PURPOSE: to evaluate the correlation between visual acuity, retinal sensitivity and foveal thickness in patients with Macular Edema in Central Retinal Vein Occlusion (CRVO) treated with dexamethasone intravitreal implant (DEX).

METHODS: case series of 10 eyes in 10 treatment-naïve patients with macular edema in CRVO treated with DEX. All patients underwent an ophthalmic examination including visual acuity test (ETDRS), angiography, SD-OCT scans. In order we realized Microperimetry (MP-1) with 12-10 pattern comprising 45 test-locations with stimulus size Goldmann III, 400 ms in duration. We recorded visual acuity (VA), retinal sensitivity (RS) and central retinal thickness (CRT) at baseline, at 1 week, 1 month and 3 months and analyzed the correlation between them using Pearson coefficient.

RESULTS: at the third month follow-up visit mean VA, mean RS and mean CRT improved respectively from 0.78 ±0.56 LogMar, 10.5 ±5.4 dB and 530.8 ±160.1 µm to 0.33 ±0.36 LogMar, 12.8 ±6.2 dB and 259.6 ±34.1 µm. We found a significant correlation between VA and RS at baseline (r -0.65 p0.0391), at 1 week (r -0.74 p0.0145), at 1 month (r -0.78 p0.0078) and after 3 month (r -0.92 p0.0001). Correlation between RS and CRT was significant at baseline (r-0.66 p0.036) and at 1 week (r-0.75 p0.0121) but not at first and third month. There wasn't significant correlation between VA and CRT.

CONCLUSION: dexamethasone intravitreal implant is really effective improving Visual Acuity, Retinal Sensitivity and Central Retinal Thickness. We found a weak correlation between morphology (CRT) and Retinal Sensitivity but a strong correlation, not obvious, between two different components of visual function (Visual Acuity and Retinal Sensitivity) increasing over time. The use of MP1 to study Retinal Sensitivity is important as a diagnostic test in Retinal Vein Occlusion at baseline and Follow-up.

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