Reviewer's report

Title: Efficacy of intravitreal ranibizumab combined with Ahmed glaucoma valve implantation for the treatment of neovascular glaucoma

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Reviewer: Pradeep Ramulu

Reviewer's report:

Tang and colleagues perform a retrospective review of neovascular glaucoma cases treated, or not treated, with the ranibizumab prior to Ahmed valve implantation. This is an important question, as anti-VEGF agent injection prior to tube shunt surgery in this context has become almost routine, though evidence supporting (or refuting) its use is not available broadly. I have included several question regarding the study, which if answered properly will help improve the manuscript.

MAJOR COMPULSORY REVISIONS

1) It is not entirely clear from the manuscript why these 2 groups of patients exist. In other words, why did some patients receive preop ranibizumab while others did not? At one point, the authors imply that those that did not refused the ranibizumab.

2) An important consideration in who does/does not receive ranibizumab is the presence/severity of NVI/NVA. Are data available on this finding? For example, if ranibizumab was not given to those with more severe NVA/NVI, then the findings may be biased.

3) Also, it is important to know what percentage of patients in each group had received preoperative PRP, as that would also be expected to control neovascularization, and perhaps obviate the need for ranibizumab.

4) The proper method to analyze these data is survival analysis, in which patients who had less than 1 year of followup were not excluded. This is particularly important as some NVG patients can have very bad outcomes, and may not continue to seek care for a full year or beyond. As such, the authors really should look at all surgical cases done over a period of time, regardless of whether or not a year of followup was obtained.

5) The authors state that only 30% of the control group failed, though the failure criteria are IOP>21, and the mean IOP throughout the first 6 months is consistently greater than 21 mm Hg, suggesting that the failure rate should be even higher. The reason for this discrepancy should be explained.

6) In such studies, it is almost impossible that every patient provides data for every postoperative timepoint, due to missed appointments, sickness, etc. The authors need to detail how often this happened and how it was dealt with statistically.
7) It is not clear to me what the authors mean with regards to “mildly ligating” the tube. What is the purpose of this? How does when regulate the level of ligation? With what suture does this ligation take place?
8) I do not understand the VA data, as they are presented neither as a Snellen value or logMAR value. The authors should use a VA scale that would be understood by all ophthalmologists.
9) The Tables have a lot of confusing elements. For example, the symbols for mean and SD after the variables should be stated in words, not symbols. Also, there is no need to express IOP to the nearest 0.01 mm Hg, which is not justified in such a small sample. Finally, there is no reason to show the t value. Lastly, p values should be shown to only 2 decimal values, and it should be specified exactly what they are comparing. Same comments for tables 3 and 4 and 5.
10) Survival data should be presented as Kaplan-Meier graphs, and not only in Table format.

MINOR COMPULSORY REVISIONS
11) The first sentence of the discussion should be omitted, as it is not a result of the paper.
12) While an IOP<6 has broadly used as a criterion for failure, many eyes with IOPs of 5 or less do just fine. The number of eyes “failing” by this criterion should be specified, and it should be mentioned if sequela of these low IOPs were present.
13) In Line 147 the authors say that 3 pts had blood clots, and in line 157 they say blood clots developed in 4 patients.
14) The reasons for using MMC as part of the surgery should be described.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
No conflicts