

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo PIBIC

Last Name - Kanadani

First Name - Fábio

Middle - N

Service (sector)

Electrophysiology

Nº CEP

INSTITUIÇÃO

Universidade Federal de São Paulo - UNIFESP

Santa Casa de Belo Horizonte

Functional Assessment in Glaucoma Suspect and Glaucomatous Eyes: A Comparison of mfVEP, FDT and SWAP

Purpose: To compare subjective and objective tests of visual function at different stages of glaucoma. **Methods:** Seventy-two subjects enrolled in a prospective study were evaluated with frequency doubling technology perimetry (FDT), short-wavelength automated perimetry (SWAP), and the multifocal visual evoked potential (mfVEP) technique. The subjects were placed in the following groups based upon the results of standard achromatic perimetry (SAP): 22 eyes were classified as glaucoma suspect (GS) (normal glaucoma hemifield test (GHT) and mean deviation (MD)), 21 eyes as early glaucoma (MD < -6 dB), and 13 as moderate glaucoma (MD > -6 dB). Eyes with early or moderate glaucoma had glaucomatous optic neuropathy and abnormal GHTs and MDs on SAP. FDT was performed with the Humphrey Matrix (24-2 program), SAP with the Humphrey Field Analyzer II (24-2 program), and mfVEPs with the VERIS system using a 60 sector pattern-reversal dartboard array. SWAP and FDT fields were classified as abnormal when the GHT was outside normal limits and there were 3 or more contiguous points in an hemifield of the pattern deviation plot with $p < 0.05$. The mfVEP was considered abnormal when the interocular or monocular probability plot had 3 or more contiguous points in a hemifield with $p < 0.05$ and at least one of these points had $p < 0.01$. **Results:** In the GS group, SWAP, FDT and mfVEP tests revealed visual field abnormalities in 18%, 36% and 59% of eyes, respectively. In early glaucoma, abnormalities were noted in 70% (SWAP), 81% (FDT) and 67% (mfVEP). In moderate glaucoma, abnormalities were noted in 100% (SWAP), 100% (FDT) and 92% (mfVEP). The specificity was greater in SWAP (89%) than in FDT (75%) and mfVEP (80%).

Conclusions: In view of the differences in detection of functional deficits between the subjective and objective tests, we suggest that a combination of one subjective (FDT or SWAP) and one objective (mfVEP) test be used for follow-up and early detection of glaucoma.