

VARIATION OF CHOROIDAL THICKNESS IN MACULAR REGION IN NORMAL EGYPTIAN POPULATION

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INTRODUCTION

Choroidal thickness measurement at the fovea in normal eye is the horizontal distance between the inner margin of the choroidoscleral junction and the outer edge of the hyper-reflective RPE. The Optical coherence tomography (OCT) procedure could yield a cross-sectional or a 3-dimensional imaging through determining the echo time delay and the back-reflected light magnitude. Heidelberg has recently incorporated EDI-OCT as a feature to its program. Version 5.3 of the software automatically flips the capturing display so that zero-delay is inferiorly positioned rather than superiorly. Because the picture is now vertical rather than inverted, the operator can more easily obtain EDI-OCT images as a result.

AIM OF THE WORK

Our cross-sectional study's objectives are to collect normative choroidal thickness in the macular region of the Egyptian population using OCT and to evaluate its correlations with demographic information and ocular parameters, such as age, gender, body mass index (BMI), refractive error, axial length, and intraocular pressure in healthy people.

PATIENTS AND METHODS

The study was carried out on 60 eyes for normal Egyptian populations, males were 56.7 % and females were 43.3 % of the total sample, After pupil dilatation using tropicamide 1%, the instrument was sufficiently positioned near to the eye for obtaining an inverted image to get the choroid approximate to the zero-delay, CT measurements were made

manually using the calipers provided by the Spectralis Heidelberg software on the fovea's center and at distances of 0.5 and 2.25 millimeters superiorly and inferiorly from the fovea, respectively, in horizontal and vertical orientations. From the choroidal - scleral junction to the outermost portion of the retinal pigmenting epithelium, the CT was measured. Measure patients BMI, UCVA, BCVA, Axial length, IOP, K reading, Autorefracton and slit lab examination of the eye.

RESULTS

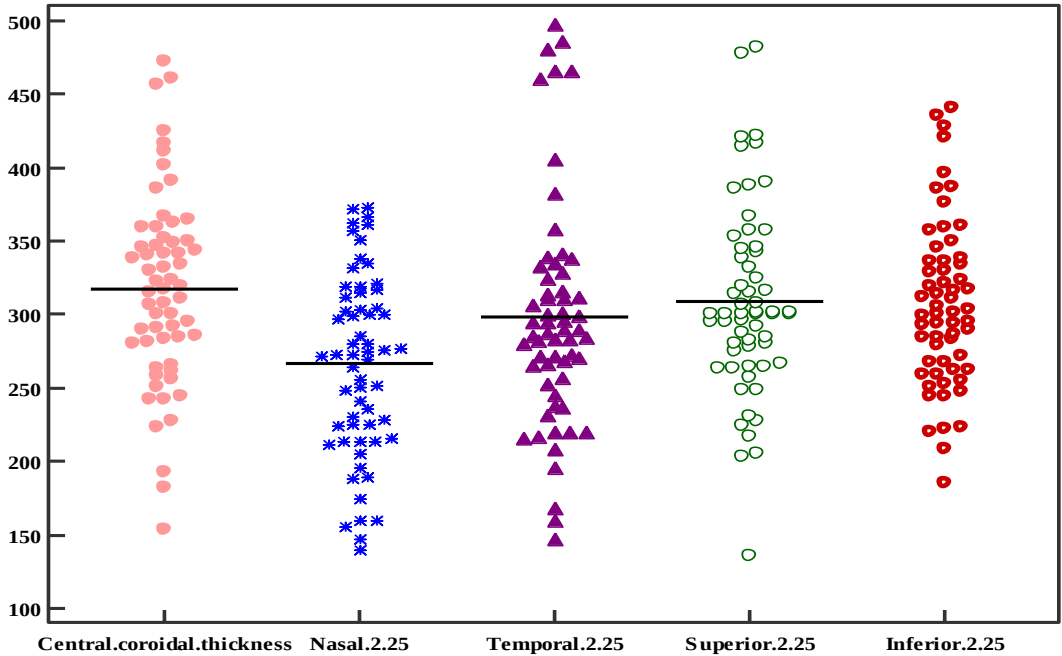


Figure: Descriptive analysis of the studied cases according to different parameters (n = 60)

Table: Correlation between different parameters (n = 60)

		CCT	2.25 mm Nasal	2.25 mm temporal	2.25 mm Superior	2.25 mm Inferior
Age (years)	r	-0.442	-0.245	-0.478	-0.355	-0.364
	p	<0.001*	0.059	<0.001*	0.005*	0.004*
BMI (kg/m ²)	r	-0.441	-0.161	-0.367	-0.347	-0.398
	p	<0.001*	0.219	0.004*	0.007*	0.002*
IOP	r	-0.300	-0.302	-0.292	-0.273	-0.306
	p	0.020*	0.019*	0.023*	0.035*	0.017*
K reading	r	-0.196	-0.348	-0.082	-0.294	-0.188
	p	0.134	0.006*	0.532	0.023*	0.150
Sphere fraction	r	0.143	-0.081	0.000	0.075	0.177
	p	0.276	0.537	0.999	0.570	0.177
Cylinder refraction	r	0.196	0.235	0.197	0.275	0.281
	p	0.134	0.070	0.131	0.034*	0.030*
Axis refraction	r	-0.047	0.016	-0.207	-0.002	-0.149
	p	0.722	0.906	0.113	0.986	0.256
Axial Length	r	-0.806	-0.672	-0.686	-0.731	-0.626
	p	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*

r: Pearson coefficient CCT: Central carotidal thickness
*: Statistically significant at p ≤ 0.05

CONCLUSION

Our research establishes a CT database in the general Egyptian population. Choroidal thickness varies with demographic characteristics as well as descriptive measurements. There was no difference in CT between genders. There were negative correlations between CT and age, BMI, IOP and axial length.