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CORRELATIONS BETWEEN OPTIC NERVE CONFOCAL TOMOGRAPHY (HRT) AND STANDARD AUTOMATED PERIMETRY AND FREQUENCY DOUBLING TECHNOLOGY (FDT) PERIMETRY. ITS IMPORTANCE IN EARLY DIAGNOSIS OF GLAUCOMA

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Purpose and Methods: To correlate the 5 phases optic nerve (ON) damage staging, as assessed by means of confocal tomography (HRT) with the 5 stages of visual field, assessed, with by conventional perimetry (standard automatic perimetry, SAP) and classified in 5 stages with the "GLAUCOMA STAGING SYSTEM"©.

The second step was to correlate the same optic nerve staging system with the results of the visual field obtain tested with non conventional perymetry using the frequency doubling technology (FDT) using the Humphrey-Zeiss and Welch-Allyn perimeter. The 5 stages of FDT visual field data evolution where classified with the new "FDT STAGING SYSTEM"©.

Material: 58 visual fields of 58 consecutive selected patients with either ocular hypertension or glaucoma with an age range between 15 and 65 years.

Methods: visual field examination was performed with conventional (Octopus G2 threshold test) and non conventional perimetry (FDT N30 threshold test), and the ON was assessed with confocal tomography (Heidelberg Retina Tomograph).

Results: The 40 % of the visual fields studies tested with conventional perimetry were normal, the non conventional perimetry (FDT) detected, in the same eyes, glaucomatous visual field defects corresponding topographically with the optic nerve damage revealed by the HRT.

Conclusions: New non-conventional perimetric techniques such as FDT, enable the detection of visual field defects topographically correlated to optic nerve damage very early.

Key words: Glaucoma- Ocular Hipertensives-Visual Field- Conventional perimetry (SAP)- Non conventional perimetry, Frequency Doubling Technology (FDT) – confocal tomography (HRT)–– visual field staging – optic nerve staging.

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