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### Mid-Term Results of Micro-Pulse Transscleral Cyclophotocoagulation with Diode-Laser on Treatment of Glaucoma: A Retrospective Analysis

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**Purpose:** To evaluate efficacy and safety of micropulse transscleral cyclophotocoagulation as a treatment for different types glaucoma.

**Methods:** Retrospective case series of 40 eyes of 38 patients affected by different types of glaucoma treated with micropulse transscleral cyclophotocoagulation (IRIDEX IQ810 Laser System, Mountain View, CA) at 2.0 W for a duration of 90 s per hemisphere at 31.3% duty cycle. We evaluated as main outcomes: postoperative intraocular pressure (IOP), postoperative number of glaucoma medication. As secondary outcomes: adverse events and complications connected with the treatment.

**Results:** Before the treatment mean intraocular pressure was 24.68 mmHg ( $\pm 3.67$ ), at 1 month 16.46 mmHg ( $\pm 3.40$ ), at 3 months 14.48 mmHg ( $\pm 2.44$ ), at 6 months 16.63 mmHg ( $\pm 3.40$ ) and 17.10 mmHg ( $\pm 2.40$ ) at 12 months with a mean reduction of mean number of glaucoma medication was 3.6 ( $\pm 0.60$ ) before the treatment; 3.10 ( $\pm 0.70$ ) at month 1; 2.90 ( $\pm 0.70$ ) at month 3; 3.12 ( $\pm 0.89$ ) at month 6 and 3.20 ( $\pm 0.82$ ) at month 12. We had 1 case of IOP spike (2.5%), 1 case of CME (2.5%). No case of prolonged hypotony. 11 patients (27.5%) did not reach the target IOP after the first treatment: 4 patients (10%) has been retreated with success, 2 patients (2.5%) underwent Baerveldt tube implantation, 2 patients (2.5%) underwent continuous wave diode laser transscleral cyclophotocoagulation, 2 patients (2.5%) underwent trabeculectomy and 1 patient underwent micro-shunt implantation.

**Conclusions:** Micropulse transscleral cyclophotocoagulation seems to be an efficacious and safe treatment in lowering the IOP. In our opinion it needs to be relocate in the therapeutic algorithm.