

PLB-013**DYNAMICS OF THE MOLECULAR MARKER OF INTERCELLULAR ADHESION (ICAM-1) IN PATIENTS WITH NEOVASCULAR GLAUCOMA AFTER TRANSSCLERAL LASER CYCLOCOAGULATION***O Guzun, L Velichko, A Bogdanova, O Zadorozhnyy, A Korol***Purpose**

The aim is to analyze the dynamics of the peripheral blood inflammatory biomarker in patients with painful neovascular glaucoma secondary to proliferative diabetic retinopathy after transscleral laser cyclocoagulation (LCC) and long-term local anti-inflammatory therapy.

Methods

51 patients (51 eyes) with painful CVH were examined. Men 25 (54%). Age 63.1 ± 11.67 years. The patients were divided into 2 groups: group 1 - 22 people (22 eyes) and group 2 - 29 (29 eyes). Visual acuity (VA) in group 1 was 0.02 ± 0.02 , in group 2 it was 0.03 ± 0.03 . IOP in groups 1 and 2 - 37.3 ± 4.07 and 39.3 ± 5.57 mm Hg. with maximum antihypertensive therapy (2.04 ± 0.76 drugs). Pain was present in all patients. The LCC was performed by a Nd laser with $\lambda = 1064$ nm, with an energy of 1.1 J, according to the standard technique. To reduce the activity of cyclooxygenase and inhibition of prostaglandin synthesis, a course of non-steroidal anti-inflammatory drugs was prescribed - topical ketorolac: in group 1 for 3 months, in group 2 for 2 weeks.

All patients were examined before, after and after 3 months of treatment. In group 1, the molecular marker of lymphocyte activation ICAM-1 (CD54) was additionally studied - the absolute and relative levels using blood monoclonal antibodies by the immunocytochemical method.

Results

After a course of LCC, the pain syndrome was stopped in 100% of patients. The level of IOP after a course of treatment significantly decreased by 30% and 32% of the initial level in groups 1 and 2, respectively. After 3 months in group 1, the number of patients with IOP < 24 mm Hg. was 2.4 times more, and with IOP > 30 mm Hg. 2.3 times less than in group 2. BCVA after 3 months increased by an average of 0.02 (11/22) and 0.01 (10/29) in groups 1 and 2, respectively. Given the high IOP and preserved visual functions in 5 eyes (23%) of the 1st group and in 7 eyes (24%) of the 2nd group, the 2nd course of LCC was performed.

After 3 months in group 1, against the background of local anti-inflammatory therapy, the level of the absolute index of the inflammatory biomarker CD54 in peripheral blood decreased by 44% to 338.8 ± 175.88 cells/ml and the relative index by 23% to $22.7 \pm 3.04\%$ (however, they remained 2 times and 1.1 times higher than the normal values, respectively).

Conclusions

A significant and long-term decrease in IOP in patients with secondary neovascular glaucoma secondary to proliferative diabetic retinopathy depends on a decrease in the level of the inflammatory biomarker ICAM-1 in the peripheral blood, against the background of local anti-inflammatory therapy with ketorolac (3 months) after transscleral laser cyclocoagulation.

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