



SELECTIVE LASER TRABECULOPLASTY – THE FIRST-LINE TREATMENT FOR OPEN- ANGLE GLAUCOMA ?!

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ABSTRACT

The purpose of this nonrandomized study conducted at the Eye Clinic “Akhali Mzera” between October 2011 and November 2022 was to evaluate the intraocular pressure (IOP) reduction and side effects following selective laser trabeculoplasty (SLT). A total of 867 eyes of 558 patients with early to moderate primary open-angle glaucoma (POAG) or pseudoexfoliation glaucoma (PXG) phakic and pseudophakic were included in the study. The patients were treated with laser as primary therapy or adjunct laser with medication. The mean age of the study participants was 54.3 ± 5.2 years (range, 40 to 78 years) and 362 (64.9%) were males. The glaucoma diagnosis was POAG in 726 (83.7%) eyes and PXG in 141 (16.3%) eyes. Diabetes mellitus in 8% and systemic hypertension in 30% were noted. 736 eyes (84.9%) were on medications, and 130 (14.9%) eyes were treated with laser as primary therapy. Overall, the mean IOP after SLT was 17.8 ± 3.2 mmHg, 18.8 ± 2.3 mmHg, and 23.4 ± 2.5 mmHg in the 12th month, 24th month, and 36th month respectively. About 20% of patients with POAG lost efficacy in 18 months post-treatment and in these eyes, the second SLT procedure was more effective than the first one. The number of drugs reduced from an average of 1.3 to an average of 1.0 was statistically significant with the inter-eye correlation. Those patients who were treated with laser as primary therapy with a baseline IOP of $25.4 \text{ mmHg} \pm 2.9 \text{ mmHg}$ had IOP reduction of $7.5 \pm 3.1 \text{ mmHg}$ at the last visit, and those who were on antiglaucoma medication with baseline IOP $23.9 \pm 2.2 \text{ mmHg}$ had IOP reduction of $4.8 \pm 2.8 \text{ mmHg}$. IOP reduction at the last visit between POAG, and PXG was 6.5 mmHg and 7.9 mmHg, respectively. It was concluded that SLT is a safe and innovative technology that uses lasers to target only certain cells of the trabecular meshwork of the eye.

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KEYWORDS: intraocular pressure, selective laser trabeculoplasty, pseudoexfoliation glaucoma

Cite: Dvali M, Gaprindashvili N, Papava M. Is selective laser trabeculoplasty the first-line treatment for open-angle glaucoma?! *Cauc J Med & Psychol Sci.* 2023; V.1(№5-6): 1-12; DOI: 10.61699/cjimps-v1-i5-6-p1-12

Glaucoma is characterized by retinal ganglion cell (RGC) degeneration and a set of irreversible, progressive optic neuropathies [24]. The most common type primary open-angle glaucoma (POAG) is associated with progressive loss of RGC axons, along with supporting glia and vasculature, resulting in degeneration of the optic nerve head and loss of peripheral vision [13]. Elevated intraocular pressure (IOP) is considered the main risk for the onset and progression of POAG, even though about 40% of patients present IOP values within the normal range [20,5] suggesting that elevated IOP is neither essential nor sufficient [21, 3] to cause glaucoma; in fact, the risk of unilateral blindness in POAG patients treated to lower IOP is estimated to be about 27% [11] indicating that lowering IOP retards but does not prevent RGC degeneration and blindness. Left untreated glaucoma gradually leads to visual field loss and severe irreversible blindness that impacts a person's life personally and socially. Although research is significant, the pathological mechanisms involved in the onset and development of glaucoma are not understood [22]. There are various risk factors for glaucoma. However, intraocular pressure (IOP) is the only modifiable risk factor for control of the onset and progression of optic nerve atrophy. Besides the medical and surgical therapy for glaucoma, laser treatment has received considerable attention in recent times. Commonly practiced are argon laser trabeculoplasty (ALT) and selective laser trabeculoplasty (SLT) [18]. Argon laser trabeculoplasty was introduced by Wise and Witter in 1979 for the treatment of medically

