EVALUATION OF CHOROIDAL THICKNESS USING SPECTRAL-Domain OPTICAL COHERENCE TOMOGRAPHY IN PATIENTS WITH IN SEVERE OBSTRUCTIVE SLEEP APNEA SYNDROME: A COMPARATIVE STUDY

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AIM: To assess choroidal thickness in patients with severe Obstructive sleep apnea syndrome (OSAS) and compare them with healthy controls, using spectral domain optical coherence tomography (OCT). methods: In this prospective case-control study, choroidal thicknesses of 23 newly severe OSAS patients and 23 body mass index (BMI)- age- and sex-matched healthy subjects were measured using a high-speed, high-resolution frequency domain (FD)-OCT device (λ= 840nm, 26.000 A-scans/sec., 5µm axial resolution). All patients underwent a complete ophthalmic examination before the measurements. OCT measurements were taken at the same time of day (9:00 am), in order to minimize the effects of diurnal variation. Results: There was a statistically significant difference in mean choroidal thickness between the OSAS patients (204±51.2µm) and the controls (313±54.1) (p=0.000). There were significant differences at all measurement points (p<0.001 for all). The apnea-hypopnea index (AHI) values were more than 30 in all OSAS patients and the mean AHI was 48.57±6.54. The interexaminer ICC for the mean choroidal thickness was 0.938 (95% CI, 0.908–0.985) and ICC was greater than 0.90 for all measurement points.Conclusion: The decreased choroidal thickness of patients with severe OSAS might be related to the the autonomic disregulation associated with this disease. Further studies are needed to evaluate the etiopathologic relationship between choroidal thickness and OSAS.