Reviewer's report

Title: Methods of assessment of patients for Nd:YAG laser capsulotomy that correlate with final visual improvement

Version: 1 Date: 30 July 2004

Reviewer: Michael Georgopoulos

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General

This is an interesting study on pre-Nd:YAG examinations and their relevance for the final outcome. However, it does not help the clinician in the most difficult cases to decide whether to do a Nd:YAG laser capsulotomy or not. In this cases there are often other pathologies (e.g. corneal or vitreal opacities or retinal pathologies) or the patient is not able to express his subjective visual impairment. These challenging cases which would interest the reader mostly, were not included in this study. This study looks only at patients with no other pathologies except PCO, to determine the sole effect of a Nd:YAG laser capsulotomy on visual improvement after assessment of different parameters. The authors found “measurement of pearls” and “posterior pole visualisation” as the most important factors correlating with visual function improvement (this adds little to the current evidence). The minor importance of “fibrosis” should be given more emphasis, because it is not commonly known that treatment in case of fibrotic type of PCO (which is often impressive at slitlamp examination) does not lead to significant improvement of visual acuity.

Revisions:

Discretionary Revisions:

1. References should be cited with numbers in the text?

Minor Essential Revisions:

2. Authors: T.M. Aslam, N. Patton, ?B. Dhillon?

3. Methods: mean time after cataract operation and types of IOLs would be interesting (more “fibrosis” with silicone IOLs)

4. Photographs explaining the grading system would be nice (especially for “fibrosis”)

5. Figure 1: n=19 (why was the PolVS not done in 5 eyes?)

6. Table 1 should be reviewed: “pre-treatment“ vs. “pre-op“; “Polvs”; further explanation of the table in the manuscript

Major Compulsory Revisions:

7. Grading of pearls (and fibrosis) between 0-4 is maybe for cases with severe PCO (before Nd:YAG laser capsulotomy) not enough (mean grading score was 3.3 with a SD of 1.3 in a scale from 0 to 4!). The scale could be extended (and further explained) to have a more refined grading for PCO (regeneratory and fibrotic separately). Grade 4 ("across visual axis") can be divided into “thin layer
8. Add a table (corresponding with the first paragraph of the discussion) with risk factors and preop examinations and their relevance for the decision to make a Nd:YAG laser capsulotomy (maybe a score-system?) including preop pathologies (myopia-axial length, macular degeneration, state of the other eye, age), examinations (grading of PCO; visual acuity measurements: PAM, pinhole, interferometric; glare measurements; PolVS; state of the IOL: decentered, sulcus?), subjective complaint,...

9. The problem of the decision to perform a Nd:YAG laser capsulotomy in an eye a low grade of PCO and macular disease should be discussed.
It should also be mentioned that this topic is also of interest for the decision to perform a cataract operation in a patient with mild cataract (and other ocular pathologies or risk factors).

10. In the discussion (and conclusion) should be given more emphasis on the finding that “fibrosis” is not a significant factor for improvement of visual acuity after Nd:YAG laser capsulotomy. The sentence “It may be that the antero-posterior thickness of the fibrosis...” should be clarified.

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

none