uncontrolled – open-angle glaucoma (OAG) [25]. Soon after its introduction, the efficacy and safety of ALT was studied in a large multicenter prospective clinical trial funded by NEI, Glaucoma Laser Trial (GLT) – an investigator-initiated, grant-supported trial designed to investigate the efficacy and safety of ALT as an alternative to medical treatment for newly diagnosed POAG. The randomized clinical trial involving 271 patients, was designed to assess the efficacy and safety of ALT as an alternative treatment with topical medication for controlling IOP in patients with newly diagnosed, previously, untreated POAG in which eyes receiving ALT 360 degrees were compared with timolol monotherapy. Each patient had one eye randomly assigned to ALT (the laser first [LF] eye) and the other eye assigned to timolol maleate 0.5% (the medication first [MF] eye). Medication was initiated or changed for either eye according to the same stepped regimen if the IOP was not controlled. Throughout the 2-year follow-up, LF eyes had lower mean IOPs than MF eyes (1-2 mmHg), and fewer LF eyes than MF eyes required simultaneous prescription of two or more medications to control IOP (P less than 0.001). After 2 years of follow-up, 44% of LF eyes were controlled by ALT, 70% were controlled by ALT or ALT and timolol, and 89% were controlled within the stepped medication regimen. After 2 years, 30% of MF eyes remained controlled by timolol, and 66% were controlled within the stepped regimen. There were no major differences between the two treatment approaches with respect to changes in visual acuity or visual field over the 2 years of follow-up [8]. The purpose of the

study (The Glaucoma Laser Trial (GLT): 6) was to determine the differences in visual fields during 42 months (3,5 years) of follow-up between eyes treated with argon laser trabeculoplasty first and eyes treated with topical medication first in patients with newly diagnosed primary open-angle glaucoma. Visual field examinations were obtained at enrollment, three and six months, and at six-month intervals thereafter during follow-up of 271 patients enrolled in the Glaucoma Laser Trial. Numeric analyses of the examination results, including global indices and patterns of localized changes, as well as masked subjective clinical impression, were used to compare the two treatment groups. Improvement was nearly twice as common as deterioration on masked subjective impression in both groups through 30 months (2,5 years). Eyes treated with laser trabeculoplasty first were judged to have slightly more improvement and slightly less deterioration than eyes treated with topical medication first. During follow-up, measures of visual field status for eyes treated with laser trabeculoplasty first were slightly better than those for eyes treated with topical medication first [9].

The research was conducted to determine differences between the two treatment groups of the Glaucoma Laser Trial (The Glaucoma Laser Trial (GLT): 7) with respect to intraocular pressure, visual fields, optic disk cupping, and therapy for primary open-angle glaucoma. The Glaucoma Laser Trial Follow-up Study was a follow-up study of 203 of the 271 patients who enrolled in the Glaucoma Laser Trial. By the close of the Glaucoma Laser Trial Follow-up Study, median duration of follow-up since diagnosis of

primary open-angle glaucoma was seven years (maximum, nine years). Over the course of the Glaucoma Laser Trial and Glaucoma Laser Trial Follow-up Study, the eyes treated initially with ALT had lower intraocular pressure and better visual field and optic disk status than their fellow eyes treated initially with topical medication. As compared to eyes initially treated with medication, eyes initially treated with laser trabeculoplasty had 1.2 mm Hg greater reduction in intraocular pressure ($P < .001$) and 0.6 dB greater improvement in the visual field ($P < .001$) from entry into the Glaucoma Laser Trial. The overall difference between eyes with regard to change in ratio of optic cup area to optic disk area from entry into the Glaucoma Laser Trial was -0.01 ($P = .005$), which indicated slightly more deterioration for eyes initially treated with medication. Conclusions: Initial treatment with argon laser trabeculoplasty was at least as efficacious as initial treatment with topical medication [10]. G. Gazzard, E. Konstantakopoulou, D. Garway-Heath, et al. [7] conducted a randomized controlled trial between 2012 and 2014 at six UK hospitals to compare the success of treatment between eye drops that lower intraocular pressure primary open-angle glaucoma and ocular hypertension with SLT – a safe, but rarely used as a first-line treatment alternative. Randomly allocated (web-based randomization) 718 patients with open-angle glaucoma or ocular hypertension and no ocular comorbidities were enrolled: 356 were randomized to the selective laser trabeculoplasty and 362 to the eye drops group. Over 36 months, from an ophthalmology cost perspective, there was a 97% probability of selective laser

