Role of Optical Coherence Tomography in Chorioretinitis

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ABSTRACT

Chorioretinitis is considered one of the urgent problems among eye diseases, and it is characterized by complications of conservative treatment due to the fact that it occurs mainly among the young, able-bodied population, it has the characteristic of recurrence during the course of the disease, the occurrence of complications, and the presence of an allergic condition to drugs in most patients. The importance of using the optical coherence tomography method in the diagnosis and monitoring of chorioretinitis was studied. Patients with chorioretinitis of different etiology were divided into groups according to gender, age and origin. Patients were monitored by general and special ophthalmological examinations. Optical coherence tomography makes it possible to determine the perifocal inflammatory reaction in focal chorioretinitis of various etiologies, to determine the inflammatory process against the background of disease reactivation and medical treatment, to give qualitative and quantitative characteristics, and to assess the dynamics of the inflammatory process.

Keywords: pathology of the retinal layer, diagnostics, optical coherent tomography

Actuality. .Despite the fact that many scientists have conducted studies on the epidemiology, etiopathogenesis and clinical features of chorioretinitis of various etiologies, they note the complexity of the diagnosis due to the lack of sufficiently objective criteria to check the etiology and activity level of the inflammatory process. Taking into account the relevance of the studied problem among young, able-bodied people, the fact that chorioretinitis occupies a significant place among inflammatory eye diseases, the recurrence of the disease, the occurrence of complications, and the fact that patients are allergic to drugs, taking into account the fact that they cannot tolerate antibacterial drugs well, the treatment procedure is complicated. Currently, modern non-invasive high-tech methods are actively used in the diagnosis of ophthalmological diseases.

The goal. To study the importance of using the optical coherence tomography method in the diagnosis and monitoring of progression of chorioretinitis of various etiologies.

Material and methods. Clinical studies and examinations were performed on the patient who referred to the department of eye diseases. There were 36 patients (69 eyes) with chorioretinitis of various etiologies, 25 of them were women, 11 were men, the average age was 35.2±12.5 years. Among chorioretinitis of various etiologies, 12 with cytomegalovirus etiology, 15 with toxoplasmosis etiology, 2 with tuberculosis and 7 with unknown etiology. The diagnosis is based on the patient's anamnesis,

clinical and instrumental examination, extensive ophthalmological examination, allergological and immunological laboratory examinations. Visiometry, pneumotonometry, autorefractometry, computer perimetry and optical coherence tomography examinations were performed on the patient. Optical coherence tomography examination was performed with drug-induced pupil dilation in spectral tomography RTVue Version 4.0 Optovue 3D-macula mode. Optical coherence tomography examination was carried out with photo archiving. During active inflammation, monitoring was carried out once every 14 days, with the decrease of inflammation, examinations were carried out with a frequency of 1 time per month.

Result. In one group of patients, retinal layer damage was observed in the area of inflammation. In the stage of active inflammation, uneven thickening of the neuroepithelial layer was observed in the focus area. On the tomogram, the exudate on the surface of the lesion is visible in a bright orange color. In addition to the exudate, a hyporeflective zone is visible in the neuroepithelial layer. In the central part of the focus, the pigmented epithelium is not visualized or has a place of "fragmentation" of the pigmented epithelial layer. As a result of the morphometric analysis, the thickness of the neuroepithelium in the inflammatory focus was 386.2±81.3 μm (in the parafoveal location of the focus, it was observed from 390.2±58.5 μm to 407.3±120.5 μm in the area of the vascular layer), the average indicator in the choriocapillary layer was 436.3 μm It was ±80.2, with an average of 104.2±23.9 μm in the area of the scar (with the adjacent location of the focus from 82 μm to 155 μm in the area of the vascular arcades). When the inflammatory process is activated, there is a significant increase in the neuroepithelial thickness in the area of inflammation compared to the area of the chorioretinal scar, which indicates the presence of local swelling and exudative reaction in the relapsed area. Patients were mainly emmetropes.

Summary. Optical coherence tomography makes it possible to determine the perifocal inflammatory reaction in focal chorioretinitis of various etiologies, to determine the inflammatory process against the background of disease reactivation and medical treatment, to give qualitative and quantitative characteristics, and to assess the dynamics of the inflammatory process.

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