Reviewer’s report

Title: Interpretation of uniocular and binocular trials of glaucoma medications: an observational case series.

Version: 1 Date: 26 May 2007

Reviewer: Theodore Krupin

Reviewer’s report:

General
The authors present numerous statistical analyses on retrospectively collected data in an attempt to predict intraocular pressure (IOP) response following uniocular or binocular treatment trials. Specific comments and queries include the following:

1. While the authors acknowledge limitations of their retrospective study (see Page 17 last paragraph), this does not eliminate the problems. Their data set is a mixture of different glaucomas and contains some unilateral glaucomas that could be adjusted (i.e., analyze only bilateral open-angle glaucoma patients). Clinical selection of the ‘treated’ eye is biased to the eye with the higher IOP. The data lacks repeated non-treated IOP prior to initiation of a treatment trial. These comments are important since aqueous humor dynamics, especially pressure-dependent and pressure-independent outflow, frequently differ between the two eyes of a patient.
2. Page 2 Abstract, delete “(1)” on line 3 and “(2)” on line 4.
3. Methods Page 5, 2nd paragraph. Problems with inclusion of “glaucoma in at least one eye” (Line 8) and variable number of follow-up visits.
4. Page 6, Lines 8 - 11. Inclusion of “..subsequent agents” adds uncertainty to the data.
5. Appears that the treatment with dorzalamide and beta-antagonist sometimes includes combined and not single agent treatment (see Table 1).
6. Table 2. Legend should define “Eye 1” and “Eye 2”. Delete Line 9.
7. Analysis and Discussion should include IOP responsiveness of the trial. After all, all agents do not lower IOP in all eyes (i.e., non-response). This may be an important part of the trial than the ability to predict response in the second eye (again due to aqueous humor dynamic differences).
8. Page 12, Line 13. Change “..double-blind” to “..double-masked.”.
9. Page 14, Line 1. The authors need to reference (defend) “..substantial crossover effect”.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because too small an advance to publish

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests