

TRANSSCLERAL CYCLOPHOTOCOAGULATION IN REFRACTORY GLAUCOMA IN EYES WITH GOOD VISION

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Introduction: Transscleral diode laser cyclophotocoagulation (TSCPC) is a well-known method of treatment for advanced and refractory glaucoma, but it is not used routinely in eyes with good vision.

Purpose: This prospective study was conducted to evaluate the efficacy and safety of TSCPC in eyes with refractory glaucoma and best corrected visual acuity (BCVA) better than 0,3.

Methods: This prospective interventional case series included 62 eyes with refractory glaucoma of 42 consecutive patients treated with TSCPC. BCVA varied from 0,3 to 0,5; mean IOP prior to procedure was 40 ± 12 mm Hg. The 810 nm infrared diode laser was delivered at 1200 mW for 4 seconds over 270° - 300° . The power was increased in 150 mW increments until an audible "pop" is heard, followed by a decrease of 150 mW to complete the treatment. A reduction in the number of antiglaucoma drops (AGD) and an IOP of 11-21 mm Hg at the last follow-up visit was defined as success. Patients were followed at baseline, week 1, month 1, 3, 6 and 12 after the TSCPC.

Results: A mean of 1.3 treatments were given per eye, with 20 eyes (32%) requiring retreatment at the 1st month of follow up. Mean IOP decreased to 26.5 ± 5.0 mm Hg at 1 week, 20.0 ± 5.3 mm Hg at 1 month, 19.7 ± 3.4 mm Hg, 18.2 ± 2.7 mm Hg at 6 months. The overall success rate was 86%. AGD were reduced from 2.0 ± 1.0 at baseline to 1.1 ± 1.2 at 1 month, to 1.7 ± 1.0 at 3 months and to 2.2 ± 1.2 at 6 month follow-up. No patient had hypotony. TSCPC procedure failed in 9 patients with neovascular refractory glaucoma.

Conclusions: 1. This study suggests a role of TSCPC as an effective, safe and rapid method of treatment in patients with refractory glaucoma with good vision over a 12-month period.

2. IOP becomes stably reduced only by the 3rd month after the TSCPC.

3. Studies with longer follow-up and larger sample size are needed to evaluate a long-term efficacy of TSCPC procedure.