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Abstract Information
Abstract Title:
Comparison of Stratus OCT parameters to detect glaucomatous damage

Purpose:
To evaluate and compare the ability of peripapillary RNFL measurements, macular thickness measurements and optic disc measurements by optical coherence tomography (Stratus OCT) to discriminate between healthy eyes and eyes with glaucoma.

Design:
Cross sectional observational analysis of 27 eyes from 27 POAG and 35 eyes from 35 normal subjects.

Participants:
Primary open angle glaucoma patients and normal subjects
Main Outcome Measures:
RNFL thickness measurements
Macular thickness measurements
Optic disc measurements

Methods:
Patients with glaucomatous visual field loss and healthy subjects with similar age underwent imaging with “Fast RNFL thickness(3.4)”, “Fast Macular Thickness Map” and “Fast Optical Disc” scan protocols of the StratusOCT. Visual field testing was perfomed in all subjects within a 6-month period. Average MD (± SD) of the visual field tests of glaucomatous patients was -6.60 ± 5.68 dB. ROC curves and sensitivities at fixed specificities were calculated for parameters reported as continuous variables on the clinical printout of each scan protocol of the instrument.

Results:
Area under the ROC curve (AUC) was higher for mean RNFL thickness (0.93), vertical integrated rim area (0.92) and horizontal integrated rim width (0.92) and RNFL thickness measured at 6 o’clock (0.92). The best Macular Thickness Map parameter, superior outer macula, showed significantly lower AUC (0.79) compared to previous parameters.

Conclusions:

Peripapillary RNFL and optic disc parameters provide better performance than macular thickness parameters to differentiate glaucomatous from normal eyes.