Comparative evaluation of selective laser trabeculoplasty (SLT) and YAG laser activation of trabecula (YAG-LAT) in treatment of patients with primary open-angle glaucoma
Tatyana Sokolovskaya, Djavid Magaramov, Yuliya Kochetkova
FSBI The Acad. S.N. Fyodorov Eye Microsurgery Complex, Moscow - Russian Federation

Purpose: To study an efficiency of methods in activation of trabecula - SLT and YAG-LAT in treatment of primary open-angle glaucoma (POAG).

Materials and methods: Treatment analysis was performed in 121 patients (129 eyes) with POAG aged 66.5 ± 6.1 years. The first group included 70 patients (74 eyes) with pronounced pigmentation of anterior chamber angle (ACA), where the SLT method was used, and the second group consists of 51 patients (55 eyes) with a slightly manifested pigmentation or an absence of ACA pigmentation, which treatment was performed by the YAG-LAT method. The IOP level (P0) before treatment ranged 22.0-28.0 mmHg. The SLT was carried out using Tango unit (532 nm) of Laserex company at energetic parameters: 0.6-1.2 mJ, 40-60 pulse quantity. For the YAG-LAT the Visulas YAG II unit of the Zeiss company (1064 nm) was used. The Laser effect was made on the trabecula surface in the projection of Schlemm's canal at energetic parameters: 0.8-1.1 mJ 50-60 pulse quantity.

Results: In the Group I the IOP decrease from 4 to 8 mmHg directly after the SLT (2-3 hours later) was noted in 52 patients (54 eyes - 73%). In long-term follow-up (from 3 to 12 months) the hydrodynamics indices remained stable in 49 patients (51 eyes - 69%). In 5 patients (5 eyes) the IOP stabilization was achieved after a repeated SLT. In the Group II the IOP decrease from 4 to 6 mmHg directly after the YAG-LAT (2-3 hours later) was revealed in 36 eyes out of 55 (65%). In long-term follow-up (from 3 to 12 months) the hydrodynamics indices remained stable in 32 patients (34 eyes). In other 19 patients (21 eyes) the IOP was managed to normalize after a repeated laser intervention with application of 1 hypotensive medicine.

Conclusions: The SLT and YAG-LAT are less traumatic and effective methods of treatment for patients. The YAG-LAT unlike the SLT can be used also in the treatment of non-pigmented POAG form, but results of operation are less stable.