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: Angeline M Nguyen

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This article by Tang et. al. examines the efficacy of intravitreal ranibizumab injections with subsequent Ahmed glaucoma valve (AGV) implantation compared to AGV implantation alone for the treatment of neovascular glaucoma (NVG). The authors conclude that treatment with intravitreal ranibizumab prior to AGV implantation has no effect on medium- or long-term outcomes.

The authors address this question with a well-powered (21-22 subjects per group), long-term study (12 months), with good completeness of follow-up. However, a major drawback of this study is the fact that anti-VEGF treatment was assigned at the discretion of the patients and not by random assignment. Though the two study groups seem well balanced based upon the demographic and ophthalmic characteristics listed, some important baseline characteristics are missing, such as the status of the angle/stage of NVG, presence of prior laser, and presence of prior injections. Because of the potential for bias from the non-randomized design and the absence of some key information, it is not possible for readers to fully evaluate the clinical significance of the study’s results.

Major compulsory revisions:

1. There is no information provided about how patients were educated about their options for intravitreal injection. Please provide details about the education process and some explanation of how patients came at their final decisions.
2. Patients were not excluded on the basis of having had prior intravitreal injection outside of three months. Please explain the rationale for this.
3. Are patients also excluded if they have had prior PRP? If not, then was neovascularization of the anterior segment suppressed as much as possible with PRP prior to glaucoma surgery? Please clarify.
4. Please include in Table 1 the number of patients who had received prior injection at different intervals prior to the study.

Minor essential revisions:

1. Success and failure of treatment should be defined in the Abstract.
2. Please include criteria for diagnosis of NVG in the Methods.
3. Since this is ultimately a negative study, it would help to mention power
calculations.

4. Line 32: The assumption is that patients are only included in the study if their IOP is >=22 despite maximizing glaucoma medications. Please state this more clearly in the methods.

5. For the injection group, what was the rationale for the 3-14 day interval prior to surgery? Was surgery performed after confirmation of regression of iris/angle neovascularization? Were there other considerations used such as IOP and severity of optic nerve damage? Please clarify.

6. Lines 52-54: Provide criteria for requiring additional adjunctive therapy. Also, include need for PRP as a criterion for dropout.

7. Limitations of the study should be stated.

8. Table 2: The title should be renamed to exclude the word “declines.”

Discretionary revisions:

1. Some background in the Introduction to explain the following about the research focus may be helpful: single injection vs multiple injections, ranibizumab vs bevacizumab, intravitreal vs subconjunctival or intracameral injection, and Ahmed valve vs trabeculectomy?

2. Line 87: Please mention that despite varying patient conditions and varying amounts of follow-up visits, all patients were instructed to follow-up at 6 and 12 months (assuming that this is indeed the case).

3. Lines 89-91: If these tests were not routine as a part of the study, please explain in which circumstances they were performed.

4. Line 92: Please include that success is determined at each follow-up time interval.

5. What is the reasoning for keeping BCVA as letters read and not converted to logMAR?

6. Lines 176-178: It should be clarified that Yalvac and Shen’s studies were examining AGV alone without intravitreal anti-VEGF injection.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests’ below. If your reply is yes to any, please give details below.