# COMPARISON OF TREND-BASED PROGRESSION ANALYSIS USING MACULAR GANGLION CELL-INNER PLEXIFORM LAYER (GCIPL) LOSS AND PERIPAPILLARY RETINAL NERVE FIBRE LAYER (RNFL) LOSS IN GLAUCOMA: RESULTS FROM A PROSPECTIVE LONGITUDINAL STUDY (THE PROGRESSA STUDY)

Purpose: To determine factors in?uencing the sensi- tivity of macular ganglion cell-inner plexiform layer (GCIPL) and peripapillary retinal nerve ftbre layer (RNFL) analysis in detecting glaucoma progression. Method: Prospective longitudinal study of glau- coma suspect and early manifest glaucoma cases. Spectral domain optical coherence tomography (SD- OCT) data was reviewed for 1374 eyes undergoing regular glaucoma monitoring with both RNFL and macular GCIPL assessment. Cases were identi- fted that showed robust statistically signiftcant pro- gressive loss using either GCIPL or RNFL progression software (Guided Progression Analysis, Cirrus SD-OCT). Cases reaching deftned progression endpoints on GCIPL ftrst were compared to cases that reached progression endpoints on RNFL ftrst.
Results: 216 eyes reached statistically signiftcant glaucoma progression endpoints on SD-OCT. 128 eyes progressed ftrst on GCIPL, and 88 eyes progressed ftrst on RNFL. Cases progressing on GCIPL ftrst had a signiftcantly higher rate of normal tension glaucoma (p=0.001), a lower mean intraocular pressure (IOP) during the period of surveillance (p=0.0007), lower rates of systemic hypertension (p=0.048), and thinner average RNFL at baseline (p=0.001). Of cases with baseline average RNFL thickness