



CARTE DE ABSTRACTE

CONFERINȚĂ ȘTIINȚIFICĂ

**GLAUCOMUL, AFECȚIUNI
INFLAMATORII, VICII DE REFRAȚIE
ALE ANALIZATORULUI VIZUAL**

**5 APRILIE 2024
CHIȘINĂU, MOLDOVA**

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development of optic neuritis was more often observed in patients with a developed sinus of the main bone, which was revealed by radiography of the additional nasal sinuses.

SENSITIVITY OF T-LYMPHOCYTES TO NEUROTRANSMITTERS AT PATIENTS WITH RECURRENT STROMAL HERPETIC KERATITIS

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Introduction. Over the past three decades it was obtained of the indicating data of the immune and neuroendocrine systems integration for the maintain homeostasis and adapt the body to unfavorable conditions. It has been established that disturbances at various levels of interaction between these systems can precede the onset of diseases (cancer pathology, immunodeficiency, allergic and autoimmune diseases).

Herpetic keratitis in patients of the same age and condition can proceed in different ways - either the initial process ends or there is a recurrent process: both rarely recurrent and often recurrent (more than 1 time per year), leading to complete destruction of the eye structures. The imbalance is due to a variety of reasons, including various adaptive reactions of the body. T-lymphocytes have a cellular mechanism for both synthesis and degradation of neurotransmitters. Lymphocytes themselves can synthesize catecholamines. T-lymphocytes express choline acetyltransferase and produce acetylcholine.

Material and methods: Examination was performed on 96 patients with recurrent stromal herpetic keratitis (SHK) in different periods of the disease: relapse - 37 people, relapse with a prolonged course (more than 3 months) - 14 people, the end of relapse - 11 people, and remission - 34 people. The age of the patients was 41.6 ± 1.5 years. The control group consisted of 16 healthy volunteers of the same age. Examination was performed on the basis of the Department of Cornea Pathology and the Laboratory of Immunology of the State University "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine". The work included measures to ensure the safety and health of patients and accordance with the principles of the Helsinki Declaration of Human Rights. Written informed consent was obtained from each participant after a detailed explanation of the nature of the study. Determination of lymphocyte subpopulations and molecular markers of lymphocyte activation was performed using monoclonal antibodies by histoimmunocytochemical method. To assess the specific sensitivity of lymphocytes to adrenaline (0.18% adrenaline solution (Ukraine)) and acetylcholine (0.1% acetylcholine chloride solution (Ukraine)), we used a complex method of assessing the individual sensitivity of the body to drugs, developed in the laboratory of immunology using the method of parallel samples. Determination of interleukins - interleukins 4, 6, 10 and tumor necrosis factor- α (TNF- α) - were carried out in blood serum at patients with SHK

Results: In relapse of SHK the absolute and relative number of T-lymphocytes expressing adrenoceptors was, respectively, 1.7 and 2.0 times higher than the norm. In remission it remained above the norm by 30%. In the period of recurrent SHK relapse, the absolute and relative number of T-lymphocytes with expression of acetylcholine receptors was on average 1.9 times higher than the norm in and in the period of remission - 53.8% higher than the norm.

The level of peripheral blood T-lymphocytes with expression of adreno-/acetylcholine receptors positively correlates with the level of immunocompetent cells: CD3, CD4, CD8, CD16, CD19, also directly correlates with subpopulations of lymphocytes with activation molecular markers CD 5, CD 54, CD 25 and CD 95. That is, the activation of adreno- and acetylcholine reception on T-lymphocytes directly correlates with the activation of cellular and humoral immunity.

The level of tumor necrosis factor (TNF- α) concentration in blood serum directly correlates ($r=0.43$, $p<0.05$) with the level of the number of T-lymphocytes with the expression of acetylcholine receptors. Such connections were not found with the level of concentration in blood serum of interleukins IL-6, IL-10, IL-4.

Conclusions: Peculiarities of expression of adrenoreceptors and acetylcholinergic receptors were identified during different periods of the course of recurrent stromal herpetic keratitis

Keywords: recurrent stromal herpetic keratitis, adrenoreceptors, acetylcholine receptors, lymphocytes

DYNAMICS OF INTERCELLULAR ADHESION MOLECULE-1 (ICAM-1) IN PATIENTS WITH DIABETIC NEOVASCULAR GLAUCOMA

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Cyclophotocoagulation (CPC) is the most widely used treatment method for neovascular glaucoma (NVG). We hypothesized that significant inflammation in patients with diabetic NVG would predict poorer CPC outcomes.

Methods. 70 diabetes patients (75 cases) with painful NVG aged from 31 to 75 years were treated (pain syndrome was in 100% of cases; HbA1 was $7.8\pm 0.98\%$; type I diabetes was in 22 (29%) patients). The best corrected visual acuity (BCVA) before treatment was 0.06 ± 0.1 . IOP - 36.2 ± 4.52 mmHg, with maximum antihypertensive therapy (2.44 ± 5.37 drugs). A course of treatment with a diode laser ($\lambda=810$ nm, $P=0.9-1.3$ W, $t=2$ s) was carried out in all cases. 54 patients underwent infrared (940 nm) diaphanoscopy with transpalpebral illumination. After the course of CPC, patients were prescribed topical dexamethasone drops without preservatives in unit doses (1 month), taking into account the expression of the inflammatory cytokine ICAM-1 on peripheral blood lymphocytes. The CPC was repeated at IOP ≥ 28 mm Hg. A new success was at IOP ≤ 21 mm Hg.

Results. A course of CPC relieved pain in 100% of patients. After 3 months, IOP was 24.3 ± 6.88 mmHg, so a repeat course of treatment was carried out in 40% of eyes. IOP in these patients decreased by 30% to 22.9 ± 4.16 mmHg. Panretinal photocoagulation (PRP) of the retina - 39% of eyes. After 12 months, IOP decreased by 46% from the initial level (to 19.5 ± 3.22 mmHg, $p=0.000$), and complete success was achieved in 81.3% of cases. BCVA after treatment was 0.08 ± 0.12 . Patients who did not fully respond to the first CPC (30 eyes) and required additional laser procedure, had high expression values of the ICAM-1 (609.0 cells/ μ L). The need for a second course of CPC had a probable ($p<0.05$) relationship with baseline HbA1 data ($r_s=0.85$), duration of diabetes ($r_s=0.6$), IOP ($r_s=0.65$), ICAM-1 ($r_s=0.65$), PRP ($r_s=0.28$).

Conclusions. Repeated cyclophotocoagulation in patients with painful diabetic neovascular glaucoma is safe, effectively relieves pain, significantly reduces intraocular pressure (up to 19.5 mm Hg), and minimizes the risk of complications in the long-term follow-up period. Long-term local anti-inflammatory treatment in patients with high initial values of ICAM-1 expression in peripheral blood lymphocytes increases the effectiveness of procedures (in 81.3% of cases) for 12 months.

EVOLUTIONARY ASPECTS OF THE EX-PRESS® SHUNT IN PATIENTS WITH REFRACTORY GLAUCOMA UNDERGOING CATARACT SURGERY

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Keywords: Glaucoma, Cataract, EX-PRESS® Shunt