trabeculoplasty as the first treatment being more cost-effective than eye drops. The authors concluded that selective laser trabeculoplasty should be offered as a first-line treatment for open-angle glaucoma and ocular hypertension, supporting a change in clinical practice [7]. Despite these favorable results, laser therapy did not replace medications as primary therapy in patients with POAG partly due to introduction of more effective glaucoma medications, namely prostaglandin analogues. The trabeculoplasty was used either as an adjunctive therapy or as an intermediate step between failed medical therapy and surgical intervention. Interest in laser trabeculoplasty has been reignited in the past few years with the introduction of SLT [2]. E. Shaw, and P. Gupta [18] assume that ALT did not become primary therapy in patients with POAG because of a reduction in efficacy over time, so it was used as an adjunctive therapy. Laser trabeculoplasty gained popularity with the introduction of SLT, which appears less destructive than ALT. However, it has been noticed that both ALT and SLT are equally efficacious in reducing intraocular pressure in open-angle glaucoma [18]. R. Zhou, Y. Sun, H. Chen, et al. [27] by searching PubMed, EMBASE, Cochrane Library, SCOPUS, China National Knowledge Infrastructure, and the Chinese Biomedical Literature Service System for studies published between January 1, 2000 and April 20, 2020 in systematic review and network meta-analysis evaluated the effectiveness of eight types of laser trabeculoplasty (LT) in the treatment of open-angle glaucoma: ALT, medications, 180-degree SLT, 270-degree SLT, 360-degree SLT, new LT, transscleral 360-degree SLT with SLT

performed without gonioscopy, and low-energy 360-degree SLT. In total, 22 studies were included, involving 2859 eyes of 2704 patients. The primary outcome was the reduction of medicated and unmedicated intraocular pressure at 6 months. Secondary outcomes included a reduction of IOP at 12 months. In terms of IOP reduction at 6 and 12 months, there were no statistically significant differences in both medicated and unmedicated IOP between any pairs of interventions. No severe adverse outcomes were reported for any of the interventions. In terms of reduction of medications, the individuals treated with 180-degree SLT required fewer medications than those treated with ALT at 12 months (0.28 [95% confidence interval, 0.06-0.50]; $P = .014$). No severe adverse outcomes were reported for any of the interventions. It was concluded that all the available types of LT are equally effective for decreasing IOP compared with medication-based therapy. The 180-degree SLT was slightly more effective than ALT in terms of reducing the number of medications needed [27]. M. Töteberg-Harms, F. Meier-Gibbons [23] provided an overview of studies on SLT from the last 12 months. They pointed out that for decades, laser trabeculoplasty has been a well-proven therapeutic option in glaucoma management, and more recently, it has only gained in popularity. One reason for such popularity is that SLT is a therapy independent of patient adherence, which is typically low among glaucoma patients. Consequently, the number of studies on SLT has multiplied throughout the past years. Recent findings: the studies on treatment outcome show a wide range of success rates of SLT reaching between

18 and 88%; however, study designs differ and many studies are not directly comparable. The prospective laser trabeculoplasty for open-angle glaucoma and ocular hypertension (LiGHT) trial has demonstrated good efficacy of SLT – 75% of the eyes achieved their target pressure without drops and 58% after a single SLT. SLT has proven to be effective in lowering IOP with satisfactory success rates even after single SLT. SLT is repeatable independent of patient's adherence [23].

