# Evaluation of Acute Central Serous Chorioretinopathy Using Enhanced Depth Imaging Optical Coherence Tomography and Multifocal Electroretinography

Hong I.H.[a] · Chang I.B.[b] · Jeon G.S.[c] · Han J.R.[a]

Author affiliations
[a]Department of Ophthalmology, Dongtan Sacred Heart Hospital, Hallym University Medical Center, Hwaseong-si, Republic of Korea
[b]Kim Kisoo Eye Clinic, Jeju, Republic of Korea
[c]Dasan Samsung Bright Eye Clinic, Gyeonggi-do, Republic of Korea
Keywords: Acute central serous chorioretinopathyEnhanced depth imagingMultifocal electroretinographyOptical coherence tomography

Ophthalmologica 2022;245:25–33
https://doi.org/10.1159/000516097

## bstract

***Introduction:*** The aim of the study was to evaluate functional and structural abnormalities in patients with acute central serous chorioretinopathy (CSC) with multifocal electroretinography (mfERG) and enhanced depth imaging optical coherence tomography (EDI-OCT).

***Methods:*** This prospective observational study included 57 patients with unilateral CSC. Both eyes underwent mfERG and EDI-OCT. Peak amplitudes and implicit times of the first kernel responses were analyzed and compared with those of 25 age-matched normal controls. Correlational analyses were performed between the mfERG results and EDI-OCT parameters.

***Results:*** Compared with the normal controls, the amplitude and implicit time on mfERG were significantly impaired in the area with serous retinal detachment (SRD) and the area beyond the SRD. Eyes with a greater reduction in SRD had a less impaired mfERG response in

fellow eyes than those whose retinal detachments were not spontaneously decreased by >90% after 3 months. Correlational analysis revealed that the subfoveal choroidal thickness was negatively correlated with the mfERG parameters.

***Conclusions:*** The findings of this study indicate diffuse functional impairment in acute CSC involving both eyes and areas beyond the SRD. The retinal response of the unaffected eye was associated with regression of SRD. Functional retinal abnormality was found to correlate with pathological changes in the choroid.