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Service (sector) Glaucoma Nº CEP

Agreement Between Scanning Laser Polarimetry and Optical Coherence Tomography on Measuring the Retinal Nerve Fiber Layer Thickness in Healthy and Glaucomatous Subjects

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Purpose: To compare the retinal nerve fiber layer (RNFL) thickness obtained by scanning laser polarimetry (GDx-VCC) and optical coherence tomography (*Stratus* OCT) in both healthy and glaucomatous patients. **Material and Methods**: A total of 15 healthy individuals (27 eyes; normal group) and 18 glaucomatous patients (29 eyes; glaucoma group) were included. The patients had best-corrected visual acuity of 20/60 or better, no significant media opacity or other significant ocular disease except glaucoma (in the glaucoma group). Peripapillary RNFL thickness was obtained by both GDx and OCT using circles with radius of 1.4 mm, 1.8 mm and 2.2 mm centered on the optic disc. The average RNFL thickness of each circle obtained by both devices was then compared. **Results**: The mean (SD) differences between OCT and GDx measurements in the healthy individuals at 1.4-mm, 1.8-mm and 2.2-mm radius circles were 57.5 µm (15.6 µm), 42.8 µm (16.7 µm) and 28.0 µm (16.8 µm), respectively (P<0.001 for all comparisons). The mean (SD) differences between OCT and GDx measurements in the glaucomatous patients at 1.4-mm, 1.8-mm and 2.2-mm radius circles were 42.41 µm (12.0 µm), 30.8 µm (11.5 µm) and 24.3 µm (11.4 µm), respectively (P<0.001 for all comparisons). **Conclusions**: There is a poor agreement between OCT and GDx RNFL thickness measurements. The RNFL thickness obtained using OCT is thicker than GDx measurements in healthy and glaucomatous patients.