included. Of these there are basically only two large studies (Abell and Ewe) all the other studies had a significantly lower number of patients included. Therefore, it would be relevant to present all data together (as it is currently shown in the manuscript), but also to compare complication rates between the selected 8 manuscripts in more detail.

Authors’ response: In meta-analyses, only if at least the corresponding outcome which is to be compared has been reported in at least 2 different studies, then a comparison can be made. However, there were outcomes including uncorrected visual acuity, endothelial misalignment, epithelial gapping, epithelial misalignment which were reported in either study A or study B or study C or study D but these outcomes were not present in at least 2 studies, therefore we could not make a comparison. That is what these outcomes were ignored and we stated this in the limitation section.

Nino Hirnschall (Reviewer 1):

- p. 5: 6 studies were excluded because they did not report "relevant complications". Please specify, didn't they report any complications, or were they not relevant? If not relevant, please explain, why the authors do not consider the mentioned complications as relevant.

Authors’ response: These complications were not relevant because they did not satisfy the inclusion and exclusion criteria of our analysis. These complications were not intra or post-operative complications. Therefore they were excluded. We have added the information ‘intra or post-operative complications’ to make this clear in the revised paper. Thank you.

Nino Hirnschall (Reviewer 1):

- p. 6: 30 studies were excluded, because they were "duplicated studies". What does that mean?

Authors’ response: Duplicated studies means that they were similar studies which were found in other electronic search databases. For example, the same study ‘A’ was found in PubMed, again we found this same study ‘A’ in EMBASE during the search process. We again found study ‘A’ in other databases. This means that duplicated studies were obtained and only one was considered. The remaining similar studies were excluded or there will be repetition of data. We have made it more clear in the revised manuscript. Thank you.
Amir AbouSamra (Reviewer 2): The data in this way are obtained mostly from 2 large studies (as they are contributing to more than 65% of your sample) and this affects its strength being a meta analysis.

Authors’ response: This is a new idea in clinical ophthalmology and therefore, not much studies have been published based on this idea. So, we have just pooled all the relevant data which were obtained, and we cannot select only big or small studies. We need to include all the studies which are relevant and which satisfy the inclusion and exclusion criteria of this analysis. There were only two big studies which satisfied all our inclusion and exclusion criteria. However, look at the ‘study weight’ demonstrated on the figures. The weight is almost on a similar level with all the other studies whether big or small. This means that the big studies did not have any impact or have not influenced the results. This means that the final analysis was not based on only the two main big studies, but rather, all the studies which were included during the analysis had almost a similar impact and contributed equally to reach these final outcomes. Hence, these two large studies do not influence the final analysis since they had similar impact on the final analysis when compared to the other small studies. Thank you very much.

Amir AbouSamra (Reviewer 2):

Minor spelling mistakes.

Authors’ response: thank you very much. We have rechecked the paper for any further spelling mistakes. Thank you.