Since elevated IOP is the only modifiable risk factor, current therapies seek to lower IOP even in patients with normal IOP in order to slow or arrest glaucoma progression. Intraocular pressure is determined by the balance between aqueous humour production and outflow, and IOP homeostasis is primarily maintained by changes in aqueous humour outflow resistance. Currently, it is possible with one or more of medications, laser treatment, or surgery. Each treatment option, however, has potential challenges with efficacy, safety, compliance, and cost. Medical therapy can lead to local and systemic side effects and a high percentage of patients have poor adherence (about 68%). Laser trabeculoplasty (LTP) has the potential to decrease IOP in patients with or at risk for open-angle glaucoma (OAG) without systemic side effects and also to minimize problems with compliance with drop therapy. Argon laser trabeculoplasty (ALT) was the first LTP procedure in the 1970s. It was subsequently utilized as an adjunct to topical medications or as initial treatment. ALT was successful in lowering IOP [1,4], but it has several side effects:

- It coagulates the trabecular meshwork (TM) tissue, resulting in peripheral

- anterior synechiae;

- it damages either pigment or nonpigment cells of TM;

- repeated treatment has been shown to be ineffective.

Selective laser trabeculoplasty (SLT) was developed in 1995 by Latina and Park as an alternative to ALT [14]. To investigate the safety and efficacy of a new laser procedure to lower intraocular pressure in patients with open-angle glaucoma 30 eyes of 30 patients with uncontrolled OAG (OAG group) and 23 eyes of 23 patients with uncontrolled OAG treated previously with argon laser trabeculoplasty (ALT group) were observed for 4 to 26 weeks. Forty-four of the 53 eyes were observed for 26 weeks. Both the OAG and ALT groups showed similar IOP reductions over time. Seventy percent of patients in each group responded to treatment with an IOP reduction of least 3 mmHg. At 26 weeks of follow-up, mean IOP reduction was 5.8 mmHg (23,5%, $P < 0.001$) for the OAG group and 6.0 mmHg (24,2%, $P < 0.001$) for the ALT group. The untreated eye showed a 9.7% ($P < 0.001$) reduction of IOP at 26 weeks. However, the IOP difference between the treated and untreated eyes was statistically significant at $P < 0.003$. Transient IOP elevation of 5 mmHg or greater was seen in 24% of patients. The selective laser trabeculoplasty appears to be a safe and effective method to lower IOP in patients with OAG and patients treated previously with ALT [15]. SLT is a noninvasive procedure that delivers energy to pigmented cells of the trabecular meshwork, resulting in the disruption of the pigmented TM endothelial cells, as seen by electron microscopy [12]. Several investigations

have shown that these two techniques are equally effective. However, SLT, has the benefit of not leaving a scar on the trabeculum and being repeatable [15, 12, 17, 19, 26, 27]. In addition to biological alterations, it is believed that this cellular damage results in an enhanced inflammatory response, which in turn causes an increase in aqueous outflow via the TM [6,16]. Intraocular pressure spikes and ocular pain might occur as a result of the inflammatory response and early pigment dispersion, among other things [26]. SLT has a very short pulse duration (3 ns), which is shorter than the thermal relaxation time of melanin, allowing for selective photo thermolysis. Because SLT selectively targets the pigmented TM cells and has an energy level < 1% of ALT, it is a gentle laser than ALT with no or minimal histologic scarring or coagulative damage to the TM. That is why SLT has been shown to be potentially repeatable in patients who have failed previous SLT as well as previous ALT. Furthermore, SLT has been utilized as a primary treatment option in a variety of OAG patients including those who cannot tolerate or are noncompliant with their glaucoma medications.

The purpose of this study was to evaluate the pattern of IOP reduction and side effects following SLT treatment and retreatment (in 1-3 years after the first procedure) for OAG patients and long-term results of SLT treatment, when it used as first-line the pattern of IOP reduction and side effects following SLT in treated OAG patients.

