

## **THE EFFICIENCY OF USING OF A NEW SURGICAL TECHNIQUE IN TREATMENT OF ANGLE-CLOSURE NEOVASCULAR GLAUCOMA IN PATIENTS WITH DIABETES**

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Background: To improve effectiveness of surgical treatment of neovascular angle-closure glaucoma in patients with diabetes by creating an outflow of intraocular fluid from the anterior chamber and suprachoroidal space with the help of modified shunt. Methods: In 2010 the method was tested in vitro in 25 pig eyes. From 2011 to 2015 we operated 23 human eyes (23 patients) with secondary diabetic neovascular glaucoma by using this technique. This technique consists in simultaneous sinustrabekuloektomy and posterior sklerektomy with implantation of multifunctional modified shunt (stent) manufacturing by ourselves. Results: Before surgery 10 patients (43.5%) complained of pain in the eyeball and redness. The average visual acuity before surgery was  $0.1 \pm 0.05$ . The field of view was in the range of 10-15 deg from the fixation point. Intraocular pressure - in the range 30-36 mm Hg. As a result all patients noted disappearing of pain and redness immediately after surgery. We observed stabilization and improvement of visual functions (visual acuity  $0.15 \pm 0.05$ , widening field of 5-10 deg.), stabilization of intraocular pressure (17-22 mmHg) withing 1 month after surgery. The trend towards stabilization of visual function in our patients was kept for 6-12 months. Conclusions: 1 Proposed surgical method is effective and technically simple to use. 2 Usage of a modified shunt is economically available because of its small price. 3 Proposed technique can be used in patients with neovascular secondary angle-closure glaucoma in diabetes to improve visual functions, stabilization of intraocular pressure and to prevent complications.