Letter to the Editor

Analysis of prognostic factors by spectral-domain optical coherence tomography in pseudophakic cystoid macular oedema

Análisis de factores pronósticos por tomografía de coherencia óptica de dominio espectral en el edema macular quístico pseudofáquico

Dear Sir:

Pseudophakic cystoid macular oedema (PCMO) is the main cause of poor visual results in complication-free cataract surgery.1 Although the exact definition is the subject of controversy, the most accepted criterion at the international level is that proposed by Kim et al.: central macular thickness increase over 350 μm as measured with optic coherence tomography (OCT), with intraretinal cysts detected after the fourth week of a complication-free cataract surgery.2

We made a retrospective review of the PCMO cases diagnosed in our service utilizing spectral domain OCT (SD-OCT) HD-Cirrus®, analyzing 6 eyes of 6 patients (4 males and 2 females; age range: 65–79 years). The initial visual acuity was of 0.13 ± 0.07 (range: 0.05–0.40). In the qualitative analysis, all the SD-OCT images shared the following signs: intraretinal cysts which were symmetric vis-à-vis the fovea, neuroepithelium detachment (NED), disruption of the external limiting membrane and posterior hyaloids adhered to the macula (Fig. 1). In turn, the quantitative analysis displayed the following values, which were automatically calculated by the SD-OCT: mean central macular thickness 508 ± 142.3 μm (range: 380–687 μm); the mean macular volume was of 10.1 ± 0.9 mm³ (range: 9.6–11.2); and the mean macular thickness was of 282.2 ± 23.3 μm (range: 286–315 μm). In addition, the initial height of the NED was measured (range: 26–285 μm), and the elongation of the external segments of photoreceptors over said NED (range: 17–126 μm). These lengths were determined using the manual caliper of the SD-OCT HD-Cirrus®, and measuring in the foveola the distance between the innermost and outermost part of the hyper-reflective region corresponding to the external segments of the photoreceptors that were elongated on one side; and to the distance between the internal edge of the hyper reflective line of the retina pigment epithelium and the external edge of the external photoreceptor segments (Fig. 2).

All the cases were treated with the association of topical diclofenac (4 times a day), oral acetazolamide (500 mg every 8 h), and anterior subtenon injection of triamcinolone (4 mg), achieving a satisfactory response within 15 days. Objective differences were found in the final vision (0.50 ± 0.2; range: 0.32–0.80) assessed 3 months after diagnostic and in the absence of edema utilizing SD-OCT.

The statistical analysis revealed a significant correlation between the elongation degree of photoreceptors and the final vision (correlation of −0.899 and p of 0.015), which was not

Fig. 1 – Tomographic qualitative analysis of pseudophakic cystoid macular oedema. All the analyzed cases exhibited intraretinal cysts which were symmetric vis-à-vis the fovea (A), neuroepithelium detachment (B), disruption of the external limiting membrane (C), and the posterior hyaloids adhered to the macula (D).

evidenced for any of the other analyzed quantitative or qualitative tomograph parameters.

By way of conclusion, SD-OCT is an efficient method for diagnosing PCMO cases, providing a characteristic and peculiar image. In addition, it can provide relevant prognostic information by analyzing the degree of initial allegation of the photoreceptor external segments.

REFERENCES


R. Gallego-Pinazo a,∗, S. Martínez Castillo a, R. Dolz-Marco a, A. Lleó-Pérez b, M. Díaz-Llopis a,c

a Servicio de Oftalmología, Hospital Universitario y Politécnico La Fe, Valencia, Spain
b Servicio de Oftalmología, Hospital de Requena, Valencia, Spain
c Facultad de Medicina, Universidad de Valencia, Valencia, Spain

∗Corresponding author. E-mail address: robertogallego@comv.es (R. Gallego-Pinazo).
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