

## P277

**SAFETY AND EFFICACY OF TWO TECHNIQUES OF DIODE LASER TRANSCLERAL CYCLOPHOTOCOAGULATION FOR REFRACTORY GLAUCOMA- A COMPARATIVE STUDY**Eleftherios Anastasopoulos<sup>1</sup>, Artemis Matsou<sup>2</sup>, Maria Dermenoudi<sup>1</sup>, Argyrios Tzamalis<sup>1</sup>, Nikolaos Ziakas<sup>1</sup><sup>1</sup>2<sup>nd</sup> Department of Ophthalmology, Aristotle University of Thessaloniki, Papageorgiou Hospital, Thessaloniki, Thessaloniki, Greece, <sup>2</sup>Cambridge University Hospitals, Cambridge, United Kingdom

**Purpose:** To prospectively compare the safety and efficacy of the standard pop-titrated diode laser transcleral cyclophotocoagulation technique (TSCPC) versus the fixed, lower-energy settings technique (slow burn).

**Methods:** Patients with refractory glaucoma, who were deemed unsuitable for other medical or surgical management, were prospectively enrolled to receive diode laser TSCPC and randomly divided into two groups. Subjects in Group A were treated with the standard pop-titrated technique with a 2sec burn duration and starting power of 1500mW, which was subsequently increased until a pop sound produced. The second group (Group B) received the slow coagulation technique with fixed settings based on degree of iris pigmentation (dark/brown irises: 1250mW, 4.5sec duration/ lightly pigmented irises 1500mW, 4.5sec duration). Visual acuity, intraocular pressure (IOP) and anterior chamber inflammation were recorded at baseline and at week 1, month 1 and month 3 after the procedure. Pain score after the procedure was also documented for all patients at the first post-operative day using a 0-10 pain scale chart, along with post-operative complications.

**Results:** Baseline IOP did not differ significantly between groups; Group A (n = 14) patients had an average IOP of 38 mmHg and Group B (n = 21) 41.2mmHg (p = 0.39). No significant differences were detected in IOP measurements and anterior chamber inflammation in either of the three follow-up timepoints. Subjects in both groups demonstrated an adequate and similar reduction in IOP at month 3; Group A 20.2mmHg and Group B 21.2mmHg (p=0.84). Pain score as reported by patients on the first post-operative day was higher for patients in the slow coagulation group (Group A 2.9 Vs Group B 4.8) without however reaching statistical significance (p = 0.12).

**Conclusions:** In our study, both the standard pop-titrated and slow burn TSCPC techniques demonstrated an adequate and similar IOP reduction at all timepoints. The complication profiles were also comparable with anterior chamber inflammation being similar in both groups up to month 3 as was the pain score at day one. Our results suggest that the slow coagulation technique which does not require any modifications in power settings during the procedure, is equally safe and effective in achieving IOP reduction in eyes with refractory glaucoma.