Method and Patients. This was the nonrandomized study conducted at Eye Clinic “AkhaliMzera” between October 2011 and November 2022. Patients (range, 40 to 78 years) with early to

Difference between ALT and SLT

	ARGON	SELECTA
Spot's size	50 MICRONS	400 MICRONS
Energy	500-1000 mJ	0.8-1mJ
Duration	0.1 sec	3 nsec
Fluency	60000 mJ/cm ²	600mJ/cm ²

moderate primary open-angle glaucoma (POAG) or pseudoexfoliation glaucoma (PXG) Phakic and pseudophakic were included in the study. IOP between 19 and 27 mmHg measured on at least two visits up to 1-3 years after SLT treatment or in non-treated (in “virgin”) eyes. Baseline IOP was taken using the Goldmann applanation tonometer. The average of 3 measurements was taken before the SLT decision on different follow-up visits. Central corneal thickness was measured using a pachymeter (DGH Technology INC, Pachette, USA). Gonioscopy examination was performed using Posner diagnostic and surgical four-mirror gonio lens to determine the extent of angle opening and the level of angle pigmentation. Dilated fundus examination under SLM using 78D lens was used to assess the retina and optic nerve head.

Procedure. Before to laser Pilocarpine 1% single drop was used to keep the pupil constricted and prevent peripheral-iris crowding 60 min before SLT. Topical anesthesia (tetracaine 0.5%) was applied 1 to 2 minutes before the procedure. The laser procedure involved the Ellex Solo SLT Laser and a Latina SLT Gonio Lens (Ocular Instruments, WD, USA).

Treatment was realized in two stages at 1-month intervals. During one procedure I placed 150-190 contiguous spots along 180° of the TM. Immediately, after the completion of the procedure brimonidine 0.2% drop was applied and IOP was measured after an hour. All patients were prescribed topical diclofenac sodium 0.1% for 10 days 3-4 times a day after laser treatment.

Operational Definition. Success was defined when an IOP reduction of >20% was achieved from the baseline without repeat SLT. Intraocular pressure spike was defined as a transient IOP increase of at least 4-5 mm Hg 1-hour post-SLT, but not always.

Results. A total of 867 eyes of 558 patients were involved in the study. The mean age of the study participants was 54.3 ± 5.2 years (range, 40 to 78 years) and 362 (64,9%) were males. The glaucoma diagnosis was POAG in 726 (83,7%) eyes and PXG in 141 (16,3%) eyes. Diabetes mellitus in 8% and systemic hypertension in 30% were noted. 736 eyes (84,9%) were on medications, and 130 (14,9%) eyes were treated with laser as primary therapy. Pre-SLT baseline IOP was 24.3 ± 2.5 mmHg (range, 19 to 32 mmHg), and pre-SLT mean number of antiglaucoma drugs used was 1.9 ± 1.01 . Overall, the mean IOP after SLT was 17.8 ± 3.2 mmHg, 18.8 ± 2.3 mmHg, and 23.4 ± 2.5 mmHg in the 12th month, 24th month, and 36th month respectively. So, in 2 years the overall percentage of IOP reduction from the baseline was 22,9%.

In 3 years after the first SLT procedure, the majority of patients were retreated. In 1-2 months after repeated treatment IOP reduction was the same as after first SLT (in 10% of cases even more effective).

About 20% of patients with POAG lost efficacy in 18 months post-treatment and in these eyes, the second SLT procedure was more effective than the first one.

The number of drugs reduced from an average of 1.3 to an average of 1.0 was statistically significant with the inter-eye correlation. Those patients who were treated with laser as primary therapy with a baseline IOP of $25.4 \text{ mmHg} \pm 2.9 \text{ mmHg}$ had IOP reduction of $7.5 \pm 3.1 \text{ mmHg}$ at the last visit, and those who were on antiglaucoma medication with baseline IOP $23.9 \pm 2.2 \text{ mmHg}$ had IOP reduction of $4.8 \pm 1.8 \text{ mmHg}$. IOP reduction at the last visit between POAG, and PXG was 6.5 mmHg and 7.9 mmHg, respectively.

