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To study the role of OCT and P-VEP in early diagnosis of Glaucoma

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Background: Standard investigative techniques for diagnosis of glaucoma include intraocular pressure measurement, Optic disc evaluation and visual field testing by standard perimetry. However, field defects become evident only after 40% RNFL loss has already occurred. Early diagnosis is important so as to prevent irreversible blindness. Early detection of glaucoma has focused on evaluation of the RNFL and the ONH by techniques like OCT, HRT and GDx as these undergo early structural changes. Glaucoma produces latency and amplitude changes on P-VEP. This study was undertaken to evaluate the role of OCT and P-VEP in detection of glaucoma in glaucoma suspects.

Methods: This study included 90 eyes of 45 patients divided into three groups. Group A involved 15 patients of POAG, group B involved 15 glaucoma suspects and group C included 15 healthy volunteers. After obtaining history, intraocular pressure measurement and visual field testing, patients were subjected to ONH and RNFL assessment by OCT and P-VEP was performed and amplitude and latency were noted.

Results: RNFL thickness (overall and quadrant wise) was significantly low in glaucoma suspects (98.81±9.54μ) as compared to normal patients (105.29±10.18μ). P100 latency and N95-P100 amplitude in glaucoma suspects was insignificant when compared to normal patients. A correlation between latency and RNFL thickness was found in glaucoma suspects ($r= -0.370$, $p<0.05$).

Conclusions: RNFL thinning appears earlier on OCT than abnormalities on P-VEP in patients with glaucoma and glaucoma suspects. Nevertheless, p-vep is a valuable tool that can be used as an adjunct to other investigations.

Biography

Chand Singh Dhull is a Senior Professor & Head of Department of Ophthalmology in Post Graduate Institute of Medical Sciences, India.

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