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CLINICAL AND FUNCTIONAL EXAMINATION RESULTS IN PATIENTS WITH PIGMENTARY RETINITIS

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Abstract

This study investigates the functional deterioration in patients with pigmentary retinitis using computer perimetry. A total of 80 patients with pigmentary retinitis and 30 healthy controls underwent detailed ophthalmologic evaluations, including scotoma tests and error assessments through computer perimetry. Findings reveal a progressive increase in scotomas and elevated rates of false positive and false negative responses as the disease advances, highlighting significant impacts on visual function. These results emphasize the importance of advanced imaging technologies like spectral OCT in the early detection and ongoing assessment of morphological changes in pigmentary retinitis.

Keywords: Pigmentary retinitis, computer perimetry, scotoma

Introduction

In recent years, new approaches have been required to interpret the morphological and functional characteristics of pigmentary retinitis, leading to the development of technologies that enable quantitative and qualitative assessment of the morphofunctional features of neuro-sensory and neuro-conductive apparatuses in hereditary eye diseases. These technologies are increasingly being introduced into ophthalmologic practice, facilitating a more comprehensive understanding of the disease. The complex application of modern computer perimetry techniques, along with various modifications of electroretinography, expands the capabilities of

functional research methods[2]. The recent introduction of spectral optical coherence tomography (OCT) allows for a detailed examination of retinal layers with high precision, enabling the identification of damage from early photoreceptor disorganization to complete loss, along with the atrophy of the primary pigment epithelium in the macula region[3].

Objective. To analyze the results of computer perimetry in patients with pigmentary retinitis.

Materials and Methods. The study material consisted of 80 patients with pigmentary retinitis in the main group and 30 practically healthy patients in the control group. Comprehensive ophthalmologic examinations, including computer perimetry, were conducted for both groups.

Results

Analysis of computer perimetry indicators for patients at different stages of pigmentary retinitis and the control group included scotoma tests and the assessment of false positive and false negative responses. Data analysis enabled an evaluation of the impact of disease progression on visual function. The average scotoma test indicator in the control group was 0.9. At the initial clinical stage, this indicator rose by 1.59, an increase of 76.7%. At the manifestation stage, the value reached 1.66, an 84.4% increase compared to the control group. The indicator was highest at the stage of visual function decline, reaching 1.98, which is 2.2 times higher than in the control group. These differences indicated an increase in scotomas with disease progression. In the control group, the average false positive and false negative responses were 0.85. At the first clinical stage, these indicators increased by 135% to 2.0 and 131.8% to 1.97, respectively. In the following two stages, these rates remained high (1.94 and 1.85 / 1.82 and 1.73), suggesting that errors remained significantly elevated as the disease progressed.

Conclusions

According to computer perimetry results, the number of scotomas increased with disease progression. In the control group, the scotoma indicator was 0.9, while in the

main group, it increased to 1.59. The increase in scotomas indicates the progressive development of pigmentary retinitis.

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