

R1  R2  R3  PG0  PG1  Estagiário  Tecnólogo   
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## **ARGON LASER TRABECULOPLASTY FOR OPEN ANGLE GLAUCOMA: A SISTEMATIC REVIEW**

Rolim de Moura, C., Paranhos Jr., A., Belfort Jr., R. Purpose: Investigate the evidences of the effect of laser trabeculoplasty for treating open angle glaucoma that is a major leading cause of blindness worldwide. This surgical approach is compared with hypotensive medication, incisional surgery and no intervention, since there is no consensus on the clinical use of this method. Methods: The review included all relevant randomized controlled trials identified from Cochrane Library, MEDLINE, EMBASE, LILACS and manual search, in which open angle glaucoma subjects were submitted to trabeculoplasty or no intervention, medical therapy, incisional surgery or different techniques of trabeculoplasty. The participants of the trials were newly diagnosed or already in use of maximal medical therapy. The outcomes were failure to control intraocular pressure or stabilize visual field or optic nerve damage progression. Results: 19 randomized controlled trials met the inclusion criteria (2747 eyes). Eight trials were graded at relatively low risk of bias. The general quality of the other 11 studies was low. For newly diagnosed subjects, trabeculoplasty associated with hypotensive medication seems to reduce the risk of progressive visual field damage and optic disk deterioration when compared with no intervention. Still for this group of participants, trabeculoplasty seems to reduce risk of failure in controlling intraocular pressure at six months of follow up when compared with hypotensive medication (Relative Risk 0.37 Confidence Interval 0.27-0.51). But this finding was not evident for 24 months of follow up or more. Also compared with trabeculectomy, trabeculoplasty for newly diagnosed subjects didn't show evidences of reduce the risk of uncontrolled intraocular pressure. In subjects with maximal medical therapy, trabeculoplasty seems to increase the risk of uncontrolled intraocular pressure when compared with trabeculectomy (Relative Risk 1.97 Confidence Interval 1.53-2.53). Comparing different techniques, argon laser trabeculoplasty does not seem to reduce the risk of intraocular pressure control than diode, krypton or Nd:Yag laser trabeculoplasty.

Conclusions: Laser trabeculoplasty seems to reduce the risk of glaucoma progression when compared with no intervention in newly diagnosed subjects. Also in these group of participants, trabeculoplasty seems to reduce the risk of increasing intraocular pressure when compared to medication, but only at early periods of follow up. We should stress that these evidences are applicable to the medical regimen used in the past. There are no trials comparing trabeculoplasty with hypotensive medication used routinely nowadays. When compared to trabeculectomy, trabeculoplasty does not reduce the risk of uncontrolled intraocular pressure, both in newly diagnosed subjects and in patients with maximal medical therapy.b