Journal Article Review

CITATION
PMID: 23661046

SUMMARY

Purpose
To evaluate the correlation of retinal thickness in the macula with visual field parameters and circumpapillary retinal nerve fiber layer (RNFL) measurements in glaucoma patients and suspects.

Methods
One hundred and forty-six eyes of 73 glaucoma patients and suspects were scanned on the SPECTRALIS® using the posterior pole asymmetry analysis (PPAA) and RNFL circle scan protocols. The following correlations between macular thickness values and visual field parameters as well as RNFL measurements were assessed:
1) Macular thickness with visual fields parameters
2) Visual field asymmetry with macular thickness asymmetry
3) Asymmetry in macular thickness of inferior macula and superior macula with the pattern standard deviation probability of visual fields
4) Asymmetry in macular thickness with asymmetry in RNFL

Discussion
The study demonstrated that eyes with thinner macular thickness were more likely to present with visual field loss. It further indicated that asymmetry of macular thickness, either between eyes or between superior and inferior macula within the same eye, was significantly associated with a worse visual field result corresponding to the thinner retina or thinner retinal half, respectively. Finally, the study showed that there was a strong correlation between RNFL and macular thickness measurements in glaucoma.

CONCLUSIONS

- “In cases where the diagnosis of glaucoma is suspected by the optic nerve appearance only, a quantitative analysis of macular and RNFL thickness may provide key information that aids in the determination of the appropriate level of therapy required.”
- The added information provided by the combination of PPAA and RNFL thickness measurements, as taken with the SPECTRALIS, may alter clinical decision making in cases where the diagnosis or the extent of damage is not clear by other clinical parameters, especially for patients who cannot perform reliable visual field testing.