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**ANATOMIC AND VISUAL FUNCTION ASSESSMENT ON ASYMPTOMATIC HIV-POSITIVE PATIENTS USING OPTICAL COHERENCE TOMOGRAPHY AND FREQUENCY DOUBLING TECHNOLOGY PERIMETRY**

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**Purpose :**  To assess retinal nerve fiber layer (RNFL) thickness and macular thickness on patients infected by HIV virus without ocular manifestations and to correlate these results with perimetric findings assessed by frequency doubling technology perimetry (FDT).

**Methods:** Fifty-eight eyes (29 patients) with visual acuity of 20/20 and without ocular changes detected on physical exam were evaluated using third-generation optical coherence tomography (Stratus OCT) and FDT perimetry using the Humphrey Matrix. Patients were divided in three groups: group A (22 eyes of 11 patients): HIV-positive patients with CD4 count < 100 cells/ml at some point lasting for at least 6 months; group B (20 eyes of 10 patients): HIV-positive patients with CD4 count > 100 over the whole time of the disease and group C (16 eyes of 8 patients): HIV-negative control patients.

**Results:** The average RNFL thicknesses in group A, B and C were 102.24 ±11.19μm, 111.35 ±11.19μm and 111.42 ±9.04μm, respectively. Group A had a significant RNFL decrease in thickness, specially in the inferior quadrant, when compared with groups A and B (p<0.05). The minimum foveal thicknesses in groups A, B and C were respectively 156.32 ±18.76μm, 155.79 ±14.56μm and 158.31 ±13.95μm and the total macular volumes in groups A, B and C were 6.71 ±0.34mm3, 6.81 ±0.30 mm3 and 6.85 ±0.43 mm3, with no significant differences in the macular parameters between the groups. The mean deviations (MD) in the FDT in groups A, B and C were -0.33 ±3.01, +1.1 ±2.02 and +1.6 ±1.22 and the pattern standard deviation were respectively 2.98 ±0.80, 2.55 ±0.28 and 2.55 ±0.20. The differences in the perimetric performance between the groups did not reach statistical significance (p>0.05).

**Conclusions:** There is a significant RNFL thinning on HIV-positive patients with low CD4 counts compared with HIV-positive patients with CD4 count above 100 and HIV-negative controls. The group with low CD4 count had a