

Correlation between Optical Coherence Tomography and Multifocal Electroretinogram Findings in Patients with Central Serous Chorioretinopathy

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Purpose: To evaluate optical coherence tomography (OCT) and multifocal electroretinogram (mfERG) findings in patients with central serous chorioretinopathy (CSC)

Methods: Sixty-two eyes of 31 patients with unilateral treatment naive CSC were included in the study. All subjects underwent complete ophthalmologic examination including best-corrected visual acuity (BCVA), subfoveal and parafoveal choroidal thickness (CT), central foveal thickness (CFT), macular volumes with OCT, and also mfERG responses. Correlation analyses were performed between BCVA, OCT parameters, and mfERG responses.

Results: There was significant increase in subfoveal and parafoveal CT in both affected and fellow eyes of CSC compared to healthy subjects. There was significant decrease in the N1, P1, and N2 amplitudes and increase in N1 implicit times for all rings in both affected and fellow eyes of CSC patients compared to control subjects. Correlation analysis revealed that BCVA was significantly correlated with N1, P1, and N2 amplitudes for Ring 1 ($p<0.05$). No significant correlations between BCVA and various OCT parameters were found.

Conclusion: Our study showed significant correlations between BCVA (logMAR) and mfERG amplitudes in CSC patients. Furthermore, no significant correlations between BCVA and various OCT parameters were found. Our findings point out that mfERG and OCT could both serve as noninvasive tools for functional and anatomical assessments of CSC patients.

Keywords : central serous chorioretinopathy, multifocal electroretinogram, optical coherence tomography