MICROPERIMETRY: IS IT THE ONLY AVAILABLE TOOL TO INVESTIGATE CENTRAL VISUAL FIELD LOSS?

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Purpose: to compare manual and automated techniques to investigate central visual field (CVF) loss.

Methods: 26 eyes of 21 patients with macular disease were tested monocularly with both manual and automated techniques (OPKO OCT-SLO Microperimetry - MP). Clinical diagnoses were: non neovascular and neovascular AMD, myopic maculopathy, post-occlusive macular edema, macular pucker, Stargardt disease. CVF was investigated by means of a manual test (California Central Visual Field Test - CCVFT), SK-Read, and MP. Scotoma density and locations relative to PRL (right, left, superior, inferior) were recorded (CCVFT and MP), as well as reading errors (SK-Read). Evaluation included also ETDRS BCVA at 2 and 1 m, Pelli-Robson Contrast Sensitivity (log CS) at 1 m, and (Italian) MN-Read.

Results: Age median (range) was 78 (89-32), BCVA 20/61 (401-30), log CS 0,75 (1,35-0). Central scotomas were present in 25/26 eyes (96,2%) at MP, and in 23 (88,5%) at CCVFT. CCVFT/MP scotoma borders matching rate median (range) was 75% (100-25%), being the highest in 9 eyes (34,6%) and the lowest in 3 (11,5%). SK-Read reading errors were significantly more than MN-Read ones, especially errors on the right side. Matching between scotoma borders and prevailing SK-Read error side was (mean ±std) 73 ± 33% with MP, and 67 ± 35% with CCVFT.

Conclusion: manual techniques provide valuable insight into CVF loss and PRL function. So, they should be considered not only as an adjunct to MP, but also as a reliable option when MP cannot be carried out for different reasons.