

Nd: YAG laser vitreolysis for managing symptomatic vitreous floaters: efficacy assessment using vitreous opacity area quantification

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Abstract

Purpose: To retrospectively assess the efficacy of Nd:YAG laser vitreolysis for managing symptomatic vitreous floaters using vitreous opacity area quantification.

Methods: Patients who underwent laser vitreolysis from May 2015 to February 2020 at a private clinic with a minimum follow-up of 3-months were enrolled into this retrospective, non-comparative cohort study. Vitreous opacity areas quantification was the primary outcome measure. Secondary outcome measures included patient satisfaction outcomes post-vitreolysis, the need to proceed to vitrectomy, best corrected visual acuity (BCVA) and intraocular pressure (IOP), recorded at baseline and all follow-ups.

Results: 100 eyes from 100 patients were followed for an average of 15 months (range: 3-53 months). Of these, complete resolution (35%) or improvement (54%) of vitreous opacities was observed with vitreous opacity area quantification, constituting a treatment success of 89%. 78% reported complete resolution or improvement in floater symptoms at the 1-month post-vitreolysis visit. At the last follow-up, a similar report was noted in 72% of eyes. There was less need for vitrectomy in 86 eyes. There was significant improvement in BCVA, as well as a reduction in IOP, from baseline at the final post-operative visits ($p < 0.05$ for both). Finally, an intra-operative complication rate of 3% was recorded.

Conclusion: The findings of this study suggest that Nd:YAG laser vitreolysis may result in objective and symptomatic improvements in patients undergoing the procedure, with a limited rate of complications. Floater symptoms may recur with time following laser vitreolysis, necessitating the need for repetition. More clinical studies are needed to validate these findings.