CONCLUSION:

- SLT is a safe and innovative technology that uses lasers to target only certain cells of the trabecular meshwork of the eye, leaving the tissue surrounding these cells untouched.
- In our study, the patients were treated with laser as primary therapy or adjunct laser with medication. The overall IOP reduction was 27.7%, and the success rate was 75% at 1 year and 53% at 2 years.
- IOP reduction was similar in POAG and PXG . Overall IOP reduction at different follow-up visit ranges from 4.5% to 28.2% with the highest IOP reduction noted at 18th month follow-up period.
- We concluded that SLT appears to be repeatable in eyes with OAG and PXG that have previously been successfully treated.
- We have found that it is more effective to begin treatment at closer to about 0.8 mJ (if the TM has 1 to 2-plus pigment) and titrate by 0.1 mJ increments. The

energy level is titrated to the targeted response looking for bubbles forming in the anterior chamber. Once bubbles are visualized, titration is not decreased.

- SLT is most effective in a virgin eye that has not received any medications yet. If the patient drops maximal medications,

SLT usually has less effect. Drops suppressed aqueous production and enhanced outflow so much, that the additive effect of SLT is reduced. We should be offering it to our patients first line because it's so safe that they have practically nothing to lose.

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РЕЗЮМЕ

СЕЛЕКТИВНАЯ ЛАЗЕРНАЯ ТРАБЕКУЛОПЛАСТИКА – МЕТОД ПЕРВОЙ ЛИНИИ ЛЕЧЕНИЯ ОТКРЫТОУГОЛЬНОЙ ГЛАУКОМЫ ?!

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Цель нерандомизированного исследования, проведенного в глазной клинике “Ахали Мзера” в период с октября 2011 по ноябрь 2022 года – оценка характера снижения внутриглазного давления (ВГД) и побочных эффектов после лечения селективной лазерной трабекулопластикой (СЛТ). В исследование были включены в общей сложности 867 глаз 558 пациентов (из них мужчин 362), с первичной открытоугольной глаукомой (ПОУГ) начальной и развитой стадии или псевдоэкссфолиативной глаукомой (ПЭГ) факического и псевдофакического типа. Пациентам проводили лазерную терапию в качестве основного метода лечения или комбинированную лазерную терапию в сочетании с медикаментозным лечением. Средний возраст участников исследования составил 54.3 ± 5.2 года (от 40 до 78 лет). Первичная открытоугольная глаукома была диагностирована у 726 (83,7%) глаз, псевдоэкссфолиативная глаукома (ПЭГ) у 141 (16,3%) глаза. У 8% был отмечен сахарный диабет; у 30% – артериальная гипертония. 736 глаз (84,9%) получали медикаментозное лечение, а 130 (14,9%) глаз были обработаны лазером в качестве первичной терапии. В целом, среднее ВГД после СЛТ составило 17.8 ± 3.2 мм рт.ст., 18.8 ± 2.3 мм рт.ст. и 23.4 ± 2.5 мм рт.ст. на 12-м месяце, 24-м месяце и 36-м

месяце соответственно. Около 20% пациентов с ПОУГ потеряли эффективность через 18 месяцев после лечения, и в этих глазах вторая процедура СЛТ была более эффективной, чем первая. Уменьшение количества лекарств, в среднем с 1.3 до 1.0 было статистически значимым. У пациентов, получавших лазерное лечение в качестве первичной терапии с исходным ВГД 25.4 ± 2.9 мм рт.ст., на последнем визите наблюдалось снижение ВГД на 7.5 ± 3.1 мм рт.ст., а у тех, кто принимал антиглаукомные препараты с исходным ВГД 23.9 ± 2.2 мм рт. ст., снижение ВГД составило 4.8 ± 1.8 мм рт. ст. Делается вывод, что селективная лазерная трабекулопластика безопасный, эффективный и щадящий метод, который воздействует только на определенные клетки трабекулярной сети глаза, сохраняет архитектуру шлеммова канала, не вызывает воспалительных процессов, что позволяет проведение повторных процедур.

