Flicker defined form perimetry in glaucoma suspects with normal achromatic visual fields.

To evaluate if repeated flicker-defined form (FDF) perimetry can detect visual field (VF) defects in glaucoma suspects with normal findings in achromatic standard automated perimetry (SAP). Patients with optic nerve heads (ONHs) or retinal nerve fiber layer (RNFL) findings clinically suspicious for glaucoma and normal SAP were enrolled. Patients underwent VF testing with FDF perimetry (Heidelberg Edge Perimetry, HEP) at two consecutive visits (HEP I and HEP II) and confocal scanning laser ophthalmoscopy with the Heidelberg Retina Tomograph (HRT). Abnormal HEP was defined by cluster-point analysis (CPA) and by the HEP specific glaucoma hemi-field test (GHT). Results were compared with an age-matched control group of healthy individuals. In 65 eyes of 36 glaucoma suspects, the mean deviation (MD) in SAP was -0.9 ± 1.3 dB. In HEP I and HEP II, mean MD was -3.6 ± 3.0 and -3.3 ± 3.7 dB, respectively (p = 0.276). The HRT assessed CDR was significantly correlated with the MD in HEP II (r = -0.281, p = 0.04). In HEP I, VF defects on CPA testing were found in 38 study eyes (58.5%). In HEP II, 34 eyes (51.8%) had VF defects on CPA testing. In 46 eyes of 46 age-matched healthy individuals in the control group, the mean MD was -0.2 ± 1.1 and -1.6 ± 2.3 dB in SAP and HEP testing, respectively. The FDF was abnormal in 21.7% in the control group compared to 58.5% in the.
In more than half of the patients with ONHs or RNFLs clinically suspicious for glaucoma and normal SAP second FDF perimetry depicts VF defects.