Abstract 13

CHARACTERIZING MACULAR EDEMA IN RETINITIS PIGMENTOSA TOWARDS QUANTITATIVE MULTIMODAL IMAGING.

Oral

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Purpose:

To assess the involvement of the inner retina in retinitis pigmentosa (RP) and to investigate the quantitative multimodal imaging features of those eyes complicated by macular edema (ME).

Methods:

The study was designed as prospective case series with 1-year follow-up. All the genetically confirmed RP patients underwent complete ophthalmologic assessment, structural optical coherence tomography (OCT), OCT angiography (OCTA) and microperimetry (MP). All the clinical and imaging data were statistically analyzed to unveil significant differences and correlations. The primary outcome was the quantitative multimodal imaging characterization of RP eyes complicated by ME.

Results:

We included 68 eyes (68 RP patients) and 68 healthy eyes (68 controls). Mean BCVA was 0.14±0.17 LogMAR at baseline and 0.18±0.23 LogMAR at 1-year follow-up ($p>0.05$). Eighteen RP eyes showed ME, with a mean ME duration of 8 ± 4 months. Most of the eyes were characterized by recurrent ME. All the eyes showed a main localization of the ME at the level of the inner nuclear layer (INL). LogMAR BCVA was similar between RP eyes with or without ME. RP eyes with ME showed higher vessel density values and thicker choroid, compared with RP eyes without ME.

Conclusions:

Inner retina has a major role in characterizing the retinal morpho-functional status in RP. The presence of ME did not influence the visual function. Inner nuclear layer is highly involved in the pathogenesis of ME.