Ключевые слова: Первичная открытоугольная глаукома, селективная лазерная трабекулопластика, псевдоэкзофиативная глаукома

რეზიუმე

სელექტიური ლაზერული ტრაბეკულოპლასტიკა - ღიაკუთხიანი გლაუკომის პირველი რიგის მკურნალობა ?!

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2011 წლის ოქტომბრიდან 2022 წლის ნოემბრამდე თვალის კლინიკაში „ახალი მზერა“ ჩატარებული არარანდომიზირებული კვლევის მიზანი იყო სელექტიური ლაზერული ტრაბეკულოპლასტიკის (SLT) შედეგად მიღებული თვალშიდა წნევის შემცირების ხარისხის და გვერდითი მოვლენების შეფასება. კვლევაში ჩართული იყო 558 პაციენტის (მათ შორის 362 მამაკაცი) 867 თვალი, რომელთაც აღენიშნებოდათ დასაწყისი და განვითარებული სტადიით პირველადი ღიაკუთხიანი გლაუკომა (POAG) და ფსევდოფსევდო-ლიაციური გლაუკომა (PXG). კვლევის მონაწილეთა საშუალო ასაკი იყო 54.3 ± 5.2 წელი (40-დან 78 წლამდე). POAG დადგინდა 726 (83, 7%) თვალში, PXG 141 (16,3%) თვალში. 8%-ს ჰქონდა შაქრიანი დიაბეტი; 30%-ს, არტერიული ჰიპერტენზია. თავდაპირველი მკურნალობა ლაზერით ჩატარდა 130 (14,9%) თვალზე, ხოლო 736 (84,9%) თვალი ნამკურნალები იყო მედიკამენტებით. თვალშიდა წნევა SLT მკურნალობიდან საშუალოდ 12, 24 და 36 თვის შემდეგ

იყო შესაბამისად 17.8 ± 3.2 mmHg, 18.8 ± 2.3 mmHg და 23.4 ± 2.5 mmHg. POAG-ს მქონე პაციენტების დაახლოებით 20%-ში ლაზერული მკურნალობიდან 18 თვის შემდეგ მკურნალობის შედეგი შემცირდა და განმეორებითი სელექტიური ლაზერული ტრაბეკულოპლასტიკა უფრო ეფექტური აღმოჩნდა, ვიდრე პირველი. მედიკამენტების რაოდენობა პოსტლაზერულ პერიოდში შემცირდა, საშუალოდ 1,3-დან 1,0-მდე, რაც სტატისტიკურად სარწმუნო იყო. პაციენტებს, რომლებსაც ლაზერით მკურნალობდნენ პირველად, მკურნალობის დაწყებამდე თვალშიდა წნევა იყო 25.4 ± 2.9 mmHg, ბოლო ვიზიტისათვის წნევა შეუმცირდათ 7.5 ± 3.1 mmHg-ით; ხოლო, მათ, რომლებიც იღებდნენ ანტიგლაუკომატოზურ პრეპარატებს და დასაწყისში თვალშიდა წნევა ჰქონდათ 23.9 ± 2.2 mmHg, წნევა შეუმცირდათ 4.8 ± 1.8 mmHg-ით. ანუ SLT უფრო ეფექტურია არანამკურნალებ თვალზე. დასკვნა: სელექტიური ლაზერული ტრაბეკულოპლასტიკა არის უსაფრთხო, ეფექტური და დამზოგველი მეთოდი, რომელიც გავლენას ახდენს თვალის ტრაბეკულური ქსოვილის მხოლოდ გარკვეულ უჯრედებზე, ინარჩუნებს შლემის არხის არქიტექტურას და არ იწვევს ანთებით ცვლილებებს, რაც შესაძლებელს ხდის განმეორებითი პროცედურების ჩატარებას.

საკვანძო სიტყვები: პირველადი ღიაკუთხიანი გლაუკომა, სელექტიური ლაზერული ტრაბეკულოპლასტიკა, ფსევდოფსეფოლიაციური გლაუკომა.
