

oncological condition is suspected, additional investigations such as ocular ultrasonography, optical coherence tomography (OCT), computed tomography, or magnetic resonance imaging are recommended to confirm the diagnosis and assess tumor extent. Subsequently, the patient is referred to an ophthalmic oncology specialist for further evaluation and treatment planning. Confirmation or exclusion of the cancer diagnosis is established exclusively through histopathological examination performed in the morphological laboratory of the Institute of Oncology. Treatment includes various therapeutic modalities, such as surgery, radiotherapy, chemotherapy, immunotherapy, hormone therapy, and targeted therapies, aimed at eradicating the primary tumor and metastases. Post-treatment follow-up is conducted regularly to detect recurrences or complications, and psychological support may be provided to help patients cope with the emotional impact of the diagnosis and treatment. Despite ongoing progress, limited access to advanced technologies and the need to strengthen medical education programs remain significant challenges. Optimizing the patient care pathway is essential for improving prognosis and the quality of medical care.

COMBINED NEUROPROTECTIVE THERAPY IN GLAUCOMATOUS OPTIC NEUROPATHY: 12-MONTH OUTCOMES

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Introduction. Glaucomatous optic neuropathy (GON) remains a leading cause of progressive vision loss even in patients with medically controlled intraocular pressure, highlighting the contribution of neurodegenerative and apoptotic mechanisms to its pathogenesis. This underscores the need for therapeutic strategies targeting neuroprotection and molecular pathways of optic nerve damage beyond intraocular pressure reduction.

Purpose. To compare the 12-month efficacy of combined neuroprotective therapy versus standard medical treatment in patients with glaucomatous optic neuropathy using functional, structural, neurofunctional, and biochemical criteria.

Materials and Methods. This prospective comparative study included 58 patients (58 eyes) with glaucomatous optic neuropathy and controlled intraocular pressure (16.0 [15;17] mmHg). Patients were divided into two groups: group 1 (n=26) received combined neuroprotective therapy, and group 2 (n=32) received standard therapy. Standard treatment consisted of topical intraocular pressure-lowering antiglaucoma therapy

[EGS, 2025]. Combined neuroprotective therapy comprised standard treatment supplemented with ocular photobiomodulation and nutraceutical support (AREDS2-based formula, polyunsaturated fatty acids, vitamin D, and resveratrol). Best-corrected visual acuity (BCVA), peripapillary retinal nerve fiber layer thickness (RNFL, OCT), phosphene-based electrical sensitivity of the optic nerve, and CD95 levels were assessed at baseline (V0) and after 12 months (V12). Absolute outcomes, changes over time ($\Delta = V12 - V0$), and the rate of clinically significant response were analyzed. Data are presented as Me [Q1;Q3].

Results. The groups were comparable at baseline across all functional, structural, neurofunctional, and biochemical parameters ($p > 0.05$). After 12 months, BCVA was modestly but significantly higher in the combined neuroprotective therapy group compared with standard therapy (0.48 [0.32;0.58] vs 0.32 [0.26;0.36]; $p = 0.031$), with a greater BCVA gain ($\Delta BCVA +0.08$ [0.05;0.11] vs $+0.03$ [0.01;0.05]; $p = 0.019$). A more pronounced reduction in CD95 levels was observed in group 1 ($\Delta CD95 -22$ [-30;-15]) compared with group 2 (-12 [-18;-7]; $p = 0.041$). OCT analysis demonstrated relative stabilization of RNFL thickness in the combined neuroprotective therapy group, whereas progressive thinning predominated in the standard therapy group ($p = 0.038$). Neurofunctional assessment revealed more favorable dynamics of phosphene-based optic nerve sensitivity in group 1 ($p = 0.044$). Clinically significant treatment response was achieved in 69.2% of patients receiving combined neuroprotective therapy versus 43.8% in the standard therapy group ($p = 0.047$). In univariate logistic regression analysis, a greater reduction in CD95 was associated with a higher likelihood of clinically significant response: a 20-unit decrease in CD95 increased the odds of response by 46% (OR = 1.46; 95% CI: 1.08–1.97; $p = 0.019$).