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Service (sector) GlaucomaNº CEP

Sensitivity and specificity of CSLO, SLP, FDT and SWAP in primary open-angle glaucoma: univariate and multivariate analyses

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Purpose: To analyze the diagnostic value of confocal scanning laser ophthalmoscopy (CSLO / Heidelberg Retina Tomography – HRT II), frequency doubling technology perimetry (FDT), scanning laser polarimetry (SLP - GDx) and short-wavelength automated perimetry (SWAP) in normal and glaucomatous patients. **Methods:** Sixty glaucomatous patients and 60 normal controls were studied. Sensitivity and specificity were calculated for each device. SWAP was considered abnormal according to Anderson's criteria. FDT was abnormal when at least one point was statistically altered with $p < 0.1$ or 2 adjacent points with $p < 0.2$. Regarding HRT, Moorfields regression analysis was used as abnormality criterion. GDx was considered abnormal when at least one parameter was outside normal limits, except for *Symmetry* and *Superior-Nasal*. Also, data were analyzed by binary logistic regression. **Results:** Sensitivity and specificity were, respectively, 55.0% and 98.3% for HRT, 81.6% and 90.0% for FDT, 71.7% and 96.6% for SWAP and 71.7% and 68.3% for GDx. Multiple logistic regression showed statistical significance for HRT ($p = 0.009$), FDT ($p = 0.002$) and SWAP ($p = 0.003$). GDx was not statistically significant ($p = 0.098$). The probability of positive glaucoma diagnosis was 96.99% when HRT and FDT were abnormal, 99.0% when HRT and SWAP were abnormal, and 99.0% when FDT and SWAP were abnormal. The probability of having glaucoma was 99.9% when all exams were outside normal limits, 76.6%, 44.1% and 70.4% when HRT, FDT and SWAP were outside normal limits, respectively. **Conclusions:** Diagnostic indices varied among tests. FDT showed higher sensitivity, and HRT and SWAP higher specificity. Better indices were obtained when two or more tests were considered together. Probability of positive glaucoma diagnosis was almost 100% when HRT, FDT and SWAP, altogether, were outside normal limits.